

Review article

Mental health care systems and their characteristics: a proposal

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The last 30 years have seen a significant growth in health service evaluation literature in the field of mental health. Much of the best of this research has taken the form of random control trials of an experimental service against 'standard' or generic care. Interpretation of these results has been hampered by incomplete and inconsistent approaches to describing the experimental services, and often inadequate or completely non-existent characterization of the control service. In addition, the health care system in which the treatment programme is embedded is known to have important consequences for outcome. A proposal is advanced for a structured service description as a routine component for health services research reporting. Two worked examples are given, and a number of areas of ambiguity are highlighted.

T. Burns¹, S. Priebe²

¹Department of Mental Health Sciences, St George's Hospital Medical School, London, UK and

²Department of Social Psychiatry, Freie Universitat Berlin, Berlin, Germany

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Tom Burns, Department of Mental Health Sciences, St George's Hospital Medical School, Cranmer Terrace, Tooting, London SW17 0RE, UK

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Introduction

The last 30 years have witnessed a striking increase in the number of publications evaluating different mental health programmes (1–3). An interest in mental health care systems has arisen as the role of the mental hospital as the main or sole provider of care for the seriously mentally ill has contracted. A wide range of complementary and overlapping services (e.g. day hospital, walk-in clinics, community mental health teams, case management, assertive community treatment teams (CMHTs), crisis intervention centres) has developed, each of which has different target populations, staffing structures and claims for efficacy.

This complex field of care can best be understood and analysed by distinguishing three levels as follows.

1. Treatment — specific interventions, e.g. prescribing antidepressants or graded exposure for agoraphobia.
2. Programme — a combination of different treatment components, e.g. in-patient treatment, continuing care team.
3. System — the sum of all programmes for a defined target group in a given area plus the co-

ordination of, and relationships between, all of those programmes.

Increasingly, this literature has used structured assessments of patient outcome plus service utilization data to compare experimental programmes with their perceived rivals. There is growing support for the need to use well-established measures of outcome in these studies, and evidence that researchers are agreeing upon the selection of standard outcome measures and follow-up periods to permit more reliable comparison across studies (4). A long-term goal is to conduct reliable meta-analysis of such studies as has been achieved with more restricted interventions (2). In mental health services research this is, as yet, rarely possible (3).

Much less progress has been made, however, in standardizing the descriptions of mental health care programmes reported in the literature. Scientific journals invariably encourage authors to be succinct, and descriptions of services are consequently brief and usually confined to a list of the defining characteristics of the experimental service as judged by the authors. There is no agreed 'minimum data set' for describing a mental health

programme for research publications. One approach is to describe service provision at length in a separate publication and to refer to it in the study report (6). The characteristics of some programmes, such as home nursing services, continuing support teams, etc., are increasingly familiar to practitioners.

The assertive community treatment team approach (PACT), first described by Stein & Test (7), is probably the most extensively quoted and evaluated mental health programme world-wide (3, 4). Despite this, there is no agreement as to which characteristics unequivocally define a PACT team, or which should be routinely presented when a PACT research study is reported. Solomon's 1992 review of case management studies would suggest that there are considerable differences in practice between a number of services which describe themselves as operating a PACT model. Bond et al. (8) demonstrated substantial differences in programme implementation across three CMHTs. Even in a fairly localized research setting, significant variation in practice was recently demonstrated across five dual-diagnosis case management teams that were adopting a PACT approach (9). Given the pace of development of mental health services, and the absence of consensus on optimal provision, it is neither surprising nor disappointing that such variation exists. The problem facing researchers and planners is how to report variation and to compare like with like in the absence of standardized service descriptions.

Control services fare even worse than experimental services, often having no description at all. They are usually referred to simply as 'standard' or 'traditional' (6, 10, 11), with the expectation that the reader will either know what this means or be able to deduce it from the description of the experimental service. Probably deficiencies in the description of control services contribute most to the low impact of such research on service development (12).

How, for instance, should one interpret the substantial differences in outcome between the PACT study in Madison (7) and its replication in London (13)? On the basis of the data presented, several hypotheses are plausible. One is that the London implementation of PACT was incomplete or deviated substantially from Stein & Test's model. Another is that the implementation was adequate, but that the control services in London already contained more of the effective components of the PACT model than the services in Madison. The service implications of these two conclusions are radically different.

A further complicating factor in interpreting study results is the impact of the overall system in

which the programme is embedded (14). Mental health programmes are never totally self-contained, and they rely to a varying extent upon their interactions with the total health and social care system to achieve their effects. Solomon (3) concluded that equally well-run brokerage case management services will have markedly different outcomes depending on whether they are located in well-resourced or poorly resourced communities. System considerations are especially important to the international reader (who is unlikely to be familiar with various national systems) for extrapolating to local circumstances. To date, for example, none of the Anglophone research literature on assertive case management has mentioned the relationship to general practice. Accurate application of the results of these studies in countries with active primary care services would require knowledge of this interface and its impact on referral thresholds.

The influence of systems on care provided has been vividly demonstrated by the Nordic Comparative Study on Sectorized Psychiatry (15, 16), which showed that both treated prevalence and treated incidence of psychiatric disorders varied up to fourfold across seven catchment areas according to the organization of resources and practice. In 1987, the WHO Regional Office for Europe conducted a study of mental health services in 21 field centres. From this detailed description of the development of mental health services in Europe they concluded that there was a need for an instrument to classify care. As a result of this initiative (17), the 'WHO International Classification of Mental Health Care: a tool for classifying services providing mental health care. Part 1. Curative care', was published. As yet, no empirical research using it has appeared, and it is exclusively aimed at rating care programme components. Other than requesting the 'setting' of the care module, it does not deal with issues of integration into the overall system.

Descriptions of services and their health care systems cannot, however, be directly linked to outcomes. Health care outcomes are linked to treatment interventions (e.g. the prescription of antipsychotic medication, cognitive behaviour therapy for eating disorders). Classification and description of programmes and systems need to be undertaken in conjunction with the treatments offered, and the distinctions clearly maintained, if any association with outcome is to be derived.

Aims

1. The primary purpose of this paper is to stimulate

thinking and work on the systems level of mental health care provision, and to encourage a public health perspective in the presentation of community mental health research. Failure to do so delays translation of the results of high quality service research into practice.

2. By initiating debate about a 'minimum data set' for service description, we hope to encourage agreement on one which would eventually be accepted by both researchers and scientific editors. This would greatly increase the possibility of meta-analysis of such studies and improve the quality of conclusions which can be drawn for local application.
3. There is a pressing need to develop a functional vocabulary for both researchers and clinicians. Both multivariate and principal-component analysis could be used on such a data set in order to reduce the detail of description as redundant items are eliminated over time.
4. Treatment outcome measures and patients' experience of care services need to be related to both programme and system information, as differing clinical responses to apparently identical programmes may result from variations in the overall systems. Anchoring programme and systems information to patient outcomes ensures that any classification derived is clinically informed and relevant.

A proposal

We suggest a description divided into three components to approximate to the following three questions. Where is the service? What is the service? How does it work? We have named these sections 'Context', 'Target' and 'System'. This classification is somewhat arbitrary. For example, 'availability of alternative and complementary services' has been categorized as a 'system' characteristic, although it might fit equally appropriately under 'context'. Some issues whose value appears to be uncertain (e.g. 'funding arrangements') have been included, and undoubtedly others that will prove to be essential have been omitted. Examples are given of special problems which would otherwise severely limit the relevance of the data. These should only be reported if they are exceptional.

There follows a suggested format for service descriptions with subheadings for each section and a brief definition of section content. The relative importance and detail of each section will depend on the purpose of the paper, but in order to achieve the aims set out in this proposal all headings should be addressed. Two worked examples using the proposed structure are provided.

Context. Where?

1. Location of service. Indicate whether this is rural, urban or suburban. Indicate overwhelming problems associated with the setting (e.g. vast distances and long travel times — Australian outback, seasonal isolation by severe weather conditions — Northern Finland).
2. Primary or secondary service. Is the dominant mode of access via referral from other health or social services professionals (secondary service), or by self-referral (primary service)?
3. Co-terminosity. Which other services (e.g. primary care, social services, police) share common boundaries?
4. Catchment area. The total population relating to the service, not the target patient group. An old-age psychiatry team for a town with a population of 100 000 which restricts its service to the 15 000 inhabitants aged over 65 years should record a catchment area as 100 000. Where the extent of the specified target group is clearly known, this should also be stated.

It remains uncertain whether the existence of extreme circumstances which have an overwhelming impact on the local population and hence use of the services should be included here or under 'location'. Such circumstances may be pervasive (e.g. the high rates of sustained unemployment experienced in much of the developing world) or more focused (e.g. the presence of a railway terminal in a major city flooding a service with vagrant psychotic patients, for example, King's Cross station in London). These needs may be reflected either in the overall style of the service or in specific programme components (e.g. a homeless team). If the impact is on the overall style of the service, it would be reported under 'location', but if the impact on the profile of local morbidity requires specific programme components, then it could be reported under 'catchment area'.

5. Funding arrangements. Is the mental health system publicly run (i.e. no responsibility for financial matters impinges on clinicians), contracted (i.e. a regularly negotiated contract such as one between private organizations, whether charitable or profit-making, and the public authorities), insurance-based (i.e. individual transfer payments are dependent on contracts, although responsibility for payments may lie with the state, e.g. Germany, Medicaid in the USA) or private (i.e. the patient pays directly)? Many services may operate a mixed economy (e.g. a block grant for 40%, and 60% by direct billing), and this should be indicated.

Target. What?

1. Target group. This should always include the age range served and any restrictions on eligibility (other than purely administrative ones) which are acknowledged either in the service's operational policy or in work practices. This would include, for instance, services exclusively restricted to the severely mentally ill or patients with schizo-phrenia. Specific exclusion criteria should also be mentioned (e.g. primary diagnosis of substance abuse, mental handicap).
2. Selectivity. Can the service select its patients (either on the grounds of service capacity or clinical judgement), or must it serve all referred patients who meet the service specification? If there is a restriction because of capacity, this should also be indicated under 'system size'. There are many ways of achieving clinical selectivity (e.g. by direct clinical judgement, differential use of waiting lists, requiring patient motivation), and a judgement needs to be made about how selective the service is in practice. Selectivity only relates to patients who otherwise fulfil the eligibility criteria for treatment outlined in the service specifications. It does not relate to referred patients whom the clinician judges not to need their services.
3. Alternative and complementary services. Indicate whether a sole provider for the identified target group (e.g. as in NHS provision in the UK) or one of a number of similar services (as in Australia, The Netherlands). Indicate any major complementary services which provide substantial components of care but are not part of the mental health service (e.g. church-run respite care for patients with severe mental illness). These only merit comment if they have a marked impact.

System. How?

1. Size of system. How many staff are employed in the system (indicate as full-time equivalents; FTEs)? Also indicate whether patient numbers are capped. List staff characteristics (professional background, seniority, qualifications). State the overall annual budget for running the system.
2. System components (programmes). Indicate the main components of the system. These should always include the number of acute in-patient beds and the number of continuing-care beds maintained. It should also include day-hospital and day-centre places and other separate, community-based facilities, including their capacity. Indicate specific programme compo-

- nents such as community support teams, crisis teams, etc., only if these have a separately identified budget or staff, and indicate staffing.
3. Internal structure. What is the established hierarchy? Who is responsible for management decisions and who is responsible for professional ones? Are professions individually or jointly managed, or is each responsible to its own chain of authority?
4. Budgetary control. How much budgetary control exists at the level focused upon? Can component professions be exchanged, or does each have a specific budget? Is the in-patient and community budget a joint one?

Discussion

The practices used to date to characterize mental health services are a rate-limiting factor in the development and utilization of mental health services research. Descriptions in the literature are invariably brief and focus on the most obvious differences between the experimental and control provisions as perceived by the authors. These differences may, however, be of much less importance than the differences in unremarked system similarities between the two programmes and the system assumptions of the reader. The Nordic Comparative Study on sectorized psychiatry provides a vivid demonstration of how services developed with a common ideology but within differing systems result in major variations in practice. Conflicting research findings for ostensibly similar services imply that clinically relevant differences in service organization and provision may exist which are not captured in these descriptions. There is no consensus as to how to select and present crucial service data (as has been proposed for clinical guidelines; 18). Such a consensus is urgently required in order to aid interpretation of the programme evaluation studies which are increasingly central to services research.

A proposal for a 'minimum data set' is advanced. Organized around the three questions — Where? What? How? — three dimensions are suggested, namely, 'Context', 'Target' and 'System', which are roughly hierarchical, although not consistently so. The care system is shaped by the target population, and fits into the social/political context. There is considerable overlap between these three levels, and their relationship will undoubtedly benefit from further clarification and definition.

Regular publication of system and programme data could permit both principal-component and cluster analysis, and consequently an increasing focus on those aspects of organization which have an impact on outcome. In time, this would lead to

brief, more effective and reliable characterization of services and systems, and therefore improve the interpretation of complex treatment studies.

However, such a process of clarification and refinement cannot begin until the first step is taken. This proposal is offered as such a first step.

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