


Response to “Estimating the cost of inappropriate antibiotic prophylaxis prior to dental procedures”

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To the Editor—We appreciate the concerns raised by Drs. Miller and Thornhill regarding our analysis of inappropriate antibiotic prophylaxis prior to dental procedures. Although our goal in the analysis was to estimate the costs associated with such prescribing practices, we acknowledge that certainly, the risk of underprescribing antibiotics for those at highest risk of adverse events from infective endocarditis (ie, for those in whom such prophylaxis is indicated), warrants further review. As Drs Miller and Thornhill note, anywhere from 25.9% to 32.6% of high-risk patients undergoing invasive dental procedures do not receive appropriate antibiotic prophylaxis. Furthermore, their research has suggested that prophylaxis significantly reduces the odds of infective endocarditis, particularly among those undergoing selected invasive dental procedures who are at a priori high risk.¹

Although more population-specific and representative data are necessary to inform prophylaxis recommendations as outlined previously,² we agree that it is important that those who are at high risk receive prophylaxis as recommended according to the American Heart Association (AHA) and European Society of Cardiology (ESC) guidelines. Prophylaxis against infective endocarditis represents a challenge for every antibiotic stewardship program: a balance between potential overprescribing with proper prescribing, particularly in high-risk situations. In our analysis, we accounted for a decrease in overall antibiotic prescribing by

estimating the corresponding potential increase in endocarditis cases, but this is theoretical and is based on the limited data available on dental prophylaxis and its downstream effects.

Our intent is not to discourage all antibiotic prescribing but to encourage thoughtful and judicious antibiotic use in dentistry. How best to identify patients who would truly benefit from appropriate, necessary prophylaxis while acknowledging the very serious risks of adverse drug reactions and drug resistance can be a challenge in any clinical setting. We believe our data and those presented by Thornhill *et al*¹ are helpful in that decision-making process for providers of dental care.

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References

1. Thornhill MH, Gibson TB, Yoon F, *et al.* Antibiotic prophylaxis against infective endocarditis before invasive dental procedures. *J Am Coll Cardiol* 2022;80:1029–1041.
2. Bolger A, Kazi DS. Antibiotic prophylaxis against endocarditis prior to invasive dental procedures. *J Am Coll Cardiol* 2022;80:1042–1044.

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