



## UNIT-DOSE DRUG DISTRIBUTION

Dear Sir,

While we agree with many points made in E Schmitt's recent article on unit dose drug distribution (EHP 2000; 6: 4-12), we would like to make a number of comments:

First, while we recognize the potential value of comparisons such as those in the figures, we are concerned about potential confounding factors. In particular, the references on which Figure 2 are based were published from 1967 to 1999. There were many changes in these three decades, from the drugs used to the health care culture. The studies cited also used different methods to identify medication errors and different definitions. We feel that it is dangerous to assume that the only difference between studies relates to the drug distribution system used. There may be many other explanations for the reduction in the adverse drug events attributed to the unit dose system.

Second, the UK ward pharmacy system is misclassified throughout as a 'ward stock system with improved prescription and administration documents'. The ward pharmacy system used since the 1960s is instead a combination of a ward stock system and an individual patient prescription system, in which pharmacists examine patients' drug charts daily.

Third, the author missed several other studies [1-3] that, taken with the US literature, would suggest that the UK and US systems achieve similar error rates using different systems.

Finally, we feel that one of our studies [4] is misrepresented. Mr Schmitt states that the observers 'introduced an important bias' by intervening to prevent medication errors during observation, and that the results are therefore invalid. However, we believe that interventions do not modify nurses' behaviour during the drug round, as most errors occur due to drug unavailability or lack of knowledge, neither of which can be affected by an observer. A more recent study confirms this, showing that neither observation nor tactful intervention affect the error rate observed [5].

We suspect that many methods of drug distribution can work well. In our view, pharmacy managers first need to establish whether or not they have a problem by measuring their medication error rate and comparing it with the literature. If they have a problem then they need to look at the cost-effectiveness of the solution - in the late 1980s it seemed that unit dose drug distribution cost three times as much as the UK ward pharmacy system.

Our point is that unit dose is a method of reducing medication errors, but not the only method.

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### REFERENCES

- [1] Taxis K, Dean BS, Barber ND. Hospital drug distribution systems in UK and Germany - a study of medication errors. *Pharm World Sci* 1999; **21**: 25-31.
- [2] Ho CYW, Dean BS, Barber ND. When do medication administration errors happen to hospital inpatients? *Int J Pharm Pract* 1997; **5**: 91-96.
- [3] Ogden DA, Kinnear M, McArthur DM. A quantitative and qualitative evaluation of medication errors in hospital inpatients. *Pharm J* 1997; **R19**: 259.
- [4] Dean BS, Allan EL, Barber ND et al. Comparison of medication errors in an American and a British Hospital. *Am J Health-Syst Pharm* 1995; **52**: 2543-49.
- [5] Dean B, Barber N. The validity and reliability of observational methods for studying medication administration errors. *Am J Health-Syst Pharm* (in press).