

Elucidating mechanisms underlying ADRs can assist development of safer compounds or allow a patient subset at especially high risk to be excluded from drug exposure. National adverse reaction reporting systems, such as those operated by the FDA (suspected ADRs can be reported online at <http://www.fda.gov/safety/medwatch/default.htm>) and the Committee on Safety of Medicines in Great Britain, can prove useful. The publication or reporting of a newly recognized ADR can in a short time stimulate many similar such reports of reactions that previously had gone unrecognized.

Occasionally, “adverse” effects may be exploited to develop an entirely new indication for a drug. Unwanted hair growth during minoxidil treatment of severely hypertensive patients led to development of the drug for hair growth. Sildenafil was initially developed as an antianginal, but its effects to alleviate erectile dysfunction not only led to a new drug indication but also to increased understanding of the role of type 5 phosphodiesterase in erectile tissue. These examples further reinforce the concept that prescribers must remain vigilant to the possibility that unusual symptoms may reflect unappreciated drug effects.

Some 25–50% of patients make errors in self-administration of prescribed medicines, and these errors can be responsible for ADRs. Similarly, patients commit errors in taking OTC drugs by not reading or following prescribing directions on the containers. Health care providers must recognize that providing directions with prescriptions does not always guarantee compliance.

In hospitals, drugs are administered in a controlled setting, and patient compliance is, in general, ensured. Errors may occur nevertheless—the wrong drug or dose may be given or the drug may be given to the wrong patient—and improved drug distribution and administration systems should help with this problem.

■ SCOPE OF THE PROBLEM

One estimate in the United Kingdom was that 6.5% of all hospital admissions are due to ADRs and that 2.3% of these patients (0.15%) died as a result. The most common culprit drugs were aspirin, nonsteroidal anti-inflammatory drugs, diuretics, warfarin, ACE