Socio-economic status and geographies of psychiatric inpatient service use. Places, provision, power and wellbeing

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Abstract. This editorial briefly summarises some aspects of research on socio-economic status and use of mental health services that have particular relevance for the theme of this issue of Epidemiologia e Psichiatria Sociale. This discussion takes a view from the perspective of health geography, which examines how the relationships between individuals and their social and physical environment result in variations in health and health care use. Three particular issues are considered here. First, the geographical distribution and organisation of psychiatric services may interact with social and economic factors in ways that are important for service use. Second, increasingly sophisticated ecological modelling strategies have elucidated the associations between socio-economic factors and service use at the population level. Third, more intensive, qualitative research complements these statistical analyses and encouraged reflection on the socio-economic processes, within psychiatric care settings, as well as in wider society, which influence service use.

This issue of *Epidemiologia e Psichiatria Sociale* focuses on the question: "*Does socio-economic status influence the use of mental health services?*" This editorial responds to this question with a review of selected perspectives, particularly from within the discipline of health geography, on psychiatric service use (as opposed to psychiatric morbidity or mental health status). Part of the interest of research on *service use* lies in what it reveals about the accessibility and appropriateness of psychiatric services for the populations that they aim to serve and the responsiveness of services to patient's needs.

Health geography is concerned with the significance of *places* for health and health care, (e.g. Jones & Moon, 1987; Gatrell, 2002; Curtis, 2004) therefore this review focuses especially on the importance for psychiatric service use of the relationships between individuals and their social and physical environment, and the of ways that places are perceived and socially constructed. It is not possible in a short review to do justice to related work in other disciplines, such as social psychiatry and environmental psychology, but it will perhaps be interesting for the readership of this journal to consider how these resonate with this emphasis on *place* in geography. Several of the studies reviewed here demonstrate the scope for multi-disciplinary research.

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The following discussion concentrates on three themes. First, the spatial organization of services and the proximity to services for different populations are often reported to influence the way that services are used. This means that any study of social and economic influences on service use should take into consideration geographical proximity to care and the nature of local service provision and there is continuing debate over how best to do this. Second, ecological modelling of service use has significantly advanced our understanding of how socio-economic attributes of the population are associated with patterns of service use and recent developments in modelling techniques have improved the power and reliability of these strategies. Nevertheless the findings from ecological studies need to be interpreted with some caution. Third, the settings in which psychiatric services are delivered can also be analysed using conceptual frameworks from social geography concerned with spaces of power and therapeutic landscapes. This latter type of research contributes to our understanding of the significance of non-clinical attributes of service provision for well-being and mental health of service users.

DEVELOPING PERSPECTIVES ON 'DISTANCE DECAY' IN THE USE OF PSYCHIATRIC SERVICES AND ITS RELATION TO SOCIO-ECONOMIC FACTORS

There is a long history of research on geographical variation in use of psychiatric hospitals, dating from the 19th Century. Several geographers have commented on Jarvis' identification of a 'distance decay' effect in the

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use of psychiatric services in the United States, (Jarvis, 1850), that suggested that populations living in closest proximity to psychiatric facilities were more likely to use them than those living further away (Jarvis' work is discussed, for example, by Grob, 1978).

Although the general principle of this relationship still seems important and relevant today, a number of subsequent studies (using historic data on service use as well as more recent activity data) suggest that the 'distance decay' relationship is not a simple or consistent one. Close examination of the historical record of psychiatric hospital use suggests that factors other than simple costs of travelling the 'straight-line' distances to hospitals may have been important, such as the social relationships and referral networks operating in particular communities, social pressures to 'distance' people with mental illnesses from the general community, the competition between alternative care providers and the relative accessibility of alternative institutions (e.g. Smith & Hanham, 1981; Hunter & Shannon, 1985; Radford & Park, 1993; Alderman, 1997; Melling & Turner, 1999; Philo, 2004). Thus, ever since the first establishment of psychiatric institutional facilities, there has always been a complex interaction between geographical proximity to services, socio-economic conditions in local communities and the organisation of care which requires careful interpretation if we are to properly understand the factors influencing patterns of hospital use.

As psychiatric care has become increasingly de-institutionalised, the relationships between geographical distribution of psychiatric facilities and socio-economic conditions in communities have continued to show complex, changing relationships with patterns of service use by local populations. Dear & Wolch (1987) provided a valuable conceptual model for geographical work in this field, based on the idea of the 'service dependent ghetto', which described how de-institutionalisation of psychiatric services in North America was related to the concentration of mental health service users in certain, relatively disadvantaged areas of major cities. Their model also explained the process of concentration of some psychiatric services in the same types of relatively deprived urban settings.

Thus there is a long running debate about proximity as a factor in service use and the extent of geographical clustering of psychiatric facilities in areas of social and economic disadvantage. This implies that we need to interpret quite carefully relationships between socio-economic conditions and service use when services are unevenly distributed among areas with varying socio-economic profiles. This is important, for example, in research aiming to apply social and economic indicators for small areas as measures of 'need' for psychiatric care. In England, small area data on social and economic conditions have been used to develop formulae to inform decisions on how national resources for psychiatric care should be distributed among local health service administrations (Smith *et al.*, 1996; Department of Health, 2005). The research that formed the basis for these formulae was designed to control for spatial proximity to services, in order to try to identify the variability of service use that was related to morbidity and socio-economic conditions, 'independently' of proximity to services.

To an extent, the model of the 'service dependent ghetto' continues to be relevant for interpreting urban psychiatric service use but more recent research shows that we should avoid applying the model too rigidly, particularly outside major cities in North America. For example, Milligan (1996), Kearns & Joseph (2000) and Jones (2000) have demonstrated that the model does not apply in all respects to the kinds of settings they examined. Its relevance depends on variable factors, such as the geography of housing markets offering suitable and affordable accommodation for people with mental illness and differences in the degree of centralisation of psychiatric services in inner city locations. Wolch & Philo (2000) also provide a useful critical review of the idea of 'distance decay' in rates of use of psychiatric hospitals, which rests partly on their assertion that these kinds of aggregate analyses do not allow sufficiently for individual variability in behaviour of service users. Furthermore, DeVerteuil & Wolch (2002) discuss the 'displacement' model which interprets the location in the city of disadvantaged populations, including people with mental illness, in terms of residential instability, 'churning' and high levels of homelessness. They suggest that this may be more pertinent today for cities in North America. The displacement model contrasts with the idea of rather fixed concentrations of poor populations in 'service dependent ghettos', and the residential mobility implied by 'displacement' makes it more difficult to ascertain the 'residential location' of mentally ill people in relation to the services they use.

We also need to consider that in statistical studies of psychiatric service use, residential proximity to services is often measured using quite crude measures that may not always correspond very well to the reality of geographical experience of service users. Relatively conventional approaches, for example, include measurement of distance to all facilities in an urban system (e.g. see Smith *et al.*, 1996; Almog *et al.*, 2004) as well as distance to the closest facility (Haynes *et al.*, 1999). More advanced

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applications of geographical information systems have potential to plot the location of service users in relation to the geography of psychiatric services in more sophisticated ways. For example, proximity may be measured in terms of travel time through road or public transport systems (e.g. Skarsvag & Wynn, 2004), or in terms of residential histories of mobile populations, moving in and out of geographically defined catchment areas for local services (e.g. Warfa *et al.*, 2006).

In brief, therefore, we still face some significant challenges in identifying the socio-economic settings in which psychiatric service users are located within communities and in understanding how their residential location influences access to services.

POTENTIAL AND LIMITATIONS OF ECOLOGICAL MODELLING

There is now a large international literature that makes use of ecological statistical modelling to test the population level associations, at the scale of local areas, between rates of use of psychiatric services and the socio-economic characteristics of the population. (This brief review does not allow space for a comprehensive review, so the reader is invited to see more detailed overviews by, for example, Tansella *et al.*, 1993; Congdon *et al.*, 1998; Curtis *et al.*, 2006a). This literature is an important source of information to address the questions posed in this journal issue, so it is interesting here to consider its potential and limitations.

This type of ecological analysis is different from studies of individual service use and some authors (e.g. Allardyce & Boydell, 2006) have commented on the relative lack of research using more sophisticated multilevel modelling to examine how individual service use varies in relation to social and economic context. This may result partly from the ethical as well as practical problems involved in obtaining data on individual service users and linking this to detailed information about the settings in which they live. We are constantly reminded by authors reporting this type of analysis that ecological relationships at the level of aggregated populations do not necessarily reveal the associations and causal processes operating at the scale of individual people.

Furthermore, there are always questions to be asked about the choice of geographical area used for these studies and whether the geographical units are well suited to capture the socio-economic processes which may influence use of psychiatric services. Ecological studies in health research (even those using relatively complex designs) also raise some other interesting and relatively technical issues of interpretation, which cannot be considered in detail in this short discussion (e.g. see Oakes, 2004; Kaufman & Kaufman, 2001; Curtis & Cummins, 2007).

Besides these general points, there are also some more specific features of ecological studies on psychiatric service use that are interesting to consider here. These concern the variables included, the geographical scope of these studies and the type of psychiatric patients and services considered. Many (but not all) of these studies have controlled for variations of local populations in their proximity to care, using more or less sophisticated measures of proximity. However, as noted above, some of these measures are relatively crude. Some ecological studies have been able to include independently measured indicators of psychiatric or morbidity or general health in the population, but in many cases such data are not available. Thus socio-economic variables are often interpreted as 'surrogate' indicators of morbidity at population level, as well as measures of socio-economic factors that directly influence use of psychiatric care. Although some studies (eg Smith *et al.*, 1996) relate to whole national health systems, most are for relatively limited areas such as local regions or large cities. Rural areas, in particular, are often poorly represented in these studies. Most ecological studies, (with some exceptions, such as Almog *et al.*, 2004) are 'cross sectional' analyses, for a single point in time, and do not allow us to consider how change in socio-economic conditions may relate to service use. Although there are several exceptions, the majority of studies relate to use of psychiatric inpatient services rather than community based services. Some studies are beginning to bring together ecological data on provision and use of both inpatient and ambulatory services and consider how these jointly relate to social and economic conditions (e.g. Curtis *et al.*, 2006b). A further issue is that some ecological studies have considered use of health services for psychiatric conditions in general, when in fact, some authors have pointed out the association between psychiatric service use and socio-economic conditions varies according to the type of psychiatric condition being treated (e.g. Thornicroft *et al.*, 1993; Tansella *et al.*, 1993; Harrison *et al.*, 1995; Boardman *et al.*, 1997; Koppel & McGuffin, 1999; Curtis *et al.*, 2006a).

There are also some technical aspects of ecological modelling that may have a bearing on our interpretation of the results. One issue is the type of statistical distribution assumed by the regression models used, since data derived from counts of episodes of care generally do not assume a normal distribution. Also, information on psy-

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chiatric service use at the small area level is often based on rather small numbers of events. Thus some of the more standard regression models which assume near normal distributions are unsuitable for the kinds of outcome data involved. Some researchers circumvent the 'small numbers' problem by aggregating information to a relatively large scale, or else using time series data for long periods over which sufficient cases accrue. Both solutions have their limitations; larger areas may not reflect the subtle local variations in socio-economic conditions or local 'hot spots' with high levels of service use; it can also be difficult to match socio-economic and demographic data reliably to information on local service activity over a long period. Alternatives may be available in the application of Bayesian models used in the 'new generation' of ecological analyses (e.g. Congdon *et al.*, 1998). These permit modelling of ecological data based on small and variable numbers of cases of service use at the local level (and can deal with zero counts in a proportion of the geographical units). Increasingly, as well, researchers are beginning to respond to critics who have pointed out that ecological studies need to control more effectively for spatial auto-correlation, due to clustering of similar small areas in particular parts of the study region (e.g. see Almog *et al.*, 2004; Curtis *et al.*, 2006a).

Because of the differences between studies in their design and the limitations of data availability and method discussed above, we should probably be quite circumspect about drawing general conclusions from ecological studies about relationships between socio-economic conditions and psychiatric service use. However, the research reviewed in the publications mentioned above suggests that, to a varying extent among cities around the world, rates of use of psychiatric services in local areas are associated with socio-economic conditions which typically include material poverty (poor housing, high unemployment and low income, for example). Independent associations are also often reported with socio-demographic characteristics such as the degree of 'social fragmentation' in the community (e.g. as measured using an indicator proposed by Congdon, 1996; see also Allardyce *et al.*, 2005) or with local concentrations of certain social groups, including minority ethnic populations. These associations have often been interpreted in terms of theoretical models concerned with the risks to mental health associated with socio-economic deprivation, lack of social support and racism experienced in communities. These sorts of findings are widely recognized as having relevance for psychiatric service planning and (in some countries) funding of psychiatric services (e.g. Glover *et al.*, 2004; Department of Health, 2005). However, as most authors point out, socio-economic conditions also probably interact in quite complex ways with the effects on service use of proximity to psychiatric facilities and the effects of "selective migration" whereby mentally ill people to become geographically concentrated in relatively poor areas. Although to a degree the ecological association between socio-economic conditions and service use seem independent of simple proximity to services, it is quite likely that more complex aspects of access to care vary by social group in ways which are difficult to capture in this type of analysis.

SPACES OF POWER AND THERAPEUTIC LANDSCAPES

Given the limitations of research on 'distance decay' in service use, and statistical modelling of small area differences in service use, some geographers (e.g. Wolch & Philo, 2000) argue that more research effort should be focused on:

- more intensive studies of individual experience of service users (possibly replicated in diverse contexts) which would demonstrate more clearly how socio-economic processes influence variations in service use;
- studies at the macro scale of whole societies, to examine how social policy and social attitudes relating to psychiatric illness and treatment influence the relationship between socio-economic conditions and service use.

These areas of work in health geography and other disciplines typically involve qualitative research with small samples of participants and two of the key themes that have emerged relate to spaces of power and to therapeutic, healing landscapes in health care settings. Again it is impossible in this short piece to do justice to the large literature, and the reader is encouraged to see reviews of the geographical work by, for example, Parr (1997; 1999); Philo (2000); Wolch & Philo, 2000; Curtis, 2004; Gesler *et al.*, 2004.

Among the many interesting findings from work on spaces of power affecting psychiatric treatment and service use is a recurrent emphasis on the control exercised over people with mental illness and the difficulties that they have in asserting an appropriate degree of choice and self-determination in the care they receive and the settings in which it is delivered (e.g. see Pescosolido *et al.*, 1998; Goeres & Gesler, 1999; Parr *et al.*, 2005). The

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specific experiences of individuals can be seen in the wider context of social relations through which societies control and marginalise the most disadvantaged groups in their midst (DeVerteuil & Wolch, 2002; Takahashi & Gaber, 1998).

On the other hand, much of the research in this field also demonstrates how people with mental illnesses exercise strategies of resistance and resilience. These strategies include asserting their views on psychiatric care (e.g. Parr, 1997) and also colonising places such as 'safe havens' where they find greater social acceptance or refuge from the discrimination and social exclusion in wider society. Some of these places are non-clinical settings in the community (e.g. Knowles, 2000) but other geographical research has reinforced the view that psychiatric service facilities still have significance today as places of refuge and stability for people who otherwise experience threats and insecurity in their social environment (e.g. Parr *et al.*, 2003; Curtis *et al.*, in press).

A further important finding, deriving partly from geographical research on design of psychiatric facilities, is the importance of good design and care regimes for outcomes other than clinical status of service users. The wellbeing of both patients and staff is perceived to be affected by the social, as well as physical setting in which psychiatric care is delivered. Therapeutic landscapes are not only created by good physical design of buildings used for hospital and ambulatory care (although this is also important). Equally significant are the social relationships within hospitals and clinics and the social connectivity between these facilities and the wider communities in which they are situated. Furthermore, psychiatric service facilities have symbolic value, expressing social attitudes towards people with mental illness which are often seen as very important by service users and health care staff (e.g. Parr *et al.*, 2003; Curtis *et al.*, in press).

CONCLUSION

The research that is briefly reviewed here helps us to appreciate how the socio-economic environment influences patients' health service use and their experience of various psychiatric care settings. These factors are significant for the way that services are planned and delivered, at various scales. Perhaps most attention in social psychiatry has been directed towards findings that help to identify local social and economic factors in communities that are associated with varying 'need' and demand for psychiatric care. However, this review has emphasised that research on socio-economic conditions and psychiatric service use also conveys important messages about the micro-scale social relationships between psychiatric patients and those who care for them, as well as the social and economic position of mentally ill people in societies as a whole.

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