

relative risk ranged from 0.6 to 0.91 for patients undergoing gastrointestinal and vascular surgery, and the study was underpowered for decisive conclusions for most subgroups. Universal decolonization is highly cost-effective in the Dutch setting, and these benefits remained along a long range of effectiveness [3]. Moreover, the universal approach was always more cost-effective than the screen-and-treat scenario. It is highly unlikely that we will see sufficiently powered high-quality randomized controlled trials of this intervention in every thinkable patient population. It will be up to physicians to decide whether they will accept some uncertainty and decide to use a cost-effective and reasonably safe approach, while carefully monitoring resistance development.

Note

Potential conflicts of interest. All authors: No reported conflicts. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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References

1. Hetem DJ, Bootsma MCJ, Bonten MJM. Prevention of surgical site infections: decontamination with mupirocin based on preoperative screening for *Staphylococcus aureus* carriers or universal decontamination? *Clin Infect Dis* 2016; 62:631–6.
2. Bode LG, Kluytmans JA, Wertheim HF, et al. Preventing surgical site infections in nasal carriers of *Staphylococcus aureus*. *N Engl J Med* 2010; 362:9–17.
3. Wassenberg MW, de Wit GA, Bonten MJ. Cost-effectiveness of preoperative screening and eradication of *Staphylococcus aureus* carriage. *PLoS One* 2011; 6:e14815.

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Clinical Infectious Diseases® 2016;62(11):1470

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Reply to Leenders

TO THE EDITOR—We thank Dr Leenders for this contribution. The universal use of mupirocin decontamination prior to surgery depends on the balance between effectiveness in preventing *Staphylococcus aureus* infections, and the costs of the intervention. The latter includes monetary costs, patient safety, and ecological costs. Our modeling, partly based on the quantified horizontal gene transfer rate of high-level mupirocin resistance between staphylococci, provides evidence that the ecological risks are low, as long as cross-transmission rates are also low [1]. This can now be used in balancing the pros and cons for procedures for which the current scientific evidence is inconclusive, such as patients undergoing vascular, gastrointestinal, and general surgery. We agree with Leenders that effectiveness of this intervention is most convincingly demonstrated for patients undergoing cardiothoracic surgery and orthopedic surgery (relative risk, 0.14 and 0.25, respectively, in [2]). Yet, in the Bode et al study, point estimates for