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Schizophrenia and employment

A review

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■ **Abstract** *Background* Little is known about the extent to which work contributes to the recovery of people with schizophrenia. There is increasing interest in the subject because of new service models and the economic cost of unemployment in people with severe mental illness. *Methods* A literature search was carried out with the aim of investigating: a) employment rates in schizophrenia and first-episode psychosis and the extent to which they have changed over time; b) the barriers to work; c) the factors associated with being employed among people with schizophrenia; and d) whether employment influences other outcomes in schizophrenia. *Results* There are wide variations in reported employment rates in schizophrenia. Most recent European studies report rates between 10% and 20%, while the rate in the US is less clear. There is a higher level of employment among first-episode patients. The employment rate in schizophrenia appears to have declined over the last 50 years in the UK. Barriers to getting employment include stigma, discrimination, fear of loss of benefits and a lack of appropriate professional help. The most consistent predictor of employment is previous work history. Working is correlated with positive outcomes in social functioning, symptom levels, quality of life and self esteem, but a clear causal relationship has not been established. *Conclusions* Very low employment rates are not intrinsic to schizophrenia, but appear to reflect an interplay between the social and economic pressures that patients face, the labour market and psychological and social barriers to working.

■ **Key words** schizophrenia – employment rate – predictors – barriers

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Introduction

Unemployment is damaging to the health of the general population (Bartley 1994), and it is an important part of the social exclusion faced by the seriously mentally ill (SMI), particularly in developed countries (Boardman et al. 2003). In the United Kingdom (UK), there has been very little change in the last 10 years in the proportion of adults with a psychotic disorder participating in the workforce. This contrasts with the increases in the employment rate in the general population and in those with physical disabilities (Social Exclusion Unit 2003). Lack of employment in those with schizophrenia is also economically costly, so that, for example, approximately 40% of all disability allowance claims in the UK are on the basis of mental illness (Huxley and Thornicroft 2003). The National Service Framework for Mental Health (Department of Health 1999) in the UK sets out the responsibility of health and social services to promote social inclusion and reduce discrimination. There is also a duty to include employment within the care plans of people on the enhanced care programme approach (CPA).

There is increasing interest in the subject of work and SMI, partly fuelled by the appearance of newer service models such as individual placement and support (IPS). This model is intended to help patients get their chosen job and to provide the support they require to keep it, rather than concentrating on pre-vocational training. The IPS model has made employment for people with SMI potentially more achievable (Crowther et al. 2001). We know little about the general rate of employment and the factors associated with working among people with schizophrenia. This would be valuable in informing the development both of local initiatives and of national policies (Jenkins 2003).

The delivery of mental health services has changed markedly over the past 50 years across the developed world (Geller 2000). The effect of this on the occupational functioning of people with schizophrenia is unclear. Follow-up studies of schizophrenia commonly re-

port deterioration in social functioning including occupation (Jablensky et al. 1992; Harrison et al. 1996), but the nature, time-course and extent of this may be dependent on factors extrinsic to the illness. Comparing the employment rate in those with a first episode with those later in the illness course can aid our understanding of the natural history of the illness. There is evidence that people with schizophrenia want to work (Bates 1996; Hatfield et al. 1992), but also that very few of them now do so (Huxley and Thornicroft 2003). So that we can understand this discrepancy and develop strategies to reduce it, it is important to know what barriers to work people with schizophrenia face and what factors are associated with them getting and keeping jobs.

The aims of this review are to answer the following questions:

1. What is the employment rate in people with established schizophrenia?
2. How does this compare to the rate reported in first-episode studies?
3. What is the relationship between variations over time in the employment rate among people with schizophrenia and among the general population?
4. What are the barriers to employment?
5. What are the factors that are associated with being employed among people with schizophrenia?
6. Is there any evidence that being employed may influence other outcomes in schizophrenia?

Subjects and methods

A literature search was conducted using the Medline (1966–present day), EMBASE (1980–present day), CINHAHL (1982–present day) and Psych Info (1882–present day) databases, restricted to reports published in the English language. All searches used the following key words to identify papers discussing schizophrenia and employment: schizophrenia, psychosis, mental disorder, work, employment, occupation, vocation and job and a variety of others designed to answer the particular aims of the review. A brief internet search was also conducted. In extracting the papers that reported the employment rate, only studies that had a sample size of around 200 or more were initially included. However, smaller studies carried out before 1985 were also included because of the very limited number that fulfilled this sample size criterion and reported the employment rate. No sample size limits were used for the first-episode studies search as study numbers tend to be smaller. Reference lists in all papers were checked for further relevant sources.

Although the main focus of this paper is people with schizophrenia, studies that have sampled people with severe mental illness containing those with schizophrenia are included, and we have made it clear when this is the case. It is likely that a high proportion of people in these samples have schizophrenia.

Results

■ What is the rate of employment in people with schizophrenia?

Study methods varied in a number of ways making direct comparisons difficult. Differences included the method of recruitment, and the study setting, as well as

how the diagnosis was made. Some of the studies have samples in which there is no description of diagnosis further than “psychosis” although others give rates for sub-categories. There is no standard method of describing employment in schizophrenia and in most studies it is unclear what definition has been used. Therefore, it is often difficult to know whether the rate given is for open, sheltered, voluntary, part-time or full-time employment, what time-frame has been used for measurement and how far definitions require sustained attendance at work for people to be categorised as employed.

There is also usually very little mention of what sort of work people were engaged in and whether this was for an open market rate of pay. The majority of reports do not explain how they have dealt with women who are working in the home, who may be classified as employed, especially in some recent studies. Large international variations in the female employment rate in the general population create difficulties in interpretation of international comparisons of employment rates among the mentally ill. The unemployment figures also are difficult to interpret since some rates may refer only to those who are looking for work and others may include the long-term disabled claiming sickness benefit or pensions. This is one reason why employment rather than unemployment rates are the focus of this paper. Also, as many people with schizophrenia are likely to regard meaningful recovery as involving a return to open market employment paid at a full usual rate, our review quotes this rate where possible.

Table 1 shows the studies that report employment rates in people with schizophrenia. The UK studies are ordered by the year of data collection in order to indicate how rates may have changed over time in this country. It is unclear if the excess of UK studies is real or is an artefact of the sampling strategy.

In the UK overall, the range of employment rates was between 4% and 60%, although most studies up to the 1990s report a rate of around 20% to 30% among people with schizophrenia. Older studies and those that sampled from relatively affluent areas (Johnstone 1991) report generally higher rates of employment. The lowest rates are found in studies that sampled solely people under the care of psychiatric community mental health teams (CMHTs). In studies carried out after 1990, figures between 4% and 27% are reported. However, the outlying figure of 27% is reported from a sub-study of the Psychiatric Morbidity in Great Britain Survey (O'Brien et al. 2003), which has a number of significant biases including sampling problems and a lack of clarity about whether work was paid or not. Employment data regarding people with disabilities are also collected as part of the UK Labour Force Survey (LFS). The LFS is a regular household survey of a sample of the general population, used primarily to provide labour market statistics. The mental health problems causing “disability” are self-reported, and in 2001 this survey reports the employment rate for those with a disability classified into “depression and bad nerves” as 22.2% and those with “mental illness, phobia,

Table 1 Studies reporting employment rates

Author	Year/s of data collection	Sample size, N =	Location/setting	Sampling frame	Diagnostic category	Employment rate
Brown et al. 1958	1950s	229	London UK	Discharges from in-patient units	SMI: 2/3 with schizophrenia	41 %
WHO 1973 International Pilot Study of Schizophrenia	1968	Total sample: 1202 Aarhus: 129 Agra: 140 Cali: 127 Ibadan: 145 London: 140 Moscow: 140 Taipei: 137 Washington: 132 Prague: 125	Aarhus (Denmark) Agra (India) Cali (Colombia) Ibadan (Nigeria) London (UK) Moscow (Russia) Taipei (Taiwan) Washington (US) Prague (Czechoslovakia)	Psychiatric centres	Schizophrenia	Aarhus 65 % Agra 57 % Cali 54 % Ibadan 57 % London 60 % Moscow 90 % Taipei 40 % Washington 55 % Prague 70 %
Cheadle et al. 1978	1974	190	Manchester UK	Salford case register	Schizophrenia	26 %
Morgan and Gopalaswamy 1983	1970s	156	Unknown UK	Discharges from hospital	Long-stay patients (primarily those with schizophrenia)	26 %
Kelly et al. 1998 Nithsdale Schizophrenia Survey	1981	133	Scotland, Nithsdale (rural) UK	Range of health and social care services	Schizophrenia	19 %
Gibbons et al. 1984	1982	362	Southampton UK	District general hospital	Schizophrenia	20 %
Johnstone 1991	1985	342	Harrow, London (suburban) UK	In-patient and day services	Schizophrenia	31 %
Harvey 1996 Camden Schizophrenia Surveys	1986	528	Camden North London (urban) UK	Range of health and social services	Schizophrenia	19 %
Perkins and Rinaldi 2002	1990	1015	Wandsworth South London (urban) UK	Community mental health and rehabilitation teams	Severe mental illness: schizophrenia	12 %
Jeffreys et al. 1997	1991	588	Camden North London (urban) UK	Range of health and social services	Schizophrenia, S-A disorder, delusional disorder	14 %
Thornicroft et al. 1998 PRISM study	1991–1992	514	South London (urban/suburban) UK	Range of health and social services	Psychosis	16 %
UK700 Group 1999	1993 (?)	708	London: Manchester 3:1 (urban) UK	Mental health services	Psychosis	20 %
Foster et al. 1996	1993–1994	470	England UK	Community and mental health services and institutions	Psychosis	Private households 21 % Institutions 12 %
Kelly et al. 1998 Nithsdale Schizophrenia Survey	1996	168	Scotland Nithsdale (rural) UK	Range of health and social care services	Schizophrenia	8 %
Bebbington et al. (submitted) EUROSc	1998–2001	Total sample: 1208 France: 288 Germany: 618 Britain: 302	Europe France Germany London	Mental health services	Schizophrenia	France 14 % Germany 14 % London 14 %
McCreadie 2002 Scottish Comorbidity Study Group	1999–2000	316	Scotland Nithsdale (rural) Aberdeen (suburban) Glasgow (inner city) UK	Key informant method. Range of health and social care services	Schizophrenia	8 %
Perkins and Rinaldi 2002	1999	1015	Wandsworth South London (urban) UK	Community mental health and rehabilitation teams	Severe mental illness: schizophrenia	4 %

Table 1 *continued*

Author	Year/s of data collection	Sample size, N =	Location/setting	Sampling frame	Diagnostic category	Employment rate
O'Brien et al. 2003 Psychiatric morbidity in Great Britain	2000	200	England UK	Community survey and GP database	Psychosis	27%
Robins and Regier 1991 Epidemiological Catchment Area survey	Started 1980	Total sample: 20000 Lifetime diagnosis of schizophrenia: 305	USA	Large-scale community sample	Schizophrenia	42.8%
Mueser et al. 2001	Not described	528	Multi-centre USA	Mental health services	Schizophrenia	9.7%
Mowbray et al. 1995	Not described	304	Michigan USA	Community mental health teams and assertive community treatment teams	Severe mental illness 70% of sample had schizophrenia	40%
Drake et al. 1998	1990 1995	> 2000	New Hampshire USA	Community mental health centres	Severe mental illness. More than 50% with schizophrenia	1990: 7% 1995: 24%
Gureje et al. 2002	1997	582	Australia	Range of health and social care services	Schizophrenia	23.7%
Middelboe et al. 2001	Not described	418	Nordic countries	Out-patient register	Schizophrenia	12%
Borga et al. 1992	1984	237	Stockholm	Case register, health and social care services	Schizophrenia	17%
Gaite et al. 2002 EPSILON	1998	404	Europe	Mental health services	Schizophrenia	Total 20% Copenhagen 35.3% London 8.3% Amsterdam 13% Santander 14% Verona 30%

panic" as 10.4% (Smith and Twomy 2002). Because of the lack of diagnostic clarity, this information is not included in the table or analysed further.

UK studies reporting rates from a single centre at two time-points suggest a decrease in the employment rate over time. In a 10-year series of annual cross-sectional surveys of patients with long-term mental health problems in Wandsworth, London (Perkins and Rinaldi 2002), employment among people with schizophrenia decreased by 8% from 12% in 1990 to 4% in 1999. The Camden Schizophrenia Surveys, which used a wide-ranging sampling strategy to gather information on all prevalent cases of schizophrenia in a geographically defined area at two points in time (Harvey 1996; Jeffreys et al. 1997), found the employment rate had dropped from 19% to 14% in 5 years. The employment rate in people with schizophrenia in two cohorts of the Nithsdale schizophrenia surveys fell from 19% in 1981 (N = 133) to 8% in 1996 (N = 168) (Kelly et al. 1998). Although neither cohort has a sample size over 200, case ascertainment in both years used the same methodologically robust strategy.

Rates reported in European studies (8%–35%) are fairly similar to those from the UK and most report employment levels between 10% and 20%. Worldwide data

on employment rates were provided by the International Pilot Study of Schizophrenia (IPSS) (The World Health Organisation 1974), which reported a strikingly large range of rates ranging from 40% in Taipei to 90% in Moscow. These rates are surprisingly high by today's standards. They may be due in part to the sampling strategy as well as the social, political and economic environment in some of the countries at the time. The samples were of people with psychosis in general rather than purely schizophrenia weighted towards recent onset cases (onset within 5 years of entry into the study) who had not been hospitalised for more than two over the last 5 years. Therefore, the sample excluded people with chronic schizophrenia with a poorer outcome.

It is interesting that communist regimes such as Moscow and Czechoslovakia reported very high rates of employment in schizophrenia. In these countries, during the period of data collection unemployment was not officially acknowledged and reliable national statistics were not collected. People may also have been under-employed, in the sense that they were doing work with no real purpose or which took up very little of their official working day (Porket 1989). In developing countries in which there is a less generous welfare state, there also appear to be higher rates of employment in schizo-

phrenia. A recent follow-up study of people with schizophrenia in India found that the occupational outcome was good in 53% of patients after 10 years (Srinivasan and Thara 1997). The sample size was small at 40 and was all male, but the authors comment that the “compelling need for men to be the wage earners in the Indian situation” may underlie this finding.

The employment rate reported amongst people with schizophrenia in the US ranges from 3% to 42.8%. The Epidemiological Catchment Area Study (Robins and Regier 1991) reports the highest rate, although the diagnostic method and the exclusion of participants without a stable residence may have over-represented those with a good prognosis (Commander and Odell 2001; Mortensen and Juel 1990). Although with a smaller sample of people with schizophrenia (N = 74), a similarly high rate of employment (53%) was found in the National Co-Morbidity Survey (Kendler et al. 1996), though there was a high level of false positives on the screening tool used. Analysis of the large database of the Sixteen State Study on Mental Health Performance Measures (Geertsens et al. 2002) shows statewide competitive employment rates in people with schizophrenia varying between 3% and 18%. Unfortunately, only very limited information is provided about how these data have been

collected and the diagnostic criteria used, making it difficult to compare these results with other US reports. However, these figures are similar to the statewide register data reported on all clients with SMI in New Hampshire’s ten community mental health centres (Drake et al. 1998). Between 1990 and 1995, the employment rate reported in this area increased, probably because of the increasing emphasis of the IPS model of job placement in New Hampshire.

■ How does the rate of employment in people with established schizophrenia compare with those in first episodes?

Lack of consistency in the time-period used to define whether a person was employed at illness onset impedes comparison of employment rates in first-episode psychosis studies. For example, some studies may classify people as working only if they still have a job at the time of the onset of psychosis/first presentation to services, while others may count people in work within the previous year. Therefore, it is often unclear whether a pre-morbid or morbid employment rate is being described. Table 2 shows the first-episode studies that report em-

Table 2 Employment rates in first-episode psychosis studies

Author	Year of data collection	Sample size	Location	Sampling frame	First episode defined as	Employment rate
Schwarz et al. 1980	1978	70	Mannheim Germany	In-patients and out-patients	First presentation to services	43%
Johnstone et al. 1986	1979–1982	253	Harrow London	Hospital	No previous psychosis. No neuroleptic and admission for > 3 days	At baseline 65% At 2-year follow-up 49%
Birchwood et al. 1992	1984–1986	154	Birmingham UK	Hospital	First hospital admission	52% At 12-month follow-up 25%
The Scottish Schizophrenia Research Group 1992	Unknown	49	Scotland	Hospital	First hospital admission	43% At 5-year follow-up 20%
Vazquez-Barquero et al. 1995	1989	86	Cantabria Spain	Mental health services	No previous episode	49%
Byrne et al. 2002	1981–1998	7704	Denmark	Danish Psychiatric Central case register	First contact	23% within 1 year of contact
Bhugra et al. 1997	1991–1993	White: 38 Asian: 24 African-Caribbean: 38	London UK	Mental health services	First contact	White 31.6% Asian 29.8% African-Caribbean 13.2%
Bhugra et al. 2000	Unknown	Trinidad: 46	Trinidad	Mental health services	First contact	Trinidad: 65%
Singh et al. 2000	1992–1994	166	Nottingham UK	Psychiatric services	First contact with services	25% At 3-year follow-up 16%
Barnes et al. 2000	Unknown	53	West London UK	Hospital	First admission	13% within 1 year of admission
Skeate et al. 2002	Unknown	42	Birmingham UK	Community mental health teams	Unknown	40%

ployment rates, again shown by year of data collection where available.

These studies show higher employment rates than those for established cases of schizophrenia, but with some overlap, especially for more recent samples where rates are sometimes relatively low. It is striking that, in most studies, the majority of people presenting to services for the first time are already unemployed. As in the studies of prevalent cases of schizophrenia, there does appear to be a relationship between year of data collection and employment rate, with older studies reporting higher rates, often around 50%. A particularly high employment rate of 65% is reported for incident cases of schizophrenia in Trinidad, although the authors comment that no one was in a skilled or professional job (Bhugra et al. 2000). Where follow-up data are also reported, a substantial fall in employment rate had usually taken place. For example, Birchwood and colleagues examined the 12-month course of people with a first episode of psychosis in the period 1984–1986 in West Birmingham, UK (Birchwood et al. 1992). The baseline employment rate of 52% dropped to 25% after 1 year. Research from Harrow, London (Johnstone et al. 1986, 1990) also reports a high initial employment rate with a fall at 2-year follow-up from 65% to 49%.

■ What is the relationship between variations over time in the employment rate among people with schizophrenia and among the general population?

Social recovery in schizophrenia, of which occupational recovery is an important part, may be affected by the macro-economic situation in the country (Warner 1994). The effects of the economic situation on the employment rate in the general population may differ from the effects in schizophrenia. Fig. 1 shows the employment rates in schizophrenia from UK studies compared with the rate in the general population, as an example of changes in these rates in a developed country over the last 50 years. The employment rate in each of the UK studies in Table 1 is plotted against the year of data collection. [The two studies carried out on behalf of the Office for National Statistics in the UK (Foster et al. 1996; O'Brien et al. 2003) have been excluded because of the methodological difficulties discussed above.]

The employment rate in the general population in the year of data collection has been shown on the graph for comparison (Department for Education and Skills 2001) and a trend line plotted. This comparison is in some ways problematic in that the method of calculating the employment rate has changed a number of times over the last 50 years. Furthermore, the graph shows the total rate of employment in the general population, but the employment rate has decreased overall for men and increased for women over this period.

The trend lines show that, in the UK, the employment rate in those with schizophrenia has been slowly dropping, whilst the rate in the general population has varied

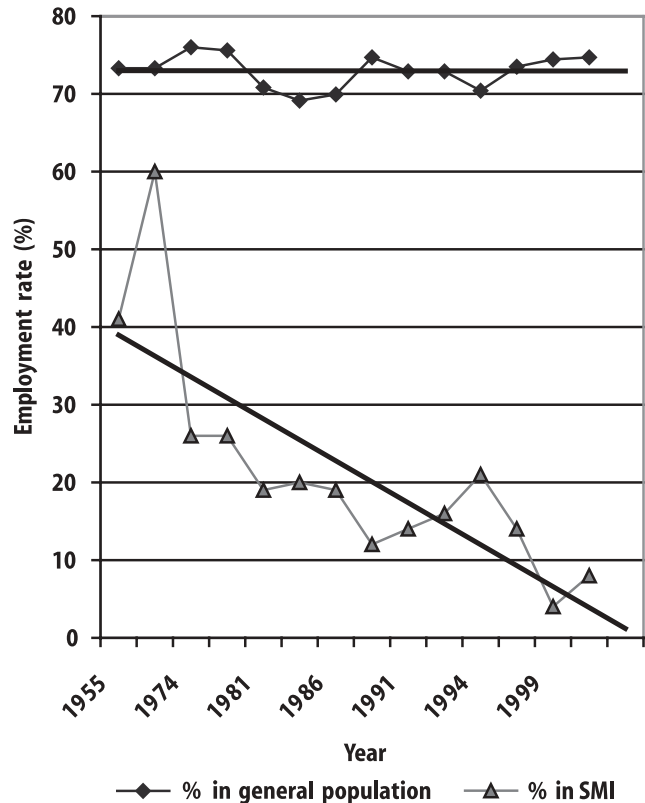


Fig. 1 Employment in the UK general population compared with employment in people with schizophrenia from UK studies

less. There may be a number of reasons for this. At the start of the deinstitutionalisation movement, there was much more emphasis by psychiatric services on the occupational needs of patients. Industrial Therapy Units which comprised workshops and factories were set up in most hospitals in Britain and were seen as one of the key strategies in the preparation of long-stay patients for discharge (Anonymous 1969). Male patients were not usually discharged unless they had paid employment, partly because they had little in the way of means of support otherwise. Work was so valued as a rehabilitative option that in a national survey of people in hospitals, 46% of male and 56% of female inpatients were working (Wansbrough and Miles 1968). This was either in industrial therapy units, domestic duties or “other types of work traditional in mental hospitals”. There is little comparable provision in modern mental health services in the UK. Despite the high rates of employment, the nature of work that was being carried out by people with schizophrenia was primarily “manual, repetitive and monotonous and often on assembly lines” (Anonymous 1969). Moreover, pay was low with a statutory maximum of £2 a week for people in the industrial therapy units. Full-time sheltered work attracting very low rates of pay would now not be possible, given the minimum wage legislation.

Labour market conditions have also changed over the last 50 years. In the early 1960s, demand for manual

workers in the UK was so high that the government encouraged immigration from around the world to fill these vacancies (Deaken 1970). It is possible that in such a labour market those with schizophrenia were much more likely to get work and this may partly explain the high rates during this period. However, since the 1980s, the unemployment rate in the UK in the general population has fallen, while it appears to have risen in people with schizophrenia. It would seem, therefore, that the relationship between employment and labour market conditions in the general population and for people with schizophrenia is unlikely to be a simple one.

In modern times, the increasing emphasis on productivity and the dominance of services industries and technology mean the nature of much work has changed. In such a competitive market, job prospects for those with schizophrenia will be low if they have a poor work history and problems with social skills. People with schizophrenia have also been found to favour work with low levels of interpersonal interaction (Muntaner et al. 1993), and this may now be less readily available. These problems may be compounded by a lack of dedicated services helping people to obtain and to stay in work. It is also possible that the service user movement and deinstitutionalisation may have resulted in raised expectations among people with SMI, so that they are no longer as willing to do the menial jobs that the institutionalised were doing in large mental asylums or expected to do on discharge.

The financial incentives for people with schizophrenia to work are also likely to be part of the explanation for the declining employment rate in the UK. A more generous benefit system in recent times than in the 1950s and 1960s (Blakemore 1998; Glennerster 2000) may mean that the economic choices of people with schizophrenia are weighted towards persisting unemployment because of the earnings disregard (the amount of income a disabled worker may earn before governmental help is reduced). The “benefits trap” is even more potent for those with SMI than for the general population (Turton 2001) because additional disability payments result in a higher income that needs to be compensated for by a salary. This is particularly the case for those with SMI considering working part time.

■ What are the barriers to employment people with schizophrenia face?

The main barriers to employment for people with SMI described in the literature are stigmatisation of the mentally ill, economic disincentives, the attitudes and self-esteem of those with SMI, and the response of mental health services to their needs for support in obtaining and maintaining employment. Many of these factors are similar to the barriers faced by the long-term unemployed (Blumenberg 2002), but those with schizophrenia face the added burden of their illness.

People with schizophrenia commonly report that

stigma is one of the biggest barriers to them finding and keeping work. In a qualitative study (Schulze and Angermeyer 2003), people with schizophrenia, relatives, and mental health professionals from German out-patient centres all reported that the stigma of schizophrenia was a major barrier to employment. They identified four dimensions of stigma that affected them: adverse effects on interpersonal interactions, structural discrimination (disproportionately less expenditure on mental health services), public images of mental illness, and lack of access to valued social roles. They said public images were responsible for a “hostile social climate” towards people with schizophrenia, and that their diagnosis denied them access to employment. In particular, after a treated episode their return to work was often accompanied by criticism and a denial of their skills. Similarly, in a large postal questionnaire survey of “disabled people” in South London (Rinaldi and Hill 2000), discrimination from employers because of the stigma of mental illness was the most commonly cited barrier to getting work.

There is evidence that the judgements of people with SMI about how employers view them are consistent with the actual attitudes of employers. In a questionnaire survey of 200 personnel directors of large businesses, half the employers said they would never or only occasionally employ someone who was currently unwell, and this dropped to 28% when they were asked about people who had previously been ill (Manning and White 1995). Compared to those with other illnesses, people with schizophrenia were much more likely to be dismissed if they became unwell whilst in post. Interestingly, larger employers were significantly more likely to give work to someone with mental illness: this may be because larger companies with greater human resources may be able to cover more effectively for someone with SMI who is unwell.

A number of studies report the loss, or feared loss, of benefits as a powerful barrier (McQuilken et al. 2003; Rinaldi and Hill 2000; Noble 1998). For example, in interviews with a large number of service users regarding their employment needs, 70% of those who were not interested in working said that worries over benefits were important in their reasoning (Secker et al. 2001). However, none of these studies have assessed whether these beliefs are founded on actual experiences within the welfare system or on people’s fears. These economic disincentives are inherent in the social policy of many countries, but different thresholds may affect people’s decision to work. For example, countries such as Italy, in which there is a higher earnings disregard, tend to have a higher level of employment among people with schizophrenia (Warner 2001).

Although in most studies the majority of respondents say that they want to work, a sizeable minority say that they are not interested at the moment. Many of those who say they want to work do not seem to be engaged in active job-seeking (Marwaha and Johnson in press), suggesting that there is a gap between expressed attitudes and behaviour in this area. Some people may

report that they want to work because of its social desirability rather than out of real interest, and some may be too discouraged by past failures to persist in seeking work.

Open doubts about getting employment were expressed by the service users studied by McQuilken et al. (2003) who reported concerns about receiving low pay and being ashamed of their own employment history. Some also believed that they would not be able to cope with work (Garske and Stewart 1999). In a qualitative study of 15 people with SMI in Islington, London, a minority said that they were not well enough to work, although many more said they were only well enough to work part time (Marwaha and Johnson in press). A common concern was that working might lead to a deterioration in mental health. It also appeared that after a protracted period of unemployment people were getting the manifest and latent functions of work (Jahoda 1981) from other sources. For example, several of the latent functions of work, such as imposition of a time structure and participation in a collective purpose, could be achieved by becoming a voluntary mental health advocate. In a similar study of ten young people with first-onset psychosis in Australia (Bassett et al. 2001), major impediments to job-hunting were losses associated with illness, low self-confidence and self-esteem.

These attitudes can affect the likelihood of getting work and keeping it. The beliefs of clients of an Assertive Community Treatment (ACT) programme who obtained and sustained employment were found to be different from those who were unsuccessful. Those who were employed tended to be able to see their illness as just one part of who they were (Cunningham et al. 2000). Those who were unemployed seemed either to deny their illness or to define themselves by their illness. In addition, they tended to describe illness management strategies involving covering up the illness or pushing it aside.

Finally, mental health professionals and services may unintentionally collude with the barriers that people with schizophrenia face in gaining work. There is evidence that vocational rehabilitation is often not included in the care plans of people with schizophrenia (Lehman and Steinwachs 1998) and this may reflect low expectations among professionals. In the study by Secker and colleagues (2001), 53% of the people who said that they wanted to work had received no help from vocational services. Unmet needs for support in the workplace or in obtaining work were also identified in the study of Bassett et al. (2001). In particular, patients wanted programmes that assisted them in time and stress management, and in developing problem-solving skills in the workplace.

■ What factors are associated with having a job in people with schizophrenia?

Demographic variables

Several demographic factors have been identified as related to employment, but these associations are not consistently replicated between studies. In the Nithsdale schizophrenia surveys (McCreadie 1982), an assessment and follow-up of all people with schizophrenia in a geographically defined area in Scotland, males were less likely to be employed. An association between female gender and employment has been replicated in other follow-up studies in the USA (Beiser et al. 1994) and in Nottingham, UK (Harrison et al. 1996), although others have failed to find any association with gender (Kirsh 2000; Mowbray et al. 1995).

Other demographic factors associated with working in some studies include marital and accommodation status and rural environment. Factors related to better social outcome were analysed in a multi-site 3-year follow-up of 275 patients entering vocational rehabilitation (Rogers et al. 1991) in Boston. Although no differences were found in gender, or in educational and residential status between those who worked and those who did not, being married was associated with having a job. This has also been found in India (Srinivasan and Thara 1997) and Australia (Evert et al. 2003). In the First National Survey of Psychiatric Morbidity in Great Britain (Foster et al. 1996), owning one's own property was strongly associated with employment, although the causal direction is unknown. In the assessment of regional variations in competitive employment among people with SMI in New Hampshire, US (Drake et al. 1998), rural centres tended to have higher rates of employment.

Pre-morbid functioning

A large and consistent evidence base supports an association between good pre-morbid functioning and favourable employment outcome in schizophrenia. In a study using data from the WHO International Pilot Study of Schizophrenia (IPSS) (N = 133) to predict outcome in schizophrenia (Strauss and Carpenter 1974), unemployment before initial evaluation was found to be the best predictor of unemployment at 5-year follow-up. At 11 years, however, only frequency of current social contacts was found to be associated with employment (Carpenter and Strauss 1991). Many studies have confirmed that initial work history predicts subsequent work performance (Anthony and Jansen 1984; Arns and Linney 1995; Mueser et al. 2001; Russinova et al. 2002; MacEwan and Athawes 1997).

Despite this, further exploration of the nature of this relationship may be required, as methodologically robust studies have found that premorbid social and work competence do not predict future performance in their own domains (Harrison et al. 1996) once adjustment is

made for baseline variables such as age at illness onset, gender, history of being married, type of onset and whether the duration of untreated psychosis exceeded 6 months. Secondly, it is not clear whether measures of general premorbid social functioning may in fact be as good as, or better than, previous work history in predicting future employment.

Psychotic symptoms

Many studies have investigated the relationship between psychotic symptom severity and employment status, but there is only limited agreement. A previous review citing older evidence reported no relationship between psychotic symptoms and functional capacity to work (Anthony and Jansen 1984). However, more recent evidence suggests that there may be an association with at least some types of symptoms, and this is not surprising given that work history is related to the number of hospitalisations a patient has had (Mowbray et al. 1995). For example, in a 1-year follow-up of patients in a rehabilitation programme (Anthony et al. 1995), employment at the end of follow-up was significantly related to lower current symptom levels. Symptom levels were in turn negatively correlated with work skills, which may have mediated this association. A longer-term follow-up study also reports a similar association (Racenstein et al. 2002). Greater severity of positive symptoms has also been found to be associated with being employed (McGurk and Meltzer 2000), suggesting their presence is not inconsistent with working.

Negative symptoms are associated with unemployment in schizophrenia both cross-sectionally (Solinski et al. 1992) and prospectively (Johnstone 1991; Lysaker and Bell 1995). Some smaller studies using multiple regression analyses suggest that this relationship is likely to be independent of and stronger than any effects of positive symptoms (Breier et al. 1991; Hoffmann and Kupper 1997). The effects of negative symptoms on vocational functioning may be mediated by their impact on interview performance (Solinski et al. 1992), task orientation, social skills and personal presentation (Lysaker and Bell 1995) or simply by motivation to work.

Social behaviour, attitudes and skills

The individual characteristics and social functioning of people with schizophrenia influence the likelihood that they will be employed. In a retrospective analysis of 156 patients (primarily long-stay schizophrenia patients) who were discharged from hospital, those who were working had low levels of social withdrawal and socially embarrassing behaviour (Morgan and Gopaldaswamy 1983), though social withdrawal may be an indicator of negative symptoms severity. The jobs held by people with schizophrenia were found in this study to require relatively little interpersonal interaction, a finding also replicated in a case-control study of veterans (Bacani-Oropilla et al. 1991). Thus, some people with schizophre-

nia may seek out jobs in which their style of and capacity for social interaction with others is not a hindrance or can be accommodated.

Data from the study of Low Prevalence Disorders in Brisbane (Evert et al. 2003) relating functioning and social networks of 908 individuals (most with a diagnosis of schizophrenia) revealed a strong association between social integration and functioning, defined as being employed ($r=0.71$), even after controlling for illness course. Good social skills in people with schizophrenia were found to be related to employment in a number of other studies (Cook and Razzanno 2000). Poor social functioning may relate to the effects of the illness, but also to intrinsic personality factors such as high extraversion or neuroticism scores, which have been correlated with poorer work functioning (Lysaker et al. 1998).

The attitudes of people with schizophrenia and their resultant job-seeking behaviour have not been extensively studied, but in the general population there is evidence that those actively looking for a job are more likely to be employed in the future than those who are not (Tano 1991). In a large ($N=528$) prospective analysis of work in schizophrenia (Mueser et al. 2001), the desire to work at baseline was related to future employment at 1- and 2-year follow-up, and those that wanted to work and had made efforts to do so were the most likely to be employed. Similarly, a "positive attitude to work" was predictive of employment status in participants of an ACT and rehabilitation programme (Mowbray et al. 1995).

As well as a desire to work, work adjustment skills, as assessed in a sheltered job site, have been shown to be important in predicting employment (Anthony and Jansen 1984; Cook and Razzanno 2000; Hoffmann et al. 2003). There is also limited evidence that functional skills in other domains such as communication, social interaction, personal hygiene and handling finances (Arns and Linney 1995), may be related to work performance.

Cognitive symptoms

There is consistent evidence, albeit from small studies, that cognitive processing is related to work functioning. In an ANCOVA analysis of people entering a vocational programme ($N=38$) (McGurk and Meltzer 2000), those who were employed full time did significantly better on tests of working memory, vigilance and executive functioning than those who were unemployed. This relationship persisted even after education was controlled for. Frontal lobe functioning may be especially important (Lysaker et al. 1995). Disturbances in cognitive processing may underlie the problems of social integration, functional skills and negative symptoms that affect work performance. Many studies (Green 1996) report that the cognitive deficits found in schizophrenia are associated with poor social skills functioning and problem solving, so that there is a potential pathway linking these deficits to non-employment. Indeed, there is evidence

that problems in contextual processing are related both to symptoms and employment (Allen 1990).

■ Is there evidence that being employed may influence other outcomes in schizophrenia?

Given that people with schizophrenia say they want to work, and that increased resources are likely to be needed for mental health services actively to facilitate this, it is important to know whether employment can influence other outcomes. Many studies report a correlation between employment and other social outcomes, although few have controlled for important baseline factors. For example, in the 1970s Strauss and Carpenter reported that there were correlations between outcome measures such as social contacts, employment and symptoms (Strauss and Carpenter 1977), with each explaining between 17% and 36% of the other's variance. In the Washington IPSS cohort at 11 years, hospitalisation, social contacts, employment and symptom severity were all significantly, but only moderately, correlated with each other (Carpenter and Strauss 1991). However, a report on the social functioning of patients with schizophrenia (N = 76) over 10 years in Oslo, Norway suggested that the correlations between outcome areas such as marital status, independent housing, work and social contacts were low (Melle et al. 2000), except that at 10-year follow-up poor social functioning was significantly related to unemployment.

The question of whether clinical outcomes are related to employment status is unresolved. In a randomised trial of 150 people with SMI assigned to a pay or non-pay group and given a 6-month work placement, those who had been paid had worked more hours and showed a statistically significant improvement on symptoms and had lower re-hospitalisation rates (Bell et al. 1996), and these clinical benefits were maintained at 1-year follow-up (Bell and Lysaker 1997). The sample, however, consisted almost entirely of male veterans with very long psychiatric histories. Similarly, in a 3-year follow-up of 83 patients with schizophrenia given work therapy in Germany, those with a better rehabilitation course had significantly lower re-hospitalisation rates, but work had no effect on psychopathology (Reker and Eikermann 1997).

Mueser and colleagues (1997) explored the question of whether these clinical benefits persist if baseline factors are controlled for. Non-vocational aspects of the functioning of 143 unemployed people with SMI participating in a study of vocational rehabilitation programmes were assessed at baseline and 6, 12, and 18 months later (Mueser et al. 1997). Patients who were working at follow-up tended to have less severe symptoms (particularly thought disorder and affect), higher Global Assessment Scores, better self-esteem, and more satisfaction with their finances than unemployed patients, after controlling for baseline factors. Although important, these results do not agree with a substantial

number of studies evaluating IPS, which have shown increased employment, but not changes in non-vocational outcomes (Drake et al. 1999).

Working may improve quality of life for people with schizophrenia. In an exploration of the relationship between satisfaction, employment status and global well-being, job satisfaction had a strong relationship with quality of life (Eklund et al. 2001). Similarly, other studies also report a significant association (Priebe et al. 1998; VanDongen 1996; Arns and Linney 1995), although this effect may be related to self-esteem, itself correlated with employment outcome (Brekke et al. 1993).

Discussion

There were surprisingly few epidemiological studies that reported an employment rate in schizophrenia, and the substantial methodological problems in comparing these have been discussed above. The employment rate in schizophrenia is generally lower than rates in other psychotic disorders (Gureje et al. 2002), and this is likely to be related to the severe social disability that schizophrenia often entails. The UK employment rate in schizophrenia over the last 20 years ranges from 4% to 31%, with most samples reporting a rate between 10% and 20%. These figures are very low compared to the employment rate in the general population of 75% to 80%. They are not, however, consistently as low as suggested in some recent discussions (Boardman et al. 2003; Huxley and Thornicroft 2003) that state the employment rate in schizophrenia barely reaches 10%.

Recent European studies have also often reported rates within this 10% to 20% range. The employment rate in the US is much less clear because of some striking outliers. The wide variations found in the employment rates in schizophrenia suggest that a very low rate is unlikely to be a direct result of the inherent characteristics of the illness, and that the rate is likely to be influenced by social factors. For example, if someone with schizophrenia faces a choice between severe economic deprivation and its consequences or working in a low-paid job, then they are likely to do the latter. However, in societies that offer financial help, however meagre, to those with schizophrenia who are unemployed, the pressures to work may be less. In such a situation, the obstacles to working, such as discrimination and loss of benefits, may become more important, as may the nature of the work available.

It is conspicuous that in recent first-episode samples many people are already unemployed, perhaps as a result of premorbid or prodromal difficulties or of a period of undetected psychosis. Thus, while some people experiencing the onset of a psychotic illness will need help sustaining a work role that they already have, many will need help in initiating or recovering such roles.

People with schizophrenia have become progressively more likely to be unemployed over the last 50 years in the UK. The reasons for this have not been

clearly established. However, it is likely to be due to an interplay between the social and economic factors, labour market conditions, the barriers that people face, provision of services, individual choices, and incentives for people with schizophrenia to work. The declining employment rate seems unlikely to change without a concerted effort from government and services.

There is a small, but significant, literature on the barriers to employment, which documents as problems stigma, discrimination, concerns over benefits, and services not geared to supporting people in getting back to work. What the literature lacks is investigations into what factors are most important, and also which are most amenable to change. For example, the level of knowledge about the benefit system and employment amongst people with SMI has not been established, but may well be low. Such information could be made more accessible to patients and might potentially change the choices people make. Whether the UK anti-stigma campaign will affect employers is currently unknown. Little has been written about what enables people with schizophrenia to work, although support in the workplace seems to be important, and this may be one of the active ingredients of IPS. The limited literature on skills suggests that work adjustment skills, defined as the ability to get along with people at work, ability to do the job and being dependable (Anthony et al. 1982), are important. It is possible that some of these skills could be taught to those who do not have them.

Although many factors have been reported to be associated with employment in schizophrenia, the most consistent and strong relationship is with pre-morbid social and occupational history. Many studies exploring employment predictors have failed to adjust for this. Negative symptoms are likely to be important, independently of any relationship to positive symptoms. Substantial positive symptoms do not necessarily make employment impossible. To some extent, cognitive problems may underlie the relationship between social integration, functional skills and negative symptoms, and work. No conclusions can be drawn about demographic factors because of the lack of consistency in the literature. Whether any of these factors are specifically related to employment as opposed to overall good social outcome is unknown.

Several studies suggest that there is a correlation between employment status and other types of outcome, but investigations of the causal direction are scarce. Although there is a lack of clarity, the studies reviewed suggest a possible influence over other types of social outcome, clinical benefits such as reduction in symptoms or hospitalisations, and better quality of life and self-esteem. To answer these questions fully and confidently, large prospective studies are required in which powerful predictors such as pre-morbid work history are controlled for.

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