Data Analytic Models and Insights in Adaptive Treatment of Chronic Depression

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Abstract: This talk will feature research at the UW Healthcare Analytics Lab using advanced analytics to design predictive and optimization models to adaptively monitor and treat chronically depressed patients. Mitigating depression has become a national health priority as it affects 1 out of 10 adults in the U.S. Prognostic-based monitoring that stratifies patients' disease risk and adaptively allocates resources to high-risk patients may improve overall health outcomes. Our objective is to translate data into solutions regarding who should be monitored and treated at the appropriate time, and study how cost-effective these adaptive strategies could be.

Bio: *Shan Liu* is an associate professor of Industrial & Systems Engineering at the University of Washington. She received her Ph.D. in Management Science & Engineering from Stanford University, a S.M. in Technology and Policy from MIT, and a B.S. in Electrical Engineering from The University of Texas at Austin. Her research focuses on the design and evaluation of healthcare interventions to improve patients' health and enable cost-effective care delivery. She develops methods in sequential decision making, decision analytics, and systems modeling to optimize healthcare systems. She has received multiple grants from the National Science Foundation and National Institutes of Health.