



Events (per 1000 prescriptions) associated with taking cimetidine and diflunisal.

events graphically (figure). The misfit between two drugs can then be clearly seen: differences may be due to known association between dyspepsia and cimetidine but others, such as that between skin problems and diflunisal, may lead to the generation of a hypothesis of adverse reactions.

One-third of doctors thought that their prescribing was

affected by their participation in the study. Such an effect would delay the accumulation of data. The quality of recording on follow-up forms was of a high standard, but no validation of its completeness was carried out. We believe that if large-scale postmarketing surveillance is to be introduced prospective recording is a method that should be considered.

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## Contemporary Themes

### A psychogeriatric survey of old people's homes

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#### Abstract

An assessment of mental impairment and behavioural disabilities in 289 residents in six old people's homes indicated that 50.6% were probably demented and 54% needed considerable help in daily living, 74% were taking prescribed medication, and 11% were taking four or more prescribed drugs. There was a wide variation between homes in those rated as behaviourally disabled, and in the amount of medication prescribed. A follow-up of 60 mentally impaired residents showed few remediable psychiatric disorders or psychotoxic drug effects. A community psychiatric nurse working with the psychogeriatric team would provide a useful support service to

old people's homes, particularly where there is a high proportion of disturbed residents and where the staff lack nursing experience.

#### Introduction

About 105 000 elderly people live in local authority homes in England and Wales.<sup>1</sup> The age of admissions to these homes is increasing, and the proportion who are mentally infirm and behaviourally disturbed appears to be rising.<sup>2</sup> The role of the homes is not completely clear, as they evidently cope with many old people who seem as sick or dependent as those in hospital.<sup>3</sup> Psychiatric referrals from homes indicate that a range of problems is being managed in the homes, particularly disturbed, interfering, and aggressive behaviour.<sup>4</sup> As residents become more difficult to manage they may be referred for long-stay hospital care, but beds are scarce and their name may just be added to a waiting list.

If the residents of homes are becoming more demented, dependent, and disturbed the role of the staff will also be changing, and the services providing support to these homes needs to change. To become more familiar with the problems encountered we conducted a survey of six old people's homes in the City of Leicester. These were in the district in which two of us (AJW and PAJ) provided a psychogeriatric service. The objectives of the study were: (a) to screen the residents for

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cognitive and behavioural disturbances, and (b) to examine their present management and seek to identify ways of improving this and the psychogeriatric support provided to the homes. The study consisted of two parts; firstly, a brief screening of all 289 residents and, secondly, a more detailed examination of 60 who were identified as mentally impaired.

**Methods**

In December 1979 six homes were visited and all residents were seen (by MGC and AJW); the information-orientation test of the Clifton assessment schedule<sup>5</sup> was administered. The staff were asked to complete the shortened Stockton geriatric rating scale (now renamed the behaviour rating scale)<sup>6</sup> for each resident. The medication taken by residents was noted. While this first part provided a broad profile of the homes and the residents, we also wanted more detailed information on those who were demented.

Four to five months later we had time to examine and review 60 residents, who were selected from low scorers on the information-orientation test. Scores of seven or below usually indicate dementia. We chose our subgroup from those who scored five or below, to avoid borderline scorers. One hundred and five scored in this range. Since the first part of the study 20 had been admitted to hospital or had died. The 60 were selected by asking staff to identify from the remainder those who they found difficult to manage and those who they did not. We thus had a "problem" and a "non-problem" group. All were interviewed and mental and physical examinations were performed (by PAJ). Blood was taken for routine tests. Staff were seen (by MGC) and asked about the behaviour of those residents whom they found difficult to manage; they were also asked to rate the frequency and severity of their behaviour problems. They were asked directly about the presence of emotional lability and aggression, and asked to complete the rating scale again. As a result of these examinations and discussions, the management of some residents was reviewed with the staff or general practitioners, and some changes were suggested or instituted.

**Results and comment**

Altogether 289 residents in six homes were seen, of whom 26% were men. Their mean age was 81.8 years (range 66-96), and their median length of stay in the homes 24 months.

**BEHAVIOURAL DISABILITIES**

The information-orientation test consists of 12 simple questions. Scores of seven or under are usually found in patients with a diagnosis of dementia or acute organic brain syndrome.<sup>5</sup> Of the 287 residents who co-operated, 146 (50.6%) scored seven or under.

The behaviour rating scale was completed for all residents. This provides scores graded from A to E, which represent levels of impairment in functioning.<sup>5</sup> Thus A represents no impairment; B—mild impairment, some support required; C—moderate impairment, usually requires the degree of care available in social services' homes; D—high dependency, needs considerable help; and E—severe impairment, typical of psychogeriatric and geriatric patients requiring a great deal of nursing attention. The distribution of residents in these grades were as follows: 21 (7%) in grade A, 42 (15%) in B, 71 (25%) in C, 58 (20%) in D, and 97 (34%) in E. Thus 54% were rated as needing considerable help in daily living (D/E). In addition to providing a measurement of overall impairment or disability the behaviour rating scale has four subscales corresponding to different aspects of this. The scores on three of these—physical disability, apathy, and social disturbance—are graded in five levels of severity (A-E). The distribution of scores on these subscales (table I) showed that many residents were regraded as apathetic (66% graded D or E).

When different homes were compared wide variations in the patterns of impairment and dependency were seen (table II).

The proportion of residents in the most dependent category (grade E) varied from 52% in home 1 to 17% in home 2. The homes had residents with similar mean ages and similar mental impairment, as measured by the information-orientation test. When the subscale scores in each home were compared, further variations between the homes were observed. Thus 35% in home 3 were graded E on social

TABLE I—Numbers (percentages) of residents scoring in each grade of each subscale of the behavioural rating scale

	A	B	C	D	E
Physical disability No (%) ..	34 (11.76)	71 (24.57)	69 (23.88)	52 (17.99)	63 (21.80)
Apathy No (%) ..	29 (10.03)	21 (7.27)	48 (16.61)	85 (29.41)	106 (36.68)
Social disturbance No (%) ..	100 (34.60)	54 (18.69)	36 (12.46)	48 (16.61)	51 (17.65)

TABLE II—Distribution of dependency grades on behavioural rating scale in the six homes

Home (No of residents)	Grade on rating scale (No (%))				
	A	B	C	D	E
1 (46)	1 (2.2)	4 (8.7)	6 (13.0)	11 (23.9)	24 (52.2)
2 (47)	11 (23.4)	9 (19.1)	13 (27.7)	6 (12.8)	8 (17.0)
3 (55)	2 (3.6)	10 (18.2)	10 (18.2)	10 (18.2)	23 (41.8)
4 (51)	1 (2.0)	10 (19.6)	17 (33.3)	9 (17.6)	14 (27.5)
5 (42)	5 (11.9)	6 (14.3)	11 (26.2)	6 (14.3)	14 (33.3)
6 (48)	1 (2.1)	3 (6.3)	14 (29.2)	16 (33.3)	14 (29.2)

disturbance compared with 14% in the other homes; 36% in home 2 were graded A on apathy compared with 5% in the other homes; only 7% in home 1 were graded A or B on physical dependence—that is, continence, ability to feed and dress themselves—compared with 42% in the other five homes. The pattern that emerged was that homes were not uniform in the proportion of impaired residents, nor in the pattern of the disabilities that they managed.

While the brief screening of residents did provide one profile of behavioural disabilities, we were not certain whether the scale provided a valid indication of which residents the staff found difficult to manage, which items on it were particularly associated with management problems, and whether other behavioural problems could be identified. No common items other than those covered by the 18 questions on the behaviour rating scale and the questions on emotional lability and aggression were identified. Responses to these questions and the grades scored on the behaviour rating scale were compared between the problem and non-problem group, and the significance of differences calculated using  $\chi^2$  test (table III).

TABLE III—Differentiation between problem and non-problem groups

Item	Significance ( $\chi^2$ ) (p)
Total rating scale score .. ..	< 0.001
Subscale: apathy .. ..	< 0.01
Subscale: social disturbance .. ..	< 0.01
Subscale: physical disability .. ..	< 0.2
Behaviour rating scale questions:	
5 Confusion .. ..	} < 0.01
10 Sociability .. ..	
15 Objectional behaviour at night .. ..	
18 Awake at night .. ..	
Loss of emotional control .. ..	< 0.001
Occasional or frequent aggression .. ..	< 0.01

This indicated that the behaviour rating scale did identify residents who were more difficult to manage, but that the items particularly associated with this were not restricted to the social disturbances subscale (Q14-18), which was not as specific as might be expected.

**MEDICATION**

One of the problems of caring for the elderly is overmedication or polypharmacy. Drug-induced mental disorders are common.<sup>7</sup> If homes are containing more sick residents then the numbers who are likely to be taking medication and at risk of side effects need to be considered. Information on medication was available for 281 residents. The prescribed medication being taken was recorded—that is, excluding any non-prescribed medicines, and ignoring medication that was prescribed but not routinely given by staff or not routinely

accepted by the resident. Table IV shows the number of drugs taken compared with a sample from general practice.<sup>8</sup> Sixty-one per cent of residents were taking non-psychotropic medication, 36% psychotropic medication, and 26% no medication.

TABLE IV—Proportions of residents taking differing numbers of drugs

No of drugs taken:	0	1	2	3	≥ 4
This survey (n = 281)	26%	28%	24%	11%	11%
General practitioner survey (n = 127)	50%	13%	17%	10%	10%

If polypharmacy caused psychotoxic reactions those who were rated as cognitively impaired would be more vulnerable to these and might possibly be confused because of their medication. Adverse drug reactions are more likely to occur when four or more drugs are being taken.<sup>8</sup> Only 10 people who scored 0–7 on the information-orientation test were taking four or more drugs (compared with 21 who scored 8–12).

The numbers of residents taking several drugs varied among the homes. The proportion taking no medication and those taking four or more drugs is presented in table V.

Some matrons seemed very aware of the danger of overmedication and had an informal policy of reducing the amount of medication that residents were taking. They found this more difficult in some of the more lucid and obstinate members of the house, and this may partly explain why the more demented took less medication. The variation among homes was pronounced, however, and the possibility of adverse drug reactions seemed to be greater in homes 4 and 5.

TABLE V—Comparison of medication taken in different homes

Home:	1	2	3	4	5	6
Residents taking no medication (%)	17	43	20	25	24	29
Residents taking 4 or more drugs (%)	7	2	7	21	26	7

## REVIEW OF MANAGEMENT

The subgroup of 60 residents were reviewed for remedial conditions. One resident was hyperthyroid and being treated with thyroxine. Her mental test scores improved when she was euthyroid. Two residents with undetected anaemia and hyperglycaemia did not improve mentally with treatment. Although five residents appeared depressed when interviewed (severely depressed or withdrawn or expressing suicidal ideas), only two improved subsequently. One had recurrent depressive illness, untreated, and had been uraemic due to dehydration. She remitted spontaneously but was no less confused. One was being treated with diazepam, clomipramine, nitrazepam, carbidopa-levodopa (Sinemet), and a diuretic. Further observation showed a paranoid state in a depressive personality. He was treated with trifluoroperazine alone and became happier and more lucid. Two residents had untreated hallucinosis. One improved with trifluoroperazine, the other refused all medication. In total, two residents were regarded as undermedicated and three as overmedicated.

The difficulties caused by some of the residents were shown when the management of nine was reviewed. They were all rated as being moderately and frequently aggressive. Some were deluded. One had believed that the home was his place of work, and so he demanded to go home at 5 pm each day, and fought anyone who stopped him. Attendance at a day hospital had reduced the difficult behaviour, though he was still regarded as "misplaced." Reduction of medication and attendance at a day hospital in two others made no difference.

A suggested increase in medication was refused in two cases, one by the resident and the other by the staff, who said it would make him unsteady. Staff were grateful for the opportunity to discuss these residents, though we thought that little had objectively been changed, apart from one resident being accepted for long-term hospital care.

## Discussion

Using criteria developed by Pattie and Gilleard,<sup>5</sup> half the residents in these homes were probably demented, and one-third exhibited behaviour normally seen in psychogeriatric

wards. The proportion of disabled residents was high, but consistent with findings in other studies,<sup>9,10</sup> and staff were managing many residents who might otherwise have been in long-stay hospital beds. Variations among the homes were observed in the proportion of residents rated as maximally disabled (range 17–52%) and in the patterns of disability whether physical dependence, apathy, or social disturbance. The behaviour rating scale appeared to discriminate between problem and non-problem residents, though the social disturbance scale was not as specific in this as might have been expected. Residents were rated for the presence or absence of a behavioural disability, but various factors are likely to interact and influence this. Some were more aggressive when new or inexperienced staff were on duty, some were more disturbed at night if their room mate was, and some were more confused because of medication.

The need for medical supervision in the homes is indicated by the fact that 74% of residents were taking prescribed medication. The prospect of adverse drug reactions is raised whenever residents are taking several drugs, and these were found mainly in two homes. Either these homes had sicker residents, or the staff and general practitioners were less aware of the possibility of side effects. The training of staff is relevant. Two homes had matrons with no nursing qualifications. The first had the highest proportion of residents taking no medication (43%), and two of the 10 residents examined were undermedicated. The second had a high proportion of residents on four or more drugs (21%), and two of the 10 residents examined were overmedicated. This was noticeable as only five of the 60 residents examined were considered to be overmedicated or undermedicated.

Matrons do draw the attention of general practitioners to the medical needs of residents, in the same way as relatives might if they were at home. This will be particularly important if residents are demented and their self-reporting of symptoms is unreliable. Staff lacking nursing qualifications are likely to lack the confidence or expertise to draw attention to the need for psychotropic medication in some residents or to the possibility of psychotoxic reactions in others.

One of our objectives was to review the role of the psychogeriatric team in providing support to the old people's homes. Although staff were managing so many disabled residents, they often expressed the desire to continue caring for them, rather than seek relocation. There is a need for external professionals to provide advice, help, and training for staff in such homes,<sup>10</sup> though who does what is not clear. It might be argued that psychiatrists, psychologists, psychiatric social workers, or community psychiatric nurses could be directly concerned. Examination of residents showed few relevant and remediable undetected medical or psychiatric disorders. The review of some difficult and aggressive residents did not produce immediate changes. Several aspects did emerge, however—the need for some staff to be aware of benefits and dangers of medication, the staff's appreciation of being able to discuss and review some of their many problems, and the mutual need to be aware of the potential and limitations of the homes and the hospital resources. While various members of a team may provide this in different ways, a community psychiatric nurse is particularly well placed to develop this type of service. The differences among the homes indicate a need for the support provided to the homes to be flexible and sensitive to their needs.

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## Clinical Topics

### Lacerations from glass in childhood

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#### Abstract

**A study of 62 glass injuries to children serious enough to warrant admission to hospital showed that 30 were due to architectural glass in doors or windows and 26 of these occurred in houses. Glass bottles caused 12 injuries. Architectural glass produced more serious injuries affecting major arteries, nerves and tendons, and internal viscera.**

**In view of the frequency and severity of architectural glass injuries in houses, safety glass is recommended for all glass doors, French windows, patio doors, and the lower parts of windows.**

#### Introduction

Lacerations from glass are an important cause of injury in childhood; many of them are severe and some are preventable. A study has therefore been made of the circumstances of the accident and the position of the glass concerned; and lacerations to arteries, nerves, and tendons from all causes have been analysed to find out the proportion caused by glass.

#### Patients and methods

Data were available on 80 children known to me in the eight years, 1973-80, all except three being admitted to the Royal Victoria Infirmary, Newcastle. Relatively minor lacerations were not included; "soft tissue lacerations" imply that no artery, nerve, or tendon had been cut. Some children cut more than one structure and the most important component has been used, so that each child appears only once in the "main injury" figures. "Subsidiary injury" indicates children who had other injuries in addition to the main injury. Some

injuries are more important than others, and lacerations have therefore been classified as "major" if they occurred in structures above the wrist or ankle joints and "minor" if hands or feet were affected.

#### Results

Sixty-two (80%) children had injuries from glass and 18 from other causes. There were no striking differences in sex or age between the two groups. In the whole series boys outnumbered girls, as in other types of accident, but this was more pronounced than usual—65:15. Older children were most commonly affected, with a peak in the 5-9 age group, compared with toddlers in most accidents in the home.

By far the largest group of injuries (30) were caused by "architectural" glass in doors (fig 1) and windows (fig 2) (table I), compared

TABLE I—*Architectural glass injuries*

	Doors		Windows	
	Main injury	Subsidiary injury	Main injury	Subsidiary injury
Arteries				
Major	4	—	4	—
Minor	1	—	—	—
Nerves				
Major	3	2	1	4
Minor	—	1	—	—
Tendons				
Major	2	3	2	3
Minor	—	2	—	—
Visceral	3	—	—	—
Soft tissue	9	—	1	—
Total	22	8	8	7

with bottles (fig 3) and drinking glasses (16), and miscellaneous or unspecified types of glass (16). Architectural glass had been installed in houses in 26 cases, and in a public building or school in two cases each.

Injuries produced by other types of glass, such as pieces of broken flat glass in play areas, glass in a guinea-pig hutch, etc, and by bottles and glasses (table II) were less serious than injuries in which the glass was fixed in a door or window, though children walking or running with bottles form a clear-cut group, some of which had serious

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