The concept of insight as it applies to psychiatry is a complex phenomenon. David (1990) proposed that insight consists of three overlapping dimensions: the recognition that one has a mental illness, adherence with treatment and the ability to re-label unusual mental events (delusions and hallucinations) as pathological.

Lack of insight is a common symptom of the acute phase of schizophrenia, being described in 97% of acute cases in the World Health Organization International Pilot Study of Schizophrenia (World Health Organization, 1973). Lack of insight often responds to treatment, but it also persists in a substantial proportion of people with schizophrenia (Cuesta et al, 2000), and tends to be associated with non-adherence (Mcevoy et al, 1989a; Sanz et al, 1998).

Non-adherence itself is associated with relapse, re-hospitalisation (Haywood et al, 1995; Fenton et al, 1997) and social breakdown, which result in substantial hardships and cost to patients, their families, and society as a whole. Depot antipsychotic medication is commonly prescribed in cases of poor adherence, particularly when covert non-adherence is suspected (Valenstein et al, 2001). Administration of a depot ensures that a patient receives adequate levels of medication or that their failure to receive medication is detected early (through refusal or failure to attend for depot administration). However, long-term treatment with depot antipsychotics has disadvantages. In particular, it is associated with an increased risk of extrapyramidal side-effects, tardive dyskinesia, weight gain and depression (Cookson, 1991). Depot medication involves painful injections, may require attendance at depot or primary care clinics, could make patients feel less in control of their illness, and dose adjustments to reach optimal dose can be time consuming.

Over the past decade, the introduction of atypical antipsychotics has been accompanied by a reduction in the use of depot antipsychotics (Patel & David, 2005). A substantial number of patients have switched from depot antipsychotics to oral atypicals with apparently beneficial results. For example, an observational study by Desai et al (1999) reported that switching from depot antipsychotics to risperidone tablets resulted in significant improvement of positive and negative symptoms, level of functioning, parkinsonism and dyskinesia.

However, a substantial number of patients remain on depot antipsychotic medication long term. This raises the question of whether this is due to inertia, or reflects a rational clinical decision based on the benefits of reducing covert non-adherence in a subgroup of patients with poor insight. To answer this question, we tested the hypothesis that patients with schizophrenia on depot medication would have lower levels of insight than similar patients receiving oral antipsychotics. We also aimed to control for potential confounding variables such as symptom severity, side-effects and duration of illness.

**Method**

A cross-sectional assessment was undertaken of stable community patients with schizophrenia at two sites in the north west of England (Preston and Blackburn), both served by Lancashire Care NHS Trust. The local research ethics committee approved the study.

The inclusion criteria were that participants were aged 18–65 years, had an ICD–10 (World Health Organization, 1992) diagnosis of schizophrenia, had been stable in the community for the previous 6 months, and were currently prescribed either depot or oral antipsychotic medication. Patients who were prescribed clozapine were excluded, as they were considered to represent a subgroup that would be pre-selected for treatment resistance, as were patients who were taking both oral and depot medication. Written informed
Basic demographic, clinical and social characteristics were collected using a structured questionnaire. Insight and attitude to treatment was assessed using the Insight and Treatment Attitude Questionnaire (ITAQ) (McEvoy et al, 1991). The ITAQ is a semi-structured interview of 11 items that measure awareness of illness (first 5 items) and attitude to medication/hospitalisation and follow-up evaluation (6 items). Scores range from 0 (no insight) to 22 (full insight).

The Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962) was used to assess psychopathology. The BPRS contains 16 items that measure negative symptoms (2 items), positive symptoms (5 items) and general psychopathology (9 items).

Akathisia was assessed using the Barnes Akathisia Rating Scale; BARS; Barnes, 1989). This scale is observer rated and includes items for the objective and subjective aspects of akathisia as well as a global rating. The Extra Pyramidal Side Effects Scale (ESES; McEvoy et al, 1991) was used to assess bradykinesia, rigidity and tremor. Tardive dyskinesia was assessed using the Abnormal Involuntary Movements Scale (AIMS; Guy & Ban, 1979).

The dosage of each antipsychotic was converted to its chlorpromazine equivalents (Lehman & Steinwachs, 1998; Woods, 2003).

The Statistical Package for Social Science (SPSS) for Windows, Version 10 was used for the analysis. Univariate tests were used to assess differences between the depot antipsychotic group and the oral antipsychotic group. For all tests, the level of significance (P) was set at the conventional level of 0.05 (two-sided).

Multiple regression was used to analyse the relative contribution of symptom severity (BPRS score) side-effects (BARS, ESES and AIMS scores), duration of illness and group membership (depot or oral) to insight (ITAQ scores).

### Results

We recruited 52 participants, of which 26 were receiving depot medication and 26 were on oral medication. The demographic characteristics of the participants are summarised in Table 1. The mean age of participants was 44.4 years (s.d.=11.9) in the depot group and 42.0 years (s.d.=13.7) in the oral group. In both groups the majority of the participants were male (depot 80.7%; oral 73.1%) and single (depot 65.4%; oral 57.7%). More participants from the depot group were living alone (depot 42.3%; oral 15.4%) and the majority of participants were unemployed (depot 95.2%; oral 92.3%). No differences reached statistical significance.

In the oral antipsychotic group all the participants were on atypical antipsychotics. In the depot group 23 participants were on typical depot medication and 3 were on risperidone long-acting injection. The mean chlorpromazine equivalent dose of antipsychotic was much higher in the depot group than the oral antipsychotic group (1388.7 , s.d.=1870.7v. 391.0, s.d.=205.5; z=−3.16, P=0.002).

Illness variables for the two groups are summarised in Table 2. The mean age at onset of psychotic symptoms for the whole sample was 26.1 years (s.d.=8.8) and the mean duration of illness was 17.2 years (s.d.=9.7). The mean duration of illness was significantly longer for the depot group than the oral group (20.2, s.d.=9.5v.14.1, s.d.=9.1; P=0.02, 95% CI 0.9 to 11.3). More patients from the depot group had a history of compulsory admission under the Mental Health Act (76.9% v. 53.9%, P=0.07) compared with the oral group.

The mean BPRS score of the total sample was 28.0 (s.d.=7.9). The depot group had a slightly better mean...
Insight and adherence. However, because of the cross-sectional nature of the study design, it is not possible to ascertain the insight of the participants when they were started on their medication.

The finding of poorer insight among participants taking depot medication is open to an alternative explanation that the depot medication was less effective than the oral medication at improving insight. However, against this explanation is the fact that the two groups had similar levels of symptomatology. This finding, together with the similar level of side-effects between the two groups, reflects the broader evidence base that depot medication is as effective and safe as oral antipsychotic medication for the treatment of schizophrenia (Adams et al, 2001).

Insight was shown to be a clinical modulator of long- and short-term adherence with treatment and is a good indicator of prognosis (Buchanan, 1992). The clinical relevance of the findings from this study is that appropriate interventions should be offered to patients on depot medication to improve their insight. This will have a beneficial effect on adherence and long-term prognosis.

We found that the participants on depot antipsychotics were on significantly higher doses of antipsychotic medication compared with those on atypical medication, to the ratio of 1:3.5. The participants on depot medication were on a mean chlorpromazine equivalent dose of 1388.7 mg; well above the recommended range of 300–1000 mg chlorpromazine equivalent. Clinicians should review the patients on depot antipsychotics at regular intervals and review the dose of their depot medication.

It is possible that the findings of the study are only locally applicable to the sites in east Lancashire, as the study is relatively small and restricted to patients from this area. None the less, as far as we are aware, this study provides the best evidence so far that the decision to put patients on depot rather than oral medication is being made on a rational basis. Future studies should address this question in larger cohorts of patients, where changes in adherence are observed over time from the inception of the antipsychotic medication.

### Declaration of interest

None.

### Acknowledgements

We thank Dr Saleem and Maureen Eka Harrison (Queens Park Hospital, Blackburn) for their help in recruiting participants. These findings were presented as a poster at the Royal College of Psychiatrists Annual General Meeting of the Royal College of Psychiatrists, Edinburgh, June 2005.

### References

The definition of capacity given in the Mental Capacity Act for England and Wales (2005) is that, at the time a decision needs to be made, a person is able to understand the information relevant to the decision, retain that information, use or weigh that information as part of the process of making the decision, and communicate his decision (whether by talking, using sign language or any other means).

Capacity is specific to the task in hand. In ambiguous circumstances the risks associated with the decision must be proportionate to the degree of certainty of the person’s capacity, a ‘sliding scale’ of capacity (Stone, 1994). The assessment of capacity is subjective and can be complex.

The absence of any recorded assessment in at least a third of patients is worrying, given the importance of the decision to the patients’ lives and their financial status. It is to be hoped that the implementation of the Mental Capacity Act (2005) will rectify this situation.

Doctors are often asked or take upon themselves to evaluate the ability of older adults to continue living alone in the community; their capacity to make this decision can be more difficult to assess than that for other medical dilemmas. A large number of requests for capacity assessments of medical in-patients are seen in medical dilemmas. A large number of requests for capacity assessments of medical in-patients are seen in medical dilemmas. A large number of requests for capacity assessments of medical in-patients are seen in medical dilemmas. A large number of requests for capacity assessments of medical in-patients are seen in medical dilemmas. A large number of requests for capacity assessments of medical in-patients are seen in medical dilemmas. A large number of requests for capacity assessments of medical in-patients are seen in medical dilemmas.