Unrealized opportunities for cardiovascular risk reduction with optimized statin and ezetimibe in veterans with coronary artery disease

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Background: Many patients with coronary artery disease (CAD) do not achieve guideline-directed low-density lipoprotein cholesterol (LDL-C) goals (1,2).

Purpose: To quantify unrealized opportunities to improve clinical outcomes of Veterans with CAD through optimized oral lipid-lowering therapy (LLT) with statins and ezetimibe within the United States Veterans Affairs healthcare system.

Methods: Veterans with CAD by coronary angiography between 2015 and 2020 were identified, the observed LLT and LDL-C were described, and the observed rates of death, myocardial infarction, stroke, and coronary revascularization were determined. Potential reductions in these events with optimized statin alone or with ezetimibe were modelled based on expected further LDL-C reductions (3).

Results: The analysis cohort comprised 111,954 Veterans (59.7% statin-treated at baseline angiography) observed for median 3.4 (IQR 2.1-4.0) years. At 6 months, statin prescription increased to 68.7%, but high-intensity statin regimens were prescribed in only 52.9%, ezetimibe use was low (1.1%), and LDL-C remained ≥70 mg/dL in 52.1% of patients. At 4 years, observed incidences (95% CI) of death, myocardial infarction, stroke, and coronary revascularization were 21.6% (21.3-21.8), 5.0% (4.9-5.2), 2.2% (2.1-2.3), and 15.4% (15.2-15.7), respectively (Figure 1). With optimized statin, projected absolute reductions in these incidences were 1.3% (0.9-1.7), 0.8% (0.7-1.0), 0.2% (0.1-0.3), and 2.3% (2.0-2.7). With optimized statin and ezetimibe, projected absolute reductions were 1.8% (1.2-2.4), 1.1% (0.9-1.3), 0.3% (0.2-0.4) and 3.1% (2.6-3.6).

Conclusions: Suboptimal LLT was prevalent among Veterans with CAD. Meaningful improvements in their cardiovascular outcomes could be achieved with optimized statin alone. Despite lesser lipid-lowering efficacy of ezetimibe, its widespread use on a population level could contribute substantially to cardiovascular risk reduction from intensified oral LLT.

![Figure 1](https://academic.oup.com/eurheartj/article/44/Supplement_2/ehad655.2511/7390897)
Figure 2