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SPECIAL ARTICLE

Should Committees That Write Guidelines and Recommendations Publish Dissenting Opinions?

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Abstract

Medical guidelines tend to convey a sense of unanimity of opinion that may not reflect the deliberations of the experts who wrote them. Using, as an example, an analysis of the recently published recommendations on administering pneumococcal conjugate vaccine to adults, the present article raises the question of whether official recommendations and guidelines should include dissenting opinions, analogous to decisions issued by the US Supreme Court. The argument that such a policy would lead to confusion in our profession is addressed in 2 ways: (1) the current system, in which different professional societies publish conflicting recommendations, as in the case of breast or prostate cancer screening, can be far more confusing, and (2) in the long run, greater transparency will lead to more thoughtful and higher-quality medical care. Perhaps the most important point of this paper is the suggestion that it is far better to bring dissent into the recommendation process than to act as if it is not there.

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When the Supreme Court of the United States issues a decision, it publishes separate concurring opinions from justices in the majority and dissenting opinions from those in the minority. Medical committees that write guidelines or make official recommendations may have heated debates and substantial internal disagreement, but only the conclusions are published. As citizens of the United States, we are as much bound by a 5-4 decision of the High Court as a 9-0 vote (although closely passed decisions are more likely to be overturned in future cases).[1] Similarly, as practitioners of medicine, until new guidelines are written, we are seriously constrained by, if not actually bound by, existing ones, without regard to the unanimity of opinion in the recommending committee. Nevertheless, there is much to gain from studying dissenting opinions, as was famously shown by the writings of Justices Holmes and Brandeis, many of whose minority opinions, in time, became the law of the land.[2] I propose that the failure to publish differing or dissenting views in medical guidelines presents our profession with an inappropriately monolithic view—one that is studied as gospel by physicians-in-training and forced on practitioners by incorporation into a variety of performance measures.

I propose to examine the subject of dissenting opinions using, as a case in point, the recent recommendations by the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention regarding a dual vaccine approach to pneumococcal vaccination for adults.[3,4] The 2 vaccines are 23-valent pneumococcal polysaccharide vaccine (PPSV23), marketed in the United States as Pneumovax 23 (Merck & Co Inc) and 13-valent pneumococcal conjugate vaccine (PCV13), marketed as Prevnar 13 (Wyeth LLC). The essence of the recommendation is that (1) vaccine-naive adults (≥19 years old) with immunocompromising conditions receive both vaccines, with PCV13 given first followed by PPSV23 (those who have already received PPSV23 should be given PCV13 alone)[3] and (2) this same approach be applied to all adults 65 years and older.[4]

I served on the working group that recommended the use of PCV13 to the ACIP, and I strongly disagreed with the final recommendation. I had ample opportunity during multiple telephone conferences to express my dissenting opinion. Although we used the GRADE (Grades of Recommendation, Assessment, Development, and Evaluation) system, the final grading did not average the grading by individual members but was determined by consensus. Thus, if the

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majority agreed on a grade, this was not affected by a strong dissent. In other words, dissenting minority opinions had essentially no voice, and the recommendations went forward to the ACIP, which accepted them by a majority vote.[5]

In this brief communication, I summarize the reasons why I regard the final ACIP recommendations on pneumococcal vaccination for adults 65 years and older to be inappropriate. My purpose is neither to criticize the ACIP, which has played a central role in promoting public health in the United States, nor to encourage failure to comply with the recommendations, which are already being implemented. (Interestingly, PCV13 for adults ≥65 years old was recommended with the understanding[5] that the subject will be revisited in 2018, suggesting that the issues are, in fact, far more fluid and complex than is indicated by reading the final document.) Rather, I use this issue to raise the general question of whether medical guidelines should follow the example of the Supreme Court by publishing separate concurring and dissenting opinions. Dissenting opinions are rarely published in these circumstances,[6] and, until very recently,[7] no one has, to my knowledge, addressed this problem in the medical literature. I contend that a great deal of transparency would result from publishing dissenting opinions, and the result would be greatly beneficial to our profession and to the public. For full disclosure, the reader should note that I adhere to vaccination recommendations and urge my students to do the same, although I lecture on the underlying controversy because those of us who teach should be showing learners how to think about problems, present and future, not just how to follow guidelines.

Ample evidence shows that PPSV23 protects adults against noninvasive pneumococcal pneumonia (NIPP; pneumonia without a positive blood culture) and invasive pneumococcal disease (IPD; infection with *Streptococcus pneumoniae* grown from any sterile site).[8] A Cochrane review by Moberley et al in 2008[9] documented 73% protection against vaccine-type specific NIPP and 82% protection against IPD by PPSV23; a more recent Cochrane review[10] presented similar findings. The working group and the ACIP misinterpreted the Cochrane review by Moberley et al,[9] interpreting the results as showing no protection against NIPP and instead accepting a meta-analysis by Huss et al,[11] which I have critiqued elsewhere.[12] Incorrectly assuming the inadequacy of PPSV23 greatly lowered the threshold for approving another vaccine strategy.

Capsular polysaccharides (CPSs) do not interact with helper T cells but, rather, directly stimulate B cells by cross-linking receptors on their cell surfaces. The immature immune system does not respond to polysaccarides. As a result, PPSV23 is not immunogenic in infants. Chemical conjugation of pneumococcal CPSs to immunogenic proteins yields PCVs that evoke T-cell responses, effectively stimulating protective antibody responses in infants. Revaccination after initial sensitization with a protein antigen generally leads to a booster response, whereas repeated vaccination with a polysaccharide antigen is suppressive, especially if given at close intervals.[13]

From these basic principles, but with slender supporting evidence, the working group assumed that (1) PCV13 stimulates higher levels of anti-CPS antibody than PPSV23, (2) this antibody persists for longer intervals, (3) PCV13 primes the immune system for a booster response by PPSV23, and (4) PCV13 more effectively protects immunocompromised and elderly adults than does PPSV23.

Published data available at the time the ACIP made these recommendations did not support these conclusions.[14] Many earlier studies showed that PCV7 was equivalent, but not clearly superior, to PPSV23 in stimulating antibody activity.[14] It required a study of nearly 900 older adults to show that 1 month after vaccination, antibody activity was significantly greater against 8 of 12 CPSs in recipients of PCV13 vs PPSV23. Whether this difference is meaningful is unknown because a protective level of antibody against each serotype in adults has not been determined. These data were presented to the working group before publication, a practice to which I was strongly opposed. However, the published document[15] showed (and, then, only in the supplementary materials) that by 1 year after vaccination, antibody activity for vaccine serotypes was identical in recipients of PPSV23 or PCV13.[15] Ridda et al[16] reached a similar conclusion in frail, elderly people.

The medical literature also did not support the concept that PCV13 would prime for a booster effect by PPSV23. In one large study,[17]

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