

Title: The Impact of Delay Announcements on Hospital Network Coordination and Waiting Times

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Abstract:

We investigate the impact of delay announcements on the coordination within hospital networks using a combination of empirical observations and numerical experiments. We show that patients take delayed information into account when choosing emergency service providers and that such information can help increase coordination in the network, leading to improvements in performance of the network, as measured by Emergency Department wait times. Our numerical results indicate that the level of coordination that can be achieved is limited by the patients' sensitivity to waiting, the load of the system, the heterogeneity among hospitals, and, importantly, the method hospital use to estimate delays. We show that delay estimators that are based on historical average may cause oscillation in the system and lead to higher average waiting times when patients are sensitive to delay. We provide empirical evidence which suggests that such oscillations occurs in hospital networks in the US.