

## **Looking to Future Challenges and Opportunities**

By integrating current advances in guideline development and implementation into future HICPAC guidelines, we believe HICPAC will be able to confront many of today's emerging challenges successfully. However, there are a number of methodological challenges that are inadequately addressed by current advances. These challenges will likely be addressed by future advances, and HICPAC will stand at the ready to integrate these future advances into its processes. Some such methodological challenges include: 1) questions for which there is little to no evidence upon which to base a recommendation, there is little to no requirement for evidence given the high prior probability of a recommendation's success<sup>44, 45</sup>, or the evidence arises from basic science studies whose strength of evidence may not be accurately reflected in the current approaches to grading an evidence base (this last point is particularly relevant to the evidence addressing infection prevention and control questions); 2) those inherent to using systematic reviews in a systematic review, including how to judge the quality of studies included in the original systematic review<sup>33</sup>; 3) how to use meta-analyses in guidelines effectively given the heterogeneity of populations, interventions and outcomes often studied to address a single question; 4) the role of cost analyses in recommendations, particularly given the sometimes great differences in the costs of drugs and devices by state and by healthcare facility<sup>46, 47</sup>; and 5) the use of population based patient preference evidence to inform individual patient decisions<sup>48-51</sup>.

In addition, there are operational challenges that remain despite HICPAC's new approach to guideline development. To maintain the success and efficiency of

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HICPAC's new approach, the committee may want to rely on a small cadre of HICPAC members and CDC staff trained and experienced in the methods of guideline development; however, this methods expertise must be balanced by content expertise, and this balance may result in a less efficient but more valid guideline development process. Second, guidelines must be developed efficiently and updated regularly if they are to provide the most valid, relevant and up-to-date guidance, particularly in the context of emerging infections for which there may be a rapidly growing body of literature; however, this efficiency can conflict with the time often required for sufficient expert and public input. Third, guideline implementation could be markedly improved with the development of strategies to enable automatic integration of guidelines into computerized clinical decision support.<sup>43</sup> Fourth, as highlighted by a recent report by the U.S. Government Accountability Office, the quantity of existing HICPAC recommendations is substantial and there is a need to assist providers with translation and prioritization of these recommendations across the continuum of care.<sup>52</sup> Lastly, HICPAC will need to identify gaps in research to better prevent and control infections. In fact, one of the major strengths of performing a systematic review to develop a guideline is the ability to systematically uncover these critical evidence gaps. These gaps often represent only a handful of potential research studies which, if performed, could provide much needed answers to our most critical questions.

## **Conclusion**

The current update to HICPAC's guideline methodology builds on past strengths and current advances in guideline development and implementation, and enables HICPAC to improve the validity and usability of its guidelines while also addressing

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emerging challenges in guideline development in the area of infection prevention and control. Despite the current update, methodological and operational challenges persist, and HICPAC is ready to integrate any future advances into its processes as appropriate.