**Decision Modeling for Health Economic Evaluation**

**Fellowship Announcement**

*May 2025*

*Vanderbilt University, Nashville, Tennessee*

**Overview**

The Data to Policy (D2P) program, developed by Vital Strategies and the U.S. Centers for Disease Control and Prevention (CDC) as part of the Bloomberg Philanthropies Data for Health Initiative, aims to bridge the data-policy gap through team-based training and mentoring of health policy professionals. D2P participants develop data-driven policy briefs and recommendations that respond to and inform government health priorities. The program employs several types of analysis—including economic evaluation of policy options—to inform policy recommendations.

Use of economic evaluation methods like cost-effectiveness analysis in public health decision-making is limited by the scarcity of health economists trained in economic modeling approaches for decision analysis in many ministries of health and other government health agencies. Vital Strategies and the CDC/CDC Foundation are partnering with Vanderbilt University Medical Center, Vanderbilt Institute for Global Health and the Vanderbilt Center for Health Economic Modeling to offer a fellowship in advanced decision modeling for health economic evaluation.

The fellowship is open to participants who have successfully completed decision modeling workshops offered by Vital Strategies, CDC Foundation and Vanderbilt University in 2022 and 2024. Fellows will have the opportunity to complete a modeling study on a topic of public policy importance in their country, under supervision from Vanderbilt University faculty with expertise in economic evaluation methods and their application in low and middle-income country contexts. Fellows will also receive instruction and practical sessions on advanced modeling topics.

There are 10 fellowship slots available, which will be awarded on a competitive basis based on the quality and feasibility of the proposed project as well as demonstrated potential for decision-making impact.

**Eligibility**

Participants should meet the following qualifications:

1. Be employed by the ministry of health, national health institute or other government health agency (exceptions may be considered only where health economists have an ongoing role providing health economic analysis for government health agencies).
2. Master’s degree in health economics, biostatistics/statistics, public health/policy, epidemiology or related field, or medical degree with experience in health economic evaluation (e.g. costing, cost-effectiveness analysis, cost-benefit analysis, cost-utility analysis).
3. Government endorsement to participate fully in the fellowship, including documented permission to travel and dedicate full time to the fellowship for three weeks during May 2025.
4. High-quality proposal to complete a decision modeling / cost-effectiveness study on a topic of direct relevance to government decision-making. Proposals should clearly outline the policy question, strategies, data, and methods/modeling approach that will be used. Government endorsement for the topic should be documented.
5. Preference will be given to applicants who have submitted an abstract to the 2025 International Health Economics Association (IHEA) conference by the deadline of November 19, 2025: [Congress – International Health Economics Association](https://healtheconomics.org/congress/). The conference will be held in Bali, Indonesia from July 19-23, 2025. Participants with accepted abstracts may be considered for funding to attend the conference.

**Format**

The three-week fellowship will be held at the Vanderbilt University campus in Nashville, Tennessee. USA. Vital Strategies will cover the costs of flights, airport transfers, accommodation, meals and incidentals, and all materials.

The workshop will be taught using Excel and the open-source decision modeling software Amua, with opportunities to learn advanced modeling in R. Fellows must bring their own laptop computer with Excel and Amua installed. Fellows should also secure any available data to complete the study in advance of the fellowship. All sessions will be conducted in English.

**Curriculum**

This fellowship program offers an advanced exploration into decision analytic methods and simulation modeling. The program builds off previous training through D2P Economic Evaluation Workshops (Thailand 2023, Colombia 2023, or Turkey 2024) which focused on formulating a decision problem, building decision trees and developing Markov models. This advanced training incorporates additional modeling approaches (microsimulation), and advanced modeling methods including calibration and validation of models, uncertainty analysis, and value of information analysis.

While we emphasize practical application, the understanding of fundamental theoretical concepts and modeling skills is also highlighted. Fellows will take on a Capstone Project drawn from a real-world decision problem in a clinical or policy context to the development of a fully-fledged model. This hands-on project takes fellows through all stages of research, from formulating a question to presenting the final results, which may also lead to conference-ready models and potential manuscript development.

Roughly 60% of the sessions will focus on deeper coverage of topics related to decision analysis methods, critical appraisals of published decision analyses and economic evaluations. The remaining sessions will provide opportunities for fellows to develop their own course project and exercise communication skills, including presentations of research ideas, works-in-progress, and final projects.

The fellowship program will adopt a blend of:

* **In-Class Lectures:** Foundational knowledge and concepts will be shared
* **Modeling Clinics:** Hands-on experience in modeling and other practical exercises
* **Final Capstone:** Development of a fully-fledged model, policy brief and presentation
* **Individual Presentations:** For sharing research ideas, projects in progress, and final results in

preparation for the 2025 IHEA Conference. These in-class presentations will allow for constructive comments both on the substance of the research and on presentation style. Fellows will not only present their own work, but also practice providing critical feedback to their peers.

* **Mentorship:** Each fellow will be paired with Vanderbilt faculty and staff to promote their

economic evaluation skill development and support career development. Because the fellowship is located at a large teaching hospital, fellows will also have access to clinical expertise relevant to the underlying health conditions. Fellows will be exposed to a diverse array of invited guest lecturers to expand their networks.

* **Additional Professional Development Opportunities:** This fellowship program is also intended

to bolster and further develop the skill sets necessary for a grant proposal for submission, effective communication, mentorship, etc.

**Vanderbilt Center for Health Economic Modeling**

The Vanderbilt Center for Health Economic Modeling was established in 2020 and brings together health economics, biostatistics, decision science, implementation science and other disciplines to inform and impact health care access, affordability and delivery. Additional research conducted within the Center aims to estimate the value in health care, or the relative improvement in quality of life or health outcomes relative to the costs, financial and otherwise, to the patient, insurance plan, facility, or provider. The Center partners often with other Departments on campus in its work, including the Departments of Biostatistics and Biomedical Informatics, and the Vanderbilt Institute for Global Health.

**Faculty and Guest Instructors**

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| John Graves, Ph.D.  Professor, Health Policy  Director, Vanderbilt Center for Health Economic Modeling | [Ashley Leech, Ph.D., M.S](https://www.vumc.org/health-policy/person/ashley-leech-phd-ms).  Assistant Professor, Health Policy |
| [Jinyi Zhu, Ph.D., M.P.H](https://www.vumc.org/health-policy/person/jinyi-zhu-phd-mph).  Assistant Professor, Health Policy | [Marie H. Martin, Ph.D., M.Ed](https://www.vumc.org/health-policy/person/marie-h-martin-phd-med).  Associate Professor, Health Policy  Associate Director, Education and Training, Vanderbilt Institute for Global Health |
| [Christine C. Whitmore, Ph.D.](https://www.vumc.org/health-policy/person/christine-c-whitmore-phd)  Research Associate Professor, Health Policy  Director of Operations, Department of Health Policy | Zachary Ward.Zachary J. Ward, Ph.D., M.P.H. Assistant Professor of Health Decision Science  Harvard University |