Statin prescriptions are the subject of perennial focus among peripheral artery disease (PAD) clinicians and researchers because of the tension between the robust evidence showing that statins significantly improve outcomes and the substantial literature showing that statins are markedly under prescribed. The shortfall in statin prescriptions is an especially pressing matter in the study and treatment of PAD because of the sheer burden of cardiovascular and limb events affecting patients with PAD, which appropriate statin therapy has been estimated to reduce by 25% (for mortality) to 33% (for amputation).1 Given 57,000 annual deaths and 148,000 annual major amputations among patients with PAD in the United States, of whom 6% to 18% are estimated to be taking statins of appropriate intensity, the scope of the opportunity is clear.1,2

Singh et al3 used the Vascular Quality Initiative (VQI) data set between 2014 and 2019 to examine the phenomenon of conversion from no statin prescription to statin prescription around the focal point of a lower extremity revascularization procedure. The investigators excluded patients who had previously been found to be statin intolerant or not adherent with statin therapy. They found that 24% of patients were not already on statins (of any intensity) at the time of revascularization, and only 30% of those patients were subsequently prescribed statins after the procedure. Patients not taking statins were more likely to convert to statin prescription following surgical revascularization (41%) than following endovascular intervention (26%). Regardless of revascularization type, patients were more likely to convert to statin prescription if they underwent revascularization for chronic limb threatening ischemia or acute limb ischemia or if they had other cardiovascular comorbidities such as diabetes, smoking, hypertension, and coronary heart disease. Women, patients with prior revascularizations, and patients already taking antiplatelet therapy were less likely to convert to statin prescription.

These findings are not surprising in and of themselves—in particular, previous studies have found that patients with cardiovascular comorbidities are more likely to be taking statins.1 These previous analyses have generally included statin prescriptions provided during a defined time period (such as a year), and therefore may have reflected increased contact with the health care system, or with specific clinicians, among patients with cardiovascular comorbidities. In this context, the findings from Singh et al add to the literature by focusing on missed opportunities for prescription of statin therapy at a defined point of obligate contact between patients with PAD and the health care system (ie, revascularization). To be more blunt, even given an opportunity in the form of a revascularization event, clinicians are not prescribing statins at adequate levels.

These findings are particularly important given what is known about how patients with PAD receive—and fail to receive—care. For instance, PAD care is fragmented both among disciplines (involving vascular surgeons, cardiologists, primary care physicians, podiatrists, and endocrinologists) and is likely fragmented between locations. For example, a National Readmissions Database study reported that 20% to 25% of readmissions following lower extremity revascularization were to nonindex hospitals.4 This means that clinicians may not have an opportunity to prescribe guideline-based treatments; alternatively, it may also lead to a “tragedy of the commons,” in which each clinician believes statin prescription falls under another clinician’s purview. This “tragedy of the commons” is hinted at in the current analysis by the fact that patients prescribed antiplatelet therapies—medications clearly linked to revascularization and under the authorization of clinicians who perform revascularization—were paradoxically less likely to receive a new statin prescription. This suggests that clinicians who perform revascularization are aware of
medical therapy guidelines, but may not accept responsibility for prescribing medications not 
directly linked to the revascularization procedure.

There is also evidence that the clinicians who are likely most frequently seen by patients 
with PAD (eg, primary care clinicians) may not be well aware of PAD as a disease process or the 
guidelines relevant to PAD management. A well-known study of PAD screening in primary care by Hirsch et al\(^5\) 
reported that 55% of patients without concomitant cardiovascular disease who were found to have 
PAD had not been previously diagnosed even though more than half of those patients had 
symptoms. At the same time, only 44% of those newly diagnosed patients received lipid lowering 
therapies (including statins).\(^5\) Unfortunately, as the main source of referrals to PAD-related specialty 
care, primary care clinicians may also contribute to the difficulty patients with PAD have accessing 
the very specialists who might be better equipped to prescribe guideline-based medical therapies.\(^6\) 
Unfortunately, as demonstrated by the analysis of Singh et al, simply reaching specialty care is not 
enough to ensure adequate prescription of guideline-based therapies.

The study by Singh et al has some limitations that require consideration in applying its findings 
to clinical practice. Perhaps the most important limitation is the lack of data concerning between-
institution variation in the rates of conversion to statin prescription. Growing awareness that high 
quality care is as much the product of efficient systems as it is the product of individual clinicians 
heightens the need to identify high performing centers, to understand the drivers of those centers’ 
success, and to propagate those learnings elsewhere. As Singh et al acknowledge, statin prescription 
likely higher in this VQI data set than it is at nonparticipating centers, as statin prescription is a 
tracked quality metric in the VQI. Unfortunately, this analysis also shows the inadequacy of VQI 
participation and quality metrics to ensure adequate statin prescription, suggesting that the 
community of PAD clinicians will need to collectively step up, take responsibility, and think creatively 
about both statin prescriptions and ways to take advantage of newer medications such as proprotein 
convertase subtilisin kexin type 9 inhibitors.

This is especially important given new evidence suggesting that treating cholesterol even more 
aggressively, including adding novel nonstatin lipid lowering therapies to statins as needed, may 
further reduce cardiovascular and limb events. Though PAD-specific data are still lacking, a recent 
randomized clinical trial showed that treating patients with prior ischemic stroke to a ow-density 
lipoprotein cholesterol (LDL-C) level of 70mg/dL rather than 100mg/dL contributed to a 22% relative 
risk reduction in cardiovascular death, MI, stroke, or revascularization.\(^7\) If the benefit of a lower LDL-C 
target is confirmed in patients with PAD, failing to achieve it will unnecessarily expose patients to 
excess risk of events, just as does the current failure to adequately prescribe statins for PAD.

Whether statin under prescription is associated with lack of knowledge, lack of initiative, or lack 
of consequences, it is clear that current quality incentives alone are insufficient. It may be necessary 
to link statin prescription more explicitly with procedural reimbursement, in recognition of the fact 
that revascularization events are moments of obligate contact between patients with PAD and PAD 
exerts. An argument could be made that clinicians who are not enough aware of PAD guidelines to 
prescribe statins appropriately may also merit greater scrutiny of their other PAD-related decision-
making (ie, revascularizations). At the same time, as the PAD experts, revascularizing clinicians need 
to proactively engage primary care clinicians and patients as colleagues to understand barriers to 
statin prescription (and persistence) at a local level. While the reasons behind under prescription of 
statins are academically interesting and important to understand, ongoing collective failure to begin 
acting solutions to improve prescription of guideline-directed PAD therapies has real world 
consequences for the hearts, limbs, and lives of patients.
REFERENCES


