

PROMOTION RECOMMENDATION  
THE UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF INTERNAL MEDICINE

Thomas S. Valley, M.D., MS., assistant professor of internal medicine, Department of Internal Medicine, Medical School, is recommended for appointment to associate professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.

Academic Degrees:

M.S.	2016	University of Michigan
M.D.	2009	University of Miami
B.A.	2005	Emory University

Professional Record:

2018-present	Assistant Professor of Internal Medicine, University of Michigan
2016-2018	Clinical Lecturer of Internal Medicine, University of Michigan
2012-2013	Assistant Instructor, University of Texas, Southwestern

Summary of Evaluation:

Teaching: Dr. Valley has been actively involved in teaching and mentoring throughout his training and career. He considers teaching central to his research and an important part of his clinical practice. He has extensive experience in teaching undergraduate students, medical students, residents, and fellows in both clinical and laboratory settings. He has led numerous respiratory small groups for M1s and M2s. He supervises and mentors M3s and M4s, residents, and fellows in the Critical Care Medicine Unit, Veterans Affairs Medical Intensive Care Unit, and outpatient clinic at the Veterans Affairs Ann Arbor Healthcare System (VAAAHS). Annually, he serves as a faculty discussant for two to four morning reports for residents and delivers two to three didactic lectures to fellows. He has also been an invited participant in the annual Internal Medicine Resident Research Retreat since 2019. Trainees have continuously praised the quality of his clinical teaching and appreciate the balance of autonomy and supervision he provides. Notably, Dr. Valley has developed his excellent mentorship skills through the Michigan Institute for Clinical and Health Research (MICHR) Mentoring Academy. He has been the primary mentor to five medical students, seven residents, and one fellow. Under his direction, numerous mentees have successfully published their research findings and presented at major international conferences. He actively works to improve grant writing for early-career physician-scientists. He does this institutionally, through the MICHR's K Writing Workshops, and nationally, through American Thoracic Society courses that he developed and instructed. His excellence in teaching and mentorship is evidenced by his numerous institutional accolades, including being named the 2021 University of Michigan Outstanding Undergraduate Research Opportunity Program (UROP) Mentor.

Research: Dr. Valley is a superb physician-scientist focused on critical care health services research. Using a mix of quantitative, survey, and qualitative research methods, Dr. Valley has been focused on the improvement of care delivery in the intensive care unit (ICU). The central

premise of his research has been to recognize that, in order to reduce variation and broadly improve ICU care, there must first be a deep understanding of how routine care is being delivered to critically ill patients within hospitals. As the senior author of a *NEJM* publication (“Racial Bias in Pulse Oximetry,” 2020), his research showed that black patients were three times more likely to have dangerously low oxygen levels missed by pulse oximetry than white patients. As a result of his study, the United Kingdom’s Secretary of State for Health and Social Care ordered an independent review of racial bias in medical devices, and the U.S. Food and Drug Administration is convening a public meeting of the Medical Devices Advisory Committee in 2022 to guide regulatory actions of pulse oximeters.

Additional research, funded by his Agency for Healthcare Research and Quality (AHRQ) R01 grant, showed the need to 1) identify and apply best practices in rural ICU care nationally, and 2) understand why Hispanic patients are over-exposed to high levels of sedation. These significant findings will have longstanding impacts on the field. Dr. Valley has been successful in obtaining funding with several grants from the National Institutes of Health (NIH), the American Lung Association, and Cisco Systems. He has authored 47 peer-reviewed publications in high-impact journals, such as the *New England Journal of Medicine*, *BMJ*, and the *American Journal of Respiratory and Critical Care Medicine*.

#### Recent and Significant Publications:

- Valley TS, Kamdar N, Wiitala WL, Ryan AM, Seelye SM, Waljee AK, Nallamotheu BK, “Continuous quality improvement in statistical code: avoiding errors and improving transparency,” *BMJ Qual Saf* 30(3): 240- 244, 2021. PM33023935/PMC7897229
- Sjoding MW, Dickson RP, Iwashyna TJ, Gay SE, Valley TS, “Racial Bias in Pulse Oximetry Measurement,” *N Engl J Med* 383(25): 2477-2478, 2020. PM33326721/PMC7808260
- Valley TS, Schutz A, Nagle MT, Miles LJ, Lipman K, Ketcham SW, Kent M, Hibbard CE, Harlan EA, Hauschildt K, “Changes to Visitation Policies and Communication Practices in Michigan ICUs during the COVID-19 Pandemic,” *Am J Respir Crit Care Med* 202(6): 883-885, 2020. PM32687720/PMC7491388
- Valley TS, Iwashyna TJ, Cooke CR, Sinha SS, Ryan AM, Yeh RW, Nallamotheu BK, “Intensive care use and mortality among patients with ST elevation myocardial infarction: retrospective cohort study,” *BMJ* 365: 11927, 2019. PM31164326/PMC6547840
- Valley TS, Admon AJ, Zahuranec DB, Garland A, Fagerlin A, Iwashyna TJ, “Estimating ICU Benefit: A Randomized Study of Physicians,” *Crit Care Med* 47(1): 62-68, 2019. PM30303839/PMC6298833

Service: Dr. Valley is actively involved in service at the University of Michigan and beyond. Institutionally, he serves as the director of the Schwartz Rounds for Compassionate Care, a position he has held since 2017. In September 2021, he founded the VAAHS’ first post-intensive care unit (ICU) clinic (Post-ICU Survivor Care, Evaluation, and Support (PISCES) Clinic). He is also the co-lead of the Recruitment and Retention Subcommittee for the Institute for Healthcare Policy and Innovation’s (IHPI) Workforce Diversity in Healthcare Steering Committee. Nationally, Dr. Valley has been a standing member of the Health Effectiveness and Outcomes Research study section for the Agency for Healthcare Research and Quality (AHRQ). He also chairs the Methods Advisory Committee for the Inpatient Evaluation Center and is a member of the Operations Critical Care Committee for the Department of Veterans Affairs. He has served on

numerous prestigious Program Committees for the American Thoracic Society, including the Critical Care Assembly and the Behavioral Sciences and Health Services Research Assembly. Dr. Valley is an editorial board member for the *Annals of the American Thoracic Society* and *Medical Decision Making*. He has provided ad hoc peer-review service for 22 journals.

External Reviewers:

Reviewer A: “His papers and grants are empirical evidence of his good thinking and hard work. I continue to read his papers with interest and work with his collaborators on various trials and cohorts. Feedback about Dr. Valley is uniformly positive. He is widely known as an expert in health sciences research in critical care. My advisees and collaborators also make frequent reference to Dr. Valley’s work, appreciating both his raw output and the methodological rigor of his work. In the area of health services research in the ICU, he is, in my admittedly ad hoc estimation, in the top 10% of his peer group nationally.”

Reviewer B: “Dr. Valley is an internationally recognized thought leader in critical care outcomes research...I am absolutely humbled myself reading of Dr. Valley’s numerous teaching responsibilities and talents. He has a strong record of teaching done at Michigan, but also at international meetings such as the American Thoracic Society where I have been impressed with his talks and presentations over the years. This reflects the respect that others have for his work, his communication skills, and the quality of his teaching.”

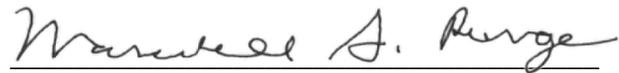
Reviewer C: “His 2020 senior-authored paper in NEJM, which identified racial bias in pulse oximetry, is first-of-its-kind in a topic of national importance, as we confront racial bias in medical tests and algorithms across the medical profession. Several of his other publications have also contributed to shifting the discourse on common clinical practices such as ICU care for myocardial infarction and family visitation in the ICU, as recognized by high citations and policy relevance...Dr. Valley has demonstrated excellence [in] all 3 areas of research/scholarship, service, and teaching/mentoring. The quality and impact of his scholarly work and expertise in ICU care delivery [are] recognized on a national level. Based on Dr. Valley’s accomplishments, I feel that he is in the top 10% of academic pulmonary/critical care physicians at this career stage.”

Reviewer D: “Dr. Valley lists federal funding through the T32, K23, LRP, & R01 mechanisms, as well having received non-profit and institutional funds. He has produced 46 scientific publications, several editorials, and a book chapter...Dr. Valley shows notably high productivity in quality, quantity, and scholarly impact of his work in his six years as a faculty member, placing him in the top quartile of all pulmonary/critical care academic physicians.”

Reviewer E: “Dr. Valley has truly distinguished himself in his work among his peers. He has carved out his area relative to others and has demonstrated success that is on par or above many... Impressively, Dr. Valley has obtained back-to-back RO1s with the first achieved in January of 2021, and the second having just started in May of 2022. He also has a plethora of smaller awards. The two RO1s are for in excess of \$1.25million. This is well ahead of most going to their Associate Professor promotion cycle.”

Summary of Recommendation:

Dr. Valley is an exceptional clinician-scientist who is making broad strides in critical care health services research. He continues to thrive as a highly valued faculty member with strength in teaching, mentorship, and research endeavors. I am pleased to recommend Thomas S. Valley, M.D., MS. for promotion to associate professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.

A handwritten signature in cursive script that reads "Marschall S. Runge". The signature is written in black ink and is positioned above a horizontal line.

Marschall S. Runge, M.D., Ph.D.  
Executive Vice President for Medical Affairs  
Dean, Medical School

May 2023