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Presentation

Optimal Staffing and Treatment for Collaborative Care of Diabetes and Depression

About 27% of patients with diabetes also suffer from depression, and the presence of co-morbid depression could increase the cost of care for diabetes dramatically. Several randomized clinical trials have demonstrated that physical and mental health are more likely to improve for diabetes patients suffering from depression when regular treatment for depression is provided in a primary care setting (called collaborative care). However, collaborative care requires additional resource utilization costs and a separate reimbursement model. Important operational levers in collaborative care are allocating care managers' time to patients based on their requirements and the care managers' staffing level. In this presentation, I will discuss our work to determine the optimal staffing and workload allocation while adopting collaborative care. We derive structural properties for the joint optimization of the staffing level and allocating care managers' time to different patient categories. Using these structural properties, we develop a practical and easy-to-implement policy for staffing levels and care managers' time allocation that performs close to the optimal solution. We calibrate the model with data from a large academic medical center and provide various managerial insights.