Letters to the Editor

Utility of Epidemiologic Training in Long-Term Care Settings

To the Editor:

I have followed with interest the material presented in the section "Beyond Infection Control: The New Hospital Epidemiology," and would like to offer for your consideration my experiences in the long-term care environment.

Several activities that go on routinely in healthcare facilities are more conspicuous to the practicing physician in long-term care facilities than they are in hospitals.

As medical director of a 190-bed skilled nursing facility in Milwaukee, Wisconsin, I have been fortunate to have an infection control nurse who has handled the routine tasks of monitoring nosocomial infections and tuberculosis screening in exemplary fashion.

In addition, she has parlayed her part-time job as employee health nurse into the role of employee accident control officer and serves as liaison to the institution's casualty insurer, as well as epidemiologic investigator of employee accidents and healthcare educator in employee accident prevention.

This led to her involvement in the mandated program for reviewing patient accidents and incidents.

Most of us are familiar with filling out the incident reports that are required every time there is such an occurrence, and some of us have participated in programs in which we reviewed and initialed large numbers of these on a monthly basis.

Because it has become clear that accidents and incidents may relate to factors such as staffing of nursing units, employee carelessness, and the occasional cases of elderly abuse, these factors need to be correlated with the relative frequency of incidents.

The medical literature in recent years has suggested that patient nutrition, patient deconditioning, and therapy with psychotherapeutic agents or other drugs producing sedation or tranquilization play major roles in the frequency (and severity) of such incidents.

Thus, turning the investigation of an organization's incidents over to an epidemiologist for formal evaluation is productive of useful intervention in a significant percentage of cases.

The next project that the nurse epidemiologist was given was that of reviewing medication errors and the occasional missing drug. Fortunately these are sufficiently infrequent that epidemiologic investigation rarely produces corrective action, but nonetheless, it is necessary for administrative peace of mind.

Thus, the epidemiologic training and experience of the infection control officer can be applied to a number of areas where, previously, data was being collected for the sake of data collection without appropriate analysis and resulting lack of utility.

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Medical Waste

To the Editor:

As proverbs for paranoids #3 states in Thomas Pynchon's *Gravity& Rainbow,* "If they can get you asking the wrong questions, they don't have to worry about answers." Mr. Streed suggests we accept the reality that "Medical waste regulations, whether or not we consider them to be reasonable or scientifically defensible, are here to stay..."[1] so we should engage in developing objective methodologies to measure efficacy of new disposal systems. Microbiologic evaluations, such as that of Jetté and Lapierre,[2] should bring to mind the years of futile effort AAMI invested in trying to define microbiologic criteria to evaluate aseptic barrier garments.[3]

Our role as epidemiologists is to measure health risks and benefits. Without amelioration of risk, there is no efficacy. Applying a 5 log reduction as a standard for effective disinfection of medical waste is arbitrary and indefensible given that no risk has been associated with waste that has not been disinfected, waste from a number of sources exceeds 5 logs per gram, and screening to identify "loads highly contaminated with mycobacteria and viruses..." is unrealistic. Rather than participate in meaningless microbiological exercises, we should reiterate that special handling for medical waste has no infection control benefit, insist on full economic evaluations of any proposed "new technologies" for this purpose,[4] insist on proof of their safety (e.g., aerosols,

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hazards to maintenance personnel, release of toxic chemicals, etc.), then withdraw.

We question the unscientific nature of the foundation for other measures and move forward to more appropriate use of limited healthcare resources. Ineffective protective isolation regimens, for example, formerly found in virtually every hospital, are no longer commonplace. We must treat the current aberration toward disinfecting medical waste in a similar manner rather than pander to irresponsible marketing forces.

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The authors reply

"...so we should engage in developing objective methodologies to measure the efficacy of new disposal systems." Yes! But, more to the point, we must engage in obeying our laws governing the treatment of regulated medical waste. By way of example, the applicable North Carolina statute[1] defines for us what that waste is, and lists acceptable options available for its treatment. The statute specifies that requests for approval of other types of chemical treatment (not specifically therein listed) must be substantiated by results of demonstrated effectiveness of the chemical to treat the specific microbial agents of concern for the waste disposed, and that consideration must be given to such factors as temperature, the presence and state of dispersion, penetrability, and reactivity of organic material at the site of application. Our choice is "how," not "what," nor "if." On these matters, we have no choice.

I agree with Dr. Birnbaum's contention that we should "insist on full economic evaluations of any proposed 'new technologies' for this purpose, insist on proof of their safety..." and I said so in my editorial. I must take exception, however, to his "then withdraw" clause. Coupled with the previous "meaningless microbial exercises" phrase, the message conveyed is that we are to be satisfied if treatment is a safe but superfluous activity. Of course I agree that the treatment of many types of medical waste is unnecessary in the sense that there are no apparent risks associated with directly landfilling the material. The problem is that they don't necessarily subscribe to this view, and they think the microbial exercise is important. Witness the North Carolina statue cited above. With landfills nearing capacity and incinerator siting such an arduous process, developing and installing socially acceptable alternatives should be a priority.

Dr. Birnbaum suggests that we should "reiterate that special handling for medical waste has no infection control benefit...." Reiterate it to whom? The landfill operator who will no longer accept our red bag waste? The Department of Transportation official dealing with an overturned truck load of hospital waste? The ever-present press corps looking for today's headline? Citizens in whose locale a new landfill or incinerator is being proposed? I suspect that none of the above are prepared to listen dispassionately to what we consider to be a voice of reason. Why? Probably because we are attempting to deal scientifically with something that is largely an emotional issue and that consequently has its expression through the political process. It was, after all, the political process that got us the laws and regulations that we are now obliged to obey. Without sounding a general "call to arms," it is probably time to direct more of our energy and resources toward influencing that process as a means of relieving the healthcare industry of the burden of meeting scientifically unsupported regulation.

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REFERENCE

1. 15A NCAC 13B.1207. *North Carolina Register* 1990;5:152-191.

We certainly agree with Dr. Birnbaum that public funds should never be wasted on exercises in futility and that we need to enhance our knowledge of the risks associated with the management of medical waste.

We also fully recognize the following points:

- There are many definitions of medical waste presently in use.
- These definitions include a great diversity of components.
- The need to disinfect some of these wastes is clearly recognized but is a source of controversy in many other cases.
- The public reaction to the issue of the management of medical waste has been perceived as excessive by many members of the scientific community but is also a reflection of our lack of data on this topic.

We have some difficulty in appreciating the breadth of our perceived disagreement with Dr. Birnbaum about the existence of a real risk related to the management of medical waste. Does he in fact suggest that no risks are

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