

carded in these containers (Table). Almost 2,000 other types of objects (eg, medication vials, glass ampules, scissors, hemostats, sutures, and scalpels) also were discarded. There were approximately 3,800 patient visits to the Emergency Department during the study period, with approximately 230 devices of all types used per day and 2.3 devices used per patient visit.

We found that needle recapping was common, occurring with 10.6% to 72.2% of the needled devices (Table). This likely was an underestimate of actual recapping, as some needle caps came off needles as the container contents were shaken onto the sorting table. On the other hand, some of the capped needles likely had been used to draw up medications, a circumstance in which recapping to change needles is an accepted practice. Some of the other capped needled devices undoubtedly were discarded prior to use. Finally, the proportion of needles that were capped to maintain sterility prior to use was not known.

Following publication of the McCormick and Maki study in 1981,¹ HCWs repeatedly were admonished not to recap used needles, but were frustrated by the lack of appropriate containers at points of use. The HCW often was faced with the dilemma of how to transport a syringe with an uncapped used needle to a disposal container far from the bedside. Recapping in this situation often was viewed as a safer alternative than walking down the hall with an exposed sharp. The two-handed recapping method also was taught routinely in nursing and medical schools, at least until the mid-1980s.

Sharps disposal containers near individual patient beds did not become common until the latter part of the 1980s. A few years later, Jagger and colleagues⁴ and Wugofski⁵ questioned whether "not recapping" was placing appropriate emphasis, and identified a number of competing priorities when the decision to recap or not to recap was presented to the HCW.

This study has enumerated the many different types of needles and sharps used in a large urban medical center's emergency department over a 38-day period and that over one third of the needles were recapped in some manner prior to disposal. The proportion of appropriate recapping

or the methods used is unknown.

This study presents a realistic view of the many different types of devices disposed of daily in a busy emergency department, and the myriad of different devices for which safety designs or work practice modifications are needed if risks for needlestick injuries are going to be reduced. We certainly agree with Jagger et al⁴ and with Wugofski⁵ that not recapping used needles is much too simple a solution to a very complex problem.

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Educational Needs and Opportunities for the Hospital Epidemiologist

To the Editor:

A number of excellent educational programs are described in the March issue.¹ Additional courses and resources may be found in an annual *Directory of Education*, published in December issues of *Infection Control & Sterilization Technology* (Mayworm Associates, Inc, Libertyville, IL). However, such programs all suffer one well-recognized limitation: the cost of travel, accommodation, and, in the extreme case, temporary relocation, to participate. Conversely, distance-education allows participants to study at times and locations of their own preference. Unfortunately, few

distance-education programs related to hospital epidemiology and infection control are available today. The Centers for Disease Control and Prevention (CDC) Distance Learning Program offers a few short courses for which certificates of completion are provided. The possibility of distance-education undergraduate and graduate degree programs for our field has been considered here at the University of British Columbia, and, in partnership with the British Columbia Institute of Technology, one 5-unit undergraduate course has been created. British Columbia Institute of Technology offers ENVH5266 (Advanced Epidemiology and Biostatistics) for an intended audience of public health inspectors and practitioners of hospital infection control or quality assurance and improvement. ENVH5266 provides instruction in methods of epidemiologic investigation, critical appraisal, outbreak investigation (CDC's "Pharyngitis in Louisiana" computer simulation is used as an exercise), and research design. Further information about ENVH5266 may be obtained from British Columbia Institute of Technology, Health Part Time Studies, 3700 Willingdon Ave, Burnaby, BC V5G 3H2, Canada.

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The authors reply

We thank Dr. Birnbaum for his input and course suggestion, as well as his additional references. While researching our article,¹ we limited ourselves mostly to traditional training opportunities in hospital epidemiology and infection control available in the United States. Our suggestions are by no means all inclusive. Finding training opportunities to meet an individual's needs and resources may require a fair amount of research. Our article offers some suggestions of where one should begin, and Dr. Birnbaum has suggested another