

How much of the burden of schizophrenia is alleviated by treatment?[†]

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The article by Andrews *et al* (2003, this issue) on the cost-effectiveness of the treatment of schizophrenia argues that current interventions avert only 13% of the burden of the disease, whereas 22% of the burden could be averted by optimal treatment at no extra cost. The fact that optimal treatment, in this analysis, is no more costly than standard care is not surprising. The authors base their definition of 'optimal' treatment on the standards set by the schizophrenia Patient Outcomes Research Team (PORT) study (Lehman & Steinwachs, 1998), in which 21 of the 30 recommendations for optimal treatment relate to the selection, dosage and use of medication and electroconvulsive therapy, and carry few or no cost implications. Of the remaining PORT recommendations, dealing with psychological, family, vocational and service-system interventions, perhaps six would result in increased costs. (Cognitive-behavioural therapy for persistent psychotic symptoms was not included among the 1998 PORT recommendations.) Thus, although many of the optimal treatment recommendations carry cost benefits resulting from improved outcome, only one-fifth are likely to bring increased costs. The more explosive finding of Andrews *et al*'s article, however, is the conclusion that less than one-quarter of the burden of schizophrenia is averted by the best available treatment.

A conclusion of the Andrews team's research, not directly referred to in this article, is that the cost-effectiveness of the treatment of schizophrenia in reducing disease burden is substantially lower than that of the treatment of anxiety and depressive disorders. There are problems with their conclusion, however. The Andrews team's approach to calculating the years lived with disability (YLDs) averted by treatment is a new and relatively untested field. The team computes treatment-related

changes in the disability weight in the YLD formula from estimates of the effect size of interventions in the published research on clinical interventions. Although this methodology may be adequate for measurement of the burden of anxiety and depression, it is likely that, in the case of schizophrenia, much of the burden of the illness is not captured by the approach.

In the first place, the clinical research mainly measures symptom change. The supposed reduction in burden, in Andrews *et al*'s analysis, is therefore directly related to the amount of symptom change achieved by specific interventions. It is clear, however, that a 13–22% change in symptoms (e.g. reducing some positive symptoms but no negative symptoms) could result in a much greater reduction in the real overall burden of the illness. This amount of change might mean, for example, that the person with the illness could leave the hospital, live independently, work, be relatively free of distress and cause no social disruption.

Second, the Andrews team's analysis is based on a prevalence survey of people who are in treatment and, in nearly all cases, taking medication. What is missed in this approach is the impact on society of those who are *not* consistently in treatment. It does not capture the impact of treatment system inadequacy, of poor continuity of care from acute in-patient treatment to community care, of homelessness, criminal justice involvement or the social costs of frequent changes of residence, fractured family relations and other consequences of the revolving-door syndrome. Curiously, in fact, the analysis includes the *costs* of service system elements such as case management, which might directly address such problems, but none of the outcome *benefits*.

Thus, the Andrews team's methodology fails to take into account the benefits attributable to such optimal treatment approaches as assertive community treatment and supported employment. For

heavy service users, assertive community treatment substantially reduces the time spent in hospital and the frequency of acute psychotic relapse and improves housing stability (Mueser *et al*, 1998). Supported employment increases the likelihood of competitive employment for people with severe mental illness from around 20% to nearly 60% (Bond *et al*, 1997). Both interventions clearly reduce the burden of schizophrenia, although neither has much impact on the symptoms of the illness. Their contribution, therefore, is not included in the Andrews team's assessment.

As an illustration of the effects that are not captured by the Andrews team's model, we may consider the impact of recent changes in British psychiatric services on the proportion of people with psychotic disorders among jail populations. From the 1960s until the early 1990s, this proportion was consistently no more than 2–3%. The percentages in Table 1 reveal that since 1992 there has been a progressive increase in this proportion and, in 1997, a large government survey of prisoners in England and Wales reported that 7% of sentenced male inmates and 10% of male prisoners on remand were suffering from psychosis; the proportion of female inmates with psychosis was 14%, and lay interviews suggested that over 20% of female remand prisoners were affected in this way (Singleton *et al*, 1998). The proportion of mentally ill people among the swelling homeless population in Britain was also high in the late 1980s and the 1990s (Marshall, 1989; Timms & Fry, 1989; Marshall & Reed, 1992; Adams *et al*, 1996). These problems do not appear to be a result of the transfer of long-stay patients from mental hospitals to the community (Leff, 1997a). They are better explained by the closure of hospital beds and the failure to develop comprehensive community services for the new generation of severely ill patients. Leff (1997b) suggests that 'the answer must lie in the inadequacy of after-care for patients passing through the admission wards'. Craig & Timms (1992) attribute the increase in the numbers of homeless mentally ill people to the failure to provide assertive community treatment. The economy and associated funding problems also may be relevant. A meta-analysis of outcome from schizophrenia throughout the 20th century reveals that both social recovery and complete recovery rates have declined sharply in Britain for patients admitted to treatment after 1975, the pattern of change

[†]See pp. 427–435, this issue.

Table 1 Percentage of jail population suffering from psychosis in the UK

Source	Year of jail admission	Men	Women
Gibbens (1966)	ca. 1965	2	–
Blugrass (1966)	ca. 1965	2	–
Gunn <i>et al</i> (1978)	1972	2	–
Faulk (1976)	ca. 1975	3	–
Gunn <i>et al</i> (1991)	1988	2	–
Maden <i>et al</i> (1994)	1988–1989	2	2
Watt <i>et al</i> (1993)	1991	3	–
Brooke <i>et al</i> (1996)	1992–1993	5	–
Birmingham <i>et al</i> (1996)	1995–1996	6	–
Singleton <i>et al</i> (1998)	1997	7–10	14

being inversely associated with changes in the national unemployment rate (Warner, 2003).

Whatever the causes, changes such as these have effects that are not captured by the Andrews team's methodology. If policy-makers, therefore, were to follow the course charted by this research and re-direct funds from the care of schizophrenia to the treatment of high-prevalence but lower severity disorders, the consequence could be escalating social costs and monetary costs for non-health-service systems such as the criminal justice system, resulting from the impact of declining care for people with psychosis.

It is important to recognise, moreover, that people recover from schizophrenia. Throughout the 20th century an average of 20% of those admitted to treatment with schizophrenia recovered completely with the passage of years, when the economy was not severely depressed, and another 15–25% achieved a good social recovery (Warner, 1994, 2003). This long-term recovery process is not recognised by research that focuses on the outcome of short-term treatment intervention. Looked at in this light, psychiatric treatment services take on a different role from that implied by Andrews *et al*'s approach. Services are not in place merely to produce a short-term reduction in symptoms but rather to provide a healing environment over the course of years while the natural history of the illness leads to a more benign outcome. From the past 200 years of treating

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people with psychotic disorders we have learned that pessimism and neglect, often spawned by poor economic conditions, can lead to declining standards of care, poor outcomes and decreasing quality of life for people with mental illnesses. Witness the institutionalism and abuse during the Great Victorian Depression and the 20th century Great Depression, and the community abandonment of the seriously mentally ill population in the USA during the economic recession of the 1970s and 1980s (Warner, 1994). In fact, the real burden of long-term disabling diseases such as schizophrenia changes with the state of the economy. When workers are in short supply, the burden of illness expands to include the lost labour potential; in hard times, concern is more focused on the cost of care (Warner, 1994). Although the Andrews team's analysis of the relative burden of care of different mental disorders takes us in a potentially useful direction, the methodology must be modified to go beyond short-term symptom change. It needs to take into account the broad social impact of schizophrenia, treatment system adequacy, the progression of the disorder over time and changes in the relative burden of the illness with changing social conditions before it can usefully inform the policy-making process.

DECLARATION OF INTEREST

None.

REFERENCES

- Adams, C. E., Pantelis, C., Duke, P. J., *et al* (1996) Psychopathology, social and cognitive functioning in a hostel of homeless women. *British Journal of Psychiatry*, **168**, 82–86.
- Andrews, G., Sanderson, K., Corry, J., *et al* (2003) Cost-effectiveness of current and optimal treatment for schizophrenia. *British Journal of Psychiatry*, **183**, 427–435.
- Birmingham, L., Mason, D. & Grubin, D. (1996) Prevalence of mental disorders in remand prisoners: consecutive case study. *BMJ*, **313**, 1521–1524.
- Blugrass, R. (1966) *A Psychiatric Study of Scottish Convicted Prisoners* (MD thesis). St Andrews: University of St Andrews.
- Bond, G. R., Drake, R. E., Mueser, K. T., *et al* (1997) An update on supported employment for people with severe mental illness. *Psychiatric Services*, **48**, 335–346.
- Brooke, D., Taylor, C., Gunn, J., *et al* (1996) Point prevalence of mental disorder in unconvicted male prisoners in England and Wales. *BMJ*, **313**, 1524–1527.
- Craig, T. & Timms, P. W. (1992) Out of the wards and onto the streets? Deinstitutionalization and homelessness in Britain. *Journal of Mental Health*, **1**, 265–275.
- Faulk, M. (1976) A psychiatric study of men serving a sentence in Winchester Prison. *Medicine, Science and the Law*, **16**, 244–251.
- Gibbens, T. C. N. (1966) *Aspects of After-care*. Annual Report, pp. 8–11. London: Royal London Prisoners' Aid Society.
- Gunn, J., Robertson, G., Dell, S., *et al* (1978) *Psychiatric Aspects of Imprisonment*. London: Academic Press.
- , Maden, A. & Swinton, M. (1991) Treatment needs of prisoners with psychiatric disorders. *BMJ*, **303**, 338–341.
- Leff, J. (1997a) The outcome for long-stay non-demented patients. *Care in the Community: Illusion or Reality?* (ed. J. Leff), pp. 69–91. Chichester: John Wiley.
- (1997b) The downside of reprobation. *Care in the Community: Illusion or Reality?* (ed. J. Leff), pp. 167–174. Chichester: John Wiley.
- Lehman, A. F. & Steinwachs, D. M. (1998) Patterns of usual care for schizophrenia from the Schizophrenia Patient Outcomes Research Team (PORT) client survey. *Schizophrenia Bulletin*, **24**, 11–20.
- Maden, T., Swinton, M. & Gunn, J. (1994) Psychiatric disorder in women serving a prison sentence. *British Journal of Psychiatry*, **164**, 44–54.
- Marshall, E. J. & Reed, J. L. (1992) Psychiatric morbidity in homeless women. *British Journal of Psychiatry*, **160**, 761–768.
- Marshall, M. (1989) Collected and neglected: are Oxford hostels filling up with disabled patients? *BMJ*, **229**, 706–709.
- Mueser, K. T., Bond, G. R., Drake, R. E., *et al* (1998) Models of community care for severe mental illness: a review of research on case management. *Schizophrenia Bulletin*, **24**, 37–74.
- Singleton, N., Meltzer, H., Gatward, R., *et al* (1998) *Psychiatric Morbidity among Prisoners in England and Wales, Volume 1*. London: Office for National Statistics.
- Timms, P. W. & Fry, A. H. (1989) Homelessness and mental illness. *Health Trends*, **21**, 70–71.
- Warner, R. (1994) *Recovery from Schizophrenia: Psychiatry and Political Economy* (2nd edn). London: Routledge.
- (2003) *Recovery from Schizophrenia: Psychiatry and Political Economy* (3rd edn). London: Brunner-Routledge (in press).
- Watt, F., Tomison, A. & Torpy, D. (1993) The prevalence of psychiatric disorder in a male remand population: a pilot study. *Journal of Forensic Psychiatry*, **4**, 75–83.