Physician and patient influences in statin treatment adherence and associated outcomes in V.A. patients with hypercholesterolemia

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Abstract: Clinical trials have shown that patients treated with HMG-CoA reductase inhibitors (statins) experience significant reductions in low-density lipoprotein cholesterol (LDL-C) levels and coronary heart disease (CHD) events. Suboptimal dosages of statins and the quality of statin treatment have resulted in a gap between projected statin efficacy and statin effectiveness in the clinical setting, which leads to increased CHD morbidity and costs. Previous studies have focused on patient or physician contributions to this problem. This dissertation simultaneously examines the effects of patient statin adherence and primary care physician (PCP) guideline compliance on associated health outcomes in veterans—a high-risk patient population with few barriers to medications and institutional care.

Findings demonstrate that poor adherence was a significant barrier of LDL-C goal attainment and remained significant after controlling for potential confounders of adherence. Furthermore, this dissertation illustrated that patient statin adherence levels <100% reduced the benefits of statin treatment on LDL-C management even when a patient's LDL-C goal had previously been met.

Two national guideline recommendations—physician follow-up visits and annual lipid monitoring—were found to positively influence patient statin adherence. An increase in the PCP rate for conducting annual lipid evaluations reduced the probability of a CHD event or death, especially among patients without history of heart disease. Higher levels of statin adherence were associated with a higher probability of a CHD event or death. This unexpected association may have been due to higher levels of adherence among patients with more CHD risk and the study's limited ability to deal with residual confounding due unmeasured disease severity.

Work presented in this dissertation suggests that patient statin adherence and the effectiveness of statin therapy in reducing CHD events and mortality may be improved with a combination of enhanced follow-up office visits and annual lipid evaluations by PCPs. Therefore, due to the prevalence of CHD and the aging of the population, it is important that more research be performed to align PCP practice with the national guidelines and to improve patient adherence to statin therapy in the primary care clinical setting.

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