

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 program surveys. All competency ratings increased since starting the program and sustained 1 year post program.

Introduction

Health care professionals in faculty and leadership roles are uniquely positioned to have a profound impact on improving the quality and safety of patient care while preparing the next generation of the medical profession workforce. Recommendations for increasing faculty capability as experts and leaders in quality and safety improvement sciences have come from AAMC, ACGME, National Academy of Medicine and other stakeholder constituents. Our vision to be leaders in quality and safety called for the design and implementation of a faculty level professional development program. Our aim are two-fold: 1) To evaluate whether teaching quality and safety improvement science curricula to faculty affects their capability as experts, teachers, and leaders of safety and quality, systems and practice improvement; 2) To promote the faculty as active partners and mentors in leading local, service line, and system-wide quality and safety improvement initiatives.

References

1 O'Leary, KJ et al. Hospital Quality and Patient Safety Competencies: Development, Description, and Recommendations for Use. Journal of Hospital Medicine. 2011;0(0):1-7.

Methods

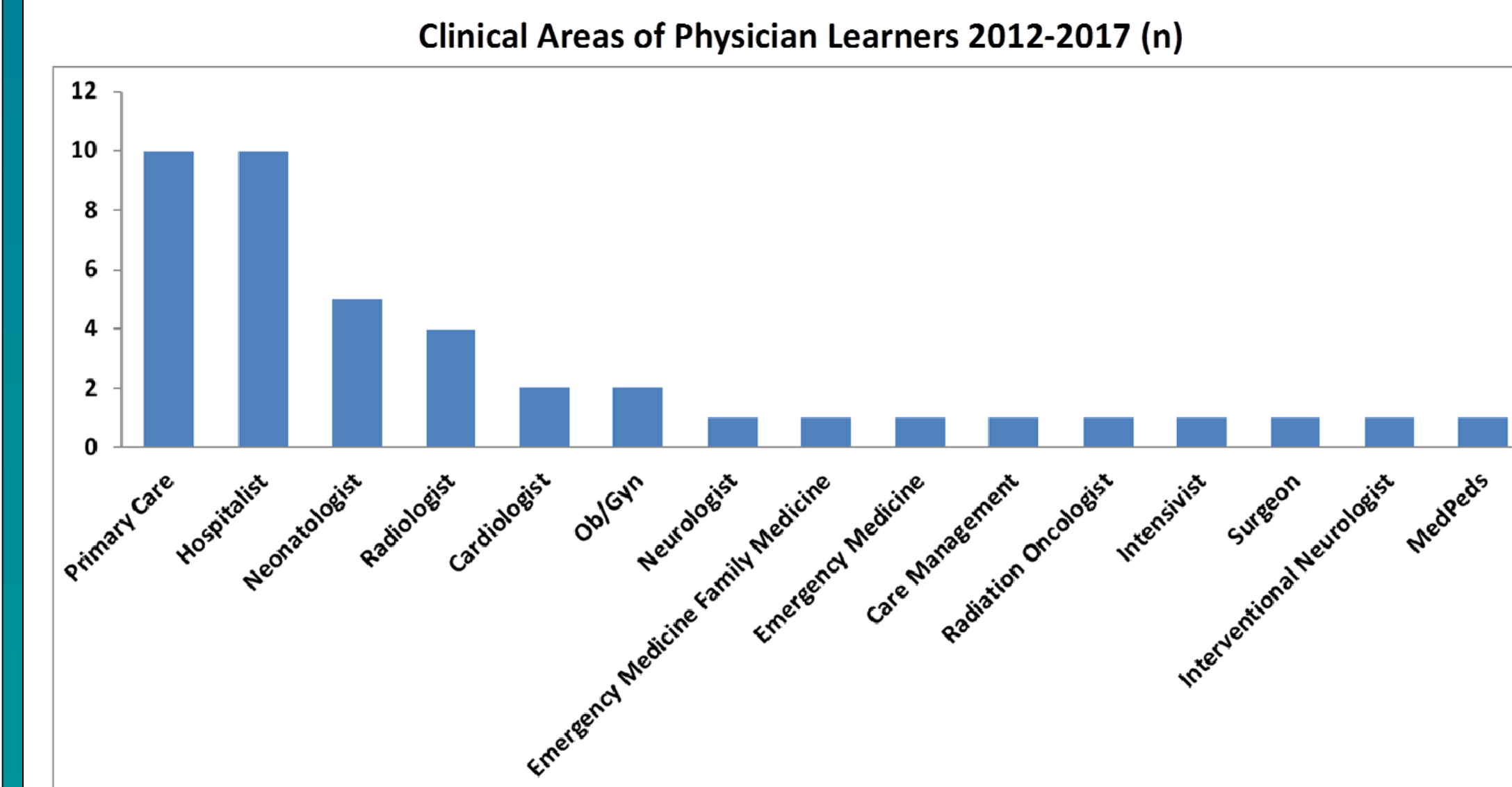
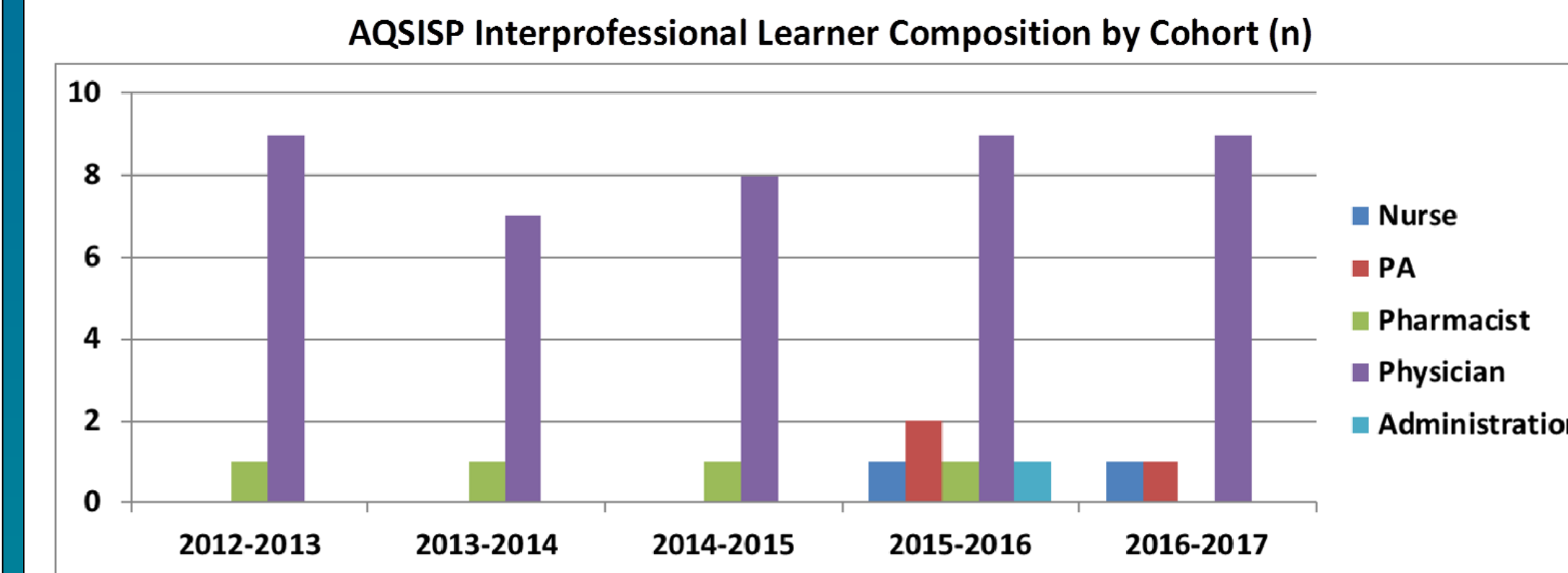
- The course's teaching methods involve self-directed learning (e.g. IHI Open School Modules and readings), didactics (e.g. short talks on change management and improvement methodologies), and experiential learning through leading an improvement project. This project must be relevant to the participants 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 9 months. During these sessions, along with the delivery of the didactic content, there is the immediate application of the 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-point and post (6-9 months after completion of AQSISP).
- The AQS score is a sum of 19 questions covering 6 specific quality and safety domains¹; quality improvement methods, organizational knowledge and leadership, safety improvement science methods, teamwork and communication, quality measurement and stakeholder interests, and data acquisition and interpretation.
- An 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.
- An ANOVA was conducted to evaluate the learner's (all cohorts) self-efficacy between the baseline, mid-point and post surveys, with an ANCOVA was conducted to analyze this comparison, controlling for the cohorts due to that fact that there was a significant difference 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.

Acknowledgments

Statistical analysis by Michelle L. Axe, MS, CHES, Research Associate, and Vishal Patel MD, MBA, Senior Physician Investigator, Value Institute

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.



- 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

- 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, $p < 0.001$, $p < 0.001$, $p > 0.05$, accordingly. This significant difference was preserved when controlling for the cohorts (Figure 2).
- The majority of learners felt that AQSISP positively impacted abstract submission, poster presentation, curricula development, institutional improvement efforts, teamwork, leadership and mentorship.

Figure 1. Mean Baseline Total Self-Efficacy Score by Cohort

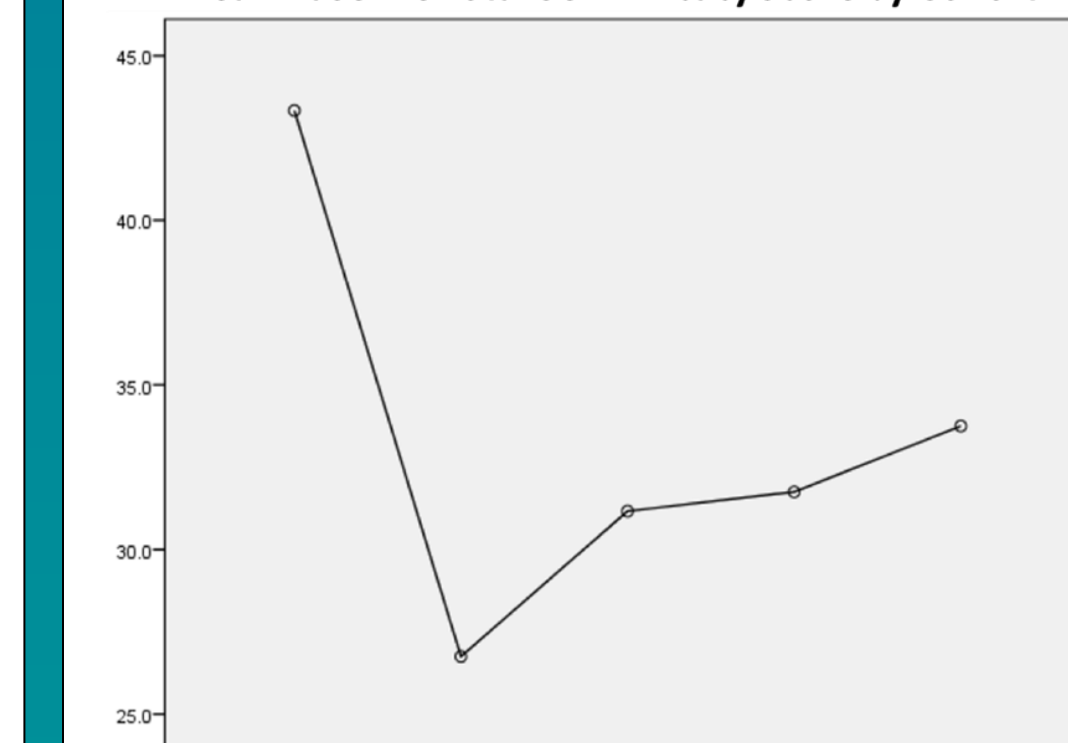


Figure 2. Estimated Marginal Mean Total Self-Efficacy Scores for Each Survey Period



- Three participants attained a professionally recognized quality improvement certification within 1 year of completing the program. 40% of the participants completing the program have advanced professionally into leadership roles.

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.