Approved by the Regents
May 19, 2022

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PEDIATRICS

Sung W. Choi, M.D., M.S., associate professor of pediatrics, with tenure, Department of Pediatrics, Medical School, is recommended for promotion to professor of pediatrics, with tenure, Department of Pediatrics, Medical School.

Academic Degrees:

M.S.	2013	University of Michigan
M.D.	1999	Wayne State University
M.S.	1995	Wayne State University
B.S.	1992	University of Michigan

Professional Record:

2016 – present	Associate Professor of Pediatrics, with tenure, University of Michigan
2011 - 2016	Assistant Professor of Pediatrics, University of Michigan
2007 – 2007	Clinical Assistant Professor, Department of Internal Medicine, University of Michigan
2006 – 2011	Clinical Assistant Professor, Department of Pediatrics, University of Michigan
2005 – 2006	Clinical Lecturer, Department of Pediatrics, University of Michigan

Summary of Evaluation:

Teaching: Dr. Choi has mentored 31 individuals and served on the dissertation committees for several Ph.D. candidates in diverse disciplines, including Human Computer Interaction, Nursing, Health Communications, and Mathematics. She has mentored M.S., M.P.H. students, Ph.D. candidates, medical students, residents, post-doctoral fellows and junior faculty in pediatric hematology. She has served as primary mentor for several undergraduate students through research programs, such as the Undergraduate Research Opportunity Program (UROP) or the Center for Healthcare Engineering and Patient Safety (CHEPS). Dr. Choi's trainees have gone on to matriculate in top-notch medical or graduate schools, obtained positions in industry, and received faculty appointments in major academic institutions. In the last five years, her trainees have been authors on over 35 manuscripts, have been invited to national and international meetings, and have received awards. Dr. Choi recently received an NIH K24 Midcareer Investigator Award as the principal investigator in patient-oriented research and mentoring in hematopoietic cell transplantation. Dr. Choi is actively involved in teaching clinical fellows as the director of the Pediatric Hematology Oncology Fellowship Program (2017-present). She is directly involved in setting and maintaining the education and teaching profile of the trainees. The metrics for trainee teaching and education are reflected in the annual Accreditation Council for Graduate Medical Education (ACGME) national survey, wherein Dr. Choi has consistently raised the average score of the training program each year since she took over as the director. She was recently invited to join as a member of the Medical Scientist Training Program (MSTP) Operating Committee, which is the governing body of the Michigan MSTP, and will also serve on its admissions committee.

Research: Dr. Choi has published 118 manuscripts. Her research program has focused on reducing or preventing the risk of acute Graft-versus-Host Disease (GVHD), which is a major contributor of post-transplant morbidity and mortality. She has led important clinical trials with correlative studies on the translation of a novel agent, histone deacetylase inhibitor (vorinostat), from bench-to-bedside in related donor, and reduced intensity conditioning hematopoietic cell transplantation (HCT) to prevent acute GVHD. Her 2014 and 2015 first-author manuscripts in *Lancet Oncology* and *Blood*, respectively, stemmed directly from research aims proposed in her K23 Career Development Award in POR. These findings generated new hypotheses that enabled her to develop two investigator-initiated proposals, funded by two distinct R21 awards: 1) one focused on the study of vorinostat in yet a higher-risk (unrelated donor, myeloablative conditioning) HCT population (NCI R21 CA198776); and 2) the other focused on developing an innovative family caregiver- facing mHealth intervention that provided educational resources to better support HCT patients (AHRQ R21 HS023613). Jointly, these two studies served as the basis for an R01 grant that was awarded in 2019. A second R01 grant was recently awarded in 2020. Dr. Choi has also received numerous foundation awards, including from St. Baldrick's, Gateway for Cancer, Cancer Research Institute, and Alex's Lemonade Stand. These projects have collectively provided a rich infrastructure for Dr. Choi's trainees to participate in patient-oriented research, reflecting her commitment to increasing the pool of clinician-scientists. She is also quite collaborative and actively participates in multi-disciplinary team science grants, based on her numerous co-investigator roles on other NIH or foundation awards. Dr. Choi is a pediatric hematology-oncology physician with expertise in HCT. Her research portfolio is informed by her patients and their family caregivers, thereby bringing together a team science approach to address clinically relevant problems in HCT. On a broad level, Dr. Choi seeks to improve the clinical and Health Related Quality of Life (HRQOL) outcomes of all HCT individuals. Her team focuses on 1) testing novel strategies in clinical trials (phase I, II, III) to prevent acute GVHD; 2) examining biological, clinical, and psychosocial biomarkers to better understand HCT complications; and 3) leveraging mHealth technologies to support HCT patients and their family caregivers. Dr. Choi's research program is an exciting environment because it brings together diverse areas of expertise to train junior clinician-scientists with critical skills, knowledge, and thinking. Ultimately, they are equipped to design clinical trials that incorporate both qualitative and quantitative methods, analyze large datasets generated from multiple data sources, and harness modern mobile technologies and wearable sensors.

Recent and Significant Publications:

Gupta V, Braun TM, Chowdhury M, Tewari M, Choi SW: A systematic review of machine learning techniques in hematopoietic stem cell transplantation (HSCT). *Sensors* 2020; 20 (21): 6100. PMCID: PMC7663237.

Hoodin F, LaLonde L, Errickson J, Votruba K, Kentor R, Gatza E, Reddy P, Choi SW: Cognitive function and quality of life in vorinostat-treated patients following matched unrelated donor myeloablative conditioning hematopoietic cell transplant. *Biol Blood Marrow Transplant* 2019; 25(2): 343-353. PMCID: PMC6339826.

Fauer A, Hoodin F, McDiarmid L, Errickson J, Runaas L, Churay T, Seyedsalehi S, Warfield C, Chappell G, Brookshire K, Chaar D, Shin JY, Byrd M, Magenau J, Hanauer DA, Choi SW: Impact of a health information technology tool addressing information needs of caregivers of adult and

pediatric hematopoietic stem cell transplantation patients. *Supportive Care Cancer* 2019; 27(6): 2103-2112. PMCID: PMC6431273.

Choi SW, Braun T, Henig I, Gatza E, Magenau J, Parkin B, Pawarode A, Riwes M, Yanik G, Dinarello C, Reddy P: Vorinostat plus tacrolimus and methotrexate to prevent graft versus host disease after myeloablative conditioning, unrelated donor HCT. *Blood* 2017; 130(15):1760-1767. PMCID: PMC5639486.

Abu Zaid M, Wu J, Wu C, Logan BR, Yu J, Cutler C, Antin JH, Paczesny S, Choi SW: Plasma biomarkers of risk for death in a multicenter phase 3 trial with uniform clinical and transplant characteristics post-allogeneic hematopoietic cell transplantation. *Blood* 2017; 129(2):162-170. PMCID: PMC5234220.

Service: Dr. Choi is a senior faculty member of the Blood and Marrow Transplantation (BMT) Program at Michigan Medicine. She has consistently provided outstanding clinical care to patients and family caregivers in the outpatient and inpatient settings. Dr. Choi has immense dedication and service to her field and toward training the next generation of physician scientists. Institutionally, she is the director of the Pediatric Hematology/Oncology Fellowship Training Program, serves as the associate director of the NHLBI T32 training program in hematology, the director of the Chad Carr Training Program in Pediatric Brain Tumors, a core faculty member for the NCI T32 Training Program in Cancer Care Delivery, and chairs the Diversity, Equity, and Inclusion Committee of Rogel Cancer Center. Internationally, Dr. Choi serves as a grant reviewer for the Pediatric Blood and Marrow Transplant Consortium, and nationally, she serves on several NIH study sections, is on the editorial board of *Biology of Blood and Marrow Transplantation* and serves as ad-hoc reviewer for multiple journals.

External Reviewers:
Reviewer A: "Most remarkable was the review of her K24 at which I was present. This was the most positive review with universal acclaim and approbation from a Study Section that I had ever witnessed in over 20 years of reviewing NIH grants. The Reviewers and Committee commented not just [i]n her brilliance and prodigious success in publications and funding but on her extraordinary success and generosity in mentoring. She has trained many successful physician-scientists and will continue to do so."

Reviewer B: "Her expertise in GVHD has been nationally recognized by her appointment to the protocol teams for the CTN 0402 and 1801 protocols by BMT-CTN. Further evidence of her national and international recognition, comes from her election to the American Society for Clinical Investigation and the number of invited presentations over the last 5 years at major international and national such as the American Society for Hematology and the American Society for Transplant and Cell Therapy."

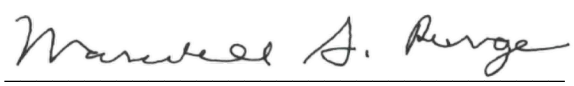
Reviewer C: "Dr. Choi's funding stream is solid with two R01s (ending 2024, 2025) in these separate areas of investigation. She also serves as a co-investigator on a number of other people's grants with diverse topics, suggesting that she is a sought-after collaborator. Dr. Choi was elected to the American Society for Clinical Investigation in 2021. She has served on national committees including ad hoc NIH study sections, the editorial board for a subspecialty journal, and as a session

moderator and national meeting organizer."

Reviewer D: "Throughout her career, Dr. Choi's work on GVHD has been impressive and impactful…Many of us look to Dr. Choi for her expertise in both GVHD and technology mediated platforms to improve patient outcomes.

Reviewer E: "Dr. Choi has a national and international reputation for her research in HCT, in particular in the area of acute graft-versus-host disease (GVHD) prevention (GVHD is a life threatening complication of HCT with significant impacts on morbidity and mortality), with a strong translational aspect; and in the area of health information technologies and data analytics; as described below. Dr. Choi has been extremely successful (especially for the stage of her career) in obtaining funding and prestigious peer-reviewed grants to support her research focus, and equally productive in disseminating these results both in traditional publications and in invited lectures and abstract presentations."

Summary of Recommendation:
Dr. Choi is an exceptional physician-scientist with an extraordinary track record of achievement in the areas of academic leadership, scientific productivity, and national and international stature in the field of hematopoietic cell transplantation. She is internationally recognized for her scientific contributions and has maintained excellent clinical work and service to her surrounding community. I am pleased to recommend Sung W. Choi, M.D., M.S. for promotion to professor of pediatrics, with tenure, Department of Pediatrics, Medical School.



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

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