



Information... Knowledge... Wisdom

John R. Horn, PharmD, FCCP, and Phillip Hansten, PharmD

Drs. Horn and Hansten are both professors of pharmacy at the University of Washington School of Pharmacy. For an electronic version of this article, including references if any, visit www.hanstenandhorn.com.

*Knowledge and Wisdom, far from being one,
Have oft times no connexion.
Knowledge dwells In heads replete
With the thoughts of other men;
Wisdom in minds attentive to their own.
Knowledge, a rude unprofitable mass,
The mere materials with which
Wisdom builds
Till smooth'd, and squared, and fitted
to its place,
Does but encumber whom it seems
to enrich.*

—*The Task*, William Cowper

Eighteenth-century poet William Cowper understood the relationship between knowledge and wisdom better than many of us do today. He recognized that providing people an excess of information and knowledge without the organizing principle of wisdom is an encumbrance rather than a solution. This is precisely the problem generated by the explosion of information and knowledge on drug-drug interactions over the past few decades.

For the purpose of this discussion, let us assume that *information* is the body of published papers on drug interactions. *Knowledge* represents the information from published papers organized and evaluated in the form of books, computer systems, and the like. *Wisdom* is the optimal use of this information and knowledge so as to minimize the risk of adverse drug interactions in specific patients.

Information

Research into the underlying mechanisms of drug interactions and clinical reports of various kinds are the basis for almost everything we know about drug interactions. Unfortunately, the “bricks” of information (publications) are for the most part simply thrown into a pile, and individual health care professionals are left to sort through the bricks for information they can use to reduce the risk of adverse drug interactions in their patients. Neither the researchers nor the health care professionals are to blame here; they both have way too much to do to spend much of their time organizing the information bricks.

Knowledge

Enter the “knowledge workers” who take the published papers on drug interactions and attempt to evaluate and organize the information from these papers into a form of knowledge that can be used efficiently by health care professionals. These efforts result in review articles, books, Web sites, and real-time computer systems that identify potential drug interaction problems in specific patients.

For a variety of reasons, however, these efforts to organize information into usable knowledge often fail. Some knowledge workers simply do not have the needed depth of understanding about the science of drug interactions to properly evaluate the published literature. Others understand the science but lack the clinical expertise to evaluate the clinical importance of interactions and make appropriate patient management recommendations. Then, knowledge workers also face the unsettling influence of legal liability, impelling many—especially those preparing computerized drug interaction screening systems—to “upgrade” drug interactions of question-

able clinical importance to the highest levels of significance. This legal morass is made worse by the official prescribing information on drugs, which too often overstates the clinical importance of drug interactions.

Wisdom

In his book entitled *Building a Bridge to the Eighteenth Century: How the Past Can Improve Our Future*, New York University professor Neil Postman has defined wisdom as “the capacity to know what body of knowledge is relevant to the solution of significant problems.” I would add to that definition the ability to know when a perceived problem does not need a solution, in which case the best course of action is no action at all. Thus, for drug interactions, wisdom is selecting the particular knowledge that is needed to determine whether a particular patient is at risk, then determining whether the risk is sufficient to warrant action, and, finally, selecting optimal management of the drug interaction.

Summary

In order to minimize adverse drug interactions, we need all 3 levels to function. Unfortunately, at this point the “information” level is the only one that gets a passing grade. We clearly need more qualified people working at the “knowledge” level, particularly interdisciplinary teams that can provide the best possible assessments of the published data. Then we need health care professionals who have enough training in drug interactions to intelligently (and with wisdom) assess and manage drug interaction problems in specific patients. These things are doable if we recognize that complex and difficult problems such as this will take time to solve. **PT**

 For a list of references, go to:
www.pharmacytimes.com.