

PROMOTION RECOMMENDATION
The University of Michigan
School of Nursing

Deena K. Costa, assistant professor of nursing, School of Nursing, is recommended for promotion to associate professor of nursing, with tenure, School of Nursing.

Academic Degrees:

PhD	2012	University of Pennsylvania, Philadelphia, PA
MS	2011	University of Pennsylvania, Philadelphia, PA
BS	2005	Binghamton University, Binghamton, NY
BA	2004	Boston University, Boston, MA

Professional Record:

2018 – Present	Co-Director, National Clinician Scholars Program, University of Michigan Institute for Healthcare Policy & Innovation, Ann Arbor, MI
2017 – Present	Senior Fellow, Center for Health Outcomes and Policy Research, University of Pennsylvania School of Nursing, Philadelphia, PA
2014 – Present	Assistant Professor, University of Michigan School of Nursing, Ann Arbor, MI
2012 – 2014	Adjunct Faculty, University of Pittsburgh School of Nursing, Pittsburgh, PA
2012 – 2014	Post-doctoral Fellow, University of Pittsburgh School of Medicine, Pittsburgh, PA
2010 – 2012	Registered Nurse, Critical Care Department, Pennsylvania Hospital, Philadelphia PA
2009 – 2012	Pre-doctoral Fellow, Center for Health Outcomes and Policy Research, University of Pennsylvania School of Nursing, Pennsylvania, PA
2006 – 2009	Registered Nurse, Surgical Intensive Care Unit, Beth Israel Deaconess Medical Center, Boston, MA
2005 – 2006	Registered Nurse, Acute Care/Neurology, Beth Israel Deaconess Medical Center, Boston, MA

Summary of Evaluation:

Teaching: Professor Costa teaches primarily in the Master's in leadership, analytics and innovation and the Doctor of Nursing Practice programs. Her prior clinical experience as a critical care nurse and her health services research training provide a firm foundation and real-world understanding of the needs and challenges nurse leaders face in the current healthcare environment. Professor Costa has taught two courses – N781, 'Leadership Immersion for Impact,' a clinical course for Master's students in leadership, and N527, 'Promoting Optimal Models of Healthcare Delivery Systems,' a large core course for master's and BSN-to-DNP students (N=100 students) as faculty of record, and she led an honor's project - N495, "Independent Study." Generally, she has received strong teaching evaluations, with a mean score of 3.7 (modal 4.2, range 3.2-4.7). It is worth noting that she scores highly (4.0-5.0) for the indicator of course instructor, demonstrating that students respond positively to her teaching

style. Student evaluation scores for N781 and N495, each taught one time, are at a 5.0 level. Across the four times Professor Costa taught N527, students rated her as an excellent teacher (4.64 –5.0), noting that she explained material clearly (4.3 –5.0) and was prepared for class meetings (4.5 –5.0). Student comments and peer evaluations are highly complementary of Professor Costa's teaching. She has conducted 10 guest lectures in the School of Nursing's undergraduate, PhD and Doctor of Nursing Practice (DNP) programs, and post-doctoral programs on campus, which speak to her teaching across all levels. Peers have also evaluated Professor Costa's teaching and noted that across all domains she demonstrated great skill in instruction with only minor suggestions for improvement. She also engaged in teaching as part of the School of Nursing Teaching Academy in Fall 2018 to prepare junior faculty for effective teaching.

In addition to classroom teaching, Professor Costa has made significant gains in mentoring, attesting to her commitment to the growth and development of students at all levels. She has mentored four undergraduate Honors students, four Master's students, three DNP students, served as the chair of one PhD student, and provided post-doctoral supervision for several National Clinician Scholars Program (NCSP) fellows and one Pulmonary and Critical Care Medicine (PCCM) fellow. She mentored a PhD student and one NSCP fellow to completion. Additional teaching activities for Professor Costa include serving on sub-committees to 1) plan a curriculum evaluation of Department of Systems, Populations and Leadership's Master's Program (May 2016); 2) pilot test a curriculum evaluation for graduate programs (2017); 3) participate in a revised process for N781 clinical placements (2015); and 4) revise the core courses (N527, N528 and N529) in 2018 and 2019.

Research: Professor Costa leads a federally funded program of research that investigates the complex environment of intensive care unit (ICU) team performance and downstream impacts on care delivery and patient outcomes. Her research program is clearly defined, emphasizing organization and management of critical care ICU teams, inter-professional teamwork, quality improvement and implementation science in ICUs. She has secured funding for this research from competitive and diverse sources, including the Agency for Healthcare Research and Quality (AHRQ) and a peer-reviewed internal mechanism. She has also received National Institutes of Health (NIH) loan repayment funds.

Professor Costa's primary course of funding has been through her K08 from AHRQ to examine ICU teams and high-quality mechanical ventilation care using qualitative methods and analysis. She identifies six pending grants, and she is the principal investigator (PI) on one of these. Her topic is of stated importance to National Heart, Lung, and Blood Institute (NHLBI), AHRQ, Patient-Centered Outcomes Research Institute (PCORI), and other funders.

Professor Costa has a notable scholarly record for a junior scientist, with 22 peer-reviewed publications (14 first-authored) in competitive journals; six in-press; seven currently under review or in-progress; and one book chapter, focused on a cohesive program of research since 2014. She has a strong record of publications in first-rate journals in her area of ICU interdisciplinary teams, such as the *Journal of the American Medical Association (JAMA)*, the *American Journal of Respiratory and Critical Care Medicine*, and *PLOS One*. She has an *h*-Index of 14 with 775 citations (Google Scholar).

There is strong evidence of an upward trajectory in her productivity, and her mentoring of post-doctoral fellows and other students is affording her opportunities to become senior-author on publications. She routinely embeds her students' scholarly activities into her research program. Professor Costa's 2015 first-authored, data-based paper in *Critical Care Medicine* was selected for the editor's choice award. She has an outstanding track record of 25 invited lectures and presentations. She also received the Harriet Werley New Investigator Award from the Midwest Nursing Research Society (MNRS) and was inducted as a fellow into the American Academy of Nursing. In recognition of Professor Costa's expertise, the *JAMA* editor extended an invitation to publish a viewpoint (2016). The public impact of Professor Costa's research program is notable. During the current 2020 pandemic, Professor Costa's contributions were cited by bipartisan experts and two news outlets (*National Geographic* and *Alpena News*).

Recent and Significant Publications:

- Costa, D., Liu, H., Boltey, E., Yakusheva, O. (2020). "The structure of critical care nursing teams: A network analysis." *American Journal of Respiratory and Critical Care Medicine*, 2020; 201(4), 483-485.
- Costa, D. (2019). "The team, the team, the team: What critical care research can learn from football teams." *Annals of American Thoracic Society*, 2019; 16(2), 1492-1494.
- Costa, D., Valley, T., Miller, M., Manojlovich, M., Watson, S., McLellan P., Pope, C., Hyzy, R., and Iwashyna, T. (2017). "ICU team composition and its association with ABCDE implementation in a quality collaborative." *Journal of Critical Care*, 2017; 44, 1-6.
- Costa, D., White, M., Ginier E., Manojlovich, M., Govindan, S., Iwashyna, T., and Sales, A. (2017). "Identifying barriers to delivering the ABCDE bundle to minimize adverse outcomes for mechanically ventilated patients: A systematic review." *CHEST*, 2017; 152(2),304-311.
- Costa, D., Wallace, D., and Kahn, J. (2015). "The association between intensivist physician staffing and mortality in the context of other ICU organizational practices: A multicenter cohort study." *Critical Care Medicine*, 2015; 43(11), 2275-2282.

Service: Professor Costa has a record of impactful and sustained service at the department, School of Nursing, university, regional, and national levels. She serves in the role of social chair for the Department of Systems, Populations and Leadership, fostering a climate of inclusion. For the School of Nursing, Professor Costa was an elected member of the Committee on Academic Admissions and Scholastic Standing (CAASS), and in 2017, she served on the Diversity, Equity, and Inclusion (DEI) Implementation Committee. Notable university-level service included Professor Costa's inaugural membership on the Institute for Healthcare Policy and Innovation's Early Career Faculty Advisory Council. At the state-level, Professor Costa is an active participant in the Michigan Hospital Association Keystone Center, leading annual survey efforts in intensive care units across the state. Professor Costa advised Governor Whitmer's team on rapid-response efforts needed to surge clinicians to care for patients with COVID-19, which garnered national attention. At the national-level, Professor Costa has served in several leadership capacities with the American Thoracic Society.

External Reviewers:

Reviewer A: “[Professor] Costa has been able to collaborate to rapidly implement research related to COVID-19 that affects direct patient care and clinician safety (high flow oxygen of patients with COVID-19) and rural health care. This latter research demonstrates the integration of her expertise as a critical care nurse and scholar and also reflects recognition by peers.”

Reviewer B: “I find [Professor] Costa’s service on the state – regional level to be particularly notable and impactful. She is becoming a nurse leader with a seat at the table and has done so through meaningful contributions and service.”

Reviewer C: “She has built strong collaborative relationships with nationally known researchers in team science and in critical care, which provide synergy for her independent line of research.”

Reviewer D: “[Professor] Costa’s scholarly activities are outstanding.”

Reviewer E: “Her innovative work has led to foundational steps in assessing team composition with the ultimate goal of delineating ideal composition of ICU teams from a broad-based perspective.”

Summary of Recommendation: Professor Costa is a productive scholar who has made significant contributions to the field of understanding the functioning of complex care environments, with a specific focus on how teams operate within ICU environments. She is an admirable teacher and mentor; and she is a leader who contributes in external and internal service. It is with the support of the School of Nursing Executive Committee that we recommend Deena K. Costa for promotion to associate professor of nursing, with tenure, School of Nursing.



Patricia D. Hurn
Dean and Professor
School of Nursing

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