Development and Implementation of a Quality Improvement and Patient Safety Curriculum for Mercy Health Muskegon Graduate Medical Education Residencies

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Objective

Develop and execute a Quality Improvement and Patient Safety (QIPS) curriculum that will fulfill American College of Graduate Medical Education (ACGME) requirements for all residencies of Mercy Health Muskegon (MHM) by May of 2018.

Outcomes / Results

Eighty-two learners were included in our final curriculum analysis, of which 64 had completed pre- and post-curriculum assessments. This represents 78-79% feedback completion. Our original scope included 92 learners, 10 were lost to data analysis due to lack of follow up from faculty, PA residents and rotating medical students. Percentage by specialty is shown in Figure 3, below.

Statistically significant improvement was achieved in the learners increasing their self-reported readiness to undertake QI projects in most of the six categories shown below, in Figure 1, using two-tailed t-testing with p values ranging from 0.05 to <0.01. Pre- and post-curriculum testing of QI skills showed a statistically significant improvement of the mean score for the aggregated group with the initial mean of 18.0 correct, S.D. of 0.59 vs. post-curriculum mean of 19.3, S.D. 0.62.

The greatest improvement was shown in “Testing the Change”, “Choosing a Target” and “Extend Improvement Efforts” with gains of 0.83, 0.82 and 0.53 to the initial mean for the self-reported confidence, using a Likert scale: 1=Not at all confident to 5=Very confident.

Discussion

Residency accreditation requirements mandate teaching QIPS concepts to medical trainees. Our curriculum was developed with knowledge of general adult learning principles and review of previous studies showing that a combination of didactic and experiential learning is the correct format for QIPS curriculum.

Efficiency was gained in producing our curriculum by using IHI materials and fitting it to our organizational needs. We gained additional expertise for teaching the QI skills by attending specific quality training sessions at the December, 2017 IHI conference.

Conclusions and Implications

Residents showed gains in knowledge and confidence with our QIPS curriculum. The curriculum increased foundational knowledge (as required by ACGME) and readiness to participate in QI work. In order to know the true impact on readiness to undertake QI projects, we will need to track the QI projects and research efforts of residencies at Mercy Health Muskegon into the future.

We also found that our curriculum needs more faculty engagement - our faculty did not attend additional sessions. In addition, it required a lot of presenters’ time for preparation. Other core faculty report a lack of QI expertise personally.

Although experiential learning was integrated into our curriculum, we believe that even more interactive exercises through designated groups and projects at the onset of the training year could increase learning beyond our outcome. Sustaining gains also requires an ongoing curriculum and follow through longitudinally to track residents’ overall QI participation and outcomes impacting patient safety here at Mercy Health Muskegon. This would ultimately build an enduring research culture that would encompass quality improvement and patient safety as it’s foundation.

One of our program’s unique strengths was that it was truly interdisciplinatory. We also achieved economy of scale in cost and time spent by combining all MHM learners across specialties.

Future efforts include increasing faculty training and knowledge acquisition through targeted sessions. Additional efforts will be formalizing GME support through a structured, multi-disciplinary research committee.

References and Acknowledgements

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