REALQuICK: Resident Education and Application of Learning Quality Improvement Concepts and Knowledge

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BACKGROUND

ECU Family Medicine clinic is a large ambulatory practice taking care of approximately 18,000 patients in eastern North Carolina. This practice consists of (6) clinical modules, (4) of which have Family Medicine residents taking care of patients alongside faculty, extenders, and staff. ECU Family Medicine is part of a larger multispecialty group called ECU Physicians. ECU Physicians in turn is part of the Coastal Plains Network ACO, an accountable care organization comprised of ECU Physicians, Vidant Health, Halifax Regional Medical Center, Roanoke Valley Health Services, and Rural Health Group.

Recently, a national movement has shifted medical performance focus from a volume-based to a value-based system. This movement is particularly evident with the passage of legislation such as MACRA, which is a law that replaced sustainable growth rate provisions and institutes value-based compensation for physicians. An important component of MACRA is the QPP, which ties together the value and quality of healthcare provided to patients, health outcomes, and physician compensation. An important metric of measurement in the QPP are Quality Measure metrics, of which there are many. Care provided to patients at ECU Family Medicine is multidisciplinary and interprofessional, reflecting changes on the national health care delivery system level that are transforming healthcare delivery in the U.S. to provide quality-based care that improves health outcomes for patients.

Historically speaking, the ECU Family Medicine resident modules have performed more poorly on Quality Measure metric performance than their peers in the ECU Physicians group and the ACO. Theoretically, there are many reasons for this disparity including social determinants of health of the patient population served, physician turnover in a residency training environment, and lack of understanding of the metrics to which physicians are being held accountable and the implications of performance on these Quality measure metrics to the physician, their patient, and the practice.

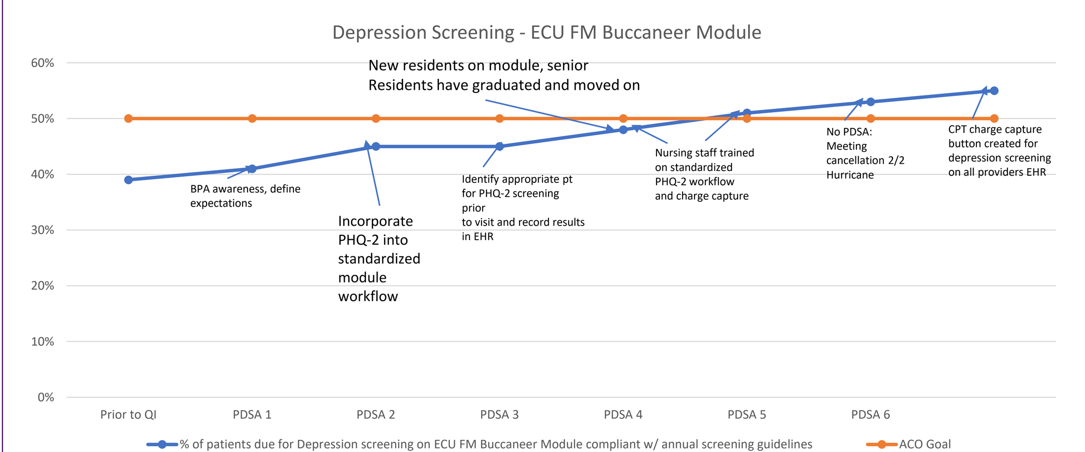
We propose that by providing formalized regular didactic education to residents regarding Quality and Process improvement and the implications of this work, combined with real world application of these principles in a structured hands-on learning environment, will yield positive results in improving resident understanding of QI and, by proxy, will yield improvements in ACO Quality metrics on the clinic modules on which the residents provide patient care.

PROJECT AIM

We will incorporate formalized QI/Process improvement curriculum into already scheduled regular monthly resident didactic time and provide a structured, module specific environment for real world application of these principles; thus creating a culture of inquiry to foster resident-physician led, multidisciplinary and interprofessional QI projects to improve patient health as evidenced by a module specific Quality Spotlight measure from 4/2018 to 10/2018 with a goal as follows:
Improve Buccaneer module QI Depression screening metric to 50+%

PROJECT DESIGN/STRATEGY

Resident QI education during regularly scheduled didactic session every 4-6wks coupled with resident led interdisciplinary QI project application in clinic for depression screening with PDSA cycles established at monthly clinic meetings. Person(s) responsible will be Clinic faculty leader (Whitman), Senior resident physician leaders (Rushing, Krajewski, and Vann), Clinical support staff, and DNP candidate (Okoro). Work will be done on Buccaneer module from 3/2018 to 10/2018 and overall success of measures will be determined monthly by Clinic Operations and Quality Dashboard Panel Metrics in EHR.



CHANGES MADE (PDSA CYCLES)

PDSA1

Discuss Depression screening during module meeting, including where module metric currently stands (39%) and agree on expectation that all providers and support staff should be reviewing pt charts prior to or during visit to see if pt requires a Depression screen based on guidelines and if it has been a year or more since their last annual screen at time of current visit. If the answers to these questions is yes, the provider/support staff will perform PHQ2 with patient during time of visit and address results accordingly.

PDSA2
Building on PDSA Cycle 1 and improvement in panel metric (41%), providers and staff will incorporate PHQ-2 screening into standardized module workflow and providers and staff will be educated on where to locate captured depression screening data in EPIC.

PDSA3
Building on PDSA Cycle 2 and improvement in panel metric (45%), providers and staff will incorporate PHQ-2 screening into standardized module workflow in which all pts without existing depression diagnosis will receive PHQ-2 screening by nursing prior to entering room and PHQ-2 score will be written on face sheet. If score is negative, this will be documented in EHR and billed appropriately. If screen is positive, MD will f/u and nursing will still bill for screening.

PDSA4
Building on PDSA Cycle 3 and stall in panel metric improvement (45%), providers and staff will incorporate PHQ-2 screening into standardized module workflow in which all pts without existing depression diagnosis will receive PHQ-2 screening by nursing prior to entering room and PHQ-2 score will be written on face sheet. All nursing staff were instructed of this expectation and the process was written and stored on module for reference. If score is negative, this will be documented in EHR and billed appropriately. If screen is positive, MD will f/u and nursing will still bill for screening. It will take multiple PDSA cycles for this change.

PDSA5
Building on PDSA Cycle 4 and stall in panel metric improvement (48%), providers and staff will incorporate PHQ-2 screening into standardized module workflow in which all pts without existing depression diagnosis will receive PHQ-2 screening by nursing prior to entering room and PHQ-2 score will be written on face sheet. All nursing staff were instructed of this expectation and the process was written and stored on module for reference. If score is negative, this will be documented in EHR and billed appropriately. If screen is positive, MD will f/u and nursing will still bill for screening. It will take multiple PDSA cycles for this change.

PDSA6
Module meeting cancelled this month due to Hurricane Florence. No new activity to report this PDSA cycle.

PDSA7
Building on PDSA Cycle 5 and improvement in panel metric improvement (53%), providers and staff will incorporate PHQ-2 screening into standardized module workflow in which all pts without existing depression diagnosis will receive PHQ-2 screening by nursing prior to entering room and PHQ-2 score will be written on face sheet. All nursing staff were instructed of this expectation and the process was written and stored on module for reference. If score is negative, this will be documented in EHR and billed appropriately. If screen is positive, MD will f/u and nursing will still bill for screening. Additionally, all providers were shown how to create a CPT button in EHR for ease of dropping charge and capturing data, and all providers were encouraged to create this button in their own EHR workspace.

RESULTS/OUTCOMES

PDSA 1:

Appropriate patients per screening guidelines were screened for date of last depression screen, and if this screen was more than 1 year ago pt was given PHQ-2 screening. Depression screening improved from 39% in 3/2018 to 41% in 4/2018 for the Buccaneer module per Clinic Operations and Quality Dashboard Metrics for Buccaneer Module.

PDSA 2:

Building on PDSA1, this work was appropriately captured in EHR. Depression screening improved from 41% in 4/2018 to 45% in 5/2018 for the Buccaneer module per Clinic Operations and Quality Dashboard Metrics for Buccaneer Module.

PDSA 3:

Building on PDSA2, the PHQ2 score was written on face sheet prior to MD seeing pt. If score was negative, this was documented in EHR and billed appropriately. If screen was positive, MD f/u and nursing still billed for screening. Ensuring that all staff were aware of new process prior to implementation is key, as this cycle noted that several nursing staff were unaware of their official role during this PDSA. Will continue to incorporate PHQ-2 screening into standardized workflow on module and make certain that all providers are aware of how data is reported and where to find depression screening data using Epic EHR. Depression screening unchanged from 45% in 5/2018 to 45% in 6/2018 for the Buccaneer module per Clinic Operations and Quality Dashboard Metrics for Buccaneer Module.

PDSA 4:

Building on PDSA3, nursing staff were all individually notified of expectation and process was written down and stored on module for reference. PHQ2 score was written on face sheet prior to MD seeing pt. If score was negative, this was documented in EHR and billed appropriately. If screen was positive, MD f/u and nursing still billed for screening. Depression screening improved from 45% in 6/2018 to 48% in 7/2018 for the Buccaneer module per Clinic Operations and Quality Dashboard Metrics for Buccaneer Module.

PDSA 5:

Building on PDSA3, nursing staff were all individually notified of expectation and process was written down and stored on module for reference. PHQ2 score was written on face sheet prior to MD seeing pt. If score was negative, this was documented in EHR and billed appropriately. If screen was positive, MD f/u and nursing still billed for screening. This training took multiple PDSA cycles. Depression screening improved from 48% in 7/2018 to 51% in 8/2018 for the Buccaneer module per Clinic Operations and Quality Dashboard Metrics for Buccaneer Module.

PDSA 6:

No new PDSA cycle elected as module meeting was cancelled due to Hurricane Florence. Depression screening improved from 51% in 8/2018 to 53% in 9/2018 for the Buccaneer module per Clinic Operations and Quality Dashboard Metrics for Buccaneer Module.

PDSA 7:

Building on PDSA5, all providers were shown how to create a CPT button in EHR for ease of dropping charge and capturing data, and all providers were encouraged to create this button in their own EHR workspace. Depression screening improved from 53% in 9/2018 to 55% in 10/2018 for the Buccaneer module per Clinic Operations and Quality Dashboard Metrics for Buccaneer Module.
See Graph to left for visual representation of project progression through PDSA cycles

LESSONS LEARNED

We learned a great deal from this endeavor. Most importantly, we confirmed our suspicion that resident performance on quality measures was proportional to their level of comfort and experience with quality improvement concepts. As residents learned more about quality improvement, and equally as important, why it mattered to them and their future practice, their ability and desire to apply QI concepts to their daily practice was dramatically improved. This improvement in understanding and application of QI concepts yielded positive results on quality measures and was noted across the board, even if we failed to reach some of our individual module targets. Given that residents see the majority of patients treated on (4) of the (6) ECU Family Medicine modules, we observed significant improvement in QI spotlight measures across ECU Family Medicine. There were learning curves involved with module reassignment (removing residents from some modules to build the Pirate module into a resident module), onboarding of new residents/graduation of seasoned residents, and application of separate but related QI projects that may have influenced the data. Additionally, our clinic hired new health coach and AWV nursing staff that helped to "clean-up" patient panels and update quality measure metrics that may have been neglected in the EHR. As a result of this, numbers in the Clinical Operations Dashboard would vary over time for the same month reported, but this variation was normally less than 1-2%. Overall, we believe that this project can serve as a blueprint for how to successfully roll out QI education and implementation in other clinical environments with adult learners, and more importantly, affect positive change to the health and well-being of the patient population we serve.

This project was a success, even if all goals outlined at the start have not yet been accomplished. By incorporating formalized QI/Process improvement curriculum into already scheduled regular monthly resident didactic time and providing a structured, module specific environment for real world application of these principles; we have created a culture of inquiry that fostered resident-physician led, multidisciplinary QI projects that improved patient health as evidenced by module specific Quality Spotlight measure improvement from 4/2018 to 10/2018.

Additionally, we have fostered a culture of inquiry on our resident modules, as evidenced by residents inquiring about and implementing QI projects of their own rationale and design based on the needs and resources of their module environment without the prompting of faculty or mentors. We believe this project has laid the foundation for future Quality and Process improvement at ECU Family Medicine as we have provided the residents (who provide the majority of patient care and work hours in the ECU Family Medicine clinic) with the tools they need to succeed in QI and Process improvement. In addition, we believe this project will help transform Quality and Process improvement across our region as these residents complete their training and take these newly honed QI skills and knowledge to new clinical environments after graduation.

NEXT STEPS

This project had some limitations, and retrospectively, there are some changes that we would like to implement if this project were repeated in a different environment in the future. One of the limitations of this project is the part-time nature of academic medical practices. Faculty have multiple job responsibilities, some of which pull them away from the clinical environment. Residents, by virtue of the well-rounded training they are provided, are also not always available in clinic. Staffing a clinic with part time physicians, and implementing a QI project in this environment, was daunting and required some built-in redundancy in education and training to ensure that all individuals involved in the project were on equal instructional footing. As the project leader and a TQA graduate, I took on the majority of the responsibilities of creating and conveying the instructional content and its overarching message that QI is important in the day to day practice of medicine. In retrospect, it would have been valuable to have other faculty members involved in curriculum development and project execution to demonstrate as a choir (rather than a solo) the importance and value of QI. Hearing this message from multiple faculty members/mentors would likely reinforce the message and the concepts we have provided in this project. We would also like to include a pre- and post-survey to residents in future training environments to gauge knowledge and comfort with QI related topics as a separate measure of success. The final lesson is that the Clinical Operations Dashboard, while a helpful tool, is not foolproof, as evidenced by the sudden changed in numbers for DM2 eye screening due to a change in the operating software accounting. Having a better understanding of how the EHR tracks this data and stores it would be beneficial for future projects of similar scope.

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