

Background

- Quality Improvement (QI) improves patient outcomes by providing tools to apply evidence-based knowledge towards patient care.
- Professional societies have endorsed teaching QI to health professions students.
- Teaching QI during formative years will prepare students to utilize this skill in their future clinical practice.
- Little research exists on the feasibility of bringing together interprofessional groups of health professions students to learn about and apply QI as part of their clinical education.

Purpose

- Explore the feasibility of implementing an interprofessional QI curriculum for health professions students during their clinical experience.
- Improve students' confidence in QI skills as measured by quality improvement confidence instrument (QICI).
- Improve students' interprofessional teamwork perceptions as measured by Student Perceptions of Interprofessional Clinical Education-Revised (SPICE-R) instrument.
- Improve students' QI knowledge and skills as measured by Revised Quality Improvement Knowledge Application Tool (QIKAT-R).

Description

- Setting: Interprofessional students rotating on general internal medicine inpatient teams at Duke Regional Hospital (DRH).
- Participants: Second-year medical, second-year physician assistant (PA), and fourth-year pharmacy students.
- Structure: 4 concurrent sets of weekly QI activities, integrated into clinical learning and expanding over 4 weeks duration of the rotation.
- QI activities: Didactic sessions, small group learning, QI assignments, and reflective writing. In order to have consistency across sites for medical student rotation, from 4/2017 to 7/2017, the educational intervention focused on didactic sessions only with focus on value of QI in translating evidence-based medicine to patient's bedside.
- Measurement: Pre and post-intervention (at the beginning and end of 4 weeks) SPICE-R and QICI electronic surveys as well as paper based QIKAT-R survey. Differences in pre- and post-intervention scores were analyzed using t-test.
- Plan to calculate Kappa statistic and then analyze QIKAT-R surveys.

Results

QICI Survey

QICI Questions	Mean (SD) Pre-QI Curriculum (n= 40)	Mean (SD) Post-QI Curriculum (n= 25)	Mean Difference (95% CI)	P Value
Describing an Issue	2.71 (0.99)	3.44 (0.94)	0.74 (0.48-0.98)	< 0.0001
Building a Team	3.09 (0.98)	3.62 (0.92)	0.54 (0.29-0.77)	< 0.0001
Defining the Problem	2.99 (1.01)	3.47 (0.95)	0.49 (0.27-0.71)	< 0.0001
Choosing a Target	2.41 (0.91)	3.07 (1.17)	0.66 (0.34-0.98)	< 0.0001
Testing the Change	2.68 (1.12)	3.31 (1.05)	0.63 (0.39-0.86)	< 0.0001
Improvement Efforts	2.84 (0.93)	3.16 (1.03)	0.32 (0.15-0.48)	< 0.0001

Results

SPICE-R Survey

SPICE-R Questions	Mean (SD) Pre-QI Curriculum (n = 39)	Mean (SD) Post-QI Curriculum (n = 23)	Mean Difference (95% CI)	P Value
1. Enhancement of education	4.38 (0.12)	4.09 (0.15)	-0.30 (-0.68 to 0.08)	0.12
2. Definition of role	3.79 (0.14)	3.64 (0.19)	-0.16 (-0.64 to 0.32)	0.51
3. Healthcare outcomes	4.46 (0.11)	4.23 (0.14)	-0.23 (-0.59 to 0.12)	0.19
4. Patient satisfaction	4.21 (0.12)	4.13 (0.16)	-0.07 (-0.48 to 0.33)	0.71
5. Work on an interprofessional team	4.28 (0.14)	4.05 (0.18)	-0.24 (-0.69 to 0.22)	0.30
6. Collaborative relationships	4.59 (0.13)	4.27 (0.17)	-0.32 (-0.74 to 0.11)	0.14
7. Understand others roles	3.95 (0.14)	3.95 (0.19)	0.006 (-0.47 to 0.48)	0.98
8. Clinical rotations & health professional students interaction	4.18 (0.11)	4.27 (0.15)	0.09 (-0.28 to 0.46)	0.61
9. Need for collaboration	4.54 (0.10)	4.36 (0.13)	-0.17 (-0.49 to 0.14)	0.27
10. Involvement with other healthcare students	4.31 (0.14)	4.0 (0.18)	-0.31 (-0.77 to 0.15)	0.18

Conclusions

- Standardization of expectations for students from leadership and leadership buy-in are important for instituting educational curriculum for students.
- Participation in our QI curriculum significantly improved healthcare students confidence in performing a QI project.
- Participation in our QI curriculum did not improve interprofessional teamwork perception.
- We are in the process of analyzing students QI knowledge and skills as measured by QIKAT-R survey data, pre and post implementation of our curriculum.

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