

2023

Health Professions

Education Day

7th Annual
Education Research
Poster Symposium

IMPACT OF SIMULATION TRAINING FOR POSTPARTUM HEMORRHAGE PROTOCOL FOR MOTHER BABY NURSES

Melissa Murray, MSN, RN, CNML, Margaret Oakes, MSN, RNC-MNN, Lorraine Wilson, DNP, RN, Danett Cantey, MSN, RN, CNE, CHSE

Background/Purpose: Maternal hemorrhage is the number two cause of maternal mortality and is preventable. Prompt recognition and response to postpartum hemorrhage (PPH) are vital in preventing maternal morbidity and mortality. Across the country, many hospitals are moving towards a staged based postpartum hemorrhage protocol to improve patient outcomes. When used, the protocol has a 20% reduction rate of morbidity and mortality.

Objectives: Identify educational opportunities to use simulation. Integrate simulation as a learning activity. Evaluate simulation effectiveness.

By means of education and simulation to implement a staged based protocol on a Mother Baby unit. Simulation training is widely used to improve teamwork and communication, in an effort to improve clinical outcomes. With this staged based approach, education and simulation was used to ensure all nurses were introduced to and had the ability to practice the new protocol.

Methods: 32 mother/baby nurses along with 15 Operators, Residents, Midwives, OB, Attendings, CRNAs, Anesthesiologists participated in a detailed specific training. The training included education and medium fidelity simulation. The simulation provided realistic scenario for the team to participate and practice in a safe learning environment. The Simulation Effectiveness Tool (SET-M) was used to evaluate the simulation.

Results/Outcomes/Improvements or Evaluation: Through use of a survey, the objectives of the simulation were met. Nurses involved in the education and simulations reported positive experiences. Nurses showed increased preparedness and confidence in assessing and caring for the patient experiencing a postpartum hemorrhage. In addition, skills to communicate with team members, providers, and patients grew.

Significance/Implications/Relevance: Utilizing education and simulation together verified the combination as a robust approach to implement a new protocol while allowing nurses to rehearse in a low-stakes environment.

References:

- Leighton, K., Ravert, P., Mudra, V., & Macintosh, C. (2015). Update the Simulation Effectiveness Tool: Item modifications and reevaluation of psychometric properties. *Nursing Education Perspectives*, 36(5), 317-323. Doi: 10.5480/1 5-1671.
- INACSL Standards Committee. (2021). Healthcare Simulation Standards of Best Practice™. *Clinical Simulation in Nursing*, <https://doi.org/10.1016/j.ecns.2021.08.018>.

IMPACT OF THE SURGICAL SKILLS CURRICULUM ON DUKE MEDICAL STUDENTS' EXPERIENCE AND CONFIDENCE WITH PROCEDURAL SKILLS

Catherine B. Beckhorn, BA.¹, Stacy M. Goins, BA.¹, Melissa R. Rosen, BA.¹, Lillian Kang, MD.c², Kristen Rhodin, MD.², Amanda Nash, MD.², Elisabeth Tracy, MD.², Cory Vatsaas, MD.²,
Duke University School of Medicine¹; Duke University, Department of Surgery²

Background: Procedural skills are an essential aspect of medical student education. Previous studies, including a 2016 study at Duke, have shown that medical students have been underexposed to procedural skills training [1-4].

Objectives: We aimed to perform a follow-up study regarding how often procedural skills are performed by medical students, assess confidence levels, and assess the role of simulation and the efficacy of the surgical skills orientation session.

Methods: A survey was designed to assess experience and confidence simulating and/or performing 36 procedural skills. The survey was emailed to 208 Duke medical students that completed the surgical clerkship between August 2021-December 2022.

Results/Outcomes/Improvements: Of the 208 Duke medical students emailed, 44 responded to the survey; mean age was 25.5 years and 31 participants (70%) were female. 77% of respondents identified as Caucasian/White, 18% as Hispanic, 16% as Asian/Asian American, and 9% as Black/African American. 70% of participants were MS3s, 21% were MS2s, and 9% were MS3+/MSTP. 55% of participants indicated that they had healthcare experience prior to medical school and 88% had surgical experience prior to their surgery rotation (such as surgical selectives or OB/GYN rotations).

The 5 most commonly performed procedures on the surgery clerkship were scrubbing/gowning/gloving (100%), knot-tying (95%), suturing (95%), driving camera (87%), and intubation (79%). Several procedures were commonly performed by students on the rotation but infrequently simulated, such as driving camera (87% performed vs. 5% simulated), scrubbing/gowning/gloving (100% vs 22%), wound dressing change (68% vs. 7%), hemostasis (78% vs. 18%), drain removal (59% vs. 5%), wound vac change (53% vs. 4%), GI stapler usage (52% vs. 18%), port placement (34% vs. 0%), chest tube insertion (23% vs. 0%), drain flushing/stripping (25% vs. 5%), and NG tube placement/removal (25% vs. 9%). While participants' confidence in surgical skills significantly increased as a result of the skills orientation ($p < 0.0001$, paired t test), when asked whether the skills orientation prepared them well for the clerkship, only 41% of respondents selected "strongly agree" or "agree". Regarding students' interest in pursuing a surgical field prior to the clerkship, 32% reported being interested and 20% as undecided; however, 57% of students reported that their involvement in procedures on the rotation increased their interest in surgery.

Significance/Implications/Relevance: This study highlights the importance of the surgical skills orientation prior to the clerkship, as it significantly increases students' confidence in procedural skills. However, we identified a gap in which skills students are expected to perform on the rotation versus those for which they receive simulation training. Since medical student involvement in procedures on the surgery rotation increases their interest in pursuing a future career in surgery, this study highlights the need for curricular change within the skills orientation to better match the skills taught with clerkship expectations.

References:

1. Barr, J. and C.S. Graffeo, *Procedural Experience and Confidence Among Graduating Medical Students*. J Surg Educ, 2016. **73**(3): p. 466-73.
2. Fincher, R.M. and L.A. Lewis, *Learning, experience, and self-assessment of competence of third-year medical students in performing bedside procedures*. Acad Med, 1994. **69**(4): p. 291-5.
3. Wu, E.H., et al., *Procedural and interpretive skills of medical students: experiences and attitudes of third-year students*. Acad Med, 2006. **81**(10 Suppl): p. S48-51.
4. Sanders, C.W., J.C. Edwards, and T.K. Burdinski, *A survey of basic technical skills of medical students*. Acad Med, 2004. **79**(9): p. 873-5.

OUTCOME OF IPEC LEARNING ACTIVITY ON MEDICAL STUDENT PREPAREDNESS FOR IPEC PRACTICE

Andrew Brown, MD; Duke University School of Medicine; Dana Clifton, MD; Duke University School of Medicine; Catherine Hart, MEd; Duke University School of Medicine; Tracy Truong, MS; Duke University School of Medicine; Samrat U Das, MD; Duke University School of Medicine

Background/Purpose: Systematic literature reviews indicate better team functioning leads to improved patient safety and patient outcomes.¹⁻³ Interprofessional Education Collaborative (IPEC)'s mission is to ensure that health professionals are proficient in competencies essential for patient-centered, community and population oriented, interprofessional, collaborative practice. First-year medical students at Duke University School of Medicine are exposed to IPEC principles through Foundations of Learning in Interprofessional Practice workshops. However, they also need the opportunity to apply IPEC principles in a clinical environment. Our innovative learning activity provides the opportunity for medical students to apply IPEC principles during their pediatric clerkship.

Objectives: The goals of this activity are to expose students to the value of IPEC and improve understanding of the roles/responsibilities of other health care providers and professionals. By the end of this activity, students will be able to articulate the value of engaging diverse professionals who complement one's own professional expertise and describe the contributions of those professionals in the context of a specific patient's care.

Methods: At the beginning of their pediatric clerkship, students select two patients for whom they are caring on the wards and identify additional health professionals who might contribute to these patients' care. They observe selected health professionals and interview them to learn about their roles. Students also attend a debrief session to share and discuss insights gained with their peers.

Outcomes: A validated survey tool (NIPEAS)⁴ was used for pre- and post-surveys using a 5-point Likert scale to measure student's attitudes about interprofessional collaboration. Preliminary data from the first cohort of 22 students demonstrated improvements in the domains of understanding their role within the health care team (3.9 pre vs 4.7 post), understanding roles of other healthcare professionals (3.7 vs 4.6) and ability to use terminology that is unique to other health care professionals (2.6 vs 4.2). Themes from debriefs included: preparation to interact interprofessionally helped foster collaboration and emphasis on importance of engaging other professionals to ensure effective and thorough patient care.

Significance/Implications/Relevance: With application in the clinical environment, students see the value of IPEC in bringing together unique perspectives and expertise to provide high quality and comprehensive care to patients. We will disseminate our curriculum to additional clinical clerkships at Duke as it would be easy to replicate, which is a strength of this learning activity. Other institutions can adapt this experiential learning-based curricular framework to train students to more practically apply IPEC principles. A potential barrier to adapting this activity to other clerkships and institutions is allocating the necessary time for this activity within already established curricula.

References:

1. Hammick M, Freeth D, Koppel I, Reeves S, Barr H. A best evidence systematic review of interprofessional education: BEME guide no. 9. *Med Teach*. 2007;29(8):735-751
2. McGuier, E.A., Kolko, D.J., Klem, M.L., Feldman, J., Kinkler, G., Diabes, M.A., Weingart, L.R. and Wolk, C.B., 2021. Team functioning and implementation of innovations in healthcare and human service settings: a systematic review protocol. *Systematic Reviews*, 10(1), pp.1-7.
3. Thistlethwaite J, Moran M, World Health Organization Study Group on Interprofessional Education and Collaborative Practice. Learning outcomes for interprofessional education (IPE): Literature review and synthesis. *J Interprof Care*. 2010;24(5):503-513
4. Beck Dallaghan GL, Lyden E, Meza J, et al. The nebraska interprofessional education attitudes scale: A new instrument for assessing the attitudes of health professions students. *Journal of Interprofessional Education & Practice*. 2016;4:33-39.

IMPLEMENTATION AND ASSESSMENT OF A MUSEUM-BASED VISUAL ARTS CURRICULUM IN AN INTERNAL MEDICINE RESIDENCY PROGRAM

Emory Buck, MD; Ellen Raimond, PhD; Jenny Van Kirk, MD; John David Ike, MD, MSc

Background: Museum-based visual arts programming is increasingly incorporated into medical education to address clinically relevant domains. [1, 2] However, formal program evaluation is variable and there is a paucity of graduate medical education programming. [2] Our curriculum integrates mandatory museum-based visual arts programming into Duke's Internal Medicine residency program. Our 2021-22 curriculum – a proof of successful integration – addressed observation skill among select first- and second-year residents. Our 2022-23 curriculum addresses burnout, tolerance for ambiguity, and empathic development among *all* second-year residents. These domains were selected because residency leadership measured increased burnout and work dissatisfaction among residents during the pandemic. Empathy and tolerance for ambiguity were selected as additional foci because data suggests they may change during medical training and increased tolerance for ambiguity was significantly associated with increased empathy. [3]

Objectives: The goal of this study is to incorporate visual arts-based programming into an internal medicine residency program with the objectives of improving observational skills (2021-2022) and mitigating burnout, increasing empathy, and enhancing tolerance for ambiguity (2022-2023).

Methods : Our 2021-22 curriculum included PGY-1 and PGY-2 internal medicine residents (n=23; 16 controls, 7 intervention). The intervention was delivered over two, three-hour sessions at an art museum by an art historian and museum educator. A modified Visual Thinking Strategies (VTS) approach paired with other museum-based educational activities were used to hone observation skill. [4] Residents completed a pre-test and post-test observational skill assessment of clinical and visual art images that were graded on an a-priori 10-point rubric. Qualitative feedback through post-course surveys was also collected.

Our 2022-23 curriculum includes all PGY-2 residents who will attend two, three-hour visual arts sessions facilitated by the same museum educator (n = 46). The first session utilized VTS to encourage collaborative meaning-making and exploration of new perspectives. During the second session, participants engage in several activities, including the Personal Response Tour, that promote self-reflection and encourage empathy. [4] In addition to qualitative feedback, three pre-test, post-test psychometric scales – the Maslach Burnout Inventory, the Tolerance for Ambiguity Scale, and the Interactivity Index – will determine the 2022-23 program's impact.

Results/Outcomes/Improvements or Evaluation: Thematic analysis from our 2021-22 curriculum demonstrated that residents felt the exercises improved their clinical observation skill and addressed issues of personal bias related to image interpretation. One resident remarked that the programming promoted an “awareness of how a clinical picture might initiate emotions from your personal experiences (both positive and negative).” Data from our 2022-23 curriculum is not yet available for review.

Significance/Implications/Relevance: Future directions will include additional post-testing at longer intervals and semi-structured qualitative interviews to evaluate the lasting impact of this intervention. Planning is underway to implement a longitudinal visual art curriculum at all three levels of training.

References (maximum of 4)

1. Howley, L., E. Gaufrberg, and B. King, *The Fundamental Role of the Arts and Humanities in Medical Education*. AAMC, 2020.
2. Moniz, T., et al., *How Are the Arts and Humanities Used in Medical Education? Results of a Scoping Review*. Acad Med, 2021.
3. Geller, G., et al., *Tolerance for Ambiguity Among Medical Students: Patterns of Change During Medical School and Their Implications for Professional Development*. Acad Med, 2021. **96**(7): p. 1036-1042.
4. Chisolm, M.S., et al., *Transformative Learning in the Art Museum: A Methods Review*. Fam Med, 2020. **52**(10): p. 736-740.

INTERPROFESSIONAL EDUCATION ON TRANSITIONS FROM HOSPITAL TO SKILLED NURSING FACILITIES

Collin Burks, MD; Division of Geriatrics, Department of Medicine, Duke University School of Medicine. Geraldine Kanne, MSN BA ANP-BC; Duke Population Health Management Office, Duke University Health System. Cindy Leslie A. Roberson, PharmD; Duke Population Health Management Office, Duke University Health System. Rachel H. Hughes, MD; Duke Population Health Management Office, Duke University Health System. Colette Allen, MSN, NP-C, GS-C; Duke Population Health Management Office, Duke University Health System. Aubrey Jolly Graham, MD; Duke Population Health Management Office, Duke University Health System. Mamata Yanamadala, MBBS, MS; Division of Geriatrics, Department of Medicine, Duke University School of Medicine.

Background: At Duke, an interprofessional (IP) hospital team consisting of a hospitalist, pharmacist, and nurse practitioner meets with IP teams from local skilled nursing facilities (SNFs) in a weekly teleconference to reconcile gaps in care for patients recently discharged from the hospital to SNF. After involving learners from the Internal Medicine residency and Geriatrics fellowship in this teleconference, our team decided to expand this opportunity to learners from other professions. We created an IP educational experience centered around the teleconference with the aim of teaching learners the importance of working with an IP team to perform safe hospital-to-SNF transitions.

Objectives: The purpose of this study is to 1) evaluate the learners' reactions toward the educational experience and 2) evaluate the effect of the experience on learners' attitudes toward IP care.

Methods: We collaborated with professional training programs to recruit IP learners, and we designed a weeklong educational experience which included: 1) a 45-minute online module that describes care transitions for SNFs, 2) a one-hour interactive case-based session on IP competencies and transitions of care facilitated by a Geriatrics fellow and a geriatrician, and 3) observation of the weekly teleconference. Learners participated in this weekly educational experience in groups of 2-5 and filled out a post-survey, which included pertinent items modified from the W(e) Learn Interprofessional (IP) Program Assessment tool¹. These items include positively worded statements about the content and outcomes of our educational program. Learners rated 23 statements from 0=strongly disagree to 100=strongly agree and answered 3 open-ended questions. We used quantitative analysis and qualitative thematic analysis to evaluate the survey results.

Results: We held this weekly curriculum 18 times over the last 6 months. Forty learners from three academic institutions participated. The learners included clinical nurse specialist students, pharmacy students, nurse practitioner students, medical residents, medical students, and physical therapy students. 75% (30/40) of the learners completed the post-survey. Most survey respondents agreed, with average ratings of 87 or more on particular survey statements, that the learning activities were well organized, engaging, and enjoyable and that the facilitators were responsive to learners' needs. In addition, most learners indicated they gained a deeper appreciation for IP care and were motivated to provide more effective IP care, with average ratings of 94 on these two statements. In the two open-ended questions asking learners to reflect on what they learned about transitions of care and what surprised them, three themes emerged: 1) appreciation of collaboration and communication, 2) inspiration to personally improve discharge tasks, and 3) acquisition of new knowledge about care transitions.

Significance: This well-received IP educational experience prompted self-rated changes in attitudes and knowledge on IP care and care transitions, including motivating learners to improve their practice of IP collaboration. Next steps include further program evaluation and engagement with learners from other professions, including occupational therapy. Given that our study was limited by learner self-report of immediate changes in knowledge and attitudes, another next step is creating a way to measure the program's impact on subsequent changes in workplace behavior.

References: 1. MacDonald, Archibald, D., Trumppower, D.L., Casimiro, L., Cragg, B., & Jelley, W. (2009). Designing and operationalizing a toolkit of bilingual interprofessional education assessment instruments. *J Res Interprof Educ*, 13: 304-316.

DEVELOPING A NIGHT CURRICULUM FOR FIRST YEAR FAMILY MEDICINE AND INTERNAL MEDICINE RESIDENTS

Ashley Dougherty, MD, Duke Regional Hospital
Neesha Namasingh, MD, Duke Regional Hospital
Pahresah Roomiany, MD, MS, FACP Duke Regional Hospital

Background: Residents that work overnight at Duke Regional Hospital on the Family Medicine and Internal medicine services are currently without standard training in dealing with pathology and issues that are unique to night rotations. Providing covering care for colleagues' patients can be daunting and possibly lead to higher incidence of adverse patient outcomes. Other medical training programs have teaching programs to help with this transition. Modalities such as peer-led night curriculum, attending didactic sessions at night, and modules prior to starting rotations have been investigated at other institutions.

Objectives:

1. Gain an understanding of what Duke Regional Hospital Medicine attending physicians, Duke Family Medicine residents and Duke Internal Medicine residents think should be included in a nocturnal curriculum
2. Investigate how the above groups think the curriculum would be best implemented

Methods: We distributed a survey to Duke Regional Hospital Internal Medicine teaching attendings, Duke Family Medicine residents, and Duke Internal Medicine residents to evaluate the above goals.

Results/Outcomes/Improvements: Both attending and resident physicians felt that a curriculum for residents on a night rotation is needed. The majority of those surveyed felt that in-person didactics would be the best mode for the curriculum but residents were more open to other methods including online modules and written materials. Stroke, chest pain, sepsis and acute coronary syndrome were topics identified by residents and attendings that would be beneficial to be covered in the curriculum. Attendings also felt that delirium should be covered. Residents felt that acute respiratory failure should be covered.

Significance/Implications/Relevance: Our future plans include creating a curriculum based on our survey results. We are working with attending physicians to create learning modules for residents that can be viewed prior to starting the rotation or used by attendings or senior residents overnight during a didactic session. We hope that a curriculum will improve resident competency and confidence during issues that arise overnight. We also hope that patient care will improve and there may be a decrease in the number of rapid responses called on resident patients overnight.

References:

1. Brady, K., Paul O'Rourke, P., Kobayashi, T. et. al. (2015). A Novel, Resident-Led Curriculum for Night Float Rotations. *Journal of Graduate Medical Education*; 289-90.
2. Kalet et al. (2017) A simulated "Night-onCall" to assess and address the readiness-for-internship of transitioning medical students. *Advances in Simulation*. 2:13.
3. Caton JB, Penn EH, Nemer MK, Katz JT, Yialamas MA. Getting up to speed: a resident-led inpatient curriculum for new internal medicine interns. *MedEdPORTAL*. 2019;15:10866
4. Patel R, Snyderman LK. An interactive mock paging curriculum to prepare new internal medicine interns for inpatient wards. *MedEdPORTAL*. 2021;17:11082.

Leveraging dashboards to document outcomes from EPA-based assessments and to empower learners

[Deborah Engle, Ed.D., M.S.](#), Duke University School of Medicine

[Saumil Chudgar, MD, MEd](#), Duke University School of Medicine

[Aditee Narayan, MD](#), Duke University School of Medicine

[Joe Cawley, BA](#), Duke University School of Medicine

Background:

Following the lead of the AAMC Core Entrustable Professional Activity (EPA) Pilot Program, medical schools across the country are developing ways to provide students with real-time feedback utilizing the EPA framework. A best practice (1) for this endeavor is to use technology to compile, summarize, and visualize the large amount of data associated with competency-based assessment in a way that is usable, while also applying this technology to document and monitor learner progress over time.

Objectives:

We describe our innovative approach that successfully leverages Tableau dashboards to visualize and track EPA-based assessment data from several perspectives, including administrative leadership, clerkship directors and students.

Methods:

We created a multi-pronged, systematic approach to assessment of student progress toward achievement of the Core EPAs during the core clerkship year. This approach is aligned with published tips for success (1) and the guiding principles associated with the Core EPA pilot program (2,3). Specifically, we created a Qualtrics survey form with items targeted to each EPA; via a personal QR code, our clerkship students use this form to initiate feedback from faculty and housestaff. Data is warehoused in the Qualtrics database which interfaces with Tableau using a web connector. Within Tableau, we designed administrative, clerkship director, and student level dashboards to visualize and track this assessment data across clerkships and over time.

Results/Outcomes/Improvements:

Upon completion of AY20-21, traditional track clerkship students (n=104) received EPA feedback 6406 times, resulting in a median of 61 EPA evaluations per student across 48 weeks. Feedback was provided by a total of 967 discrete faculty and resident evaluators.

The most frequently evaluated are EPA6: Oral Presentation (19%, n=1208) and EPA1a: History Taking (18%, n=1122). The least frequently evaluated are EPA4: Entering Orders/Writing Prescriptions (0.5%, n=32) and EPA13: Patient Safety/QI (0.8%, n=50). This pattern remained unchanged when comparing data from the first rotation (when students are very early in their clinical training) to the last rotation (when students are completing their clerkship year).

The most frequently cited areas of improvement are related to EPA1a: "Efficiency of history" (6%, n=327) and "Using clinical reasoning to focus questions" (6%, n=327). Areas for improvement for EPA 6 include "Being more concise" (4%, n=208) and "Communicating areas of uncertainty" (4%, n=182).

Tableau analytics confirm that our clerkship students view their personal EPA dashboard on average 7 times throughout the year, which is approximately once for each rotation block.

Significance/Implications/Relevance:

We show that our students receive feedback from residents and attendings on 1-2 EPAs per week and they routinely review their dashboard. Our aggregate data track similarly to recent data from the AAMC Core EPA pilot program in that total numbers of EPA ratings are high for EPAs 1 and 6 (4). For EPAs 4 and 13, it's unsurprising these activities are infrequently evaluated for students in their core clerkships, as these are advanced skills not often applied until later in medical school.

DUKE-AFFILIATED PUBLICATIONS IN HEALTH PROFESSIONS EDUCATION: A BIBLIOMETRIC ANALYSIS

Beth Blackwood, MSLS, Duke University Medical Center Library
Sarah Cantrell, MLIS, Duke University Medical Center Library
Kristin L. Dickerson, Duke University School of Medicine
Deborah L. Engle, EdD MS, Duke University School of Medicine

Background: The Duke Health enterprise is well-known for its basic, clinical and translational science research, yet the research productivity of health professions education (HPE) faculty remains relatively unexplored. Since its launch in March 2014, Duke AHEAD as part of its tri-partite mission has worked to “advance the importance of educational scholarship by supporting faculty in their pursuit of rigorous educational research” by offering resources to conduct HPE research and by providing a forum to share ideas (1). A bibliometric analysis offers an analytical technique for mapping existing literature concerning HPE (2).

Objectives: To use bibliometric analyses to identify and characterize Duke-affiliated publications in HPE journals, before and after the start of Duke AHEAD

Methods: We performed evaluative and relational bibliometric analyses (3) investigating Duke author publication trends in 33 HPE journals published between 2003 and 2023. While there are additional extant HPE journals, we focused to those included in Journal Citation Reports (JCR) and indexed in Web of Science (both via Clarivate).

We created and executed a search query in the Web of Science database on February 6, 2023 for Duke-affiliated authors and journals. A total of 927 articles were retrieved. Citations were uploaded into the Covidence software, and authors screened whether it centered on HPE or related topics. 697 articles met inclusion criteria for analysis; all others were excluded (n=230).

Citations were then imported into Open Refine. Specifically, journal titles, author names, and author affiliations were cleaned for syntax consistency using the cluster and merge function. Additional data were then added from JCR, including 2021 Journal Impact Factor, 2021 Journal Quartile, and JCR Journal Category. The dataset was then imported to Tableau.

Results: Results show 159 articles were published in HPE journals (n=33) between 2003-2013; and 459 were published between 2014-2023, a timeframe which coincides with the launch of AHEAD.

All publications from 2003-2023 were sorted by journal impact factor quartile. Results show the proportion of articles published in Q1 (Top 25%) is higher than Q2, Q3 and Q4 journals, and steadily rises over time. The peak publication year is in 2019, with ~80 articles published in Q1 journals. Most publications (n=230) are in *Academic Medicine*.

Significance: With this study, we are the first to use bibliometrics to characterize the Duke-affiliated publications in HPE journals. We show that Duke authors have consistently published in the top HPE journals for the past two decades. When looking at the rate of publication over time, there is a clear inflection point in 2017. Though evidence of causation between the launch of AHEAD in 2014 and publication rate cannot be provided here, one can observe the clear correlation. As such, this study begins to empirically demonstrate the impact of AHEAD’s mission to support HPE research. It also shows that bibliometrics can be a valuable tool for program evaluation.

Limitations include difficulty in clearly delineating the field of HPE (4) and the exclusion of specialty-specific journals in our current study.

References (maximum of 4)

1. Research & Innovation | Duke Academy of Health Professions Education and Academic Development. Accessed February 28, 2023. <https://dukeahead.duke.edu/how-we-can-help/research-innovation>
2. Azer SA. The top-cited articles in medical education: a bibliometric analysis. *Acad Med*. Aug 2015;90(8):1147-61. doi:10.1097/acm.0000000000000780
3. Ninkov A, Frank JR, Maggio LA. Bibliometrics: Methods for studying academic publishing. *Perspect Med Educ*. Jun 2022;11(3):173-176. doi:10.1007/s40037-021-00695-4
4. Maggio LA, Ninkov A, Frank JR, Costello JA, Artino AR, Jr. Delineating the field of medical education: Bibliometric research approach(es). *Med Educ*. Apr 2022;56(4):387-394. doi:10.1111/medu.14677

PREPARING ADVANCED PRACTICE NURSE AND THEIR INTERPROFESSIONAL TEAMS FOR EXCELLENCE IN HEALTH CARE LEADERSHIP

Camille Fulbright, BSPH; Anh N. Tran, PhD, MPH; Sarah Weaver, MPH

Background/Purpose: The Duke-Johnson & Johnson Nurse Leadership Program (now renamed Duke Advanced Practice Provider Leadership Institute, APPLI) launched in May 2013 with a mission to provide advanced practice nurses with transformational leadership development. This year long virtually delivered leadership program aimed to prepare participants to implement positive change in their practice settings and communities, with a focus on addressing health disparities of vulnerable populations. In 2020, the program transitioned from an individual training model to one that invited advanced practice provider (APP)-led interprofessional healthcare teams to participate in building high functioning teams and creating healthcare transformation. Now offering a team-based training model, the program enrolled 17 teams, comprised of 2-3 participants each, in its 2020-2021 cohort. Program components included: three synchronous weekend leadership web-conferences; monthly educational webinars; self-directed modules; and project coaching small group meetings. Program fellows were also able to benefit from individual executive coaching.

Objectives:

1. Describe the process of transitioning from an individual to a team-based model
2. Delineate results of the effort as well as lessons learned and recommendations for similar efforts

Methods: Thirty-six program fellows completed the program, which included leading a team transformational health project that incorporated use of skills acquired throughout the program. In addition to large group sessions, breakout “rooms” were employed to allow an opportunity for more small-group interaction and choices of available topics and speakers, and the chat function provided an additional avenue for communication. Specific virtual “social time” facilitated networking within and between teams. Monthly project coaching small group meetings enabled participating teams to offer peer-support as well as guidance from a trained coach facilitator. Teams were placed into coaching circles based on their transformational project similarities and team composition. Competencies taught in the program resided within the core content domains of Effective Leadership; Financial/Business Acumen; Health Care Operations and Community and Health Systems.

Results/Outcomes/Improvements: Participant and their employer evaluations demonstrated a high level of satisfaction and provided useful ideas for future improvements. Team projects had a wide breadth of reach into the communities the teams served and were supported by 19 partner organizations. Teams’ projects, collectively, impacted over 22,000 patients and over 1,000 health care providers. All projects had continued stakeholder commitment at the close of the program. By post-program, team projects had, in varying degrees: enhanced patients’ care experience; improved the health of the population; reduced or controlled per capita cost of care; and improved the sustainability of the organization or health network. Regarding team traits and behaviors, there was an overall 25% reduction in negative and an 11% increase in positive team characteristics. Teams reported increased resilience levels; enhanced diversity, equity and inclusion practices; improved leadership and management skills; higher functioning and more efficient team dynamics.

Significance/Implications/Relevance: These positive results demonstrated that the team-based model is a viable participation model for providing intensive leadership and management training and cultivating impacting health improvement projects. The program demonstrated the utility of facilitating APP-led interprofessional teams’ quality improvement/population health projects and providing greater opportunities for APP leadership.

FOOD FOR THOUGHT: USE OF TACOS TO INCREASE RESIDENT PEER RECOGNITION IN AN INTERNAL MEDICINE RESIDENCY PROGRAM

Stephanie Garbarino, MD¹, Gastroenterology/Hepatology fellow, Hannah McManus, MD¹, Hematology/Oncology fellow, Govind Krishnan, MD¹, Pulmonary/Critical Care fellow, Mathew Labriola, MD², Oncology Assistant Professor

Background: Physician burnout is marked by emotional exhaustion, depersonalization, and a sense of reduced accomplishment. Burnout is associated with a loss of empathy, impaired job performance, and an increase in medical mistakes.[i] The reality of burnout was exacerbated by the COVID19 pandemic as academic medical centers scrambled to establish a balance between the increasing demand for medical services with the need to maintain a safe learning environment.[ii] Acknowledging the stressful environment that our trainees were facing and the reality of social isolation, we sought to increase feelings of accomplishment and foster community in an innovative way.

Objectives: We aimed to use a mobile messaging application called “HeyTaco” to allow trainees to share kudos and words of encouragement with their colleagues, and assessed if this improved overall resident and faculty acknowledgements and morale.

Methods: In July of 2021, the Chief Residents and Program Leadership of the Internal Medicine Residency Program at Duke University launched the use of a free mobile application “HeyTaco.” This application, an attachment to the popular messaging application “Slack”, allows for its users to offer each other kudos and words of encouragement through the use of its unique and comedic currency, virtual tacos. A resident can easily click on the application on their personal mobile device and send a virtual taco along with an encouraging message to a colleague in real time. In order to promote a community of recognition and appreciation, the trainee who distributed the most tacos at the end of each quarter was rewarded with the Duke Taco Kudos Championship Belt. The prior system of offering kudos included emailing the program director and having a list of kudos printed in a weekly newsletter.

Results/Outcomes/Improvements: Data was analyzed from 7/1/2019 through 6/30/2021 with separation of the data into two time periods: the “Pre-Taco Period” (PTP) from 7/1/2019-6/30/2020 and the “Taco Period” (TP) from 7/2/2020-6/30/2021. After the launching of “HeyTaco” with the accompanying championship belt, the total number of kudos sent tripled, from 308 in the PTP to 922 in the TP. Of note, most kudos were sent by faculty in the PTP, while most kudos were sent by residents in the TP. This highlights the increased resident engagement and participation with the use of HeyTaco. Importantly, PGY1s were unlikely to send kudos in the PTP, but were the most likely to send kudos in the TP, demonstrating the utility of this tool to engage new trainees and establish a culture of appreciation at the start of training. In addition, there was a ten-fold increase in kudos sent to build camaraderie in the TP compared to the PTP.

Significance/Implications/Relevance: After the launching of HeyTaco, the total number of kudos sent tripled, with a more notable increase in kudos sent from trainees compared to faculty, which is essential during times of social distancing and isolation. The use of HeyTaco successfully increased resident and faculty participation in sending kudos and can be applied across all graduate medical education programs as a culture building strategy.

References:

[i] Hartzband P, Groopman J. Physician Burnout, Interrupted. *N Eng J Med.* 2020; 382:2485-2487.

[ii] Leo CG, Sabina S, Tumolo MR, et al. Burnout Among Healthcare Workers in the COVID19 Era: A Review of the Existing Literature. *Front Public Health.* 2021; 9:750529.

THE USE OF STRUCTURED ORAL EXAMS FOR THE ASSESSMENT OF DUKE MEDICAL STUDENTS IN THEIR RADIOLOGY CLERKSHIP

Stacy M. Goins, BA., Duke University School of Medicine
Robert J. French, MD., Duke University, Department of Radiology
Jonathan G. Martin, MD., Duke University, Department of Radiology

Background: There is increasing interest in narrative feedback for medical student assessment (1). Oral exams have been shown to adequately assess clinical reasoning skills, improve scores on objective exams, and provide opportunities for summative feedback for medical students (2-4). Given the benefits of oral exams, a new structured oral exam was proposed and instituted for the radiology clerkship assessment in the 2020-2021 academic year for Duke medical students.

Objectives: The goal of this study is to evaluate the implementation of a structured oral exam for the radiology clerkship at Duke.

Methods: A structured oral exam was instituted in academic year (AY) 20-21. Students prepared to discuss an imaging case as they would to a medical colleague and a patient. For AY 20-21, students took the oral and a written exam. In AY 21-22, students took the oral exam alone. A faculty member provided feedback. The perceived educational value of clerkship components including the oral and/or written exam were scored on a 5-point Likert scale. Exam results and Likert scores were compared using unpaired t-tests ($P < 0.05$).

Results/Outcomes/Improvements: All students in AY 20-21 received a passing score on the written (mean 89.0, SD 4.59) and oral exams. All students in AY 21-22 received a passing score on the oral exam. Between AY 20-21 and AY 21-22 there were a total of 183 completed evaluations among the 221 students who completed the radiology clerkship. In AY 20-21, 88 of the 107 students completed surveys, and in AY 21-22, 95 of the 114 students completed surveys. In AY 20-21, when students completed both the written and oral exam, the educational value of the oral exam was rated significantly higher than the educational value of the written exam (4.30 versus 4.02, $p=0.021$). Across all students in AY 20-21 and AY 21-22, the educational value of the oral exam was rated as 4.34. There was no significant difference in rating of the oral exam between years (AY 20-21 mean rating 4.30; AY 21-22 mean rating 4.38; $p=0.499$). In AY 21-22, when students rated the oral exam 4.38, it was ranked 3rd highest out of all 26 evaluated clerkship activities. The highest rated activity, an interactive high-yield review session, was rated 4.90, while the lowest rated activity, one of the didactic lectures, was rated 3.48. Across all activities, the mean rating was 4.06 and the median rating was 4.03. When surveyed, the single examiner's subjective assessment of the oral exam was that all students demonstrated radiology knowledge at or above the expected level of a second-year medical student and that there was no appreciable difference across years.

Significance/Implications/Relevance: A structured final oral exam for a required radiology clerkship at this institution was successful. Long-term implications of the oral exam for the radiology clerkship will continue to be evaluated with the goal of determining how to best evaluate students and prepare them for their careers.

References:

1. Pernar, L.I.M., R. Askari, and E.M. Breen, Oral examinations in undergraduate medical education - What is the 'value added' to evaluation? *Am J Surg*, 2020. 220(2): p. 328-333.
2. Rushton, P. and D. Eggett, Comparison of written and oral examinations in a baccalaureate medical-surgical nursing course. *J Prof Nurs*, 2003. 19(3): p. 142-8.
3. Caldwell, K.E., et al., Standardized oral examinations allow for assessment of medical student clinical knowledge and decrease racial grading differences in a surgery clerkship. *Surgery*, 2022. 171(3): p. 590-597.
4. Johnson, N., et al., Faculty perspectives on the use of standardized versus non-standardized oral examinations to assess medical students. *Int J Med Educ*, 2018. 9: p. 255-261.

RETURN TO THE ROUNDTABLE: A CLINICAL CASE DISCUSSION CURRICULUM FOR INFECTIOUS DISEASES FELLOWS

Molly Hillenbrand, MD,¹ Reinaldo Perez, MD,¹ Eileen Maziarz, MD,¹ Christopher Shoff, MD,^{1,2} Mamata Yanamadala, MD,³ Lisa Criscione-Schreiber, MD, M.Ed.,⁴ Matthew Sparks, MD⁵

1. Duke Department of Medicine, Division of Infectious Diseases 2. Durham VA Medical Center, Department of Medicine, Division of Infectious Diseases 3. Duke Department Medicine, Division of Geriatrics 4. Duke Department of Medicine, Division of Rheumatology 5. Duke Department of Medicine, Division of Nephrology

Background: The Accreditation Council for Graduate Medical Education (ACGME) and the Infectious Diseases Society of America (IDSA) require infectious diseases fellowship programs to include a core curriculum as part of their requirements for clinical training, though recommendations regarding content and structure are limited. A relative paucity of published content for infectious diseases fellows exists in the current literature leaving individual fellowship programs no option but to invest time and resources developing and maintaining curricula for small groups of learners. There is a need to develop and study infectious diseases curricular content for learners at the fellowship level.

Objectives: We hypothesized that a curriculum of clinical reasoning case discussions covering core clinical topics would improve the attitudes, confidence, and medical knowledge of infectious diseases fellows.

Methods: To inform content selection, we conducted an informal needs assessment of current fellows and reviewed published ACGME and IDSA curricular recommendations, other fellowship curricula, and the American Board of Internal Medicine (ABIM) blueprint for the Infectious Diseases certification examination. We developed a series of case-based clinical reasoning sessions rooted in published guidelines and evidence-based practice, prioritizing complex and high-yield clinical topics that were not covered in our program's existing curriculum. Sessions were peer-reviewed and facilitated by senior fellows. Participants included clinical and research fellows, faculty, and pharmacy experts. Fellows completed anonymous surveys assessing medical knowledge, attitudes, and confidence after each session. At the conclusion of the course, we will conduct a summative evaluation to assess learner perceptions regarding the curriculum content and novel design aspects of the program including senior fellow facilitators and pharmacy engagement.

Results/Outcomes/Improvements: We developed and implemented a case curriculum in our infectious diseases (ID) fellowship program with participation by eight to ten ID fellows in each session. We have received positive feedback from trainees in informal settings and are using voluntary anonymous surveys to study these sessions. Preliminary data from these surveys demonstrates that participating fellows feel more confident in their clinical approach to the subjects discussed and find the provided resources to be helpful.

Significance/Implications/Relevance: This curriculum represents a novel initiative by trainee physicians to create a series of peer-facilitated, discussion-based sessions for learners at the level of subspecialty fellowship. In recent years, the development of durable instructive material has been a major focus of medical education. Within infectious diseases, this has primarily been characterized by tools for asynchronous learning including an online stewardship curriculum (1), simulation exercises, (2, 3), and online open access medical education materials (4). There remains a scarcity of published ready-to-teach content that can be used in weekly didactic conferences, and few activities are designed to help guide the complex clinical decision making regularly required in the practice of clinical infectious diseases. We have utilized feedback from fellows to develop a peer-facilitated series of case discussion templates that can be iteratively updated and employed in annual sessions for fellows. This model can serve as an example for educators seeking to develop content for advanced learners with specialized content needs.

References

1. Spicer JO, Armstrong WS, Schwartz BS, Abbo LM, Advani SD, Barsoumian AE, et al. Evaluation of the Infectious Diseases Society of America's Core Antimicrobial Stewardship Curriculum for Infectious Diseases Fellows. *Clin Infect Dis.* 2022;74(6):965-72.
2. Person A, Chastain C, Skaug L, Rawn L, Wright P. Four Standardized Patient Cases for the Infectious Diseases Fellow. *MedEdPORTAL.* 2016.
3. Barsoumian AE, White BK, Yun HC. Teaching Antimicrobial Stewardship to Infectious Disease Fellows Through Simulated Interdisciplinary Scenarios. *MedEdPORTAL.* 2018;14:10693.
4. Chavez M NN, Dong S, Nematollahi S, Ryder J, McClean M, Walker J, Escota G, Butt S, Wooten D. ID Fellows Network [Available from: idfellows.org].

IMPLEMENTATION OF OB-POCUS CURRICULUM INCREASES STUDENT INVOLVEMENT AND CONFIDENCE WITH OB-POCUS

Katherine Lambert, BS BA; Duke University School of Medicine
Elizabeth P. Howell, MD; Duke University Medical Center
Julian Hertz, MD; Duke University Medical Center
Mary Katherine Montes De Oca, MD; Duke University Medical Center
Melody Baldwin, MD; Duke University Medical Center
Deborah Engle, Ed.D.; Duke University School of Medicine
Sarah K Dotters-Katz, MD MMHPE; Duke University Medical Center

Background: Point-of-care Ultrasound (POCUS) is an essential part of routine obstetric care. Students at our institution previously received no formal OB-POCUS training. After an internal pilot study suggested utility of formal training and non-universal student involvement in POCUS, we implemented POCUS simulation during orientation and added OB-POCUS as a required clerkship procedure.

Objective: To assess the impact of POCUS simulation on student US performance.

Methods: Observational cohort study of students completing OBGYN clerkship at single academic center from August 2021-June 2022. All students reviewed POCUS powerpoint and received POCUS simulation training during orientation. Students recorded all observed and performed OB ultrasounds and answered an end-of-clerkship survey. 'Performing' OB-POCUS defined as having a hand on the probe during the US. Simple descriptive statistics used to analyze the data. Primary outcome was average number of POCUS observed and/or performed per student. A sub-analysis was performed to assess variation by time of year (early: July-Oct; mid: Nov-Feb; late: March-June).

Results: Ninety-seven students completed the clerkship during the study period. Students participated in 676 OB-POCUS encounters, performing 345(51%). On average, students participated in 7.0 ultrasounds, observed 3.4 and performed 3.6 during the rotation. Average observed POCUS/student did not differ by time in the academic year (3.7vs3.4vs3.4,p=0.99), nor did average POCUS performed/student (3.8vs2.9vs4.3,p=0.50).

76 students rated the educational value of the OB-POCUS simulation, 58(76%) rated it above average/excellent. 72% noted improvement in POCUS skills.

Significance: After implementation of formal curriculum, students averaged 7 OB-POCUS during their OB/GYN clerkship, reporting improved POCUS confidence too. These data suggest that simple alterations in curriculum can greatly improve important translatable skills.

IF YOU WANT TO DO OB/GYN – WHEN SHOULD YOU ROTATE? A STUDY OF STUDENT PARTICIPATION IN DELIVERIES OVER THE YEARS

Katherine Lambert, BS BA; Duke University School of Medicine
Sarah Dotters-Katz, MD MMHPE; Duke University Medical Center
Deborah Engle, Ed.D; Duke University School of Medicine
Melody Baldwin, MD; Duke University Medical Center
Lorene Temming, MD; Atrium Health Carolinas Medical Center
Jennifer Howell, MD; Duke University Medical Center

Background: Anecdotally, medical students interested in OBGYN are encouraged to save the rotation for later in the year, allowing for more 'hands on' experiences. However, data on this is lacking.

Objective: To compare student participation in deliveries across the academic year.

Methods: Retrospective cohort study of OBGYN clerkship students at single tertiary center from 2017-19, and 2020-22 (students rotating 3/19- 3/20 excluded to avoid COVID biases). Students record participation for all vaginal (SVD) and cesarean deliveries (CD) in a logging program, selecting independently if they 'observe' or 'perform' the delivery. Data abstracted by rotation. Clerkship records reviewed for total students/rotation. Time of year defined as early: July-Oct, mid: Nov-Feb, and late: March-June. Primary outcome was average total deliveries participated/student. Secondary outcomes: average total, observed, and performed SVD and CD. Secondary analysis comparing early to late timeframes performed.

Results: During the study period, 447 students completed the rotation with 62 excluded due to COVID, including 117 early-year, 119 mid-year, and 149 late-year. Students participated in a median of 7 deliveries (IQR 5,1), 3 SVD (IQR 2,5) and 4 CD (IQR 2,5) – with the majority being observed(2 SVD and 3 CD).

When stratifying by time of year, median deliveries did not differ(early:7vs mid:7vs late:7, $p=0.42$). However, as the year progressed, a clinically significant difference was seen in the average number of performed vaginal deliveries (early:0.62 vs mid:0.82 vs late:1.13, $p=0.001$). Additionally, as the year progressed, the percent of students who did not report any 'hands on vaginal deliveries' decreased from 61.5% (early) to 52.9% (mid) to 35.6% (late),($p<0.001$). A similar, though less robust trend was seen for CS(80%-->79.8%--> 61.7%, $p=0.01$).

If looking at only early in the year vs the end of the year, no difference in total deliveries was seen, but students rotating at the end of the year reported nearly twice as many hands-on deliveries, (1.19+/-2.05 vs 2.05+/-2.25, $p=0.001$), with this being true for vaginal deliveries (avg 0.66+/-1.03 vs 1.14+/-1.25, $p<0.001$) and cesareans (avg 0.54+/-1.48 vs 0.94 +/-1.61, $p=0.01$). Said another way, in the early part of the year, 53.6% of students did not report any hands-on deliveries, compared to 31.5% in the later year ($p<0.001$).

Significance: Overall, student participation in deliveries (CD and SVD) did not change across the academic year. However, as the year progressed, students reported more 'hands on' experiences in both cesarean and vaginal deliveries. These data suggest some validity to the anecdotal advice regarding when to do clerkships a student may be interested in.

PREVENTION AND MANAGEMENT OF DISRUPTIVE BEHAVIOR IN HOSPITALIZED VETERANS WITH DEMENTIA

Elizabeth Myer, PhD, BSN, RN-BC; Ann Marie Patterson-Powell, MSN, RN;
Maria Orsini, EdD, MSN, RN, GRN, VHA-CM; Durham VA Medical Center

Background: Disruptive behavior in people with dementia is indicative of unmet care needs. Disruptive behaviors may include repetitive questioning, impaired sleep, wandering, inappropriate behaviors, agitation, and aggression. Most people with dementia display one or more these disruptive behaviors throughout progression of their illness. Managing disruptive behavior is complex, stressful, and costly (Kales, Gitlin, & Lyketsos, 2015). Veterans with dementia are at high risk for injury, behavioral or psychiatric problems, poor quality of life, and high service utilization (Karel et al., 2017). The Veterans Health Administration (VHA) Deputy Undersecretary for Health Policy and Planning estimates the prevalence of patients with dementia to exceed 335,425 in 2023 (VHA, 2013). Development of the "Prevention and Management of Agitation and Aggression in Veterans with Dementia" (PMAAVD) program began in December 2020 in response to patient safety events involving hospitalized Veterans with dementia. The purpose of PMAAVD is to improve behavioral outcomes for Veterans with dementia by proactively addressing their care needs.

Objectives: PMAAVD aims to reduce the number of disruptive behavior events in a southeastern United States Veteran Affairs (VA) healthcare system on four non-traditional dementia care units by 20% by the end of 2023.

Methods: PMAAVD utilizes five strategies: 1) standardized care processes for dementia recognition and personalized care, 2) dementia friendly rooms and diversional activity carts, 3) weekly interprofessional behavioral care huddles, 4) system wide dementia care assessment and virtual reality staff and trainee education, and 5) volunteer sitter program and patient engagement tool. The interdisciplinary workgroup consists of more than 50 members across chaplain services, geriatric trainees, nursing (nurses, nursing assistants, educators, managers), nutrition, occupational therapy, physical therapy, providers (nurse practitioners, psychiatrists, psychologists), recreational therapy, social work, and speech therapy.

Results/Outcomes/Improvements: The primary patient outcome was number of disruptive behavior events, as reported by staff to the disruptive behavior reporting system, among patients with dementia on four acute care units. The pilot unit had a 17% reduction in disruptive behavior events over a one-year period. Quantitative and qualitative data were collected on huddle attendance and content. Adoption outcomes showed that our goal of having two or more dementia consultants attending each huddle was achieved. Fidelity outcomes showed that 97% of staff and consultants reported that patients' behavioral concerns were identified and discussed as intended during huddles.

Significance/Implications/Relevance: Disruptive behavior in dementia is a complex problem that requires multifaceted complex solutions. The PMAAVD program is an innovative model of care that facilitates prevention and management of disruptive behavior in acute care units that do not typically provide care to patients with dementia. Huddles provide an opportunity to proactively address concerns and give real-time feedback. The workgroup faced challenges including staff turnover, dedicated time for huddle facilitators, and obtaining accurate and available data on patients with a diagnosis of dementia. With a commitment to sustainable solutions, we piloted an electronic note template for identifying patients with dementia, which contains inclusion and exclusion criteria for huddles and aids staff in describing patient behavior and choosing patient-centered, evidence-based interventions. Overall, findings are promising for use of a multicomponent program to reduce disruptive behavior in hospitalized patients with dementia.

References:

1. Kales, H.C., Gitlin, L.N. & Lyketsos, C.G. (2015). Assessment and management of behavioral and psychological symptoms of dementia. *BMJ*, 350(h369). <https://doi.org/10.1136/bmj.h369>
2. Veterans Health Administration (2015). *Projections of the Prevalence and Incidence of Dementias*. http://www.va.gov/geriatrics/GEC_Data_Reports.asp
3. Karel, M.J., Cortina, J., Allman, R., Edes, T.E., McGuire, M., Cooley, S.G., Vinson, L., & Wiechers, I. (2017). Inpatient care for Veterans with complex cognitive, mental health, and medical needs task force. *Innovation in Aging*, 1(1), 1350. <https://doi.org/10.1093/geroni/igx004.4960>

THE IMPACT OF A PEER MENTORING PROGRAM ON RESIDENT WELLNESS IN AN INTERNAL MEDICINE RESIDENCY

Neesha Namasingh, MD; Duke University Hospital
Amber Meservey, MD; Duke University Hospital
Aimee Zaas, MD; Duke University Hospital
Stephanie Garbarino, MD; Duke University Hospital

Background: Graduating medical students commonly travel far from home for residency. This may result in a lack of social support during a difficult training period, possibly contributing to increased levels of job dissatisfaction and burnout. Mentoring is considered a key tool for personal and professional development within the medical profession; it is described as a process by which an experienced individual guides another in the development and re-examination of their own ideas, learning, and personal and professional values.^{1,2} While mentorship experiences are frequently offered to trainees at the faculty-trainee level, peer mentorship opportunities are comparatively rare.³ We created a peer mentoring program within the internal medicine residency program at Duke University Hospital to improve the transition from medical school to residency, foster a supportive community, and increase self-capacity. After one year, we studied the effects of our intervention.

Objectives: Evaluate the utility and success of a peer mentoring program in a rigorous internal medicine residency program.

Methods: Interns and senior residents were asked to fill out a pre-match survey regarding their personal and professional interests, which were used to create pair matchings. Involvement in the program was on a voluntary basis and no compensation was offered. Mentors and mentees were asked to meet informally, and formal events were organized throughout the year to facilitate engagement. We distributed a survey to participants before and after implementation of the peer mentoring program. In the survey we collected demographic information, impacts of the program, and areas for improvement.

Results/Outcomes/Improvements: 100% of interns and 80% of senior residents chose to participate in the program, demonstrating high demand. 49 pairs were matched. 29 interns completed the pre-survey and 35 completed the post-survey. 24 senior residents completed the pre-survey and 9 completed the post-survey. A majority (63%) of interns had families that reside over 500 miles away, 28% identified as single, and half reported that they do not have a local social support network. Demonstrating the difficulty of the transition, rates of burnout increased for interns after their first year of residency (14% pre vs. 65% post) as did rates of feeling more callous towards people (10% pre vs. 47% post). However, senior residents reported decreased burnout after the program (46% pre vs. 33% post) and reported feeling less callous (59% pre vs. 33% post). Most interns (66%) felt that participating in a peer mentoring program contributed positively to their overall residency experience and helped them transition into PGY-1. Over half felt that there were certain topics they preferred to discuss with a peer mentor rather than an academic mentor, including the topic of burnout. 100% of interns and senior residents felt that the peer mentorship program should be continued.

Significance/Implications/Relevance: There is a paucity of peer mentoring programs aimed at postgraduate medical trainees, and very few are described in the literature. This research highlights the success of a peer mentoring program in a rigorous internal medicine residency program. Peer mentoring programs could help reduce burnout and emotional fatigue during residency and are strongly desired by residents.

References:

- 1 Standing Committee on Postgraduate Medical and Dental Education (SCOPME). Supporting doctors and dentists at work: an enquiry into mentoring. London, SCOPME, 1998.
- 2 Eisen, S., Sukhani, S, et al. Peer Mentoring: Evaluation of a Novel Programme in Paediatrics. Arch Dis Child. 2014; 99: 142-146.
- 3 Pethrick, H., Nowell, L., et al. Peer Mentoring in Medical Residency Education: A systematic review. Canadian Medical Education Journal. 2020; 11(6) 128-137.

Do Physician Assistant Students Use Retrieval-Based Strategies While Studying?

Sandro O. Pinheiro, PhD, MA, MRE; Susan T. Hibbard, PhD; Nicholas M. Hudak, PhD, MPA, MEd, PA-C

Purpose: Research on learning and memory indicates active retrieval of information (ie, testing) has great effect in enhancing student learning. Testing an active approach to learning is far more beneficial in enhancing long-term retention than spending time repeatedly studying/rereading information. Previous studies found the average student is unaware of the benefit of testing as a learning strategy. Most students perceive testing as an evaluation method and do not use it as means for learning.

Objective: The current study identifies studying strategies of PA students and the extent to which they use retrieval-based strategies as compared to more passive ways of learning.

Methods: A survey instrument adapting items from Harwig and Dunlosky's (2012) Study Habits Survey was administered to first-year PA students to investigate their study behaviors over a 4-week time frame in preparation for multiple-choice exams. Among several questions, the questionnaire asked students to rank the top 5 study strategies they typically utilize to prepare for integrated multiple-choice exams. We hypothesized that PA students like other learners would be utilizing passive learning strategies and underutilizing testing as a strategy for learning.

Results: Seventy-eight (88%) of the 89 students responded to the survey. The most common study strategies reported in the prior 4 weeks were reviewing lecture slide decks (83%), reading notes (78%), and taking notes (73%). The retrieval-based strategies most used were practicing test questions (38%) and creating questions and responding to them (12%). The strategies with the highest frequency in the top 5 were reviewing slide decks from classroom presentations (76%), reading notes (63%), reading textbooks (44%), taking notes (37%), and summarizing/outlining (35%). Reviewing slide deck was ranked number one by almost half of the respondents (49%).

Significance/Implications/Relevance: PA students in this study, like others learners reported in prior published studies, are using passive learning strategies like reviewing slides and notes to study. This indicates many PA students are unaware of the benefits of active retrieval (testing) as a learning strategy and may need guidance to incorporate active learning strategies into exam preparation. With increased knowledge and understanding of what study strategies students use, educators may be able to provide better guidance about the use of more effective learning activities at both individual and group levels. As part of our program's response to the need to support student learning, we have incorporated 4 activities that might be beneficial to other programs. First, we have involved 2 of our PhD-trained educators (authors SP and SH) to serve as academic coaches to our students. Second, we have incorporated new content about the science of learning into a student orientation session, "Strategies for Success in PA School." Third, we have used data from this study to inform our faculty about students' approaches to learning and have introduced them to the concept and benefits of RBS. Fourth, we have subscribed to a question item bank that students can now use as a RBS resource. Our intent is for these activities to increase student awareness about active retrieval practice and encourage them to incorporate it into their studying to promote academic success.

References:

1. Karpicke JD. Retrieval-based learning: active retrieval promotes meaningful learning. *Curr Dir Psychol Sci.* 2012;21(3):157-163.
2. Larsen DP, Butler AC, Roediger HL III. Test-enhanced learning in medical education. *Med Educ.* 2008;42(10):959-966.
3. Roediger HL III, Butler AC. The critical role of retrieval practice in long-term retention. *Trends Cogn Sci.* 2011;15(1):20-27.
4. Hartwig MK, Dunlosky J. Study strategies of college students: are self-testing and scheduling related to achievement? *Psychon B Rev.* 2012;9(1):126-134

EQUITY IN IN ASSESSMENT IN PHYSICAL THERAPY EDUCATION

Kelly Reynolds, PT, DPT, PhD(c); Duke University

Jeff Hoder, PT, DPT; Duke University

Colette Waddell, PT, DPT; Duke University

Background: As the physical therapy (PT) profession strives to increase representation in student cohorts and ultimately the profession,¹ consideration must be given to the unique learning needs of more diverse student groups. Traditional educational pedagogies and assessment methods may disadvantage underrepresented students and perpetuate existing disparities.²⁻⁴ To combat this, many inclusive assessment practices including student involvement, test question construction, variety and timing of assessments, weighting, and many more have been proposed.⁴⁻⁷ These inclusive and culturally-responsive assessment practices consider the varied backgrounds, experiences, and resources of diverse student cohorts and do not prioritize a single method of demonstrating knowledge acquisition as preferential.⁴ This case study highlights how both pedagogical and assessment methods were adjusted, instructors' reflections on the process, and student feedback on the more inclusive practices.

Objectives:

1. Convey the importance of equitable assessment practices in physical therapy education.
2. Describe specific inclusive assessment practices utilized within the practice management course.
3. Provide faculty reflections on benefits and challenges of transitioning to inclusive assessments.
4. Discuss student feedback on the course assessment strategy.

Methods: Course directors and instructors in a first-year neurological practice management course underwent training in equitable assessment and implemented a number of practices in their course to improve inclusivity. They utilized quantitative performance data and qualitative student feedback from previous iterations of the course to determine areas for improvement. As inclusive assessment procedures were implemented, faculty underwent a reflective process to consider benefits and challenges. In the final course evaluation, students provided their impressions on the equitable assessment practices.

Results/Outcomes/Improvements: Following principles of equity in assessment, the course made a number of changes: 1) moving from one high stakes practical to two with the first weighted less than the second to scaffold the learning experience 2) moving from two high stakes exams to three with lower weighting of each 3) one exam made a "take-home" to allow students to complete it at a time and place of their choosing to reduce test anxiety. Faculty found these changes to be feasible to implement and improve student understanding of expectations. Additionally, it was easier for faculty to address areas of specific deficit. The lower weighting of each assessment meant that a student could fail an exam but still pass the course. Upon reflection, faculty will revisit that in the next course iteration. Of the 49 students who completed the course evaluation, 96% found the inclusive assessment practices to be very effective while the remaining 4% found them to be somewhat effective. No students provided negative feedback about transitioning to inclusive practices.

Significance/Implications/Relevance: Utilizing inclusive assessment practices is feasible in graduate health professions programs. Benefits include improved student understanding of expectations and stronger ability of faculty to address specific areas of student weakness. However, low stakes assessments may also make it easier to pass a course without the full requisite knowledge and instructors may need several iterations of course to find the right formula for assessment type and weighting. Students are resoundingly supportive of equitable assessment practices.

References:

- Wise D, Dominguez J, Kapasi Z, et al. Defining Underrepresented Minorities and Promoting Holistic Review Admission Strategies in Physical Therapist Education. *J Phys Ther Educ.* (American Physical Therapy Association, Education Section). 2017;31(4):8-13.
- Rojek AE, Khanna R, Yim JW, et al. Differences in Narrative Language in Evaluations of Medical Students by Gender and Underrepresented Minority Status. *J Gen Intern Med.* 2019;34(5):684-691. doi:10.1007/s11606-019-04889-9
- Low D, Pollack SW, Liao ZC, et al. Racial/Ethnic Disparities in Clinical Grading in Medical School. *Teach Learn Med.* 2019;31(5):487-496. doi:10.1080/10401334.2019.1597724
- Montenegro E, Jankowski N. Equity and assessment: moving towards culturally responsive assessment (Occasional paper No. 29). Urbana, IL: University of Illinois and Indiana University. National Institute for Learning Outcomes Assessment. 2017.
- Montenegro E, Jankowski N. A new decade for assessment: Embedding equity into assessment praxis. (Occasional Paper No. 42). Urbana, IL: University of Illinois and Indiana University. National Institute for Learning Outcomes Assessment. 2020.
- Expanding Formative Assessment for Equity and Agency. NCTE National Council of Teachers of English website. Published November 11, 2020. Accessed March 8, 2022. <https://ncte.org/statement/expanding-formative-assessment/>
- Burns KC, Lundgren M, Vecchie R. Culturally responsive assessment in the psychology college classroom. *JoSoTL.* 2020;6(3):177-184. doi:10.1037/stl0000220

ADDING IN SUPPORT BEAMS: THE ADDITION OF NEAR-PEER TEACHING ASSISTANTS TO AN OBGYN CLERKSHIP

Melissa R. Rosen, BA; Duke University School of Medicine
Elizabeth P. Howell, MD; Duke University, Department of Obstetrics and Gynecology
Mary Katherine Anastasio, MD; Duke University, Department of Obstetrics and Gynecology
Cescille Gesher, BS; Duke University, Department of Obstetrics and Gynecology
Jennifer Howell, MD; Duke University, Department of Obstetrics and Gynecology
Melody Baldwin, MD; Duke University, Department of Obstetrics and Gynecology
Sarah K. Dotters-Katz, MD, MMHPE; Duke University, Department of Obstetrics and Gynecology

Background: Amidst the chaos of the COVID pandemic, medical school clerkships were pressed to find innovative ways to support medical students. The Obstetrics and Gynecology (OBGYN) clerkship piloted, then continued, a near-peer mentor Teaching Assistant (TA) program comprised of third year medical students. Near-peer TAs were tasked with bridging the gap between clerkship students, residents, and faculty, through leveraging their clerkship knowledge and shared student-experience. TAs assisted with facilitating weekly didactic sessions throughout the clerkship and worked closely to support students in navigating both clerkship process and content.

Objectives: We sought to evaluate both student and TA perspectives on the addition of TAs to an OBGYN clerkship model.

Methods: This is a retrospective cohort study of TAs (2019-2022) and medical students (2020-2022). After IRB-approval, an anonymous survey was developed by subject matter experts and vetted for clarity by the OBGYN clerkship education team. Surveys were sent annually to TAs, inquiring about their personal experience and perceptions of student experiences on the OBGYN clerkship. Primary outcomes were aimed to evaluate the impact of the TA experience on TA teaching skills, subject knowledge, and confidence, as well as the perceived effect on the student experience. Feedback from students regarding the TAs was collected and qualitatively analyzed. Simple statistics were used for data analysis.

Results/Outcomes/Improvements: Feedback from 17 (100%) TAs and 90 (43%) students was included in the analysis. Of the TA respondents, 100% rated their experience positively, indicating that it helped to improve their knowledge (100%), teaching (87%), organization (73%), and facilitation skills (87%), as well as increase their confidence (80%) as they began their sub-internships. Moreover, 86% of TAs reported that the experience solidified their desire to pursue an OBGYN residency. Nearly all (93%) indicated they would recommend being a TA to another medical student. Qualitative analysis from student feedback found that 100% of comments concerning TAs were positive in nature. Themes extracted from student comments included: TAs were generally viewed positively (n=60, 66%), considered helpful (n=30, 33%) and engaged/responsive (n=25, 28%). Clerkship students also expressed that TAs helped to enhance their learning (n=22, 24%).

Significance/Implications/Relevance: The addition of near-peer TAs to an OBGYN clerkship was regarded very positively by students, TAs, and clerkship leadership. During times of increased stress and uncertainty, the addition of a near-peer TA program to the medical school clerkship model can be beneficial in further supporting learners.

WHAT'S IN A LETTER (OF RECOMMENDATION)? DO GENERALISTS WRITE DIFFERENTLY THAN SPECIALISTS?

Melissa R. Rosen, BA; Duke University School of Medicine
Elayna P. Kirsch, BA; Duke University School of Medicine
Lisa G. Hofler, MD, MPH, MBA; The University of New Mexico, Department of Obstetrics and Gynecology
Lori Avery; Geisel School of Medicine at Dartmouth
Lorene Temming, MD; Atrium Health Carolinas Medical Center
Jill Sutton, MD; East Carolina University, Department of Obstetrics and Gynecology
Sarah K. Dotters-Katz, MD, MMHPE; Duke University, Department of Obstetrics and Gynecology

Background: Letters of recommendation (LOR) for Obstetrics and Gynecology (OBGYN) residency are commonly written by both generalists and subspecialists in the field. Best practices regarding LOR-writing for OBGYN residency applicants is unclear, however may encompass varied letter formats, lengths, and closing statement structure. Given the importance of LOR to the OBGYN residency application, it is important to study letter-writing practices and how they may differ between OBGYN generalists and subspecialists.

Objectives: We sought to compare common LOR-writing practices between OBGYN generalists and subspecialists.

Methods: Established 'best practices in LOR-writing' from other specialties were compiled to develop a survey to assess the use of these practices among OBGYN faculty when writing LOR for residency applicants. Content and face validation were performed prior to dissemination. The survey was sent to OBGYN faculty in five departments (Duke University, The University of New Mexico, Dartmouth-Hitchcock, East Carolina University, and Atrium Health Carolinas Medical Center) from 3/2022 – 5/2022, after IRB approval. Respondents were included if they wrote ≥ 1 OBGYN residency LOR annually and indicated their field of practice. Primary outcomes included routine use of the following LOR-writing practices: bold/italics, description of students' role and experience with residents, highlights from student curriculum vitae (CV), length ≤ 1 page, and final sentence structure. Common practices used by subspecialists were compared to those used by generalists.

Results/Outcomes/Improvements: Of 189 OBGYN faculty who were sent the survey, 135 (71%) responded and 62 (46% of respondents) met inclusion criteria. Among the study cohort, 21 faculty identified as a generalist and 41 identified as a subspecialist. No differences in gender, duration of practice, or formal education roles (all $p=ns$) were identified between generalists and subspecialists. There were no differences in use of bold/italics (10%vs29%, $p=0.11$), description of students' role and experience with residents (95%vs88%, $p=0.65$) or inclusion of CV highlights (62%vs73%, $p=0.23$) between generalist-writers and subspecialist-writers. Nor were there differences in last sentence structure, further defined as the use of superlatives, percentage rank, or desire for the program to 'keep' the applicant, (all $p=ns$). However, generalists were more likely to write letters < 1 page (90%vs63%, $p=0.03$). After controlling for gender, practice duration, and medical education role, generalists were 80% more likely to keep letters to 1 page or less (aOR 0.20, 95%CI:0.04, 0.99).

Significance/Implications/Relevance: Other than preferred letter length, common practices in LOR-writing for OBGYN residency applicants did not vary between subspecialists and generalists. The letter length discrepancy may reflect different expectations for fellowship LOR and residency LOR. As best practices for residency LOR are further elucidated, dissemination to all LOR-writers, generalists, and specialists, is essential.

IS HYBRID GRAND ROUNDS REALLY THE ANSWER?

Natalie Wickenheiser, BS; Duke University School of Medicine

Cescille Gesher, BS; Duke University School of Medicine

Matthew Barber, MD; Duke University Hospital; Department of Obstetrics & Gynecology

Melody Baldwin, MD, MPH, Duke University Hospital; Department of Obstetrics & Gynecology

Beverly Gray, MD, Duke University Hospital; Department of Obstetrics & Gynecology

Sarah K Dotters-Katz, MD, MMHPE; Duke University Hospital; Department of Obstetrics & Gynecology

Background: After implementation of virtual grand rounds (VGR) during COVID-19, many OB/GYNs desired a Hybrid Grand rounds(HGR) format with an in-person with virtual option. However, this transition to HGR has not been studied.

Objective: Compare attendance and attitudes of OB/GYNs between VGR and HGR.

Methods: After IRB exemption, grand rounds attendance records from a single center were reviewed. VGR included 3/2020-6/2020; HGR included 3/2022-6/2022.

E-survey developed to assess attitudes regarding key elements of GR from literature review, with content and face validation performed. Survey deployed 5/2022 with 2 reminders. Questions included themes such as satisfaction, engagement, learning, and multi-tasking re: in-person at HGR vs VGR, and virtual at HGR vs VGR.

Results: Total average attendance was higher in HGR versus VGR(83 vs 63,p=0.01). During HGR, an average of 23 individuals came in-person and 60 zoomed in.

109/141 department members responded (77% response-rate). Of these, 36% had not attended any HGR in-person. 52% attended less in-person than they had prior to COVID-19.

When attending HGR in-person, compared to VGR, 52% felt the sense of community was better, 62% were equally likely to multitask, 72% felt the amount learned was similar. In contrast, when attending HGR virtually, compared to VGR, only 16% felt the sense of community was better, 61% were equally likely to multitask, 74% felt the amount learned was similar.

Overall satisfaction with attending HGR in-person, compared to VGR, was higher for only 37% of respondents. In contrast, 47% of respondents were more satisfied being virtual in HGR, compared to VGR.

Significance: The hybrid model was more highly attended and was well received, with no differences in multitasking or amount learned compared to VGR but clear differences in sense of community. These data can inform OB/GYN departments as they consider options for GR moving forward.

CREATING AND ASSESSING CLASSROOM CLIMATES AND TEACHING PRACTICES THAT SUPPORT LEARNING THROUGH DIVERSITY, INCLUSION AND BELONGING

MaryBeth Gallagher PhD, Assistant Professor, Duke OTD , Lindy Norman, MAT, Administrative Education Coordinator, Duke OTD , Barb Hooper PhD, Professor, Division Chief, Duke OTD

Background: Covid-19 and social justice movements of the last three years created monumental changes in education. These changes provided opportunities for exploration and innovation in the new Duke occupational therapy doctorate program. Duke OTD received a grant from Duke Learning Innovation to establish a professional learning community (PLC) to engage in inquiry, reflection and action toward fostering classrooms and program systems characterized by equity, inclusion, and belonging.

Objectives:

- 1) Engage in professional development on creating inclusive, anti-racist classrooms and program culture;
- 2) Integrate best practices determined through professional development activities;
- 3) Determine a measurement plan and collect evidence related to PLC goals.

Methods: Engagement in a professional learning community (PLC) *is* an inquiry method, like participatory action research. Members of a PLC create and address questions through recurring phases of inquiry, reflection, and action. Inquiry in this PLC involved readings, facilitated dialogue, and workshops.

Results/Outcomes/Improvements: Fifteen faculty and staff participated in the PLC. Initially, the PLC met regularly to determine goals and processes, create shared definitions, and solidify as a community through working with an external facilitator. Key outcomes of the project involved implementing the following education and infrastructure actions to facilitate progress in becoming an inclusive, anti-racist community:

- The Program
 - Infused EDI activities into faculty annual evaluation reports.
 - Instituted a Commitment Pledge that all part-time, temporary instructors sign prior to teaching in the program.
 - Established the Student Affairs and EDI committees.
 - Continues to seek guidance on inclusive policy development.
 - Established a student committee to develop the program's process for developing professionalism.
 - Established a position to support recruitment and retention of underrepresented students in occupational therapy.
 - Increased diversity among the faculty through invitations to part-time instructors from diverse backgrounds.
 - Instituted a process for reporting adverse events.
 - Conducts listening sessions with students each semester.
- The Faculty and Staff group participated in
 - A four-session professional development workshop that concluded with a restorative circle with group members. The group continues to explore how we can employ the restorative circle process for conflict transformation.
 - A workshop on the Foundations of DEI with the Office for Institutional Equity.
 - A workshop on Trauma-Informed Education
- On an individual basis:
 - Three faculty have completed the Teaching for Equity Fellowship.
 - Two completed Teach for Equity Now
 - Engagement in course review to broaden diverse representation of cases and texts.
- OTD students have participated in:
 - Two workshops through the Office of Institutional Equity
 - Two workshops through Multi-cultural Affairs

However, OTD students still report episodes where the classroom climate and program practices are racist and not trauma informed. Three areas of need were identified:

1. Timely, closed-loop communication on student-raised issues is critical.
2. EDI facilitators and consultants are in too short supply for timely resolution of issues.
3. Education in inclusive teaching must include all GTAs, guest lecturers, and part-time instructors.

Significance/Implications/Relevance:

This inquiry identified challenges of implementing and sustaining efforts to generate a truly inclusive learning community where all members flourish.

References:

Colorado State University (2022) *Teaching Effectiveness Framework*, Institute for Learning and Teaching [accessed 18 February 2023]
<https://tilt.colostate.edu/wpcontent/uploads/2022/03/FrameworkForDevelopingTeachingEffectiveness.pdf>.