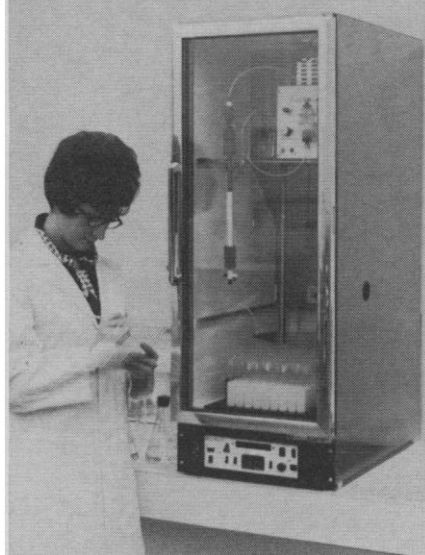


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The Simmons data derive from a review paper by K. L. Melmon (1), who cites five research studies to substantiate his figures (2-5). The first of these, the work of Seidl *et al.* at the Johns Hopkins Hospital, has been cited elsewhere (7) as the basis for a national projection of 1.5 million drug-caused admissions. Seidl *et al.* had reported that 5 percent of patients were admitted with a drug reaction; a later study by the same group showed 1.7 percent of admissions because of a drug reaction (8).

In the Johns Hopkins studies (2, 8), these percentages represent admissions to medical wards. Since 20 percent of admissions to Johns Hopkins are to medical services, about 0.4 percent of all patients are admitted to that hospital primarily because of drug reactions. It is unlikely that the experience of a major teaching hospital and referral center like Johns Hopkins can be extrapolated to all hospitals. But doing so would give a figure closer to 150,000 than 1.5 million. The inflationary factor thus appears to be at least 10.

There are similar problems with Simmons' claim that "once in hospital, between 18 and 30 percent of all patients have a drug reaction." Melmon cites two sources for such an estimate: Seidl *et al.* (2) report that 13 percent had drug reactions while hospitalized to which Melmon adds the 5 percent with reactions present on admission to get 18 percent. Hoddinott *et al.* (3) report that 15 percent of patients had probable drug reactions to which Melmon adds another 15 percent with forgotten doses and other errors in drug administration to get 30 percent.

Again, both these studies were done on medical wards. It is as wrong to say that 13 or 15 percent of all hospitalized patients have a drug reaction (although this may be true for one ward) as it would be to say that 100 percent of all hospital patients are pregnant, because this may be true for one ward. Perhaps it is more important to note that no reaction-incidence study has yet screened out those minor symptoms which are known to occur as "adverse nondrug reactions" (9) in people who take no medication. A placebo-controlled study might yield more realistic figures.

The source material also fails to support the estimate that, for patients with drug reactions, "the length of their stay is about doubled as a result." The authors cited by Melmon to back up this claim (2-5) all agree that there is

a positive correlation between length of hospital stay and number of drug reactions observed; but all also agree that very likely "the long hospital stay was the factor predisposing to the occurrence of adverse episodes" (4) and not the other way around.

Finally, these excessive estimates tend to link the adverse reaction problem with the introduction of new drugs. Actually, surveys of drug reactions show that it is the older drugs, such as quinidine, digitalis, and insulin, used in medical practice for over 30 years, which are most often found at fault (5). Advances in drug technology may thus help reduce the real incidence of undesired side effects from medical treatment.

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### Another Scientist in Congress

Constance Holden (News and Comment, 18 May, p. 720) writes that there is only one scientist in Congress—Mike McCormack (D-Wash.). Another scientist in Congress is James G. Martin (R-N.C.), who was, until his election to the House of Representatives last fall, associate professor of chemistry at Davidson College.

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### Taxation and Energy Conservation

The letter from P. de Haen concerning conservation of gasoline (13 Apr., p. 137) deserves comment. European governments tax automobiles on the basis of taxable horsepower, which is a meaningless number calculated from