

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PEDIATRICS AND COMMUNICABLE DISEASES

Sara K. Pasquali, M.D., associate professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School, is recommended for promotion to professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School.

Academic Degrees:

M.H.S.	2011	Duke University
M.D.	2002	Duke University
B.S.	1998	University of Michigan

Professional Record:

2012-present	Associate Professor of Pediatrics and Communicable Diseases, University of Michigan
2011-2012	Associate Professor of Pediatrics, Duke University
2009-2011	Assistant Professor of Pediatrics, Duke University
2008-2009	Medical Instructor, Department of Pediatrics, Duke University

Summary of Evaluation:

Teaching: Dr. Pasquali's most important educational contributions are related to research teaching and mentorship on a local and national level. She has served as a primary research mentor to more than 20 fellows, junior faculty, and other trainees, locally and around the country, conducting projects in the area of pediatric cardiovascular outcomes and health services research. This has led to >25 peer-reviewed manuscripts with mentees as a first author, and several national research awards, including junior investigator awards from the American College of Cardiology and the Society of Thoracic Surgeons. Her mentees have successfully completed for extramural grant funding, including an NHLBI K08 award, and NHLB Pediatric Heart Network Scholars Award. These junior investigators have gone on to further training in academic medicine and several hold faculty positions in pediatric cardiology and cardiac surgery at institutions around the country including two chiefs of congenital heart surgery and one director of an adult congenital heart center. On a local level, leadership activities in this area include serving as the co-director of the Pediatric Cardiology Fellows Research Program. As a part of these efforts, she has led the development and implementation of a formal research curriculum over the past two years. On a national level, she also serves in several leadership roles related to mentorship of junior investigators through both the NIH and several professional societies.

Research: Dr. Pasquali's research focuses on outcomes and quality assessment in congenital heart disease. Congenital heart defects are the most common birth defects, impacting nearly 1 in every 100 live births. Many lesions that were uniformly fatal even a few decades ago can now be successfully treated due to a variety of advances in surgical and medical care. Her research is geared toward understanding and improving outcomes in this population, with an emphasis on understanding variation in outcomes and quality, hospital performance measurement, and quality-cost relationships. This work has helped to define the national landscape and benchmarks for clinical outcomes and costs of care in this population, to delineate the extent of variation in outcomes across hospitals, and to elucidate certain underlying mechanisms. Work in the area of performance measurement has led in part to adoption of new quality metrics in the field (failure-to-rescue) and has helped to shape the way hospital performance data are reported by national professional societies and others. Dr. Pasquali has also developed and implemented novel data integration methods in the field, which have allowed us to answer questions otherwise not possible with individual datasets alone, and to conduct research more efficiently. In total, she has published more than 90 peer reviewed-manuscripts, and is an elected member of the Society for Pediatric Research. She has given more than 60 invited national and international presentations, including several visiting professorships around the country. She also recently received the John A. Hawkins Award from the Congenital Heart Surgeons Society and Richard E. Clark Award from the Society of Thoracic Surgeons. Her research is supported by past and current federal and foundation funding, including current NHLBI R01 and U awards.

Recent and Significant Publications:

Pasquali SK, He X, Jacobs JP, Jacobs ML, O'Brien SM, Gaynor JW: Evaluation of failure to rescue as a quality metric in pediatric heart surgery. *Ann Thorac Surg* 94:573-579, 2012.

Pasquali SK, He X, Jacobs ML, Hall M, Gaynor JW, Shah SS, Peterson ED, Hill KD, Li JS, Jacobs JP: Hospital variation in post-operative infection and outcome following congenital heart surgery. *Ann Thorac Surg* 96:657-663, 2013.

Mascio CE, Austin EH, Jacobs JP, Jacobs ML, Wallace AS, He X, Pasquali SK: Mechanical circulatory support in children undergoing heart surgery: An analysis of the Society of Thoracic Surgeons Congenital Heart Surgery Database. *J Thorac Cardiovasc Surg* 147:658-664, 2014.

Pasquali SK, Jacobs ML, He X, Shah SS, Peterson ED, Hall M, Gaynor JW, Hill KD, Mayer JE, Jacobs JP, Li JS: Variation in congenital heart surgery costs across hospitals. *Pediatrics* 133:e553-560, 2014.

Pasquali SK, He X, Jacobs JP, Jacobs ML, Gaies MG, Shah SS, Hall M, Gaynor JW, Peterson ED, Mayer JE, Hirsch-Romano JC: Measuring hospital performance in congenital heart surgery: A comparison of administrative and clinical registry data. *Ann Thorac Surg* 99:932-938, 2015.

Service: Dr. Pasquali's primary service activities are geared toward supporting research efforts in the field both locally and nationally. She has served as the co-director of the Michigan Congenital Heart Outcomes Research and Discovery (M-CHORD) Program since 2012. This is a multi-disciplinary program that supports research throughout the UM Congenital Heart Center.

Over the past year, this group has supported 109 peer-reviewed publications, and has 65 active projects including 36 with external funding. Affiliated faculty have recently received three major NIH awards, including an NHLBI R01, K08, and SBIR grant. On a national level, she serves as the director of the Data Coordinating Center for the Pediatric Cardiac Critical Care Consortium. This consortium, based at UM, includes 20 pediatric cardiac intensive care units around the country who aim to understand mechanisms underlying differences in hospital performance, in order to identify and disseminate best practices through a collaborative quality improvement model. Dr. Pasquali also led the Health Services and Outcomes Collaboratory within the NHLBI-funded Pediatric Heart Network, which facilitates outcomes research throughout the network, and has developed mechanisms to better integrate and utilize existing and new data sources to more efficiently power clinical research. Other service activities on a national level include grant review activities for both federally funded and foundation grants, serving on the editorial board for two journals, advisory board activities for two national patient/parent advocacy groups, and several other committees related to research and national database activities. Finally, from a mentorship and teaching standpoint, she serves as the co-director of the UM Pediatric Cardiology Fellows Research Program. On a national level, she also serves in several leadership roles related to mentorship of junior investigators through both the NIH and several professional societies. These leadership positions have allowed her the opportunity to impact novel research and efforts to improve care and outcomes on a broader level.

External Reviewers:

Reviewer A: “The fields of Pediatric Cardiology and Cardiac Surgery are handicapped by the fact that we deal in relatively rare diseases. Therefore, to move the field forward, it is of critical importance that multicenter databases be developed, and that methods to link and harmonize such databases be explored. Dr. Pasquali is the preeminent leader in this area nationally.... Dr. Pasquali is at the very leading edge of clinical investigators using large datasets, and harmonizing data across datasets, to assess clinical care and patient outcomes in the fields of Pediatric Cardiology and Cardiac Surgery. Her accomplishments have been remarkable, and I fully expect Dr. Pasquali’s work to continue to have a profound impact in the future. Michigan has a star on its hands.”

Reviewer B: “One of her most important service contributions has been related to training the next generation of physicians in congenital cardiology, having served as a research mentor to numerous trainees and junior investigators across the US. Dr. Pasquali’s mentees are frequent presenters at scientific meetings and many have substantially taken on leadership positions themselves.”

Reviewer C: “Her work with the Society of Thoracic Surgeons has led to a better understanding in the variation in congenital heart surgery quality across hospitals and has led to assessments of the underlying mechanisms leading to that variation. She has been quite forward thinking in the discussions of the need for creating an integrated data platform to study outcomes of quality in congenital heart disease, and has been active in collaborative quality improvement at the national level. In comparison to her peers, Dr. Pasquali is considered an expert in the field and one of the leading contributors.”

Reviewer D: "...she is considered to be in the absolute top tier of pediatric cardiologists of her generation, and I have no doubt that she will continue to go from strength to strength.... Dr. Pasquali has rapidly become one of the leaders of our field and is destined to achieve even greater heights in the future. She is an outstanding ambassador for your institution and her scholarly activities are changing the practice of pediatric cardiology worldwide."

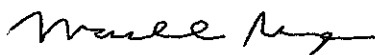
Reviewer E: "Dr. Pasquali has rapidly established herself as an academic star in outcomes research within congenital cardiology...Her research creativity and productivity, success in mentoring trainees and junior faculty, and extensive interdisciplinary collaborations are all exceptional for an academic pediatric cardiologist....anyone who follows the academic literature in congenital heart disease outcomes will recognize her contributions and thought leadership."

Reviewer F: "Dr. Pasquali has authored seminal publications that evaluate the relationship between hospital costs and the quality of care that is delivered. In summary, Dr. Pasquali is an original thinker and a brilliant investigator who has developed her own methodologies to link databases to answer questions of clinical importance."

Reviewer G: "...I recognized long ago that Sara was going to make an indelible impact on the field of pediatric cardiology and cardiac surgery. I would gage her as one of the top 5 emerging leaders in the field."

Summary of Recommendation:

Dr. Pasquali has established an extraordinarily impressive track record of scholarly publications, sustained extramural funding, mentorship, and leadership on several key national committees and organizations. Her outstanding contributions to education and outcomes research are invaluable. I therefore, enthusiastically recommend Sara K. Pasquali, M.D. for promotion to professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School.



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

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