

## Letters to the Editor

### Costs and Benefits of Measures to Prevent Needlestick Injuries in a University Hospital

#### To the Editor:

We are writing in regard to the article "Costs and Benefits of Measures to Prevent Needlestick Injuries in a University Hospital" by Roudot-Thoraval and colleagues,<sup>1</sup> which appeared in the September 1999 issue of *Infection Control and Hospital Epidemiology*. At a time when needlestick-injury prevention is receiving national attention, this article and others like it provide important information to inform policy-making—by both providers and government—on this issue.

This cost-effectiveness study reports the effectiveness of measures to reduce the risk of needlestick injury, as did the study we conducted and published in the *American Journal of Infection Control* in 1994.<sup>2</sup> Dr. Roudot-Thoraval and her colleagues cited our study in their discussion, stating that we calculated cost-effectiveness ratios of between \$800 and \$1,500 and that these calculations included the costs of seroconversions averted. While we calculated and reported various cost-effectiveness ratios for needlestick-prevention devices we studied, our calculations were based solely on the costs of implementing the use of the devices and did not include the costs of seroconversions averted. However, we discussed the exclusion of these costs from our calculations as additional considerations that could potentially affect the cost-effectiveness of these devices. In fact, because of the magnitude of such costs, implementing the use of these devices might save money, at least from a societal perspective, and possibly save the hospital money if the hospital incurs these costs either directly or indirectly.

#### REFERENCES

1. Roudot-Thoraval F, Montagne O, Schaeffer A, Dubreuil-Lemaire M-L, Hachard D, Durand-Zaleski I. Costs and benefits of measures to prevent needlestick injuries in a university hospital. *Infect Control Hosp Epidemiol* 1999;20:614-617.
2. Laufer FN, Chiarello LA. Application of cost-effectiveness methodology to the consideration of needlestick-prevention technology. *Am J Infect Control* 1994;22:75-82.

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#### The authors reply.

The work published by Laufer and Chiarello is an important contribution in the field on prevention of needlestick injury, and we enjoyed reading the report of their cost-effectiveness analysis. I am sorry that in our article a condensed sentence did not render justice to the completeness of their approach.

I fully agree that it is useful to document the costs of human immunodeficiency virus and hepatitis C virus infections as information to readers and policy makers, and I also agree that it is not correct to include those in a model because of uncertainty regarding the actual numbers of seroconversions averted and the evolution of treatment costs in the coming years. This is why we did not do it either. I was interested to see that, despite a different methodological approach, our conclusions with regard to prevention of needlestick injuries were similar to those of researchers from New York.

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### Evaluation of Hospital Infection Rates and Control Measures in a Cardiac Surgery Hospital: 10 Years' Experience

#### To the Editor:

Besides extending the hospitalization period, surgical-site infection (SSI) in cardiac surgery may be associated, in some cases, with increased death rates. Reported infection rates range from 0.81%<sup>1</sup> to 16%<sup>2</sup>; in most studies, the average is approximately 2%. The aim of the present study was to evaluate the evolution of hospital infection rates over time after the initiation of a hospital infection control service.

The Hospital Infection Control Program instituted in our hospital was composed of two phases: (1) identification of problems (1988-1989), and (2) intervention and educational programs (classes, discussion of cases, medical visits, and training courses), starting in 1990.

In 1989, with the beginning of the systematic Active Epidemiological Surveillance (AES) and the notification of hospital infection cases according to the Centers for Disease Control and Prevention,<sup>3</sup> there was an increase in the SSI rate from 11.5% to 17% ( $P=0.005$ ; Figure). The proportion of *Staphylococcus aureus* that was methicillin-resistant was 63.5%. In 1990 we started the second phase of the program with a series of measures, and the SSI rate decreased to 10.3% ( $P=0.01$ ). After the nurse began working exclusively for the Infection Control Program, the volume of surgery increased, and a new hospital building was opened (1992), the SSI rates dropped to 4.1% ( $P=0.01$ ; Figure).

In 1995 a new step was taken with the substitution of cefazolin for cephalothin: 1 g intravenous at anesthetic induction and after every 4 hours until the end of surgery, with maintenance for 48 hours after surgery; the SSI rate dropped to 2.8%