

Joshua D. Stein, MD, MS

Besides maintaining a busy clinical practice, I have several research interests, mostly related to ophthalmologic health services research (HSR). Conducting HSR allows me to collaborate with talented researchers from various medical specialties and other academic disciplines, all for the purpose of informing policymaking and the practice of medicine, and ultimately enhancing patients' well-being, by conducting timely, rigorous analyses. Among my specific research interests is the study of disparities in eye-related health and health care, including differences in access to care, quality of care, and clinical outcomes among different racial, ethnic, socioeconomic, or regional groups. Eventually, by identifying such disparities and understanding their causes, various stakeholders can devise effective means of eradicating barriers to high-quality care. Another research interest involves exploring potential associations between systemic disease or drug exposure and the risk of ocular disease. I also conduct cost-effectiveness analyses to compare the value and costs of ocular interventions.

For several analyses, my collaborators and I have used a very large database containing information on every health care encounter, outpatient prescription, and laboratory test recorded from 2001 through 2011 for roughly 15 million enrollees covered by a particular US health insurance carrier. Although research with such a data source has its limitations, my colleagues and I have recently seen how results of an administrative data-based analysis can bring to the fore a potential innovation and justify the considerable resources needed to prove or disprove a cause-and-effect relationship in a multicenter, randomized controlled trial. Using the claims data, we initially evaluated potential associations between metabolic syndrome components (diabetes, hypertension, hyperlipidemia) and open-angle glaucoma (OAG). Our finding that individuals with hyperlipidemia had a reduced risk of OAG led us to explore whether hyperlipidemia itself, or rather its treatment, might explain the observed decrease in risk. On the basis of this study and others, the National Eye Institute is supporting David Musch, PhD, others, and myself in creating infrastructure for a randomized controlled trial to test the role of statins in halting OAG progression.

My interest in HSR began before medical school, when I studied at the Center for the Evaluative Clinical

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Sciences, now known as the Dartmouth Institute. Throughout my medical and HSR training, I have been fortunate to have exceptional mentors, including Edward Jaeger, MD; Gary Brown, MD, MBA; Paul Lee, MD, JD; and Paul Lichter, MD. After completing a glaucoma fellowship, a K23 Mentored Career Development Award from the National Eye Institute provided me with protected research time and allowed me to refine my skills in research methodology. My most recent HSR-related training, as a 2012 policy fellow at the Center for Healthcare Research and Transformation, paired me with a state policymaker in Lansing, Michigan, for the practical purpose of translating evidence-based HSR into meaningful health policy.

Outside of my clinical and research responsibilities, I enjoy spending quality time with friends and family, especially my wife, Cris, and our two rescue dogs, Sasha and Kaia. As an avid sports fan, I play indoor and outdoor sports in local recreational leagues. Of particular fun for me is the long softball season, when I get to play in four or more nighttime games a week. ■

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