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Abstract:

The goals of this proposal are to 1) understand the extent to which medication adherence is influenced by characteristics of one's social network and 2) obtain feasibility and pilot data for an intervention that will test the effect of sharing medication adherence information with members of one's social network on medication adherence and cardiovascular risk factor control. Poor medication adherence is associated with worse cardiovascular prognosis. However, interventions to improve medication adherence have had limited success. This research hypothesizes that making adherence information available to members of the social network will lead to improvements in medication adherence not just for the patient at the center of the network (known as the "ego"), but to collateral benefits for other members of the social network (known as "alters") as well. To accomplish this goal, we will first consent 10 patients with established coronary heart disease (CHD) who are prescribed at least one cardiovascular medication (antihypertensive or statin) and who agree to have medication adherence electronically measured and shared with close contacts. We will next enroll close contacts of these patients who, in total, comprise the patient's social network. Network members will be surveyed about characteristics of the ties that bind them and about their medication adherence. The patients at the center of the network will then take one of their cardiovascular medications from an electronic pill monitor (GlowCap) that has the capability of sharing adherence information by text message or e-mail. Egos will be randomly selected to either have their electronic monitors activated such that they automatically send weekly adherence reports to designated close contacts or to ongoing monitoring without sharing of adherence information. The primary outcome will be acceptability of electronic adherence monitoring/sharing with social network members. Secondary outcomes will include within-subject changes in medication adherence and changes in risk factor control (e.g., LDL, blood pressure). The results from this research will be used to support an R01 application that rigorously tests the effectiveness of this type of medication adherence intervention on improving adherence and cardiovascular outcomes. This research will bring together an interdisciplinary group of experts in the fields of medication adherence/primary care medicine (Kronish), social networks (Joseph Schwartz), and health psychology (Karina Davidson) to devise a novel approach to a critical problem – poor adherence to cardiovascular medications. By shifting the burden of intervening away from the health system, this approach holds great promise for resulting in a scalable, cost-effective medication adherence intervention.