Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Igniting Change
Supporting the Well-Being of Academicians Who Practice and Teach Critical Care

Linda Nancy Roney, EdD, RN-BC, CPEN, CNE*, Audrey M. Beauvais, DNP, MSN, MBA, RN, Susan Bartos, PhD, RN, CCRN

INTRODUCTION

Nurses are the leaders of patient care, advocacy, education, and advancing the science of caring. Environmental factors such as psychosocial characteristics and interpersonal relationships influence nurses’ well-being.1 The environment also contributes to levels of nursing burnout and job satisfaction.2 Nurses teaching in baccalaureate programs with critical care faculty or classes in academic institutions may reap the benefits of holistic education and wellness programs and transmit these benefits to emerging practitioners. Optimal outcomes are achieved in the critical care environment when the patient characteristics and nurse competencies are in synergy.3 The synergy model (Fig. 1) is the conceptual framework that drives critical care nursing practice. Spanning the continuum of health, 8 patient characteristics and 8 dimensions of nursing comprise the model (Table 1) and can be applied to nursing education. Matching the nurses’ competencies with overall patient needs promotes
favorable outcomes and supports nurse well-being. This article proposes the application of the synergy model to improve the well-being of academicians who practice and teach critical care. When the student, the faculty, and the academic system are in synergy, learning outcomes improve for both graduate and undergraduate students.

During the outbreak of COVID-19, academic faculty assumed multiple roles as clinicians, academicians, student advisors, researchers, and stewards to the profession of nursing. Because of the diverse clinical roles and responsibilities of academic faculty, varying levels of moral distress were observed. Some faculty were practicing on the front line of the critical care unit and providing direct patient care, whereas other faculty were providing mental health or women’s health services. All faculty continued to teach in alternative and adaptive formats and act as a positive representation of nursing to students who will be the post-COVID generation of health care providers.

Application of the synergy model helped to identify areas of impending and active moral distress in practicing critical care academicians. Subsequently, students in both the graduate and undergraduate curriculums faced similar situations. The

---

**Fig. 1.** The synergy model. *(From: Curley MAQ. Patient-nurse synergy: optimizing patients’ outcomes. Figure 2. Am J Crit Care. 1998;7:64-72. ©1998 by the American Association of Critical-Care Nurses. All rights reserved. Used with permission.)*
importance of a structured wellness initiative emerged to provide support for frontline practitioners in an academic environment. Therefore, this article highlights the use of a structured wellness program designed for those teaching, practicing, and advising colleagues or students in the critical care environment. Strategies for implementing an initiative to benefit academic faculty are shared.

Case Study: Part 1

Robin is a medical intensive care unit (ICU) nurse and an adjunct professor in a school of nursing. She maintains professional certifications and is active in nursing, interprofessional, and educational organizations. Her clinical practice enhances the academic classroom by keeping her material timely, relevant, and evidence based.

During the COVID-19 pandemic, Robin’s practice unit quickly transitioned to a designated COVID unit. She found herself putting in extra hours in the ICU while maintaining her academic position and obligations. After a long, 12-hour shift, Robin returns to her home and attends to student emails, lesson planning, and grading. That night, she tosses and turns as the sounds of ventilators reverberate in her ears. She awakens the next morning, returning to her university email before donning her scrubs for another shift in the ICU.

ESTABLISHING THE FOCUS ON THE WELL-BEING OF CRITICAL CARE NURSES

Setting the Standards for Critical Care Nurses

For more than 20 years, the American Association of Critical Care Nurses (AACN) has been committed to creating healthy work environments that support excellence in nursing practice. The “AACN Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence” were created in response to a large body of evidence that associated unhealthy work environments with medical errors, ineffective delivery of care, and conflict and stress among health care professionals. These standards include skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership.

Now, more than ever, with the COVID-19 pandemic, these standards are central to the well-being of critical care nurses and those nurses without critical care nursing backgrounds who are charged with caring for patients.

Staffing is a complex process that matches nurses’ competencies with the needs of patients, and there is a significant discrepancy at this time. Nurses from all areas of the hospital, often without a background in critical care, are being asked to join
interprofessional teams caring for the sickest of patients with COVID-19 with protocols and patient care guidelines that are changing, sometimes multiple times, during a single shift. The stress that this creates for these nurses, who may not have had the desire to ever work in critical care, is significant and can only be matched by the stress of the experienced critical care nurses. Together, this hybrid team of nurses educate each other, minute by minute, on how to take care of the sickest patients in the hospital. With specialty units such as surgical intensive care units and postanesthesia care units converted into COVID-19 medical intensive care units, in addition to staffing, the 5 other standards for establishing and sustaining healthy work environments serve as pillars of support for the well-being of critical care nurses. Positive experiences with skilled communication, true collaboration, effective decision making, meaningful recognition, and authentic leadership contribute to the support that all nurses feel in these settings and to the excellent nursing care that patients are receiving.

To collect baseline data about critical care work environments after the publication of the standards, Ulrich and colleagues conducted an online survey. By this point, more than 50% of respondents were aware of the AACN standards for a healthy work environment. Of particular note, the data from participants showed alarmingly high rates of verbal abuse, discrimination, sexual harassment, and physical abuse by patients, patient family members, physician colleagues, and other health care personnel, as well as administrators, directed toward the individual critical care nurses. Two years later, in a follow-up report, it was noted that there were some improvements with abuse experiences. Ulrich and colleagues completed another survey with samples that were similar in size and representation to past surveys, and the most significant decrease was for the item “RNs are valued and committed partners in making policy, directing and evaluating clinical care, and leading organizational operations” (p 67). Participants also reported feeling less recognized for the value they brought to their organizations, highlighting the need to create healthy work environments and to support the well-being of critical care nurses. In the most recent survey, Ulrich and colleagues found some improvement from the 2013 report; however, most participants reported problems with appropriate staffing, with 6017 participants reporting an alarming number of 198,340 incidents involving threats to their physical and mental well-being. More than half of the participants reported their intent to leave their current position within the year, making it imperative to address the health of the work environment for critical care nurses.

The follow-up data reported the status of the health of work environments before the COVID-19 pandemic. A significant body of evidence supports the relationship between the health of the work environment and patient outcomes and the need to prioritize the improvement of critical care nurses’ work environments. Psychological stress, especially vicarious traumatization to nurses caused by the COVID-19 pandemic, should not be ignored. Evidence continues to emerge as strategies to reduce the mental stress of nurses caring for patients with COVID-19. This topic will continue to be a significant area of need as the pandemic progresses, and as the recovery and aftermath of this unprecedented time in history begins and continues for years to come. Immediately before the pandemic, it was suggested that a new type of ICU leader is needed to improve the professional well-being of critical care nurses by using an interprofessional team and a systematic approach to provide vision and improve intractable problems within the health care system.

**Countering Workplace Adversity: Is the Answer Resilience?**

Workplace adversity can take many forms and harms nursing. Over time, it has been debated whether critical care nurses must develop resilience to support their well-
being. Brennan offers that resilience enables critical care nurses to recover, cope with stress, and deal with significant adversities with the expectation that they will “naturally, physically, and mentally bounce back without deliberation activity or attention to the stressor. Resilience, in this sense, is a ‘springing-back’ process that is meant to leave strong, happy, fulfilled critical care nurses” (p. 281). Nevertheless, well-being and decreased occupational stress have been positively linked to staff resilience initiatives. Jackson and colleagues explored the grounded theory of managing exposure to better understand nurse burnout and resilience in response to workplace adversity in critical care settings. Burnout and resilience are not separate processes but indicators of nurses responding to workplace adversity on a continuum, trying to manage workplace adversity with varying degrees of success. This continuum includes thriving, resilience, survival, and burnout. According to this theory, managing is affected by external factors outside of the critical care nurses’ control, such as organizational policies and political climate at the organization.

**Empowerment of Critical Care Nurses**

The concept of empowerment has been explored for intrapersonal and interpersonal challenges that critical care nurses face related to confronting challenges and feeling powerless. The benefits of empowerment are extensive and include decreased levels of distress and strain, increased sense of control over situation, development and growth, and increased comfort and inner satisfaction. Fitzpatrick and colleagues were charged by the AACN to examine the relationship between AACN specialty certification and feelings of empowerment, and to examine these variables related to the participants’ intent to leave their current positions. Those with a specialty AACN certification were less likely than those who did not have a certification to want to leave their current position and were more likely to feel more empowered. Concepts central to empowerment in critical care include a mutually supportive relationship, knowledge, skills, power within oneself, and self-determination. Studies support that critical care nurses who have greater access to empowerment structures perceive their work environment as being healthier, and both empowerment and work environment are strong predictors of job satisfaction.

**CARING FOR THOSE WHO NURTURE THE FUTURE OF NURSING: HISTORY OF FACULTY WELL-BEING**

Historically, teaching in higher education was thought to be gratifying and relatively stress free. Flexible hours, pursuit of scholarly interests, connection with students, and autonomy inherent in higher education were thought to reduce job stress. Over the past 2 decades, higher education has undergone tremendous change that has influenced the well-being of academicians. Faculty face unique demands that may not be apparent to those working outside the role. Job features that once helped to protect faculty from work-related stress are fading quickly.

**Recent Trends in Academia**

Several trends in higher education potentially influence the well-being of academicians. The first trend is the reduction in funding and resources. University expenses continue to increase, which results in a decrease in the operating budget and a decrease in available resources for faculty. Faculty are being asked to do more with less. Some faculty lines might not be replaced, which may result in increased teaching workloads, increased number of students to advise, and increased committee work. Within the context of the current pandemic, faculty were tasked to immediately
transition all of their content to online platforms when universities across the country were abruptly closed because of social distancing recommendations.\textsuperscript{22} At the time that this article is being written, there is significant uncertainty about how the fall 2020 semester will proceed on campuses across the country. Colleges across the United States have already suffered significant financial losses from the first 2 months of the COVID-19 pandemic. Future concerns, even if campuses are able to reopen in the fall, include decreased enrollment of new students, including international students, as well as fears that current students may not be able to return because of the economic downturn.\textsuperscript{23} Some universities have already furloughed employees,\textsuperscript{24} and others are already facing grave concerns of permanent closure.\textsuperscript{25}

The second trend involves the changing nature of academic appointments. New faculty often do not have training or preparation in the educator role.\textsuperscript{26} New nursing faculty possess the needed clinical expertise but often feel unprepared for the responsibilities of teaching, advising, research, and service. Tenure-track faculty have the added stressful task of navigating the process of tenure and promotion. Tenure-track faculty often cite that they receive little support for creating research agendas and educational skills, an absence of collaboration, and insecurities regarding tenure.\textsuperscript{27} If tenure is not granted, typically the faculty member has 1 remaining year in the institution and then must find employment elsewhere. If tenure is achieved, the faculty is expected to continue their growth by showing a record of sustained teaching effectiveness; a record of sustained scholarly accomplishments that have been subjected to peer review; and evidence of leadership in service to the academic community, a learned society, or professional service to other organizations. As a result, many faculty impose excessively high self-expectations that can influence faculty well-being and work-life balance. Over the years, there has been an increase in part-time and non–tenure-track appointments.\textsuperscript{21} Faculty in these appointments often have a higher teaching course load, decreased autonomy, decreased job security, and fewer opportunities for advancement.\textsuperscript{28}

A third trend potentially influencing the well-being of academicians involves changes in undergraduate education. Institutions are developing programs such as service learning and living-learning communities to assist the growth and development of students. These programs require faculty to teach beyond their fields of expertise and assist students to develop their civic responsibility and develop personal as well as interpersonal skills.\textsuperscript{21} Such initiatives require that faculty take on additional responsibilities, collaborate more, and engage in additional activities that may not be rewarded. Another change in education is the increase in technology in the classroom and growth in distance education.\textsuperscript{29} This change necessitates that faculty learn new pedagogies, teaching strategies, and learning platforms. Faculty report feeling online teaching is more labor intensive for course development and for instruction time.\textsuperscript{30–32} Faculty also report that they have obtained insufficient training and technological support.\textsuperscript{33}

Another trend in higher education that influences faculty well-being is the changing student population. Overall, general university enrollments are decreasing, which has led universities to commit to student diversity and inclusion of first-generation, low-income, nontraditional, and minority students.\textsuperscript{34,35} The changing student body places additional demands and pressures on faculty as they figure out how to address student needs. Despite general university enrollments being down, enrollment in traditional nursing programs tend to be increasing. Not only have the numbers of students changed but also the mental health of students has changed over the years. Many students experience mental health issues such as depression, anxiety, and substance abuse.\textsuperscript{36} Nursing students are not immune to this trend. Nursing students have
a tendency to be more anxious and depressed than the general college population as they adjust to their chosen profession and the rigor of their studies.\textsuperscript{37} These mental health issues can significantly affect students’ academic performance. To address this concern, faculty are expected to identify students at risk and refer students who may be in distress. These personal interactions with students can be emotionally draining for faculty who often feel unprepared to deal with mental health issues.

These trends show that higher education no longer offers the stress-free environment it once did. These trends can lead to faculty experiencing decrease in quality of life, feeling overloaded and emotional exhaustion, which can ultimately influence the well-being of academicians.

**ACADEMICIANS WHO WORK IN THE CRITICAL CARE SETTING**

Working as a nursing faculty member and maintaining a clinical practice leads to unique challenges and stressors that can threaten well-being. Nurses with dual roles face the challenges noted earlier and more. Working in 2 different roles places extra demands on the nurses’ time, making it difficult to maintain a work-life balance. Nursing faculty maintaining a clinical practice have to cope with 2 different job expectations, multiple competency expectations, and heavy workloads. Hence, nursing faculty working in critical care need to be mindful of how to implement and practice wellness strategies. In addition, they have an obligation to teach the next generation of nurses how to properly care for themselves and their patients holistically.

**ACADEMICIANS WHO PRACTICE AND TEACH CRITICAL CARE**

Ideally, health care agencies and higher education organizations should take a systems approach to professional well-being.\textsuperscript{38} The National Academy has recommended 6 strategies to promote well-being: create positive work environments, create positive learning environments, reduce administrative burden, enable technology solutions, provide support to clinicians and learners, and invest in research. Although nursing faculty who maintain clinical practices may have some influence on these system-wide approaches in their organizations, the focus here is on strategies potentially within each individual’s control (Fig. 2).

**Creating the Environment**

Critical care nurses working in the academic environment can implement several strategies to promote well-being. For example, they can develop a wellness committee in their departments or schools within the university. At our university’s school of nursing and health studies programs, we formed a wellness committee called the Holistic Health Initiative (HHI) with the purpose to provide wellness services to faculty, staff, and students. This initiative assists in threading holistic healing throughout nursing curriculum, including courses with advanced and complex concepts, such as critical care. For example, concepts such as mindfulness, resilience, and reflection are integrated into most of the courses in the nursing major, which helps to ensure that our students are practicing wellness skills so they can competently use them when they join the nursing profession. Another added benefit to integrating holistic healing concepts in the nursing curriculum is that nursing faculty have to be well versed in the concepts in order to teach them to their students.

The HHI has not only revised the curriculum but the committee has organized extracurricular events to promote wellness in faculty, staff, and students. For example, one of our nursing students was trained as a laughter yoga instructor and led a session for students and faculty that was very successful at reducing our stress. The HHI was
important to establish at an institution with critical care courses and faculty with critical care backgrounds because nurses practicing in the intensive care unit environment tend to have higher levels of moral distress. The HHI convened and served as a resource for faculty throughout the course of the COVID-19 pandemic. Graduates, current students, and critical care faculty within the school of nursing openly shared anecdotal frontline stories pulling the pandemic closer to the individual level.

In addition to establishing a wellness committee, there are other ways to promote well-being in the academic environment. For example, nursing faculty should be encouraged to take advantage of professional development opportunities. In order for faculty and clinicians to flourish, they need to become experts at what they do most frequently. Another wellness recommendation is to seek out trustworthy sources of support. Find mentors who can support you through challenges and opportunities. Developing a personalized wellness plan with a mentor that includes daily meditation and journaling can help decrease stress and burnout. Gratitude journals have the potential to regulate emotion, promote empathy, and provide social reward.

See whether your department can hold retreats. Retreats need not be expensive endeavors and can focus on wellness. For example, at our school, during the COVID-19...
pandemic, when critical care nursing faculty were required to convert their face-to-face classes to online formats and stresses were increased, our school planned a much-needed virtual wellness retreat at the end of the semester that include developing self-care intentions, Zumba, charades, and guided imagery. Nurses should seek feedback on their work performance. Many nursing faculty are driven by their desire to excel at their jobs. Thoughtful critique can help inspire nursing faculty and promote their commitment to their role. Nurses should find a trustworthy and reliable colleague to provide them with a thoughtful critic of their work to help inspire them to do better, support them in the work that they do, and leave them feeling committed to their profession and organization.

Physical health (sleep, exercise, nutrition) is essential to well-being. Healthy sleep habits include keeping a consistent schedule, establishing a relaxing nighttime routine, avoiding drinking caffeine or alcohol before bed, limiting daytime napping, and keeping bedrooms cool. Regular exercise has many health benefits, including enhanced mood and resilience. In addition to establishing a regular exercise routine, consider ways to increase activity, such as taking the stairs instead of the elevator. A well-balanced diet can also contribute to well-being and health.

Special consideration has been given by the National Academy of Medicine for clinician wellness strategies during the COVID-19 pandemic. Respecting differences of others in response to the current outbreak is essential; some people find comfort in speaking with others about their experiences, whereas others prefer time alone. Clinicians should self-monitor their well-being for symptoms of stress or depression and seek professional help with any occurrences of symptoms. It is also important for clinicians to recognize themselves and the work of their colleagues during these unprecedented times.

Connecting socially can promote well-being. This connection can take many different forms. Getting together with friends and coworkers outside of work for meals or team-building activities can help build relationships and increase a sense of teamwork when back at work. Starting a book club or another special-interest group can be a useful outlet. Taking time to develop interests and hobbies outside of teaching and clinical practice is vital. Activities such as speaking with colleagues and having hobbies are associated with critical care staff having less posttraumatic work stress and burnout; venting emotion and consuming alcohol are associated with doubling in risk of reporting burnout.

Restoring synergy for both critical care academic clinicians and emerging practitioners in the collegiate environment was a goal of the HHI. Using evidence-based wellness interventions integrated into the student curriculum, the HHI implemented a variety of wellness resources. Support from the institution, along with dually beneficial programming, added to an application of the synergy model to bring together the systematic environment of the collegiate institution, critical care clinicians, and emerging critical care nurses. To be clear, this is not a modification of the synergy model but an application of this theoretic framework to help those who teach and practice critical care. Smaller changes in the academic setting, including music in the office and aromatherapy from diffusers in common areas, can positively affect the mood at work.

Case Study: Part 2

Robin takes advantage of the university’s HHI and shares her experiences with fellow faculty. Participating in activities to restore her mentally, physically, and spiritually and bring wellness into her life aid in supporting her through difficult times but also provide her with the personal tools for all times. Robin reconnects with faculty colleagues on
virtual yoga sessions and uses humor to alleviate her stress. Although these programs are offered by her hospital, Robin finds it especially comforting to connect to those who are also guiding the new generation of practitioners, sharing strategies on how to manage workloads. Finding solace in solidarity, restoration in purpose in both nursing and education, and approaching her well-being holistically helps pave the paths Robin has chosen to travel.

SUMMARY

Critical care nursing is subjected to especially high turnover rates, with some figures as high as 35%. Ensuring the environment of those teaching, learning, and practicing within the critical care environment is imperative to individuals’ overall holistic well-being. With most time spent in the dually dynamic and complex systems of the intensive care and academic environments, it is recommended to implement initiatives, such as the HHI, to mitigate stress, release tension, and promote individual reflections on purpose.

Developing a wellness program to promote the synergistic effect of a healthy work environment for both critical care academicians and students has numerous implications and benefits, such as longevity in the career path, happiness and joy in the workplace, and a sense of fulfillment. Mitigating symptoms of stress and anxiety starts at the hedonic level through programs such as the HHI. Wellness programs are not designed to eliminate sources of stress and burnout. However, they acknowledge and validate individuals’ need to self-explore, thereby allowing critical care academicians and students to embrace a true sense of nursing purpose and deliver optimal patient outcomes.

DISCLOSURE

The authors have nothing to disclose.

REFERENCES

1. Ulrich B, Barden C, Cassidy L, et al. Critical care nurse work environments 2018: findings and implications. Crit Care Nurse 2019;39(2):67–84.
2. Copanitsanou P, Fotos N, Brokalaki H. Effects of work environment on patient and nurse outcomes. Br J Nurs 2017;26(3):172–6.
3. Curley M. Patient-nurse synergy: optimizing patients outcomes. Am J Crit Care 1998;7(1):64–72.
4. American Association of Critical Care Nurses. Standards: AACN synergy model for patient care. AACN.Org. 2020. Available at: https://www.aacn.org/nursing-excellence/aacn-standards/synergy-model. Accessed April 28, 2020.
5. American Association of Critical Care Nurses. A journey to excellence, 2nd edition - AACN. Available at: https://www.aacn.org/WD/HWE/Docs/HWESTandards.pdf. Accessed April 29, 2020.
6. American Association of Critical-Care Nurses. AACN standards for establishing and sustaining healthy work environments: a journey to excellence. Am J Crit Care 2005;14(3):187–97.
7. Ulrich BT, Lavandero R, Hart KA, et al. Critical care nurses’ work environments: a baseline status report. Crit Care Nurse 2006;26(5):46–50, 52-55.
8. Ulrich BT, Lavandero R, Hart KA, et al. Critical care nurses’ work environments 2008: a follow-up report. Crit Care Nurse 2009;29(2):93–102.
9. Ulrich BT, Lavandero R, Woods D, et al. Critical care nurse work environments 2013: a status report. Crit Care Nurse 2014;34(4):64–79.

10. Li Z, Ge J, Yang M, et al. Vicarious traumatization in the general public, members, and non-members of medical teams aiding in COVID-19 control [published online ahead of print, 2020 Mar 10]. Brain Behav Immun 2020. https://doi.org/10.1016/j.bbi.2020.03.007.

11. Huang L, Lin G, Tang L, et al. Special attention to nurses’ protection during the COVID-19 epidemic. Crit Care 2020;24(1):120.

12. Hope AA, Munro CL. Leading systems toward improving professional well-being. Am J Crit Care 2020;29(2):84–6.

13. Jackson J, Vandall-Walker V, Vanderspank-Wright B, et al. Burnout and resilience in critical care nurses: a grounded theory of Managing Exposure. Intensive Crit Care Nurs 2018;48:28–35.

14. Brennan EJ. Towards resilience and wellbeing in nurses. Br J Nurs 2017;26(1):43–7.

15. Babanataj R, Mazdarani S, Hesamzadeh A, et al. Resilience training: effects on occupational stress and resilience of critical care nurses. Int J Nurs Pract 2019;25(1):e12697.

16. Wåhlin I. Empowerment in critical care - a concept analysis. Scand J Caring Sci 2017;31(1):164–74.

17. Fitzpatrick JJ, Campo TM, Graham G, et al. Certification, empowerment, and Intent to leave current position and the profession among critical care nurses. Am J Crit Care 2010;19(3):218–26.

18. Breau M, Rheauame A. The relationship between empowerment and work environment on job satisfaction, intent to leave, and quality of care among ICU nurses. Dynamics 2014;25(3):16–24.

19. Willie R, Stecklein JE. A three-decade comparison of college faculty characteristics, satisfactions, activities, and attitudes. Res High Educ 1982;16:81–93.

20. Kinman G. Doing more with less? Work and wellbeing in Academics. Somatechnics 2014;4(2):219–35.

21. O’Meara K, Kaufman RR, Kuntz AM. Faculty working in challenging times: trends, consequences & implications. Association of American Colleges & Universities. 2003;89(4). Available at: https://www.aacu.org/publications-research/periodicals/faculty-work-challenging-times-trends-consequences-implications. Accessed April 29, 2020.

22. Anderson N. College students want answers about fall, but schools may not have them for months. Education. 2020. Available at: https://www.washingtonpost.com/local/education/will-colleges-reopen-in-the-fall-coronavirus-crisis-offers-only-hazy-scenarios/2020/04/22/a124edae-83d3-11ea-ae26-989cfe1c7c7_story.html. Accessed April 28, 2020.

23. Binkley C, Amy J. Financial hits pile up for colleges during pandemic as some fight to survive. Pittsburgh Post-Gazette. 2020. Available at: https://www.postgazette.com/news/education/2020/04/07/Financial-hits-university-college-lose-money-fight-to-survive-pandemic-COVID-19/stories/202004070070. Accessed April 28, 2020.

24. Kelderman E. Major cost-cutting begins in response to covid-19, with faculty and staff furloughs and pay cuts. The chronicle of higher education 2020. Available at: https://www.chronicle.com/article/major-cost-cutting-begins-in/248558. Accessed April 30, 2020.

25. Rathke L. Virus and Vermont: colleges board weighs closing 3 campuses. U.S. News & world report. Available at: https://www.usnews.com/news/best-states/
vermont/articles/2020-04-20/virus-and-vermont-college-board-weighs-closing-3-campuses. Accessed April 30, 2020.

26. Owens J, Kottwitz C, Tiedt J, et al. Strategies to attain faculty work-life balance. Available at: https://library.osu.edu/ojs/index.php/BHAC/article/viewFile/6544/5113. Accessed April 30, 2020.

27. Eagan MK, Stolzenber EB, Lorzano J, et al. Undergraduate teaching faculty: the HERI faculty survey. Available at: https://www.heri.ucla.edu/monographs/HERI-FAC2017-monograph.pdf. Accessed April 30, 2020.

28. Ott M, Cisneros J. Understanding the changing faculty workforce in higher education: a comparison of non-tenure track and tenure line experiences. Educ Policy Anal Arch 2015;23(90):90.

29. Allen IE, Seamen J. Grade change: tracking online education in the United States. Available at: https://www.onlinelearningsurvey.com/reports/gradechange.pdf. Published 2014. Accessed April 28, 2020.

30. Allen IE, Seamen J. Learning on demand: online education in the United States 2009. Available at: https://files.eric.ed.gov/fulltext/ED529931.pdf. Accessed April 28, 2020.

31. Chiasson K, Terras K, Smart K. Faculty perceptions of moving a face-to-face course to online instruction. Journal of College Teaching & Learning (TLC) 2015;12(4):231–40.

32. Merillat L, Scheibmeir M. Developing a quality improvement process to optimize faculty success. Online Learning 2016;20(3):159–72. Available at: https://doi.org/10.24059/olj.v20i3.977. Accessed April 13, 2020.

33. Seirup HJ, Tirotta R, Blue E. Online education: panacea or plateau. Journal for Leadership and Instruction 2016;15(1):5–8. Available at: https://files.eric.ed.gov/fulltext/EJ1097549.pdf.

34. Bransberger P, Michelau DK. Knocking on the college door: projections of high school graduates. Boulder (CO): Western Interstate Commission for Higher Education; 2016. Available at: https://knocking.wiche.edu/reports/privates.

35. Hainline L, Gaines M, Long Feather C, et al. Changing students, faculty and institutions in the twenty-first century. Peer Rev 2010;12(3):7–15. Available at: https://aacu.org/publications-research/periodicals/changing-students-faculty-and-institutions-twenty-first-century.

36. Roy N. The rise of mental health on college campuses: protecting the emotional health of our nation’s college students. Higher Education Today 2018. Available at: https://www.higheredtoday.org/2018/12/17/rise-mental-health-college-campuses-protecting-emotional-health-nations-college-students/’. Accessed April 14, 2020.

37. Rathnayake S, Ekanayaka J. Depression, anxiety and stress among undergraduate nursing students in a public university in Sri Lanka. Int J Caring Sci 2016;9(3):1020–32.

38. National Academy of Medicine. Taking action against clinician burnout: a systems approach to professional well-being 2019. Available at: https://www.nap.edu/catalog/25521/taking-action-against-clinician-burnout-a-systems-approach-to-professional.

39. McAndrew NS, Leske J, Schroeter K. Moral distress in critical care nursing: the state of the science. Nurs Ethics 2018;25(5):552–70.

40. Chung AS, Felber R, Han E, et al. A targeted mindfulness curriculum for medical students during their emergency medicine clerkship experience. West J Emerg Med 2018;19(4):762–6.
41. Centers for Disease Control. Are you getting enough sleep? Centers for disease control and prevention. 2020. Available at: https://www.cdc.gov/sleep/features/getting-enough-sleep.html. Accessed April 30, 2020.

42. Cotman CW, Berchtold NC, Christie LA. Exercise builds brain health: key roles of growth factor cascades and inflammation [published correction appears in Trends Neurosci. 2007 Oct;30(10):489]. Trends Neurosci 2007;30(9):464–72.

43. National Academy of Medicine. The National Academies are responding to the COVID-19 pandemic. 2020. Available at: https://nam.edu/initiatives/clinician-resilience-and-well-being/clinician-well-being-strategies-during-covid-19/. Accessed April 30, 2020.

44. Colville GA, Smith JG, Brierley J, et al. Coping with staff burnout and work-related posttraumatic stress in intensive care. Pediatr Crit Care Med 2017; 18(7):e267–73.