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Original Study

Pioneering a Nursing Home Quality Improvement Learning Collaborative: A Case Study of Method and Lessons Learned

Suzanne M. Gillespie MD, RD [a,*], Tobie Olsan RN, PhD [b], Dianne Liebel RN, PhD [b], Xueya Cai PhD [c], Reginald Stewart MQM [b], Paul R. Katz MD [d], Jurgis Karuza PhD [a]

[a] Division of Geriatrics and Aging, Department of Medicine, University of Rochester School of Medicine and Dentistry, Rochester, NY
[b] School of Nursing, University of Rochester, Rochester, NY
[c] Department of Biostatistics and Computational Biology, University of Rochester School of Medicine and Dentistry, Rochester, NY
[d] Department of Geriatrics, School of Medicine, Florida State University, Tallahassee, FL

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A B S T R A C T

Objectives: To describe the development of a nursing home (NH) quality improvement learning collaborative (QILC) that provides Lean Six Sigma (LSS) training and infrastructure support for quality assurance performance improvement change efforts.
Design: Case report.
Setting/Participants: Twenty-seven NHs located in the Greater Rochester, NY area.
Intervention: The learning collaborative approach in which interprofessional teams from different NHs work together to improve common clinical and organizational processes by sharing experiences and evidence-based practices to achieve measurable changes in resident outcomes and system efficiencies.
Measurements: NH participation, curriculum design, LSS projects.
Results: Over 6 years, 27 NHs from urban and rural settings joined the QILC as organizational members and sponsored 47 interprofessional teams to learn LSS techniques and tools, and to implement quality improvement projects.
Conclusions: NHs, in both urban and rural settings, can benefit from participation in QILCs and are able to learn and apply LSS tools in their team-based quality improvement efforts.
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Over the next several years, a major challenge facing the nation's 16,000 nursing homes (NHs) is to fulfill the Affordable Care Act mandate to implement quality assurance and performance improvement (QAPI) programs. The QAPI initiative requires all NHs certified by the Centers for Medicaid and Medicare Services (CMS) to adopt systematic, data-driven quality improvement (QI) methodologies to sustain the quality of care and quality of life of NH residents.[1] QAPI expands expectations for the level and scope of facility activities in order not only to correct defects but also to continually monitor and redesign processes of resident care and services to achieve optimal outcomes.[1]

There are 3 issues that organizations will need to address in implementing QAPI programs. First, is the selection of the QI method that will be used for the NH. Over the years, there have been a multitude of QI methods whose popularity has risen and fallen, ranging from Total Quality Management and Continuous Quality Improvement to Lean Six Sigma (LSS).[2] On one hand, it is less important to debate similar QI ideas and methods than it is to use a systematic approach in the first place. On the other hand, adopting a method that complements a NH's resources, fosters a strong quality culture, and effectively overcomes barriers to change can help ensure the institutionalization of the QAPI mindset and approach over time.

The second critical issue will be identifying and implementing a training method that will provide the needed expertise and technical proficiency to implement and follow through on QAPI initiatives. QAPI is doomed to failure if it is wrongly assumed that NH administrators and staff have the requisite skill set to embark on a QAPI program.[3] It is

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* Address correspondence to Suzanne M. Gillespie, MD, RD, 435 East Henrietta Road, Monroe Community Hospital, Department of Medicine, Division of Geriatrics and Aging, University of Rochester School of Medicine and Dentistry, Rochester NY 14620.

E-mail address: suzanne_gillespie@urmc.rochester.edu (S.M. Gillespie).

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recognized that the training of health care professionals has traditionally been lacking in QI knowledge and experience,[4,5] especially more advanced strategies to facilitate rapid organizational change[6–8] and the use of robust analytical methods to improve clinical care, reduce errors, and decrease waste and inefficiencies.[9–11] In order to meet QAPI mandates, innovative training models that include new organizational learning strategies to induce and sustain change are needed.[7] An important consideration is making sure the training is adapted to the NH's workforce experience and familiarity with QI.

Third, is the seamless integration of QAPI into the NH's current QI system to enhance quality and safety cultures.[12] Gradually advancing QI is essential for improving resident outcomes,[13] yet, changing systems of care is the most potentially problematic aspect of implementing and continuing QI efforts for all homes, especially NHs in rural underserved areas. Targeted strategies can help NHs, challenged by limited resources, geographic isolation, low population density, and associated barriers to staffing and training NH personnel, expand their capacity to make improvements in specific clinical areas.[14–17]

Although there have been recent successful efforts to help NHs implement QAPI processes,[18,19] it is timely to explore additional models and expand the evidence base before the QAPI becomes a mandated reality for NHs. In this article we share lessons learned in the development and implementation of the Greater Rochester Nursing Home Consortium (GRNHQC) model, which applied a QI learning collaborative (QILC) method to the adoption of an LSS approach to QAPI by NHs, particularly those from rural and underserved areas. This is the first of a planned series of papers that systematically examine the implementation of the model, including consideration of what structural and cultural elements in the NH organization serve as facilitators or barriers in the adoption of the LSS QAPI approach, detailing the LSS curriculum, and finally reporting a program evaluation of the GRNHQC including changes in processes and outcomes.

Methods

Established in September 2009, the GRNHQC is a groundbreaking QILC comprised of NHs in the Greater Rochester, NY area, the University of Rochester Schools of Nursing and Medicine, the Greater Rochester Quality Council, and the Institute of Gerontology at Ithaca College. The Greater Rochester Quality Council is a collaborative network of organizations and individuals, with the goal of fostering excellence in the products, services, and processes of all organizations and businesses in the community.[20] The GRNHQC was supported by a Comprehensive Geriatric Education Program workforce development grant from the Bureau of Health Profession, Health Resources and Services Administration.[21]

The GRNHQC provided a forum for NH administrators and interdisciplinary care teams to come together for QI team training, and to share ideas and solutions to problems to improve resident care and service delivery.[22,23] GRNHQC initiatives have recently expanded to include development of a model QAPI program for NHs and a traineeship to prepare adult gerontology primary care nurse practitioners with expertise in QAPI leadership.[24]

Mission and Goals

The mission of the GRNHQC, as established by member NHs, focused on advancing high quality evidence-based resident clinical care and services in NHs. Attaining this goal required a foundation of a performance oriented organizational culture in individual NHs in parallel with (1) developing a NH workforce that is competent in the application of newer rapid-cycle QI methods and evidence-based practices; (2) working cooperatively across care settings to share ideas and strategies to foster measurable improvements in elders' health outcomes and costs; (3) creating a supportive infrastructure needed to make improvements happen; and (4) providing opportunities to share successes with other consortium members and to disseminate evidenced-based quality practices regionally and nationally. The GRNHQC conceptual model, which includes research findings from Wang et al[25] on emerging practices for redesigning health systems for quality, is shown in Figure 1.

Members

Selection criteria for NH membership in the consortium was based on the characteristics of successful QI collaborations.[6,26] Factors included interest in participating in a QILC, openness to collaborating with other NHs, access to data, coverage of release time for staff for training, service to a population of residents in counties in the Greater Rochester area, and good standing with regulatory agencies. Priority was given to the recruitment of NHs in rural and underserved areas, where QI training resources were more limited than NHs in urban areas. Consortium members were identified through various methods, including existing professional networks, letters of invitation, e-mail distribution, brochures distributed at long-term care meetings and conferences, calls to NH executives and directors of nursing, and CMS listings of certified nursing facilities.[27] Applicants interested in membership completed an organizational assessment of their resources for team training and collaboration. Project team members (T.O., S.G.) reviewed the assessment and extended invitations to participate to NHs.

GRNHQC QI Education Model

LSS was selected as the QI method for didactic and experiential training of GRNHQC administrators and teams. Fortune 500 companies have had notable success using LSS to achieve world-class quality and the highest levels of customer satisfaction. Like other traditional QI approaches including Plan-Do-Study-Act, LSS offers a scientific and methodic approach to improvement. In contrast to traditional QI methods, which rely on smaller, incremental changes, LSS uses more rigorous data driven techniques, resulting in initiatives that impact system-wide processes of care.[28] The LSS approach includes 5 phases: define, measure, improve, analyze, and control (DMAIC). Though LSS was developed for business, it has been adopted by increasing numbers of hospitals over the last decade to foster transformative, system-level changes in patient safety and quality.[29] Many hospitals use LSS to redesign clinical process and delivery systems,[30,31] but use of the method has only recently been described in

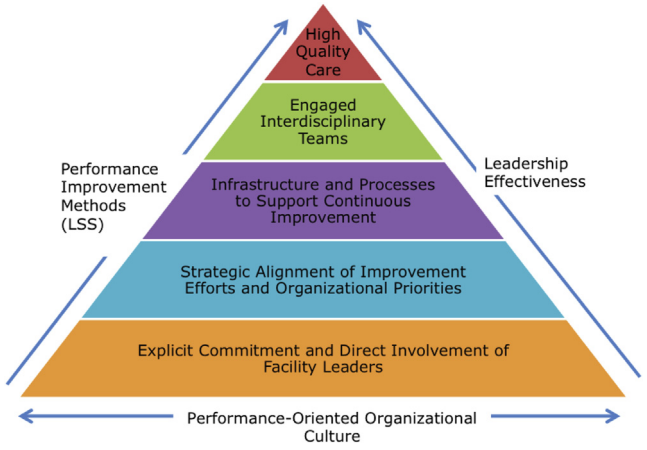

Fig. 1. The GRNHQC model of high quality and safe long-term care.