Approved by the Regents May 15, 2014

PROMOTION RECOMMENDATION UNIVERSITY OF MICHIGAN MEDICAL SCHOOL DEPARTMENT OF OPHTHALMOLOGY AND VISUAL SCIENCES

Joshua D. Stein, M.D., assistant professor of ophthalmology and visual sciences, Department of Ophthalmology and Visual Sciences, Medical School, is recommended for promotion to associate professor of ophthalmology and visual sciences, with tenure, Department of Ophthalmology and Visual Sciences, Medical School.

Academic Degrees:

M.Sci.	2010	University of Michigan
M.D.	2001	Jefferson Medical College, Philadelphia
M.Sci.	1997	Dartmouth College
B.A.	1996	Wesleyan University

Professional Record:

2007-present

Assistant Professor of Ophthalmology and Visual Sciences,

University of Michigan

Summary of Evaluation:

<u>Teaching</u>: Dr. Stein devotes a considerable amount of time to his teaching commitments. He teaches and supervises residents and fellows in the Glaucoma Clinic and operating room at the Kellogg Eye Center and Veterans Administration Medical Center. His teaching responsibilities extend to medical students and allied health personnel. Dr. Stein has also supervised and mentored numerous trainees in his research endeavors. Some of these trainees have been award recipients from such organizations as the Association for Research in Vision and Ophthalmology, the American Glaucoma Society, and the Retina Society.

Research: As one of only a few health services researchers in ophthalmology, Dr. Stein's primary research interest is in analyses that use large health care claims databases to improve the understanding of the utilization of eye-care services, racial and other disparities in eye-care services, and patient outcomes and costs. His research-training background includes two master's degrees and a fellowship in health policy at the Center for Health Care Research and Transformation. Since joining the faculty in 2007, Dr. Stein has received more than \$1.5 million in funding to conduct his research. He also helped lead a successful grant proposal on behalf of the Department of Ophthalmology and Visual Sciences for \$2-million from the Kellogg Foundation to study disparities in eye care among children in Michigan. Findings from one of his analyses led to support from an NIH R34 grant on which Dr. Stein is the principal investigator to plan a large, multicenter randomized, controlled trial to assess the potential role of statin agents in reducing the risk for disease progression in patients with open-angle glaucoma. He became the co-principal investigator for a U-10 grant proposal submission to the National

Eye Institute in January 2014 to conduct this clinical trial. His other areas of interest include multidisciplinary research collaborations, including ones with colleagues at the University of Michigan School of Public Health and the Department of Operations and Industrial Engineering, to develop a novel algorithm that clinicians can use to forecast progression of glaucoma (and potentially other chronic diseases) and determine the appropriate timing of follow-up testing. He and his collaborators have obtained a provisional patent on a disease forecasting tool and are in the process of trying to commercialize this technology. Since 2009, 75% of Dr. Stein's effort has been devoted to fulfilling the aims of his National Eye Institute K23 Career Development Award. In addition, another 5% of his effort is devoted to assisting as a co-investigator on a collaborative grant with colleagues in the Department of Operations and Industrial Engineering on a grant funded by the National Science Foundation. He has also been the principal investigator or co-investigator on numerous other smaller foundation grants with the effort exerted concurrent with his K award. Since joining our faculty, Dr. Stein has published 36 papers in peer-reviewed journals.

Recent and Significant Publications:

Stein JD, Ruiz D, Belsky S, et al: Longitudinal rates of postoperative adverse outcomes following glaucoma surgery among Medicare beneficiaries: 1994-2005. *Ophthalmology* 115:1109-1116, 2008.

Stein JD, Talwar N, Laverne A, Nan B, Lichter PR: Trends in utilization of ancillary glaucoma tests for patients with open-angle glaucoma from 2001 to 2009. *Ophthalmology* 119:748-758, 2012.

Stein JD, Kim D, Giannetti S, Peck W, Hutton DW: Cost effectiveness of medications compared with laser trabeculoplasty in patients with newly-diagnosed open-angle glaucoma. *Arch Ophthalmol* 130:497-505, 2012.

Stein JD, Newman-Casey P, Talwar N, Nan B, Richards JE, Musch DC: Relationship between statin use and open-angle glaucoma. *Ophthalmology* 119:2074-2081, 2012.

Harris-Nwanyanwu KH, Talwar N, Gardner TW, Wrobel JS, Herman WH, Stein JD: Risk factors associated with progression from nonproliferative to proliferative diabetic retinopathy. *Diabetes Care* 36:1562-1568, 2013.

Service: Dr. Stein is active in clinical care in his glaucoma practice at the Kellogg Eye Center. He is well-respected by many ophthalmologists in the region and beyond who refer their patients to him. He has been the recipient of many "Making A Difference" awards from his patients. Dr. Stein has served on many departmental and university committees—the Research and Education Committee and the UMHS Employee Medical Benefits Committee, as co-director of the KEC Allied Health conferences, as well as on national committees such as the American Glaucoma Society board of directors as a member-at-large, the AGS Health Care Policy and Reimbursement, Research, and Membership Committees, and on a Glaucoma Billing Code Task

Force. He is a frequent reviewer for several major ophthalmology journals and AGS career researcher awards.

External Reviewers:

Reviewer A: "During the March, 2013 annual meeting of the American Glaucoma Society in San Francisco, Dr. Stein gave what I personally considered to be the most important talk of the free paper sessions and one that will have the longest-lasting implications to our field....I have since spoken about the importance of this work at a number of national venues, including the American Academy of Ophthalmology's mid-year forum meeting of leadership in Washington, DC....When I have interviewed University of Michigan medical students for our residency program, the students have often commented on Dr. Stein's role as a teacher, mentor and role model. He is clearly having an important impact on the teaching mission of your Department of Ophthalmology."

Reviewer B: "Dr. Stein has developed a niche in the area of health science research where he is globally recognized as a leader and innovator. The success of his efforts and contributions in this field of research are supported by over \$1,350,000 of grant funding, 10 visiting professorships, 17 invited presentations and 34 peer-reviewed publications..."

Reviewer C: "Dr. Stein has had a major impact on the field, primarily involving glaucoma....I think Dr. Stein is clearly one of the top hand-full, if not the top clinician/investigators in the country at his level....He has successfully chosen to dedicate much of his effort to research and is one of the leaders in health policy."

Reviewer D: "He has published several landmark papers, which have had high impact in our field. His work on statins in glaucoma has been very influential in our thinking about glaucoma..."

Reviewer E: "His scholarly emphasis on cost-effectiveness in the treatment of glaucoma and macular disease has tremendous potential impact on the daily practice of ophthalmology.... Dr. Stein has assembled an extraordinary record of clinical, scientific, and scholarly achievements and has established himself as one of the nation's (and world's) authorities on health care utilization and outcomes along with cost-effectiveness and optimization of that care. In addition, he has developed an impressive record of national organizational service; stands out among his peer, thereby earning the respect of the American (and international) ophthalmologic community....his scholarly achievements already surpass those of many tenured full professors in major US Departments of Ophthalmology."

Reviewer F: "I have been impressed with the quality of his scholarly work and its positive seminal impact on the specialty of ophthalmology...he has established an outstanding track record in scholarship, clinical research, teaching, and patient care....Dr. Stein has achieved a renowned reputation as a leading expert in health services research in ophthalmology."

Summary of Recommendation:

Dr. Stein has excelled in the area of data analytics for improved outcomes costs for clinical care and he has made significant contributions to teaching and clinical care. I am pleased to recommend Joshua D. Stein, M.D. for promotion to associate professor of ophthalmology and visual sciences, with tenure, Department of Ophthalmology and Visual Sciences, Medical School.

James O. Woolliscroft, M.D.

Dean

Lyle C. Roll Professor of Medicine

May 2014