Using CQI to Impact Cancer Early Detection in the Primary Care Setting

Improving Cancer Early Detection in Primary Care Project

2005

Project Goals

The goal of the Improving Cancer Early Detection in Primary Care Project was to move toward reduction in the burden of cancer by promoting the early detection and follow up of breast, cervical and colorectal cancers. In this project, the Michigan Department of Community Health (MDCH)/Michigan Public Health Institute (MPHI) funded five health systems (grantees) to improve the health systems' cancer early detection processes in their primary care practices.

This called for grantees to work within selected primary care practices (pilot sites) to develop or improve continuous quality improvement (CQI) processes within the pilot site or the health system. Grantees were charged specifically with improving cancer early detection through the use of a CQI process. CQI is a systematic step-wise cycle for organizational improvement, and includes assessment, planning, implementation, and evaluation phases.

Grantees were required to 1) develop sustainable strategies to improve both cancer screening rates as well as responses to follow up of abnormal findings, 2) reduce the number of missed opportunities for cancer early detection, 3) build systems to facilitate screening, and 4) address barriers to breast, cervical and colorectal cancer screening for patients, providers and systems of care.

To accomplish these aims, the grantees were to assist in design, development, implementation and evaluation of any and all strategies that the pilot sites deemed useful. These strategies or interventions were developed based on data (such as screening rates, consumer survey data, focus group data), tools (such as process flow diagrams), and apparent barriers. The grantees all conducted varied and multiple interventions designed to impact patient, provider, and system barriers. The interventions were tailored to sites' needs and values rather than being imposed upon the sites.

CQI Overview

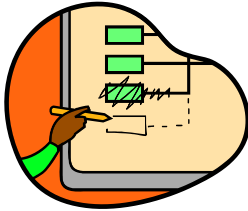
Called by many names (such as Total Quality Management or TQM) CQI is a structured organizational process for involving personnel in planning and executing a continuous flow of improvements to provide quality health care that meets or exceeds expectations (McLaughlin and Kaluzny, 1999). According to McLaughlin and Kaluzny, the common characteristics of CQI include the following.

- A link to elements of strategic organizational planning
- Quality council of top leaders
- Training programs for personnel
- Mechanisms for selecting improvement opportunities
- Formation of process improvement teams
- Staff support for process analysis and redesign
- Personnel policy to motivate and support staff participation in process improvements

There is incomplete empirical evidence demonstrating the effect and cost of CQI in health care. However, there is continuing interest for CQI in health care, due to beliefs that CQI will directly impact quality, increase cost efficiencies, and utilize and enhance human resources to improve managerial aspects of the organization (McLaughlin and Simpson, 1999).

Grantees in this project for the most part engaged in what McLaughlin and Kaluzny (1999) would call localized improvement, in which ad hoc teams were brought together to analyze specific problem processes. To a lesser degree the teams also created organizational learning in which their processes were documented and policy and procedure developed and implemented. A summary of project findings and lessons learned follow, ordered by the CQI step process.

Project Findings and Lessons Learned



CQI Assessment Step

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Steps Taken by Grantees

Initial assessment of the pilot sites' needs involved the combination of some of the following:

- Monitoring screening rates (via either archival chart audit or concurrent tracking)
- Observation and analysis of systems
- Data collection on relevant "customers" through consumer surveys, focus groups, provider feedback
- Comparison of hardcopy chart audit screening rates to an electronic data source

Results

The **process** of completing chart reviews and assessing systems or processes did provide insight into barriers. Example: one site found they did not have a reliable system in place to ensure that abnormal results were consistently reported and followed up.

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Lessons Learned

The audit process can be successful in assessing the status of cancer early detection within practices.

Health care systems and practice settings will vary widely in patient information elements that are available, captured and stored.

The audit data is limited in describing screening rates when the screening rate estimate is for known active patients only.

There are limitations to the accuracy of screening rates due to the nature of archival chart abstraction, such as illegible handwriting, missing notes or lab results, and missing records.

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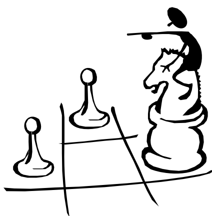
CQI Planning Step

Steps Taken by Grantees	Results
The grantees goals were to assist in design, development, implementation and evaluation of any and all strategies that the pilot sites deemed useful. These strategies or interventions were developed based on data (such as screening rates, consumer survey data, focus group data), tools (such as process flow diagrams), and analyses of systems, best practices, and barriers. Grantees assessed all existing reminder and tracking systems in pilot sites. Grantees also supported pilot sites' planning efforts by providing some of the following resources: • Results from focus group participants (consumers) • Provider survey results • Observations on best practices • Suggestions for sustainability • Audit criteria • MCC cancer early detection consensus guidelines • Auditor observations related to chart reviews • BCCCP information • Instructions on reordering patient educational materials • Copies of tools, and tools developed specifically for the sites • Chart audit database to compute screening and follow up rates • Flow chart of the observed process of cancer early detection in the practice	Grantees provided essential feedback to pilot site providers and staff on their practice protocols and their chart audit data. Grantees and pilot site staff worked together as a team to use the assessment information to plan interventions. For example, one grantee encouraged pilot staff participation by inviting them to program rollout focus groups to discuss the program and how to best implement it in their practices. Participants provided input and shared best practices. For another grantee, pilot site staff served as group facilitators and champions of the project. **Lessons Learned** Development of positive relationships within the pilot sites and health system played a key role in the ability of the grantees to conduct their assessment and planning. Relationships were fostered by the ability of the grantee project staff to cast themselves into the role of consultant, serving as mentors and resources. Gatekeepers (office managers) are key members of the CQI team. Having professional managers in practices help keep CQI on track. Interventions must be tailored to sites' needs and values rather than being imposed upon the sites. Feedback on process is essential. One grantee indicated that "pointing out processes that seemed to be working and those that seemed to need improvement prompted the practices to take action and implement changes to their methods."



CQI Implementation: Screening Rate Interventions

Steps Taken by Grantees

The grantees all conducted multiple interventions designed to impact patient, provider, and system barriers to cancer early detection screening and follow-up. A comprehensive listing of all interventions is available.

Results

Provider education interventions: Many avenues for education were pursued, and virtually all providers were given laminated MCC cancer early detection consensus guidelines.

Patient-focused interventions: Efforts were made with education and empowerment of the patient in mind. The hoped for outcome was that the patient would demand the early detection services.

Reminder and tracking interventions: Grantee A aided the pilot sites to design patient chart flags, reminders, and tracking abnormal results. Analysis of best practices lead to Grantee E sites to begin to use the grantee-recommended R&T system. After a presentation by Grantee D, one site implemented an MPRO product for monitoring and documenting breast cancer screening, adult immunizations, and diabetes. Grantee B developed a single patient tracking system (electronic tickler monitoring system) across the pilot sites, designed to make patients known to the provider; this reduced missed opportunities by increasing identification of the target patient population.

Community outreach interventions: Outreach to community included educational campaigns in collaboration with faith-based organizations, as well as no-cost cancer early detection screening.

Lessons Learned

Cancer early detection consensus guidelines need to be adopted prior to starting up a CQI process to improve cancer early detection.

Use existing and varied avenues to get your message out to providers: lunches, routine meetings, QI announcements, CME opportunities.

Appropriate patient education material already exists; instead of developing brochures, focus efforts on finding high quality, low cost, and less-technical materials, and set up an easy re-ordering system for these materials.

Display educational materials where they are easily accessible to patients.

Make use of a Patient Health Record Form, in which the patient tracks tests received, blood type, current medications, symptoms, and such. This is intended to be a proactive tool to encourage patients to be active participants, to increase awareness, and to be informed.

Collaborate with existing networks and organizations in the community, such as faith-based organizations, in order to launch educational programs.

Be creative – outreach can be a video instead of a brochure.

CQI Evaluation Step: Impact on Screening Rates

All of the grantees reported improved cancer **screening rates post-intervention**. Post-intervention screening rates were also used to assess whether grantees (aggregated across pilot sites) were able to **meet the MCC priorities** for early detection of breast, cervical, and colorectal cancers: Grantee D did meet these priorities, Grantee A and Grantee B had mixed results, and Grantee C and Grantee E did not meet these MCC priorities. (See Table A).

Table A
Screening Rate Changes and Meeting MCC Priorities, by Grantee Pilot Site

	Breast		**Cervical**		**Colorectal**	
	Improvement Post-intervention	Meets MCC priority	Improvement Post-intervention	Meets MCC priority	Improvement Post-intervention	Meets MCC priority
Grantee A, site A	Yes	Yes	Yes	No	Yes	Yes
Grantee A, site B	No	No	Yes	No	No	No
Grantee A, site C	Yes	Yes	Yes	Yes	Yes	Yes [3]
Grantee B, site A-E	At or near 100% pre-intervention	Yes	At or near 100% pre-intervention	Yes	At or near 100% pre-intervention	Yes
Grantee C, site A	Yes [1]	No	Yes [1]	No	Yes	No
Grantee C, site B	Yes	No	No	No	Yes	No
Grantee D, site A	Yes	Yes	Yes	Yes	No	Yes [4]
Grantee D, site B	na	na	na	na	na	na
Grantee D, site C	Yes	Yes [2]	Yes	Yes [2]	No	No
Grantee E, site A-K*	Yes	No	Yes	No	Yes	No
* Individual site data not available; reported in aggregate only	[1] from first baseline only	[2] under age 50 only, not for age 50+			[3] FOBT only, not flex sig	[4] males only, not females

CQI Evaluation Step: Impact on Other Goals

Steps Taken by Grantees	Lessons Learned
In addition to assessing changes in screening rates and changes in meeting MCC priorities for cancer early detection, Grantees also assessed the following: • reduction in missed opportunities • appropriate follow up of abnormal results • reduction in barriers to screening **Additional Results** The assessment and planning steps had some intervention effects that were not necessarily anticipated. For example, feedback on screening rate data and relaying system observations provided an opportunity to improve, and fueled motivation to change. One grantee addressed reduction of **missed opportunities** for cancer early detection and identification of target population (that does not rely on recent visits) by implementing an electronic tracking system. Grantees and practices were also able to impact patient, provider and system barriers. Grantees reported impacting **patient barriers** by increasing patient demand for cancer early detection, decreasing patient fear, and increasing patient understanding of the importance of cancer early detection. Lack of continuity of care is an example of a **system barrier** that was effectively addressed in some pilot sites by re-organization of patient charts (including use of dictation and transcription of progress notes), a new office management system with tickler file capabilities, and the use of a uniform pre-printed tool for recording events by the providers. Some **provider barriers** to cancer early detection were impacted by provider cues to action (through patient self-reporting, practice staff involvement, and chart tools), involvement of entire practice staff, use of consensus guidelines in the practices, and availability of data to providers on their preventive practices.	In a CQI process, expect to engage in multiple interventions. It will not be possible to determine whether any one intervention had a particular effect, nor is it necessary. The process of CQI helps determine which strategies are likely to work in a given context. The focus is on appropriate change, rather than on any particular strategy. The recommended first step in a CQI process for an institution will be to make a commitment to adopting and promoting cancer early detection consensus guidelines. Grantees reported that the likelihood of creating successful interventions was increased because of the collaborative nature of the work; the interventions were tailored to sites' needs and values rather than being imposed upon the sites. Missed opportunities include due visitors that are not up-to-date on screenings according to guidelines. Missed opportunities with known/active patients can be addressed by focusing on use of guidelines, changes to reminder & tracking systems, chart organization, electronic monitoring, and patient tools. But reduction of missed opportunity for screening and identification of the target population (non-active patients as well as known patients with recent visits) can be addressed with implementation of a system-wide electronic tracking system. Interventions to address follow up to abnormal results can be focused on continuity of care, chart tools, and reminder and tracking. An example of a successful practice protocol was an agreement between a practice and their labs that any abnormal test results were immediately faxed to the practice.

Early Detection CQI Sustainability

Grantee experience: To what degree is the CQI process sustainable?	Lessons Learned
Results Pilot sites were interested in sustaining improvements in cancer early detection, using a CQI process to understand screening and follow up issues, and were seeking resources to do so. Pilot sites found audit data extremely valuable; they were motivated to continue collecting this data. Some pilot sites could monitor screening rates (only) among insured patients because of the accessibility of insurers' reports.	Prior to starting a CQI process, commit to using cancer early detection consensus guidelines. The sustainability of the CQI process rests in large part on the sustainability of audits, and this means resources. • Staff allocated to conducting audits • Tool to compute screening rates and follow up rates • Audit tools • Share the findings from the audit with providers CQI teams should include individuals with diverse areas of expertise or experience, and ideally include both practice and QI staff. Practices need tracking and reminder systems. It is helpful for providers to have a variety of ongoing reminders about cancer early detection (eg., chart tools, contact with QI staff, chart audit feedback). A sustainable CQI process must be something the health care system needs, or brings added value to the entity. It must have functionality, help make cancer early detection routine, and provide tangible solutions.

Use of Early Detection CQI to Create Change in Organizations

Grantee experience: What degree of organizational change took place due to implementation of the CQI process?	Lessons Learned
Results One grantee project did impact the operations of the larger health system; the electronic tracking system (active and non-active patients) that was developed for the grant will be rolled out to all HCS physician practice sites where screening occurs for breast, cervical and colorectal cancers. The relevant educational materials, cancer early detection consensus guidelines and referral process forms will also be shared throughout the HCS. The grantee staff partnered with the existing QI department in the health system, and provided the department with relevant information on the cancer early detection consensus guidelines and their assessment of missed opportunity. For the remaining grantee projects, there were either no or minimal changes made at the level of the health system. However, three grantees did communicate with the quality improvement committees within their systems, and they made notable progress on activities that could eventually be fruitful. More than one HCS expressed interest in sustaining continuous improvement, or adopting the MCC cancer early detection consensus guidelines.	Practices cannot promote health system level change without a concerted partnership with the existing QI department in the health system. Sharing lessons learned is appropriate to communicate to quality improvement committees within a health care system. Grantees in this project for the most part engaged in what McLaughlin and Kaluzny (1999) would call **localized improvement**, in which ad hoc teams were brought together to analyze specific problem processes. To a lesser degree they also engaged in an **organizational learning** approach, in which their processes are documented and policy and procedure developed and implemented. Another approach would be **process reengineering** focus. This is a major investment, in which both internal and external resources are used to make changes, and often in which changes in information systems effects basic organization processes. These approaches can overlap and are not always clearly distinct from the others. However, organizational change is more likely to occur within a process reengineering or an organizational learning approach.

Lessons Learned in Adoption and Implementation

Grantee experience: What factors facilitated adoption and implementation of the CQI process?	Lessons Learned
Results Pilot sites more readily adopted and implemented a CQI process if the value of the CQI process was perceived to outweigh the initial demands on staff time. Adoption of an early detection CQI process was facilitated by good relationships with practice managers (i.e., gatekeepers) within practices, perception that the process was sustainable after the grant period, belief in the utility of reminder and tracking components, and with recognition that screening must fit within all the other expectations faced by providers. Adoption of an early detection CQI process was associated with availability and use of proximate screening rate data by the practices, and with use of ACS or availability of laminated MCC cancer early detection consensus guidelines. Poor implementation of CQI was associated with changes in staffing and competing priorities at the practice sites which precluded consistent implementation of new systems. Providers who perceived there was an inadequate system for supporting treatment of uninsured persons (health disparities), were discouraged from promoting screening and quality improvement in screening. CQI was a valuable model to pilot sites when it was seen as offering the flexibility to address quality improvement in varied environments, without having to meet rigorous research criteria.	Health care systems (HCS) were more likely to adopt early detection CQI interventions if they saw CQI as enhancing their quality and credibility. CQI is of interest if the HCS see it as something that builds on success, and is practical and feasible. Ownership of primary care practices by the HCS made it easier for the HCS to require, promote and integrate CQI interventions related to early detection into existing CQI. CQI can be a critical tool for practices that are not owned by hospitals or the HCS. Non-hospital owned practices cannot be made to do something; they have to see it as valuable. Implementation of early detection CQI is facilitated when a practice can rely upon the HCS to provide (or support) proximate screening rate data to the practices, provide or support reminder and tracking systems, or prescribe or recommend the use of MCC cancer early detection consensus guidelines. Collaboration and communication between the HCS (QI committees or departments, typically) and non-hospital owned practices can create effective teams. This teamwork creates information exchange, fuels interests, and provides support for agendas. Changes in the HCS, such as computer system change, management change, staff loss, or downsizing can be disruptive to practices.

Assess Readiness to Change in Practices and Health Care System

Solberg, Kottke, and Brekke (1999) recommend that, in order to learn whether the practices are suitably equipped to change, one should conduct an assessment of desire and ability to change. Some of the factors that grantees identified as relating to readiness to change are listed below.

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<th>Questions to help assess readiness of the practice to engage in change</th>
<th>Questions to help assess readiness of the HCS to engage in change</th>
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How is CQI perceived at the practice setting: Is CQI seen as…

Relevant?
Fitting within daily routines?
Value-added?
Sustainable?
A good use of staff time?

What is the organizational capacity of the practice to engage in CQI?

Which guidelines are being used?
Are they currently conducting chart audits?
Can staff be designated to address auditing and CQI processes?
Can the system quickly respond to increased demand for cancer early detection?

Is the practice approach to quality compatible with the HCS approach?

Is one an electronic system and the other not?
Is there a new data system to be introduced in the near future?
What does the HCS require?
What support can the HCS offer for CQI in the practice setting?

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What commitments are needed?

What is top management commitment to CQI goals?
To what degree might commitments from HCS erode with changes in administration?
What is the institutional commitment to adopting and promoting the cancer early detection guidelines?
Is management willing to allocate staff time for CQI team participation?

What level of entry is desired?

Practice level
Quality improvement committee
Health care system administration
Third party payers

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Conclusion

The goal of the Improving Cancer Early Detection in Primary Care Project was to move toward reduction in the burden of cancer by promoting the early detection and follow up of breast, cervical and colorectal cancers. In this project, MDCH/MPHI-funded health systems (grantees) worked within selected primary care physician offices (pilot sites) to develop or improve continuous quality improvement (CQI) processes within the setting or the health system as a vehicle for project goals. Grantees were required to develop sustainable strategies to improve cancer early detection rates and response to follow up of abnormal findings, reduce the number of missed opportunities for screening, build systems to facilitate screening, and to address barriers to (breast, cervical and colorectal) cancer early detection for patients, providers and systems of care.

All of the grantees reported improved cancer early detection rates post-intervention, and improved screening processes or systems. At post-intervention, one grantee had all its pilot sites meeting the MCC priorities for (breast, cervical and colorectal) cancer early detection. All grantees were able to identify barriers to reduction of missed opportunities, and to address these in interventions. Interventions addressed missed opportunities by focusing on consistent use of guidelines, changes to reminder and tracking systems, chart organization, electronic monitoring, and patient tools. Interventions addressed follow up to abnormal results when they focused on continuity of care, chart tools, and reminder and tracking.

Institutions not only can address cancer early detection using a CQI model, but can also learn to anticipate and avoid obstacles. Assessing a health care system's readiness to change is part of this challenge. The organizational capacity of the practice to engage in CQI needs to be understood prior to deciding that CQI is the best approach to institutional early detection goals. One can assess the practice's state of readiness to engage in CQI in part by asking whether practices see CQI as relevant, fitting within daily routines, value-added, sustainable, and a good use of staff time.

Readiness to engage in a CQI process to create change is also demonstrated in part by whether the HCS has made a commitment to adopting and promoting cancer early detection consensus guidelines, and to allocate staff time for CQI team participation. The guidelines should be the basis for the development of the CQI process, and for determining whether cancer early detection rates have changed.

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The MCC cancer early detection priorities and their associated consensus guidelines on screening and follow up of abnormalities may be found at www.michigancancer.org.

Questions about the MCC Improving Cancer Early Detection in Primary Care Project
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