

“is now as common among adults as among children.” This is not the first time that the efficacy of vaccines has been called into question.

“Herd immunity” was defined in the first half of the last century as protection of any given population from a transmissible disease, through lifelong or long-term immunity caused by contraction of and recovery from the disease;² immunity related to high standards of nutrition, cleanliness and sanitation was a cofactor.³ As the case of pertussis and other examples show, herd immunity through vaccination is a flawed concept. For various reasons, the efficacy of vaccines is highly variable (and never complete), and any immunity derived from vaccines is only short-lived.⁴

It wouldn't be so bad if all we had to worry about was lack of efficacy — after all, we managed to survive for thousands of years with no vaccinations. However, the fact that these agents of dubious effect are also harmful is another matter. However, recent data from the US Vaccine Adverse Event Reporting System show that deaths following pertussis vaccine far surpass deaths from pertussis (20 deaths yearly from the disease, 57 following vaccinations, which is a gross understatement because only 10% of reactions — at most — are reported).²

I agree that we need national leadership on vaccination policy and a much improved national system of recording morbidity and mortality related to specific diseases. Much more pressing is the need for an adverse reaction reporting system that encompasses all possible adverse events and is easily accessed by the general public. What we don't need is multitudes of expensive new vaccines on top of the many we already have, within an already faltering health care system.

Susan Fletcher

Vaccination Risk Awareness Network
Inc.
Sechelt, BC

References

1. A patchwork policy: vaccination in Canada [editorial]. *CMAJ* 2003;168(5):533.
2. Tenpenny SJ. Vaccines — what CDC documents

and science reveals [video]. Strongsville (OH): New Medical Awareness Seminars; 2002.

3. James W. *Immunization: the reality behind the myth*. 2nd ed. Westport (CT): Praeger Publishers; 1995.
4. Fine P. Herd immunity: history, theory, practice. *Epidemiol Rev* 1993;15(2):265-302.

[The editor responds:]

Regarding our editorial,¹ Susan Fletcher's conclusion that “herd immunity through vaccination is a flawed concept” is based on 2 undeniably true facts: first, infectious disease rates have fallen over time as living conditions have improved; second, that immunity after exposure to infectious disease (by vaccination or infection) also declines over time. But it is illogical to conclude that because living conditions are important, immunity is not. Both factors have contributed enormously to the observed decreases in death and illness resulting from infectious diseases.

Science and common sense concur that if there is less infectious disease in the community (because almost everyone is vaccinated), then there is much less chance that those not immunized or only partly immunized will come into contact with the infectious agent and become ill. Furthermore, if very large proportions of the “herd” are effectively immunized, diseases that survive only in humans can be eliminated. Polio and measles in Canada and many other countries are good examples (not to mention smallpox). Vaccination and herd immunity undoubtedly play important causal roles in the declining rates of infectious diseases, but they are not the only factors.

I agree with Fletcher that we need better reporting systems for adverse reactions to vaccines. The public health sector in this country and elsewhere also need to find better ways to share existing knowledge about the serious health effects of infectious diseases and about the risks and benefits of vaccination.¹

John Hoey

CMAJ

Reference

1. A patchwork policy: vaccination in Canada [editorial]. *CMAJ* 2003;168(5):533.

Corrections

An error occurred in a recent Practice section article on the toxic effects of supplements.¹ In the second footnote of Table 1, the word “anticoagulant” should be replaced with “coagulant.” Vitamin K is a coagulant.

Reference

1. Wooltorton E. Too much of a good thing? Toxic effects of vitamin and mineral supplements. *CMAJ* 2003;169(1):47-8.

In a recently published paper on DEET-based insect repellants,¹ the second sentence of the section on the toxic effects on children should read as follows: “However, we found only 10 reports describing seizures in children in North America following dermal application of DEET... ”

Reference

1. Koren G, Matsui D, Bailey B. DEET-based insect repellants: safety implications for children and pregnant and lactating women. *CMAJ* 2003; 169(3):209-12.

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