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Reporting of critical incidents shows how errors occur

EDITOR,—R E Ferner draws attention to the confusion that can be caused when different drugs are labelled in an identical manner.¹ I would like to draw attention to another problem.

Drugs may be presented in two or more strengths in identically sized and labelled ampoules. In my hospital, through the reporting of critical incidents, two examples of such confusion have recently come to light. In the first incident 30 mg of morphine was confused with 10 mg, and in the second incident 10 mg of diamorphine was given instead of 5 mg. In both cases the junior doctor, on rotation from one hospital to another, expected only one particular strength to be available.

While no excuses can be given for such errors, it is too easy to read what one expects to see. I agree that in the ideal situation checking would help prevent such errors, but this may not always be practical for doctors working on their own. As an anaesthetist in training, I often prescribe and dispense drugs simultaneously. I am aware that a patient's life could be put at risk if I were to inject either the wrong drug or the incorrect dose.

Such errors can be reduced only by better training and awareness. Confidential reporting of critical incidents by all members of staff is essential to build up a better picture of how errors occur.

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Inappropriate prescribing is "treatable"

EDITOR,—I read R E Ferner's editorial on drug errors with mixed feelings.¹ Over a decade ago Gosney and I drew attention to inappropriate prescribing (the prescribing of contraindicated drugs and drugs with adverse interactions) for elderly patients admitted to hospital.² We subsequently extended our surveys to patients seen in accident and emergency departments,³ patients in long term care wards, and patients in residential homes. We suggested that the conventional explanation for the high incidence of adverse drug reactions in elderly people (changes in pharmacokinetics and pharmacodynamics related to age, multiple disease, and poor compliance) might distract from prescribing errors as a cause. Our most recent study showed that just under half of adverse drug reactions and hospital admissions related to drug treatment in elderly people were due to inappropriate prescribing.⁴

I have always seen this as good, rather than bad, news. Inappropriate prescribing seems more likely to be "treatable" than age related changes in the way that drugs are handled and the other commonly invoked causes of therapeutic misadventures in old age.

We developed a computer system to help prevent inappropriate prescribing.⁵ We thought it unlikely that better education would prevent doctors from making errors. A busy doctor making rapid prescribing decisions will find it difficult to mobilise the two large bodies of information necessary to prescribe safely for older people: the often long list of diagnoses and the drugs that the patient may already be taking, and the massive, ever expanding body of pharmacological and pharmaceutical

information. There is an important difference between "passive" knowledge (information buried somewhere in one's cerebral cortex) and "active" knowledge (information that is used at the time of a therapeutic decision). Computer assisted prescribing would provide on line information without undermining the doctor's judgment.

Insufficient research into the effect of computer assisted prescribing in iatrogenic disease may reflect a failure to appreciate the tenuous relation between knowledge (especially passive knowledge) and appropriate therapeutic action. This may be because the educational agenda in therapeutics is set by people whose interests are highly specialised and who may not recognise the very "homely" reasons for poor prescribing, of which simple forgetfulness is the most important.

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Preventing local complications of depot neuroleptics

EDITOR,—Justin Hay's short report on complications at the site of injection of depot neuroleptics raises an important issue affecting those patients who require maintenance treatment with such formulations.¹ His conclusion that patients who have developed such complications should avoid certain formulations, including zuclopenthixol concentrate, is not borne out by our experience, both in clinical trials and from spontaneous reports of adverse reactions to the company. Certain aspects of Hay's study may go some way towards explaining this discrepancy.

Firstly, skill in giving depot injections may have varied widely among the health professionals involved in the study, and, additionally, no attempt seems to have been made to ensure standardisation of the injection technique (such as use of a Z track injection technique² and rotation of injection sites). The 19 acute problems described as clinically important leakage from the injection site may therefore reflect poor injection technique. Similarly, the 52 acute problems described as pain, bleeding, or haematoma are unlikely to represent a concentration effect; rather, they probably represent the trauma that can be associated with any deep intramuscular injection. Again, this varies with technique. Another aspect of technique requiring consideration is the higher viscosity of the more concentrated formulation and thus the greater potential for increased pressure and trauma at the time of injection.

Secondly, the patients receiving the concentrate formulations received more injections than the other patients, which may explain the increased frequency of local complications in this group.

Thirdly, it is recognised that the administration of large injection volumes may be associated with the development of local reactions,^{3,4} and accepted practice is to attempt to reduce the volume of depot in someone prone to such reactions. This can be done by reducing the dose, with increased risk of relapse, or by increasing the concentration. Thus patients in the groups receiving concentrate may have been selected over time to receive such

formulations because of their tendency to local reactions.

Compliance is best achieved by selecting a treatment that is well tolerated and convenient. In so doing, a clinical balance must be struck between the benefits of keeping the injection volume as low as possible (including psychological advantages to the patient and the avoidance of split site injections) and any potential risks of increased concentrations to local tolerability.

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Suicide after discharge from psychiatric hospitals in Scotland

EDITOR,—John R Geddes and Ed Juszcak provide information on trends in suicide after discharge from psychiatric hospitals in Scotland.¹ They comment that studies in other countries indicate that the peak incidence of suicide and undetermined deaths occurs in the 28 days after discharge. Our data on deaths recorded as E950-959 (suicide and self inflicted injury) confirm that this is also the case in Scotland (figure). Our findings also indicate that, while the peak number of deaths occurs in the first four weeks after discharge, the risk of death from suicide continues for some time. This supports the need for good planning for patients' discharge and for community support in the months after discharge.

Geddes and Juszcak argue that the changes may be related to decreases in the number of psychiatric beds, and they call for the retention of inpatient facilities. If death rates in females in the 28 days after discharge had returned to the same level that existed in 1968-72 then 12 deaths would have been prevented in 1988-92. This represents only 1.18% of all suicides and undetermined deaths in females in Scotland in the five years and 0.32% of these deaths in both sexes. We have reported previously that only 9.5% of males and 18.4% of females who died by suicide in 1991-2 in Scotland had been psychiatric inpatients in the 12 months before their death.² This, together with the finding that most people dying by suicide have not had recent contact with their general practitioners,³ brings

Deaths by suicide in 1991-2 after discharge from psychiatric hospitals in Scotland