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Improving Adherence and Intensification of Medications Among Diabetes Patients

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Background:
Good blood pressure (BP), glycemic, and lipid control is essential to prevent complications of diabetes mellitus but is very difficult to achieve. BP control may be the most difficult goal, with more diabetes patients having poor BP control than poor glycemic or lipid control. Both poor patient adherence to medications and clinicians' failure to initiate or intensify medications contribute to poor control of these diabetes risk factors. We propose to evaluate a tailored clinical pharmacist-based intervention to improve diabetes risk factor control among hypertensive diabetes patients with poor medication adherence or inadequate medication intensification in two integrated delivery health systems: Kaiser Permanente and the Veterans Health Administration.

Objectives:
The Specific Aims of this multi-site, cluster randomized, controlled trial are: 1)To evaluate the effects of the intervention on BP, glycemic, and lipid control; 2)To assess the impact of the intervention on patients' adherence to BP, anti-hyperglycemic, and lipid-lowering regimens, intensity of these regimens, and satisfaction with health care; 3) To evaluate the cost-effectiveness of the intervention compared to usual care; and 4) To evaluate the process of intervention implementation in VA and Kaiser sites in order to identify similarities and differences across sites that may relate to intervention generalizability.

Methods:
Using electronic data, we will proactively identify all diabetes patients within each of 8 primary care intervention teams who have poor BP control and either poor refill adherence or insufficient medication intensification; providers in the 8 non-intervention (control) teams will also be notified of patients with poor control and receive their adherence/intensification information. Adherence and treatment intensification patterns will also be evaluated for glycemia and lipids if either of these risk factors is poorly controlled. Clinical pharmacists, trained in motivational interviewing (MI) techniques and guided by computerized adherence modules, will identify barriers to medication adherence for BP medications and (as appropriate) for anti-hyperglycemic and lipid medications and provide adherence counseling. They will also be authorized to change and titrate medications following site-specific algorithms. Outcomes will be measured after 12-months, at which time up to 2000 patients will have received the intervention. At the conclusion of the study, we will prepare a translation toolkit to enhance dissemination of the intervention.

Impact:
This translational study is designed to address the Institute of Medicine challenge to improve quality through system redesign by using information technology to identify patients at risk, integrating clinical pharmacists in team-based care to support clinical decision making, and providing those pharmacists with the skills necessary to deliver effective behavioral counseling and medication change. While drawing on previously effective interventions, this is the first study to combine these essential elements to improve outcomes for patients with diabetes.