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Statin use in low-income and middle-income countries - Authors' reply

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We thank Neuhann and colleagues for their interest in our study on statin use in low- and middle-income countries. We agree with many of their points. Large datasets can aid in understanding treatment gaps. Local data should inform the intervention priorities of policymakers—not just for statins but for all health system investments. Scaling up treatment of hypertension and diagnosis of diabetes are also global cardiovascular health priorities. We wish to make a few additional comments.

First, while our study did not include data from Malawi as no response rate was reported in the country's 2017 STEPS survey, the estimates presented by the authors suggest that a sizeable proportion of the population in the country would also benefit from statin therapy. The 2017 Malawi 2017 STEPS report states that 9.1% of individuals 40 to 69 years of age had a 10-year CVD risk ≥30% or existing CVD. We took the opportunity to analyze

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microdata from this survey using the methods described in our paper and found that statins were used by fewer than 10% of these high-risk individuals.

Second, a crucial clinical detail that may be overlooked by the authors is that the relative risk reduction on CVD outcomes (including CVD events and all-cause mortality) for anti-hypertensive and statin therapies is roughly commensurate,[1] and the absolute benefit for both is primarily dependent upon a given patient's baseline CVD risk.[2,3] Thus, the individuals most likely to benefit from anti-hypertensive medications are generally the same individuals who would also benefit from statins. As a result, we would not favor separating anti-hypertensive and statin treatment priorities, as suggested by the authors.

Third, while we agree that use of non-laboratory risk tools holds promise in guiding statin eligibility, we also believe that access to affordable lipid measurements will continue to be an important goal in resource-limited health systems. The WHO non-laboratory risk equations perform poorly among individuals with diabetes.[4] Therefore, risk-stratification among these patients ideally should use laboratory-based risk equations that require total cholesterol. (W note that guidelines typically recommend at least moderate-dose statin treatment in all adults with diabetes). In our experience, there also is often significant resistance and skepticism among physicians and patients to initiating statin therapy without baseline lipid measurements.

Finally, the authors argue that a large improvement in the CVD burden can be attained through scaling up anti-hypertensive treatment and diabetes screening rather than statins. We previously published in this journal a modeling study showing that, among people with diabetes, improving access to anti-hypertensive and statin treatment would reduce more diabetes complications than focusing on screening to increase diabetes diagnoses.[5] But ultimately, we believe that diagnosis and treatment (including with statins) are both cornerstones of an integrated, population-level approach to the management of diabetes and cardiovascular risk factors in primary care.

In conclusion, statins are one of the most important tools in the prevention of CVD in the clinical armamentarium. We urge funders and policymakers to work together to provide access to this safe, effective, and cost-effective class of medicines for all patients for whom they are appropriate.

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