3 Pharmacists and patient safety

Can pharmacists prevent drug-induced illness in hospitals?

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Hospital administrators and risk managers squirmed in their seats when the *New England Journal of Medicine* recently published yet another study of iatrogenic illness in a hospital.[1] Using conservative criteria, this Boston investigation found that 36% of 815 consecutive patients on a general medical service of a university hospital experienced an illness induced by treatment or diagnostic procedure.

Of particular interest to pharmacists, 42% of the 497 complications were related to drugs. More than half of the patients with complications had at least one problem related to medication. There was a positive association between drug exposure and the occurrence of a complication. The mean number of drugs used was significantly greater in patients with major complications than in those with minor complications.

Other hospital studies have shown similar startling results. Further, the gist of this latest report rings true with anyone who has carefully observed hospital patient care. Modern diagnostic and treatment procedures are complex and, too often, hospital systems seem ill-equipped to deal effectively with all of the contingencies. Greater understanding of diseases coupled with advanced health-care technology has provided more opportunities for intervention in the disease process. Concomitantly, there are more opportunities for things to go wrong.

What can be done to prevent iatrogenic illness in hospitals? The authors of the Boston study, and the writer of an accompanying editorial,[2] think that the answer lies in learning more about iatrogenic disease and in better education of physicians. Implicit in this view is that the problem is strictly the domain of medicine. Hence, perhaps it should not be surprising that the pharmacist was never mentioned in the *New England Journal of Medicine's* recent coverage, even though drug-induced complications were discussed at length.

The Millis Commission, speaking of pharmacy as a whole, stated the profession's problem in this regard quite well:

Most physicians admit their need for professional assistance in making decisions of all kinds about drugs, but only a few believe that, at the present time, the assistance they require can be obtained from pharmacists. Perhaps the basic concern, therefore, is whether the profession of pharmacy can develop into a strong and effective third force to the end that optimal drug services will be acceptable to physicians and available to patients who require them.[3]

With the proper leadership, the pharmacy department can become this "strong and effective third force" in hospitals. The problem of drug-induced disease should be addressed by the hospital pharmacy department as an element of its broad responsibility for drug-use control. It would be quite appropriate for the pharmacy, as the hospital department of drug experts, to spearhead an organized program to reduce the complications of drug therapy. Through the department's link with the pharmacy and therapeutics committee, a mechanism exists to secure medical-staff approval for the effort. Patient monitoring by clinical pharmacists, under the auspices and direction of the department of pharmaceutical services, would be a key aspect of such a program. Over time, the department's clinical activities focused on reducing the frequency of iatrogenic illness should become a basic service that is expected by hospital workers and patients alike.

As numerous reports in the pharmaceutical literature demonstrate, hospital pharmacists are building a solid foundation for broader responsibility in reducing the ill effects of drug therapy. Their efforts range from specific physician-requested services, such as pharmacokinetics consultation, to more general patient monitoring. In large part, the clinical pharmacy movement is based on the premise that the health-care system needs an independent corps of drug experts to solve problems such as an unacceptable frequency of drug-induced disease.

When pharmacy departments exercise their responsibility in this area, limited resources force them to set priorities on types of patients to monitor. The study by Steel et al.[1] suggests that the following characteristics may be useful in identifying patients at high risk for complications:

1. Patients admitted from nursing homes or acute-care hospitals.
2. Patients assessed by a house officer as in "critical to poor" condition.
3. Patients admitted to the ICU or CCU.
4. Older patients.
5. Patients with multiple drug exposure.
6. Patients with a longer hospital stay.

The usefulness of some of these criteria, and others, for selecting patients that merit pharmacist monitoring was studied by Young et al.[4]

Drug-induced illness is a societal problem that must be of concern to pharmacists, the health professionals society has charged to be the drug experts. Hospital pharmacists, working in concert with physicians and nurses, and using