

Data collection in consultation-liaison psychiatry: an evaluation of Casemix

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Objective: To evaluate the usefulness of Casemix as a data collection system for consultation-liaison psychiatry services.

Method: Health information staff were requested to code psychiatric assessments and diagnosis prospectively for admissions to the Alfred Hospital, Melbourne, between July 2002 and June 2004 using Casemix.

Results: Psychiatric assessments were requested on 2.5% of all hospital admissions ($n = 2575$). Casemix provided extensive demographic and hospital unit data for referred patients, is easy to set up, and is cost-free for the psychiatry service.

Conclusions: Casemix can provide extensive meaningful data for consultation-liaison psychiatry services that could assist in the argument for greater funding of these services.

Key words: Casemix, consultation-liaison psychiatry, data collection.

Consultation-Liaison (C-L) psychiatry has suffered a reduction in resources over the last decade and faces an ongoing challenge to securing funding. In the current Australasian health-care climate, funding is largely data driven. An important part of consolidating the role of C-L psychiatric services is data collection.

There are a variety of data collection options that have been utilized throughout Australia and New Zealand. The most basic system is an independent database recorded by clinicians, which, although providing accurate and meaningful clinical information, may lack reliability and completeness. An example of this is the purpose built commercially available Microcares™ Database, which was the basis of a series of papers by Smith *et al.* profiling the utilization of C-L services across Melbourne.¹⁻⁴ The data provided were comprehensive and detailed, but limited by the time required by clinicians to enter the data and the cost incurred. Hospital data may be collected systematically by either mental health or general hospital systems. This is likely to be more comprehensive, but the validity is subject to both the limits of the system and those entering the data. To our knowledge, examples of these systems have not been critically evaluated for their use in C-L psychiatry. An ideal data system would be cheap, require no extra work for clinicians and provide comprehensive and accurate information.

Casemix was originally developed to allow clinicians to compare inputs and outputs and to measure patient outcomes in terms of quality, value and resource utilization.⁵ Casemix funding was established as part of a programme of public sector restructuring to reduce expenditure and improve efficiency in hospital settings.⁶ Casemix was introduced in Victoria in 1993, followed by South Australia, Western Australia, Tasmania and Queensland. Casemix as a data collection system has the potential to

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provide a time-effective, cost-effective and efficient alternative to a clinician entered system. The data collection using Casemix occurs after discharge, when coders read the file and record all activity during the admission. If requested, the coders will record psychiatric data, therefore enabling reports of psychiatric activity to be generated without any data collection from the psychiatric clinician. Thus, it is a cost-free data collection option for the psychiatric service if the hospital is using Casemix.

To date, much of the literature on Casemix has focused on the advantages of using this data collection system in non-psychiatric settings. It appears that no empirical research has sought to examine the usefulness of Casemix in terms of ease of use, accuracy, effectiveness and applicability in C-L psychiatry. The aim of this project was to ascertain the useful data that Casemix could provide for a C-L psychiatry service.

METHOD

Casemix data are entered by coding staff who review clinical files after each admission. The available data includes age, sex, country of birth, marital status, religion, admission type (elective or emergency), length of stay, diagnoses, procedures, discharge destination, insurance status and allied health input. Consultation–liaison psychiatric assessment was not recorded before the present study. Casemix coding personnel at the Alfred Hospital, Melbourne, were requested to routinely code C-L psychiatry assessments and any diagnosis that was made in the Casemix coding process prospectively from July 2002 to June 2004. Casemix data from all admissions to the Alfred Hospital during this period were collated and analysed.

RESULTS

In the period from July 2002 to June 2004, there were a total of 2575 inpatient assessments made by the Alfred Hospital Consultation–Liaison Psychiatry Department. This represents 2.5% of all hospital admissions.

The age range of patients was 15–93 years, average age 44.1 years, with a standard deviation of 17.3 years; 54.2% were males and 45.8% females. Patients tended to be single (53.3%) compared to 18.4% who were married, 7.6% who were divorced, 2.1% who were in a de facto relationship, and 18.6% 'other'. The majority of patients were born in Australia (72.5%), with the remainder comprising European-born (13.4%), Asianborn (5.7%) and other (8.5%) who were born elsewhere. Religious affiliation was recorded most often as no religion (45%), the remainder comprising Catholic (15%), unknown (9.9%), Anglican (5.2%), Jewish (2.8%) and other (6.9%). Emergency admissions made up 73% of patients assessed and 24.6% were elective admissions.

Table 1: Main diagnostic categories of patients assessed in the consultation–liaison service

	<i>n</i>	%
Affective disorders	666	25.9
Mental and behavioural disorders due to psychoactive substance abuse	382	14.8
Neurotic, stress related and somatoform disorders	356	13.8
Schizophrenia, schizotypal and delusional disorders	287	11.1
Organic disorders	261	10.1
Disorders of adult personality and behaviour	139	5.4
Behavioural syndromes of physiological disturbances and factors	20	0.8
Mental retardation	18	0.7
Other	14	0.5
No diagnosis	432	16.8

The main diagnostic categories of the patients assessed are shown in Table 1. The broad categories of mood, anxiety, and drug and alcohol problems accounted for more than half of all patients assessed. Behavioural problems due to diagnosed personality disorder or intellectual disability contributed to only a small percentage of patients seen (6.1%).

Table 2 shows how the hospital units with a dedicated psychiatric liaison attachment differed in the percentage of admissions that required psychiatric assessment and average length of stay. The remainder of the hospital utilizes a general psychiatric consultation service on an as-needed-basis. The infectious disease (ID) unit, which includes the Victorian State-wide HIV service, required the greatest number of assessments (404, 12.9% of all ID admissions). The burns unit had the highest percentage of admissions assessed by the psychiatric team (14.3%).

Patients who required a psychiatric assessment consistently had a longer average length of stay compared to those not referred (10 days vs 3.2 days). The most striking is the renal unit with an average length of stay of 1.4 days, which increases to an average 17.1 days for patients who are referred to psychiatry.

DISCUSSION

The present study illustrates that useful data can be collected with Casemix. Casemix has the capacity to provide a large amount of basic information related to C-L psychiatry referrals, diagnoses, length of stay and demographic information. This information can guide service development. The ability of Casemix to provide data about costs associated with admissions

Table 2: Consultation–liaison psychiatric assessments by unit and effect on length of stay (LOS)

<i>Unit</i>	<i>Assessments</i>	<i>Admissions (%)</i>	<i>Average LOS</i>	<i>Average LOS if assessed by psych</i>
Infectious diseases	404	12.9	8.4	17.9
Trauma	231	4.9	6.7	9.1
Neurology	174	6.8	2.4	6.6
Respiratory	94	1.5	5	15.4
Burns	65	14.3	13.5	19.6
Renal	46	0.2	1.4	17.1
Cardiology	44	0.8	4	19.1
Heart–lung transplant	20	0.9	7.4	25.4
Oncology	18	0.3	1.73	12.7
All hospital	2575	2.5	3.2	10

including length of stay, procedures and other data (not presented above) has the potential to elucidate the extra costs involved in the health care of patients with medical and mental health comorbidity.

Casemix has several limitations in C-L psychiatry. It cannot provide information on changes in patient diagnosis or treatment, workload data such as number and duration of visits, a measure of disability and it does not include outpatient assessments. The diagnoses are recorded from written documentation in the medical record only. If psychiatric staff do not enter a specific diagnosis, the coders code the symptoms leading to the consultation. Therefore, the validity of the diagnoses cannot be guaranteed.

The finding that patients who are seen by C-L psychiatry have a three times longer length of stay than patients not requiring psychiatric input is in keeping with other research in C-L psychiatry. Length of stay was consistently increased for patients referred to psychiatric services recorded with the Microcares™ database across oncology, obstetric, renal and general medical services.^{1–4} Although the present study does not address reasons for the difference, other research suggests this may relate to the greater problem severity and comorbidity of patients seen by psychiatric C-L services.⁷ Other study designs have shown that C-L psychiatric services can decrease the average length of stay,⁸ provide better patient outcomes and be cost-effective.^{9,10} However, some studies and systematic reviews have produced equivocal results.^{11,12}

Casemix has the advantage of being in many Australian hospitals already and can easily code psychiatric consultation. This allows basic data to be collected with no extra effort on the part of the C-L unit staff. Furthermore, Casemix summary data are collected by the state governments, allowing funding bodies to appreciate the input of C-L psychiatry services.

Although Casemix has a number of limitations when used as a C-L psychiatry database, it has the major advantages of ease of use, minimal set-up effort and potential to provide C-L psychiatry service data across Australia. We recommend that C-L psychiatry services consider the introduction of data collection via Casemix for inpatient services to augment data on levels of clinical activity and patient outcomes.

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