

Letter to the Editor

Full-Time Equivalent (FTE) Numbers

To the Editor:

In their survey of Iowa and Virginia hospitals, Beekmann et al. report estimates of percutaneous injury rates for nursing personnel relative to two prior multihospital and several single-hospital studies, and comment that these injuries remain common even after promulgation of the Occupational Safety and Health Administration's Bloodborne Pathogens Standard.¹ It is difficult to compare injury rates unless they incorporate corrections for underreporting and, especially in overtime-prone understaffed units, number of hours worked (thus, at risk). A decade ago, a study of 312 critical care nurses in 11 self-selected, acute-care Canadian hospitals found injury attack and incidence density rates commensurate with rates published prior to the era of Universal Precautions and Body Substance Isolation, no significant reduction in rates following adoption of Universal Precautions and Body Substance Isolation, no correlation between reduction of needlestick injury and extent of recapping (estimated by inspection of disposal containers), and significant underreporting of

employee injuries.^{2,3} At that time, the strategy perceived as least effective in discouraging recapping also was the most prevalent.⁴

These 11 hospitals were a subset of the large number of hospitals participating in a survey of infection control program practices.⁵ Overall, we found the staffing levels of infection control programs to be consistent with the finding of Beekmann et al. that the smallest hospitals were least likely to have infection control staff, but also found low staffing ratios of infection control professionals in larger hospitals (Table).

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The authors reply.

Dr. Birnbaum raises some very important issues relative to the reporting of percutaneous injury rates. We agree that a standard method for presenting injury rates is vital to allow comparisons between articles, which was why we suggested reporting injury rates based on a denominator of personnel at risk. Eleven of the 14 reports detailing percutaneous injury rates presented in our Table 6 used incident reports to determine these rates, and, unfortunately, underreporting is inherent to this method of data collection. We suggest that, rather than applying an arbitrary (and perhaps incorrect) correction factor, authors indicate their data collection method and present uncorrected data. This would allow other researchers to either compare rates as reported by staff or apply their own correction factors.

Dr. Birnbaum also suggested that injury rates should incorporate corrections for the number of hours worked. Although we agree that

TABLE
HOSPITAL SIZE (AS BEDS) VERSUS INFECTION CONTROL PROFESSIONAL STAFFING (AS FTEs)

Beds	FTEs								
	0	< 1.0	1.0	1.5	2.0	2.5	3.0	3.5	4.0
< 25	65.0	31.3	3.8	-	-	-	-	-	-
25-49	32.0	58.3	9.7	-	-	-	-	-	-
50-99	28.6	62.9	8.6	-	-	-	-	-	-
100-199	13.5	64.0	21.4	1.1	-	-	-	-	-
200-299	2.0	50.0	44.0	4.0	-	-	-	-	-
300-499	1.3	26.6	58.2	6.3	6.3	-	-	1.3	-
500+	2.0	6.0	36.0	10.0	26.0	2.0	14.0	2.0	2.0
All*	23.4	46.2	22.8	2.3	3.2	0.2	1.3	0.4	0.2

FTEs = full-time equivalents.

*Weighted means across all bed ranges. Numbers represent percent of hospitals with a given staffing level. Row totals are each 100%.

employees who work more than 40 hours per week are at risk for longer periods of time, we found that obtaining the number of full-time equivalent (FTE) positions was impossible for many hospitals in our study. We had requested the number of employees and FTE positions by occupation from each facility. FTE data were most often not available, and given the amount of missing data, we chose to use the numbers of employees instead.

Contrary to Dr. Birnbaum's finding that no significant reduction in rates occurred following adoption of Universal Precautions in 11 self-

selected, acute-care Canadian hospitals, multiple other studies as referenced in our article have found reductions in injury rates.¹⁻⁴ Although the reason for the discrepancy is unclear, we still point out that these rates are unacceptably high. More attention needs to be directed to behavior modification⁵ and needlestick-prevention devices.

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