Abstract:

In recent years, the drive to contain health care costs in the US has increased scrutiny of the traditional mode of delivering primary care where a patient is treated by his primary care physician during a face-to-face visit. In particular, two approaches, the use of “e-visits” and greater reliance on non-physician providers, have been suggested as lower-cost alternatives to the traditional set-up. In this paper, we consider a homogeneous patient panel treated by a solo primary care physician and develop a new model of patient health dynamics in which the health state for each patient on the physician's panel follows Markovian transitions between "healthy", "intermediate" and "sick" states. In contrast to most currently used models, we treat patient demand for office visits as endogenous and managed by a physician via selection of a revisit frequency consistent with patient preferences. We model these preferences for the frequency of office visits using patients' perception of their health status as well as the disutility associated with falling sick.

At the center of our analysis are the interconnected decisions that a physician makes regarding the size of her patient panel and the patient revisit frequency under alternative primary care delivery modes. Our results quantify the overall impact of using “e-visits" and non-physician providers on physician’s choices, and, as a result, on physician's expected earnings and patients' expected health.

In particular, we characterize care settings, defined in terms of care effectiveness, characteristics of patient panel, as well as physician's compensation scheme, that result in both parties, physician and patients, being better off (i.e., increased expected earnings for a physician and better health for patients) as well as settings where at least one of the parties is worse off as compared to the traditional approach to care delivery.