Interprofessional Leadership Development in Quality and Safety: Five years of Experience in a Large Health System

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Abstract

Christiana Care’s train-the-trainer program, Advanced Quality & Safety Improvement Science, is a program that focuses on engaging interprofessional clinicians and faculty and provides them with advanced knowledge and skills in improvement and safety that transforms them into teachers of quality improvement and safety. Over nine months, participants learn how to evaluate a system level problem, design a solution, and gain support of colleagues to implement and measure the impact of their improvement effort. From 2012-2017, five cohorts with 52 learners completed the program. Their 43 improvement projects span across the organization in alignment with the our strategic goals on the quadruple aim. Participants’ confidence in teaching quality and safety competencies across six domains is measured using pre and post surveys. All competency ratings increased since starting the program and sustained 1 year post program.

Methods

• The course’s teaching methods involve self-directed learning (e.g. IHI Open School Modules and readings), didactics (e.g. short talks on change management and improvement methodologies), and experiential learning through leading an improvement project. This project must be relevant to the participants current role, have clear linkage to one of the organization’s strategic aims, have a project sponsor, and be pre-approved by their immediate supervisor. The program meets for 16 sessions and totals 40 hours of classroom time over nine months. During these sessions, along with the delivery of the didactics, there is the immediate application of course materials by the learners providing feedback to one another (“all teach, all learn”), supplemented by Just-in-Time faculty teaching and mentorship. In addition to class time, there are between session assignments.

• In each cohort an advanced quality and safety (AQS) self-efficacy survey was administered anonymously to all learners at baseline, mid- and post- (6-9 months after completion of AQSISP).

• The AQS score is a sum of 19 questions covering 6 specific quality and safety domains; quality improvement methods, organizational knowledge and leadership, safety improvement science methods, teamwork and communication, quality measurement and stakeholder interests, and data acquisition and interpretation.

• ANOVA was conducted to evaluate the baseline self-efficacy between cohorts. Bonferroni Post Hoc analysis was conducted to evaluate the pairwise comparisons between the 5 cohorts.

• ANOVA was conducted to evaluate the learner’s (all cohorts) self-efficacy between the baseline, mid-point and post surveys, with an ANOVA was conducted to analyze this comparison, controlling for the variance between the five cohorts’ baseline (pre) AQS self-efficacy mean scores. Bonferroni Post Hoc analysis was conducted to evaluate the pairwise comparisons between the three survey periods.

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• The learner’s 43 improvement projects spanned the entire organization and its efforts to execute on the quadruple aim. The distribution of improvement project categories were: 21% appropriate hospital-based resource utilization; 14% each transitions of care, ambulatory chronic disease management, and high-risk medications; 7% each ambulatory care access and hospital rescue; 5% each provider communication and hospital flow; and 2% each system-based learning, cancer care patient-based outcomes, appropriate testing, population health, patient safety during high-risk care, competency-based assessment and training.

Results

• From 2012-2017 there were five cohorts with 52 learners completing the program. The interprofessional learners included physicians, pharmacists, physician assistants, nursing and administration.

• At baseline, the variance between the five cohorts were homogeneous, Levene statistic p > 0.05. There was a significant difference in mean scores between Cohort 1 and Cohort 2; all other comparisons were insignificant, p > 0.05 (Figure 1).

• There was a significant difference between the pre-test and mid-test, and the pre-test and post-test mean self-efficacy scores, but the difference was insignificant between the mid-test and post- test mean self-efficacy scores, p < 0.001, p > 0.05, p > 0.05, accordingly. This significant difference was preserved when controlling for the cohorts (Figure 2).

• The majority of learners felt that AQSISP positively impacted abstract submission, presentation, career advancement, professional development, institutional improvement efforts, teamwork, leadership and mentorship.

Conclusions

There are identifiable gaps in faculty and leaders regarding improvement sciences. Curricula can be developed and delivered to time constrained healthcare professionals that promotes both knowledge acquisition and relevant application. Leveraging our interprofessional, interdisciplinary and interdepartmental learners facilitated systemwide collaborative improvement efforts that is most relevant and valuable to patient care.