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Programmatic Innovation Abstract 15

SWOT: Harnessing Resident Feedback to Drive Institutional Change

Justin Miller, Lanier Lopez, Justin Roesch, Patrick Rendon, University of New Mexico

Problem Identification

Residency programs have access to various tools intended to improve the quality of the education provided to residents. One such tool is the ACGME graduation survey. While the ACGME survey is designed to provide anonymous feedback for review, the data only indicate areas requiring improvement, but lack specific details. Program Evaluation Committees are often seeking new methods of identifying actionable results from the survey which they can address.

Description

A SWOT analysis is a business tool that gives a comprehensive look at a project using identifiable Strengths, Weaknesses, Opportunities and Threats. We identified key areas in 3 participating residencies; OBGYN, Pediatrics and Internal Medicine. We held three, three hour interactive sessions utilizing focus group and feedback methodologies to obtain input from resident physicians. The number of residents varied between 25 (ObGyn) and 50 (Internal Medicine (IM)). Two sessions were performed using facilitators from outside departments (to encourage more candid feedback) with an assisting resident leader identified by each program. The third session used focus groups as well, but was focused on Internal Medicine Board Review.

Results

Feedback from the residents included specific concerns and actionable solutions. Themes on strengths for the first 2 sessions included specific attending physicians that were education-focused or delivered high quality feedback. Weaknesses included perceived reduction in education due to resident scheduling, need/want for additional board review sessions, and lack of feedback. Specific actions residents suggested were the creation of a system to prevent scheduling difficulties, restructuring rounds to avoid duty hour issues, developing service agreements to standardize care, developing board-focused interactive sessions, and additional teaching on administration of feedback.

Discussion

Using a resident-focused SWOT analysis to address areas of concern from the ACGME survey results is a valuable way to glean useful and actionable feedback. SWOT analyses also provided granular detail of not only which areas are important to residents, but also generated interventions for the areas of concern and allowed for resident buy-in for these interventions.

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Programmatic Innovation Abstract 16

Standardizing the Discharge Process with the Resident-Led Discharge Appointment

Zainab Wasti, Sarah Elfeky, Eleni Footman, Amanda Morgan, Kevin Azzam, John Meriwether, Rebecca Witt. Inova Fairfax Medical Campus

Problem Identification

Preventable 30-day hospital readmission, often called the "revolving door syndrome," is a shared concern across the healthcare system. At our tertiary care community hospital, we implemented the Discharge Appointment (DCA) - a QI initiative to reduce Medicine teaching service readmissions. A resident conducts the standardized discharge "appointment" with the patient, family, and care team members present.

Description

Using the teach-back method, the resident educates the patient on the diagnosis, hospital course, medication reconciliation, and follow-up appointments. We examined readmission outcomes following this initiative, simultaneously exploring barriers faced by residents in the discharge process.

The intervention group (IG) included selected teaching service patients receiving a DCA prior to discharge. The comparison group (CG) included patients of the same teaching service without a DCA. An informational video demonstrating the DCA was regularly shown to Medicine residents on inpatient teaching teams. The DCA checklist, a progress note used to document the "appointment" (and indicate readmission risk factors, team and family participants, follow up appointments, and barriers to teach back) was entered into a database for outcome measures. Surveys and focus groups sought residents' challenges with the DCA, resulting in PDSA cycles and work flow changes: a new hospital discharge summary template incorporating the checklist and weekly protected time. Resident performance was publicly displayed and incentivized with meal-card prizes.

Results

From 7/2013 to 1/2015, the IG had 898 patients, CG had 8,082 patients. Outcome measures include observed 30-day & 72-hr readmissions, LACE score, length of stay, and hospital throughput time. Observed 30-day readmission rate 10.61% in IG vs 12.44% in CG; 72-hr rate: 1.34% in IG vs 2.99% in CG. Average LACE score: 8.9 in IG vs CG 8.7 in CG.

Discussion

Implementing the DCA was associated with decreased observed 30-day and 72-hr readmissions for IG patients. IG LACE scores were higher, suggesting risk was not a confounder favoring the DCA. Hospital readmission literature has shown that 72-hr readmissions usually reflect the quality of the discharge process. The success of the DCA may be attributed to standardized discharge talking points addressing readmission risk factors and improved rate of scheduling follow up appointments and use of interpreter services.

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Programmatic Innovation Abstract 17

Designing Continuity Clinic in the "Plus Y" Week: The Devil is in the Details!

Parvinder S Khurana, Chad Martins, Jill Catalanotti, April Barbour

Problem Identification

"X plus Y" residency redesign is increasingly replacing the traditional model of month-long rotation blocks with weekly half-day continuity clinics. This newer model reduces conflict between inpatient and outpatient responsibilities and may increase resident and faculty satisfaction with clinic, however designing continuity in intermittent "plus y" ambulatory weeks presents new challenges. In the months after rolling out the 4 plus 1 schedule at our institution, we identified issues with continuity of care for residents' patients, resident-preceptor continuity, sub optimal response times to patient messages and result notification during the non-ambulatory weeks.

Description

We created strategies to fine tune our "y" week with a view to address these inadequacies. We established methods to label the patient's electronic health record (EHR) banner with the team name as well as the resident PCP's name. We did in-service sessions with our call center and front desk scheduling staff for correct patient booking. We also set up policies and procedures for timely result and message follow up, including coverage guidelines. In addition, we increased oversight and accountability in the coverage system by making preceptors in-charge of a small group of residents. Preceptor resident continuity was facilitated by creating subgroups within each team that would work together. The hope was that this would ensure adequate contact time and promote fair and meaningful evaluations.

Results

We are into the second year of the 4 plus 1 redesign at our institution. The rates of continuity of care for patients, resident preceptor continuity, ease with evaluations and patient follow up have significantly improved.

Discussion

In designing the plus y week, care to the finer details is critical to ensure that the advantages of the x plus y residency redesign are not offset by unintended negative consequences in the y week. Ensuring continuity of care for patients, inculcating patient ownership in residents, ensuring accountability and oversight in coverage system should an integral part of the finer redesign of programs. In addition, faculty and resident satisfaction will improve with streamlining of the evaluation process.

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Programmatic Innovation Abstract 18

Development of a Wellness Curriculum to Combat Burnout, Isolation, and Compassion Fatigue

Sangita Goel, Krishna Chokshi, Shelly Latte, Vani Gandhi, Erica Vero, Mount Sinai St. Luke's West Hospital

Problem Identification

Recent data suggest that nearly half of all physicians in the United States experience burnout and Internal Medicine residents are amongst the most affected. Practices that foster the ability to reflect meaningfully on clinical experiences as well as mindfulness based interventions and relaxation techniques have been widely used in the healthcare setting with promising results in alleviation and prevention of burn out. Currently there is no forum within our program for exposure of residents to these practices.

Description

We developed a comprehensive Wellness Curriculum that currently encompasses three components: medical humanities, Mindfulness training, and evidence based Integrative Medicine. We conduct these sessions in intimate groups, during protected time and ensure exposure of the entire housestaff program. In "Reflection Rounds" residents discuss key themes such as, "Experiencing Loss," "Grappling with Burnout," and "Promoting Empathy". We utilize techniques of collaborative writing, discursive methods and discussions of relevant articles, prose, and poetry. In our Mindfulness sessions, residents are exposed to relaxation techniques such as the "body scan", mindful communication and stress awareness techniques. Each session offers a safe space for introspection and expression in an effort to develop successful habits for coping and growth.

Results

Our preliminary surveying of residents with the Maslach Burnout Inventory established a high prevalence of burnout. To date, preliminary feedback on the Wellness Curriculum has been overwhelmingly positive. Residents have expressed the need for and appreciation of a forum in which they can share their thoughts and experiences and develop practices to cope with the inherent challenges of our field. We will continue to survey our residents to determine the impact of this curriculum.

Discussion

The core tenet of reflective medicine maintains that fostering emotional intelligence offers a powerful cognitive resource for providing better medical care. Mindfulness based tools have been shown to improve stress awareness, compassion, communication and quality of life in health care providers. We are hoping that through a varied wellness curriculum we can improve resident well-being and alleviate or prevent burn-out. These methods when integrated into medical education can also cultivate residents' ability to derive meaning and fulfillment from one's professional work and deliver more empathic care.

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Programmatic Innovation Abstract 19

If You Build It They Will Come: An Innovative, Systematic, Multi-Faceted Approach to Creating a Successful, Well-Attended Noon Conference

Sangita Goel, Tamara Goldberg, Alejandro Diaz, Abel Casso Dominguez, Ashwin Sawant, Ujjawal Gandhi, Erica Vero, Tejas Patel, Mount Sinai St. Luke's-West Hospital Icahn School of Medicine

Problem Identification

The ACGME recommends that residents attend teaching conferences on a regular basis. The multitude of clinical responsibilities and competing demands on residents has made it challenging to attend daily educational activities. At our institution, noon conference has historically been poorly attended. We hypothesized the following reasons for this: 1) Lack of a formalized structure: the conference topics were randomly scheduled and there was no schedule provided in advance. 2) Lack of Accessibility: our hospital spans six sites and the conference is only available at two. 3) Inadequate Faculty Participation: on average, faculty led only 20-30% of lectures.

Description

We developed an innovative multifaceted approach to systematically address each of these issues. 1) Creating a formalized structure: we organized our conference by subspecialty topic, with the number of lectures weighted based on the ABIM blueprints. We cover each major topic over the course of 1-2 months. This allows residents to study one subspecialty at a time and compound their learning. To ensure the curriculum is well rounded, we incorporate lectures on general medicine, healthcare, ethics and wellness. This lecture schedule with associated MKSAP questions is collated in an online syllabus. 2) Accessibility: to address access issues for our off-site residents, lectures are recorded and made available via cloud-based video sharing; house-staff can watch from home or on their mobile device. 3) Recruitment of faculty: presenting an organized new curriculum with the guarantee of house-staff attendance enabled the support of division chiefs and thus faculty.

Results

After initiating these changes in September 2015, we achieved a fourfold increase in faculty-led didactics, with faculty participation in 70-80% of all conference. Resident attendance to conference has averaged about 80% (CI60-100%) since the onset of the new curriculum.

Discussion

Through a targeted needs assessment of our noon conference, we developed a feasible, high-yield intervention for improving resident attendance. By creating in advance a structured and electronically accessible curriculum based on ABIM blueprints, we subsequently improved buy-in from residents and attending faculty. These changes have significantly shifted the culture wherein residents prioritize conference. The adage stands true "if you build it, they will come."

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Programmatic Innovation Abstract 20

Enhanced Resident Accountability as a Means to Improve Performance on the ABIM Certifying Examination

David Sweet, Rex Wilford, Bradley Moore, Lynn Clough, all from Summa Health System and Northeast Ohio Medical University

Problem Identification

Our residency program's 3 year pass rate on the American Board of Internal Medicine Certifying Examination (ABIM-CE) dropped to 80% in 2011 which led to a reevaluation of our Board prep process and a decision to implement a more structured resident study program.

Description

Prior to 2012 our program purchased a copy of any available Board prep program for each resident once during residency. In 2012-13 this was standardized to the purchase of MKSAP and the following testing requirements were instituted: a 30 question quiz during each subspecialty rotation, minimum pass 80%; twice a year 60 question overall quizzes, minimum pass PGY 1 – 60%, PGY 2 – 70%, PGY 3 – 80%. Residents with lower scores or with a failure or low score on any Step exam had additional review and testing requirements. Failure to attain an 80% score on the final overall quiz by March 31 of graduation year would potentially lead to a 3 month residency extension.

Results

In the Baseline group, 48 of 50 graduates first eligible to take the ABIM-CE in 2010-12 did so in their first 2 opportunities. In the Intervention group, 42 of 47 graduates first eligible to take the ABIM-CE in 2013-15 did so in their first 2 opportunities (or their first opportunity for 2015 graduates). The two groups had similar Step performance characteristics; 38 of 48 (79%) in the Baseline group and 32 of 42 (76%) in the Intervention group had no failures on Step exams (p=NS). 33 of 48 (69%) residents in the Baseline group and 38 of 42 (90%) in the Intervention group passed the ABIM-CE on their first attempt (p=0.018). For residents with no Step failure, 30 of 38 (79%) in the Baseline group and 31 of 32 (97%) in the Intervention group passed the ABIM-CE on their first attempt (p=0.033). For residents with any Step failure, 3 of 10 (30%) in the Baseline group and 7 of 10 (70%) in the Intervention group passed the ABIM-CE (p=NS) on their first attempt. Groups were compared for differences using Fisher's exact test ($\alpha = 0.05$).

Discussion

For academically similar groups of residents, implementation of a progressive assessment process was associated with significant improvement in the ABIM-CE pass rate. MKSAP is commonly used by IM residency programs with 202 of 210 programs responding to a 2013 APDIM survey question regarding Board preparation indicating MKSAP questions were included in their internal structured board review program or teaching sessions. The progressive assessment process has placed greater accountability on the individual resident and will benefit our graduates by contributing to the development of habits of lifelong learning. With MKSAP being commonly used by residency programs, implementation of a similar progressive process may be feasible for other programs.

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Programmatic Innovation Abstract 21

Matching Millennials: Creation of a Mobile-friendly Education Website for Internal Medicine Residents

Bailey Pope, Matthew Richards, Oregon Health and Science University

Problem Identification

As technology advances, learners are utilizing more and more technology to improve their medical knowledge, which is drastically different compared to 25 years ago. From the vast expanse of journal articles available online to mobile phone applications, social media and free open access medical education, adapting to growing technology as a part of graduate medical education (GME) is necessary. Additionally, the shift in education to deliver asynchronous content such as online modules or flipped classrooms is becoming a growing movement in GME. Previously our program utilized a university-sponsored educational website to host learning materials however the utilization by residents was less than ideal. A needs assessment of residents with 66% response rate indicated that the need for university credentials, poor user interface, and lack of search function as being major barriers to utilization. This is consistent with known facts about psychology of web traffic that these as well as the number of clicks required to reach a target can deter users, one term in web design is bounce rate. Over 90% of residents indicated that they would use a website that was easily accessed, mobile-friendly website with various learning resources. The items that were most frequently indicated as desired content were: direct links to key review articles, trials, analyses or guidelines; pocket reference guides; and evaluation or treatment algorithms.

Description

We designed a website using third party web design software, Squarespace. Using prior documents and collaboration with subspecialty representatives of a resident curriculum committee, we established reading and resource lists for the various subspecialties and topics within medicine which were built these into the website. Additionally, links to external video and audio content were provided in addition to other educational content.

Results

The analytics function of the website will allow us to gain access about traffic in the various divisions of the website to understand patterns of utilization and the preferred content of the site.

Discussion

As we continue to expand the website we have found that a centralized, easily accessible website is important for ease of use. We hope that this will become the preferred site where residents can access content with an improved user interface, better web design principles, and vital content.

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Programmatic Innovation Abstract 22

From the Ground Up: A Grassroots Approach to Teaching High Value Care

Colin Robinson, Cody Dashiell-Earp, Sara-Megumi Naylor, Alexandra Milin, Gurveen Sandhu, Brenton Bauer, Jodi Friedman, UCLA Medical Center

Problem Identification

While there has been increased national attention given to the provision of high value care (HVC), most training programs lack a unified approach to teaching residents about these concepts. At our institution, a survey revealed that although residents would like to practice HVC, they feel they lack the knowledge to challenge the status quo. Our goal was to design an innovative, trainee-centered curriculum to promote a culture of HVC at UCLA.

Description

We used grassroots organizing and marketing strategies to raise awareness and excitement about this important topic. Our first step was to bring together a group of residents with a special passion for HVC. This group established itself as the first chapter of Providers for Responsible Ordering (PRO) on the west coast and is currently working on a project to improve inpatient echocardiography use. Residents also spearheaded our kick-off event, the first annual HVC Week, which consisted of a number of activities including the Interactive Cost-Awareness Exercise created at Yale University. In addition to dedicated HVC lectures such as our Pathology and Laboratory Medicine series, we use gold stars throughout lecture material to highlight and brand HVC concepts embedded within our standard curriculum. Finally, we are currently piloting HVC Rounds, a structured approach to teaching value at the bedside, and forming a subspecialty working group to create value-based clinical guidelines.

Results

Our HVC curriculum has been extremely well-received by the housestaff and faculty alike. Attendees regularly cite our HVC conferences as among the most engaging conferences of the year. In the coming months, we plan to collect pre, post, and delayed post-intervention survey data to measure attitudes, self-perceived skills and knowledge regarding value based care.

Discussion

Our experience shows that, over the course of a few months, it is possible for chief residents to promote a culture of value-based practice from the ground up by harnessing the enthusiasm of residents and creating innovative educational programming. By influencing the thought processes of impressionable physicians-in-training, we hope to create lifelong practice patterns that will maximize quality and minimize cost.

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Programmatic Innovation Abstract 23

A Novel Internal Medicine Continuity Clinic Redesign Utilizing a Series of Month-Long Ambulatory Block Rotations

Elisha L Brownfield, E Benjamin Clyburn, Brad A Keith, Ashley A Duckett

Problem Identification

The ACGME program requirements for Internal Medicine (IM) emphasize the need for separation of inpatient and ambulatory clinical experiences. There are numerous models utilized by IM programs, each with their inherent challenges. The majority of these incorporate 1-3 week ambulatory blocks. We describe our three year experience with a novel 3 month acute care + 1 month ambulatory block schedule.

Description

In July 2012, all PGY 2-3 categorical residents' schedules transitioned from a one half-day per week continuity clinic to an every fourth month ambulatory block. Each ambulatory monthly block rotation included 6-7 half days of continuity IM clinic with additional time in a variety of subspecialty clinics. Utilizing the newer reporting milestones, learning objectives and didactic curriculum were redesigned to include an expanded orientation to ambulatory medicine and immersion into the Patient Centered Medical Home. A structured ambulatory Morning Report was added along with an inter-professional weekly team meeting and online modular curriculum focused on ambulatory medicine topics. Systematic direct observation of resident patient care activities was also instituted, along with structured, formative feedback.

Results

Goals of the program included: separation of inpatient and ambulatory activities, increased ambulatory clinical time with exposure to non-General IM specialties, increase in resident direct observation, exposure to inter-professional training and practice in a Patient Centered Medical Home, and the creation of a robust ambulatory curriculum. Average number of continuity clinics per categorical resident per year has increased from 44 to 64. Over the past 3 years, the program has documented a series of direct observations for 100% of categorical residents. Resident satisfaction with the ambulatory rotation overall has remained stable: 3.43 (single year prior to implementation) and 3.47 (academic year 2014-2015) on a 4 point Likert scale.

Discussion

Many service design models have been implemented nationally to improve the quantity of dedicated IM ambulatory clinical time and the quality of the academic experience. This is the first description of a q-4 month long block ambulatory block model. We have demonstrated the feasibility of such a model without a detriment to resident satisfaction. Evaluations of resident-patient continuity, quality of patient care and inter-professional teamwork are on going.

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Programmatic Innovation Abstract 24

The Chief Debrief: Here's a Way to get the Real Story on Teaching Attendings

Kristy Deep, Sally Nau, University of Kentucky

Problem Identification

Faculty teaching evaluations completed by residents often exhibit little numerical score differentiation. Comments vary in their level of specificity and few include constructive feedback. This makes it difficult to distinguish excellent clinician educators and to guide improvement for faculty development.

Description

The "Chief Debrief" project seeks to gather constructive feedback for teaching attendings. A chief resident meets with a group of residents and interns on an inpatient service for a period of about 20 to 30 minutes. Using a standardized tool to elicit feedback, the chief resident asks questions about autonomy, supervision, efficiency, and impact on development. Residents are then asked to place each attending in a quartile, compared to attendings they have worked with previously.

Results

In a three month period, there were eight chief debrief sessions with 24 total resident participants reviewing 23 attendings. The total time invested per team was approximately 45 minutes, including team sessions and compilation of responses. Each "Chief Debrief" resident participant was later sent a survey about their experience. Resident survey results showed 80.8% of respondents agreed or strongly agreed that this session allowed for more candid feedback than the formal written faculty evaluation. 84.6% of respondents agreed or strongly agreed that the session was a worthwhile use of their time. The Chief Debrief revealed specific positive feedback not in written evaluations for 4/23 attendings and constructive feedback for 3/23 attendings.

Discussion

At this stage, we know that "Chief Debrief" is a tool that is valued by residents and can offer more specific insight into faculty teaching styles than what is available on a formal written evaluation. This included both feedback that validates certain attending behaviors as well as identifies a need for improvement. As we continue with our sessions, we will also look toward the next step: developing a format to deliver this informal feedback to attendings and evaluating its acceptability

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Programmatic Innovation Abstract 25

Resident Progress Note Improvement via a Standardized Template

Chetan Dodhia, Edward Bischof, Mudassar Ahmad, Bassett Medical Center

Problem Identification

The daily progress note is the foundation of inpatient documentation and communication for healthcare providers. With the advent of the electronic medical record, copy-and-pasting, note bloat, inconsistencies, erroneous data, and lack of cognitive processing have become widespread leading to difficult to read and inaccurate progress notes. At Bassett Medical Center, a survey of physicians showed that progress notes: 1) do not reflect the clinician thought process; 2) are not up-to-date and do not communicate the current state of the patient; 3) are not internally consistent; and 4) are too long and cluttered.

Description

In response to these challenges, we developed an improvement project that included a progress note template, note writing guidelines with small group training, and frequent feedback. A previous study demonstrated that a standardized note template can drive note writing behavior and therefore it was a major component of our project. Our training included video guides, live workshops, and reviews of documentation.

The project was piloted on one teaching medical team and subsequently spread to all five teaching medical teams after a positive response. To measure improvement, 8 sequential pairs of inpatient progress notes prior to and after project implementation were graded using a 7-point system. The scoring system included: assessment of the primary problem, being up-to-date and succinct, and consistency. Our goal was to improve the average score of progress notes by at least 2 points within 1 year.

Results

The average score of notes prior to project launch was 2.81 (SD 0.09), which improved to an average score of 5.88 (SD 0.53) out of 7 after. This represents an improvement by 3.07 points or approximately 109%. Incorporation of the clinician thought process and note succinctness improved the most. Rapid adoption of the template by the hospitalist group at our institution further supports the positive impact of the standardized template on documentation.

Discussion

Our project illustrates that a template-based progress note with sufficient training, is an effective way of improving the quality and clinical utility of progress notes. Regular feedback is vital to maintain effective incorporation of cognitive processing. A similar project could readily be introduced in other health systems.

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Programmatic Innovation Abstract 26

Huddle Up: An Interdisciplinary Approach to Reduce Chaos in Resident Clinic

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Problem Identification

In July 2014, the residency at this medium-sized, internal medicine program transitioned from the traditional schedule of a weekly half-day clinic to 4+2 block scheduling. As a result of this transition, the number of residents per clinic increased from 6 to 10, and the patient throughput also increased. This increase in residents and patients, combined with previously unrecognized inefficiencies such as lack of clarity in room assignments, unequal distribution of work for medical assistants, and preceptor availability, resulted in a chaotic clinic with significant patient care and precepting delays.

Description

The clinic commissioned a LEAN team investigation, and the results were analyzed in two small group workshops including all stakeholders in resident clinic. Solutions included assigning each resident to a single clinic room, assigning one medical assistant and one faculty preceptor to a group of 3-4 residents. A "Huddle Board" was employed to implement these changes. The Huddle Board is white board with horizontal assignment lanes that contain named photographs for faculty preceptors, residents, or medical assistants in separate lanes. Via the Huddle Board, assignments of residents to clinic rooms, medical assistants, and faculty became obvious to everyone in clinic. The patient appointment durations were measured for a period of six weeks before and after introducing the Huddle Board.

Results

The longest appointment duration was reduced from 201 to 113 minutes, the median appointment length was reduced from 54 to 46 minutes, and the percent of appointments extending beyond 60 minutes reduced from 39% to 27%. The overall average duration fell from 59 to 50 minutes [p-value 0.0001, two tailed, t-test]. The Huddle Board intervention was well received- faculty preceptors, residents and staff either "agreed" or "strongly agreed" that the Huddle Board reduced confusion in the resident clinic (90%), it was a valuable tool (88%), the named photos allowed for better recall of the names of colleagues (93%), and having one room assigned per resident was more efficient (85%).

Discussion

The Huddle board is a simple, easily acceptable, inexpensive intervention associated with reduced appointment times and improved satisfaction, which can be easily replicated by other resident clinics to streamline operations.

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Programmatic Innovation Abstract 27

A Longitudinal Simulation Curriculum: Using X+Y to Create a Novel and Universal Educational Experience for all Interns

Kirana Gudi, Kapil Rajwani, Oren Friedman, Lindsay Lief, and Cathy Jalali

Problem Identification

The ACGME mandates that programs provide access to training using simulation. It is known that simulation in procedural training increases residents' skills and self-confidence. As such, we used the scheduling cadence of an X+Y system to implement and grow a year-long simulation curriculum for interns.

Description

During their ambulatory block, each intern attends 2 ninety-minute sessions with a 2:1 ratio of interns to simulation faculty. During the first session, the interns receive checklists of steps, watch procedural videos, and participate in interactive group demonstrations with the faculty. In the second session, each intern performs the procedure, while the supervising attending directly observes them using checklists. The sessions end with debriefing and feedback on performance. Given our 6+2 structure, the longitudinal curriculum encompasses both ABIM-mandated procedures and programmatic requirements, consisting of 1 block of life-saving procedures (CPR and ventilation, IV and IO placement), 1 block of Central Line Placement, 1 block of Thoracentesis/Paracentesis, 1 block of Point of Care Ultrasound and 2 blocks of ACLS/Rapid Response (total of 6 ambulatory blocks). Evaluations include pre and post tests of knowledge and skills and surveys of resident attitudes.

Results

Pre and Post tests and checklists have shown statistically significant improvements in both knowledge and skills as well as resident attitudes (as examples $p<0.002$ for central line knowledge and $p<0.0008$ for confidence in central line skills). Additionally, the simulation curriculum has received one of the highest scores for overall educational value of an activity with a score of 3.9/5 (1=poor 5=excellent), with approximately 60% of PGY1s responding (n=27). We have successfully implemented this over 2 consecutive academic years.

Discussion

A simulation curriculum for Internal Medicine Residents is imperative and needs to be available to all housestaff in small groups and on a longitudinal basis. By imbedding the curriculum into the X+Y system, we have shown that it is feasible to consistently deliver a broad simulation experience to our entire PGY1 class. Our curriculum has been well received by the interns and has improved their skills in procedures and ACLS technique.

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Programmatic Innovation Abstract 28

Improved Access to Healthcare Amongst Residents-A Health and Wellness Initiative

Amanda Harris, Ryan Brown, Atul Kapila, Ryan Kindle, Meera Wright, Natalie Nesmith, Brittany Waterman, Jennifer Green, Vanderbilt University Medical Center

Problem Identification

Data presented at the American Psychiatric Association (APA) 2015 Annual Meeting revealed that residency burnout is a serious concern. A study conducted by the University of North Carolina found that 79% of internal medicine residents exhibited evidence of burnout. A Lancet study in 2009 found that physicians who have a poor personal health profile are less likely than are those who are healthy to perform evidence-based screening and counseling for a healthy lifestyle to their patients. Our program aimed to improve access to healthcare amongst residents by creating allocated time away from work for personal health maintenance, including primary care, dental care, mental health and obstetrics/gynecology.

Description

A pre-intervention survey was used to evaluate residents' self-perception of being up-to-date on routine health maintenance. Each interested resident was then provided a "Health and Wellness Day" during a future clinic rotation to schedule healthcare appointments. We also provided an up-to-date list of primary care physicians, obstetricians/gynecologists as well as mental health providers for residents to reference. We sent a survey evaluating residents' self-perception of health six months after the intervention to determine its efficacy.

Results

Our intervention increased the percentage of residents with a primary care provider from 40% to 64% and increased the percentage of residents with an obstetrician/gynecologist from 33% to 61%. The percentage of residents who have seen a primary care provider within six months more than doubled. Self-perception of being up-to-date on routine health maintenance by residents increased from 46% to 70%. More residents reported formal screening for alcohol abuse, hypertension, cervical cancer, and HIV. Lastly, the percentage of residents with a perceived mental health concern who desired and obtained mental health care increased from 35% to 75%.

Discussion

Resident access to healthcare can be improved. Our intervention of enacting a biannual "Health and Wellness Day" increased resident self-perception of health maintenance and access to healthcare providers. Due to the efficacy of this intervention, the "Resident Health and Wellness" initiative continues. This has also influenced the creation of a resident-run committee to identify other areas of improvement in resident well-being.

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Programmatic Innovation Abstract 29

Tailoring Ward-Based Teaching to Resident Needs Using MKSAP Questions

Meghan Sebasky, Talya Bordin-Wosk, Remus Popa, Michele DeKorte, Alina Popa, Univeristy of California San Diego

Problem Identification

Teaching rounds are at the heart of internal medicine residency. We surveyed residents at our institution to assess the current state of ward-based teaching; response rate was 49%. "Chalk talks" (88%) and MKSAP questions (53%) were preferred teaching methods. Many residents (65%) thought ward teaching only "sometimes"' prepared them for board exams. Lack of time was the primary barrier to teaching. We surveyed the 53 hospitalists in our division to determine teaching practices and received 28 responses. Although many used "chalk talks", 64% reported using MKSAP questions "rarely" or "never". Finding time when all team members were present and lack of time to prepare teaching materials were the main barriers.

Description

We theorized the ideal teaching method would involve MKSAP questions, require minimal faculty preparation, and be easy to incorporate into a busy ward day. Using the ABIM certification exam blueprint as a guideline, we selected 260 MKSAP questions (five questions per week) and constructed 52 standardized PowerPoint presentations. Each PowerPoint consisted of questions, answer explanations, and bibliographies, and the distribution of questions throughout the year loosely followed the content of residency teaching conferences. The presentations were distributed to all hospitalists weekly via email.

Results

Twenty-four hospitalists rotated on wards during the first three months of the intervention; eleven responded to requests for feedback. Five attendings used the questions and reported favorable feedback from residents. Hospitalists who did not access questions identified lack of time and reluctance to use an alternate teaching method as barriers. Most attendings used computer workstations to access questions before or after morning rounds.

Feedback from residents exposed to the MKSAP presentations was universally positive. One resident stated, "This is a very effective teaching method. MKSAP questions provide pertinent, succinct information in a way that helps . . . solidify clinical knowledge without overwhelming residents."

Discussion

The main barrier encountered in the pilot period was lack of attending physician participation. We plan to innovate further by formatting the presentations for smart phones and tablets and distributing printed copies to the hospitalists on service each week. Continued advertising of the project to our colleagues and resident requests for questions may also increase participation.

An unanticipated bonus outcome was off-service faculty use of the weekly questions for their own continued learning; those preparing for recertification exams were particularly enthusiastic.

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Programmatic Innovation Abstract 30

Transforming Traditional M&M Into an Interactive QI Conference

Thomas J Walk and Gaetan Sgro, VA Pittsburgh Healthcare System

Problem Identification

In response to the ACGME's Next Accreditation System and CLER program, residencies have been working to increase trainee engagement in patient safety and quality improvement (QI). While traditional morbidity and mortality (M&M) conference remains the dominant model for discussing medical error among physicians, the content of these conferences varies widely and often focuses on human rather than systems error. If we really want residents to appreciate how errors occur in complex systems and to improve care for our patients, we need to re-engineer M&M.

Description

In an effort to combine an open forum for discussing adverse events with instruction on QI methodology, we overhauled M&M conference at our VA site. Rather than selecting only the worst patient outcomes for discussion, we select cases involving serious or multiple systemic errors for our Quality Improvement Conference (QUIC). We begin by leading trainees through an interactive case presentation and an introduction to root cause analysis. Attendees then identify contributing factors in small groups before reconvening to brainstorm potential interventions. We conclude by disclosing how our local QI offices are addressing the issues raised and by reviewing the event reporting process. The 60-minute session is delivered monthly in order to capture all trainees in the program.

Results

Preliminary feedback is generally positive. Residents are gaining a better understanding of the process for addressing incident reports as well as hands-on experience using common QI techniques with which they were previously unfamiliar. In addition, they note an increased likelihood of reporting adverse events in the future. A comparison between evaluations for traditional M&M and QUIC is pending. Ultimately, we hope to capture increased resident engagement in our patient safety culture as measured by our annual program evaluation and a positive impact on CLER visits.

Discussion

We restructured M&M into a novel interactive conference that ushers the discussion of adverse events into the era of quality improvement and patient safety. Our QUIC conference engages all trainees in the foundations of QI and bolsters ACGME competencies in systems-based practice and practice-based learning. This represents a fresh approach that provides a foundation for a longitudinal quality curriculum.

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Programmatic Innovation Abstract 31

#BoardPrep: Using Social Media for EBM and Board Review

Natalie Margules, Jeffery Marbach, Evan Lapinsky, and Ruben Rhoades

Problem Identification

Staying up to date with medical literature and finding time to review core content for board preparation is a challenge for busy internal medicine residents. Many residents would identify daily board review and frequent appraisal of the literature as a professional goal, but in practice, find this to be difficult due to their demanding schedule. Social networking sites, such as Twitter, Facebook, and Instagram represent a promising opportunity for residency programs to foster collaborative learning and educational engagement in an easily transmissible, digestible format. In 2013, our program utilized a Twitter account with the goals of disseminating clinical pearls from our daily conferences and inspiring continued learning by providing links to relevant research and review articles. A limitation of this format was the character limit on Tweets, making Twitter a difficult venue for board review questions, article summaries or sharing images.

Description

In 2015, the chief medical residents at Jefferson created a shared Instagram account. This account quickly gained many followers, including but not limited to Jefferson Internal Medicine residents, fellows, and faculty. Daily posts include images (eg, EKGs, chest x-rays, blood smears, and physical exam findings) paired with board-style questions and high yield topics from our conferences. In addition to sharing more traditional images, Instagram proved to be an excellent venue for posting useful charts, like opioid conversion tables and pre-test probability tables. In addition to using Instagram as a board preparation tool, images from relevant research and review articles accompanied by a 3-4 sentence article summary were posted as well.

Results

Our Instagram account continues to gain followers. Residents have provided feedback that they are regularly using this account to help achieve their goals with respect to board studying and literature review.

Discussion

An unanticipated benefit of using social media in this way has been the involvement of our faculty and fellows who contribute additional clinical pearls by leaving comments on the original posts. Residents can post questions related to the original posts content and "tag" a faculty member or fellow. This prompts a response from the tagged user, generating real time discussion of a board question or conference topic.

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Programmatic Innovation Abstract 32

The Humanism Project-Teaching Medicine Residents How to Care for Patients

Jennifer B Breznay, Nina Collins, Melvyn Hecht, Beth Popp, Kenechukwu Chudy-Onwugaje, Lawrence Wolf, Maimonides Medical Center

Problem Identification

In 2013, a graduating Medicine resident critiqued her education for its lack of empathy training. Consequently, over the next 2 years, Medicine residents experienced the Empathy Curriculum in five workshops designed to improve communication and self-awareness. Residents began self-rating their level of empathy yearly using the Jefferson Scale of Empathy (JSE). Ultimately, Faculty identified the need for more regularly occurring sessions to explore these issues.

Description

This poster describes the qualitative improvement process of a graduate medical education effort. The Empathy Curriculum evolved in July 2015 into The Humanism Project. This Project creates a formal two hour teaching session for a stable cohort of 18 residents every five weeks.

The first Module hour structures a lesson. In the second hour, residents meet with two facilitators for Biopsychosocial Rounds.

In this inaugural year, Module topics have varied. Residents have practiced communication skills with standardized patients, reviewed best practices to cope with patients' deaths, focused on self-care with a led meditation, written in narrative medicine exercises, reviewed decision-making capacity and discussed bias relating to sexual orientation and gender identity.

In Biopsychosocial Rounds, no topic is assigned and residents are encouraged to use Rounds to discuss the challenges they face in the clinical care they provide.

Results

Over the last three years, comparison JSE data indicates an association between improved resident self-rating of empathy and the implementation of the Empathy Curriculum.

Since The Humanism Project's introduction, housestaff have completed surveys at regular intervals. The overall response rate has been 80.6% (79 out of 98 residents). A majority of residents (72.5%) reported the program to be beneficial and 62.5% noted that skills learned were useful in practice. Comparing their experience before and after The Humanism Project, at least two out of three residents reported feeling more confident breaking bad news, more comfortable discussing issues relating to death and better-equipped to handle difficult patient interactions. A majority of residents described comfort with the peer support group in Rounds.

Discussion

Response to The Humanism Project's introduction has been positive. Protected time for exploration of this aspect of clinical practice is valued by both residents and faculty and has led to a greater sense of empathy among residents. The Humanism Project will continue with the three-year plan for Module development and residents and faculty will be surveyed on an ongoing basis regarding its efficacy.

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Programmatic Innovation Abstract 33

Cultivating a Culture of Patient Safety

Brittany Bergam, Lisa K Vande Vusse, Katy Folk-Way, Anders Chen, Robin Olsen-Scribner, University of Washington

Problem Identification

Patient safety is a critical national and local priority. All new Internal Medicine (IM) interns we surveyed agreed that physicians play key roles in promoting patient safety, however 96% had no personal experience reporting patient safety concerns. We sought to introduce early education to provide interns specific clinical skills and open dialogue about patient safety.

Description

We implemented a novel half-day workshop during intern orientation 2015 that was centered on an important patient safety issue: nosocomial infections. The program was designed by a multidisciplinary committee that included IM and Infection Prevention leadership. To anchor the day, a patient advocate opened the workshop by telling the story of her spouse receiving patient-centered care that was complicated by safety issues. In moderated small groups, the interns conducted a modified root cause analysis for selected events from the presented hospitalization. Four interactive small group sessions followed: donning and doffing of personal protective equipment (PPE), an introduction to local infection prevention resources, antibiotic stewardship, and prevention of urinary catheter infection.

Results

We administered pre- and post-workshop surveys that included 7 knowledge questions and several opinion-based questions measured using a 5-level Likert scale. Of the 53 workshop participants, 85% responded to the pre-survey, 77% to the post-survey, and 66% responded to both. The percent of respondents who agreed/strongly agreed (A/SA) that they can properly don and doff PPE increased from 62% to 95%. The percent who A/SA they can correctly select contact precautions increased from 58% to 86%. Between 80 and 93% reported learning new skills at each of the five sessions. The mean percent correct of the knowledge questions was 63 (SD 16) before the workshop and 76 (SD 16) afterwards ($p=0.0002$).

Discussion

This formalized patient safety curriculum increased the knowledge and perceived skill of our interns. Based on positive intern feedback, we will repeat the workshop next year keeping the emphasis on cultivating a non-punitive and empowered culture. Additionally, we will show the life-cycle of Patient Safety Network reports that changed local systems of care. These skills will be reinforced through a graduated quality improvement curriculum for senior residents.

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Programmatic Innovation Abstract 34

Marrying Skills and Knowledge: An Innovative Ambulatory Half Day Curriculum

Jadwiga Stepczynski, Seonaid Hay, Yale University

Problem Identification

In AY 2013-2014, our residency program switched to a block system and created an ambulatory educational half-day. The Yale Office-Based Medicine Curriculum already provided robust medical knowledge based didactics, but a need for teaching medical skills was identified. Therefore, a medical skills curriculum was implemented covering topics such as communication, teaching and quality improvement (QI). Resident feedback, though, showed that more sessions focused on outpatient medical knowledge were desired. In an effort to preserve the inclusion of skills topics, a curriculum was devised where medical skills and knowledge could be taught in a complementary way.

Description

For AY 2015-2016, the Medical Skills/Medical Knowledge curriculum was launched during the two educational half-days of each ambulatory block.

The first half-day is dedicated to medical skills, with the PGY1s learning communication skills, the PGY2s being taught a version of the Stanford Course on Clinical Teaching, and the PGY3s learning advanced QI and leadership skills, which they apply toward leading a longitudinal clinic based QI project.

The second half-day of the block is a knowledge based session, which promotes the application of the skill each PGY level learned the previous week. By marrying medical skills and knowledge, key concepts are reinforced and the residents better appreciate the relevance of the newly acquired skills.

Results

At mid-year, residents have perceived an improvement in the quality of teaching provided during the educational half days. This improvement was noted more commonly in PGY 2 (last year's PGY1s) compared to PGY 3 evaluations. PGY 1 evaluations rate the knowledge-focused group sessions higher than the skill-focused sessions. However, skill-focused sessions which imbedded core medical knowledge were also highly rated.

Discussion

The block schedule allows for an opportunity to deliver educational content, specifically medical skills, in a longitudinal fashion. However, residents desire medical knowledge and have trouble appreciating the relevance of medical skills valued by faculty. Weaving together knowledge and skills during educational sessions has led to a greater acceptance by residents of the importance of medical skills. Next steps will be to ensure that faculty seek out opportunities to evaluate for and reward the mastery of medical skills in daily resident work.

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Programmatic Innovation Abstract 35

Point of Care Training: A Novel Approach to Providing Education While on Night Float

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Problem Identification

Night float or night medicine rotations are employed by many programs to ensure both safe care of patients and compliance with ACGME duty hours. Night shifts, however, create the challenge of providing an adequate educational component. Previous studies addressed this issue mainly by evaluating if adding faculty/nocturnists increases the rotation's educational value. We implemented a novel system of providing education by utilizing Point of Care (POC) training to assess residents ability to formulate clinical questions and to search and appraise the literature to answer clinical questions directly related to the patients they admitted overnight.

Description

Residents on night float are responsible for all overnight admissions. At the end of each shift, residents present selected cases to Chief Medical Residents (CMRs). CMRs guide residents to formulate meaningful clinical questions with specificity. This allows for improved search terms, review of major society guidelines and of primary articles. Resources used to answer clinical questions are reviewed for strength of evidence and relevance to the case. Pre- and post-surveys using a 5-point Likert scale were used to assess residents' comfort level in key skills such as identifying knowledge gaps and formulating clinical questions. Only responses of "strong agreement" were taken as positive responses.

Results

Thirty-five residents have participated in the educational sessions. Pre-intervention, 14% of residents felt comfortable identifying knowledge gaps, 6% felt comfortable formulating questions in an area of uncertainty, 14% felt comfortable identifying resources to answer clinical questions in an area of uncertainty and less than 1% felt comfortable critically appraising literature. Post-intervention, the positive responses to these questions increased to 43%, 51%, 63% and 34% respectively. Additionally, 91% stated that they would continue to use the newly taught POC research strategies as a component of their regular practice.

Discussion

We demonstrated that POC training adds a novel educational aspect to the night float rotation, improving residents' self-reported capability and comfort in generating clinical questions, as well as identifying and appraising the resources needed to answer those questions. Areas for con-tinued study include surveying residents to see if skills learned continued to be employed beyond the night float rotation.

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Programmatic Innovation Abstract 36

A Novel Approach to a Historic Conference: Multidisciplinary Morbidity and Mortality Conference

Adam Kichler, Richard H Cartabuke, Kenneth Koncilja, Fatima Adhi, Aaron Cohen, Shylaja Mani, Dmitriy Golovyan, Ari Garber, Colleen Colbert, James Pile, Cleveland Clinic

Problem Identification

The Morbidity and Mortality (M&M) conference has been integral to academic medicine for over 100 years. These conferences traditionally address healthcare complications attributed to medical error, with intent to prevent future recurrence. At a large internal medicine residency program, this conference had been held infrequently in response to sentinel events. With growing emphasis on incorporating quality improvement (QI) and patient safety training into their curricula, residency programs have been challenged to establish innovative ways to include this instruction.

Description

The M&M conference is held monthly to focus on topics such as quality improvement, patient safety, and systems based practice involving both physician and non-physician participants. A committee of residents and faculty identify cases, which can reveal flaws in our delivery system, both latent and actual. Sessions led by two residents and a facilitating chief resident are made interactive through the incorporation of hands on activities including the construction of Ishikawa diagrams, process-mapping, large and small group brainstorming and selective utilization of a digital audience response system to identify knowledge gaps, gauge attitudes, and promote further discussion. Sessions are augmented by guest discussants selected based on topical expertise to highlight systems-based practice issues; including clinical reasoning, medical knowledge, and systems factors leading to deficits in patient safety relevant to the case. Attendees include internal medicine residents, members of the hospital's Quality and Patient Safety Institute, faculty physicians representing multiple disciplines, nurses, and other members of the health care team.

Results

Eleven well-attended conferences have been held since May 2014. Non-physician facilitators have included nurses, dieticians, pharmacists, information technologists, attorneys, clinical risk management specialists, social workers, and patient family members. As a result of participating in the conference, residents have developed the following QI projects: EMR notification system to identify patients displaying signs of early sepsis, clarification of stat versus ASAP laboratory orders, a protocol for initiating ambulatory anticoagulation management, and an online marketplace to share potential QI projects have all been a direct result of the conferences.

Discussion

Multidisciplinary M&M conferences including inter-professional facilitators foster a culture of innovation while serving a core role in the quality and patient safety curriculum for a residency.

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Programmatic Innovation Abstract 37

Bang for Your Buck: A Four Hour QI curriculum

Connor Tryon, Navneet Sidhu, Sergio Huerta, Jennifer Jernigan, Patrick Rendon

Problem Identification

In recent years the ACGME has placed increasing emphasis on training residents in quality improvement (QI) and patient safety. Furthermore, physician involvement in quality initiatives can substantially improve both patients' health care experiences and their quality of care. In our institution, prior to our intervention internal medicine residents had received only one 45 minute formal lecture on this subject during their academic half day. Inquiry into recent graduate and current resident perception of their overall quality improvement training revealed that they felt the current system was inadequate.

Description

In order to address the above concerns, additional didactic time was appropriated by the program leadership to the quality improvement curriculum. With a focus on the ACGME-required clinic QI project, we selected high yield topics (fishbone diagrams, process mapping, etc.) and created an interactive two half-day curriculum based on teach for quality principles (Te4Q, AAMC). We designed a hypothetical adverse patient event which was used after a brief lecture to engage 50 residents in small group educational activities. These activities included designing a process map, creating a fish bone diagram and performing 4 short PDSA cycles. The fish bone and process map activities were based on the hypothetical case while the PDSA cycles were based on the IHI Mr. Potato curriculum. Residents were provided with a voluntary anonymous survey to evaluate pre and post intervention confidence in these QI principles.

Results

49 of 56 participating residents returned the survey. Their average baseline knowledge of QI basics was rated at 2.6 on a 5 point Likert scale. Post intervention the average increased to 4.16. The survey revealed that residents felt their understanding had significantly increased in each component of the curriculum.

Discussion

QI curriculum has become a valued component of resident education. Our high yield interactive curriculum was able to successfully improve resident confidence in basic tools of quality improvement and their implementation. Our program was able to significantly improve resident understanding of core principles of quality improvement in as little as 4 hours. Given the brief amount of time required, this program can be easily integrated into any residency curriculum.

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Programmatic Innovation Abstract 38

Point of Care Ultrasound Faculty Development

Anna Maw, Cathy Jalali, Deanna Jannat-Khah, Kirana Gudi, Lia Logio, Arthur Evans, Stacy Anderson, Joshua Smith

Problem Identification

There is growing evidence that the use point of care ultrasound (POCUS) improves patient care. Internal Medicine (IM) Residency programs have been slow to adopt the routine use of POCUS to augment the traditional physical exam. One of the identified barriers to integration of POCUS into IM residency training is lack of faculty expertise.

Description

Over a 10-week period in 2014, we offered a faculty development course in which, 15 inpatient general medicine faculty participated. They underwent 2 hours of online didactic training and 10 hours of hands-on training sessions led by an ACCP-certified hospitalist. Faculty worked individually and in small groups and ultrasound examinations were performed on patient volunteers. Pre- and post-training examinations (items including test characteristics, image acquisition, interpretation, and clinical correlation of bedside echocardiography including IVC assessment, lung examination, abdominal/aortic and renal imaging, and lower extremity DVT evaluation) and questionnaires assessed the effectiveness of the program and faculty attitudes regarding the use of POCUS.

Results

There were statistically significant improvements in the participants' ability to interpret images ($p = < 0.001$), in perceived understanding of the capabilities and limitations of POCUS ($p=0.003$), and in comfort using ultrasound to make clinical decisions ($p=0.003$). The intervention improved faculty perceptions regarding the extent to which POCUS can improve patient care ($p=0.026$). Post-test scores showed significant improvement in knowledge and interpretation skills amongst all participants (mean pre-test score =40% (95% CI 31.2%-49.2%); mean post-test score=73.8% (CI 68.72%-79%); $p= <0.0001$). Pre-test survey data revealed that most faculty identified access to training resources (67%) and lack of time to acquire training (73%) as the greatest obstacles to achieving this goal.

Discussion

The next challenge for IM programs is to improve access to ultrasound machines and provide follow-up workshops to facilitate further development of skills and integration of POCUS into daily practice. Long-term goals include development of a certification program in point of care ultrasound for our internal medicine residents and faculty.

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Programmatic Innovation Abstract 39

Improving Trainees' Diagnostic Reasoning Through Structured Peer Feedback

Kathleen P Lane, Andrew PJ Olson, University of Minnesota

Problem Identification

Trainees on nightfloat rotations admit 40% of the patients who are cared for by daytime ward teams. These trainees typically receive little formal feedback regarding their diagnostic reasoning. Instead, it is up to the nightfloat trainees' prerogative to determine how patients' disease courses evolved, why the differential diagnoses shifted, and if cognitive errors occurred. Trainees perceive this lack of feedback: 40% of University of Minnesota Internal Medicine residents are dissatisfied with the feedback they receive. Training programs lack regular, standardized, formal feedback regarding diagnostic reasoning. We created and studied a solution that allows for standardized, rapid, and effective feedback about diagnostic reasoning for nightfloat trainees.

Description

We piloted the "Diagnostic Reasoning Feedback (DxRF) Form" at the University of Minnesota Medical Center with Internal Medicine and Internal Medicine-Pediatrics trainees on ward day and nightfloat teams. When a patient was admitted by a nightfloat trainee, the day team accepting that patient was requested to discuss the case and fill out the feedback form, briefly explaining if, how, and why the patient's differential diagnosis changed over the first day of admission, and provide relevant clinical pearls. This program allowed for formative feedback over the course of that trainee's nightfloat rotation directly from colleagues.

Results

Twenty-five participants completed sixty-six feedback forms during the two-month pilot. Trainee self-perception of diagnostic reasoning skills trended towards increased confidence. Trainees rated attending physicians as less frequently discussing why a differential diagnosis was established or prioritized after the project (3.95 vs. 3.43, $p = 0.01$). Additionally, trainees reported increased confidence in identifying strategies to mitigate cognitive bias (3.05 vs. 3.5, $p=0.049$). The pilot had neutral impact on trainee feedback satisfaction. Overall, trainees viewed the project favorably.

Discussion

After the pilot, DxRF was made a permanent part of inpatient training at the University of Minnesota. The program will be refined and studied further at partnering institutions. In an era of heightened awareness regarding diagnostic error, feedback systems for trainees are critical. Structured peer feedback is acceptable to trainees and effective in improving self-perception of diagnostic reasoning skills by providing a forum for open communication and encouraging a culture of effective feedback for all providers.

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Programmatic Innovation Abstract 40

The Room of Risk: Enhancing Resident Awareness of Patient Safety Through Simulation

Steven V Angus, Jillian M Goldsmith, Scott R Allen, University of Connecticut

Problem Identification

Providing safe patient care is a primary goal of health care institutions and is also a focus area in the ACGME's CLER program. Aligning institutional patient safety goals with resident education is critical to optimize the clinical learning environment and in the provision of safe care. Simulation has been used to teach residents cognitive and procedural skills, yet a review of the literature did not demonstrate its use in teaching residents to engage in patient safety initiatives. We developed a simulation exercise to determine if simulation was an effective means of enhancing resident awareness of and ability to implement interventions that increase patient safety.

Description

A typical inpatient-based patient care scenario fraught with potential patient harm events focusing on our institution's patient safety initiatives was developed. Residents were asked to identify as many potentials for harm as possible. Residents were given feedback on all potential safety concerns in the scenario and mitigation strategies were discussed. Residents were surveyed to determine if this simulation enhanced their ability to identify and mitigate patient safety issues.

Results

140 residents participated in the exercise during the 2013-15 academic years. Of the 27 safety-related potentials for harm, the average number identified was 7.7 (28.5%) with a range from 2 to 14 (7.4-52%). A sharp/needle left on the patient's sink was found most frequently by 119 (85%) residents and the fact that our patient had a Foley without any clear indication, the least frequently found item at 3 (2.1%). There was no significant difference in the number of findings by PGY-year or type of medical school. Survey data was submitted by 106 (75.7%) residents. 93 residents (87.7%) responded that the exercise allowed them to identify patient safety interventions they could implement in their practice, whereas 103 (97.2%) agreed or strongly agreed that they would change their practice as a result of this exercise.

Discussion

Our work shows that simulation may be a viable way to engage residents in learning about patient safety and identifying strategies they could implement in their own practice to enhance patient safety in alignment with both public and institutional goals.

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Programmatic Innovation Abstract 41

Variations on the Traditional Morbidity and Mortality (M&M) Format: What's Your Favorite Flavor of M&Ms?

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Problem Identification

Morbidity and Mortality (M&M) conferences were established to review adverse events and outcomes, while promoting the tenets of safety and accountability. Internal Medicine (IM) has incorporated M&M conferences to foster both education and quality improvement. A traditional M&M conference non-judgmentally analyzes system errors and cognitive errors that contribute to an adverse event, but it is unknown if other formats would be beneficial for IM trainees.

Description

During the 2015-16 academic year at the University of Colorado IM Residency Training Program, three alternate M&M conference formats have been utilized:
1.'Root Cause Analysis': Discussion of a single case involving a serious adverse event is facilitated by a Chief Medical Resident (CMR) to determine potential root causes of the error and specific action items for improvement. To emphasize interdisciplinary delivery of care, guests from other departments are included.
2.'Outcomes conference': For each month, the CMR summarizes all deaths, as well as select cases involving patients transferred to the medical intensive care unit or discharged against medical advice.
3.'Teachable moments': Three "mini-cases" are reviewed. Cases are notable for errors leading to an adverse outcome, or for avoidance of errors leading to a positive outcome (e.g. avoiding diagnosis momentum while correctly diagnosing necrotizing fasciitis).

Results

IM trainees have noted that each format includes both "pro" and "con" components. For instance, while the 'Outcomes conference' format promotes the most breadth, the 'Root cause analysis' format promotes the most depth. The 'Teachable moments' format is unique in its inclusion of positive outcomes produced by trainees. Currently, feedback continues to be collected regarding these formats.

Discussion

We have used various M&M conference formats in an effort to qualitatively assess whether there is an optimal format to best educate trainees to translate adverse patient outcomes into practice-based improvements. Favored most have been the 'Root cause analysis' format (lauded for its interdisciplinary focus) and the 'Teachable moments' format (lauded for its analysis of not only negative outcomes but positive outcomes as well). These variations of a traditional M&M conference should be considered by training programs to improve safety, patient care, and professional education.

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Programmatic Innovation Abstract 42

Learning by Doing – Experience with a Chief Resident Led Quality Improvement Curriculum in Our VA Continuity Clinic

Tyler Miller, Avash Kalra, Stephanie Knudson – Denver VA Medical Center and University of Colorado

Problem Identification

The need for residents to effectively learn and practice systems-based quality improvement as a key component of their training is well recognized. However, the best methods to implement a meaningful QI experience during residency in conjunction with multiple other clinical and educational demands are not yet established. We revised the structure of the resident QI experience at a VA hospital to be a learner-driven, project-based experience led by a Chief Resident in Quality & Patient Safety (CRQS).

Description

Our residency program uses a "four-plus-one" schedule in which each resident rotates onto their continuity clinic for a dedicated "plus-one" week every fifth week. During each "plus-one" week throughout the year, one hour of dedicated QI time is scheduled for the residents on Mondays and Fridays, facilitated by the CRQS and one faculty member. Each cohort is expected to carry out a year-long longitudinal QI project. The overall outline for a project is: Group identification of a project area and development of a clear aim statement (2-3 sessions), data gathering and process analysis (2-3 sessions), carrying out Plan-Do-Study-Act, or PDSA, cycles (remaining sessions), and finally a written project summary presented to the entire clinic at the end of the year. Some time is used for didactic learning, but the vast majority is protected small group workshop time. Typically several action items for the week are established on Monday, carried out during the week, and then presented to the group on Friday. The CRQS serves as a primary mentor for the groups as well as a liaison with hospital leadership and resources. The faculty member provides institutional experience and practical guidance.

Results

In the first year of implementation, four of five groups achieved their project aim successfully. One project intervention is being duplicated by other non-resident primary clinics in our hospital. Survey data regarding resident attitudes and knowledge of QI practice is currently being collected. Anecdotal feedback has been that residents consider our model a positive, robust, and meaningful QI experience.

Discussion

Under appropriate mentorship and with longitudinal protected time, residents are capable of identifying and executing meaningful QI projects in their continuity clinic. With this model, residents will graduate having carried out three different QI projects over the course of their residency. Additionally, some projects may translate in to broader hospital-wide improvements.

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Programmatic Innovation Abstract 43

The Discharge Process and Unexpected < 30-day Readmissions: Lessons Learned from Our Residents – Results from a Novel Curriculum Pilot Project

Mark Upton, Jennifer Myers, Lisa Bellini, Rachel K. Miller, Perelman School of Medicine, University of Pennsylvania

Problem Identification

Hospitals across the country are increasingly focusing on improving discharge transitions as the number of 30-day hospital readmissions is now a quality and value-based purchasing metric. The Accreditation Council for Graduate Medical Education (ACGME) includes the safe transition of patients as an internal medicine program training milestone. Given these imperatives, we created a pilot curriculum incorporating self-evaluation and continuous improvement learning in transitions of care with a focus on understanding the individual, team, and systems-based factors that can lead to preventable <30 day readmissions to our teaching hospitals.

Description

We created a two-week curriculum for second-year internal medicine residents that consisted of a 15-minute introductory didactic session, an independent review of a readmission case utilizing an online tool, and a 1-hour faculty mentored small group feedback and reflection session. Using electronic health record data, each case review involved a unique patient previously under the resident's care who had been readmitted to one of our teaching hospitals in <30 days. The online tool was created specifically for this curriculum utilizing components of multiple published tools. Data from completed readmission tools and post-curriculum resident evaluations was collected and analyzed.

Results

Twenty-four residents completed the curriculum between January and May 2015. 89% of residents reported that they were not previously aware that their patient had been readmitted within 30 days of discharge. 74% of the readmissions reviewed were felt by residents to be either possibly preventable or preventable. Numerous potential opportunities for improvement were identified and included improving the content/quality of discharge instructions and medication reconciliation, better post-discharge anticipatory guidance, and improved coordination of outpatient follow up appointments. Fourteen residents (58%) completed a post-curriculum survey. 11/14 (79%) agreed or strongly agreed that the individual admission review was useful to their education. 14/14 (100%) believed that the group discussion was beneficial, and 13/14 (92%) stated that the curriculum should be continued for future residents.

Discussion

PGY-II residents who participated in this novel curriculum enthusiastically identified opportunities for improvement and the majority of participants found it to be beneficial to their education and recommended that it be continued in the future. This curriculum is now part of a longitudinal transitions of care curriculum in our residency program and we are hopeful that it will lead to improved discharge documentation, medication reconciliation, communication with patients, and interdisciplinary teamwork. In addition, our hope is that the innovative improvement ideas generated by residents will become targets for QI work in our residency program and hospital system. Future directions include expanding the curriculum to include participants from nursing, pharmacy, social work, and case management to further emphasize the critical importance of interprofessional collaboration in safe transitions of care.

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Programmatic Innovation Abstract 44

Examining the Personalization of Residency Curriculum

Joseph Stafford, Matthew Crowe, Austin Metting, Curtis Mirkes, Megan Newman, Maybelline Lezama

Problem Identification

The IM-ITE exam is frequently used by residency programs to assist in the evaluation of residents' medical knowledge. In recent years, the residency leadership of Scott and White/ Texas A&M University noted a decrease in percentile averages across all PGY levels. In 2006 and 2007, our residency scored in the 77th to 81st percentile overall. However, from 2008-2009 the results decreased dramatically with an overall residency score of 68th percentile for 2008 and 50th percentile for 2009.

In light of these results, we re-examined our curriculum and found there were few opportunities for residents to personalize the curriculum to target their individual areas of weakness. Every minute spent training is valuable; we realized that our curriculum might not maximize our educational opportunities to their fullest potential.

Description

To improve the medical knowledge of our trainees, an intervention involving personalization of the educational curriculum was initiated. Our PGY-2 and PGY-3 residents chose a 4-week selective rotation from the three lowest scoring subjects of the previous year's ITE. They are also given assigned reading in that medical knowledge area. This allowed for personalization of the curriculum and targeted specific areas of medical knowledge to improve content mastery. This educational innovation describes an intervention aimed at improving medical knowledge and developing self-directed learning skills in internal medicine residents.

Results

The average percentile scores improved by more than 29 percentile points and the overall results on the IM-ITE have shown improvement. We have consistently remained in the 87th percentile or above since the initiation of this curricular change. As might be expected, the improvement in medical knowledge as measured by the IM-ITE also translated into a significant increase in board pass rates on the first attempt.

Discussion

In the current setting of decreasing national ABIM board pass rates for first-time test takers, interventions such as this one which target improvements in medical knowledge are timely and prudent. We believe this type of comprehensive approach to engage residents in subject-targeted learning is feasible in any residency, and will optimize the educational value of the time the residents spend in training.

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Programmatic Innovation Abstract 45

Transitions of Care: Improving the Quality of Discharge Summaries Completed by Internal Medicine Residents

Cristin Colford, Meghan Black, Leo Marucci; University of North Carolina

Problem Identification

Discharge summaries are the accepted means of communication in transition from inpatient to outpatient care with decreased readmission rates when effective. Electronic Health Records (EHR) allow for templated components of the discharge summary. However, there remains a large discordance in the quality of discharge summaries written by physicians. We aimed to standardize and improve the quality of discharge summaries utilizing the electronic health record in our academic Internal Medicine Residency.

Description

We created a 50 point scoring rubric using the categories outlined by the ACGME PDQI-9 and assessed the basic components of a discharge summary, hospital course (summary statement, format, discussion), discharge planning (outpatient provider communication, patient instructions, medication list), and overall assessment. The EHR was utilized to collect discharge summaries over a one-week period both pre and post intervention and were graded using the rubric by two evaluators (MB and CC). The intervention was a workshop that reviewed the basic components of a discharge summary and then residents used the rubric to grade de-identified discharge summaries written by peers and discussed strengths and weaknesses in small groups. At the completion of the workshop, a standardized EHR discharge summary format was reviewed.

Permission to conduct this study was sought from the University of North Carolina Institutional Review Board, who declared the study exempt from review.

Results

104 pre-intervention summaries were graded with an average score of 38 and standard deviation of 6.
114 post-intervention summaries had an average score of 44 with standard deviation of 4.

Discussion

Discharge summary quality significantly improved after the workshop and universal EHR template introduction. The template is available to all residents and includes key aspects that are essential to effective patient discharge. We believe active use of the rubric during the workshop was instrumental in helping residents understand areas of importance in the discharge summary. There was agreement by the participating residents that the workshop was effective in teaching them tools to improve their discharge summaries. The grading rubric demonstrated high inter-rater reliability. Next steps include expanding the assessment across several years with instruction at resident orientation, continued improvement and modification of the EHR template, and involvement of outpatient providers.

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Programmatic Innovation Abstract 46

Mentoring Matters-A Novel Approach

Susanna Sandor-Szabo, Bindu Swaroop UCI, Irvine, CA

Problem Identification

A well-developed mentoring system has been shown in prior studies to enhance resident wellness, decrease burnout and improve personal and professional growth. In our program either the program director or one of the associate program directors would serve an informal mentor to each resident. In that system mentors and mentees did not have a meaningful, longitudinal professional or personal relationship. In multiple cases the mentor had no opportunity to observe the mentee directly. At competence meetings we had difficulty to satisfactorily address the residents' strength and weaknesses due to lack of information.

Description

Four years ago we decided to introduce a more structured mentoring system based on the point of closest, longest lasting relationship of attending and resident. We found the continuity clinic setting to be the most constant and consistent aspect through the three years. We paired each of our residents with a single attending who supervises them during their entire residency. The mentors are required to participate at our competence meetings, review their mentee's evaluations, ensure compliance with study plans, inform the program about any problems or concerns and assess them on the milestones during our semi-annual reviews.

Results

Based on our survey results and our personal communication:
-Residents' continuity clinic experience was markedly improved by having the same attending supervising them. Over 80% of residents felt satisfied with the mentorship program and 90% felt adequately supported.
- Our core faculty became much more engaged in mentoring and became an integral part of the improvement of residents'experience.
- The quality of our competence meetings and semi-annual reviews improved significantly due to the continuous participation of the mentors who had weekly direct contact with our residents and were able to provide more substantive, constructive and meaningful feedback.

Discussion

The novel mentoring system via providing closer longitudinal professional and personal relationship significantly improved the experience of our residents and our core faculty as well. In addition this led to significant enhancement of the continuity clinic experience with direct observation of each resident's progress through their three years of training.

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Programmatic Innovation Abstract 47

Small Group Quality Improvement Making Big Impacts

Lauren Sisco, Megan Newman, Austin Metting, Maybelline Lezama, Curtis Mirkes

Problem Identification

Quality improvement (QI) has shown to be very beneficial in improving patient care in the clinical setting. The ACGME IM RRC regulations IV.A.3.a)(2) and VI.A.3 require programs to provide a QI experience for all learners. It is imperative that the experience is meaningful, productive, and inspires enthusiasm for QI following residency training.

A needs assessment was performed within the internal medicine residency program during the academic year 2010-2011, which revealed a lack of understanding of quality improvement and a lack of an organized QI curriculum within the residency program. This presented an opportunity for the implementation of a novel QI initiative. The Institute for Healthcare Improvement and the American College of Physicians have well-established QI curriculums and modules available for programs to utilize. Our internal medicine residency program used these modules as a starting foundation for our QI curriculum. When this curriculum was initiated in the AY 2011-2012, resident knowledge of the practices and procedures of QI was minimal.

Description

Residents were divided into 7 teams and all were required to go through our foundation of quality improvement curriculum and develop a multi-disciplinary team project, to be produced throughout the academic year. In the spring of each academic year, teams present their projects in a competition judged by continuing significance on a system level. The finalists present their capstone projects during the internal medicine QI grand rounds held in the spring of each year.

Results

Prior to the implementation of our QI small groups, no resident projects had been implemented at the institutional level. After 4 years of quality improvement activities, we have produced 26 projects, ranging from infection control, prescribing practices, opportunities to improve communication, and cost-conscious ordering practices. Within our institution, 10 of these have been adopted as ongoing improvements to patient care. Several of the projects have also been presented at state, regional, and national meetings.

Discussion

Resident knowledge of QI processes has improved dramatically, and residents are able to contribute to QI outside of the program on a system and national level. We believe implementing this program is feasible in any residency wanting to improve their quality experience.

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Programmatic Innovation Abstract 48

A Resident-Directed Quality Improvement Initiative to Improve Patient Safety Reporting

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Problem Identification

Across the U.S. medical system, medical errors and near-misses are enormous contributors to patient morbidity and mortality. Complicating this matter, these patient safety incidences (PSIs) are underreported, especially by physicians. A multitude of reasons underlie this trend. Baseline data from our institution revealed that internal medicine trainees report less than two PSIs per month. This was emphasized as an area for institutional improvement by ACGME's most recent Clinical Learning Environment Review (CLER).

Description

In an attempt to improve patient safety and create a pro-reporting culture, the Internal Medicine Residency set a goal of reporting 12 PSIs per month. Resident input guided a root cause analysis that revealed many barriers to reporting: lack of knowledge on what and how to report, inconvenience, fear of causing further harm, and lack of a transparent post-reporting process. Based on this information, several interventions were implemented to increase resident reporting: initial education of how and what to report, quarterly follow-up meetings showcasing problems solved by reporting, bimonthly reminder emails to residents with instructions on how to report, signs posted in resident workspaces on how to report, and weekly reminders by Chief Residents at resident conferences.

Results

Since implementation of the initiative, the total monthly reporting from Internal Medicine residents has risen steadily to 18 PSIs reported last month. This averages to nine reports per month during our intervention period of July to October 2015. Comparing this to last academic year's baseline of less than 2 reports per month, this represents a substantial increase in reporting.

Discussion

The culture of safety in a hospital system is integral to patient care, systems development, and quality improvement. Residents are uniquely positioned on the front lines to identify PSIs within the hospital. As a whole, physicians are poor reporters; however, it is clear that, with direct education, PSI reporting will increase. By optimizing the culture of reporting, residents can directly contribute to systems improvement, leading to increased quality of care.

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Programmatic Innovation Abstract 49

Stepwise Approach in Improving Residents' Competency in Providing High Value Care through a Curricular Innovation

Kavitha Kesari, Shagufta Ali, Susan Smith, McLaren Health Care, Flint, Michigan

Problem Identification

As much as $700 billion is spent annually in the US in avoidable health care costs. The ACGME, ACP and multiple specialty societies have emphasized the importance of training future doctors in responsible stewardship of limited resources. However, resident physicians generally behave as though more care is better care. As a result, they tend to order tests liberally without recognizing their attendant costs.
To address this unmet need, we added two innovative curricular components to the ACP's High-Value, Cost-Conscious Care (HVCCC) curriculum. To stimulate actual application of learned principles, we introduced a Cost-Conscious Clinical Reasoning Conference (CC-CRC). To reinforce knowledge and skills learned, we gave them practice in cost-effective physician-ordering behavior by embedding a flipped classroom in Medical Jeopardy style.

Description

After evaluating our curricular needs, our curriculum evolved through three stages:
We implemented the ACP's HVCCC interactive case-based curriculum.
During the following year we modified our traditional Clinical Reasoning Conference (progressive clinical disclosure to reach a diagnosis) to a competitive CC-CRC where two teams compete to reach the diagnosis while "paying" for their ordered tests.
Finally, we introduced HVC Medical Jeopardy using a flipped classroom method. Instead of a one-way flow of information from instructors to trainees, two resident groups are confronted with a content question based on HVC, creating an exciting, interactive game, which allows them to retrieve and apply their knowledge from assigned reading. Our goal was to limit the cognitive load for learners, keeping the message simple, but imprinting stewardship principles into their future practice.

Results

We conducted a resident survey about their HVC management behaviors after each curricular stage was introduced to assess the effectiveness of this method. Responses were highly favorable for each innovative curricular component.

Discussion

ACP provided us with a practical and valuable tool to teach cost-conscious care. We reinforced cost-conscious choices in our CC-CRC, giving the residents an opportunity to practice what they learned. Finally in our current innovation using a flipped classroom, we wanted them to internalize the practice of using cost-effective management skills.

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Programmatic Innovation Abstract 50

Bridging the Gap: Post-Hospitalization Clinic Visits by the Inpatient Resident

Robert Fick, Anthony Martin, Stephen Knaus, Lannie Cation St Vincent Hospital, Indianapolis IN

Problem Identification

Transitions of care have become an important topic in patient safety and medical education. Inpatient medicine rotations that use a hospitalist model do not allow residents to observe and evaluate their discharged patients as they re-enter the ambulatory setting, thereby missing an opportunity to critique the quality of their hospital discharges. We sought to improve patient care and resident education of the transition of care from the hospital to the clinic by implementing post-hospitalization "Bridge Visits."

Description

Categorical Internal Medicine residents at a large community based medical center were required to complete one post-hospitalization "Bridge Visit" during their inpatient medicine rotations. This encounter with a patient for whom they cared during hospitalization was to be completed within one week of hospital discharge. The value of the visit was evaluated by a post-visit survey.

Results

Ninety-four percent of responding residents felt it was beneficial to have the patient see them rather than another provider after discharge. Seventy-eight percent of residents felt that seeing their own patient resulted in better follow-up of pending tests. Interestingly, 28% of residents identified that their patient was not taking a discharge medication as prescribed and 61% of residents made medication changes during the visit. Six percent of residents felt that this visit prevented an emergency department visit or hospital readmission.

Almost all (89%) of the residents felt that this visit helped them to better understand the importance of transitions of care. Over half (53%) of residents still had to access inpatient records other than the discharge summary.

Discussion

Our survey data suggest that post hospital "Bridge Visits" by the inpatient resident are an effective means of providing transitions of care education. The "Bridge Visits" gave residents the opportunity to observe the evolution of their patient's condition as the patient transitions to home and also allowed residents to self-evaluate their discharge counseling, medication reconciliation, and discharge summary. The residents also believed that these visits improved patient care. Interruptions in the busy inpatient day and a high patient no-show rate (33%) are obstacles that need to be overcome. Future goals include tracking readmission rates for patients seen in a "Bridge Visit" versus those seen under the hospitalist to primary care provider model.

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Programmatic Innovation Abstract 51

Re-Orienting our Residents: Easing the Transition from Intern to Leader

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Problem Identification

The transition from intern to senior resident is fraught with resident anxiety and initial difficulties with beginning a more advanced level of clinical practice. Despite these challenges, there is minimal instruction on how to perform as senior residents. Orientation for interns has been demonstrated to improve performance and anxiety at numerous institutions, but feedback from our senior residents revealed that they felt an institution-wide GME orientation for rising PGY-2s did not adequately prepare them for their new role.

Description

At our institution we implemented a 2 hour orientation for all new second year internal medicine residents to instruct them on how to excel as a senior resident as well as information on institution and department-specific policies and procedures. Our specific areas of focus were role of a senior resident, logistical daily tasks, how to run a team, how to teach, and how to care for patients. Our incoming chief residents created and delivered this orientation to supplement the institutional orientation provided by GME. Cost was negligible and preparation time was 10 hours split amongst the chief residents.

Results

Pre-session survey data confirmed low levels of confidence and understanding of the general role of a supervising resident following the GME orientation. Following our intervention there was in increase in residents' understanding of their role and confidence in the areas described above based on Likert scales. Survey responses rated the session at 4.6/5 overall and strongly encouraged continuing this intervention.

Discussion

Our experience demonstrated this to be a simple, cost-effective intervention with minimal time requirement that significantly improved interns' perceived transition to their resident year. We demonstrated across the board improvement of participants' understanding and confidence in their future roles. According to survey data, interns appreciated instruction on specific requirements of senior residents as well as general advice on how to perform well. Incoming chief residents also appreciated the opportunity to increase rapport with the new residents prior to their transition.

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Programmatic Innovation Abstract 52

An Internal Medicine Didactic Curriculum Undergoes a 21st Century Redesign

Jennifer A Koch, Clayton M Smith, Nancy T Kubiak, Laura B Bishop, Michael J Burk, University of Louisville

Problem Identification

The ACGME requires a core curriculum in internal medicine delivered via regularly scheduled didactic sessions. Along with self-directed study, conference attendance has been associated with increased In-Training Exam (ITE) scores. Our program utilized an academic half-day, but found suboptimal attendance and resident enthusiasm, especially in the third hour of lecture. When a resident missed a lecture, there was no effective curricular alternative.

Description

In a redesign of our didactic curriculum, we established a self-study curriculum which provided for a broad medical knowledge base, allowing lecture time to be used more efficiently. The academic half-day was shortened to two 45-minute high-yield lectures. Concomitantly, utilizing purchased board review materials and free online resources, a self-study curriculum was assigned for each PGY year. Residents reported study progress using an online tracking system, viewable by their advisors. The effort was bolstered by a coincidental resident-led project to record lectures and make them freely viewable on a website, LouisvilleLectures.org.

Results

After the first year of implementation, more residents agreed or strongly agreed that the curriculum improved medical knowledge (71% pre-intervention vs. 90% post), improved their patient care (63% vs. 90%), and prepared them for boards (58% vs. 85%). Overall resident satisfaction with the didactic curriculum increased (63% vs. 87%), as did satisfaction with the guidance provided for self-study (71% vs. 88%). The program's aggregate ITE score increased 2 percentage points (4 percentile points) after one year of implementation, though possible confounders cannot be excluded. The graduating class had a 100% board pass rate (compared to 89% three-year pass rate for the program).

Discussion

Early outcomes of the intentional combination of self-study and didactic delivery of core curriculum show a substantial increase in resident satisfaction, and an initial change in the program's aggregate ITE score and board pass rate. The self-study curriculum and online lectures provide an alternative to learn material when a resident cannot attend a lecture. The core aspects of this redesign are easy to implement, and few resources are needed. The resources needed to post lectures online are much greater, and the degree to which this contributed to the endeavor's success requires further study.

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Programmatic Innovation Abstract 53

Introducing a Formal Ultrasound Curriculum into Internal Medicine Residency

Charles M LoPresti, Amanda V Clark; Case Western Reserve Universtiy, Louis Stokes Cleveland VA Medical Center

Problem Identification

Since the early 1970s, ultrasound has been used for multiple medical diagnostic modalities. The field of Emergency Medicine quickly applied this technology, and offer ultrasound training to their residents. Recently, the potential application of ultrasound use in the field of internal medicine is being realized. Limited by lack of hospital policy, ultrasound equipment and faculty who are not trained in the use of ultrasound, many residency programs are struggling to develop a means for implementing ultrasound training.

Description

We developed a curriculum focused on the application of ultrasound for common bedside procedures that builds on pre-existing basic knowledge that many PGY-1s already hold from their experience with central line placement. During their PGY-1 year, interns participate in a 4-hour interactive didactic session that teaches applied ultrasound physics, "knobology," and recognition of common artifacts. These principles are then applied to basic procedures, including paracentesis, thoracentesis, and arthrocentesis During the PGY-2 and PGY-3 years, using multiple small group sessions, we continue to expand the applications of ultrasound into the diagnostic realm with focused echocardiography, lung, and abdominal ultrasound. The competency of our residents to effectively and safely use ultrasound for these purposes is tracked via saved and annotated imaging which is reviewed for quality assurance.

Results

Results of our ultrasound training curriculum have been measured by pre/post tests on exposure and comfortability with the applications of ultrasound, as well as tracked documented imaging. The residents overall experience is a positive one with many of them outwardly excited to learn this "new" technology. We have effectively "taken back" our common bedside procedures, with all now occurring under ultrasound guidance. The residents also express satisfaction with the relative ease to obtain some diagnoses (pulmonary edema, intravascular volume status, joint effusion, pericardial effusion) when compared to more traditional workup. Most residents are able to effectively demonstrate procedural ultrasound competence within 5 exams/procedures.

Discussion

Moving forward, we hope to continue to expand our applications into real-time use as opposed to small group settings. We are now able to offer a handheld ultrasound unit to all of our inpatient teams at the VA, and as we train more of our teaching hospitalists, we hope that this technology is used more frequently and will start to measure how this may affect patient outcomes.

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Programmatic Innovation Abstract 54

For Residents by Residents: Promoting Mental Health and Wellness by Creating a Program-Specific Residency "Survival Guide"

Holly A Rosencranz, Meredith S Minehart, Bradley Cunningham (University of Illinois), Allison Lavey

Problem Identification

Fatigue and burnout are threats to the emotional and physical wellness for physicians in training (1). These issues were partially addressed by duty hour restrictions to mitigate fatigue (2). However, the stresses of residency still harm wellness, which impairs physician performance (3,4). To develop a baseline understanding of trainee perception of wellness resources, internal medicine residents were surveyed about the impact of residency on wellness, their knowledge of resources to mitigate threats, and suggestions for resources to improve work-life balance.

Description

To determine if residents (a) perceive challenges to their emotional and physical health, (b) are aware of existing supportive wellness and work-life balance resources, and (c) benefit from creating a program-specific "Survival Guide."
Methods:
The study occurred at an annual retreat.
1.An initial survey to assess perceptions of challenges to wellness and awareness of supportive resources for wellness was given;
2.Residents rotated through stations representing several categories of wellness. Each group shared their knowledge of resources in that category and commented on the suggestions left by prior groups; and,
3.Residents answered a post-exercise survey that assessed their awareness of coping strategies and resources.

Results

Results:
1.Half of residents felt harms to their emotional or physical health and/or recognized impaired wellness in a colleague;
2.The exercise increased awareness of coping strategies;
3.A majority agreed that program activities promoting wellness are beneficial; and,
4.Absent in response data were specific local resources for wellness accessible to residents.
The exercise suggested the desire for local and institution-specific supports, including program-sponsored social gatherings and convenient, affordable, and culturally-diverse venues for entertainment, recreation, and exercise. Prioritizing times for family gatherings and communication were common themes.

Discussion

The rigors of residency create threats to residents' wellness. Residents may not be aware of strategies or resources available to support wellness, nor comfortable asking peers or administrators for advice or assistance. Residency programs should proactively help trainees identify coping strategies and increase access to wellness resources by methods such as a program-specific "Survival Guide." Other programs can adopt this intervention; it effectively addresses a sensitive issue and highlights accessible resources.

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Programmatic Innovation Abstract 55

Taste-Testing a New Feedback Sandwich: Immediate Peer and Learner Feedback of Faculty Morning Report

Laurel Fick and Lannie Cation, St. Vincent Hospital- Indianapolis

Problem Identification

Morning Report (MR) is a high-yield curricular component of most Internal Medicine residencies and studies have shown that attending participation is highly valued. We sought to improve the educational quality of our faculty-led MR by providing immediate peer and learner feedback. Pre-innovation, faculty and residents were surveyed about the educational quality of MR.

Nine of 11 (82%) faculty felt Comfortable or Very Comfortable leading MR. Only 4/11 (36%) self-rated their MR teaching sessions as Very Good or Excellent. Nine of 11 (82%) were neutral or felt that the program had not provided enough instruction on leading MR. Eighty-two percent of faculty (9/11) wanted to receive feedback on their MR performance.

Only ten of 19 (53%) of residents rated the quality of MR as Very Good or Excellent. They cited demonstration of clinical reasoning, outlining succinct learning points, and differential diagnosis development as the top two behaviors exhibited by effective MR leaders.

Description

Our MR is a faculty-led, small group, case-based conference occurring four times weekly. Following the initial survey, the faculty attended a workshop on small group teaching after which we began immediately providing written, anonymous, peer and resident feedback for each MR session over 7 months.

Results

Post-intervention surveys demonstrated that 54% (7/13) of faculty Agreed or Strongly Agreed that receiving feedback was helpful, and 9/13 (69%) felt that leading MR improved teaching skills. Ten of 13 (77%) reported being Comfortable or Very Comfortable leading MR, and 38% (5/13) rated self-performance as Very Good or Excellent. Residents perceived an improvement in MR with 61% (22/36) rating the overall quality as Very Good or Excellent.

Discussion

We implemented a peer and learner feedback system to improve the quality and consistency of our MR conference. Our intervention demonstrated mixed outcomes. The quality of MR as perceived by learners and faculty self-ratings of performance improved slightly. Also, a majority of faculty reported that the feedback was helpful, but faculty comfort with leading MR fell. We hypothesize that this was due to the receipt of constructive criticism. Interestingly, the subjective quality of MR has continued to improve even after the feedback period ended, and it is now our residents' most valued teaching conference. This observation leads us to believe that peer feedback was indeed effective and lasting.

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Programmatic Innovation Abstract 56

Bringing the Continuity Back to Outpatient Training: An Enhanced Continuous Ambulatory Program for Primary Care Residents

Rebecca Glassman, Jessica Taylor, Mariam Ayub, Ryan Nall, Bracken Babula, Faith Polonski, Kelly Ford, C. Christopher Smith, Eileen Reynolds, Howard Libman, Beth Israel Deaconess Medical Center

Problem Identification

Categorical internal medicine residency programs consist largely of inpatient rotations, with continuity and specialty clinic sessions of variable frequency that generally account for one-third or less of total training time. This structure makes it difficult for residents to develop comfort in the ambulatory setting and may not provide them with the skills necessary to provide high quality outpatient care. Some programs have created models such as the "3+1" or "4+1" of alternating inpatient and outpatient blocks in order to reduce the burden of simultaneous responsibilities. While these models concentrate clinic availability, they leave schedule gaps that may not allow residents to provide continuity of care in the outpatient setting. Our goal was to redesign our primary care residency program to expand and improve the ambulatory training experience for residents and their patients.

Description

We have created a six-month continuous multicomponent ambulatory experience for primary care residents during their second and third years with the goal of training outstanding general internists who will provide future leadership in the field. Four residents are recruited annually through the standard match process, with the opportunity for up to two categorical residents to join the track at the beginning of their second year. During their ambulatory long block (ALB), residents spend afternoons in their primary continuity clinics, and a second continuity clinic site is added to expand their panels and exposure to different patient populations and practices. In the mornings, residents work with preceptors in medical specialties (e.g., cardiology, endocrinology, hepatology) to acquire experience in managing chronic diseases in the outpatient setting and non-medical specialties relevant to primary care (e.g., dermatology, orthopedics, neurology). In addition, residents have an expanded curriculum in behavioral medicine and public health, participate in practice redesign and quality improvement projects, and are instructed how to improve their teaching skills through a series of lectures and workshops. During third year, residents assume a leadership role at practice team meetings. The other six months of junior and senior years is spent on alternating three-week inpatient and outpatient rotations.

Results

We are in the process of gathering data from our first groups of residents regarding clinical practice outcomes (population health data, panel size and complexity, patient satisfaction) and educational outcomes (acquisition of knowledge and skills, comfort level with ambulatory practice).

Discussion

Our novel program provides medical residents with increased continuous ambulatory training, allowing more time to become proficient in outpatient medicine, to integrate completely into the practice, and to gain experience in leadership and quality improvement roles in primary care. The flexibility of this program structure enables residents to explore clinical, educational, and quality improvement interests that will better prepare them for post-graduate careers.

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Programmatic Innovation Abstract 57

Project Based Learning: A Novel Approach to Embolden Academic Milieu in Residency Program

Reena Bansal, Alok Surana, Ashish Rana, Crozer Chester Medical Center

Problem Identification

The fast pace of clinical rotations of residency may dampen the motivation to pursue academic activities in the residents. This stands particularly true for residents at community-based hospitals who may not have the luxury of resources dedicated to research activities compared to their university-based counterparts. This may be a hindrance in cultivating research-oriented minds amongst young training physicians at a community-based facility.

Description

Project based learning (PBL) is a novel team-based program allowing each resident to participate in one original research every six months. Each team consists of 2 interns and 2 residents each from second and third years. Every member of the team gets to be the team leader during second year of his or her residency for one such project of interest. An experienced faculty member with expertise in the area of research mentors the team. Program director meets with the team leaders monthly to monitor the progress of the project and exchange ideas. Special emphasis is given on Quality Improvement studies. At the end of six months each team presents the results of their study in an inter-departmental conference. Residents are encouraged to submit these abstracts/ manuscripts to various journals or meetings.

Results

Anonymous survey was conducted amongst Internal Medicine residents (n=24) at our institute to understand their perspective regarding the impact of the PBL on their residency. 100% of the residents had worked on at least one research project by the end of first half of the academic year. 96% of the residents rated it as a very positive team building experience. 91% of the residents felt that it instilled research oriented thought process in their training. 62% of the respondents believed that it helped their future career path including fellowship prospects. 83% of the PBL based research projects were published/ presented in journals or regional/national meetings.

Discussion

Residency can be a busy phase of life, where clinical responsibilities may overshadow the focus on research activities if special measures are not in place. The PBL project is an innovative approach that encourages residents to not neglect this important aspect of the residency training. Additionally it promotes team building, collaboration between residents and faculty and helps to develop leadership qualities in residents.

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Programmatic Innovation Abstract 58

A Comprehensive Approach to Promote Research Scholarship during Internal Medicine Residency in an Academic Medical Center

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Problem Identification

Successful integration of clinical training and research during Internal Medicine residency is a core mission of academic training programs to encourage and jumpstart future academic careers. Categorical residents interested in research training may face challenges related to competing clinical responsibilities and protected time, connecting with potential mentors, absence of structured curriculum, access to research infrastructure, and funding.

Description

To foster and facilitate research scholarship, we systematically addressed each potential barrier: 1)-Advising and mentorship: serial meetings and discussions with residents throughout PGY-1 promotes longitudinal preparation to match residents with mentors, and to formulate research questions and projects, facilitated by creation of a faculty mentor database and availability of a dedicated Associate Program Director for scholarship. 2)-Structured curriculum and protected time: we offer a 4-week Comprehensive Introduction to Clinical Research elective for PGY-2 trainees, repeated twice in each academic year. Approximately 26 of 41 PGY2 residents with pre-identified mentors and projects participate annually. Faculty from various disciplines teach sessions devoted to Biostatistics and the process of conducting high quality, hypothesis-driven clinical research. 3)-Infrastructure support: access to Biostatistics and database management support is made available to residents through a facilitated pathway. 4)-Funding: to provide funding for Biostatistics services, other research needs, and travel to present research findings, we implemented in 2011 a grant program ($2,000/project) to encourage residents and mentors to prepare and submit projects. There are two application cycles in the spring and fall of each academic year. Departmental faculty provide reviews and comments for each project. The funding for these programs was largely through unsolicited donations by faculty, as well as our Department.

Results

The number of resident projects increased from 6 in 2010 to 43 in 2015. In 2011, of the 21 individual projects funded, 7 were presented nationally and 12 were published in peer-reviewed journals. In 2012, of 23 projects funded, 6 were presented nationally and 14 were published. We are tracking the long-term impact of our approach on the careers of our residents during and beyond academic subspecialty fellowships.

Discussion

A multi-pronged approach, including modest research funding, results in a substantial increase in resident level scholarship in an academic residency training program.

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Programmatic Innovation Abstract 59

Holding Hands: The Impact of Resident Mentor Teams for Incoming Interns

Alok Surana, Reena Bansal, Yvette Wang, Crozer Chester Medical Center

Problem Identification

Starting a residency can be overwhelming in both academic and social aspects for the incoming interns. The challenges of learning the ins and outs of the program, new EMR or even getting an apartment, can cause a lot of psychological stress if not well supported by the program. The orientation week does little to address the social aspects of the transition. The fellow residents tend to be helpful when asked a question but the less outgoing interns can be hesitant in seeking help. This can lead to decline in performance at work and may worsen the already dreaded so called ''July effect'' that the teaching hospitals undergo.

Description

Each incoming intern was paired with a mentor team consisting of one third year and second year resident each, at the beginning of the academic year. The teams were required to meet at least twice a month to address any issues that the intern may be encountering. Adherence to these meetings was to be communicated to the chief resident on a monthly basis. The meetings were designed to be informal and the issues discussed could vary from guidance regarding getting an apartment, car, and driver's permit or social security number as in the case of many international medical graduates. The Mentor residents were also primarily responsible for addressing any day-to-day queries that the intern may have.

Results

Anonymous survey of the incoming interns and residents (n=24) at 6 months showed overwhelmingly positive results. Interns described feeling much more at ease and well supported during the transition (87%). They reported less stress levels (75%), and self perceived improvement in performance at work attributable to this program (62%). The residents also provided a very positive feedback of the program with improved camaraderie with interns (75%). Majority of residents wished the program was available during their intern year (93%) and showed strong desire for the maintenance of the program (89%).

Discussion

The concentrated capsule dose of orientation week may not be enough assistance for the incoming interns. Also it typically does not address the social aspect of the transition. A well-structured support system in the form of a resident mentor group is much appreciated by the interns. It decreases their stress level and can also improve performance during their training. Interns form a more positive perception of the residency program and resident-intern bonding grows. We plan to continue this new Resident mentorship program to help our future interns.

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Programmatic Innovation Abstract 60

Initiation of a Resident Wellness Program at a University Based Internal Medicine Program

Jennifer Capra, Jane Broxterman, Leigh Eck, Becky Lowry, David Naylor, University of Kansas, Adam Merando, St. Louis University, John Bonino, University of Kansas

Problem Identification

Physician burnout is a recognized phenomenon among staff and resident physicians. Literature suggests trainee burnout incidence ranges from 27-75%. Our goal was to launch a wellness program to reduce burnout in a university based internal medicine training program. Residents listened to an expert discussion on physician burnout and completed the validated Maslach Burnout Inventory. 45% of our residents scored at high-risk for burnout. A debriefing identified areas of concern: balancing service needs with education, lack of control in the day-to-day schedule, and inadequate time to complete responsibilities associated with training.

Description

The program transitioned to an X+Y (3+1) schedule. Built into each ambulatory +1 week was a weekend away from work responsibilities, dedicated self-study time and administrative sessions. Semi-annual "wellness days" were introduced for proactive scheduling of health maintenance needs. A wellness series focusing on physician resiliency was presented and a peer support Residency Response Team (RRT) was created for urgent resident needs.

Results

Residents completed a Likert scale survey gauging the benefit of interventions as Not Important, Minimally Important, Somewhat Important, Very Important, or Essential. The interventions evaluated were: 1) X+Y schedule, 2) RRT, 3) Wellness Days, 4) Study Time, 5) Administrative Time, and 6) Wellness/Burnout Seminar Series. Over 95% of residents felt the X+Y schedule was either Essential or Very Important. 83% stated Administrative time and Study Time were either Very Important or Essential. 54% felt The RRT was Somewhat Important and 16 % said it was Very Important. 58% felt the Seminar Series it was either Somewhat or Very Important.

Discussion

Our initial survey suggests the transition to an X+Y schedule was a main contributor to resident wellness and burnout avoidance. Impactful initiatives were those aimed at protecting a portion of the residents' schedule and allowing time to complete tasks related to training outside of direct patient care. The Maslach Burnout Inventory will be used annually to assess wellness and burnout rate longitudinally among residents and provide ongoing guidance on future wellness directives.

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Programmatic Innovation Abstract 61

Incentivizing What Really Matters to Your Residency Program

Charin Hanlon; Joseph Pino

Problem Identification

New Hanover Regional Medical Center is a community based university affiliated program in Southeast North Carolina. Its faculty practice plan had been administrated and funded through a state affiliated AHEC. In 2014, the decision was made to merge the faculty practice with our hospital. The hospital felt strongly that a portion of the faculty salaries be incentivized for quality metrics.

Description

The need to develop quality metrics for faculty came at the same time we were working to optimize our Clinical Competency Committee, our, PEC and the need for more direct observation evaluations for milestones. We developed a unique incentivization plan and definition of quality for academic physicians. We developed quality "buckets" encompassing 20% of total compensation that included CCC attendance, PEC attendance, participation in quality initiatives as well as timely completion of direct observation evaluations and didactic participation.

Results

In our first fiscal contract year for core faculty, 100% of faculty met their quality metrics. Average evaluation completion rates were 94.7. 100% faculty participated in Quality Improvement projects or LEAN initiatives. 100% presented at Grand Rounds. Faculty attended an average of 70% of all didactic sessions that were required of them. CCC meeting attendance by core faculty was 82%. PEC meeting attendance was 79%

Discussion

We have developed a unique compensation strategy that rewards faculty for participation in residency activities that are necessary for our New Accredidation System. These incentives recognize the time and effort that all faculty are putting into meeting milestones and accredidation standards, and rewards them as critical job elements.

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Programmatic Innovation Abstract 62

Reporting Milestones Opportunities: Feedback from the Field

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Problem Identification

Reporting Milestones have improved our ability to map the learner's competency trajectory in a systematic manner, and the ability to provide more effective feedback. However, as Clinical Competency Committees (CCCs) become more familiar with the milestones framework, there may be opportunities to enhance the effectiveness of the ratings form based on experiences of the users.

Description

To analyze the 22 reporting milestones form and provide feedback and suggestions for improvement. Ultimately, the goal is to provide an objective assessment of resident performance and improve the quality and effectiveness of the feedback to the learners.

A working group consisting of three CCC Collaborative Learning Community (CLC) members systematically reviewed the strengths and challenges of using the milestones form. The group represented community and university programs of 33-188 residents. Through a process of individual reflection and group discussion on experiences on working with their CCCs, the following observations were made.

Results

Grading scale:

- The wording in the sub-competencies leads to a narrower range of scores than the scale would suggest, with noted clustering of grades in the 3rd and 4th columns
- Users are unlikely to rate even high performing interns as "Ready for Un-Supervised Practice"

Language:

- Lacks of a standardized way to differentiate between "consistently" and "inconsistently"
- Some sub-competencies do not flow smoothly between columns
- In some areas, negative phrasing is a barrier to use some boxes/columns
- In "Aspirational" column, some sub-competencies seem too ambitious while others are expected behaviors of a graduating resident

Milestones

- Identified milestones that are difficult to assess in learners and also require significant faculty development e.g.:
- SBP2- Recognizes System Error and advocates for system improvement
- Identified milestones that cannot be evaluated every 6 months, e.g., "Consultative Care" hence need of "Not Applicable"
- Question need for PC4 if ABIM does not require certification in procedures
- Milestones assessment relies on direct observation which is challenging for every feature of residency
- Some important skills (such as clinical efficiency) are not captured by the milestone document

Discussion

The Reporting Milestones provide a three dimensional picture of residents' longitudinal progression through training to independent practice. With this in mind, our working group identified opportunities to enhance the practical use of reporting milestones evaluation process:

• Focus on level of supervision, rather than "ready for unsupervised practice"
• Systematize the flow of sub competencies in columns between all 22 reporting milestones
• Separate the consultation milestone into two: calling and doing consults
• Develop a supporting FAQ document
• Create Milestone #23:Clinical efficiency/Executive function, recognized as an important component of "Ready for Unsupervised Practice"
• Create Competency #24: "Leadership skills"

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Programmatic Innovation Abstract 63

Pilot of an Embedded Discharge Scheduler for a Patient-Centered Discharge Process

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Problem Identification

At our medical center, there are 14,716 discharges annually from the general medicine services. Post discharge appointments are made by residents, nurse practitioners, and hospitalists. In a baseline survey, clinicians identified logistical barriers to successfully making appointments and revealed that patients are rarely involved in scheduling discharge appointments. Only an estimated 66% of attempted appointments were scheduled by the time of patient discharge.

We designed a pilot to embed a discharge scheduler into general medicine teams. The objectives of the pilot were to reduce administrative burden on clinical staff, incorporate patients' needs and preferences for discharge appointments, and improve patient attendance at post-discharge appointments

Baseline data were collected in a time-motion study and clinician survey. Based on these data, a temporary employee was hired for four weeks to make discharge appointments. This scheduler worked with a total of four resident-led medical teams, each with a census of 20-24 patients. Overall, the scheduler attempted to make 163 appointments for 118 patients, averaging 1.38 appointments per patient.

Description

Each morning, the scheduler met with resident team leaders, then visited each patient and offered assistance in making appointments. Patients could choose to have the scheduler book the appointment from the patient's room, have the scheduler book the appointment on his own and inform the patient of the appointment date and time, or patients could choose to make the appointment themselves. The scheduler documented the number of appointments made, patient preferences, and then tracked whether the patient went to the appointment. We also surveyed residents on the impact of this pilot on their workflow.

Results

Of the 163 appointments attempted by the scheduler, 89% of appointments were successfully made at the time of discharge. For 85/163 (55%) of appointments, patients preferred that the scheduler make the appointment with them in the room and 54/163 (34%) wanted to make their own appointments. Only 15/163 (9%) requested the appointment be made without their input. Based on preliminary data, the percentage of completed appointments rose from 31% during the time-motion study to 58% during the intervention period. Clinic no-show rates also decreased in the groups that either made their own appointment (9%) or had their appointment made with the scheduler in the room (10%) compared to the time-motion study (17%). Resident team leaders stated that the scheduler improved their ability to establish follow-up appointments and care for patients (9/9, 100%); 8/9 (89%) stated that the scheduler saved them time (up to 45 minutes per day).

Discussion

The existing discharge process demands valuable clinician time and is not patient-centered despite patients' overwhelming preference to be involved in making their own appointments. Therefore as patients prepare to return to their daily lives, we should engage them in discharge appointment scheduling and recognize the need to partner with patients in order to achieve better outpatient appointments attendance. In this pilot, an embedded discharge scheduler was able to involve patients in discharge planning at the bedside, elicit preferences, and improve the percentage of successfully scheduled appointments and actual follow up while reducing clinicians' administrative burden.

Lastly, in an exit interview, the scheduler noted that the appointment-making process seemed unnecessarily complex, decentralized and idiosyncratic suggesting the need for a more streamlined and efficient process for making post-discharge appointments.

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Programmatic Innovation Abstract 64

Orienting New Interns to Continuity Clinic—a "Boot Camp" Approach

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Problem Identification

Effective orientation of new internal medicine residents to continuity clinic can be a particular challenge. Internal medicine PGY-1 residents were often thrust into continuity clinic with little education on policies, workflow, electronic health record utilitization, and billing. Additionally, inexperienced prescribers were poorly equipped to manage patients treated with chronic opioids. These factors contributed to difficulties with efficiency and comfort level with ambulatory medicine for interns at the beginning of the academic year.

Description

New intern orientation was restructured so that the final 3 days of the orientation (dubbed "Clinic Boot Camp") were dedicated to preparing interns to care for patients in their internal medicine continuity clinic. Electronic health record (EHR) training occurred earlier in the orientation. During Clinic Boot Camp, interns learned policies and expectations related to care of their patients during residency. Each intern evaluated patients during three half-day sessions, allowing them to learn the workflow and use of the EHR. Each intern participated in a billing workshop and in a procedure workshop. Finally, the clinic director led a session devoted to training on safe and evidence-based prescribing of opioids and other controlled substances.

Results

All 11 interns who completed the 2015 Clinic Boot Camp responded to a survey conducted during the week after completion of orientation. On a 5 point Likert scale, interns found Clinic Boot Camp to be a valuable part of their orientation to residency (4.5). Interns agreed that seeing patients in continuity clinic prior to beginning intern year would increase their comfort level in continuity clinic after orientation (4.8). Interns found the billing workshop improved their ability to bill correctly (4.0) and they felt more confident in their procedural skills (4.0).

Discussion

A multidisciplinary three-day session dedicated to orientation to continuity clinic improved integration of our new interns into their ambulatory training in our internal medicine residency program. It has provided a venue for our program to train all new residents in important skills including EHR utilization, outpatient billing, evidence-based opioid prescribing, and procedures and has allowed the interns to use these skills in evaluating patients during that period.

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Programmatic Innovation Abstract 65

Using Technology to Get Real-Time, Competency-Based Patient Evaluations of Residents in Multiple Settings

Lauren DiMarino, Geisinger Medical Center

Problem Identification

It is imperative that residents receive feedback on their professionalism and communication with patients. Per the ACGME, "residents must demonstrate interpersonal and communication skills that result in effective exchange of information and collaboration with patients…" Traditional evaluation methods have flaws. Faculty time constraints prohibit observation of multiple patient encounters. Residents may not value standardized patient sessions, role plays or video reviews. The most reliable evaluators of communication competence are patients themselves. However, it is challenging to obtain timely, accurate patient feedback and to ensure its availability to residents and program staff.

Description

We created a patient survey linked to 3 milestones (PROF1, PROF3, and ICS1). Utilizing MedHub's "kiosk" function and an iPad, patients were surveyed at discharge from the hospital, or at check-out from the ambulatory clinic. The surveys were anonymous and voluntary. The patients were shown a picture of the resident, answered 7 brief questions, and could add comments. Results were immediately available in MedHub to residents and program staff.

Results

From September 2014 through June 2015, an average of 3 clinic patients and 2 ward patients completed surveys for each resident, many more than previously. This patient satisfaction data was reviewed alongside other data and evaluations at the clinical competence committee, and with the residents during their biannual evaluation sessions. Interestingly, 69% of patients in the inpatient setting knew the name of the resident that cared for them, compared to 99.3% in the ambulatory setting. Also, patient's satisfaction was higher in all areas in the ambulatory setting compared to inpatient, with statistical significance.

Discussion

Challenges included consistency in offering the survey to patients, and initiating the practice on multiple inpatient units. Availability of staff to administer the survey was the largest barrier. The MedHub kiosk function was exceedingly helpful in simplifying this data collection and also offered real time results. With this, we expect to easily expand the survey use to multiple inpatient units and so increase the number of surveys and feedback that each resident receives.

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Programmatic Innovation Abstract 66

Reinvigorating the Culture of Bedside Medicine: Results of a Needs Assessment on Residents' Cardiopulmonary Examination Attitudes and Skills

Brian T Garibaldi, Timothy Niessen, Jenna Canzoniero, Gig Liu, Reza Manesh, Mary Corretti, Edward Kasper, Rosalyn Stewart, Daniel Brotman, Danelle Cayea, Sanjay Desai, Johns Hopkins University School of Medicine

Problem Identification

"Medicine is learned by the bedside and not in the classroom." These words by William Osler ring true a century after he revolutionized bedside teaching. However, changes in work flow have decreased time at the bedside. Advanced imaging has led some physicians to question the value of the physical examination. Exam skills peak during medical school and decline afterwards which could have adverse effects on patient outcomes. We created a new service to promote bedside teaching and physical diagnosis skills. A needs assessment was conducted to inform curriculum development.

Description

A 14-question survey was administered to incoming interns during their orientation and to second year (PGY2) residents who had just completed internship. The survey explored attitudes about the cardiopulmonary examination and confidence in performing specific maneuvers. Interns and PGY2s completed a 50-question, validated online cardiovascular skills assessment (Blaufuss, CA). Interns and PGY2s were compared using Mann-Whitney rank sum tests and Kruskal-Wallis One Way Analysis of Variance on Ranks.

Results

All 53 interns and 29 of 53 PGY2s completed the survey. The two groups 'strongly agreed' that the cardiopulmonary exam is important in patient assessment and that improving exam skills is a priority. Both groups 'somewhat agreed' that they had received adequate cardiopulmonary exam training. Both groups 'somewhat disagreed' that the cardiopulmonary exam is less important now that imaging is widely available. PGY2s felt more confident in their ability to distinguish systolic from diastolic murmurs, and to characterize systolic murmurs as holosystolic or crescendo-decrescendo. PGY2s were more comfortable with the jugular venous pulse examination and distinguishing 'a' waves from 'v' waves. Fifty-two of 53 interns and 21 of 52 PGY2s completed the cardiovascular test. There was no difference in overall scores, or when analyzed by physiology, auditory, visual and integrative questions.

Discussion

PGY2 residents did not outperform interns on a cardiopulmonary skills assessment, despite expressing more confidence with the cardiopulmonary exam, and having an additional year of training. These findings reinforce the need to examine our practices in physical exam teaching and suggest an opportunity to explore the effects of our bedside medicine initiative on residents' examination attitudes and skills.

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Programmatic Innovation Abstract 67

Building A Curriculum in Evidence-Based Bedside Diagnosis

Nick Nelson, Tamsin Levy, Davida Flattery, Alex Diaz, Indhu Subramanian (Highland Hospital)

Problem Identification

The decline of clinical examination skills has been widely lamented in the medical literature. We set out to introduce a standardized curriculum using real patients with abnormal findings to improve our trainees' skills in bedside diagnosis. We began by identifying the most common admitting diagnoses on our inpatient medicine service, and applied a series of criteria to identify high-yield, evidence-based bedside diagnosis techniques relevant to these conditions.

Description

We have implemented a three-year curriculum in bedside diagnosis consisting of four sessions per year per resident. Each session consists of a short didactic component themed around a presenting syndrome (e.g., shortness of breath) and focusing on high-yield physical findings and diagnostic maneuvers, followed by a practical session during which residents examine patients on the inpatient service who have relevant abnormal findings, without being told in advance what the findings will be and under the supervision of a faculty member.

Results

We administered an extensive survey prior to the beginning of the curriculum, and re-administered the survey at the end of the first year.

- The proportion of residents who say they "strongly agree" that their physical exam skills have improved during residency has gone from 12.5% pre-curriculum to 54.5% post-curriculum.
- The proportion of residents who say that they have not received sufficient feedback on their skills from faculty has fallen from 50% to 32%.
- The proportion of residents who believe that their physical exam siklls will be adequate by the end of their training has risen from 37.5% to 82%.

Discussion

As the armory of diagnostic modalities available to modern physicians has ramified, the modern physician's skill in diagnosis at the bedside has declined. Poor bedside skills increase rates of diagnostic error and lead to low-value care. Our curriculum demonstrates the feasibility of integrating mandatory, Oslerian bedside teaching informed by an ever-expanding evidence base into a busy residency program in the age of work-hours regulation.

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Programmatic Innovation Abstract 68

I-Spy On I-PASS: Medical Student Auditing of Patient Handoffs

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Problem Identification

An ACGME Clinical Learning Environment Review at our institution in 2013 identified opportunities for improving patient (pt) hand-off (HO) processes. A hospital HO protocol was adopted in 2014. First year medical students (M1s) were offered a paid summer opportunity in 2015 to audit HO processes in 10 clinical departments (CDs) to assess compliance with hospital HO protocol, review HO training for residents, and identify opportunities for HO improvement.

Description

: Five M1s participated in the project and underwent extensive training in recognized best practices in patient care HOs. They reviewed internal data on patient harm, available hand-off literature, and watched videos of "good" and "bad" HOs. They were each assigned to round for 2-5 days in the CDs, observing a minimal 2 HO encounters in each (total 10 per CD). M1s used a written audit tool to assess HOs with a focus on location, duration, distractions, pt status, pt summary, action items, contingency planning, engagement of receiving physician, and utility of the written tools used. M1s collated their observations, identified opportunities for process improvement, and feedback was provided to CDs. Time allowed for re-audit after feedback of only 1 CD (Internal Medicine) to date.

Results

M1s identified opportunities in all CDs for improvement in HOs. Few HO's occurred in distraction minimized locations, no CD's routinely included pt status to assist in triage if needed, action items were often incomplete, and little contingency planning advice was provided. Most observed residents received little formal HO training, and few articulated critical role of HOs in preventing pt harm. Re-audit of the Internal Medicine CD six weeks after feedback revealed significant changes. All HOs now take place in quiet team rooms. A revised written tool ensures ID of pt status, clearly defined and uptodate action plans, and required contingency planning. Hospital protocol is reviewed monthly with all ward teams and all residents audited recognized critical importance of HOs in reducing pt harm.

Discussion

With appropriate training, pre-clinical medical students can effectively review patient HO processes resulting in improved communication, an enhanced institutional culture of safety, and likely reduction in patient harm events.

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