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The authors respond

Regarding the letters in response to our article in *CMAJ*,[1] we agree with Van Buynder and colleagues,[2] and Woeltje and Babcock[3] that, despite its shortcomings, the influenza vaccine is currently the best defence against influenza, and that receiving the vaccine is better than not. We are strong supporters of immunization. Where we differ is on the issue of whether receipt of the influenza vaccine should be made a mandatory condition of employment for health care workers.

We need to be honest with our audience. Although seasonal all-cause mortality is traditionally used as a convenient surrogate for more influenza-specific causes of death, this highly sensitive outcome is also very nonspecific. Other common high-mortality conditions, such as myocardial infarction, *Clostridium difficile* infections and respiratory syncytial virus infection are also more common in the winter, and all contribute to a likely highly inflated estimate of influenza deaths when using all-cause mortality in place of more specific outcomes. The true impact of the influenza vaccine on mortality is overestimated by this approach and if we do not acknowledge this, we risk losing credibility.

We do not agree with Woeltje and Babcock's[3] interpretation of influenza vaccine effectiveness. They suggest that 60% effectiveness means that most individuals will be 100% protected, and that protection is durable for the entire influenza season. That breakthrough laboratory-confirmed influenza in immunized individuals can cause milder disease is well known; that is, the vaccine can protect against more severe illness. Immunized health care workers may mistake influenza symptoms for a more benign illness and continue to work. Further, 3 recent large European studies showed that vaccine effectiveness waned to near 0 or 0 within roughly 3 months after vaccination for the 2011–2012 season.[4–6]

With any issue that raises debate, citing and critically analyzing all of the evidence is necessary, even if it does not support a given position. As an example, the study[7] mentioned by Van Buynder and colleagues[2] did show a higher vaccine effectiveness in relation to influenza-related hospital admissions for the 2011–2012 season; however, the study had a very small sample size and very broad 95% confidence intervals (CIs) around the protective effect of the vaccine (95% CI 17.1–94.9).[7] Furthermore, a much larger international study published only 1 day later calculated the overall adjusted vaccine effectiveness for the same season to be just 24.9% (95% CI 1.8–44.6), but this article[8] was not cited.

A small number of American facilities have implemented mandatory vaccination and have seen their immunization rates increase to well over 95%. We have not seen evidence that the policy has brought about a significant reduction in both nosocomial influenza and influenza-related deaths. Vaccination rates alone should not be the outcome we are interested in.

We unreservedly support annual influenza vaccination. But we believe that "it's the best we have right now" and "it might help" are not sufficiently valid bases upon which to compel influenza immunization for health care workers. Taking such steps may paradoxically lead to a negative impact on overall vaccination rates, including those of much more effective vaccines.

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Letters to the editor

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