

PROMOTION RECOMMENDATION
The University of Michigan
School of Public Health
Department of Health Management and Policy
College of Engineering
Department of Industrial and Operations Engineering

David W. Hutton, assistant professor of health management and policy, Department of Health Management and Policy, School of Public Health, and assistant professor of industrial and operations engineering, Department of Industrial and Operations Engineering, College of Engineering, is recommended for promotion to associate professor of health management and policy, with tenure, Department of Health Management and Policy, School of Public Health, and associate professor of industrial and operations engineering, without tenure, Department of Industrial and Operations Engineering, College of Engineering.

Academic Degrees:

PhD	2010	Stanford University
MS	1999	Stanford University
BS	1998	Stanford University
BA	1998	Stanford University

Professional Record:

2010-present	Assistant Professor of Health Management and Policy, School of Public Health, and Assistant Professor of Industrial and Operations Engineering, College of Engineering, University of Michigan
1999-2010	Teaching Assistant; Teaching Fellow, Management & Industrial Engineering, Stanford University

Summary of Evaluation:

Teaching: Professor Hutton's teaching leverages his strengths in engineering modeling and cost-effectiveness analysis. The teaching has focused on masters-level courses on cost-effectiveness analysis and operations research methods as applied to health care. As he has taken over these courses, he has tried to make the courses more project-based and experiential. He also teaches a short introductory course on operations research and decision sciences to our incoming doctoral students. Recently, he has developed a new seminar on advanced cost-effectiveness topics that we plan on offering every other year. Not only is Professor Hutton an excellent teacher, but he provides his students with exceptional one-on-one time to help them understand and apply the complex methods he teaches. The students in the department and across campus recognize his passion for his work and his calm demeanor as he guides them to learning.

Outside of the university, he co-taught two short courses at the SMDM annual meeting on decision modeling in Microsoft Excel. These courses won the Best Short Course Award in both 2010 and 2011.

Research: Professor Hutton lists 29 peer-reviewed manuscripts, on which he is first author on eight. His work focuses on analysis of cost-effectiveness of infectious disease interventions, chronic disease interventions, and new drugs and devices. Specifically, Professor Hutton applies decision sciences and economic evaluation to issues of patient-centered clinical decision-making and public health. Methodologically, he uses mathematical epidemiological modeling and cost-effectiveness analysis. His research, funding, publications, and national and international service have been focused on vaccines and ophthalmologic policy.

His work has already had high impact. As an example, Professor Hutton published a cost effectiveness analysis of an HBV catch-up vaccination for children and adolescents in China (Hutton, *Hepatology* 2010). The results of this analysis were shared with public health policymakers in China and, in part, influenced the Chinese Ministry of Health's decision to provide free catch-up vaccination for these unprotected children. Professor Hutton's newly awarded U01 CDC award (Hutton: P.I.) will allow him to continue to use his unique economic, decision sciences, mathematical modeling advancements in a multi-aim study examining the burden of disease for pneumococcal disease, potential cost-effectiveness of a norovirus vaccine, and the barriers to physician stocking and recommending vaccines.

Professor Hutton also has an interest in the cost-effectiveness of pandemic influenza interventions. Decision analysis and infectious disease modeling methods are valuable tools to provide insights into making policy decisions for this novel, uncertain disease. His research has helped decision makers appropriately prioritize pre-pandemic planning efforts to speed production and delivery of these vaccines. In addition, key to his approach is the incorporation of the diffusion and uptake of relatively new therapies, something that few other researchers include. His work on Medicare cost of alternative therapies relative to effectiveness has drawn the attention of the US Senate.

As with all his research, writings, and service, he also contributes to issues of patient-centered clinical decision-making and public health.

Recent and Significant Publications:

- Gajarski RJ, Smitko K, Despres R, Meden J, Hutton DW. "Cost Effectiveness Analysis of Therapeutic Hypothermia Following Cardiac Arrest." *NeuroCritical Care*. In Press.
- Hutton DW, Newman-Casey PA, Tavag M, Zachs D, Stein JD. "Switching To Less Expensive Blindness Drug Could Save Medicare Part B \$18 Billion Over A Ten-Year Period." *Health Affairs*; 2014. 33(6), 931-939.
- Khazeni N, Hutton DW, Collins I, Garber AM, Owens DK. "Health and Economic Benefits of Early Vaccination for a Human Influenza A (H7N9) Pandemic." *Annals of Internal Medicine*; 2014. 160(10):684-694.
- Stein JD, Newman-Casey PA, Tavag M, Lee PP, Hutton DW "Cost-Effectiveness of Bevacizumab and Ranibizumab for Newly Diagnosed Exudative Macular Degeneration." *Ophthalmology*; 2014; 121(4):936-45.
- Hutton DW, Brandeau ML. "Too Much of a Good Thing? When to Stop Catch-Up Vaccination." *Medical Decision Making*; 2013; 33(7):920-36.

Hutton DW. "Review of Operations Research Tools and Techniques Used for Pandemic Influenza Planning." In Operations Research and Health Care Policy, G.S. Zaric (Ed.), Springer Publishers, New York, 2013.

Service: Professor Hutton has been a reviewer for 35 journals and serves on the editorial board of *Medical Decision Making*. He has completed work commissioned by the Institute of Medicine. He has been a judge for the Institute for Management Science and Operations Research Health Applications Society Student Paper Competition.

Professor Hutton has been very active in service to the department and school. Within the department, he has been on the residential masters-curriculum committee, and currently serves as a co-chair. He is part of the operations research and decision science cognate committee which plans doctoral curriculum and helps decide on doctoral admissions. In the school, he has been a member of the innovation working group, has been a reviewer for the Office of Global Public Health's internship funding program, and has served on the global health committee, which has been working to formalize support within the school for global public health activities.

The result of his work with the CDC is anticipated to be used by the Advisory Committee on Immunization Practices in making its vaccine recommendations.

External Reviewers:

Reviewer A: "His modeling studies are of high quality and impact."

Reviewer B: "He has an impressive history of research accomplishments."

Reviewer C: "You need someone with David's skill set. I cannot think of anyone better."

Reviewer D: "He has clearly established his expertise and developed a national, if not international reputation in his primary research areas...."

Reviewer E: "I would say that Professor Hutton would be ranked highly among his professional peers who completed their education at a similar time."

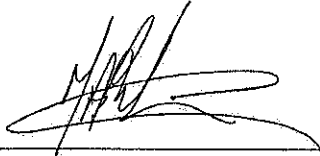
Reviewer F: "Impressively high level of scholarship...has documented remarkable aptitude for research...."

Reviewer G: "A rigorous and productive researcher whom I believe exceeds the bar for tenure..."

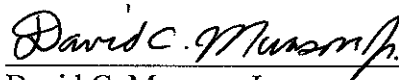
Reviewer H: "His portfolio of scholarly work is of similar quality and quantity of other faculty at his stage, but perhaps of greater health policy impact."

Summary of Recommendation

Professor Hutton has an outstanding record in research, including a positive trajectory for funding, and outstanding records in teaching and service. It is with the support of the promotion and tenure committees of the School of Public Health and the College of Engineering that we recommend that David W. Hutton be promoted to associate professor of health management and policy, with tenure, Department of Health Management and Policy, School of Public Health, and associate professor of industrial and operations engineering, without tenure, Department of Industrial and Operations Engineering, College of Engineering.



Martin A. Philbert
Dean, School of Public Health



David C. Munson, Jr.
Robert J. Vlasic Dean of Engineering
College of Engineering

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