Title: When Bad Things Happen: Medical Student Curriculum on the Aftermath of Adverse Outcomes

Submission Type: Innovation Highlights in Medical Education

Submitting Author: Eva Waineo, M.D.

Submitting Author Institution: Wayne State University School of Medicine

Purpose: Medical error (ME) is a concern for trainees and an important concept to address early in student education (1). A recent medical student study found strong interest in curricula on this topic (2). We developed an interactive curriculum for 2nd year medical students to prepare them before the start of their clerkship year. This curriculum explored the impact of adverse events (AE) on physicians with the goal to improve medical students’ understanding of the professional and personal effects of AE on health care providers, availability of resources and support.

Approach/Methods: This curriculum utilized case based learning, small group discussion, and videos of local physicians. Physicians in multiple specialties were recorded describing their experience with AE and impact on their professional and personal lives. Local physicians were also recruited to conduct group discussions based on these videos and cases of AE in their careers with 2nd year medical students. Discussions were an hour long and included 15 students and 1 facilitator. Surveys using a 5-point Likert scale conducted before and after the initial session were presented at the AAMC Integrating Quality meeting in June 2017. In the second year of this curriculum, based on student and facilitator feedback, we improved the technical quality of the videos, changed rooms, and included less information on the PowerPoint slides to encourage discussion. Surveys sent directly by administration resulted in higher response rates. Results of the first and second year of this curriculum were compared. Here we report outcomes of two years of data, with a larger amount of student quantitative and for the first time qualitative feedback, and impact of improvement to the original curriculum.

Results/Outcomes: Analysis was based on a convenience sample of 282 participants who completed the pre survey, 234 who completed the post survey, and 97 who completed the post survey last year. 15 measures assessed students’ confidence in understanding impact of ME and AE and available resources. Last year the greatest change in any measure was 23.74%. This year 4 measures showed greater change: awareness of resources (49.6%), ways to report witnessed error (39.43%), understanding concept of caring for caregiver (30.62%) and ability to cope with ME (30.56%). For the first time this year students were asked if this session was helpful for their future work as a physician, 89.7% agreed.

Discussion: A 1 hour curriculum had significant impact on medical students’ understanding of AE, its impact, and resources. Recruitment of local faculty who led discussions and described local experiences was appreciated by students. Use of student and facilitator feedback to enhance an innovative curriculum may improve its impact. Future plans include placing curriculum right before the start of clerkships and including additional concrete information on local resources and what to do to cope with AE.

Significance: A 1 hour curriculum delivered to a class of nearly 300 students in a preclinical year by local faculty significantly increased students’ confidence in coping with medical error, ways to report error, awareness of resources, and understanding of concept of caring for caregiver.
Title: A Developmental Theory of Resident Resilience

Submission Type: Research Highlights in Medical Education

Submitting Author: Abigail Winkel, MD, MHPE

Submitting Author Institution: New York University Department of Obstetrics & Gynecology

Purpose: Programs aimed at enhancing physician resilience have proliferated in response to alarming statistics about the prevalence and impact of physician burnout. Burnout begins when students transition into doctors during graduate medical education and may continue once in independent practice. A better understanding of how resilience develops in physicians-in-training may facilitate more effective burnout mediation interventions in our clinical and learning environments.

Approach/Methods: A qualitative study using a grounded theory approach analyzed semi-structured interviews with an intensity sample of obstetrics and gynecology residents. Follow-up interviews at 3-6 months provided longitudinal engagement to account for variations in season and context. A three phase coding process used constant comparison, reflective memos and member-checking to support the analysis. Thematic saturation was achieved after enrollment of 18 residents at all four years of postgraduate training.

Results/Outcomes: Resilience grows alongside personal and professional identities and makes use of values and aspirations as well as adversity and challenges to prosper. The surrounding environment can both facilitate and inhibit sustained engagement with patients and the work. Navigating these challenges can create distraction from the experiences of patients. A conceptual model for resilience as a developmental phenomenon emerged from the data.

Discussion: This study proposes a Developmental Theory of Residency Resilience as a progressive and not fixed phenomenon that can be profoundly influenced by the surrounding community and culture. Adversity and other obstacles are important to this process, which may be facilitated by curricular and programmatic interventions that foster sharing experiences of vulnerability and encourage adaptive ways of coping with stressors.

Significance: Considering resilience as a developmental phenomenon acknowledges its roots in a resident's background and personal goals and also the way that it may be influenced during the course of training. Surrounding culture and educational programs that foster deeper connections to the human dimension of the work, combined with attention maintaining physician wellness may enhance physician health as well as empathy for patients.
Title: A National Survey of Medical School Strategies to Address Student Well-being

Submission Type: Research Highlights in Medical Education

Submitting Author: Lotte Dyrbye, MD MHPE

Submitting Author Institution: Mayo Clinic

Purpose: Numerous studies document a high prevalence of depression and burnout among medical students. (1,2) Medical students with depression or burnout are more likely to struggle academically, have professionalism lapses and lower empathy. They are also more likely to develop suicidal ideation and have thoughts of dropping out of medical school. (2,3) It is understood that individual and school factors contribute to burnout and depression in medical students. (2,3) While well-being efforts at individual institutions have been described, (4,5) there is no consolidated data on the breadth, scale, and infrastructure of well-being initiatives across multiple institutions. To address this need, we surveyed a cohort of US medical schools participating in the AMA Accelerating Change in Medical Education initiative. Schools were asked to describe existing well-being curriculum and activities, approaches to measuring outcomes related to student well-being initiatives, well-being related infrastructure and resources, and other educational strategies to promote student well-being.

Approach/Methods: In October of 2016 32 U.S. medical schools were invited to participate in the survey. The survey was developed from a literature review and focused discussions with content experts and several Associate Deans of Student Affairs. The specific intent was to collect information about current institutional strategies used to support student well-being. Survey questions were piloted with a cohort of educators from the AMA Student Wellness committee prior to distribution. The University of Illinois at Chicago’s institutional review board (IRB) adjudicated this study as exempt.

Results/Outcomes: Of the 32 schools surveyed, 27 (84%) responded. Sixteen (59%) reported dedicated well-being curricula with content scheduled during curricular hours (81%). Most activities were scheduled at least monthly (75%), and most schools offered a mix of optional and mandatory attendance (56%). All schools offered extra-curricular well-being activities. Well-being curricula and activities focused on mental, physical, financial, or social well-being. Few schools reported a specified well-being competency (22%). Most schools relied on participation rates (88%) and student satisfaction (60%) to evaluate effectiveness. Over half (59%) assessed student well-being using data from the Medical Student Well-Being Index (19%), locally administered surveys (44%), or national surveys (19%). Most schools had an individual dedicated to overseeing student well-being (82%) and a student well-being committee (82%). In addition to formal well-being curriculum and activities, 74% of schools used pass/fail grading in year one and two of medical school and 81% used learning communities to promote student well-being.

Discussion: Formal and informal well-being curricula and activities were commonly offered by this cohort of medical schools. Evaluation of curricula and activities varied, relying mostly on participation rates and student satisfaction. The development of competencies specific to student well-being may improve how medical schools develop, implement and evaluate student well-being programs.
**Significance:** How best to support students and meet LCME accreditation standard 12.3 remains unknown. This study provides schools with information about what other institutions are doing to promote student well-being and serves as a guide for program development.
Title: The Learning Environment and Resident Wellness: Findings from the Council on Resident Education in OBGYN Survey

Submission Type: Research Highlights in Medical Education

Submitting Author: Helen Morgan, MD

Submitting Author Institution: University of Michigan Medical School

Purpose: The epidemic of burnout in residency education has been established (1), yet there is little known about the learners’ perspective (2,3). As the medical community mobilizes interventions to combat this issue, understanding these perspectives must guide effective solutions (4). The goal of this Council on Resident Education in Obstetrics and Gynecology (CREOG) survey was to examine residents’ perspective on wellness, burnout and wellness programming.

Approach/Methods: In January 2017, a voluntary, six-item survey was administered at the time of the CREOG in-training examination for all U.S. OBGYN residents. Responses were not linked to identifying demographic information. The survey was deemed exempt by the IRB of the American College of Obstetricians and Gynecologists (ACOG). Kruskal-Wallis tests were used to examine differences by PGY for Likert scale items. Chi-squared tests were used for categorical outcomes.

Results/Outcomes: Of the 5855 eligible examinees, 4977 completed the survey and were included in the data analysis (85%). There was a high prevalence of wellness issues during residency training (burnout 51.8%, depression 32%, binge drinking 12.5%, eating disorder 4.6%, drug use 1.1%, and suicide attempt 0.4%). PGY-1s were most likely to state that wellness was a priority in their program. Pairwise comparisons using Mann-Whitney U test showed significant differences (vs PGY-2: p&lt;.0001, vs PGY-3, p=.003, vs PGY-4, p=.069) and there were no significant differences between PGY-2, PGY-3 and PGY-4 responses. Non-PGY 1 residents were also more likely to endorse experiences with burn-out, depression, binge drinking and any wellness problem. Most respondents felt that wellness was at least somewhat of a priority in their residency program (priority 36.8%, somewhat a priority 51.6%, not a priority 9.6%, I don’t know 1.9%, no response 3%). Respondents indicated dedicated time for wellness maintenance as the most important intervention to enhance wellness (41.2%) followed by an annual resident retreat (21.2%). The majority (63.9%) reported that wellness days were not available for them, and 32.3% reported that retreats were not available for them. Despite a majority of residents (61%) experiencing some problem with wellness, 76% responded “not applicable” to whether working with a trained counselor would be effective at enhancing wellness.

Discussion: The majority of OBGYN residents suffer some problem related to wellness, and these problems worsen with training. It is noteworthy that we found significant associations between the learning environment and residents’ self-reported wellness and burnout. In regards to interventions, our data suggest that residents want autonomy to tend to their own wellness, and program retreats to attend to these issues as a community.
**Significance:** In order to improve the learning environment in residency education, there needs to be a fundamental change in culture around wellness. The findings from this CREOG survey can guide conversations about deliberate interventions for improving wellness at the individual, program, institutional and national levels for residents from all specialties.