Abstract

Background: Pharmacists are effective at improving cardiovascular risk factors, but it is less clear whether these improvements translate into less emergency department use and fewer hospitalizations. The aim of this study was to examine if the integration of pharmacists into primary care with patients with diabetes and cardiovascular risk is associated with fewer ED and hospital stays.

Design: This was a quasi-experimental study with a comparator group.

Subjects: The analytic sample included patients with diabetes and cardiovascular risk factors followed by pharmacists in either a UCMyRx practice (648 patients, 14 practices) or usual care (1944 patients, 14 practices). The intervention was the pharmacist consultation with patients with diabetes and cardiovascular risk factors. We measured outcomes of ED and hospitalization rates as measured before and after the pharmacist consultation. The average (international) predicted difference in hospitalization rates between UCMyRx and usual care was 21%.

Measures: Our outcomes were ED and hospitalization rates as measured before and after the pharmacist consultation. The average (international) predicted change in the outcome was estimated using a regression model with outcome as the dependent variable, predictors for differences in the outcome between UCMyRx and usual care, and time as a time-varying covariate.

Results: The adjusted mean ED visits/month among UCMyRx patients was 0.09 (95% CI 0.06, 0.12), compared to a rate of 0.34 (95% CI 0.31, 0.37) in the usual care group. During the year before initiating the care with the pharmacists, this rate decreased to an adjusted mean monthly rate of 0.22 (95% CI 0.19, 0.25) in the usual care group. In models adjusted, the adjusted mean predicted number of emergency department visits/month among UCMyRx patients was 0.09 (95% CI 0.06, 0.12), compared to a rate of 0.34 (95% CI 0.31, 0.37) in the usual care group. The Average (international) predicted reduction of 21% in emergency department visits associated with the UCMyRx intervention was significant (P = 0.035). The rate of hospitalizations was 0.05 (95% CI 0.04, 0.07) in UCMyRx patients, 0.13 (95% CI 0.12, 0.14) in the usual care practice. In models adjusted, the adjusted mean predicted number of hospitalizations/month among UCMyRx patients was 0.05 (95% CI 0.04, 0.07), compared to a rate of 0.13 (95% CI 0.12, 0.14) in the usual care group. The Average (international) predicted reduction of 63% in hospitalizations associated with the UCMyRx intervention was significant (P = 0.035).

Conclusion: Pharmacists are effective at improving control of cardiovascular risk factors, but it is less clear whether these improvements translate into less emergency department use and fewer hospitalizations. The UCMyRx intervention was associated with significant reductions in emergency department use and hospitalizations, with the predicted difference in hospitalization rates between UCMyRx and usual care was 21%.