

# Tzeyu Michaud, PhD

Rapid Communication Presentation

Center for Patient Family and Community Engagement in Chronic Care Management: Chronic Interest Group

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## Research Goals

I am motivated to conduct evidence-based economic evaluations of interventions at the clinical or population levels. Through this practice, my goal is to inform practice guidelines and improve the quality of life for people. My current research focuses on the cost-effectiveness analysis of community-based weight loss programs and child obesity prevention programs. Moreover, I also conduct the program evaluation for the Telehealth program on underserved diabetes patients.

## Research Interests

health services research  
decision analysis  
economic evaluation  
cost-effectiveness analysis  
population aging  
comparative effectiveness research

## Clinical Interests

diabetes  
dementia

## My Area of Study

### Cost-effectiveness of A Weight Loss Intervention- A Cohort Simulation Approach

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- **Objective:** To project the short- and long-term health and economic consequences of a community weight loss intervention for overweight and obese participants
- **Intervention program:** Weigh and Win (WAW) is a 12-month, technology-facilitated, and community-based weight loss program. The program consists of daily email and text support, online access to health coaches, and objective weight assessment. Participants enrolled into the program through community-based kiosks located at convenient locations, such local retailers, community centers, and so on.
- **Methods:** We applied the Markov state transition model to project long-term economic and health outcomes, and the number of disease averted as a result of an ongoing community and incentive-based weight loss intervention, compared with no intervention, from a payer perspective. Effects of the intervention were derived from the 12-month community program compared to parameters obtained from the scholarly literature. We further conducted deterministic and probabilistic sensitivity analyses to explore parameter uncertainty
- **Results:** Compared with no intervention, the weight loss intervention incurred great return on investment. Simulation results were sensitive to intervention-related costs. With a program cost of 2.88 million dollars, the weight loss intervention was predicted to avert (with a corresponding estimated medical cost savings of) 78 cases of coronary heart disease (\$28 million), 9 strokes (\$971,832), 92 cases of diabetes (\$24 million), 1 case of colorectal cancer (\$357,022) and 3 cases of breast cancer (\$483,259) over the lifespan among 33,656 participants
- **Conclusion:** This analysis provides the economic case for a 12-month community-based weight loss program, which will assist informed decisions in terms of future adoption and dissemination of such community programs.

## Collaborative Needs

### What kind of interdisciplinary collaborators are you looking for?

- Clinician with experience in weight management or diabetes prevention program
- Certified diabetes educator
- Experience of technology-based delivery approach (telehealth, Health informatics)

## Past and Current Funding

### List studies you have currently going

- A primary care –based weight management program (OMADA)
- A family-based pediatric weight treatment program loss (Building Healthy Families)

### Early career and just beginning my research so looking for

- Opportunities to conduct economic evaluation at different research fields

## Contact

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