more cases of HIV prevention you will believe have been achieved.

I am more impressed by the speculation in the second-last paragraph: "Research is under way to determine whether the program could be playing a causative role." I encourage much more research in that area, since the authors are obviously giving our population the message that intravenous drug use somehow has the approval of the medical community, along with government funding.

**William D. Gutowski, MD**
Psychiatrist
Chilliwack, BC

**[The authors respond:]**

Dr. Gutowski raises the question of the role of homosexual activity in spreading HIV among injection drug users (IDUs). Although data from Toronto suggest a much higher prevalence of HIV infection among male IDUs who also report having sex with other men,[1] this represents a small percentage of the overall population of IDUs. It is clear that in Canada and elsewhere the majority of HIV infections among IDUs are occurring in heterosexual users who are infected after sharing needles and other drug paraphernalia, or through heterosexual contact with partners infected by this means. The relatively low estimates of incidence cited in our study are in keeping with infection rates occurring in the latter population.

We interpret Gutowski's primary concern to be the concept of needle exchange and its role in the harm-reduction approach to injection drug use. Research has indicated that needle exchange does not encourage injection drug use or lead users to believe that they are being encouraged to continue their drug use.[2] Qualitative evidence from an early evaluation of British needle exchange programs showed that they provided a means for IDUs to discuss their concerns about drug use and treatment options in a user-friendly, nonjudgemental environment; this may be especially beneficial for those not yet ready to approach a treatment program directly, because it will encourage them to take this step.

An economic evaluation like ours must rely on estimates of HIV incidence among IDUs and the impact of needle exchange programs on these users. Unfortunately, there is no definitive way of knowing how many cases might have been prevented except by failing to prevent them. The paper demonstrates that the costs of that approach are high and are likely to more than outweigh the costs of even moderately successful prevention strategies. The goal of harm reduction is not to encourage injection drug use; it is to respect the users and offer them a chance to avoid life-threatening diseases while determining how best to cope with their drug-use issues.

**Michelle Gold, MSW**
Department of Clinical Epidemiology and Biostatistics
McMaster University
Hamilton, Ont.
**Amiram Gafni, PhD**
Department of Clinical Epidemiology and Biostatistics
Centre for Health Economics and Policy Analysis
McMaster University
Hamilton, Ont.
**Penny Nelligan, RN, BScN**
Hamilton–Wentworth Regional Public Health Department
McMaster University and University of Guelph
**Peggy Millson, MD, MHSc**
HIV Social, Behavioural and Epidemiological Research Unit
Department of Public Health Sciences
Faculty of Medicine
University of Toronto
Toronto, Ont.

**References**

1. Millson P, Myers T, Rankin J, Major C, Fearon M, Rigby J. *Drug injecting and risk of HIV infection in Toronto*. Toronto: Department of Public Health Sciences, Faculty of Medicine, University of Toronto; 1995. Final report of NHRDP grant 6606-4694-AIDS.
2. Normand J, Vlahov D, Moses LE, editors. *Preventing HIV transmission: the role of sterile needles and bleach*. Washington: National Research Council/Institute of Medicine; 1995.

## Antibody screening for celiac disease

In the interesting report "Effectiveness of antigliadin antibodies as a screening test for celiac disease in children" (*Can Med Assoc J* 1997;157 [5]:527-33), Lucie J. Chartrand and associates report that antigliadin antibodies can be used to help determine whether patients with suspected celiac disease should undergo duodenal biopsy. However, I would like to point out 2 methodologic limitations that should be considered before their results are applied to other patients.

First, the authors report performing "negative controls," which they describe as assays with the anti-human immunoglobulin antibodies but without serum. The optical densities from the negative control wells were subtracted from the results obtained with each patient's serum. However, this description refers to a blank, not a negative control. A negative control would be used to verify the absence of nonspecific binding of immunoglobulins to the microtitre plate wells. A true negative control would have involved serum from a normal subject, and its results would not have been used in the calculation of the patients' results.

The method for selecting the best cutoff values is also problematic. Using a receiver operating characteristics (ROC) curve, the authors evaluated each possible cutoff point and retained the point that gave the highest sensitivity with an acceptable false-positive rate. It must first be noted that the cutoff points reported are only valid for the assay conditions in this study. If antibodies from another manufacturer were used or the

assay conditions were modified, another cutoff point would have to be determined. A change in the specific activity of the labelled anti-human immunoglobulins, which can occur from one lot to another, would also lead to variation in the cutoff point, even if all other assay conditions remained constant.

On purely statistical grounds, it should be noted that the optimal cutoff points and the discriminative ability were determined from the same cohort of patients. Such a design tends to overestimate the performance of the marker. If the experiment were repeated in another cohort according to the predetermined cutoff points, a lower discriminative performance would be expected because the cutoff points would not be optimal for the new cohort. Furthermore, the 95% confidence intervals for sensitivity (not reported) were large (65% to 95% for IgA antigliadin antibody). Therefore, the results should be confirmed prospectively in another cohort (with the predetermined cutoff points) before antigliadin antibody testing is used to decide whether duodenal biopsy is appropriate for patients with suspected celiac disease. If the true sensitivity is only 70%, a large proportion of affected patients would be denied a diagnostic test and appropriate therapy.

**Jacques Massé, MD, MSc**
Biochemistry Division
Centre hospitalier universitaire
de Québec
Quebec City, Que.
Received by email

**[Two of the authors respond:]**

We appreciate the opportunity to clarify a poorly worded sentence in our methods section. The optical density obtained with goat anti-human IgG or IgA antibodies without serum from a patient does in-