MENTAL HEALTH CLASSIFICATION AND SERVICE COSTS PROJECT

Developing a Casemix Classification for Mental Health Services

Volume 2
Resource Materials

Bill Buckingham, Philip Burgess, Shane Solomon,
Jane Pirkis & Kathy Eagar

Shane Solomon & Associates Pty Ltd
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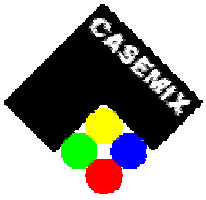

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Additional copies of the report are available from the Mental Health Branch, Department of Health and Family Services GPO Box 9848, Canberra, ACT 2601

A summary version of the MH-CASC Project report is also available from the Mental Health Branch.

For further detail, see the Mental Health Branch website at:

http://www.health.gov.au/hsdd/mentalhe

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PART A

Materials Relevant to Study Privacy Protocol

Appendix A-1

Site Memorandum of Understanding

This MEMORANDUM OF UNDERSTANDING is made the day of 1996.

BETWEEN

SHANE SOLOMON AND ASSOCIATES (hereinafter called 'the Project Team') of the one part, a company incorporated in Victoria having its registered office at 144 Pakington Street, Kew, Victoria, 3101.

AND

(. AGENCY NAME ..) of

(ADDRESS ..)

(hereinafter, referred to as 'the Site').

OBJECTIVE

This Memorandum of Understanding is to commit both parties to safeguarding the privacy of information collected during the MH-CASC Project.

PREAMBLE

Shane Solomon and Associates entered into a contract with the Commonwealth of Australia ('the Commonwealth') in August 1995 for the provision of certain consultancy services to the Commonwealth, pertaining to the analysis, classification and costing of mental health service utilisation. These consultancy services constitute what is known as the MH-CASC Project.

The Site is one of 22 sites across Australia which is providing data to the MH-CASC project in the form of clinical ratings, staff activity and other service utilisation/costs data (e.g. pharmacy, pathology and imaging, electro-convulsive therapy) during the three-month period 1 September 1996 to 30 November 1996. Some sites will provide additional retrospective service utilisation data. Like all Sites, this Site has appointed a Commonwealth-funded Site Co-ordinator, who is responsible for co-ordinating the data flow from the Site to the Project Team.

The MH-CASC Project occurs in the context of a formal protocol titled '*Privacy Protocol for the Use of Personal Information in the MH-CASC Project (August 1996)'* (see Attachment 1). The Privacy Protocol was prepared by the Commonwealth Department, in consultation with the Privacy Commissioner's Office, and now forms a part of the contract between the Commonwealth and Shane Solomon and Associates. In addition, the study methodology and privacy protection procedures have been reviewed by the Commonwealth Department of Health and Family Services *Departmental Ethics Committee*. The MH-CASC Project was formally considered at the Departmental Ethics Committee at its 9 August 1996 meeting and was approved as notified by the Secretary of that Committee on 26 August 1996 (see Attachment 2). In some sites, the MH-CASC Project was also referred to local ethic committees.

The scope of privacy and ethical issues considered in the above documents has been limited to the release and protection of **patient** level information. In addition to this, this Memorandum of Understanding deals with release and protection of individual staff activity information, financial information and other issues affecting individual sites. The MH-CASC Project's data requirements are defined in the Project's *Study Manual* (August 1996).

IT IS HEREBY AGREED BETWEEN THE PARTIES AS FOLLOWS:

1. PROTECTION OF PERSONAL INFORMATION ABOUT PATIENTS

1.1 In this Clause, 'personal information' means information or an opinion (including information or an opinion forming part of a database), whether true or not, and whether recorded in a material form or not, about a patient whose identity is apparent, or can reasonably be ascertained, from the information or opinion.

1.2 Both parties agree to the following arrangements to safeguard the privacy of personal information about patients, as outlined in the *Privacy Protocol for the Use of Personal Information in the MH-CASC Project* (August 1996):

1.2.1 The essence of the arrangements to safeguard the privacy of personal information obtained at site level during the data collection phase of the study, is that no data will be forwarded by the Site to the Project Team in a form that identifies patients by name or address.

1.2.2 Site Co-ordinators have the direct responsibility for ensuring that the data collected leaves the site with patient identifiers (name and address) removed.

1.2.3 To enable records to be attributable to a single (unidentified) person, each patient will be assigned a unique project number (MH-CASC number) by the Site Co-ordinator. Data in respect of that patient will be forwarded to the Project Team for analysis using the MH-CASC number as the chief identifier.

1.2.4 The local identifier (i.e unit record or UR number) will also be included in the dataset. The local unit record number is in itself a purely arbitrary numerical record, rather than a direct patient identifier and the Project Team will not be able to link the UR number to the patient's name and address as these will not be provided.. In consequence the *Privacy Protocol for the Use of Personal Information in the MH-CASC Project* (August 1996) does not envisage

any difficulty from a privacy point of view with the unit record number being part of the data forwarded to the Project Team.

1.2.5 The Project Team will not link the unit record number with specific patient identifiers - name and address - using site or State morbidity databases.

1.2.6 At the conclusion of the Project when a national consolidated dataset is provided to the Commonwealth (see 4.1), the unit record number will be removed through encryption.

1.2.7 Data will not be collected using the patient's Medicare number.

1.2.8 The Project Team is also to look at the resources used to provide treatment to an individual consumer as they go from one service to another. This will require consumers' service use to be analysed across services, if they move to another service. The Site Co-ordinator, therefore, as part of their role, may need to determine by discussion with other services in the study whether a consumer has attended different services. If this is the case, the Site Co-ordinator must ensure that the consumer is allocated only one MH-CASC number.

1.2.9 Further, where information about services used in the nine months prior to the study is collected, as is planned for a sub-group of the patient cohort, this will again only be forwarded to the Project Team by Site Co-ordinators on the basis of identification by the MH-CASC number. The unit record number would also be included, as discussed in 1.2.4 above.

1.2.10 In order to cover all patient settings for people receiving treatment for mental disorders, the Project will track the use of private psychiatrist and general practitioner services by the study patients, using appropriate Commonwealth Medicare Benefits Schedule (CMBS) data. This data will be matched to other data obtained under the Project to support an analysis of patient flows between these private practitioners and other treatment settings.

1.2.11 In conducting this matching process, the following procedures will be followed to ensure patient confidentiality is protected:

a Site Co-ordinators will forward directly to the Health Insurance Commission (HIC) details of patients included in the study. Details provided to the HIC will include the MH-CASC number and patient identifiers (name, date of birth, sex and postcode) to enable matching to occur.

b The HIC will be requested to report on the use of private psychiatrist and general practitioner services by each client over the twelve months preceding the end of the study period.

c Once it has completed the matching process, the HIC will forward the data direct to the Project Team for analysis with all patient identifiers (name, sex, date of birth and postcode) removed. The unique MH-CASC number will be the only identifier.

1.2.12 Should the Project Team require any patient level records to be checked for validity (such as coding errors) by Site Co-ordinators, only that patient level information already provided by Site Co-ordinators can be returned to sites for checking. Specifically, no new additional information can be added to the patient level information forwarded back to sites as part of the checking process as a further privacy protection.

1.2.13 Sites will be expected to take all reasonable steps to ensure the security of identified data, and to limit strictly access to the unit records on a need to know basis.

1.2.14 In addition to the above, both the Project Team and the Site Co-ordinators will ensure:

a that personal information held in connection with the MH-CASC Project will only be used for the purposes of the project;

b that all reasonable measures are taken to ensure that personal information in their possession or control in connection with the MH-CASC Project is protected against loss and unauthorised access, use, modification or disclosure;

c compliance with those Information Privacy Principles which concern the security, use and disclosure of personal information to the extent that the content of those principles apply to the type of activities undertaken during the Project, as if both parties were record keepers, as defined in the Privacy Act 1988.

1.2.15 The above arrangements are designed to ensure not only that patient data reaching the Project Team is provided on the basis of a unique MH-CASC number, but that re-identification of an individual patient is highly improbable. This is the outcome of there being no flow of patient identifiable data, in terms of name and address, between sites and the Project Team, and again between sites, the Health Insurance Commission and the Project Team.

1.2.16 Individual-level patient data will be returned to sites.

1.2.17 Patient data will be reported at aggregate level in all publications arising from the Project

2. PROTECTION OF PERSONAL INFORMATION ABOUT STAFF

2.1 In this Clause, 'personal information' means information or an opinion (including information or an opinion forming part of a database), whether true or not, and whether recorded in a material form or not, about a staff member whose identity is apparent, or can reasonably be ascertained, from the information or opinion.

2.2 Both parties agree to the following arrangements to safeguard the privacy of personal information about staff members:

2.2.1 As with patient name, Site Co-ordinators are responsible for removing staff names from staff activity forms prior to these being sent to the Project

Team. The Project Team will only receive a staff ID code, which is either the staff member's payroll number or another code which can be linked to his/her payroll number. Payroll number is needed in order for the Project Team to allocate costs to staff activities and identify the appropriate cost centres for each staff member.

2.2.2 Staff data will be only returned to sites in aggregate form, so no individual staff members will be identified. This means that staff ID code and/or payroll number will be removed from the dataset prior to it being returned to the site. In small sites, it may also mean that ward/team/program code and/or staff code (which denotes the discipline and classification of the staff member), may need to be deleted if these will enable any staff member to be identified.

2.2.3 The Site will ensure that staff activity data is only used for the purposes for which it was collected - that is, to inform about the types of services received by patients, not to monitor an individual staff member's performance. Management at the Site endorse this, and Site Co-ordinators will be expected to take all reasonable steps to ensure the security of identified data, prior to staff names being removed from the forms.

2.2.4 Staff data will be reported at aggregate level in all publications arising from the Project.

3. PROTECTION OF INFORMATION ABOUT SITES

3.1 All information provided by the Site is disclosed to the Project Team only for the purposes of developing the national mental health casemix classification and associated cost weights. No other site or parties external to this Memorandum of Understanding and/or the agreement between the Commonwealth and Shane Solomon and Associates will have access to any identifying site data without the express permission of the participating site.

3.2 Publication of site financial, staff activity and aggregated patient data will be done in such a way as to ensure that no individual site can be identified or their data linked to other data sets that would otherwise enable identification.

4. DATA OWNERSHIP

4.1 The Site will provide data to the Project Team on the understanding that, at the conclusion of the Project, a consolidated database will be delivered to the Commonwealth Department of Health & Family Services. In accordance with standard practice, the Commonwealth Department will act as the custodian of the database and foster further analysis and research. It is normal data protocol that no data which could identify an individual site will be released by the Commonwealth without the express permission of the participating site.

4.2 The Site will be given back its own raw data, with the stipulation outlined in 2.2 above.

IN WITNESS WHEREOF the parties have executed this Memorandum of Understanding on the date first above written.

SIGNED for and on behalf of Shane Solomon and Associates by:

[Name] _____

[Position] _____

_____
(signature)

in the presence of:

_____
(signature of witness)

_____
(print name)

SIGNED for and on behalf of the Site by:

[Name] _____

[Position] _____

_____
(signature)

in the presence of:

_____
(signature of witness)

_____
(print name)

Appendix A-2

Privacy Protocol for the Use of Personal Information in the MH-CASC Project

Overview

1.0 This document has been prepared by the Commonwealth Department of Health and Family Services, as a reference document for the Commonwealth Privacy Commissioner. Comments provided by the Privacy Commissioner's Office have been incorporated in the Protocol. The Privacy Protocol contained in Part Two of the document sets out the safeguards that are to be put in place, under the Mental Health Classification and Service Costs (MH-CASC) project, to protect personal privacy during the data collection and data analysis stages of the study.

1.1 This Privacy Protocol has been drafted to comply with the standards for the collection, storage and use of personal information set down in the Information Privacy Principles created under the *Privacy Act (Commonwealth) 1988*. Where needed, the Privacy Protocol will be amended to reflect privacy requirements established by State government legislation.

1.2 This document contains the following sections:

Part One: An overview of the Mental Health Classification and Service Costs Project and the information to be collected. Included as an attachment is a copy of the study methodology (See Attachment A);

Part Two: The Privacy Protocol; and

Part Three: Two information brochures (a shorter and a longer version) for health care consumers on the use of personal information in the study, and the steps to be taken to protect patient confidentiality.

1.3 The Privacy Protocol is intended as the standard for the protection of the use of personal information during the course of the MH-CASC project, and will form an attachment to a contract variation between the Commonwealth and the project consultants. This Privacy Protocol is also a policy guideline for the purposes of clause 1.2 (f) of the contract variation. The contract variation is designed to ensure compliance with the terms of the Information Technology Outsourcing Clauses, developed to impose upon a contractor many of the obligations that a Commonwealth agency is subject to under the Information Privacy Principles, as contained in the *Privacy Act (Commonwealth) 1988.*

Part One

The National Mental Health Strategy

2.0 The National Mental Health Strategy (NMHS) was endorsed by Australian Health Ministers in April 1992. The Strategy has a six year life span running from 1992-1993 to 1997-1998. A key activity of the reform agenda is a mental health funding models national work program. A National Mental Health Working Group oversees the implementation of the NMHS, which was appointed by the Australian Health Ministers' Advisory Council (AHMAC).

National Work Program for the Development of Funding Models for Specialist Mental Health Services

2.1 Projects under the Funding Models National Work Program are designed to meet a number of objectives of the NMHS. These objectives include a shift in service mix so that a greater proportion of resources are directed to the community, and the provision of integrated and continuous care across all services for people with long term mental disorders by introducing funding models where the dollar follows the consumer. In this latter area, a key project which is being funded, at substantial cost, is the Mental Health Classification and Service Costs project. This study will develop the first version of a national casemix classification, with associated cost weights, for specialist mental health services, consistent with the objectives of the National Mental Health Strategy and the Council of Australian Governments (COAG) funding reform agenda.

Mental Health Classification and Service Costs Project (MH-CASC Project)

2.2 The project is designed to analyse and classify mental health service utilisation and associated costs, across the full range of mental health service settings (acute inpatient, non-acute inpatient, and community services). The cases are to be defined on the basis of the attributes of people with mental disorders, which are predictive of different patterns of care and resource use. It is intended that the casemix classification developed will provide the basis for funding mental health services according to the number and type of patients that are treated. The project began in mid-July 1995 and will extend through to April 1997. The project will involve service utilisation and costing research at multiple sites throughout Australia. The study is not one that is concerned with examining patient care arrangements with a view to changing them; rather it is a data collection and data analysis research project designed to develop a casemix classification system that can be used as an information tool and funding mechanism.

2.3 While its focus will be on public sector mental health services, it will also include some private hospital facilities. Out of scope are mental health services provided by general hospitals without specialised psychiatric units. The project is being conducted by a consultancy team led by Mr Shane Solomon (Project Director). Details of the consultancy team and the national expert committees established to guide the development of the study methodology are set out in Attachment A, pages 122-124. These committees comprise a Clinical Reference Group engaged by the Project Team to advise on all clinical aspects of the work, and a Clinical/Technical Advisory Committee, which is a national committee appointed by the Commonwealth. The Project Office is based at the Mental Health Research Institute, Oak Street, Parkville, Victoria. The specific contract for this consultancy is between the Commonwealth and Shane Solomon & Associates.

2.4 The previous Secretary of the Department, Dr Stephen Duckett, approved funding for the project subject to AHMAC endorsing continuation of the project following completion of Stage 1. The project will involve data collection of the socio-demographic and clinical characteristics of mental health consumers being treated in both inpatient and community locations. In addition, data will be collected on their service utilisation patterns and associated costs. Combined, these data will show which consumer characteristics predict particular types and amount of care. Overall, the aim of the project is to produce classes (that is, a casemix classification) of consumers who have similar characteristics and require similar levels of care.

2.5 In all the project is proceeding in three stages as follows:

- Stage 1, completed in October 1995, involved conducting an extensive literature review and consultation with clinicians to generate working hypotheses about consumer attributes most likely to influence differential patterns of service use. In October 1995, AHMAC endorsed continuation of the project on the basis of the outcomes of Stage 1 of the project as set out in the attached report (Attachment B). The project is now moving towards the implementation of Stage 2 on the basis of the agreed study methodology (Attachment A refers).
- Stage 2 involves the collection of costing and service utilisation data in a range of inpatient, community and residential settings. The planned data collection period is from 1 September 1996 to 30 November 1996.
- Stage 3, the final stage of the project, will consolidate the empirical work leading to the development of a mental health classification and associated service costs. This stage is expected to be completed by April 1997.

2.6 While the project is funded under the NMHS, for which Mental Health Branch is the responsible Branch in the Department, the Classification and Payments Branch of the Department has responsibility for the broad management of the MH-CASC project because it has specific carriage of casemix classification development matters. Given this arrangement, there is extensive consultation between the two Branches on the development of the project. The contact person in Mental Health Branch is Mr Ian Thompson, Research and Outcomes Evaluation Section - (06) 289 7766. The contact person in Classification and Payments Branch is Ms Jo Murray, Director, Costing and Ambulatory Classification Section - (06) 289 6801.

Site Support

2.7 Specific funding for site support is an important aspect of the project and is designed to enhance the quality of data generated. The data collection demands on service sites included in the study will be significant, and, therefore, it is planned that a dedicated site co-ordinator will be engaged at each site for a five month period (covering the three month study period, plus one month either side). Funding for this aspect of the project is also being provided by the Commonwealth under the NMHS.

MH-CASC Project: Broader Health Policy Issues

2.8 In Australia, health services have been funded on the basis of historical patterns, regardless of changes to the mix and number of patients using the services. This approach has been widely discredited on the grounds that it does not provide incentives for improving continuity of care for people who require comprehensive services involving multiple agencies. Nor does it include incentives for efficient service delivery

to maximise the spread of limited resources and provide assistance to a greater number of people.

2.9 Under the current Medicare Agreements, July 1993 to June 1998, between the Commonwealth and the States/Territories, Australian Health Ministers have agreed to move towards the establishment of a nationally consistent casemix-based management and information system, which could serve as the basis for alternative hospital based funding. Such funding schemes are inherently more equitable than historical based funding, because health services are paid on the basis of their activities measured in terms of the number of patients treated and the severity of their conditions.

Classification Development Context

3.0 Much of the developmental work on casemix has occurred in the acute inpatient setting, using a classification system called the Australian National Diagnosis Related Groups (AN-DRGs) classification. This system classifies patients primarily on the basis of diagnosis and procedures.

3.1 The MH-CASC project was commissioned to develop a classification system that is appropriate for mental health, and to test the hypothesis that adding other patient attributes, such as functional level and severity of symptoms, will enable mental health consumers to be better differentiated. Diagnosis alone partially explains variation in resource utilisation in mental health, but the literature suggests that its predictive ability will be improved when combined with other variables. Other variables suggested in the literature include: severity of symptoms; risk of harm to self or others; level of functioning and social support; socio-demographic characteristics and stage of illness.

3.2 Although the literature identifies a number of mental health classification systems, none are regarded as able to be applied readily in Australia because they are limited to specific service settings (primarily acute or long stay inpatient settings) with few cross-setting instruments, because their predictive performance is unclear, or because they have an excessive number of classes. The MH-CASC project will develop a classification system that is suited to the Australian context. It is designed to test the power of the above variables to define clinically meaningful, resource homogeneous groups of patients, and to build a classification system that will provide the basis for a more rational funding model for mental health services. The nature of many psychiatric disorders means that they require treatment in a variety of settings (for example acute, community, and long-stay residential) throughout their course. A broad case-based funding approach is advocated for mental health services that takes account of the need for integration of care.

Data Collection Period

3.3 Given that a high proportion of mental health consumers have illnesses which are chronic in nature, they will frequently experience quite lengthy episodes of care. Clinical advice is that conducting the study over a three month period will give the Project Team enough data to look at factors which are predictive of levels of resource utilisation within reasonably long episodes.

Data To Be Collected

3.4 *Scope of the Study:* The study will collect data about the services used and associated costs of all patients treated during a thirteen week period (1 September 1996 to 30 November 1996) in a sample of public sector and private hospital specialised mental health

services. An estimated 18,000 episodes of care provided to approximately 15,000 patients will be captured to build a valid mental health classification system. The study is planned to include services representative of most States and Territories, covering 30 inpatient locations and 60 community sites. Collectively, the study sample aims to include 30 per cent of Australia's inpatient beds and an estimated 20 per cent of community-based mental health staff.

3.5 *The Study Sample*: Sites have been selected on the basis of their being relatively well resourced, and providing care which is recognised as being consistent with currently accepted best practice. Study sites from nearly all States/Territories have nominated to participate. Specific sites within each jurisdiction were nominated by each of the State Mental Health Braches as providing the best examples within the jurisdiction upon which to base the new classification. All patients attending the selected sites during the three month period will be included in the study.

3.6 *Primary Data to be Collected*: Five data blocks will be collected to serve two purposes. First, they will allow costs to be tied to patients for each episode of care occurring during the study period. Secondly, data collected on patient characteristics will be linked to the service utilisation and costs data to determine which characteristics predict differential resource use.

3.7 The data blocks involved are:

- *Patient Characteristics*: Key clinical and socio-demographic attributes hypothesised to predict resource use.
- *Staff Activity Data*: Details of services provided to each patient in the study, covering inpatient and community services clinical staff.
- *Hospital Morbidity Extracts*: Extracted data from State morbidity collections to allow use of inpatient services outside the study sample to be monitored.
- *Financial:* Expenditure data from the services chart of accounts to allow staff activity to be costed and apportioned to patients.
- *Nine Month Case Histories*: Details of service patterns in the nine months preceding the study for a selected sub-sample of the patient cohort. This will provide a basis for building a twelve month picture of the typical service use patterns and costs for each of the final patient classes

Method of Primary Data Collection

The basic data collection tasks are:

3.8 *Patient Characteristics*: For each patient clinical ratings will be collected within the first two weeks of the commencement of the episode of care. Assessments on key clinical ratings will be repeated at fortnightly intervals. These ratings will be made by clinicians on forms specifically prepared for the project. Key clinical data items include diagnosis, Focus of Care and scales from the Health of the Nation Outcome Scale (HoNOS) and the Life Skills Profile (LSP).

3.9 *Service Utilisation*: To allocate costs to specific patients for each episode clinical staff employed within each of the study sites will be required to keep records of their activity on a daily basis, from which the amount of time directed to each patient and the types of services provided will be identified. These data will be collected on forms prepared

for the study, or, where possible, on existing data collection forms modified for the purposes of the study. In addition, data on other resources provided to the patient, such as imaging, pathology and pharmacy, will be collected. The method of collecting these data will be determined in collaboration with individual sites.

4.0 *Costs*: Expenditure data will be extracted from local agency financial systems to allow staff time directed to patients to be costed and aggregated to derive the total costs for each episode of care.

4.1 *Co-ordination Issues*: As discussed above, each site will appoint a site co-ordinator for the duration of the study data collection phase. It is expected that a senior member of the clinical staff within each service will assume this role. If it is not possible for the site co-ordinator to be a senior clinician from within the service, a person is only to be appointed on the basis that they are familiar with all the protocols of handling patient level information, such as a former nurse. A person is not to be appointed to the site co-ordinator position from outside the site, who is not familiar with the procedures of safeguarding the confidentiality of patient information. The co-ordinator will be responsible for motivating staff, ensuring that the data collection proceeds smoothly, distributing and collecting all forms, and forwarding de-identified forms on to the MH-CASC Project Team. The role of the co-ordinator in data collection is critical, because of the recognised data collection burden on clinical staff, the large volume of data, and the fact that patient identifiers (name and address) will need to appear on forms to make the task of clinicians easier, but will need to be removed prior to the forms being sent to the MH-CASC Project Team.

Arrangements to Safeguard the Privacy of Personal Information

4.2 The essence of the arrangements that are to be put in place, to safeguard the privacy of personal information obtained at site level during the data collection phase of the study, is that data will leave sites in a form whereby patients will not be able to be identified by name. In this way, the data collection processes to be adopted will be no different in terms of the privacy implications for patients than would normally occur from their general attendance at a hospital. That is, it is accepted as necessary that patient identifiable information is collected by a hospital for a patient during the course of their treatment, but patients rightly expect that this identifiable information will remain confidential to the hospital and the patient.

4.3 The specific arrangement that is to be put in place is that the site co-ordinators are to have the direct responsibility for ensuring that the data collected leaves the site with patient identifiers (name and address) removed. To enable records to be attributable to a single (unidentified) person, each patient will be assigned a unique project number by the site co-ordinator. Data in respect of that patient will be forwarded to the Project Team for analysis using the unique project number as the chief identifier. In implementing these arrangements, a practical question that needs to be considered is whether the unit record (UR) number assigned to patient records by a site should also be included in the data forwarded to the Project Team. As the unit record number is in itself a purely arbitrary numerical record, rather than a direct patient identifier as occurs with name and address, it is not envisaged that there would be any difficulty from a privacy point of view with the UR number being part of the data forwarded to the Project Team. The unit record number is a numerical number generated and assigned by a service to identify clearly a particular patient. It is used to avoid possible confusion in identifying consumers where patients have similar names, and also to protect confidentiality in any data transmission at a service level.

4.4 The Project Team is also to look at the resources used to provide treatment to an individual consumer as they go from one service to another. This will require consumers' service use to be analysed across services, if they move to another service. The site co-ordinator, therefore, as part of their role may need to determine by discussion with other services whether a consumer has attended different services. If this is the case, the site co-ordinator must ensure that the consumer is allocated only one MH-CASC number.

4.5 Further, where information about services used in the nine months prior to the study is also collected, as is planned for a sub-group of the patient cohort, this will again only be forwarded to the Project Team by site co-ordinators on the basis of identification by the unique project number. The UR number identifier would also be included as is discussed in paragraph 4.3.

4.6 It is highly desirable from a research methodology perspective that the Project Team is able to use the UR number to assist it in its research process in developing the classification. That is, the UR number could be used as a matching device to ascertain whether patients attending a particular site are also seeking treatment from sites in adjacent areas. This matching would be on the basis of using State morbidity database records. To further strengthen the privacy protection arrangements, the Commonwealth is in the process of finalising with Shane Solomon & Associates the signing of a contract variation to the original project contract. This contract variation is designed to ensure compliance with the terms of the Information Technology Outsourcing Clauses, developed to impose upon a contractor many of the obligations that a Commonwealth agency is subject to under the Information Privacy Principles, as contained in the *Privacy Act (Commonwealth) 1988.*

4.7 In respect of its relationship with site co-ordinators, the contract variation will require Shane Solomon & Associates to ensure also that suitable data protection agreements are in place between it and sites. A useful reference document on this point is the publication by Standards Australia entitled *Australian Standard AS4400-1995 'Personal Privacy Protection in Health Care Information Systems.* A copy of this document has been made available to the Project Team. In addition, a copy of the Protocol is to be attached to each data protection agreement, so that sites fully understand the privacy protection arrangements that have been put in place and the necessity for each site co-ordinator to be familiar with procedures to safeguard the confidentiality of patient information. Given access by the Project Team to the UR number Shane Solomon & Associates must ensure that no linking of the UR number with specific patient identifiers - name and address - occurs using site or State morbidity databases.

4.8 The above arrangements are designed to ensure not only that data reaching the Project Team is provided on the basis of a unique project number, but that re-identification of an individual patient is highly improbable. This is the outcome of there being no flow of patient identifiable data, in terms of name and address, between sites and the Project Team, and again between sites, the Health Insurance Commission and the Project Team (on this latter aspect paragraphs 4.9 to 5.1 below refer). The diagram attached to Part Three of this document illustrates the data flow privacy protection arrangements.

Additional Data to be Collected

4.9 The classification is designed to cover all patient settings for people receiving treatment for mental disorders. A key part of this are those study patients receiving treatment from private psychiatrists, and possibly general practitioners, for which access to appropriate Commonwealth Medicare Benefits Schedule (CMBS) patient identified data

would be needed. This data would be matched to other data obtained under the project to support an analysis of patient flows between private psychiatric, and general practitioner treatment and other treatment settings. In this way a more comprehensive classification can be developed.

5.0 There are strong public interest grounds for pursuing such an arrangement. This is that the provision of patient level CMBS data would facilitate the development of a more robust classification, which, in turn, would be more supportive of COAG reforms for service integration in mental health treatment. It is proposed that under this arrangement the matching process would be undertaken in such a way that patient confidentiality would be fully protected.

5.1 The arrangement to be adopted in matching site level data with use of services provided by private psychiatrists and general practitioners is that site information, which would need to include patient identifiers (name and address) to enable matching to occur, will be forwarded directly to the Health Insurance Commission (HIC) only by site co-ordinators. The HIC would be requested to report on the use of psychiatrists and general practitioners by each client over the twelve months preceding the end of the study period. The HIC will, in turn, once it has completed the matching process forward the data direct to the Project Team for analysis with all patient identifers removed. The unique project number will be the only identifier.

5.2 The Privacy Protocol, as set out in Part Two of this document below, details the full range of measures that are to be put in place to protect the privacy of health care consumers involved in the study. To ensure that Departmental privacy considerations have been fully met, this reference document and Privacy Protocol, has been considered by the Department's Privacy Committee, and it is understood that it has raised no objection. The project was also formally considered by the Department's Ethics Committee at its meeting on 9 August 1996 and was approved.

Part Two

The Protocol

6.0 This Protocol has been drafted in the light of requirements established by:

- the Information Privacy Principles and the Outsourcing and Privacy Advice Guidelines made under the *Privacy Act (Commonwealth) 1988*; and
- the *Australian Standard AS4400-1995 'Personal Privacy Protection in Health Care Information Systems.*

Issue of Informed Consent

6.1 It is not proposed to seek individual informed consent to collecting personal information, either directly from individual patients or their carers. The main reason for this approach is that all patient information is to be de-identified prior to being passed to the Project Team for analysis. The very large numbers of patients on whom data is to be collected (15,000), and also the likely adverse impact on mental health patients in terms of distress of seeking patient consent, constitutes possible further grounds for taking this approach. While it is not proposed to seek informed consent, consumers will be fully

informed about the study through the availability of two consumer information pamphlets.

Consumer Information Pamphlets

6.2 The first pamphlet is designed as an easy to understand overview of the study which will be made available to all consumers by site co-ordinators, while the second one will be available on request from site co-ordinators and is designed to provide more details about the project. Specifically, the consumer information pamphlets will describe:

- the purpose of the Mental Health Classification and Service Costs project;
- the purpose of the information that is to be collected;
- the type of information that is to be collected;
- how the information will be used;
- who will have access to the information and in what form; and
- how the information may be accessed by the person to whom it relates.

A copy of the consumer information pamphlets forms Part Three of this reference document .

6.3 As it is proposed not to obtain informed consent from individual consumers involved in the three month data collection period, for the reasons given above, the consumer information pamphlets are directed at making consumers using the health services involved in the study fully aware of what their participation in the study means for them and how, for every facet of the data collection and analysis process, their personal information will be treated as private and confidential. The pamphlets advise that consumers can access their patient records at the service level. It is not envisaged that it would be practical to suggest also that consumers would have access to their patient level records once the data had been passed, in de-identified form, to the Project Team. The size and complexity of the research database that will be assembled during the data analysis phase of the study would make retrieval of individual data items problematic.

6.4 Given that informed consent is not being sought, it is consistent with this position that the option of withdrawal is not included as part of the information pamphlets. In addition, it needs to be noted again that the whole research emphasis of the MH-CASC project is on the use of de-identified data in developing the classification, and that, further, appropriate steps are being taken so that at every point in the study the Project Team will not have access to personal information, nor will re-identification of a person be likely. This safeguarding process constitutes further grounds for not including a withdrawal option. On a further point, the Department (Classification and Payments Branch) has provided a copy of the details of all State and Territory consumer health complaints agencies, together with details of the private health insurance one, including contact details, to the consultants for forwarding to participating sites.

6.5 If a consumer has strong objections to being part of the study, and having information disclosed about them even in de-identified form, it is accepted that there should be no compromise of a consumer's treatment if they express this wish. For example, an individual may decide not to use a particular service rather than have information about them used in the study. Where consumers express such a wish not to participate, site co-

ordinators are to liaise with the Project Team to ensure that this request is met to the fullest extent possible.

How the Study May Help Consumers

6.6 The study's aim is to provide the building blocks for establishing a fairer funding system. It is also intended to establish information on patterns of care and outcomes, which will allow mental health care services to consider whether modifications are required to improve their practice.

Arrangements to Safeguard the Privacy of Personal Information

6.7 Data will not be collected using Medicare Number. The essence of the arrangements that are to be put in place, to safeguard the privacy of personal information obtained at site level during the data collection phase of the study, is that data will leave sites in a form which does not identify patients. In this way, the data collection processes to be adopted will be no different in terms of the privacy implications for patients than would normally occur from their general attendance at a hospital or community service. That is, it is accepted as necessary that patient identifiable information is collected by a hospital or community service for a patient during the course of their treatment, but patients rightly expect that this identifiable information will remain confidential to the hospital, or community service, and the patient.

6.8 The specific arrangement that is to be put in place is that the site co-ordinators are to have the direct responsibility for ensuring that the data collected leaves the site with patient identifiers (name and address) removed. To enable records to be attributable to a single (unidentified) person, each patient will be assigned a unique project number by the site co-ordinator. Data in respect of that patient will be forwarded to the Project Team for analysis using the unique project number as the chief identifier. The Project is also to look at the resources used to provide treatment to an individual consumer as they go from one service to another. This will require consumers' service use to be analysed across services, if they move to another service. The site co-ordinator, therefore, as part of their role may need to determine by discussion with other services whether a consumer has attended different services. If this is the case, the site co-ordinator must ensure that the consumer is allocated only one MH-CASC number.

6.9 In implementing these arrangements, a practical question that needs to be considered is whether the unit record (UR) number assigned to patient records by a site should also be included in the data forwarded to the Project Team. As the unit record number is in itself a purely arbitrary numerical record, rather than a direct patient identifier as occurs with name and address, it is not envisaged that there would be any breach of patient confidentiality in the UR number being part of the data forwarded to the Project Team. The unit record number is a numerical number assigned by a service to identify a patient. It is used to avoid possible confusion in identifying consumers where patients have similar names, and also to protect confidentiality in any data transmission at a service level. The UR number is to be given the same protections required under this Protocol as applies to all other information forwarded to the Project Team from service sites.

7.0 Where information about services used in the nine months prior to the study is also collected, as is planned for a sub-group of the patient cohort, this will again be forwarded to the Project Team by site co-ordinators on the basis of main identification by the unique project number. The UR number identifier would also be included as is discussed above

7.1 As part of the research methodology, it is desirable that the UR number can be used by the Project Team to assist it in its research process in developing the classification. That is, the UR number would be used as a matching device to ascertain whether patients attending a particular site are also seeking treatment from sites in adjacent areas. This matching would be on the basis of using State morbidity database records. To further strengthen the privacy protection arrangements, the Commonwealth is in the process of finalising with Shane Solomon & Associates the signing of a contract variation to the original project contract. This contract variation is designed to ensure compliance with the terms of the Information Technology Outsourcing Clauses, developed to impose upon a contractor many of the obligations that a Commonwealth agency is subject to under the Information Privacy Principles, as contained in the *Privacy Act (Commonwealth) 1988*.

7.2 In respect of its relationship with site co-ordinators, the contract variation will require Shane Solomon & Associates to ensure also that suitable data protection agreements are in place between it and sites. A useful reference document on this point is the publication by Standards Australia entitled *Australian Standard AS4400-1995 'Personal Privacy Protection in Health Care Information Systems*. A copy of this document has been made available to the Project Team. In addition, a copy of the protocol is to be attached to each data protection agreement, so that sites fully understand the privacy protection arrangements that have been put in place and the necessity for each site co-ordinator to be familiar with procedures to safeguard the confidentiality of patient information. Given access by the Project Team to the UR number, Shane Solomon & Associates must ensure that no linking of the UR number with specific patient identifiers - name and address - occurs using site or State morbidity databases. Should the Project Team require any patient level records to be checked for validity (such as coding errors) by site co-ordinators, only that patient level information already provided by site co-ordinators can be forwarded back to sites for checking. Specifically, no new additional information can be added to the patient level information forwarded back to sites as part of the checking process as a further privacy protection . Sites will be expected to take all reasonable steps to ensure the security of identified data, and to limit strictly access to the unit records on a need to know basis.

Additional Data to be Collected

7.3 The classification is designed to cover all patient settings for people receiving treatment for mental disorders. A key part of this are those study patients receiving treatment from private psychiatrists, and possibly general practitioners, for which access to appropriate Commonwealth Medicare Benefits Schedule (CMBS) patient identified data would be needed. This data would be matched to other data obtained under the project to support an analysis of patient flows between private psychiatric and general practitioner treatment and other treatment settings. In this way a more comprehensive classification would be developed.

7.4 There are sound public interest grounds for pursuing such an arrangement. This is that the provision of patient level CMBS data would facilitate the development of a more robust classification, which, in turn, would be more supportive of COAG reforms for service integration in mental health treatment. It is proposed that under this arrangement the matching process would be undertaken in such a way that patient confidentiality would be fully protected.

7.5 The arrangement to be adopted in matching site level data with use of services provided by private psychiatrists and general practitioners is that site information, which would need to include patient identifiers (name and address) to enable matching to occur, will

be forwarded directly to the Health Insurance Commission (HIC) only by site co-ordinators. The HIC would be requested to report on the use of psychiatrists and general practitioners by each client over the twelve months preceding the end of the study period. The HIC will, in turn, once it has completed the matching process, forward the data direct to the Project Team for analysis with all patient identifers removed. The unique project number will be the only identifier. This disclosure would be lawfully based being in accordance with the requirements of the *Health Insurance Act (1973),* Section 130 (3) (a).

7.6 A further aspect that needs to be emphasised is that the above arrangements are designed to ensure not only that data reaching the Project Team is provided on the basis of a unique project number, but that under these arrangements re-identification of an individual patient is highly improbable. This is the outcome of there being no flow of patient identifiable data, in terms of name and address, between sites and the Project Team, and again between sites, the HIC and the Project Team. This is illustrated more clearly by the diagram included in Part Three of this document. While the Project Team will receive the data from individual sites and will know which sites the data has come from, the arrangements put in place to safeguard the privacy of personal information, and the contract variation arrangements with Shane Solomon & Associates, will ensure personal information remains private and confidential. In this context, it needs to be noted that there is a need for the Project Team to know the specific source of data, as it is essential that the Team is able to go back to site co-ordinators to seek clarification of any data problems to ensure consistency of data in building the classification.

7.7 As part of the data analysis arrangements, a protocol will be developed by the consultants to ensure that data cells which contain sufficiently few entries will be either suppressed or reconfigured to prevent possible unintentional re-identification of a person.

Data Flow: Administrative Arrangements

7.8 The project will collect routine data through two media, namely soft-copies of existing automated systems (that is, information down loaded to tape or disk) or via manual data-capture instruments (that is, the forms which have been designed and customised for the purposes of the project - a copy of the patient attribute forms is attached as part of the study methodology.

7.9 Study sites will be provided with software developed by the project team which registers patients at the time of entering the study and assigns a unique MH-CASC number. This information will be used to identify the patients deemed to be within scope for the study period. The information contained in the registration database will be down loaded and forwarded to the Melbourne office of the Project Team. Prior to this occurring, the site co-ordinator at each site will remove patient names/address.

8.0 Data captured on forms will be sent by each study site via secured post to the Melbourne or Adelaide office of the Project Team. Again, these will have patient names/address removed by the site co-ordinator before they leave the site. This will then be registered by the database administrator and then allocated to a data entry location for entry on the database. A daily log of data entered per location will be maintained. For data entered at the Adelaide site, a copy of the data will be forwarded to the project's Melbourne office by secured post each week.

8.1 All data collected from automated systems at the study sites will be sent to Adelaide via secured post, registered, checked for viruses and ease of reading/interpretation prior to

being sent to the Melbourne office via secured post. The data will then be uploaded to the main study database in the Melbourne office.

8.2 The forms will be stored in Adelaide and Melbourne in secure premises, shredded and disposed of at the completion of the study and once sign-off has occurred with the Commonwealth.

8.3 Transportation of the data from study sites to Adelaide or Melbourne and from Adelaide to Melbourne will be undertaken via secured post, and will be password protected and encrypted. Passwords and encryption will be changed each week between the two offices.

8.4 It is stressed that throughout the data flow process, patient names are removed. Transfer of all data will be via secured means. All reasonable steps will be taken to ensure that transmitted data is not open to unauthorised access. Storage of all data at a site other than the Adelaide office will follow standard secure database administration practices.

8.5 At the end of the study service sites will be given back their own data. While national level data would be held by the MH-CASC team during the data analysis stage of the study, at the conclusion of the project all national level data is to be forwarded to the Classification and Payments Branch of the Department by Shane Solomon & Associates, in accordance with the contract as this specifies that all data held by the consultants is ultimately Commonwealth property.

Appendix A-3

Consumer Information Pamphlets

Additional Information for Consumers about the MH-CASC Project

This mental health service is one of many in Australia which is participating in the Mental Health Classification and Service Costs (MH-CASC) Project. This pamphlet provides information for consumers about the Project.

If you would like further information about the Project, please contact the Site Co-ordinator atyour service.

What is the Mental Health and Service Costs (MH-CASC) Project?

The MH-CASC Project has been funded by the Commonwealth Department of Health and Family Services under the National Mental Health Strategy.

The MH-CASC Project aims to develop a mental health classification system which will form the basis for a way of funding mental health services so that health services can be funded according to the different treatment requirements of their consumers.

Why is the Project needed?

Consumers using mental health services have different treatment needs, require different patterns of treatment, and use different levels of resources. A person may also have different requirements at different times. Until now, however, most mental health services have been funded as though all consumers are the same.

The classification system developed by the MH-CASC Project will enable funding to more accurately reflect the different treatment requirements of consumers.

Where is the Project being conducted?

The Project is being conducted in approximately 20 inpatient and 60 community settings across Australia.

When is the Project being conducted?

The major data collection period will run over three months, commencing on 1 September 1996.

Who will be involved?

In general, the Project will involve all consumers using those mental health services which are part of the Project over the three month period.

What will the Project involve for you?

You won't be required to do anything other than what you would ordinarily do at this service. Certain information will be collected about you during the course of the Project. Staff of this service will de-identify the information (that is, remove name and address details) and give it to the researchers who will use it for statistical research in developing a classification system.

What information will be collected?

All information collected about you during the Project will be treated as private and confidential.

Clinical and socio-demographic information will be collected about you. Most of this information will already be collected at this service.

While this information is being collected, staff will also be recording the amount of time clinicians spend with you, as well as the amount and type of tests and prescribed drugs. The costs associated with these levels of treatment will then be determined.

How will the information be collected?

The information will be collected on forms which will be completed by clinicians.

Each service will have a Project Site Co-ordinator who has a clinical background and will act as a central collection point for the forms.

The site co-ordinator will be responsible for ensuring that data are being collected at the appropriate times, following up any missing information, and sending the completed forms on to the MH-CASC Project Team's office, where the data will be entered into a database. One of the other roles of the site co-ordinator will be making sure that all information is stored confidentially by the service.

You will be automatically allocated an MH-CASC number. A master list of names and MH-CASC numbers will be held by the site co-ordinator, but your name will be removed from the forms before they are sent to the MH-CASC team.

When the Project is completed, the list of linked names and MH-CASC numbers will be destroyed by the site co-ordinator.

How will the Project develop a full picture of the level and type of treatment required by different groups of consumers?

Consumers of mental health services may require different types of services in any period - for example, they may move from the hospital to the community or vice versa. The Project

aims to develop a full picture of the level and type of treatment required by different groups of consumers. For this reason, the Project is looking at the resources used to provide treatment to an individual consumer as they go from one service to another.

This will require your service use to be analysed across services, if you move to another service. The site co-ordinator may be required to determine by discussion with services whether you have attended different services. If this is the case, the site co-ordinator will ensure that you are allocated only one MH-CASC number. The Project Team will not know your name.

The service use of some consumers will be retrospectively analysed for nine months, in order to provide a fuller picture of patterns of treatment. This will be done using routinely collected service use data. Again, all information will be treated as private and confidential.

To gain a complete picture of services used by consumers, the Project will consider services provided by private psychiatrists and, possibly, GPs. To do this, the Site Co-ordinator will also give some details, such as name, address and date of birth to the Health Insureance Commission (HIC) which will match this with the national Medicare database to identify the numer and type of services used. The HIC would, in turn, forward any matched data to the Project team. Again, this would be done on the basis that you cannot be identified.

How will the information be used?

When the above information is analysed, it will show which consumer characteristics predict particular types and amounts of treatment. Specifically, it will produce classes of consumers who have similar characteristics and require similar levels of treatment.

Who will have access to the data, and in what form?

The Project Team will have access to the data for the purposes of analysing it and developing the classification system. They will have individual records, *but will not be able to identify you by name*. As a further safeguard, under Commonwealth contract arrangements, the Project Team are required to ensure that they adhere to obligations of confidentiality similar to those imposed on Commonwealth agencies. In addition, data protection agreements to ensure the protection of consumer confidentiality are required between the Project Team and service sites.

Ultimately, the Commonwealth Government owns the data. Like the Project Team, they will have individual records, but will not be able to identify you by name.

The only place which will be able to identify you by name is your own service.

What are your rights in this Project?

The Project recognises that all consumers of mental health services have certain rights, and these will in no way be compromised during the course of the Project, regardless of whether you are part of the Project or not. Like all consumers, you are entitled to have:

- access to a complaints mechanism* if you have a concern about the handling of personal information;

- services collect information in a fair, lawful and non-intrusive way, and explain the purpose for which the information is collected;

- any personal information stored in a safe and secure way to prevent others accessing it;
- information recorded accurately and in a way which respects privacy and confidentiality;
- access to your own information, where available, as collected by the service. [Information is likely to be held by the service for only a short period of time before being de-identified and forwarded for analysis.]

Site Co-ordinators can assist on contact details

MENTAL HEALTH CLASSIFICATION AND SERVICE COSTS PROJECT

This mental health service is one of many in Australia which is participating in the Mental Health Classification and Service Costs (MH-CASC) Project..

This pamphlet provides information for consumers about the Project..

A more detailed information pamphlet about the Project is available from your Site Co-ordinator.

What is the Project?

The Project is attempting to develop a classification of the way in which mental health consumers are treated in hospitals and in the community. A classification can be used to fund health care in a way which more accurately reflects the different health care treatment requirements of consumers. This Project is being funded by the Commonwealth Department of Health and Family Services in Canberra and being undertaken by a Project team based in Melbourne.

How will it work?

To be able to develop a classification, the Project team needs to look at a wide range of data. This involves your hospital or community service collecting data which relates to your health care treatment over the study period - 1 September to 30 November 1996. *What is most important is that your privacy is protected at all times.*

How is my privacy protected?

Information will be collected at your hospital or community service and then de-identified (this means your name and address are removed) before being sent to the Project team. You will also be given your own special number by the Site Co-ordinator who is the person co-ordinating the data collection at your service. This arrangement enables the Project team to ensure the data is accurate but not know the name of the consumer to whom the special number relates.

Is there other information being collected outside my service?

There will also be a process of matching information by the Health Insurance Commission (HIC) in Canberra. The HIC will receive identified information from the Site Co-ordinator, such as name, address and date of birth, together with the special Project number. The HIC will provide details of services claimed under Medicare for treatment given to you by a private psychiatrists or GP and return that information to the Project team using only your special number. This will enable the Project team to understand the use of Medicare services by consumers whilst in the Project, but will not enable any individual consumer to be identified. The HIC will disclose the information lawfully under the national Health Insurance Act and will then destroy the original information which contains the consumer's name, address and date of birth and special number.

What happens to the final data?

At the end of the Project your hospital or community service will have access to the data which was provided to the Project team. Any publication of the Project's outcomes will be by way of results only.

What are my rights?

You have a right to access your own data, where available, before it leaves the hospital or community service. It is not intended that you have access to your data once it has been de-identified and sent to the Project team because it is not appropriate that a name be put to a record in order to retrieve it. Services will only have information about a consumer for a short time before it is de-identified and sent to the Project team.

PART B

Materials relevant to study design and methodology

Appendix B-1
Study Sampling

Two key criteria were used in selecting the study sample:

- sufficient observations to develop the classification
- a balance of sites which reflected Australian specialised mental health practice.

Sufficient observations

Estimating the maximum number of 'end cells' using clinical and statistical criteria

The starting point for sampling was the total potential number of 150 'end cells', as determined by the classes identified by the Clinical Panels (n=50; see Appendix B-2) and the service setting types (n=3).

This represented an upper limit, since not all patient classes could be expected to use all the types of service settings at a level which would be significant enough to be included in the final classification. For example, the Clinical Panels' patient class of 'anxiety disorders, uncomplicated' should not be treated in either acute or non-acute inpatient settings, and therefore the sampling strategy did not seek to incorporate these two cells. Clinical assessment of this nature reduced the total number of 'end class patient cells' to 95 (30 for acute inpatient services, 18 for non-acute inpatient services and 47 for community services).

Statistical criteria were used to further inform the sampling methodology, on the rationale that the number of observations in some cells may be too small to form a single 'end class', and the accompanying expenditure too low to justify oversampling. Two assumptions were used to eliminate such cells from the sampling strategy:

- A cell would need at least 50 observations nationally to form a single patient 'end class', and to capture 50 observations the study should not have to sample more than half the services in Australia. Thus, there would need to be 100 episodes of care during the three-month study period from which the 50 observations could reasonably be expected to be drawn.
- Estimated total expenditure on the cell should be at least $1m nationally.

Using Victorian data for the three-month period 1 April to 30 June 1995, the expected number and cost of patients in the 11 diagnostic clusters across each of the three service settings was established. Given that Victorian service contacts represent one quarter of all Australian contacts, the minimum cell size was set at 25, and the minimum expenditure at $250,000.

There was a high correspondence between the clinical criteria and the statistical criteria regarding which cells should be eliminated from the sampling strategy, with the statistical criteria excluding a further seven cells, reducing the total number to 88. The shaded cells in Table 1 indicate those cells which were excluded according to the clinical or statistical criteria.

Table 1: Expected number of patient 'end cells' using clinical and statistical criteria

MH-CASC Diagnostic Grouping	Total patient classes proposed by Clinical Panels	Expected number of the Clinical Panels' patient classes in		
		Acute Inpatient Services	Non-Acute Inpatient Services	Community Services
Schizophrenia & Related	8	8	6	8
Mood Disorders	7	7	7	7
Anxiety Disorders	3	1	0	3
Eating Disorders	6	2	0	4
Obsessive Compulsive	3	1	0	3
Personality Disorder	3	2	1	3
Stress and Adjustment	4	2	0	4
Other (sexual, somatic)	3	0	0	3
Child and Adolescent	5	3	0	5
Organic Disorders	7	4	4	7
TOTAL	49	29	18	41

Note: Eating disorders in the community and personality disorders in non-acute inpatient services were included because they meet one of the criteria or because of their strong clinical recognition.

Statistical analysis of likely number of episodes and relative dispersion of costs per episode for each 'end class'

Victorian data were analysed to determine the likely number of episodes for the 'end classes' (with 25 observations being considered acceptable, on the grounds that this would extrapolate to 100 episodes nationally, and, with a maximum of 50% of services sampled, 50 episodes for the study). The relative dispersion of costs per episode for each diagnostic cluster was also considered to assess the likely success of oversampling strategies.

The results of this analysis revealed that the majority of diagnostic clusters satisfied the criteria that indicated they were likely generate the number of patient 'end classes' proposed by the clinical panels.

In the community, the exception was eating disorders which only had sufficient observations (n=57) for two patient 'end classes'. It also had high dispersion figures (CV=1.8; RCI=47%), suggesting that it would be unlikely to achieve statistically satisfactory results from just two classes. This was confirmed by simple two- and three-group splits at various percentile levels, with no trimming (95/5, 90/10, 80/20, 10/90, 5/95), which failed to achieve a CV of less than 1.0 for all groups or an RCI of 10% or less. This suggested that even an assertive oversampling strategy would be unlikely to achieve satisfactory 'end classes' for eating disorders in the community.

In the acute inpatient setting, three diagnostic clusters were characterised by low episode numbers and high dispersion scores (calculated for the public sector only): anxiety disorders (44 public episodes; 49 private episodes; CV=1.6; RCI=63%); eating disorders (49 public episodes; 74 private episodes; CV=1.2; RCI=55%); and child and adolescent disorders (38 public episodes; 1 private episode; CV=1.1; RCI=88%). None of these diagnostic clusters achieved a CV of less than 1.0 or an RCI of less than 10% when simple two- and three-group splits were done at the percentile levels described above.

It was considered that oversampling of acute inpatient anxiety disorder episodes would be difficult to justify given the low expenditure involved, the diversity of the group across the acute hospital system, and normative practice standards.

There was considered to be a case for ensuring that special acute inpatient eating disorder units were included in the sample, given the distinctiveness of the clinical condition, and the high cost per patient of this group.

It was felt to be reasonable to identify specialised child and adolescent services for inclusion in the sample, since children and adolescents constitute a distinct clinical group.

Sample size

The above analysis suggested the number of 'cells' which need to be covered in the sample, and the likely patient 'end classes' in each cell. These were considered to take the form of a range, using both the Clinical Panels' hypotheses (mostly at the upper end of the range), and the optimum number of 'end classes' needed to satisfy the statistical criteria for the classification system.

The additional variable needed was the number of observations per patient 'end class' which should be sought in the sampling strategy. Consultation with a range of statistical experts suggested that the Project should aim for a minimum of 100 observations per 'end class'. The resultant target number of observations per diagnostic grouping are shown in Table 2.

Table 2: Target number of observations per diagnostic grouping

MH-CASC Diagnostic Grouping	Acute Inpatient Episode Observations Target	Non-Acute Inpatient Episode Observations Target	Community Episode Observations Target
Schizophrenia & Related	200-800	600	200-800
Mood Disorders	200-700	700	200-700
Anxiety Disorders	100[1]	n.a.	300
Eating Disorders	200[1]	n.a.	400
Obsessive Compulsive	n.a.	n.a.	n.a.
Personality Disorders	200	100	200-300
Stress and Adjustment	200[1]	n.a.	200-400
Other (sexual, somatic)	n.a.	n.a.	n.a.
Child and Adolescent	100-200	n.a.	200-500
Organic Disorders	200-400	400	200-700
TOTAL	1,400 - 2,800	1,800	1,900 - 4,100

Notes:

1 For these diagnostic groupings the target was based on the Clinical Panels' hypotheses, as the simple two- and three-group percentile splits did not achieve satisfactory results. It was considered possible that a target sample of this size may be sufficient with some different groupings of the data, although it was recognised that a higher number of observations would be more likely to achieve the desirable results.

n.a. These cells were excluded, for reasons discussed earlier in this Chapter. Some observations were included as part of the general sampling framework.

These targets were regarded as minimum for classification purposes. However, three points should be noted:

- It was acknowledged that some further aggregation of diagnostic clusters might occur in the analysis stage to achieve better statistical results.

- The target for non-acute inpatient observations related to the number of admissions during the study period, but it was recognised that the classification might produce cost weights for bed-days and not total admissions, making the potential sample much larger (close to 1,800 by 91 days).
- Having met the primary objective of capturing enough observations to develop the classification system with some degree of confidence, it was also important to ensure that the sample was broadly representative of Australian mental health services. This is addressed below.

Representation of the Australian mental health system

Using data from the 1995 National Survey of Mental Health Services, sites were selected using the following broad criteria:

- services should be integrated or clustered to enable tracking of patients across time and setting
- services should incorporate as much as possible a range of service types, particularly acute inpatient, non-acute inpatient and community services
- services should be representative of the Australian mental health system, reflecting public and private coverage, representation from all States and Territories and metropolitan and regional areas, and a balance of service types (e.g. co-located and stand-alone)
- services should have a level of resources which is adequate to provide a reasonable service, as measured in comparison with national averages
- services should be recognised as engaging in 'best practice'

On the basis of these criteria, an indicative base sample of 14 public sites was selected and analysis undertaken to determine the likelihood of meeting the primary objective of 'sufficient observations to develop a classification system'. The target numbers of episodes presented in Table 2 were compared with the expected number of episodes from the 14 sites, based on the Victorian diagnostic distribution in public mental health services.

In general, this analysis showed that it would be possible to select sites representative of the Australian public mental health system that could generate sufficient observations to form a classification system.

Specifically, the 14 sites were estimated to achieve 4,500 acute inpatient episodes, 1,100 non-acute inpatient episodes and 12,000 community episodes. In some areas, it was clear that there would be a need for oversampling (e.g. eating disorders). It was also necessary to consider the addition of private hospitals in the sample.

Recruitment of sites

Using the base sample as the starting point, the process of recruiting sites commenced. The Project team approached the directors of state mental health services and discussed the sampling strategy and the preferred sample sites within their states (based on the indicative base sample). Where necessary, substitute or additional sites were negotiated with directors,

bearing in mind implications on the targets outlined above and the potential impact on the representativeness of the sample.

The Australian Private Hospitals Association was consulted on the potential private hospital sites.

Executives and senior clinicians at sites were then approached and invited to participate.

The final sample included 22 sites. Participating sites are identified in Chapter 6 of Volume 1 of this report.

Appendix B-2

Initial Consumer Groupings Proposed by Clinical Panels

Diagnostic grouping	Patient classes	Notes
Schizophrenia, paranoia and acute psychotic disorders	S1. Schizophrenia, onset less than 2 years, with complicating clinical factors (list 1) S2. Schizophrenia, onset less than 2 years, without complicating clinical factors S3. Schizophrenia, onset 2+ years ago, with complicating clinical factors (list 2), high functioning S4. Schizophrenia, onset 2+ years ago, with complicating clinical factors (list 2), medium functioning S5. Schizophrenia, onset 2+ years ago, with complicating clinical factors (list 2), low functioning S6. Schizophrenia, onset 2+ years ago, without complicating clinical factors (list 2), high functioning S7. Schizophrenia, onset 2+ years ago, without complicating clinical factors (list 2), medium functioning S8. Schizophrenia, onset 2+ years ago, without complicating clinical factors (list 2), low functioning	a. '*Schizophrenia*' includes all of AN-DRGs 841 and 842: all schizophrenia, paranoia and acute psychotic reactions; and drug induced acute psychotic disorders (selected codes from DRG 861 and 862 in MDC 20) . b. '*Onset less than 2 years*' and *'onset 2 or more years ago'* means time since onset of psychotic symptoms. c. *'Complicating clinical factors list 1'* means any of the following: i patient did not receive any psychiatric treatment for at least six months following the onset of the disorder; or ii abuse of, or dependence on alcohol or other drugs iii grounds to believe that the patient presents a significant risk of harm to others, or him/herself; or iv exceptional difficulties in engaging the patient's co-operation in treatment. d. *'Complicating clinical factors list 2'* means list 1 minus the delay in treatment item (i) e. Level of functioning is divided into high, moderate, and low for working purposes. As a working definition for the validation stage of the Project, the following description was used: • *high functioning*: no signs of functioning disability and able to perform activities of daily living without support; • *medium functioning*: moderate functional disability and unable to perform activities of daily living without support; • *low functioning*: severe signs of functional disability and unable to perform activities of daily living without extensive support.
Mood disorders	M1. Manic disorder or bipolar affective disorder with manic phase episode, with complicating clinical factors (list 1) M2. Manic disorder or bipolar affective disorder with manic phase episode, without complicating clinical factors M3. Major depression with melancholia with complicating clinical factors (list 1) M4. Major depression, with melancholia, without complicating clinical factors M5. Major depression, without melancholia, with complicating clinical factors (list 2) M6. Major depression, without melancholia, without complicating clinical factors M7. All other depression and mood disorders	f. Diagnostic clusters are derived from the International Classification of Diseases, 9th Edition, Clinical Modification (ICD-9CM) codes, and are mapped in Attachment Two. The classification 'mood disorders' is consistent with the DSM-IV and ICD 10 diagnostic systems. g. *'With complicating clinical factors, List 1'* means any of the following: i experiences psychotic symptoms (hallucinations or delusions); or ii grounds to believe that the patient presents a significant risk of harm to others, or him/herself; or iii has experienced a similar episode or illness in the past and has responded poorly to psychiatric treatment, either by showing only a minor recovery or recovery only occurred after long and complex treatment. h. *'With complicating clinical factors, List 2'* means (ii) and (iii) from List 1 plus personality disorder i. DSM-IV defines melancholic features as the patient must have *either* • loss of pleasure in all, or almost all activities; or • loss of reactivity to usually pleasurable stimuli. *plus* three or more of the following: • distinct quality of depressed mood; • depression regularly worse in the morning; • early morning wakening; • marked psychomotor retardation; • significant anorexia or weight loss; • excessive or inappropriate guilt.

Diagnostic grouping	Patient classes	Notes
Anxiety disorders	A1. All anxiety disorders, without complicating clinical factors A2. All anxiety disorders, with moderate complicating clinical factors A3. All anxiety disorders, with severe complicating clinical factors	j. Diagnostic clusters are derived from ICD-9CM codes. k. *'With moderate complicating clinical factors'* means any of the following: • depression • psychiatric comorbidity of Depression or Personality Disorder; or • the patient abuses or is dependent on alcohol or other drugs • severe avoidance symptoms. l. *'With severe complicating clinical factors'* means satisfies 'moderate complicating clinical factors' and any of the following: • requires detoxification treatment due to secondary substance dependency; • has a major depressive illness; • suicidal; • history of poor treatment response.
Eating disorders	E1. Anorexia Nervosa, acute phase, high functioning E2. Anorexia Nervosa, acute phase, not high functioning E3. Anorexia Nervosa, not acute phase, without complicating clinical factors E4. Anorexia Nervosa, not acute phase, with complicating clinical factors E5. Bulimia and Other Eating Disorders, without complicating clinical factors E6. Bulimia and Other Eating Disorders, with complicating clinical factors	m. '*Acute phase'* refers to the stage of the illness, and is contrasted with the chronic stage. Clinical and research experience suggests that recovery from anorexic disorders takes about four years. The acute phase of treatment may be as long as twelve months. More work is needed to determine a working definition. n. *'High functioning'* means *all* of the following: • adequate social support; and • an identifiable precipitating event; and • first episode of the disorder. *'Not high functioning'* means that *any* of the above is absent. o. '*Complicating clinical conditions*' means any of: • risk of suicide; • psychiatric comorbidity; • physical comorbidity.
Obsessive compulsive disorders	C1. Obsessive Compulsive Disorder, without complicating clinical factors C2. Obsessive Compulsive Disorder, with moderate complicating clinical factors C3. Obsessive Compulsive Disorder, with high complicating clinical factors C4. Obsessive Compulsive Disorder, with severe complicating clinical factors	p. *'Moderate complicating clinical factors'* refers to psychiatric comorbidity, substance abuse, poor insight or poor motivation. DSM-IV defines 'poor insight'. q. *'High complicating clinical factors'* incorporates the items in 'moderate complications' and adds *either*: • receiving detoxification services, or • obsessive slowness. r. *'Severe complicating clinical factors'* includes 'high complicating clinical factors' and adds: • history of poor treatment response
Personality disorders	P1. Personality Disorder, without complicating clinical factors P2. Personality Disorder, with complicating clinical factors (list 1) P3. Personality Disorder, with complicating clinical factors (list 2)	s. *'Complicating clinical factors (list 1)'* refers to: • Axis 1 psychiatric conditions, particularly psychoses or major affective disorder; • substance abuse; • chronic medical conditions; • intellectual disability; • antisocial behaviour (forensic involvement). t. 'Complicating clinical factors (list 2)' refers to any of the following being present: • major social disruption; • grounds to believe that the patient presents a significant risk of harm to others, or him/herself; or • multiple agencies involved in the care of the person; • psychotic symptoms are present.

Diagnostic grouping	Patient classes	Notes
Stress and adjustment disorders	S1. Stress or Adjustment Disorder, brief episode, without complicating clinical factors S2. Stress or Adjustment Disorder, brief episode, with complicating clinical factors S3. Stress or Adjustment Disorder, prolonged, without complicating clinical factors S4. Stress or Adjustment Disorder, prolonged, with complicating clinical factors	u. *'Brief episode'* was described by the Clinical Panel in reference to the DSM-IV definitions. 'Acute Stress Disorder' sets the time period as 'the disturbance lasts for a minimum of 2 days and a maximum of 4 weeks and occurs within 4 weeks of the traumatic event', while an Acute Adjustment Disorder has the disturbance lasting less than 6 months. v. *'Complicating clinical factors'* refers to any of the following: • psychiatric comorbidity • intellectual disability • substance abuse • grounds to believe that the patient presents a significant risk of harm to others, or him/herself; or • existence of a recurring stressor which causes the stress reaction or adjustment disorder, or repeat of a past stressor (acute on chronic).
Child and adolescent mental disorders	K1. Under 18 years old, psychotic disorder, first presentation K2. Under 18 years old, no psychotic disorder, low severity of complicating clinical factors K3. Under 18 years old, no psychotic disorder, medium severity of complicating clinical factors K4. Under 18 years old, no psychotic disorder, high severity of complicating clinical factors K5. Under 18 years old, no psychotic disorder, severe severity of complicating clinical factors	w. *'Psychotic disorder'* refers to psychotic symptoms. This split is made to differentiate those who are presenting for the first time with psychotic symptoms. Subsequent episodes of care are directed through the relevant diagnostic group. x. *Complicating clinical factors'* are defined as the presence of one of the following: • grounds to believe that the patient presents a significant risk of harm to others, or him/herself; or • juvenile correctional system involvement; • major family dysfunction.
Organic disorders	O1. Organic Disorder, with no or mild complicating clinical factors or comorbidities, and low dependency O2. Organic Disorder, with no or mild complicating clinical factors or comorbidities, and medium dependency O3. Organic Disorder, with no or mild complicating clinical factors or comorbidities, and high dependency O4. Organic Disorder, with moderate complicating clinical factors or comorbidities, and low dependency O5. Organic Disorder, with moderate complicating clinical factors or comorbidities, and medium dependency O6. Organic Disorder, with moderate complicating clinical factors or comorbidities, and high dependency O7. Organic Disorder, with severe behavioural complications	z. If the Organic Disorder is a drug induced acute psychotic reaction, then it is included in the Schizophrenia, Paranoia and Acute Psychotic Reactions diagnostic grouping. aa. *'Severe behavioural complications'* is a set of complicating clinical factors, involving one or more of the following: • grounds to believe that the patient presents a significant risk of harm to others, or him/herself; or • high levels of social disruption; • grossly inappropriate behaviour; • persistent wandering. bb. *'Moderate clinical complicating factors or comorbidities'* and *'none or mild clinical complicating factors or comorbidities'* are to be determined from the following: • significant physical illness; • mental disorder comorbidity, particularly depression, intellectual disability, substance abuse; • family/social complications; • accommodation problems. cc. *'High, Medium, Low Dependency'* is based on Activities of Daily Living (ADL) typically used for older persons services. Choice of the most appropriate instrument needs to be resolved in the next stage. Three levels are used for working purposes.
Other disorders	X4. Sexual dysfunctions X4. Sexual deviations X2. Somatoform disorders	dd. ICD-9-CM codes split easily into sexual dysfunctions and sexual deviations ee. Somatoform disorders are clinically different to any of the other mental disorders, and while a small number, they have been separately identified.

Appendix B-3

Operationalising the Groups Proposed by Clinical Panels

Chapter 2 of the *Main Report* provides details on the process used in Stage 1 of the Project to generate 'working hypotheses' about the patient attributes likely to be predictive of resource utilisation for a given episode of care. Five Clinical Panels, comprising approximately 60 specialist clinicians, were brought together to propose clinically meaningful groupings of patients who would be expected to be relatively resource homogenous. This process had two purposes. Its principal purpose was to identify the variables likely to impact upon resource utilisation for a given episode. It also had the additional purpose of providing the building blocks to generate a classification based upon clinical advice.

Consultation with the Clinical Panels resulted in the development of eight 'branches' a mental health classification tree, with the branches organised around diagnostic superclasses. Details of the proposed classes resulting from the Clinical Panels are provided in Appendix B-2.

As a preliminary step in the analysis, the Project was required to test the power of the clinical groups in explaining cost variation within each of the episode types. To do this, it is was necessary to operationalise the attributes identified by the Clinical Panels within each branch of the classification tree. The results of the analysis are presented in Chapter 15 of Volume 1.

This Appendix outlines the framework used for operationalising the Clinical Panel variables and specifies the thresholds used for defining split points within each variable. The task involved simplifying complex clinical concepts to objective and measurable items. It was not possible to directly measure all variables proposed by the Clinical Panels and where this was the case, proxy measures were used. A small number of variables were not measured, due to issues of practicality.

This framework allowed for the testing of the hypothetical groupings put forward by the clinical panels. This testing of *a priori* hypotheses formed a crucial part of the preliminary analysis work, since it operationalised concepts and assigned cut-off points which informed the development of the final classification.

For each of the superclasses, the original decision trees are presented, commencing with Child and Adolescent Disorders. This catered exclusively for people treated in specialist child and adolescent mental health services. It should be noted that the only children/adolescents treated in these services who were excluded from this decision tree were those with a diagnosis of schizophrenia or eating disorders. These children/adolescents were considered to belong to the 'Schizophrenia, paranoia and acute psychotic reactions' and 'Eating disorders' superclasses, respectively.

The second superclass presented is 'Organic disorders with psychiatric disturbance'. Patients who fell into this superclass had organic disorders and tended to be over 65. These patients were unique in that additional clinical variables were collected for them, over and above those collected for all adults.

The remaining superclasses were diagnostic groupings comprising adults seen in mental health services during the study period.

Each decision point on a given decision tree is defined in terms of one or more items collected on the clinical ratings forms.

Given that there were numerous ways in which the data could be cut, relatively complex rules often had to be adopted. For example, it was necessary to develop rules for dealing with the absence of evidence. A decision was made that where an option had been available to clinicians to indicate that they could not make a rating, and they indicated that they could not do so, the item was excluded. Thus a value of 9 on the HoNOS or HoNOSCA, indicating 'Don't know/Not applicable', was deemed not further classifiable rather than being re-coded as 'no problem'. By contrast, where no such option was made available to clinicians, negative responses (i.e. blanks) were taken as evidence of absence of the problem. So, for example, if no response was recorded against 'Additional psychiatric diagnosis', it was assumed that the patient had no psychiatric co-morbidity.

In defining thresholds on each variable, cut-off points were, in the main, determined by clinical anchor points on the relevant scales. For example, for the majority of concepts which were operationalised as an item on the HoNOS, a score of 3 ('moderately severe problem') or 4 ('severe to very severe problem') was taken as evidence of a manifestation of the particular clinical attribute.

Where anchor points were not relevant or did not provide adequate information, the distribution of scores was considered. This occurred with the CGAS, where the top quartile was used to define 'high functioning', the second 'medium functioning', and the bottom two 'low functioning'. It also occurred with the LSP (for the 13 items which excluded the Compliance sub-scale), where 'high', 'moderate' and 'low' functioning were defined by combined scores of less than 21, 21 to 26, and greater than or equal to 27, respectively.

As a general rule, data items were taken from the *Final Clinical Ratings Form*, on the assumption that the clinician was in the most informed position to rate the patient at the end of the episode.

The exception to this was severity ratings, which were taken from the first clinical rating. This came from the first *Repeat Clinical Ratings Form* if one was available, and from the *Final Clinical Ratings Form* if this was not the case. Specifically, this included all items taken from the following instruments:

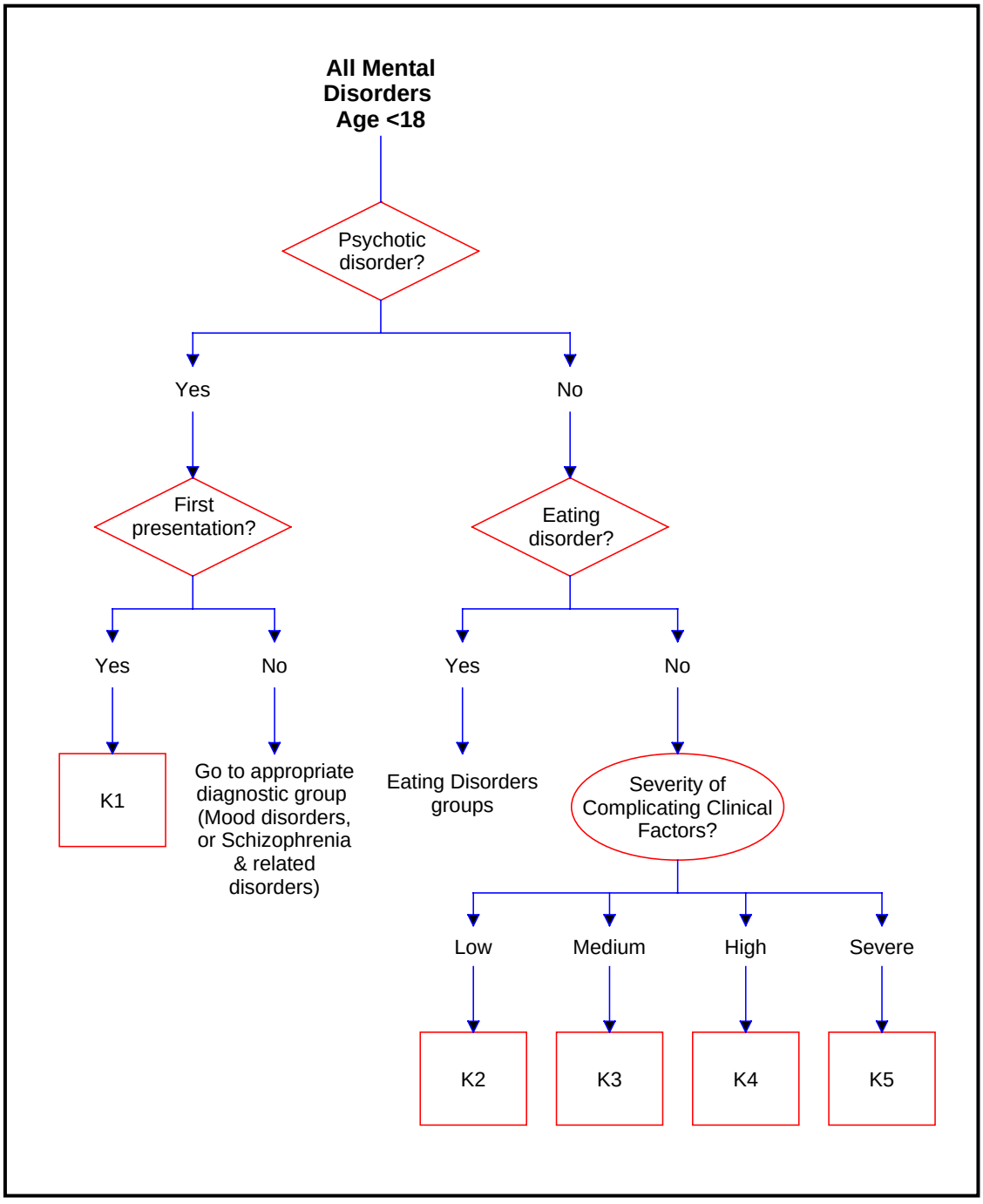
- the HoNOS for adults[1];
- the HoNOS, the RUG-ADL and the behavioural scale of the RCI for those with chronic organic brain syndrome; and
- the HoNOSCA for children and adolescents[1].

This decision was made for two reasons. Firstly, it was assumed that severity would tend to be greatest at the beginning of an episode. Secondly, other studies (albeit conducted with different populations and only in the inpatient setting) have indicated that severity at the beginning of the episode is a stronger predictor of resource use than severity at the end of the episode.

[1] All HoNOS and HoNOSCA values described in this Appendix refer to raw scores, with a valid range of 0 ('No problem') to 4 ('Severe to very severe problem'). In contrast, HoNOS and HoNOSCA results presented in the *Main Report* are based on transformed scores, where 1 has been added to the raw score values, shifting the valid range from 0-4 to 1-5.

Child and adolescent disorders

Figure 1: Child and adolescent disorders - patient classes proposed by Clinical Panels



Entry criteria

Subsequent to this decision tree being formulated by the Child and Adolescent Clinical Panel, separate datasets were developed for child and adolescent services and adult services. There were two reasons for this. Firstly, it was considered important to recognise the difference between these services in the classification. Secondly, it decreased the burden on clinicians, since it minimised the data items with which they had to familiarise themselves.

As a result, location of service determined the entry criteria for this superclass, rather than age. Having said this, it should be noted that the vast majority of people treated in child and adolescent services during the study period were aged less than 18.

Psychotic disorder

'Psychotic disorder' referred to psychotic symptoms. This split was made to differentiate those who were presenting for the first time with psychotic symptoms. Subsequent episodes of care were directed through the relevant diagnostic group.

Satisfaction of either one of two criteria was taken as evidence of a psychotic disorder.

Firstly, any one of the following codes recorded at Item 4 ('Additional psychiatric diagnoses') on the *Final Clinical Ratings Form*, was considered to constitute a psychotic disorder:

05 Psychotic disorders due to psychoactive substance abuse;
06 Schizophrenia;
07 Schizotypal disorders;
08 Delusional disorders;
09 Acute and transient psychotic disorders;
10 Schizoaffective disorders; or
11 Other non-organic psychotic disorders.

Alternative evidence of a psychotic disorder was gained from the HoNOSCA. Item 7 ('Problems associated with hallucinations, delusions and abnormal perceptions') was used as an indicator of psychoses. The scoring for this item was as follows, with a score greater than 2 considered to be evidence of a psychotic disorder, and a score of 9 excluded:

0 No problem;
1 Slight problem;
2 Mild but definite problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Severe complicating clinical factors

'Severe complicating clinical factors' were defined as the presence of *at least one* of the following:

- risk of harm to self or others
- juvenile correctional system involvement
- major family dysfunction

Each of these is described below:

Risk of harm to self or others

This factor was deemed to be present when the clinician reported having grounds to believe that the patient presented a significant risk of harm to him/herself or others. Items 1 and 3 on the HoNOSCA ('Problems with disruptive, antisocial or aggressive behaviour' and 'Non-accidental self-injury') were used to assess risk of harm to self or others. For either Item, a score above 2 on the following scale was taken as indicative of harm to self or others, and a score of 9 was excluded:

0 No problem;
1 Slight problem;
2 Mild but definite problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Juvenile correctional system involvement

This variable was ascertained by a single item on the *Final Clinical Ratings Form*, Item 15 ('Juvenile justice indicator'). Clinicians were asked to indicate whether the child/adolescent was involved in the juvenile justice system at any time during the period rated (e.g. period in detention centre, subject of court proceedings). A score of 1 on the following scale indicated that the child/adolescent did have juvenile correctional system involvement; a score of 3 was excluded:

1 Yes
2 No
3 Don't know

Major family dysfunction

This item was assessed by Item 12 on the HoNOSCA ('Problems with family life and relationships'). A score above 2 on the following scale was taken as indicative of major family dysfunction, and a score of 9 was excluded:

0 No problem;
1 Slight problem;
2 Mild but definite problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Severity of complicating clinical factors: Severe, high, medium and low

As indicated, patients with *any* of the three factors described above were deemed to have 'severe complicating clinical factors'. For those patients who did not meet this criterion, a second list was considered, based on a number of supplementary factors proposed by the Child and Adolescent Clinical Panel to be relevant. Subsequent consultation with child and adolescent specialist clinicians prioritised these in terms of importance, and three were selected. A child/adolescent with all *three* was considered to have severe complicating clinical factors; a child/adolescent with *two* was considered to be of high severity; a child/adolescent with *one* was considered to be of medium severity; and a child/adolescent with *none* was considered to be of low severity.

The three additional factors were:

- accommodation problems
- family court involvement
- low functioning

Each of these is operationalised below:

Accommodation problems

This item was assessed by Item 14 on the HoNOSCA ('Accommodation arrangements'). A score above 2 on the following scale was taken as indicative of accommodation problems, and a score of 9 was deemed 'not further classificable':

0 No problem;
1 Slight problem;
2 Mild but definite problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Family Court involvement

This variable was determined by Item 14 on the child/adolescent version of the *Final Clinical Ratings Form* ('Family court involvement'). Clinicians were asked to indicate whether the child/adolescent was the subject of proceedings currently before the Family Court (e.g. custody determination). A score of 1 on the following scale indicated that the child/adolescent did have juvenile correctional system involvement; a score of 3 was excluded:

1 Yes
2 No
4 Don't know

Low functioning

Level of functioning for children/adolescents was determined by a score of 60 or less on the CGAS (Item 11 on the child/adolescent version of the *Final Clinical Ratings Form*). The anchor points on this scale were as follows:

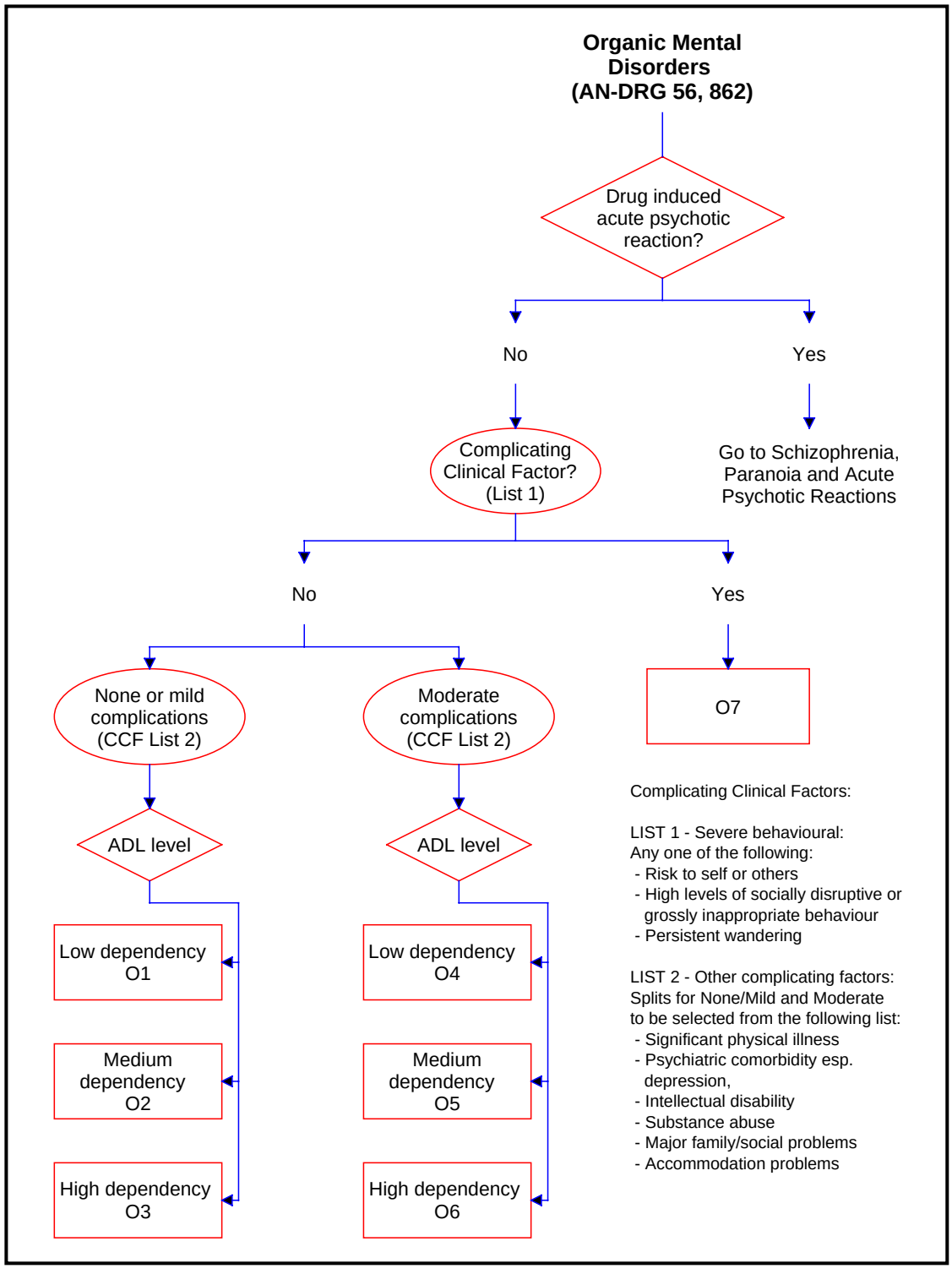
100-91 Superior functioning
90-81 Good functioning
80-71 No more than slight impairment in functioning
70-61 Some difficulty in a single area, but generally functioning pretty well
60-51 Variable functioning with sporadic difficulties
50-41 Moderate degree of interference in functioning
40-31 Major impairment in functioning in several areas
30-21 Unable to function in almost all areas
20-11 Needs considerable supervision
10-1 Needs constant supervision

Table 3: Summary of operational rules for hypothesised patient groups – Child and adolescent disorders

Entry criteria		Treated by child and adolescent specialist mental health service
Psychotic disorder		Rating of 05-11 on *Final Clinical Ratings Form* Item 4 *Or* Rating > 2 on HoNOSCA Item 7
Severe complicating clinical factors		*At least one of (i)-(iii)*
(i)	Risk of harm to self or others	Rating > 2 on *either* HoNOSCA Item 1 or Item 3
(ii)	Juvenile correctional system involvement	Rating of 1 on *Final Clinical Ratings Form* Item 15
(iii)	Major family dysfunction	Rating of > 2 on HoNOSCA Item 12
Severity of complicating clinical factors: severe, high, medium and low		*Used for all patients who do not have at least one of (i)-(iii).* If *all three* of (iv)-(vi) – severe; If *two* of (iv)-(vi) – high; If *one* of (iv)-(vi) – medium; If *none* of (iv)-(vi) – low.
(iv)	Accommodation problems	Rating of > 2 on HoNOSCA Item 14
(v)	Family Court involvement	Rating of 1 on *Final Clinical Ratings Form* Item 14
(vi)	Low functioning	Rating ≤ 60 on CGAS

Organic disorders with psychiatric disturbance

Figure 2: Organic disorders - patient classes proposed by Clinical Panels



Diagnosis

To qualify for this superclass, a patient had to have one of the following diagnoses recorded at Item 3 ('Principal psychiatric diagnosis') on the *Final Clinical Ratings Form* (adult and child and adolescent versions):

01 Organic, including symptomatic, mental disorders
02 Amnestic syndromes due to psychoactive substance abuse

Drug induced acute psychotic reaction

This item was considered redundant, since, if a patient had a Principal Diagnosis of 05 ('Psychotic disorders due to psychoactive substance use'), he/she would have entered the 'Schizophrenia, paranoia and acute psychotic reactions' superclass at the top level.

Complicating clinical factors: List 1

To qualify as having 'Complicating clinical factors: List 1', the patient had to demonstrate *at least one* of the following:

- risk to self or others;
- high levels of socially disruptive or grossly inappropriate behaviour; or
- persistent wandering.

Each of these is operationalised below:

Risk of harm to self or others

Satisfaction of either one of two criteria was taken as evidence of risk of harm to self or others.

Risk of harm to self or others was deemed to be present when the clinician reported having grounds to believe that the patient presented a significant risk of harm to him/herself or others. Items 1 and 2 on the HoNOS ('Problems resulting from overactive, aggressive, disruptive or agitated behaviour' and 'Suicidal thoughts or behaviour, non-accidental self-injury') were used to assess risk of harm to self or others. For either item, a score above 2 on the following scale was taken as indicative of harm to self or others; a score of 9 was deemed 'not further classifiable':

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Alternatively, a patient could demonstrate risk of harm to self or others by his/her score on Item 1 of the RCI ('Physical aggression rating'). Clinicians were asked to rate the attention/intervention required, on the following scale:

1 Minimal/none;
2 Most days;
3 2-3 times;
5 4 or more times.

A score of greater than 1 was taken as an indication of risk to self or others.

High levels of social disruption

Evidence of 'high levels of social disruption' was taken from the patient's score on Item 2 of the RCI ('Verbal disruption rating'). Clinicians were asked to rate the attention/intervention required, on the following scale:

1 Minimal/none;
2 1-3 times daily;
3 4-6 times daily;
4 More than 6 times daily.

A score of greater than 1 was taken as an indication of high levels of social disruption.

Grossly inappropriate behaviour

Evidence of 'grossly inappropriate behaviour' was taken from the patient's score on Item 3 of the RCI ('Behaviour rating'). Clinicians were asked to rate the attention/intervention required, on the following scale:

1 Minimal/none;
2 1-3 times daily;
3 4-6 times daily;
4 More than 6 times daily.

A score of greater than 1 was taken as an indication of grossly inappropriate behaviour.

Persistent wandering

'Persistent wandering' was also encompassed by the 'Behaviour rating' scale of the RCI, described above. Again, a score of greater than 1 was taken as an indication of this behaviour.

Complicating clinical factors: List 2

'Complicating clinical factors: List 2' included the following attributes. *None or one* of the following was considered to equate to 'None or mild complications', and *two or more* were deemed 'Moderate complications'.

- significant physical illness;
- psychiatric co-morbidity, particularly depression;
- intellectual disability;
- substance abuse;
- family/social complications;
- accommodation problems.

Each of these is described below:

Significant physical illness

Satisfaction of either one of two criteria was taken as evidence of significant physical illness.

If there was an 'Other diagnosis' recorded at Item 5 on the *Final Clinical Ratings Form*, then the patient was deemed to have a significant physical illness.

The patient was also taken to have a physical co-morbidity if he/she had a rating of greater than 2 on HoNOS Item 5, where the scoring was as follows.

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

A score of 9 was deemed 'not further classifiable'.

Psychiatric co-morbidity

A patient was considered to have a psychiatric co-morbidity if any additional psychiatric diagnosis was indicated at Item 4 on *Final Clinical Ratings Form*, by a rating of 01-60 (excluding 03 and 04 which denoted primary substance abuse and were not considered psychiatric co-morbidity).

Given that the Clinical Panel had highlighted depression amongst psychiatric co-morbidities, a score of greater than 2 on HoNOS Item 7 ('Depressed mood') was also taken as evidence for this split. This item was scored as follows (scores of 9 deemed 'not further classifiable'):

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Intellectual disability

Evidence of an intellectual disability was taken from Item 4 on the *Final Clinical Ratings Form* ('Additional psychiatric diagnoses'). Any of the following codes were taken to indicate an intellectual disability:

40 Mild mental retardation
41 Moderate mental retardation
42 Severe mental retardation
43 Profound mental retardation
44 Other mental retardation

Substance abuse

Satisfaction of either one of two criteria was taken as evidence of substance abuse.

Item 4 on the *Final Clinical Ratings Form* elicited additional psychiatric diagnoses from the MH-CASC list of 61 diagnoses, and two were taken as indicative of substance abuse:

03 'Alcohol intoxication, harmful use, dependence and withdrawal'

04 'Other psychoactive substance intoxication, harmful use, dependence and withdrawal'.

Alternatively, Item 3 on the HoNOS ('Problem drinking or drug taking')was used to ascertain presence or absence of substance abuse. A score above 2 on the following scale was taken as indicative of substance abuse (scores of 9 deemed 'not further classifiable'):

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Family/social complications

Evidence of family/social complications was taken from HoNOS Item 9 ('Problems making supportive social relationships'). A score above 2 on the following scale was taken as indicative of family/social complications (scores of 9 deemed 'not further classifiable'):

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Accommodation problems

Accommodation problems were indicated by HoNOS Item 10 ('Opportunities for using and improving abilities: Where patient is living'). A score above 2 on the following scale was taken as indicative of accommodation problems (scores of 9 deemed 'not further classifiable'):

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

High, medium and low dependency

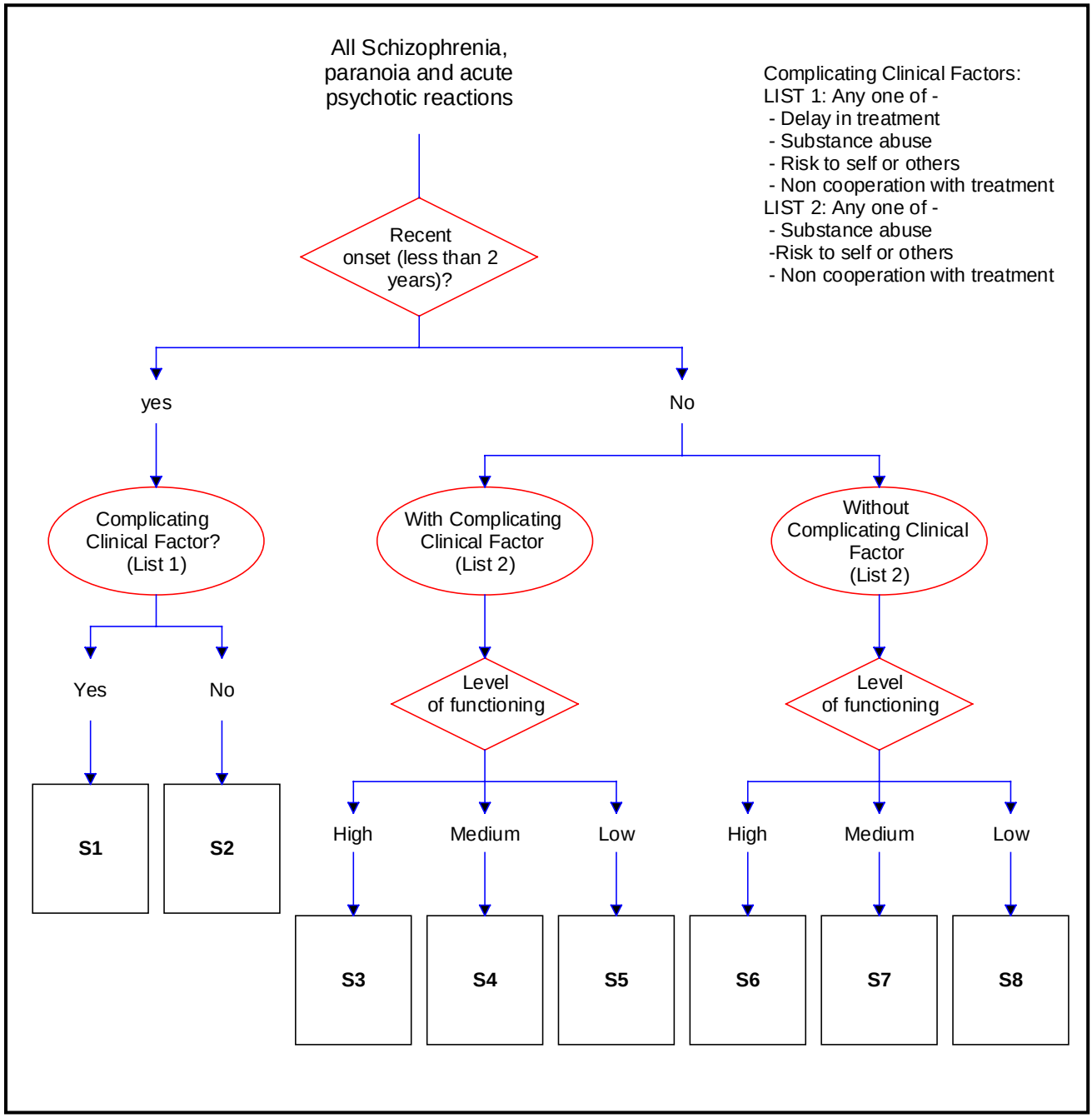
High, medium and low dependency were defined by the patient's total RUG-ADL score. A total score of 4 (i.e. the lowest possible score) was taken to indicate low dependency; a total score between 5 and 10 was considered indicative of medium dependency; and a total score of 11 or above was viewed as high dependency.

Table 4: Summary of operational rules for hypothesised patient groups – Organic disorders with psychiatric disturbance

Diagnosis		Rating of 01 or 02 on *Final Clinical Ratings Form* Item 3
Drug induced acute psychotic reaction		Item considered redundant
Complicating clinical factors: List 1		*At least one of (i)-(iv)*
(i)	Risk of harm to self or others	Rating > 2 on *either* HoNOS Item 1 or Item 2 Or Rating of > 1 on RCI Item 1
(ii)	High levels of social disruption	Rating of > 1 RCI Item 2
(iii)	Grossly inappropriate behaviour	Rating of > 1 RCI Item 3
(iv)	Persistent wandering	Rating of > 1 RCI Item 3
Complicating clinical factors: List 2		*None or one* of (v)-(x) – 'None or mild complications'; *Two or more* of (v)-(xi) – 'Moderate complications'
(v)	Significant physical illness	'Other diagnosis' recorded on *Final Clinical Ratings Form* Item 5 Or Rating of > 2 on HoNOS Item 5
(vi)	Psychiatric co-morbidity	Rating of 01-60 (excluding 03 and 04) on *Final Clinical Ratings Form* Item 4 Or Rating of > 2 on HoNOS Item 7
(vii)	Intellectual disability	Rating of 40-44 on *Final Clinical Ratings Form* Item 4
(vi)	Substance abuse	Rating of 03 or 04 on *Final Clinical Ratings Form* Item 4 Or Rating of > 2 on HoNOS Item 3
(ix)	Family/social complications	Rating of > 2 on HoNOS Item 9
(x)	Accommodation problems	Rating of > 2 on HoNOS Item 10
High, medium and low dependency		RUG-ADL scores: 4 – low; 5-10 – medium; ≥ 11 – high

Schizophrenia, paranoia and acute psychotic reactions

Figure 3: Schizophrenia, paranoia and acute psychotic reactions - patient classes proposed by Clinical Panels



Diagnosis

To qualify for inclusion in this branch, a patient had to have a diagnosis from the MH-CASC diagnostic list of schizophrenia, paranoia and acute psychotic disorders recorded at Item 3 ('Principal psychiatric diagnosis') on the adult or child and adolescent version of the *Final Clinical Ratings Form*. Specifically, the following diagnoses were accepted:

05 Psychotic disorders due to psychoactive substance abuse;
06 Schizophrenia;
07 Schizotypal disorders;
08 Delusional disorders;
09 Acute and transient psychotic disorders;
10 Schizoaffective disorders; or
10 Other non-organic psychotic disorders.

Recency of onset

'Time since first psychiatric treatment' (Item 7 on the adult *Final Clinical Ratings Form* and Item 8 on the child and adolescent *Final Clinical Ratings Form*) was taken as a proxy for recency of onset. Ratings on this item were as follows:

1 Less than 3 months;
2 3-6 months;
3 More than 6, less than 12 months;
4 12-24 months;
5 More than 24 months; or
6 Unknown.

Ratings of 1-4 qualified as 'onset less than 2 years ago', and a rating of 5 qualified as 'onset 2 or more years ago'. Ratings of 6 were deemed 'not further classifiable'.

Complicating clinical factors: List 1

'Complicating clinical factors: List 1' included *any one* of the following:

- delay in treatment;
- substance abuse;
- risk to self or others; or
- non co-operation with treatment.

Each of these is described below.

Delay in treatment

This item was not captured in the data collection.

Substance abuse

Satisfaction of either one of two criteria was taken as evidence of substance abuse.

Item 4 on the *Final Clinical Ratings Form* (both the Adult and the Child and Adolescent versions) elicited additional psychiatric diagnoses from the MH-CASC list of 61 diagnoses, and two were taken as indicative of substance abuse:

03 'Alcohol intoxication, harmful use, dependence and withdrawal'
03 'Other psychoactive substance intoxication, harmful use, dependence and withdrawal'.

Alternatively, Item 3 on the adult HoNOS ('Problem drinking or drug taking') and Item 4 on the HoNOSCA ('Problems with alcohol, substance/solvent misuse') were used to ascertain

presence or absence of substance abuse. A score above 2 on the following scale was taken as indicative of substance abuse; a score of 9 was deemed 'not further classifiable'.

0 No problem (HoNOS and HoNOSCA);
1 Minor problem (HoNOS); Slight problem (HoNOSCA);
2 Mild problem (HoNOS); Mild but definite problem (HoNOSCA);
3 Moderately severe problem (HoNOS and HoNOSCA);
4 Severe to very severe problem (HoNOS and HoNOSCA);
9 Not known/Not applicable.

Risk of harm to self or others

This factor was deemed to be present when the clinician reported having grounds to believe that the patient presented a significant risk of harm to him/herself or others. Items 1 and 2 on the HoNOS ('Problems resulting from overactive, aggressive, disruptive or agitated behaviour' and 'Suicidal thoughts or behaviour, non-accidental self-injury'), and their equivalents, Items 1 and 3 on the HoNOSCA ('Problems with disruptive, antisocial or aggressive behaviour' and 'Non-accidental self-injury') were used to assess risk of harm to self or others. For either item, a score above 2 on the following scale was taken as indicative of harm to self or others; a score of 9 was deemed 'not further classifiable'.

0 No problem (HoNOS and HoNOSCA);
1 Minor problem (HoNOS); Slight problem (HoNOSCA);
2 Mild problem (HoNOS); Mild but definite problem (HoNOSCA);
3 Moderately severe problem (HoNOS and HoNOSCA);
4 Severe to very severe problem (HoNOS and HoNOSCA);
9 Not known/Not applicable.

Non co-operation with treatment

Non co-operation with treatment was defined as exceptional difficulties in engaging the patient's co-operation with treatment, and was elicited via the Compliance sub-scale items of the LSP. There were three items in this sub-scale. Item 10 ('Does this person generally look after and take her or his own prescribed medication (or attend for prescribed injections on time) without reminding?') was scored on the following scale:

1 Reliable with medication;
2 Slightly unreliable;
3 Moderately unreliable;
4 Extremely unreliable.

Item 11 ('Is this person willing to take psychiatric medication when prescribed by a doctor?') and Item 12 ('Does this person co-operate with health services (e.g. doctors and/or other health workers)?') were both scored on the following scale:

1 Always;
2 Usually;
3 Rarely;
4 Never.

These three items were scored and averaged, to elicit an average score for the Compliance sub-scale. An average score of greater than or equal to 3 was considered to be the cut-off for 'non co-operation with treatment.

No equivalent item(s) were captured for children and adolescents.

Complicating clinical factors: List 2

'Complicating clinical factors List 2' referred to *all* of the complicating clinical factors in List 1, with the exception of delay in treatment.

Level of functioning

For adults, level of functioning was defined by the 13 items on the LSP which remained once the Compliance sub-scale was excluded, or by HoNOS Item 10 ('Problems associated with daily living: Overall disability'), whichever indicated the lower level of functioning.

For the 13 LSP Items, high, moderate and low functioning were defined by combined scores of less than 21, 21 to 26, and greater than or equal to 27, respectively.

For HoNOS Item 10 (scored as described below), a score of less than 2 was considered to indicate high functioning, a score of 2 was taken as moderate functioning, and a score of greater than 2 was deemed low functioning. A score of 9 was deemed 'not further classifiable'.

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

For children and adolescents, level of functioning was defined by their score on the CGAS. On the following scale, a score of 60 or less was taken as indicating low functioning; a score between 61 and 70 was used to indicate medium functioning; and a score of 71 or higher was deemed as high functioning.

100-91 Superior functioning
90-81 Good functioning
80-71 No more than slight impairment in functioning
70-61 Some difficulty in a single area, but generally functioning pretty well
60-51 Variable functioning with sporadic difficulties
50-41 Moderate degree of interference in functioning
40-31 Major impairment in functioning in several areas
30-21 Unable to function in almost all areas
20-11 Needs considerable supervision
10-1 Needs constant supervision

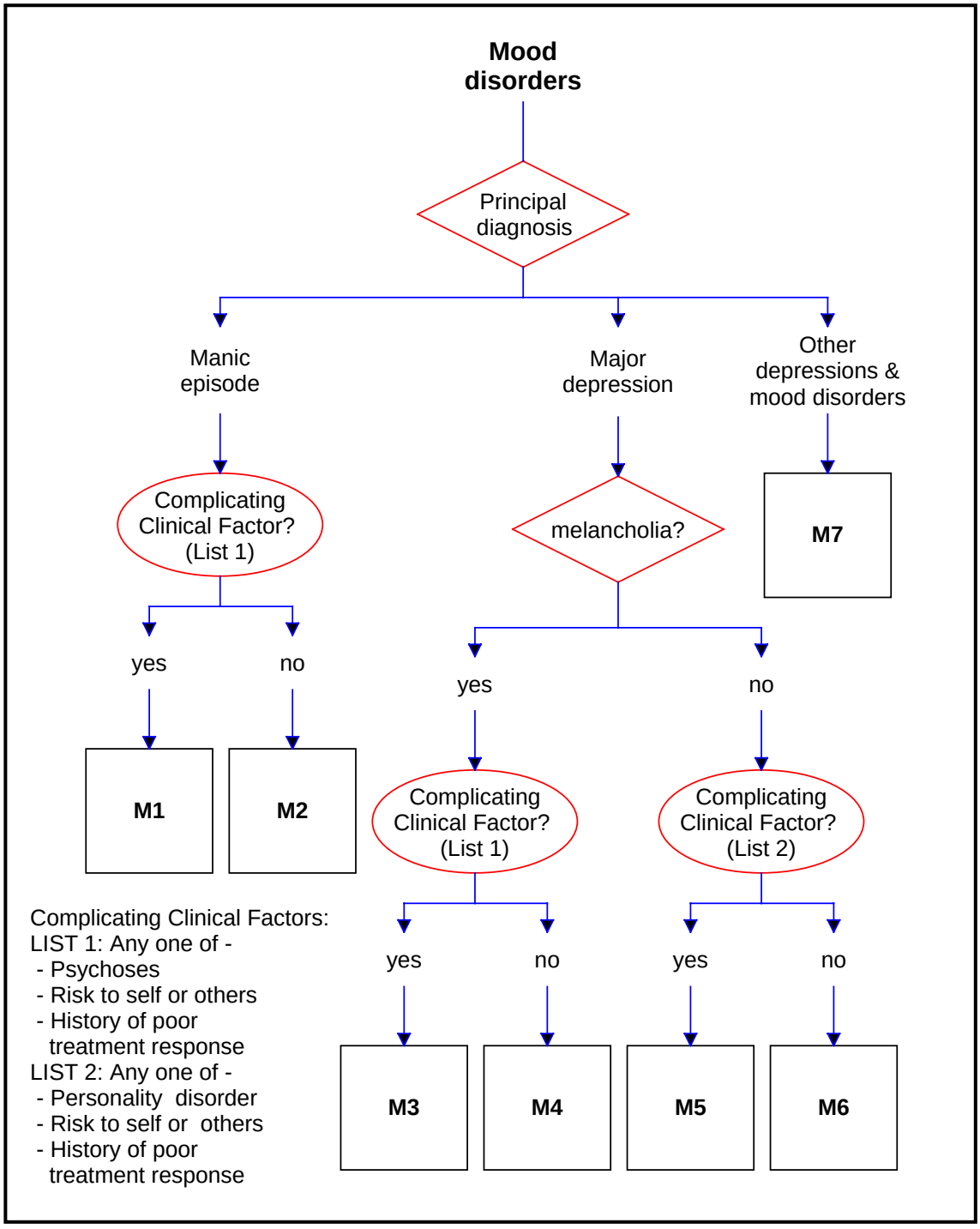
Table 5: Summary of operational rules for hypothesised patient groups – Schizophrenia, paranoia and acute psychotic reactions

Diagnosis	Rating of 05-11 on *Final Clinical Ratings Form* Item 3
Recency of onset	Rating on *Final Clinical Ratings Form* Item 7 (adults) and Item 8 (children/adolescents): 1-4 – 'onset < 2yrs ago'; 5 – 'onset ≥ 2 years ago'
Complicating clinical factors: List 1	*At least one of (i)-(iii)*
(i) Substance abuse	Rating of 03 or 04 on *Final Clinical Ratings Form* Item 4 (adults and children/adolescents) Or Rating of > 2 on HoNOS Item 3 and HoNOSCA Item 4
(ii) Risk of harm to self or others	Rating > 2 on *either* HoNOS Item 1 or Item 2 (adults) or HoNOSCA Item 1 or 3 (children/adolescents)
(iii) Non-cooperation with treatment	Rating of ≥ 3 on LSP Compliance scale (adults)*
Complicating clinical factors: List 2	*All* of (i)-(iii)
Level of functioning	*Adults* Score on LSP (excluding Compliance scale): ≤ 20 – high; 21-26 – moderate > 26 – low Or Rating of > 2 on HoNOS Item 10 *Children/adolescents* Score on CGAS: ≤ 60 – low 61-70 – moderate > 70 – high

* No equivalent item for a children/adolescents

Mood disorders

Figure 4: Mood disorders - patient classes proposed by Clinical Panels



Diagnosis

To qualify for the first level of this decision tree, patients had to have a principal diagnosis of a mood disorder (codes 12, 13 and 14) recorded at Item 3 ('Principal psychiatric diagnosis') on the *Final Clinical Ratings Form*. Below this, patients were split according to specific diagnoses:

Manic episode

A manic episode was denoted by the diagnosis code 12 ('Manic episodes and bipolar affective disorders, current episode manic').

Major depression

Major depression was coded as 13 ('Depressive episodes; bipolar disorders, current episode depressed or mixed; recurrent depressive disorders').

Other depressions and mood disorders

Other depressions and mood disorders were subsumed by the diagnosis code 14 ('Persistent mood disorders including cyclothymia and dysthymia, and other mood disorders').

Complicating clinical factors: List 1

'Complicating clinical factors: List 1' referred to *any one* of the following:

- psychoses;
- risk to self or others; or
- history of poor treatment response.

Operational criteria for each of these are defined below.

Psychoses

Experience of psychotic symptoms (hallucinations or delusions) was defined for adults by Item 6 on the HoNOS ('Problems associated with hallucinations and delusions'). The scoring for this item was as follows, with a score greater than 2 considered to be evidence of psychoses:

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

A score of 9 was deemed 'not further classifiable'.

Risk of harm to self or others

This factor was deemed to be present when the clinician reported having grounds to believe that the patient presented a significant risk of harm to him/herself or others, as indicated by Items 1 and 2 on the HoNOS ('Problems resulting from overactive, aggressive, disruptive or agitated behaviour' and 'Suicidal thoughts or behaviour, non-accidental self-injury'). For either item, a score above 2 on the following scale was taken as indicative of harm to self or others; scores of 9 were deemed 'not further classifiable'.

0 No problem;
1 Minor problem;
2 Mild problem;

3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

History of poor response to psychiatric treatment

This item was not captured in the data collection.

Complicating clinical factors: List 2

'Complicating clinical factors: List 2' referred to *any one* of the following:

- personality disorder;
- risk to self or others; or
- history of poor treatment response.

The definitions of the latter two complicating clinical factors were as for 'Complicating clinical factors: List 1'. Personality disorder was defined as per below.

Personality disorder

Personality disorder was evidenced by an additional diagnosis (as recorded at Item 4 on the *Final Clinical Ratings Form*) of one or more of the following from the MH-CASC diagnostic codes:

31 Paranoid/schizoid personality disorder;
32 Dissocial personality disorders including antisocial personality disorder;
33 Emotionally unstable personality disorders (including borderline and impulsive);
34 Histrionic/anankastic/anxious/dependent personality disorders; or
35 Other personality disorders.

Melancholia

DSM-IV defines melancholia as present if the patient has: (i) loss of pleasure in all, or almost all activities; or (ii) loss of reactivity to usual pleasurable stimuli; *plus* three or more of the following: (i) distinct quality of depressed mood; (ii) depression regularly worse in the morning; (iii) early morning wakening; (iv) marked psychomotor retardation; (v) significant anorexia or weight loss; (vi) excessive or inappropriate guilt.

Collection of each of these attributes was not considered practical. For the purposes of the analysis, this variable was equated with severity of depressive disorder.

Severity of depressive disorder was captured by HoNOS Item 7 ('Depressed mood'). A score of 4 on the following scale was taken as indicative of melancholia; scores of 9 were deemed 'not further classifiable'.

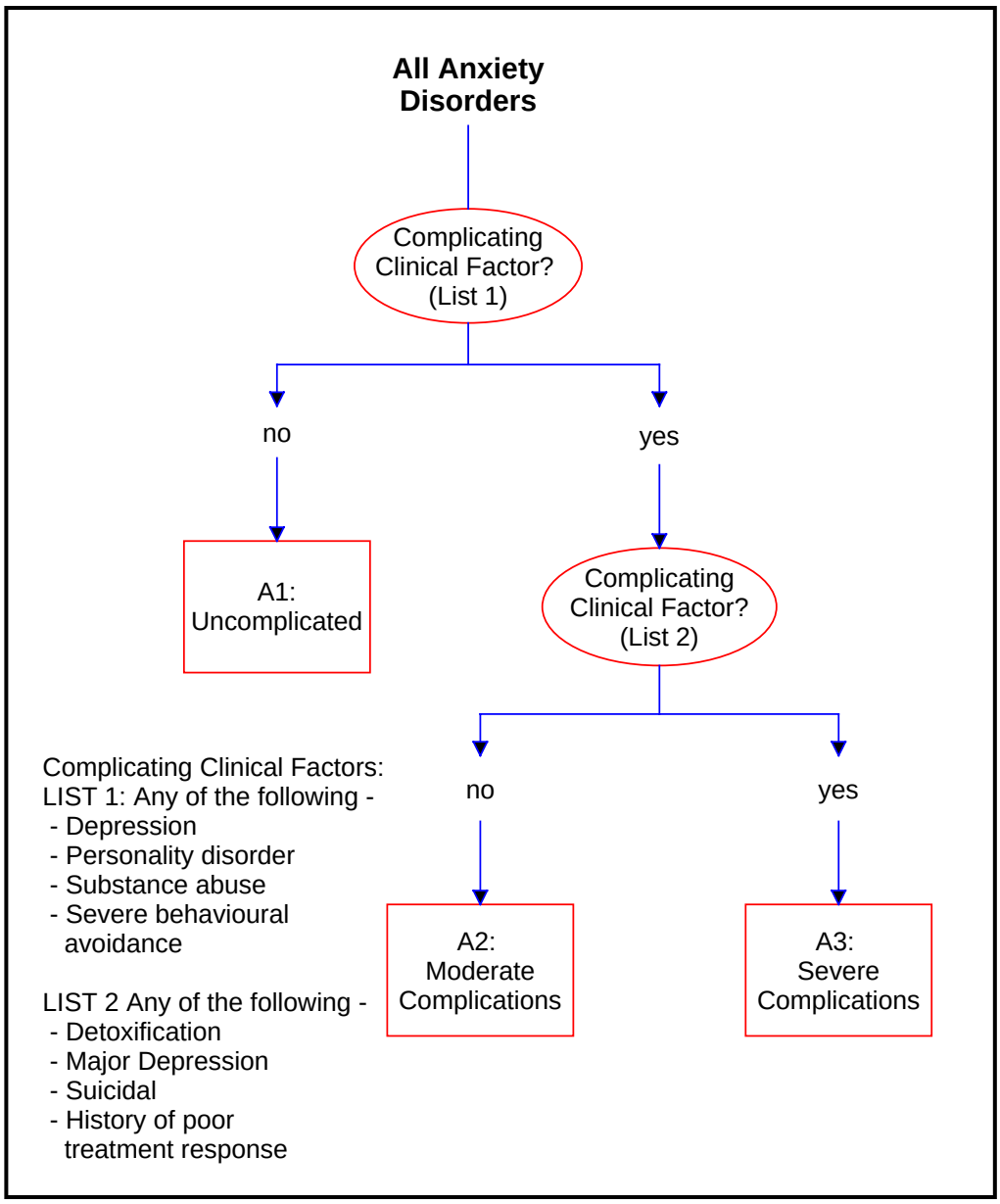
0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Table 6: Summary of operational rules for hypothesised patient groups – Mood disorders

Diagnosis	Rating of 12-14 on *Final Clinical Ratings Form* Item 3
(i) Manic episode	Rating of 12 on *Final Clinical Ratings Form* Item 3
(ii) Major depression	Rating of 13 on *Final Clinical Ratings Form* Item 3
(iii) Other depressions and mood disorders	Rating of 14 on *Final Clinical Ratings Form* Item 3
Complicating clinical factors: List 1	*At least one* of (iv)-(v)
(iv) Psychoses	Rating of > 2 on HoNOS Item 6
(v) Risk of harm to self or others	Rating > 2 on *either* HoNOS Item 1 or Item 2
Complicating clinical factors: List 2	*At least one* of (v)-(vi)
(vi) Personality disorder	Rating of 31-35 on *Final Clinical Ratings Form* Item 4
Melancholia	Rating of 4 on HoNOS Item 7

Anxiety disorders

Figure 5: Anxiety disorders - patient classes proposed by Clinical Panels



Diagnosis

At the top level, a diagnosis of an anxiety disorder from the MH-CASC diagnostic codes recorded at Item 3 ('Principal psychiatric diagnosis') on the *Final Clinical Ratings Form* qualified a patient for inclusion in this superclass. Specifically, the following diagnoses were valid:

15 Anxiety disorders including phobic anxiety, panic disorder, generalised anxiety disorder and other neurotic disorders; or

16 Dissociative (conversion) disorders.

Complicating clinical factors: List 1

'Complicating clinical factors: List 1' included *any one* of the following:

- depression;
- personality disorder;
- substance abuse; or
- severe behavioural avoidance.

Each of these is described below:

Depression

Either of two following criteria was taken as evidence of depression.

One of the two following codes from the depression subset of mood disorders recorded at Item 4 ('Additional psychiatric diagnoses') on the *Final Clinical Ratings Form* was taken to indicate depression:

13 Depressive episodes; bipolar disorders, current episode depressed or mixed; recurrent depressive disorders; or
14 Persistent mood disorders including cyclothymia and dysthymia, and other mood disorders.

Alternative evidence of depression was a score greater than 2 on HoNOS Item 7 ('Depressed mood'), where the scoring was as follows (scores of 9 were deemed 'not further classifiable').

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Personality disorder

Personality disorder was evidenced by an additional diagnosis (as recorded at Item 4 on the *Final Clinical Ratings Form*) of one or more of the following from the MH-CASC diagnostic codes:

31 Paranoid/schizoid personality disorder;
32 Dissocial personality disorders including antisocial personality disorder;
33 Emotionally unstable personality disorders (including borderline and impulsive);
34 Histrionic/anankastic/anxious/dependent personality disorders; or
35 Other personality disorders.

Substance abuse

Satisfaction of either one of two criteria was taken as evidence of substance abuse.

Item 4 on the *Final Clinical Ratings Form* elicited additional psychiatric diagnoses from the MH-CASC list of 61 diagnoses, and two were taken as indicative of substance abuse:

03 'Alcohol intoxication, harmful use, dependence and withdrawal'; or
04 'Other psychoactive substance intoxication, harmful use, dependence and withdrawal'.

Alternatively, Item 3 on the HoNOS ('Problem drinking or drug taking') was used to ascertain presence or absence of substance abuse. A score above 2 on the following scale was taken as indicative of substance abuse.

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Scores of 9 were deemed 'not further classifiable'.

Severe behavioural avoidance

Evidence of this factor was taken from HoNOS Item 8. If the clinician indicated that the patient was (A) ('Phobic'), and rated the severity of the phobia as greater than 2 on the scale below (with 9 excluded), the patient was considered to have exhibited severe behavioural avoidance:

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Complicating clinical factors: List 2

To qualify as having 'Complicating clinical factors: List 2', a patient had to have *at least one* of the complicating clinical factors from List 1, *as well as at least one* of the following:

- detoxification;
- major depression;
- suicidal; or
- history of poor treatment response.

Each of these is described below:

Detoxification

A patient was considered to require detoxification treatment due to secondary substance dependency if he/she scored 4 on HoNOS Item 3 ('Problem drinking or drug taking'), where the scoring was as follows (scores of 9 were deemed 'not further classifiable').

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;

4 Severe to very severe problem;
9 Not known/Not applicable.

Major depression

A patient was considered to have a major depressive illness if he/she scored 4 on HoNOS Item 7 ('Depressed mood'), where the scoring was as follows:

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Scores of 9 were deemed 'not further classifiable'.

Suicidality

Evidence of suicidality was taken from HoNOS Item 2 ('Suicidal thoughts or behaviour, non accidental self-injury'). A score of greater than 2 on the following scale, where 9 was excluded, was taken as an indication that the patient was suicidal:

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

History of poor response to psychiatric treatment

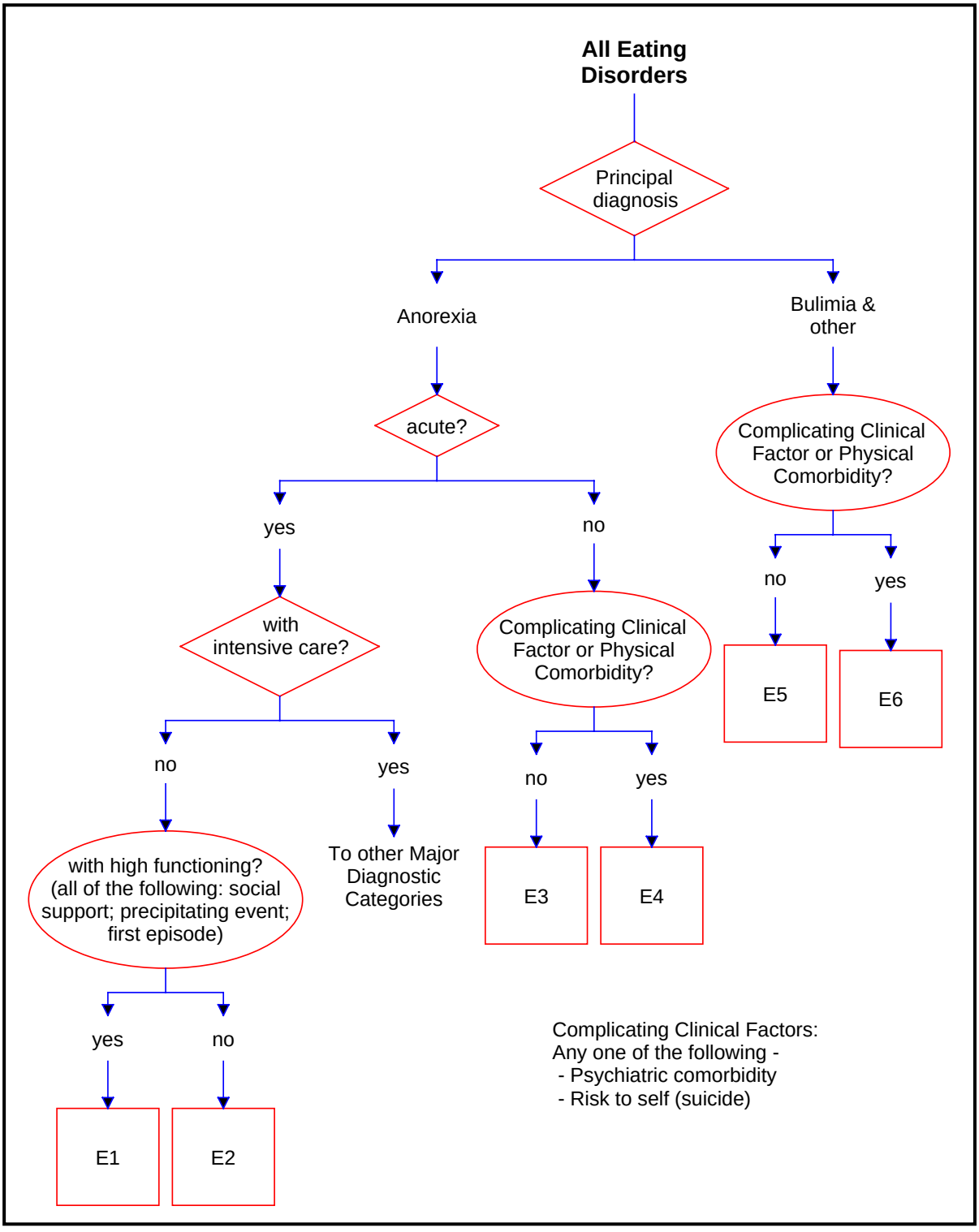
This item was not captured in the data collection.

Table 7: Summary of operational rules for hypothesised patient groups – Anxiety disorders

Diagnosis	Rating of 15 or 16 on *Final Clinical Ratings Form* Item 3
Complicating clinical factors: List 1	*At least one* of (i)-(iv)
(i) Depression	Rating of 13 or 14 on *Final Clinical Ratings Form* Item 4 or Rating of > 2 on HoNOS Item 7
(ii) Personality disorder	Rating of 31-35 on *Final Clinical Ratings Form* Item 4
(iii) Substance abuse	Rating of 03 or 04 on *Final Clinical Ratings Form* Item 4 or Rating of > 2 on HoNOS Item 3
(iv) Severe behavioural avoidance	Rating of A > 2 on HoNOS Item 8
Complicating clinical factors: List 2	*At least one* of (iv)-(iv), *as well as at least one* of (v)-(vii)
(v) Detoxification	Rating of 4 on HoNOS Item 3
(vi) Major depression	Rating of 4 on HoNOS Item 7
(vii) Suicidal	Rating of > 2 on HoNOS Item 2

Eating disorders

Figure 6: Eating disorders – patient classes proposed by Clinical Panels



Diagnosis

To qualify for the first level of this decision tree, a patient had to be given one of the following MH-CASC diagnostic codes for Item 3 on the *Final Clinical Ratings Form* ('Principal psychiatric diagnosis'):

24 Anorexia nervosa and atypical anorexia nervosa; or
25 Eating disorders other than anorexia nervosa.

Acute phase

'Acute phase' referred to the stage of illness, and was contrasted with the chronic stage. Clinical and research experience suggested that recovery from anorexic disorders takes about four years. The acute phase of treatment may be as long as twelve months. Evidence of the patient being in an acute phase was taken from Item 9 on the adult version of the *Final Clinical Ratings Form*, and Item 10 on the child and adolescent version ('Focus of care'), where a rating of 1 indicated that the patient was in an 'acute phase'. For adults, this indicated that the main Focus of Care was 'Short term reduction in symptoms and/or personal distress associated with recent onset or exacerbation of a psychiatric disorder'. For children, the definition was similar, except that the words ' psychiatric disorder', were replaced with ' mental health problem'.

High functioning

'High functioning' meant all of the following:

- adequate social support;
- an identifiable precipitating event; and
- first episode of the disorder.

'Not high functioning' meant that at least one of the above was absent.

Adequate social support

An assessment of the adequacy of social support was made for adults via HoNOS Item 9 ('Problems making supportive social relationships'), and for children via HoNOSCA Items 10 ('Problems with peer relationships') and 12 ('Problems with family life and relationships').

Inadequate social support was indicated by a score of greater than 2 on Items 9 for adults, and a score of greater than 2 on *either* Item 10 *or* Item 12 for children and adolescents, where the scoring was as follows:

0 No problem (HoNOS and HoNOSCA);
1 Minor problem (HoNOS); Slight problem (HoNOSCA);
2 Mild problem (HoNOS); Mild but definite problem (HoNOSCA);
3 Moderately severe problem (HoNOS and HoNOSCA);
4 Severe to very severe problem (HoNOS and HoNOSCA);
9 Not known/Not applicable.

Scores of 9 were deemed 'not further classifiable'.

Identifiable precipitating event

This variable was not captured on the clinical ratings forms.

First episode of the disorder

Item 7 on the adult version of *Final Clinical Ratings Form* and Item 8 on the child and adolescent version were used to ascertain whether this was the patient's first episode of the disorder. Specifically, a score of less than 4 on the following scale was taken as indicative of the current episode being the first episode of the disorder (a score of 6 was deemed 'not further classifiable').

1 Less than 3 months;
2 3-6 months;
3 More than 6, less than 12 months;
4 12-24 months;
5 More than 24 months;
6 Unknown.

Complicating clinical factors or physical co-morbidity

'Complicating clinical factors or physical co-morbidity' included any *one* of the following:

- risk of suicide;
- psychiatric co-morbidity; or
- physical co-morbidity.

Each of these is operationalised below:

Risk of suicide

Evidence of suicidality was taken from HoNOS Item 2 ('Suicidal thoughts or behaviour, non accidental self-injury') for adults and HoNOSCA Item 3 ('Non accidental self-injury') for children and adolescents. A score of greater than 2 on the following scale, where 9 was excluded, was taken as an indication that the patient was suicidal:

0 No problem (HoNOS and HoNOSCA);
1 Minor problem (HoNOS); Slight problem (HoNOSCA);
2 Mild problem (HoNOS); Mild but definite problem (HoNOSCA);
3 Moderately severe problem (HoNOS and HoNOSCA);
4 Severe to very severe problem (HoNOS and HoNOSCA);
9 Not known/Not applicable.

Psychiatric co-morbidity

A patient was considered to have a psychiatric co-morbidity if any additional psychiatric diagnosis was indicated at Item 4 on the *Final Clinical Ratings Form*, by a rating of 01-60 (excluding 24 and 25, which were mutually exclusive and constituted the Principal Diagnosis, and 03 and 04 which denoted substance abuse and were not considered psychiatric co-morbidity).

Physical co-morbidity

Satisfaction of either one of two criteria was taken as evidence of physical co-morbidity.

If there was an 'Other diagnosis' Item 5 on the adult and child and adolescent versions of the *Final Clinical Ratings Form*, then the patient was deemed to have a physical co-morbidity.

The patient was also taken to have a physical co-morbidity if he/she had a rating of greater than 2 on HoNOS Item 5 ('Problems associated with physical illness or disability') or HoNOSCA Item 6('Physical illness or disability problems), where the scoring was as follows, and a score of 9 was excluded.

0 No problem (HoNOS and HoNOSCA);
1 Minor problem (HoNOS); Slight problem (HoNOSCA);
2 Mild problem (HoNOS); Mild but definite problem (HoNOSCA);
3 Moderately severe problem (HoNOS and HoNOSCA);
4 Severe to very severe problem (HoNOS and HoNOSCA);
9 Not known/Not applicable.

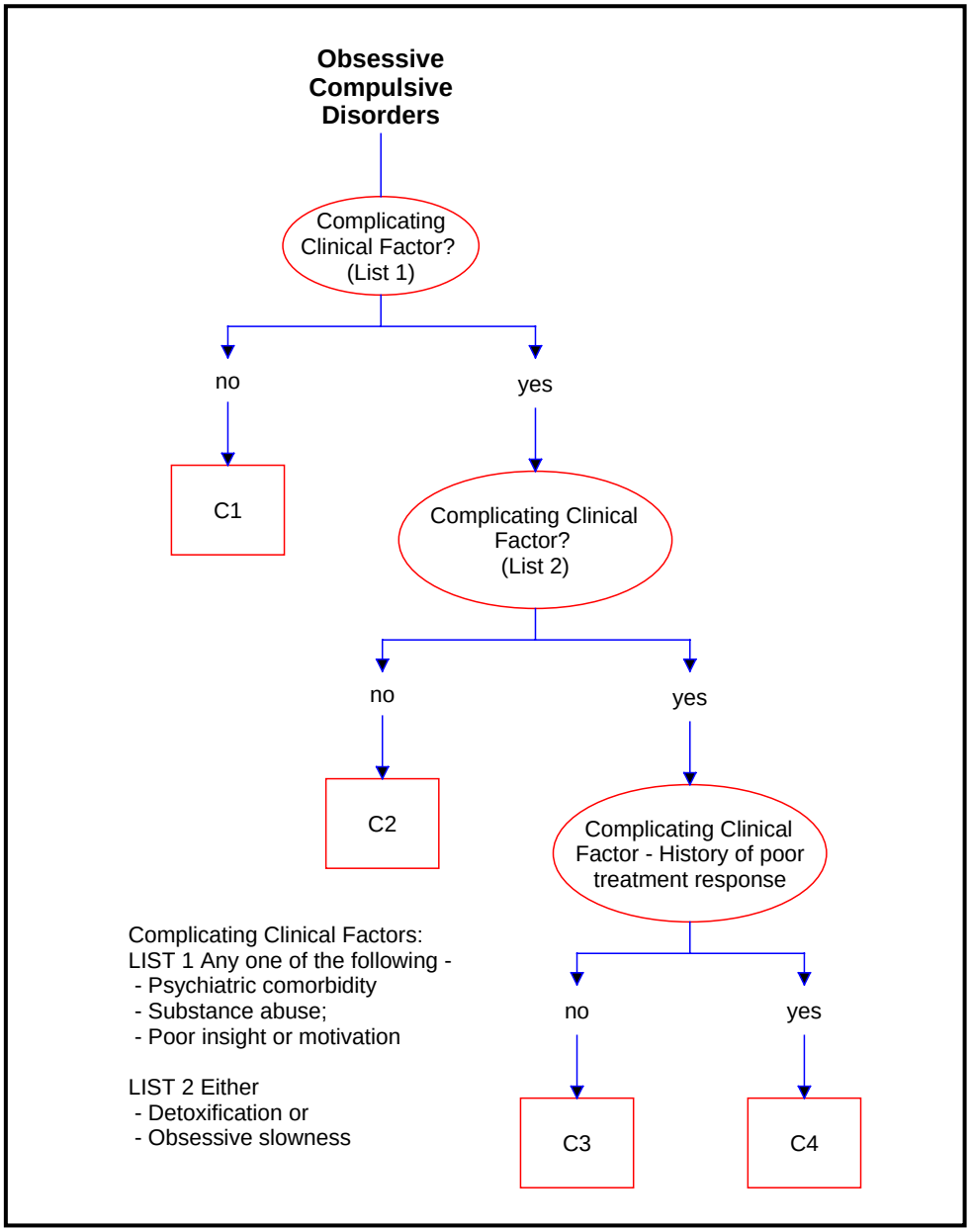
Scores of 9 were deemed 'not further classifiable'.

Table 8: Summary of operational rules for hypothesised patient groups – Eating disorders

Diagnosis		Rating of 24 or 25 on *Final Clinical Ratings Form* Item 3 (adults and children/adolescents)
Acute phase		Rating of 1 on *Final Clinical Ratings Form* Item 9 (adults) or Item 10 (children/adolescents)
High functioning		*All* of (i)-(ii)
(i)	Adequate social support	Rating of > 2 on HoNOS Item 9 (adults) or *either* HoNOSCA Item 10 *or* Item 12 (children/adolescents)
(ii)	First episode of the disorder	Rating of 1-4 on *Final Clinical Ratings Form* Item 7 (adults) or Item 8 (children/adolescents)
Complicating clinical factors or physical co-morbidity		*Any one* of (iii)-(v)
(iii)	Risk of suicide	Rating of > 2 on HoNOS Item 2 (adults) or HoNOSCA Item 3 (children/adolescents)
(iv)	Psychiatric co-morbidity	Rating of 01-60 (excluding 03, 04, 24 and 25) on *Final Clinical Ratings Form* Item 4 (adults and children/adolescents)
(v)	Physical co-morbidity	'Other diagnosis' recorded at *Final Clinical Ratings Form* Item 5 (adults and children/adolescents or Rating of > 2 on HoNOS Item 5 (adults) or HoNOSCA Item 6 (children/adolescents)

Obsessive compulsive disorders

Figure 7: Obsessive compulsive disorders - patient classes proposed by Clinical Panels



Diagnosis

To qualify for this superclass, a patient required one of the following diagnoses to be recorded at Item 3 ('Principal psychiatric diagnosis') on the *Final Clinical Ratings Form*:

17. Obsessive compulsive disorders

Complicating clinical factors: List 1

'Complicating clinical factors: List 1' comprised *any one* of the following:

- psychiatric co-morbidity;
- substance abuse; or
- poor insight or motivation.

Each of these is operationalised below:

Psychiatric co-morbidity

A patient was considered to have a psychiatric co-morbidity if any additional psychiatric diagnosis was indicated at Item 4 on the *Final Clinical Ratings Form*, by a rating of 01-60 (excluding 17, which constituted the Principal Diagnosis, and 03 and 04 which denoted substance abuse and were not considered psychiatric co-morbidity).

Substance abuse

Satisfaction of either one of two criteria was taken as evidence of substance abuse.

Item 4 on the *Final Clinical Ratings Form* elicited additional psychiatric diagnoses from the MH-CASC list of 61 diagnoses, and two were taken as indicative of substance abuse:

03 'Alcohol intoxication, harmful use, dependence and withdrawal'; or
04 'Other psychoactive substance intoxication, harmful use, dependence and withdrawal'.

Alternatively, Item 3 on the HoNOS ('Problem drinking or drug taking') was used to ascertain presence or absence of substance abuse. A score above 2 on the following scale was taken as indicative of substance abuse, a score of 9 was deemed 'not further classifiable':

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Poor insight or poor motivation

This variable was not captured in the dataset.

Complicating clinical factors: List 2

To qualify as having 'Complicating clinical factors: List 2', a patient had to have *at least one* of the factors in List 1, as well as at least one of the following:

- detoxification; or
- obsessive slowness.

Each of these is described below:

Detoxification

A patient was considered to require detoxification treatment due to secondary substance dependency if he/she scored 4 on HoNOS Item 3 ('Problem drinking or drug taking'), where the scoring was as follows, and a score of 9 was deemed 'not further classifiable':

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Obsessive slowness

This item was not captured in the dataset.

Complicating clinical factor: History of poor treatment response

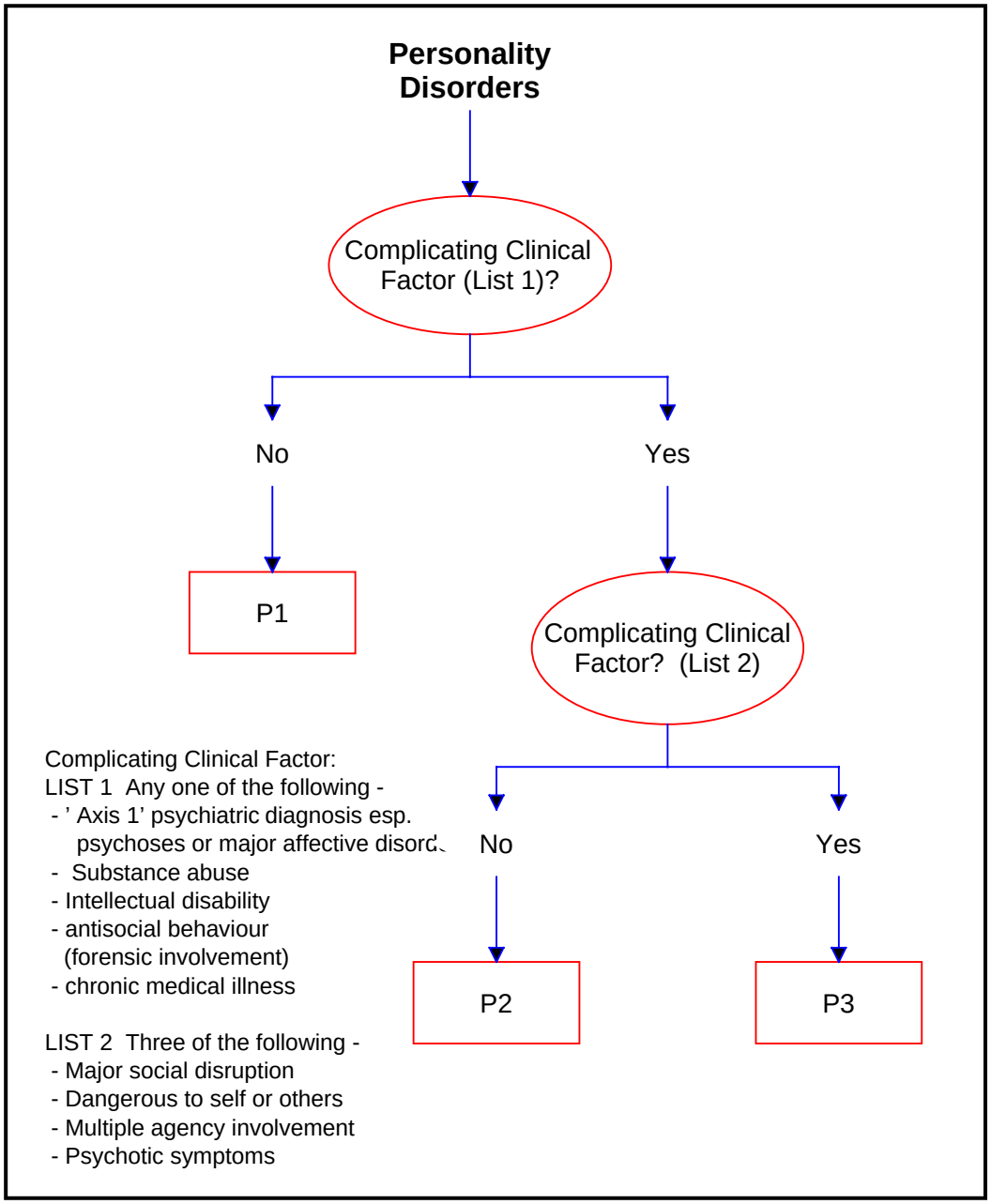
This item was not captured in the data collection.

Table 9: Summary of operational rules for hypothesised patient groups – Obsessive compulsive disorders

Diagnosis	Rating of 17 on *Final Clinical Ratings Form* Item 3
Complicating clinical factors: List 1	*All of* (i)-(ii)
(i) Psychiatric co-morbidity	Rating of 01-60 (excluding 03, 04 and 17) on *Final Clinical Ratings Form* Item 4
(ii) Substance abuse	Rating of 03 or 04 on *Final Clinical Ratings Form* Item 4 Or Rating of >2 on HoNOS Item 3
Complicating clinical factors: List 2	*At least one* of (i)-(ii), *as well as (iii)*
(iii) Detoxification	Rating of 4 on HoNOS Item 3

Personality disorders

Figure 8: Personality disorders - patient classes proposed by Clinical Panels



Diagnosis

To qualify for this superclass, a patient had to have one of the following diagnoses recorded at Item 3 ('Principal psychiatric diagnosis') on the *Final Clinical Ratings Form*::

31 Paranoid/schizoid personality disorder;
32 Dissocial personality disorders including antisocial personality disorder;
33 Emotionally unstable personality disorders (including borderline and impulsive);
34 Histrionic/anankastic/anxious/dependent personality disorders;
35 Other personality disorders.

Complicating clinical factors: List 1

This referred to *any one* of the following:

- Axis 1 psychiatric conditions, particularly psychoses or major affective disorder;
- substance abuse;
- chronic medical conditions;
- intellectual disability; or
- antisocial behaviour (forensic involvement).

Each of these is described below:

Axis 1 psychiatric conditions

Satisfaction of either one of two criteria was taken as evidence of psychoses and major affective disorder. Firstly, any one of the following codes recorded at Item 4 ('Additional psychiatric diagnoses') on the *Final Clinical Ratings Form*, was considered to constitute an Axis 1 diagnosis:

Psychoses

05 Psychotic disorders due to psychoactive substance abuse;
06 Schizophrenia;
07 Schizotypal disorders;
08 Delusional disorders;
09 Acute and transient psychotic disorders;
10 Schizoaffective disorders; or
11 Other non-organic psychotic disorders.

Major affective disorders

12 Manic episodes and bipolar affective disorders, current episode manic;
13 Depressive episodes; bipolar disorders, current episode depressed or mixed; recurrent depressive disorders; or
14 Persistent mood disorders including cyclothymia and dysthymia, and other mood disorders.

Alternative evidence of Axis 1 diagnoses was gained from the HoNOS. Item 6 ('Problems associated with hallucinations and delusions') was used as an indicator of psychoses, and Item 7 ('Depressed mood) was used as an indicator of major affective disorder. The scoring for these items was as follows, with a score greater than 2 on either item considered to be evidence of psychoses or major affective disorder (score of 9 deemed 'not further classifiable').

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Substance abuse

Satisfaction of either one of two criteria was taken as evidence of substance abuse.

Item 4 on the *Final Clinical Ratings Form* elicited additional psychiatric diagnoses from the MH-CASC list of 61 diagnoses, and two were taken as indicative of substance abuse:

03 'Alcohol intoxication, harmful use, dependence and withdrawal'
04 'Other psychoactive substance intoxication, harmful use, dependence and withdrawal'.

Alternatively, Item 3 on the HoNOS ('Problem drinking or drug taking') was used to ascertain presence or absence of substance abuse. A score above 2 on the following scale was taken as indicative of substance abuse, with a score of 9 deemed 'not further classifiable'.

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4. Severe to very severe problem;
9 Not known/Not applicable.

Chronic medical conditions

The patient was taken to have a chronic medical condition if he/she had a rating of greater than 2 on HoNOS Item 5 ('Problems associated with physical illness or disability'), where the scoring was as follows, with a score of 9 deemed 'not further classifiable'.

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Intellectual disability

Evidence of an intellectual disability was taken from Item 4 on the *Final Clinical Ratings Form* ('Additional psychiatric diagnoses'). Any of the following codes were taken to indicate an intellectual disability:

40 Mild mental retardation
41 Moderate mental retardation
42 Severe mental retardation
43 Profound mental retardation
44 Other mental retardation

Anti-social behaviour

Anti-social behaviour was elicited via the Anti-social sub-scale items of the LSP: There were four items in this sub-scale. Item 7 ('Is this person violent to others?'), Item 14 ('Does this person behave offensively (includes sexual behaviour)?'), and Item 15 ('Does this person behave irresponsibly?') were all scored on the following scale:

1 Not at all;
2 Rarely;

3 Occasionally;
4 Often.

Item 13 ('Does this person generally have problems (e.g. friction, avoidance) living with others in the household?') was scored on the following scale:

1 No obvious problem;
2 Slight problems;
3 Moderate problems;
4 Extreme problems.

These four items were scored and averaged, to elicit an average score for the Anti-social sub-scale. An average score of greater than 2 was considered to be the cut-off for 'anti-social behaviour'.

Complicating clinical factors: List 2

'Complicating clinical factors: List 2' referred to *any one* of the following:

- major social disruption
- risk of harm to self or others
- multiple agencies involved in the care of the person
- psychotic symptoms

Each of these is operationalised below:

Major social disruption

For adults, 'Major social disruption' was evidenced by an average score of 4 on the Anti-social sub-scale of the LSP, described above.

Risk of harm to self or others

This factor was deemed to be present when the clinician reported having grounds to believe that the patient presented a significant risk of harm to him/herself or others. Items 1 and 2 on the HoNOS ('Problems resulting from overactive, aggressive, disruptive or agitated behaviour' and 'Suicidal thoughts or behaviour, non-accidental self-injury'). For either item, a score above 2 on the following scale was taken as indicative of risk of harm to self or others, with a score of 9 deemed 'not further classifiable'.

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Multiple agencies involved in the care of the person

This item was not captured in the dataset.

Psychotic symptoms present

Experience of psychotic symptoms (hallucinations or delusions) was elicited by Item 6 on the HoNOS ('Problems associated with hallucinations and delusions'). The scoring for this item was as follows, with a score greater than 2 considered to be evidence of psychoses; scores of 9 were deemed 'not further classifiable'.

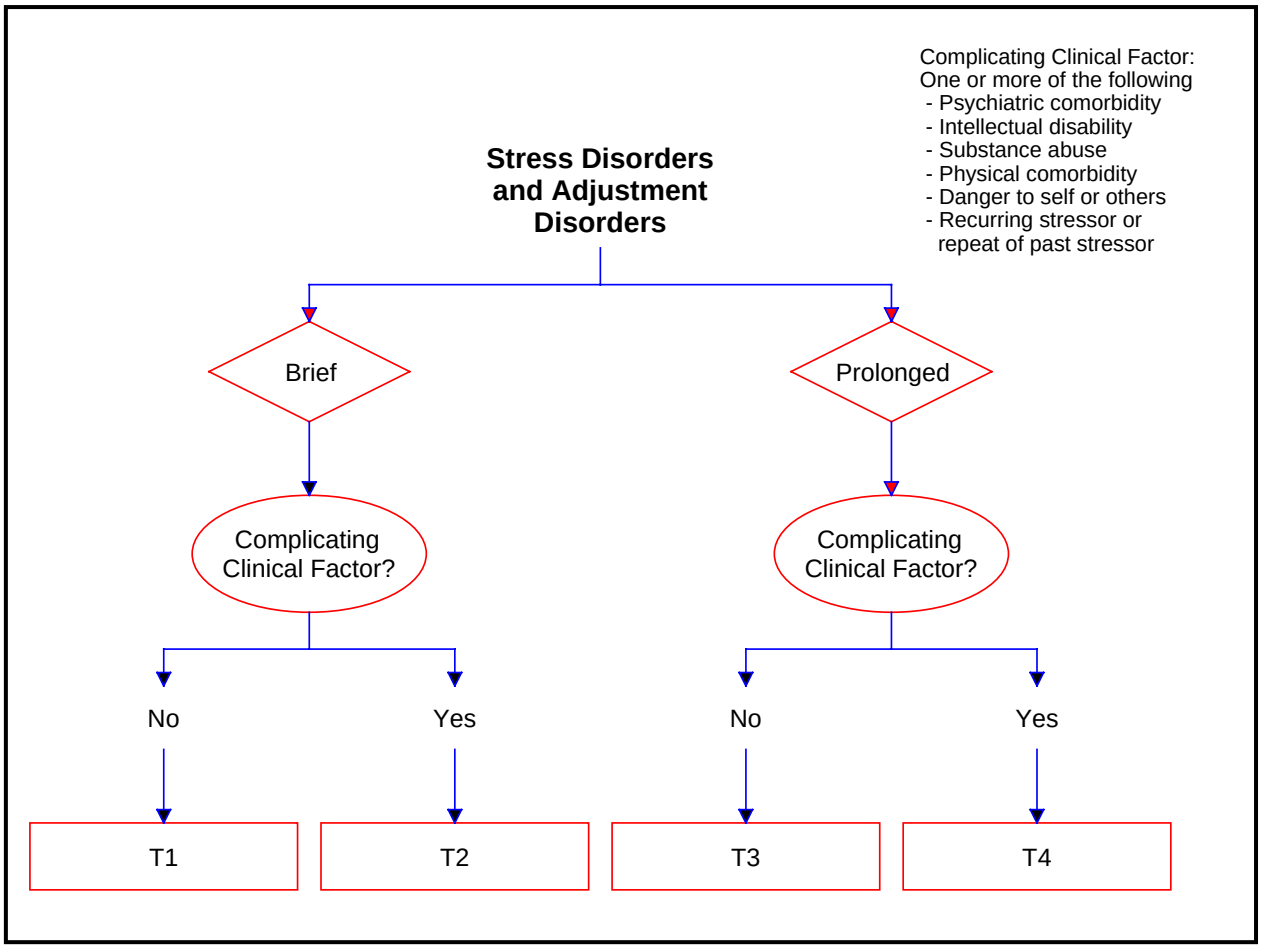
0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Table 10: Summary of operational rules for hypothesised patient groups – Personality disorders

Diagnosis	Rating of 31-35 on *Final Clinical Ratings Form* Item 3
Complicating clinical factors: List 1	*Any one* of (i)-(v)
(i) Axis 1 psychiatric conditions, particularly psychoses or major affective disorder	Rating of 05-11 or 12-14 on *Final Clinical Ratings Form* Item 4
(ii) Substance abuse	Rating of 03 or 04 on *Final Clinical Ratings Form* Item 4 Or Rating of > 2 on HoNOS Item 3
(iii) Chronic medical conditions	Rating of > 2 on HoNOS Item 5
(iv) Intellectual disability	Rating of 40-44 on *Final Clinical Ratings Form* Item 4
(v) Anti-social behaviour	Average rating of > 2 for Anti-social scale of LSP
Complicating clinical factors: List 2	*Any one* of (vi)-(viii)
(vi) Major social disruption	Average rating of 4 for Anti-social scale of LSP
(vii) Risk of harm to self or others	Rating of > 2 on HoNOS Item 1 or Item 2
(viii) Psychotic symptoms present	Rating of > 2 on HoNOS Item 6

Stress and adjustment disorders

Figure 9: Stress and adjustment disorders - patient classes proposed by Clinical Panels



Diagnosis

To qualify for this superclass, a patient had to have one of the following diagnoses recorded at Item 3 ('Principal psychiatric diagnosis') on the *Final Clinical Ratings Form*:

18 Reactions to severe stress including acute stress reactions
19 Adjustment disorders: Brief depressive reactions
20 Adjustment disorders: Prolonged depressive reactions
21 Other adjustment disorders
22 Post-traumatic stress disorders

Brief vs prolonged

For most of the above diagnoses, the duration of the disorder was integral to the specific diagnosis. Code 19 clearly fell into the brief category. Code 18 was also considered brief, on the rationale that the time period offered in DSM-IV for acute stress reactions is 'a minimum of 2 days and a maximum of 4 weeks'. Codes 20, 21 and 22 were considered prolonged.

Complicating clinical factors

'Complicating clinical factors' referred to *one or more* of the following:

- psychiatric co-morbidity;
- intellectual disability;
- substance abuse;
- risk of harm to self or others; or
- existence of a recurring stressor which causes the stress reaction or adjustment disorder, or the repeat of a past stressor (acute on chronic)

Each of these is described below:

Psychiatric co-morbidity

A patient was considered to have a psychiatric co-morbidity if any additional psychiatric diagnosis was indicated at Item 4 on the *Final Clinical Ratings Form*, by a rating of 01-60 (excluding 18-22 which constituted the Principal Diagnosis, and 03 and 04 which denoted substance abuse and were not considered psychiatric co-morbidity).

Intellectual disability

Evidence of an intellectual disability was taken from Item 4 on the *Final Clinical Ratings Form* ('Additional psychiatric diagnoses'). Any of the following codes were taken to indicate an intellectual disability:

40 Mild mental retardation
41 Moderate mental retardation
42 Severe mental retardation
43 Profound mental retardation
44 Other mental retardation

Substance abuse

Satisfaction of either one of two criteria was taken as evidence of substance abuse.

Item 4 on the *Final Clinical Ratings Form* elicited additional psychiatric diagnoses from the MH-CASC list of 61 diagnoses, and two were taken as indicative of substance abuse:

03 'Alcohol intoxication, harmful use, dependence and withdrawal'
04 'Other psychoactive substance intoxication, harmful use, dependence and withdrawal'.

Alternatively, Item 3 on the HoNOS ('Problem drinking or drug taking') was used to ascertain presence or absence of substance abuse. A score above 2 on the following scale was taken as indicative of substance abuse, with scores of 9 deemed 'not further classifiable'.

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;

9 Not known/Not applicable.

Risk of harm to self or others

This factor was deemed to be present when the clinician reported having grounds to believe that the patient presented a significant risk of harm to him/herself or others. Items 1 and 2 on the HoNOS ('Problems resulting from overactive, aggressive, disruptive or agitated behaviour' and 'Suicidal thoughts or behaviour, non-accidental self-injury') were used to assess risk of harm to self or others. For either item, a score above 2 on the following scale was taken as indicative of harm to self or others; scores of 9 were deemed 'not further classifiable'.

0 No problem;
1 Minor problem;
2 Mild problem;
3 Moderately severe problem;
4 Severe to very severe problem;
9 Not known/Not applicable.

Recurrent stressor

This item was not captured in the dataset.

Table 11: Summary of operational rules for hypothesised patient groups – Stress and adjustment disorders

Diagnosis	Rating of 18-22 on *Final Clinical Ratings Form* Item 3
Brief vs prolonged	Rating on *Final Clinical Ratings Form* Item 3: 18-19 – brief; 20-22 – prolonged
Complicating clinical factors: List 1	*One or more* of (i)-(iv)
(i) Psychiatric co-morbidity	Rating of 01-60 (excluding 03, 04, 18-22) on *Final Clinical Ratings Form* Item 4
(ii) Intellectual disability	Rating of 40-44 on *Final Clinical Ratings Form* Item 4
(iii) Substance abuse	Rating of 03 or 04 on *Final Clinical Ratings Form* Item 4 Or Rating of > 2 on HoNOS Item 3
(vi) Risk of harm to self or others	Rating of > 2 on HoNOS Item 1 or Item 2

Appendix B-4

Issues Surrounding Diagnosis

Diagnosis had a central place in the overall data set, not only because of its potential value in explaining resource use (particularly in combination with other variables) but also because of its role in the creation of the eleven major classes arising from the Clinical Panels.

In considering the issues surrounding diagnosis, four criteria were adopted to guide decisions:

- The approach to diagnostic issues had to be equally applicable in acute inpatient, non acute inpatient and community settings.
- The study had an obligation to contribute to the ongoing development of the Australian National Diagnosis Related Groups (AN-DRG) classification of acute episodes of care within hospitals. As such, it was essential that the diagnostic information collected in acute inpatient settings could be used to construct AN-DRG groupings.
- The diagnostic framework had to be acceptable to mental health clinician.
- Diagnostic data had to be collected in such a way that it could be coded in a manner consistent with current and future coding systems in Australia.

Issue One: How to record psychiatric morbidity

Two options were considered regarding how to record psychiatric morbidity:

- *Option 1:* Record Principal Diagnosis and Additional Diagnoses. Consistent with the National Health Data Dictionary (V4.0, 1995) and the Australian Coding Standards (National Coding Centre, 1995), Principal Diagnosis was defined as *'the diagnosis established after study to be chiefly responsible for occasioning the current episode of care'*, and Additional Diagnoses were defined as *'diagnoses or underlying conditions that affect a person's care in terms of requiring therapeutic treatment, clinical evaluation, diagnostic procedure, extended length of episode of care, or increased nursing care and/or monitoring, and include co-morbid conditions and complications'*.
- *Option 2:* Request that clinicians list all relevant conditions, without being forced to rank them.

It was recognised that Option 2 might be attractive to clinicians, since they would not be forced to isolate only one Principal Diagnosis. However, since casemix classification is essentially categorical in nature and the Clinical Panels had used diagnosis as the first split in their decision trees, Option 1 was favoured. At episode closure, Principal Diagnosis and up to three Additional Diagnoses were collected.

In addition, Provisional Diagnosis was recorded two weeks after the commencement of the episode. This was the initial diagnosis made at the beginning of the episode believed to be most likely to have occasioned the current episode of care. This was collected in order to monitor progressively the patient mix in the study cohort and minimise the risk of patients completing an episode with no diagnosis recorded.

Issue Two: The coding system to be used

The two available coding systems were the International Classification of Diseases, 9th edition, with a clinical modification (ICD-9-CM) and the International Classification of Diseases, 10th edition (ICD-10). Although most psychiatrists are familiar with the Diagnostic and Statistical Manual Version IV (DSM-IV), it was not a realistic option for the current study, because the Project was required to contribute to the development of the AN-DRG classification, of which ICD codes are the root.

Three options were considered:

- *Option 1:* Use ICD-10. Compared with ICD-9-CM, ICD-10 had certain advantages. It was more specific in terms of concepts underlying each disorder and precise diagnostic criteria; it provided detailed clinical guidelines; it had arguably higher inter-rater reliability for sub-categories and mapped more readily to the 11 diagnostic classes identified by the Clinical Panels; it was more similar to DSM-IV and therefore more likely to be favoured by clinicians; and was seen as the way of the future, and was agreed upon internationally.
- *Option 2*: Use ICD-9-CM. ICD-9-CM also had certain advantages. Being the root of the current AN-DRG groupings, it was able satisfy the obligation of the study to develop a more refined AN-DRG classification for acute psychiatric services. Inpatient settings were currently using ICD-9-CM (although this advantage was not carried into community settings). There was potential to map ICD-9-CM to ICD-10 (although there was no software available to do so), and the National Coding Centre had agreed to assist in the creation of any required interim codes in ICD-9-CM.
- *Option 3:* Extract ICD-9-CM data for admitted patients and, in addition, use a tailor-made coding system based on ICD-10 clinical terms and ICD-9-CM codes. This option had the advantages of both Options 1 and 2.

Option 3 was the preferred option of the Project team. The clinical terms and summary codes are shown in Table 12 below:

Table 12: Clinical coding summary used to record diagnosis

Organic Disorders

01 Organic, including symptomatic, mental disorders
02 Amnestic syndromes due to psychoactive substance use

Substance Abuse Disorders

03 Alcohol intoxication, harmful use, dependence and withdrawal
04 Other psychoactive substance intoxication, harmful use, dependence and withdrawal

Schizophrenia, Paranoia and Acute Psychotic Disorders

05 Psychotic disorders due to psychoactive substance use
06 Schizophrenia
07 Schizotypal disorders
08 Delusional disorders
09 Acute and transient psychotic disorders
10 Schizoaffective disorders
11 Other non-organic psychotic disorders

Mood Disorders

12 Manic episodes and bipolar affective disorders, current episode manic
13 Depressive episodes; bipolar disorders, current episode depressed or mixed; recurrent depressive disorders
14 Persistent mood disorders including cyclothymia and dysthymia, and other mood disorders

Anxiety Disorders

15 Anxiety disorders including phobic anxiety, panic disorder, generalised anxiety disorder and other neurotic disorders
16 Dissociative (conversion) disorders

Obsessive Compulsive Disorders

17 Obsessive - compulsive disorders

Stress and Adjustment Disorders

18 Reactions to severe stress including acute stress reactions
19 Adjustment disorders: Brief depressive reactions
20 Adjustment disorders: Prolonged depressive reactions
21 Other adjustment disorders
22 Post-traumatic stress disorders

Somatoform Disorders

23 Somatoform disorders

Eating Disorders

24 Anorexia nervosa and atypical anorexia nervosa
25 Eating disorders other than anorexia nervosa

Behavioural Syndromes Associated with Physiological Disturbances and Physical Factors

26 Non-organic sleep disorders
27 Mental and behavioural disorders associated with the puerperium, not elsewhere classified
28 Psychological / behavioural factors associated with disorders or diseases classified elsewhere
29 Abuse of non-dependence-producing substances
30 Unspecified behavioural syndromes associated with physiological disturbances and physical factors

Personality Disorders

31 Paranoid / schizoid personality disorders
32 Dissocial personality disorders including antisocial personality disorder
33 Emotionally unstable personality disorders (includes borderline and impulsive)
34 Histrionic / anankastic / anxious / dependent personality disorders
35 Other personality disorders

Sexual Disorders

36 Sexual dysfunction, not caused by organic disorders or disease
37 Gender identity disorders
38 Disorders of sexual preference
39 Psychological and behavioural disorders associated with sexual development and orientation

Mental Retardation

40 Mild mental retardation
41 Moderate mental retardation
42 Severe mental retardation
43 Profound mental retardation
44 Other mental retardation

Disorders of Psychological Development

45 Specific developmental disorders of speech and language
46 Specific developmental disorders of scholastic skills
47 Specific developmental disorders of motor function
48 Mixed specific developmental disorders
49 Pervasive developmental disorders
50 Other disorders of psychological development

Disorders of Childhood and Adolescence

51 Hyperkinetic disorders
52 Conduct disorders
53 Mixed disorders of conduct and emotions
54 Emotional disorders with onset specific to childhood
55 Disorders of social functioning with onset specific to childhood and adolescence
56 Tic disorders
57 Non-organic enuresis
58 Non-organic encopresis
59 Other behavioural and emotional disorders with onset usually occurring in childhood and adolescence

Other

60 Unspecified mental disorders / Mental disorders, not otherwise specified
61 No psychiatric disorder (i.e. not able to code 01-60) OR diagnosis deferred

Note: A mapping of ICD-10 Codes to the above MH-CASC clinical terms is provided in Appendix B-5 of this Volume.

Issue Three: Responsibility for recording and coding diagnosis

There were no real options regarding this issue. For inpatient episodes, ICD-9-CM diagnostic data was recorded routinely, and extracted after the study period. ICD-10-CM diagnostic information was the responsibility of the treating medical officer for admitted patients and the case manager for non admitted patients. It was recognised that the case manager may or may not be the person who actually determined the diagnosis, but the critical issue was that an identified person take responsibility for ensuring that the required information was provided. To assist the designated clinician with recording and coding diagnosis, a set of clinical terms and codes was included in the *Clinicians Reference Guide* distributed to all staff.

Issue Four: How to analyse diagnostic information during data analysis

Two options were considered regarding the analysis of diagnostic information:

- *Option 1*: The Principal Diagnosis has precedence
- *Option 2:* The ranking of diagnostic information should be discounted during data analysis, with specific priority allocation rules developed and tested regarding the prominence of one condition over another.

The recommended position was to test both options during the data analysis, and build the results into the classification.

Appendix B-5

Mapping of ICD-10 Codes to MH-CASC Diagnostic Groups

Major Group	MH-CASC Code	ICD-10 Code
Organic Disorders		
	01	**Organic, including symptomatic, mental disorders** *ICD-10 Codes included:* **F00** Dementia in Alzheimer's disease **F01** Vascular dementia **F02** Dementia in other diseases classified elsewhere **F03** Unspecified dementia **F04** Organic amnesic syndrome, not induced by alcohol and other psychoactive substances **F05** Delirium, not induced by alcohol and other psychoactive substances **F06** Other mental disorders due to brain damage and dysfunction and to physical disease **F07** Personality and behavioural disorders due to brain disease, damage and dysfunction **F09** Unspecified organic or symptomatic mental disorders
	02	**Amnestic syndromes due to psychoactive substance abuse** *ICD-10 Codes included:* F1x.6 Amnestic syndromes due to psychoactive substance abuse
Substance Abuse Disorders		
	03	**Alcohol intoxication, harmful use, dependence and withdrawal** *ICD-10 Codes included:* **F10.0** Acute intoxication **F10.1** Harmful use **F10.2** Dependence syndrome **F10.3** Withdrawal state **F10.4** Withdrawal state with delirium **F10.8** Other mental and behavioural disorders **F10.9** Unspecified mental and behavioural disorders
	04	**Other psychoactive substance intoxication, harmful use, dependence and withdrawal** *ICD-10 Codes included:* **F1x.0** Acute intoxication **F1x.1** Harmful use **F1x.2** Dependence syndrome **F1x.3** Withdrawal state **F1x.4** Withdrawal state with delirium **F1x.8** Other mental and behavioural disorders **F1x.9** Unspecified mental and behavioural disorders
Schizophrenia, Paranoia & Acute Psychotic Disorders		
	05	**Psychotic disorders due to psychoactive substance use** *ICD-10 Codes included:* **F1x.5** Psychotic disorders due to psychoactive substance use **F1x.7** Residual and late-onset psychotic disorders due to psychoactive substance use

Note: 'x' refers to the specific psychoactive substance where
1 = Opioids
2 = Cannabinoids
3 = Sedatives of hypnotics
4 = Cocaine
5 = Other stimulants including caffeine
6 = Hallucinogens
7 = Tobacco
8 = Volatile solvents
9 = Multiple drug use and use of other psychoactive substances

Major Group	MH-CASC Code	ICD-10 Code
	06	**Schizophrenia** *ICD-10 Codes included:* **F20** Schizophrenia
	07	**Schizotypal disorders** *ICD-10 Codes included:* **F21** Schizotypal disorders
	08	**Delusional disorders** *ICD-10 Codes included:* **F22** Persistent delusional disorders **F24** Induced delusional disorders
	09	**Acute and transient psychotic disorders** *ICD-10 Codes included* **F23** Acute and transient psychotic disorders
	10	**Schizoaffective disorders** *ICD-10 Codes included:* **F25** Schizoaffective disorders
	11	**Other nonorganic psychotic disorders** *ICD-10 Codes included:* **F28** Other nonorganic psychotic disorders **F29** Unspecified nonorganic psychosis
Mood Disorders		
	12	**Manic episodes and bipolar affective disorders, current episode manic** *ICD-10 Codes included* **F30** Manic episode **F31.0** Bipolar affective disorders, current episode hypomanic **F31.1** Bipolar affective disorders, current episode manic without psychotic symptoms **F31.2** Bipolar affective disorders, current episode manic with psychotic symptoms
	13	**Depressive episodes; bipolar disorders, current episode depressed or mixed; recurrent depressive disorders** *ICD-10 Codes included:* **F31.3** Bipolar affective disorders, current episode mild or moderate depression **F31.4** Bipolar affective disorders, current episode severe depression without psychotic symptoms **F31.5** Bipolar affective disorders, current episode severe depression with psychotic symptoms **F31.6** Bipolar affective disorders, current episode mixed **F31.7** Bipolar affective disorders, currently in remission **F31.8** Other bipolar affective disorders **F31.9** Bipolar affective disorders, unspecified **F32** Depressive episode **F33** Recurrent depressive disorders
	14	**Persistent mood disorders including cyclothymia and dysthymia, and other mood disorders** *ICD-10 Codes included:* **F34** Persistent mood (affective) disorders **F38** Other mood (affective) disorders **F39** Unspecified mood (affective) disorders

Major Group	MH-CASC Code	ICD-10 Code
Anxiety Disorders		
	15	**Anxiety disorders including phobic anxiety, panic disorder, generalised anxiety disorder and other neurotic disorders** *ICD-10 Codes included:* **F40** Phobic anxiety disorders **F41** Other anxiety disorders **F48** Other neurotic disorders
	16	**Dissociative (conversion) disorders** *ICD-10 Codes included:* **F44** Dissociative (conversion) disorders
Obsessive Compulsive Disorders		
	17	**Obsessive - compulsive disorders** *ICD-10 Codes included:* **F42** Obsessive - compulsive disorders
Stress & Adjustment Disorders		
	18	**Reactions to severe stress including acute stress reactions** *ICD-10 Codes included:* **F43.0** Acute stress reaction **F43.8** Other reactions to severe stress **F43.9** Reaction to severe stress, unspecified
	19	**Adjustment disorders: Brief depressive reactions** *ICD-10 Codes included:* **F43.20** Brief depressive reaction
	20	**Adjustment disorders: Prolonged depressive reactions** *ICD-10 Codes included:* **F43.21** Prolonged depressive reaction
	21	**Other adjustment disorders** *ICD-10 Codes included:* **F43.22 - F43.28** Other adjustment disorders
	22	**Post-traumatic stress disorders** *ICD-10 Codes included:* **F43.1** Post-traumatic stress disorders
Somatoform Disorders		
	23	**Somatoform disorders** *ICD-10 Codes included:* **F45** Somatoform disorders
Eating Disorders		
	24	**Anorexia nervosa and atypical anorexia nervosa** *ICD-10 Codes included:* **F50.0** Anorexia nervosa **F50.1** Atypical anorexia nervosa
	25	**Eating disorders other than anorexia nervosa** *ICD-10 Codes included:* **F50.2** Bulimia nervosa **F50.3** Atypical bulimia nervosa **F50.4-F50.9** Other eating disorders

Major Group	MH-CASC Code	ICD-10 Code
Behavioural Syndromes Associated with Physiological Disturbances & Physical Factors		
	26	**Nonorganic sleep disorders** *ICD-10 Codes included:* **F51** Nonorganic sleep disorders
	27	**Mental and behavioural disorders associated with the puerperium, not elsewhere classified** *ICD-10 Codes included:* **F53** Mental and behavioural disorders associated with the puerperium, not elsewhere classified
	28	**Psychological and behavioural factors associated with disorders or diseases classified elsewhere** *ICD-10 Codes included:* **F54** Psychological and behavioural factors associated with disorders or diseases classified elsewhere
	29	**Abuse of non-dependence-producing substances** **F54** Abuse of non-dependence-producing substances
	30	**Unspecified behavioural syndromes associated with physiological disturbances and physical factors** *ICD-10 Codes included:* **F59** Unspecified behavioural syndromes associated with physiological disturbances and physical factors
Personality Disorders		
	31	**Paranoid/schizoid personality disorders** *ICD-10 Codes included:* **F60.0** Paranoid personality disorders **F60.1** Schizoid personality disorders
	32	**Dissocial personality disorders including antisocial personality disorder** *ICD-10 Codes included:* **F60.2** Dissocial personality disorders including antisocial personality disorder
	33	**Emotionally unstable personality disorders (includes borderline & impulsive)** *ICD-10 Codes included:* **F60.3** Emotionally unstable personality disorders (includes borderline & impulsive)
	34	**Histrionic / anankastic / anxious / dependent personality disorders** *ICD-10 Codes included:* **F60.4** Histrionic personality disorders **F60.5** Anankastic personality disorders **F60.6** Anxious (avoidant) personality disorders **F60.7** Dependent personality disorders
	35	**Other personality disorders** *ICD-10 Codes included:* **F60.8** Other specific personality disorders **F60.9** Personality disorders, unspecified **F61.0** Mixed personality disorders **F61.1** Troublesome personality changes **F62** Enduring personality changes, not attributable to brain damage and disease **F63** Habit and impulse disorders **F68** Other disorders or adult personality and behaviour **F69** Unspecified disorders of adult personality and behaviour

Major Group	MH-CASC Code	ICD-10 Code
Sexual Disorders		
	36	**Sexual dysfunction, not caused by organic disorders or disease** *ICD-10 Codes included:* **F52** Sexual dysfunction, not caused by organic disorders or disease
	37	**Gender identity disorders** *ICD-10 Codes included:* **F64** Gender identity disorders
	38	**Disorders of sexual preference** *ICD-10 Codes included:* **F65** Disorders of sexual preference
	39	**Psychological and behavioural disorders associated with sexual development and orientation** *ICD-10 Codes included:* **F66** Psychological and behavioural disorders associated with sexual development and orientation
Mental Retardation		
	40	**Mild mental retardation** *ICD-10 Codes included:* **F70** Mild mental retardation
	41	**Moderate mental retardation** *ICD-10 Codes included:* **F71** Moderate mental retardation
	42	**Severe mental retardation** *ICD-10 Codes included:* **F72** Severe mental retardation
	43	**Profound mental retardation** *ICD-10 Codes included:* **F73** Profound mental retardation
	44	**Other mental retardation** *ICD-10 Codes included:* **F78** Other mental retardation **F79** Unspecified mental retardation
Disorders of Psychological Development		
	45	**Specific developmental disorders of speech and language** *ICD-10 Codes included:* **F80** Specific developmental disorders of speech and language
	46	**Specific developmental disorders of scholastic skills** *ICD-10 Codes included:* **F81** Specific developmental disorders of scholastic skills
	47	**Specific developmental disorders of motor function** *ICD-10 Codes included:* **F82** Specific developmental disorders of motor function
	48	**Mixed specific developmental disorders** *ICD-10 Codes included:* **F83** Mixed specific developmental disorders
	49	**Pervasive developmental disorders** *ICD-10 Codes included:* **F84.0** Childhood autism **F84.2** Atypical autism **F84.3** Rett's syndrome **F84.4** Other childhood disintegrative disorder

Major Group	MH-CASC Code	ICD-10 Code	
		F84.5	Overactive disorder associated with mental retardation and stereotyped movements
		F84.7	Asperger's syndrome
		F84.8	Other pervasive developmental disorders
		F84.9	Pervasive developmental disorder, unspecified
	50	**Other disorders of psychological development**	
		ICD-10 Codes included:	
		F88	Other disorders of psychological development
		F89	Unspecified disorders of psychological development
Disorders of Childhood & Adolescence			
	51	**Hyperkinetic disorders**	
		ICD-10 Codes included:	
		F90	Hyperkinetic disorders
	52	**Conduct disorders**	
		ICD-10 Codes included:	
		F91	Conduct disorders
	53	**Mixed disorders of conduct and emotions**	
		ICD-10 Codes included:	
		F92	Mixed disorders of conduct and emotions
	54	**Emotional disorders with onset specific to childhood**	
		ICD-10 Codes included:	
		F93	Emotional disorders with onset specific to childhood
	55	**Disorders of social functioning with onset specific to childhood and adolescence**	
		ICD-10 Codes included:	
		F94	Disorders of social functioning with onset specific to childhood and adolescence
	56	**Tic disorders**	
		ICD-10 Codes included:	
		F95	Tic disorders
	57	**Nonorganic enuresis**	
		ICD-10 Codes included:	
		F98.0	Nonorganic enuresis
	58	**Nonorganic encopresis**	
		ICD-10 Codes included:	
		F98.1	Nonorganic encopresis
	59	**Other behavioural and emotional disorders with onset usually occurring in childhood and adolescence**	
		ICD-10 Codes included:	
		F98.2	Feeding disorders of infancy and childhood
		F98.3	Pica of infancy and childhood
		F98.4	Stereotyped movement disorders
		F98.5	Stuttering (stammering)
		F98.6	Cluttering
		F98.8	Other specified behavioural and emotional disorders with onset usually occurring in childhood and adolescence
		F98.9	Unspecified behavioural and emotional disorders with onset usually occurring in childhood and adolescence
Other			
	60	**F99**	Unspecified mental disorders / Mental disorders, not otherwise specified
	61		No psychiatric disorder (i.e. not able to code 01-60) OR diagnosis deferred

Appendix B-6

Standard Ward/Program Definitions

All inpatient units participating in the study were classified as either acute or non acute according to definitions based on the annual National Survey of Mental Health Services. This distinction was a critical boundary in the definition of episodes used during data collection.

The National Survey of Mental Health Services definitions are presented below.

Acute inpatient units

Refers to psychiatric services which have as their principal purpose the provision of specialist psychiatric care for people who present with acute episodes of mental illness. These episodes are characterised by recent onset of severe clinical symptoms of mental illness, with potential for prolonged dysfunction or risk to self and/or others. The key characteristic of acute services is that the treatment effort is focused upon symptom reduction with a reasonable expectation of substantial improvement. In general, acute psychiatric services provide relatively short-term treatment. Acute services may be:

- focused on assisting people who have had no prior contact or previous psychiatric history, or individuals with a continuing psychiatric disorder for whom there has been an acute exacerbation of symptoms
- targeted at the general population, or be specialist in nature, targeted at specific clinical populations. The latter group include psychogeriatric, child & adolescent, and forensic psychiatry services.

Rehabilitation units

Refers to services in which the primary focus of intervention is reduction of functional impairments that limit independence. Rehabilitation services are focused on the disability dimension and the promotion of personal recovery. They are also characterised by an expectation of substantial improvement over the short- to mid- term. Patients treated usually have a relatively stable pattern of clinical symptoms. Emphasis on treatment of the illness component is prevention of relapse.

Extended Care Units

Refers to services in which the principal function is provision of care over an indefinite period for people who have a stable but severe level of functional impairment and inability to function independently without extensive care and support. Patients of extended care services usually show a relatively stable pattern of clinical symptoms, which may include high levels of severe unremitting symptoms of mental illness. Treatment effort is focused on prevention of deterioration and reduction in impairments; improvement is only expected over a long time period.

Appendix B-7

Financial Reporting Requirements of Sites

Extract from MH-CASC Study Manual

Financial data for the Project will be collected on a retrospective basis covering a three-month period from 1 September 1996 to the 30 November 1996.

The basis of the costing component of the project is the extraction of general ledger items covering the study period. For each of the participating sites, it will be necessary to identify the following:

- cost centre structure, design and mapping;
- all cost centres related to the provision of services;
- all costs recorded against these cost centres for the study period;
- all necessary accruals; and
- overhead allocation statistics.

To assist study sites, a study chart of accounts has been developed. To account for all payments the cost centre structure will require a large amount of detailed line item information. The line structure of the study cost centres includes:

- Salaries and Wages which includes the costs of direct labour and periods of paid leave i.e. Annual Leave, Sick Leave, Long Service Leave. For those sites not reporting on an accrual basis an adjustment for leave accruals within each cost centre will have to be made.
- Goods and Services generally includes all other non-salary related type payments, however excludes medical and surgical supplies.
- Medical and Surgical Supplies.
- Revenue representing any inflow of funds apart from budgetary allocation.
- Offsets relate to the process of reducing the cost of providing a service with the revenue received, such as revenue received from providing meals in the staff canteen, and is used to offset the cost of producing the meals.
- Termination Leave to include the cost of leave paid on resignation/retirement/redundancy payments, etc.
- Capital.

The definitions for each of the line items and adjustments to be made to the financial data are presented below.

Revenue

Definition

Revenue is represented by an inflow of funds resulting from:

- Patient fee receipts for Medicare, inpatients, same-day patients and non-inpatients (e.g.: pharmaceuticals, outreach services and other miscellaneous fees)
- Special funds, including:
  - private practice funds after allowing for direct operating costs, from revenue received in respect of service fees to medical practitioners who exercise rights to private practice;
  - specific grants provided to the participating organisations from universities, commonwealth/state/local government, employment grants, special commonwealth grants.
- Other revenue, including:
  - meals and accommodation;
  - motor vehicle sales;
  - property rental;
  - profit on sale of assets;
  - scrap materials and metals sales;
  - vending machine revenue;
  - telephones;
  - interest earned on public funds;
  - profits from external sources;
  - commissions from health funds or life assurance companies;
  - other non-recurrent revenue, including receipts from sale of equipment purchased from operating funds.

Issues

Revenue sources, such as funding received from the State Treasury, the Commonwealth, private practice billing and research grants will not be included in the cost allocation process unless it is used to offset the cost of providing services. (That is, revenue generated by an organisation and then paid into state, area, regional or corporate accounts will not be included in the costs transcribed to patients.)

Data collection protocol

All participating institutions are required, on a prospective basis, to separately provide details of all revenue (by cost centre), which have been included within operating expenditures. This may have particular application for services being cross-charged between various organisations.

Offsets

Definition

Offsets are broadly defined as being the practice of offsetting receipts against payments. That is, when revenue received for services provided outside the institution is used to reduce the costs associated with providing the service.

Revenue received for services provided outside the institution that is normally paid to State Health Authorities/Treasury must be excluded from the cost allocation process.

Example

Take the example where revenue is generated by providing domiciliary services to other institutions. The receipts generated from the provision of these services will offset the actual costs incurred. If the cost of providing domiciliary services for another institution was $1000 and the institution charged $1500 for this service, then the 'production' cost of $1000 must be removed from corresponding organisation's reported expenditure as it was not incurred in the delivery of services to its patients. The $500 which was used to offset the services provided to its patients must, however, be included in the costs to be allocated to patients.

Data collection protocol

All participating institutions are required, on a prospective basis, to separately provide details of all offsets (by cost centre), which have been included within operating expenditures. This may have particular application for the accounting of motor vehicles expenditure.

Cost of receiving external services

There are numerous instances where institutions are provided with specific services by external agencies which are not reflected in institution operating expenditure. Services such as regional or statewide laundry/laboratory supply, or corporate administrative services should be incorporated wherever possible.

In order to achieve consistency across participating institutions and to ensure the cost of service provision is not understated, it is important that operating costs be adjusted to reflect the value of these services where they are used in the provision of services to patients.

Data collection protocol

Participating sites will be required to:

- Estimate the value of external services used to service patients for which there is no cost recorded in the general ledger. In those instances where charges have been raised, this information should be reflected in the cost centre structure.
- Accumulate the estimated cost of these services into separate patient care cost centres for allocation to patients.

External services in the nature of dispensing pharmaceutical prescriptions by private chemists, service provision by private practitioners in private suites, etc., are deemed to be outside of the scope of the study, and financial data is not required.

Cost of supplying external services

Where an institution provides services to other sites, such as providing payroll services to a region/area, it is important that only the costs associated with institution specific payroll production be included in the costing study.

All costs associated with providing external services must be separately identified in a final cost centre (and ultimately be excluded from the costing process following allocation of overheads).

Data collection protocol

Participating sites will be required to:

- Identify the costs associated with provision of services to external organisations.
- Record these costs into separate patient care cost centres.

External Management Services

There are numerous instances where external agencies receive or provide management or administrative type services to an institution.

In the public sector these agencies can include area or regional administrations which are not part of the State Health Department/Authority Administration. In the private sector these agencies would include Corporate Management Offices.

In order to achieve consistency across participating institutions and to ensure the cost of service provision is not under or overstated, it is important that operating costs be adjusted to reflect the actual cost of these services as detailed previously. (Refer Cost of Receiving External Services and Cost of Supplying External Services.)

Termination Leave Payments

Termination leave payments are often recorded in a number of ways. In response to this diversity, the cost centres have been structured in a way which should accommodate all participating sites. Participating sites are given the flexibility to record termination leave payments, in one of two ways:

Option 1:

In recognition of the fact that many organisations do not distribute or record termination payments directly to cost centres, a global cost centre called '*Termination Leave Payments*' has been included as a stand-alone section. This cost centre should record all termination leave payments made by the site.

Option 2:

For those organisations which record termination leave payments according to staff category, allowances have been made against each major staff category (medical, nursing, administration, allied health, etc.) to report the associated costs.

Participating sites need report using only one of the two options outlined above.

Capital Costs

Scope

Capital cost is defined as that expenditure relating to asset acquisition. For the purposes of this study it will be restricted to costs relating to equipment only, excluding land, buildings and fixed plant and the costs of financing the equipment.

Definition

An asset is defined as a functional unit of equipment which is required for continuing use in the provision of services and is necessary for the functioning of the psychiatric unit, ward, outpatient clinic, community service, etc.

Funds for such assets may be provided either from within the organisations and/or department's operating funds (or provisions) or from external sources. For consistency purposes, a lower limit of $5,000 per item is to be used. Items of lower value will be considered as expenses equating to repairs, maintenance and refurbishment.

Public Sector

The method of accounting for capital expenditure is:

- identify all capital expenditure (refer above definitions) for the three-month study period.

This will be excluded from the general ledger, and replaced with the following

- identify annual depreciation for the site for the last two years and calculate notional three-month rate.

If sites are not reporting depreciation rates then the capital expenditure by the site for the last two years needs to be identified, together with the assets of the site. A notional depreciation rate for the three-month study period will be calculated using a standard rate based on Australian Taxation Office regulations.

Private Sector

The private sector needs to report depreciation on all assets split into two categories:

- land and buildings, and
- equipment.

Teaching and Training Costs

The definition to be adapted for this study for direct teaching and training activities is:

> *The costs associated with clinical staff attending recognised award courses, the training and supervision of students, and the conduct of lectures and seminars (including inter-departmentaland interagency work).*

The time associated with preparation for the provision of formal lectures to external department will also be included in the costs of direct teaching and training.

To ensure consistency with other national costing studies, time identified by staff as being spent on teaching and training activities will be costed and excluded from the final patient classes.

Research Costs

Research activity which takes place within the organisation is either funded externally (through specific grants normally reported through special purpose trust accounts), or internally through the operating account.

For the purposes of this study, research activities with discrete programs, funded from external sources will not be costed.

Internally funded research costs usually occur in the form of overheads (e.g. light and power, secretarial support, use of extra reagents or pharmaceuticals, stationery, etc.), although organisations are known to internally fund direct costs associated with research directly from their operating budgets. For example, some clinical research may require additional clinics to be scheduled, or clinical trials may be carried out in a number of sub-specialties within psychiatry, and the salary costs of the clinicians are paid directly from the operating accounts without recovery from any other programme or special purpose funds.

For internally funded research which is an integral component of service delivery (e.g. research staff are also the clinical staff), these costs will be included and distributed to patients. Direct costs of research funded by the organisation and reported by staff in their activity logs will be costed and excluded from the study.

Major Accrual Adjustments

Institutions utilising full accrual accounting systems do not need to refer to this section.

Definition

Major accrual adjustments are the adjustments necessary to align expenditure on goods and services to the period in which the same goods and services were used or consumed. That is, accrual adjustments allow us to achieve a better matching of expenditure and activity for those institutions which use cash accounting systems.

- Apportionment of unrecorded expenditure

  Some expenses are accumulated on a time basis such as interest paid on a loan to acquire capital equipment. This expense is generally not recorded until payment is made on a specific date. In this instance recognition must be given to the expense accrued over the three-month study period.

- Apportionment of recorded expenditure

  There are some expenses such as annual insurance premiums and superannuation which need to be adjusted to reflect the accrued cost for the three-month study period.

Data collection protocol

Participating sites will be required to make manual adjustments to a range of expenditure lines to ensure the expenditure reflects the three-month study period. Specific lines which will need to be considered for adjustment include:

- Employer superannuation contributions
- Major medical and surgical supplies in some departments
- Major repairs and maintenance contracts
- Insurance
- Subscriptions
- Workers compensation
- Utility payments, e.g. fuel, light and power
- Leave paid in advance, such as annual and long service leave where the payment is for leave outside of the three-month collection period

- Major Award variations
- Major redundancy packages
- Termination leave payments
- Carried over unpaid accounts. This is particularly relevant at the beginning of the financial year, where significant amounts of unpaid accounts over the 30-day trading period remain outstanding
- Identify value of stock levels as at 1 September 1996 and 30 November 1996. This will only be possible in those participating institutions which have appropriate stores management information systems. The purpose of collecting these data is to evaluate the appropriate adjustments to be made where significant variances in the value of stock on hand occur.

Appendix B-8

Overhead Allocation Statistics Used in the Study

Allocation Statistic	*Statistic Label Description*
1	General Ledger Costs
2	Salary and Wages Costs
3	Goods and Services Costs
4	Adjusted General Ledger Costs (Initial patient care cost centres only)
5	Actual Stores Issued
6	Full-time Equivalents
7	Nursing Full-time Equivalents
8	Medical Full-time Equivalents
9	Head Count
10	Nursing, Head Count
11	Medical, Head Count
12	Number of Discharges
13	Number of Patients Admitted
14	Number of Patients Treated
15	Number of Group Sessions
16	Occupied Bed days
17	Occasions of Service
18	Number of Patient Contacts
19	Floor Space (Sq Metres)
20	Floor Space * Frequency
21	Rostered Staff
22	Number of Meals Issued
23	Meals per Ward
24	Kilograms of Laundry by Cost Centre
25	Linen Usage (from Imprest Records)
26	Number of Computers by Cost Centre
27	Number of Vehicles by Cost Centre
28	Number of Telephone lines connected
29	Call Log by Cost Centre

Appendix B-9

Role Description for Site Coordinators

Extract from MH-CASC Study Manual

Site Co-ordinators will be required for a total of five months (three months during the data collection period and one month at either side), although not necessarily full-time.

Site Co-ordinator's role during the one-month lead up to the study period

1. Participation in national workshop for Site Co-ordinators

The Project Team conducted this workshop in July.

2. Establishment of data co-ordination infrastructure.

Setting up a system by which forms are distributed and collected, which will involve:

Staff activity data: Liaising with unit heads and/or senior staff from specific disciplines to work out the best way of distributing staff activity forms, and arranging for their collection on a weekly, or preferably daily, basis.

Patient attribute data: Liaising with medical records staff in the inpatient setting and key workers in the community setting to determine how the forms will be distributed and returned.

3. Establishment of reconciliation systems.

Establishing a system which reconciles the number of returned forms with the number of expected forms.

Staff activity data: Obtaining ward rosters and weekly lists of staff on duty, and formulate a system for checking that for every expected day for a given staff member, they will receive a staff activity form, including days on which the form is blank because no services were provided on behalf of any patient, with the exception of consultation and liaison and services to unregistered clients (i.e. nil return). Establishing a protocol for following up missing forms, which, in larger sites may involve designating key people (e.g. heads of disciplines) as the point of contact.

Patient attribute data: Establishing a patient register which will provide a day-by-day account of the location of all patients being seen by the facility. In the inpatient setting, this will be based on ward lists, and in the community it may be based on the equivalent of ward lists or appointment books and registration forms. Again, protocols will need to be established for the follow-up of missing forms.

4. Establishment of a system for providing patient identifiers and service details to each episode of care.

Setting up a system for providing patient identifiers (e.g. unique identifier, age, service code used, key worker) and service details (e.g. patient type, episode start date, episode end date, leave days). Some of these data may need to be transferred from existing systems, such as hospital morbidity data.

5. Establishment of a data despatch system.

Devising a method of returning staff activity and patient attribute forms to the MH-MASC office on a weekly basis.

6. Setting up supplementary training sessions.

Arranging staff training to supplement sessions provided by Project team in order to ensure that the maximum number of staff collect the data in the most efficient and effective manner.

7. Special briefings with key groups.

Although the MH-CASC team will make every effort to brief and train as many staff as possible, it will not be possible for all relevant staff to attend these sessions; the Site Co-ordinator will be required to undertake some briefings.

8. Resolving site-specific issues.

In conjunction with the Project team, resolving issues such as pharmacy, imaging and pathology, and putting in place a system to follow-up such items on a weekly basis.

Reconciling cost centres with MH-CASC forms.

Site Co-ordinator's role during the three-month study period

1. Distribution and collection of forms.

Ensuring that distribution of staff activity and patient attribute forms takes place (e.g. the staff activity forms are readily available at the given site and the patient attribute forms are routinely placed in the patient's record). Examining ways of minimising demands on staff (e.g. distributing staff activity sheets with the names of patients in the ward already completed).

Both staff activity forms and patient attribute forms will be collected by the Site Co-ordinator according to the system they devised prior to the commencement of the study.

2. Reconciliation of actual number of forms versus expected numbers.

Staff activity data: Routinely updating the expected time lists by regularly checking rosters, obtaining lists of staff present on the days of a given week, etc. In some sites, it may also be necessary for the Site Co-ordinator to distribute and collect a monthly form on which staff are required to indicate on which days they were absent, e.g. sick leave, time-in-lieu, etc. The number of returned forms will need to be regularly reconciled; where forms are missing, the Co-ordinator will contact the previously designated person and arrange for them to be chased up.

Patient attribute data: Regularly scrutinising the returned patient attribute forms against ward lists (in the inpatient setting) and current client lists (in the community setting). Regularly updating lists, and checking (on a daily basis) which patients should have had their initial and repeat clinical ratings done. Key workers may need to be followed up if expected data are missing.

3. Monitoring data quality.

As the forms are returned, the Site Co-ordinator would monitor the quality of the data in terms of their legibility and completeness. Local knowledge may also enable some assessment of the reliability of the data. Where problems are noted, the Site Co-ordinator should take measures to address the problem immediately. This may involve approaching individuals and/or providing advice to groups. In particular, it will involve following up staff who are not completing forms and negotiating their on-going involvement.

4. Final preparation of forms.

Staff activity data: Stripping any patient names from staff activity forms, prior to returning them to the MH-CASC office.

Patient attribute data: Providing patient identifiers (e.g. unique identifier, age, service code used, key worker) and service details to each episode of care (e.g. patient type, episode start date, episode end date, leave days) and transferring them from existing systems, such as hospital morbidity data, where possible. Any patient names should be removed from these forms when they reach the Site Co-ordinator.

5. Despatching forms to the MH-CASC office.

Forms should be despatched to the MH-CASC office on a weekly basis, including briefings regarding missing data, etc.

6. Acting as trainer, problem-solver and motivator.

A large portion of the Site Co-ordinator's role involves providing support and motivation. It also involves making the task as easy as possible for clinicians by proactively training new staff and responding to specific problems as they arise. The Site Co-ordinator should identify and attend regular meetings held at sites, since these will provide ideal venues for discussing common issues.

7. Providing feedback.

Site Co-ordinators should regularly provide feedback to staff, based on their own observations and on the reports which the MH-CASC team will generate.

8. Following up on additional data relating to service utilisation and costs.

In addition to the data collected via the forms, Site Co-ordinators will be required to follow-up additional cost input items, such as pharmacy and pathology, on a weekly basis. They will also be required to undertake follow-up discussions between the MH-CASC team and finance staff at their site to ensure that the necessary data are available and provided.

Site Co-ordinator's role during the one-month following the study period

After the three-month study period ends (mid-night 30 November) no further staff activity data will be collected and no new patients will be registered. However, every effort will be made to follow patients who are still in scope to the conclusion of their episode of care. This means that for one month, the Site Co-ordinator will continue to collect and reconcile forms, monitor data quality and despatch forms to the MH-CASC office. Additional efforts may need to be made in explaining to staff which patients have remained in scope and why. This final month will be used by the Site Co-ordinator to make a concerted effort to pursue any missing data.

Appendix B-10

Commonly Asked Questions About the MH-CASC Project

Extract from MH-CASC Study Manual

Q **Why should our service participate in a study which will create a classification system on which output based funding could be based?**

A Consumers using mental health services are a diverse group. Different classes of consumers have different treatment needs, require different patterns of care, and use different levels of resources. However, until now, most mental health services have been funded as though these consumers were all the same. Output based funding reflects the activities undertaken in treating cases differing in complexity.

All states and territories are committed to the idea of implementing output based funding in some form or another in the near future, and will make use of the best classification system available. AN-DRGs are the only alternative at present, and they have been shown to be technically inefficient in explaining differences in resource use for mentally ill patients. One of the reasons for this is the fact that AN-DRGs are based primarily on diagnosis, and take little account of other patient attributes. Service providers from a range of disciplines and settings who sit on our Clinical Reference Group and participated in a number of Clinical Panels, have told us that other factors, such as severity of illness and level of functioning play an important role in predicting resource requirements. We believe that we can create a classification system that more accurately classifies patients.

By participating in this study, your service will have the opportunity to influence the final classification system, and demonstrate the resource requirements of some of your more complex patients.

On the advice of members of our Clinical Reference Group, we believe that while output based funding is preferable to current funding systems in mental health, a better option still is outcome based funding. States and territories are also keen to move in this direction. Another benefit of the MH-CASC Project is that it is using the HoNOS, which provides a measure of clinical outcomes. In addition, it is providing data which will allow the HoNOS to be refined in the Australian context.

Q **What will participation involve for staff at this service?**

A During the three month study period, participating staff will complete staff activity forms which document the time they spend providing services to or on behalf of patients. They will also collect patient attribute data on patients involved in the study on a fortnightly basis.

Q **Is it necessary to collect so much patient attribute data?**

A The Clinical Reference Group and Clinical Panels made suggestions about the possible patient attributes which might influence resource utilisation and patterns of care. Since

we don't know which of these factors will have a positive predictive power, and we want to "get it right first time", we have to cast our net fairly widely.

Q **Why is the patient attribute data being collected on a fortnightly basis?**

A The patient attribute data needs to be collected relatively frequently, because we don't know how often the patient's care type will change. If we want to be able to link patient attributes to episodes of care at the analysis stage, we need to insert a regular probe to check on clinical factors associated with the patient.

Q **Is this a "time and motion" study?**

A No. It is a patient centred study, not a staff centred study. We're interested in understanding the relationship between patient attributes and resource utilisation. In other words, we're not interested in staff activities for their own sake; we're only interested in them in so far as they demonstrate the resources required to treat a particular patient. The final report will describe the resources groups of patients get, not what groups of staff do. Management at sites will not have access to staff activity data on an individual basis.

Q **Is it necessary to collect such detailed staff activity data?**

A Yes. The MH-CASC team considers that this is very important. The alternative is to assume that all patients receive the same amount of staff time on a given day, and base funding on length of hospital stay or number of days in care in the community.

Q **Do all staff at our service need to collect staff activity data?**

A Yes. If only some staff contribute staff activity data, we'll only have a partial picture of the resources required to treat particular groups of patients. In the analysis, this will underestimate the cost of providing care.

Q **Will agencies have access to their own data?**

A Yes. Agencies will be given back their own data, but not at an individual level. National level data will be held by the MH-CASC team. Ultimately, all data is Commonwealth property.

Q **Will non-government organisations (NGOs) be part of the study?**

A The MH-CASC team recognises that resources from a variety of sources are involved in mental health care. Within the scope of the study are public hospital inpatient psychiatric units, stand-alone public psychiatric hospitals, and community-based public mental health services. Private hospitals providing mental health care have also been included. An attempt is also being made to use Health Insurance Commission data, so that private psychiatrists (and possibly general practitioners) are also included. While it would be desirable to include NGOs, they present a difficulty, because of the logistic problem of tracking patients who had presented to public or private facilities as they moved through the NGOs. At sites where local knowledge suggests that the NGOs are large and significant, we will look at the possibility of including them, but in most instances they will be excluded.

Q **Why was this service selected?**

A Services were selected for inclusion in the study if they were recognised as "best practice" leaders in the field, and provided a comprehensive, integrated range of services. Every effort was also made to ensure that the study had representation from inpatient and community services, all states and territories, and urban and provincial regions.

Q **Why is the data collection period so long? Do we really need to collect data for 3 months?**

A Members of the Clinical Panels and Clinical Reference Group have indicated to us that because a high proportion of mental health consumers have illnesses which are chronic in nature, they will frequently experience quite lengthy episodes of care. Conducting the study over a three month period will give us enough data to look at factors which are predictive of levels of resource utilisation within reasonably long episodes.

Q **How will the study help consumers?**

A The study will provide the building blocks for establishing a fairer funding system. It will also provide information on patterns of care and outcomes, which will allow mental health care services to consider whether modifications are required to improve their practice.

PART C

Patient Clinical Measures

Appendix C-1
Summary of Patient Attribute Data

Data items collected across the episode: Identifiers

Four types of identifiers were collected on all patient attribute forms. Together, they provided the potential for a given patient to be tracked within and across settings, thereby enabling patterns of care to be established for particular sub-classes of patients.

Local UR number

Local UR number was the unique patient identifier identified by the local service (as per National Health Data Dictionary, V4.0, 1995). This variable enabled unique patient identification at the service level.

Service/facility code

Each site was allocated at least one Service/facility identification number, which identified the individual service.

Ward/team code

A code was allocated by the Site Co-ordinator to identify the program or ward within the facility in which the staff member was based. This variable was necessary to describe the types of services provided to patients.

Staff Code

A unique number allocated to each health service provider at each facility by the Site Co-ordinator which enabled the identification of staff classification for costing. It also enabled the follow-up of any missing data, particularly items requiring detailed knowledge of the patient.

MH-CASC ID and Episode Number

In addition to the identifiers collected on the forms, two identifiers were automatically generated by the computerised Episode Registration and Tracking Tool (see Chapter 6, Volume 1). Firstly, an MH-CASC ID was generated which allowed patients to be tracked across sites, and across episodes within sites. This ensured, for example, that someone with two UR numbers at a given site, or someone who was seen by two sites within the scope of the study, could be recognised as one individual. Secondly, an episode number was automatically generated, which consecutively numbered the episodes of care for a given individual during the study period. This was necessary to sequence multiple episodes of care per patient.

Data items collected at episode registration: Psychiatric service details

The following psychiatric service details were collected at the beginning of each episode on the *Episode Registration Form*.

Episode type

Episode type referred to the setting in which the episode of care was provided, with the three types of episode being:

- acute inpatient
- non acute inpatient
- community

See Chapter 3, Volume 1 for definitions.

Admission date (inpatient episodes only)

This referred to the date of admission to the inpatient unit (dd/mm/yy), defined according to the National Health Data Dictionary (Version 4, 1995) as the date on which the hospital records the commencement of treatment and/or care and accommodation. For patients who were admitted before the commencement of the study, the actual date of the current admission (i.e. pre 1 September 1996) was entered. No patient could have an admission date of later than 30 November 1996.

First contact date (community episodes only)

This was recorded as the date of the first face-to-face contact with the patient for the current episode following commencement of the study (dd/mm/yy). Only dates between 1 September and 30 November 1996 were valid.

Arrangements for further service (community episodes only)

This item indicated whether arrangements had been made for the patient to be seen again by the mental health service beyond the initial contact, and was used to identify 'one-off' assessment and/or referral patients, for whom future clinical ratings were not required. Clinicians coded this item in the following manner: ❶ Yes; ❷ No; ❸ Don't Know.

Previous registration (community episodes only)

This item indicated whether the patient had had a previous episode of care registered in the MH-CASC study, and was coded as follows: ❶ Yes; ❷ No; ❸ Don't Know.

New patient (community episodes only)

For patients who had not been previously registered to the MH-CASC study, this item indicated whether they had previously been treated by the agency. Clinicians were required to use one of two codes: ❶ New patient - No prior treatment by this agency; ❷ Not a new patient - treated by this agency prior to this contact.

Last seen (community episodes only)

For patients rated as 'Not a new patient' above, this item indicated when the patient was last seen by the agency. Clinicians were given four possible responses: ❶ 3 months or less; ❷ More than 3 months, less than 6 months; ❸ 6 to 12 months;❹ More than 12 months.

Data items collected at episode registration: Socio-demographic and environmental variables

A range of socio-demographic and environmental variables were collected on the *Episode Registration Form*. Some of these (e.g. age) were identified by the literature and the Clinical Panels as being likely to impact upon resource utilisation. Others were collected primarily to enable statements to be made about the representativeness of the sample in the context of population indicators. In addition, some provided extra patient identifying information.

A small number of additional socio-demographic variables were collected in specialist child and adolescent psychiatric services.

Sex

The sex of the patient was recorded as a basic demographic data item, and provided additional patient identification information. Clinicians coded this item as: ❶ male; ❷ female.

Date of birth

The date of birth of patient (dd/mm/yy) was also recorded as a basic demographic data item which acted as an additional patient identifier.

Country of birth

Country of birth was defined as the country in which patient was born (as per the National Health Data Dictionary, V4.0, 1995). This item also provided basic demographic data information and additional patient identification information. It was also identified as potentially impacting on resource utilisation. Coding was according to the Australian Standard Classification of Countries for Social Statistics (ASCCSS), at the 2-digit (individual country) level (Australian Bureau of Statistics Cat. No. 1269.0).

Aboriginality

Aboriginality was defined as whether or not the patient was of Aboriginal or Torres Strait Islander descent, who identifies as an Aboriginal or Torres Strait Islander and is accepted as much by the community with which he/she is associated (as per National Health Data Dictionary, V4.0, 1995). This was collected as a basic demographic data item, and coded as: ❶ Aboriginal or Torres Strait Islander; ❷ Other.

Postcode

The patient's postcode was collected as a basic demographic data item, coded as four digits, and defined as the postcode of his/her usual residential address at the beginning of the episode.

Interpreter required

This item was defined as the need for interpreter services as perceived by the person, with the actual provision of interpreter services being irrelevant (as per National Health Data Dictionary, V4.0, 1995). The need for an interpreter was identified as relevant to complexity of patients' needs and potentially impacting on resource utilisation. This item was coded as: ❶ Interpreter required; ❷ Interpreter not required.

Marital status

Marital status, defined as marital status at the beginning of the episode, was identified as potentially impacting on resource utilisation. Clinicians were asked to code this item in the following manner: ❶ Never married; ❷ Widowed;❸ Divorced; ❹ Separated; ❺ Married (including defacto); ❻ Not stated/Inadequately described.

Number of dependent children <5yrs

This item was defined as the number of children under 5yrs who usually depend upon the patient for their care. This was identified as potentially impacting on resource utilisation, and was coded as the appropriate number.

Pension status

Pension status, taken at the beginning of the episode, was identified as potentially impacting on resource utilisation. Clinicians were asked to code this item as follows: ❶ None; ❷ Unemployment Benefit; ❸ Sickness Allowance; ❹ Aged Pension; ❺ Disability Support Pension; ❻ Repatriation Pension; ❼ Other; ❽ Unknown.

Usual accommodation

This variable was defined as the type of usual accommodation at the beginning of the episode of care, and was identified as potentially impacting on resource utilisation. This item was coded as follows: ❶ None; ❶ Private Flat/House; ❷ Specialised Residential Support Service; ❸ Special Accommodation House; ❹ Boarding House; ❺ Nursing Home/Institution; ❻ Homeless Persons' Shelter; ❼ Hostel; ❽ Caravan; ❾ Unknown.

Data items collected each 14 days of episode: Clinical details

Clinical details relating to both the treatment and illness history and the current episode were collected every 14 days of the episode on the *Repeat Clinical Ratings Form*. All were included because the Clinical Panels and research literature identified them as likely key factors in influencing resource use and service patterns. Each is described below.

Psychiatric diagnosis

A provisional principal diagnosis was recorded on the first *Repeat Clinical Ratings Form*, but not at subsequent assessments. A tailor made coding system based on ICD-10 clinical terms and ICD-9-CM codes was used. The clinical coding summary for diagnosis can be found in Appendix 10.

Severity and level of functioning

Specific instruments used to measure severity and level of functioning included:

- The Health of the Nation Outcome Scales (HoNOS)
- Resident Classification Instrument Behaviour Scale (RCI)
- The Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)
- Life Skills Profile (LSP)

- The Resource Utilisation Groups - Activities of Daily Living (RUG-ADL)
- The Children's Global Assessment Scale (CGAS)
- Focus of care
- Legal status

Each of these is described in Chapter 4. Further details can be found in the Appendices that follow this section.

Data items collected at end of episode: Psychiatric service details

A range of items associated with psychiatric service details were collected at the end of each episode on the *Final Clinical Rating Form.*

Episode end date

This item referred to the date of completion of treatment within each of the three episode of care types (dd/mm/yy). For inpatients, this was the date on which the patient was discharged, transferred to another setting or died. For patients with currently open episodes at the end of the data collection period, episode end date was deemed to be the study end date (i.e. 30 November 1996)

Reason for episode end

This item identified the reason why the episode ended. Clinicians were given the opportunity to code one of seven options: ❶ Treatment setting change, within area (i.e. episode ended because the patient moved to another treatment setting under the control of the participating site) ❷ Treatment setting change, out of area (i.e. episode ended because the patient moved to another treatment setting external to the participating site) ❸ Treatment complete, no further treatment arranged (i.e. episode ended because the patient was discharged from care with no further arrangements made for follow-up) ❹ Deceased ❺ Lost to care (i.e. episode ended because the patient terminated treatment against advice, or was unable to be located for follow-up care) ❻ Contact deferred (i.e. episode ended after the patient underwent initial assessment, but the treatment was deferred to a future time) ❼ Episode ongoing, end of study (i.e. the patient was still in receipt of care at the completion of the study on 30 Nov 1996).

Data items collected at end of episode: Socio-demographic and environmental variables

In child and adolescent specialist mental health services, some additional socio-demographic and environmental variables were collected at the end of each episode on the *Final Clinical Ratings Form*.

Living with (Child and adolescent services only)

This item referred to the person or people with whom the child/adolescent lives, and was identified as potentially impacting on resource utilisation. Clinicians coded this item as follows: ❶ Two natural parents; ❶ Two adoptive parents; ❷ Mother and stepfather/defacto/other; ❸ Father and stepmother/defacto/other; ❹ Mother alone; ❺ Father alone; ❻ Relative(s); ❼ Foster parents; ❽ Living in institution; ❾ Living independently; ❿ Other.

Guardianship (Child and adolescent services only)

This item ascertained the current legal guardian(s) of the child/adolescent, since this had been identified as potentially impacting on resource utilisation. Clinicians used the following codes: ❶ Two natural parents; ❷ Two adoptive parents; ❸ Mother and stepfather/defacto/other; ❹ Father and stepmother/defacto/other; ❺ Mother alone; ❻ Father alone; ❼ Relative(s); ❽ State agency; ❾ Other.

Family court involvement (Child and adolescent services only)

This item identified whether or not the child/adolescent was subject of proceedings currently before the family court, since this had been identified as potentially impacting on resource utilisation. This item was coded: ❶ Yes; ❷ No; ❸ Not known.

Juvenile justice indicator (Child and adolescent services only)

This item identified whether or not the child/adolescent was involved in the juvenile justice system at any time during the period rated, since this had been identified as potentially impacting on resource utilisation. This item was coded: ❶ Yes; ❷ No; ❸ Not known.

Family income (Child and adolescent services only)

This item identified whether or not the family's main source of income was a pension during the period rated, since this had been identified as potentially impacting on resource utilisation. This item was coded: ❶ Yes; ❷ No; ❸ Not known.

Data items collected at end of episode: Clinical details

As noted earlier, all of the clinical items collected on the *Repeat Clinical Ratings Form* were also collected on the *Final Clinical Ratings Form*, with some additional items also being collected on the latter.

Psychiatric service history

This item referred to the patient's psychiatric treatment history, defined as whether he/she had ever received psychiatric treatment prior to the current episode of care, and, if so, where. This had been identified as potentially impacting on current service utilisation. Clinicians coded this item as follows: ❶ None; ❷ Previous inpatient admission (with or without community care); ❸ Previous community care only; ❹ Unknown.

Time since first psychiatric treatment

This item was included as a proxy for recency of onset, identified as potentially impacting upon resource use. Specifically, it referred to the length of time since the patient first received treatment from a specialist mental health service. The following codes were used: ❶ Less than 3 months; ❷ 3 to 6 months; ❸ More than 6 months, less than 12 months; ❹ 12 to 24 months; ❺ More than 24 months; ❻ Unknown.

Psychiatric diagnoses

As noted above, the Provisional Psychiatric Diagnosis collected in the first 14 days of the episode was strengthened by collecting a full and final Principal Psychiatric Diagnosis and up to three Additional Psychiatric Diagnoses at the end of the episode. Coding was again as per Appendix 10.

Other diagnoses

Other diagnoses were defined as any other medical conditions requiring clinical evaluation, therapeutic treatment, diagnostic procedures or increased clinical care/monitoring. Again, these were identified by the literature and the Clinical Panels as being likely to impact on resource utilisation. Other diagnoses were recorded as text.

Severity and level of functioning

The same measures of severity and level of functioning were used on the *Final Clinical Ratings Form* as on the *Repeat Clinical Ratings Form*. For patients seen in adult services, these were the HoNOS and the LSP, which were supplemented by the Behaviour Scale of the RCI and the RUG-ADL for those over 65 and/or those with chronic organic brain syndrome. For patients seen in child and adolescent services, these were the HoNOSCA and the CGAS. The instructions for all instruments were the same as those on the *Repeat Clinical Ratings Form*, with the acknowledgement that the 'period rated' with a given instrument might be less than 14 days.

Focus of care

Focus of care was reported on the *Final Clinical Ratings Form* in the same was as on the *Repeat Clinical Ratings Form*. As with severity and level of functioning, it was recognised that the ratings period for which the clinician was asked to describe the patient's *main* Focus of Care might be shorter than 14 days.

Legal status

Likewise, legal status was ascertained in the same way on the *Final Clinical Ratings Form* as on the *Repeat Clinical Ratings Form*, again with the recognition that the period rated might be less than 14 days.

Factors influencing health status (Child and adolescent services only)

This set of items was included on the *Final Clinical Ratings Form* only for patients in specialised child and adolescent mental health services. See Chapter 4, Volume 1 for details.

A rating system based on the taxonomy of *'selected factors influencing health status and contact with health services'* used in the International Classification of Diseases (ICD) was adopted, requiring clinicians to indicate the presence/absence of each of the following seven factors:

- maltreatment syndromes;
- problems related to negative life events in childhood;
- problems related to upbringing; problems related to primary support group, including family circumstances;
- problems related to social environment;
- problems related to certain psychosocial circumstances; and
- problems related to other psychosocial circumstances

Appendix C-2

Glossary for Health of the Nation Outcome Scales (HoNOS)

Summary of rating instructions:

1) Rate each scale in order from 1 to 12

2) Do not include information rated in an earlier Scale

3) For each item, rate the MOST SEVERE problem that occurred during the period rated

4) All scales follow the format

0 = no problem
1 = minor problem requiring no action
2 = mild problem but definitely present
3 = moderately severe problem
4 = severe to very severe problem

NB: RATE 9 IF NOT KNOWN OR NOT APPLICABLE

Scale 1 Problems resulting from overactive, aggressive, disruptive or agitated behaviour

- Concerned with all four types of behaviours, whether or not there is intention, insight or awareness.
- Context must be considered (e.g. vigorously expressed disagreement is more acceptable in some social contexts than others).
- Diagnosis is not taken into account (e.g. disruptive behaviour by someone with dementia is rated here).
- *Include such behaviour due to any cause, (e.g. drugs, alcohol, dementia, psychosis, depression, etc.).*
- *Do not include bizarre behaviour, rated at Scale 6.*

0 No problems of this kind during the period rated

1 Irritability, quarrels, restlessness etc, not requiring action

2 Includes occasional aggressive gestures, pushing or pestering others; threats or verbal aggression; lesser damage to property (e.g. broken cup, window); marked overactivity or agitation

3 Physically aggressive to others or animals (short of rating 4); threatening manner; more serious overactivity or destruction of property

4 At least one serious physical attack on others or on animals; destructive of property (e.g. fire-setting); serious intimidation or obscene behaviour

Scale 2 Suicidal thoughts or behaviour; non-accidental self-injury

- Deals with ideas or acts of self-harm in terms of their severity or impact.
- Issue of intent, though sometimes difficult to assess, is part of the current risk assessment.
- Thus, severe harm caused by an impulsive overdose could be rated at severity point 3 rather than 4 if the clinician judged that the patient had not intended more than a moderate demonstration. Conversely, a patient who acquired a gun with clear intent to commit suicide, but was prevented in time, would be rated at point 4.
- However, in the absence of strong evidence to the contrary, clinicians will usually assume that results of self-harm were intended.
- Risk of future self-harm is not part of this rating.
- *Do not include accidental self-injury (due e.g. to dementia or severe learning disability); the cognitive problem is rated at Scale 4 and the injury at Scale 5.*
- *Do not include illness or injury as a direct consequence of drug/alcohol use rated at Scale 3 (e.g. cirrhosis of the liver or injury resulting from drink driving are rated at Scale 5).*

0 No problem of this kind during the period rated
1 Fleeting thoughts about ending it all but little risk during the period rated; no self-harm
2 Mild risk during period rated; includes non-hazardous self-harm (e.g. wrist-scratching)
3 Moderate to serious risk of deliberate self-harm during period rated; includes preparatory acts (e.g. collecting tablets)
4 Serious suicidal attempt and/or serious deliberate self-injury during the period rated

Scale 3 Problem drinking or drug taking

- Consider characteristics such as craving or tolerance for alcohol or drugs, priority over other activities given to their acquisition and use, impaired capacity to control quantity taken, frequency of intoxication, and risk taking (e.g. drunk driving).
- Temporary effects such as hangovers should also be included here.
- *Do not include aggressive/destructive behaviour due to alcohol or drug use, rated at Scale 1; longer term cognitive effects such as loss of memory, rated at Scale 4; physical illness or disability due to alcohol or drug use, rated at Scale 5; mental effects, rated at Scales 6-8; problems with relationships, rated at Scale 9.*

0 No problem of this kind during the period rated
1 Some over-indulgence but within social norm
2 Loss of control of drinking or drug-taking, but not seriously addicted
3 Marked craving or dependence on alcohol or drugs with frequent loss of control, risk taking under the influence
4 Incapacitated by alcohol/drug problems

Scale 4 Cognitive problems involving memory, orientation, understanding

- Intellectual and memory problems associated with any disorder are taken into account e.g. problems in naming or recognising familiar people, pets or objects; not knowing the day, date or time; difficulties in understanding or using speech (in own language); failure to remember important matters; not recognising common dangers (gas taps, ovens, crossing busy roads); clouding of consciousness and stupor.
- *Include problems of memory, orientation and understanding associated with any disorder: e.g. learning disability, dementia, schizophrenia, etc.*
- *Do not include temporary problems (e.g. hangovers) resulting from drug/alcohol use, rated at Scale 3.*

0 No problem of this kind during the period rated

1 Minor problems with memory or understanding, e.g. forgets names occasionally

2 Mild but definite problems, e.g. has lost the way in a familiar place or failed to recognise a familiar person; sometimes mixed up about simple decisions

3 Marked disorientation in time, place or person, bewildered by everyday events; speech is sometimes incoherent; mental slowing

4 Severe disorientation, (e.g. unable to recognise relatives); at risk of accidents; speech incomprehensible; clouding or stupor

Scale 5 Problems associated with physical illness or disability

- Consider impact of physical disability or disease on patient's recent past.
- Problems likely to clear up fairly rapidly, without longer term consequences are rated 0 or 1.
- A patient in remission from a possibly long-term illness is rated on the worst state in the period, not on the prospective level.
- The rating at points 2-4 is made in terms of degree of restriction on activities, irrespective of the type of physical problem.
- *Include illness or disability from any cause that limits or prevents movement, or impairs sight or hearing, or otherwise interferes with personal functioning.*
- *Include side-effects from medication; effects of drug/alcohol use; physical disabilities resulting from accidents or self-harm associated with cognitive problems, drink-driving etc.*
- *Include physical results of accidents or self injury in the context of severe cognitive problems.*
- *Do not include mental or behavioural problems rated at Scale 4.*

0 No physical health problem during the period rated

1 Minor health problem during the period (e.g. cold, non-serious fall, etc)

2 Physical health problem imposes mild restriction on mobility and activity

3 Moderate degree of restriction on activity due to physical health problem

4 Severe or complete incapacity due to physical health problem

Scale 6 Problems associated with hallucinations and delusions

- Rating point 1 is reserved for harmless eccentricity or oddness.
- If patient has delusional conviction of royal descent but does not act accordingly and is not distressed, rating is at point 2.
- If patient is distressed, or behaves bizarrely in accordance with the delusion (e.g. acting in a grandiose manner, expecting to be admitted to the royal palace) the rating is at points 3 or 4.
- *Include hallucinations and delusions irrespective of diagnosis.*
- *Include odd and bizarre behaviour associated with hallucinations or delusions.*
- *Do not include aggressive, destructive or overactive behaviours attributed to hallucinations or delusions, rated at Scale 1.*

0 No evidence of hallucinations or delusions during the period rated

1 Somewhat odd or eccentric beliefs not in keeping with cultural norms

2 Delusions or hallucinations (e.g. voices, visions) are present, but there is little distress to patient or manifestation in bizarre behaviour, i.e. clinically present but mild

3 Marked preoccupation with delusions or hallucinations, causing much distress and/or manifested in obviously bizarre behaviour, i.e. moderately severe clinical problem

4 Mental state and behaviour is seriously and adversely affected by delusions or hallucinations, with severe impact on patient

Scale 7 Depressed mood

- Depressed mood and symptoms closely associated with it often occur in disorders other than depression.
- Consider symptoms only - e.g. loss of self esteem and guilt. These are rated at Scale 7, irrespective of diagnosis. The more such symptoms there are, the more severe the problems tend to be.
- *Do not include overactivity and agitation, rated at Scale 1; suicidal ideation or attempts, rated at Scale 2; stupor, rated at Scale 4; delusions and hallucinations, rated at Scale 6; sleep and appetite problems at 8G and 8H.*

0 No problems associated with depressed mood during the period rated

1 Gloomy; or minor changes in mood

2 Mild but definite depression and distress: (e.g. feelings of guilt; loss of self-esteem)

3 Depression with inappropriate self-blame, preoccupied with feelings of guilt

4 Severe or very severe depression, with guilt or self-accusation

Scale 8 Other mental and behavioural problems

- Provides opportunity to rate symptoms not included in previous clinical scales. Several types of problem are specified .
- *Rate only the most severe clinical problem not considered at Scales 6 and 7* ***as follows:***

Specify the type of disorder by entering the appropriate letter:

A phobic (including fear of leaving home, crowds, public places, travelling, social phobias and specific phobias)**; B anxiety** (and panics)**; C obsessive-compulsive; D stress** (reactions to severely stressful events and traumas)**; E dissociative** ('conversion' problems)**; F somatoform** (persisting physical complaints in spite of full investigation and reassurance that no disease is present)**; G eating** (problems with appetite, or over- or under-eating)**; H sleep; I sexual; J other**.

0 No evidence of any of these problems during period rated

1 Minor non-clinical problems

2 A problem is clinically present at a mild level (e.g. patient/client has a degree of control)

3 Occasional severe attack or distress, with loss of control (e.g. has to avoid anxiety provoking situations altogether, call in a neighbour to help, etc) i.e. moderately severe level of problem

4 Severe problem dominates most activities

Scale 9 Problems making supportive social relationships

- Concerns quality as well as quantity of patient's communications and social relationships with others. Both active and passive relationships are considered, as are problems arising from patient's own intrusive or withdrawn behaviour.
- Take into account the wider social environment as well as the family or residential scene. Is the patient able to gain emotional support from others? If patients with dementia or learning disability are over friendly, or unable to interpret or use language (including body language) effectively, communication and relationships are likely to be affected. People with personality problems (rated independently of diagnosis) can find it difficult to retain supportive friendships. If patient is rather solitary, but self sufficient, competent when with others, and satisfied with the level of social interaction, the rating would be 1.
- Near-total isolation (whether because patient withdraws, or is shunned by others, or both) is rated 4.
- Take degree of patient's distress about personal relationships, as well as degree of withdrawal or difficulty, into account when deciding between points 2 and 3.
- *Do not include aggressive behaviour by patient towards another, rated at Scale 1.*
- *Rate the patient's most severe problem associated with active or passive withdrawal from social relationships, and/or non-supportive, destructive or self-damaging relationships.*

0 No significant problems during the period rated

1 Minor non-clinical problems

2 Definite problems in making or sustaining supportive relationships: patient complains and/or problems are evident to others

3 Persisting major problems due to active or passive withdrawal from social relationships, and/or to relationships that provide little or no comfort or support

4 Severe and distressing social isolation due to inability to communicate socially and/or withdrawal from social relationships

Scale 10 Problems associated with daily living: Overall disability

- Consider overall level of functioning achieved by patient during period rated.
- Rate level of actual performance, not potential competence.
- If performance is moderately or seriously low on self-care activities (e.g. eating, washing, dressing, toileting), rate 3 or 4. If higher level skills in occupational and recreational activities (e.g. money management, household shopping, child care) are normal or as adequate as they can be, rate 0 or 1.
- *Do not include lack of opportunities for exercising intact abilities and skills, rated at Scales 11-12.*

0 No problems during period rated; good ability to function in all areas

1 Minor problems only; e.g. untidy, disorganised

2 Self-care adequate, but major lack of performance of one or more complex skills (see above)

3 Major problems in one or more area of self-care (eating, washing, dressing, toilet) as well as major inability to perform several complex skills.

4 Severe disability or incapacity in all or nearly all areas of self-care and complex skills

Scale 11 Opportunities for using and improving abilities: Where patient is living

- Summarises degree to which patient's ability to use intact functions is restricted by residential environment.]
- Note that Scale 11 is independent of Scale 12, and ratings on the two Scales may differ.
- Requires knowledge of patient's usual domestic environment during period rated. If this information is not available, rate 9.
- Consider overall level of performance patient could reasonably be expected to achieve given help in an appropriate domestic environment. Take into account balance of skills and disabilities. How far does the environment restrict, or support, patient's optimal performance and quality of life? Rating must be realistic, taking into account the overall problem level during the period, and ratings on Scales 1-10.
- If basic level conditions (e.g. heating, light, food, money, clothes, security and dignity) aren't met, rate 4. If so, is there help to cope with disabilities and a choice of opportunities to use skills and develop new ones?
- *Do not rate the level of functional disability itself, rated at Scale 10.*

NB: Rate patient's usual accommodation. If in acute ward, rate the home accommodation. If information not available, rate 9.

0 Accommodation and living conditions are acceptable; helpful in keeping any disability rated at Scale 10 to the lowest level possible, and supportive of self-help

1 Accommodation is reasonably acceptable although there are minor or transient problems (e.g. not ideal location, not preferred option, doesn't like the food, etc.)

2 Significant problems with one or more aspects of the accommodation and/or regime (e.g. restricted choice; staff or household have little understanding of how to limit disability, or how to help use or develop new or intact skills)

3 Distressing multiple problems with accommodation; e.g. some basic necessities absent; housing environment has minimal or no facilities to support patient's independence

4 Accommodation is unacceptable: e.g. lack of basic necessities, patient is at risk of eviction, or 'roofless', or living conditions are otherwise intolerable making patient's problems worse

Scale 12 Opportunities for using and improving abilities: Occupational and recreational

- Scale 12 summarises degree to which patient's ability to use intact functions is restricted by daytime environment. Principles considered at Scale 11 also apply to the outside environment.
- Consider arrangements for encouraging activities such as shopping, using libraries etc. Take into account accessibility, hours of opening etc. Are specific courses available to address deficits or provide new skills/interests? Is a sheltered outside space available if patient is vulnerable in public (e.g. because of odd mannerisms, talking to self etc)? For how long is patient unoccupied during day? Do staff know what patient's capacities are?
- If level of autonomy in daytime activities is not restricted, rate 0. A full but less adequate regime is rated 1. If minimal conditions for daytime activities are not met (with patient severely neglected and/or with virtually nothing constructive to do, rate 4.
- Between these poles, a judgement is required as to how far the environment restricts achievable autonomy - 2 indicates moderate restriction; 3 substantial.
- *Rate the most severe problem with quality of daytime environment. Is there help to cope with disabilities, and opportunities for maintaining or improving occupational and recreational skills and activities?*
- *Consider factors such as stigma, lack of qualified staff, access to supportive facilities, e.g. staffing and equipment of day centres, workshops, social clubs, etc.*
- *Do not rate the level of functional disability itself, rated at Scale 10.*

NB: Rate patient's usual situation. If in acute ward, rate activities during period before admission. If information not available, rate 9.

0 Patient's daytime environment is acceptable: helpful in keeping any disability rated at Scale 10 to the lowest level possible, and supportive of self-help

1 Minor or temporary problems (e.g. late social security cheques); reasonable facilities available but not always at desired times, etc.

2 Limited choice of activities; e.g. there is a lack of reasonable tolerance (e.g. unfairly refused entry to public library or baths, etc); or handicapped by lack of a permanent address; or insufficient carer or professional support; or helpful day setting available but for very limited hours

3 Marked deficiency in skilled services available to help minimise level of existing disability; no opportunities to use intact skills or add new ones; unskilled care difficult to access

4 Lack of any opportunity for daytime activities makes patient's problems worse

Appendix C-3

Abbreviated Life Skills Profile (LSP-16)

ABBREVIATED LIFE SKILLS PROFILE

Assess the patient's general functioning over the past three months. Do not assess functioning during crises when the patient was ill or becoming ill. Answer all 16 items by circling the appropriate response on the line.

1) Does this person generally have any difficulty with initiating and responding to conversation?

No difficulty with conversation	Slight difficulty with conversation	Moderate difficulty with conversation	Extreme difficulty with conversation

2) Does this person generally withdraw from social contact?

Does not withdraw at all	Withdraws slightly	Withdraws moderately	Withdraws totally or near totally

3). Does this person generally show warmth to others?

Considerable warmth	Moderate warmth	Slight warmth	No warmth at all

4) Is this person generally well groomed (e.g. neatly dressed, hair combed)?

Well groomed	Moderately well groomed	Poorly groomed	Extremely poorly groomed

5) Does this person wear clean clothes generally, or ensure that they are cleaned if dirty?

Maintains cleanliness of clothes	Moderate cleanliness of clothes	Poor cleanliness of clothes	Very poor cleanliness of clothes

6) Does this person generally neglect her or his physical health?

No neglect	Slight neglect of physical problems	Moderate neglect of physical problems	Extreme neglect of physical problems

7) Is this person violent to others?

Not at all	Rarely	Occasionally	Often

8) Does this person generally make and/or keep up friendships?

Friendships made or kept up well	Friendships made or kept up with slight difficulty	Friendships made or kept up with considerable difficulty	No friendships made or none kept up

9) Does this person generally maintain an adequate diet?

No problem	Slight problem	Moderate problem	Extreme problem

10) Does this person generally look after and take her or his own prescribed medication (or attend for prescribed injections on time) without reminding?

Reliable with medication	Slightly unreliable	Moderately unreliable	Extremely unreliable

11) Is this person willing to take psychiatric medication when prescribed by a doctor?

Always	Usually	Rarely	Never

12) Does this person co-operate with health services (e.g. doctors and/or other health workers)?

Always	Usually	Rarely	Never

13) Does this person generally have problems (e.g. friction, avoidance) living with others in the household?

No obvious problem	Slight problems	Moderate problems	Extreme problems

14) Does this person behave offensively (includes sexual behaviour)?

Not at all	Rarely	Occasionally	Often

15) Does this person behave irresponsibly?

Not at all	Rarely	Occasionally	Often

16) What sort of work is this person generally capable of (even if unemployed, retired or doing unpaid domestic duties)?

Capable of full time work	Capable of part time work	Capable only of sheltered work	Totally incapable of work

Appendix C-4

Comparison of Abbreviated Life Skills Profile (LSP-16) with Original Version

The original 39 items of the Life Skills Profile (LSP) were evaluated with respect to the requirements for the MH-CASC Project. Specifically, the Project Team liaised with the LSP developers to identify an abbreviated set of items to measure four of the original five subscales. The original subscale, *Non-Turbulence*, was not considered since the content domain was covered adequately by the HoNOS. Re-analysis of the original development and validation data sets identified a subset of 16 items whose psychometric properties met a range of criteria and could form a reliable, abbreviated measure of the four remaining subscales.

The following table shows each of the original 39 items and how they relate to the original subscales identified by Parker et al. and revised subscales identified by Trauer et al. The final column shows the number of the LSP-16 item, as used in the MH-CASC Project on the Repeat Clinical Ratings and Final Clinical Ratings Forms.

LSP-16 items 1, 2, 3 & 8 form the *Withdrawal* subscale; items 4, 5, 6, 9 & 16 the *Self care* subscale; items 10, 11 & 12 the *Compliance* subscale and; items 7, 13, 14 & 15 the *Anti-social* subscale.

ORIGINAL ITEM NO.	ITEM DESCRIPTION	PARKER ET AL SUBSCALE	TRAUER ET AL SUBSCALE	LSP-16 ITEM NO.
1.	Does this person generally have difficulty with initiating and responding to conversation?	Communication	Withdrawal	1
2.	Does this person generally intrude or burst in on others' conversations (e.g. interrupts you when you are talking)?	Communication	Anti-social	
3.	Does this person generally withdraw from social contact?	Social contact	Withdrawal	2
4.	Does this person generally show warmth to others?	Social contact	Withdrawal	3
5.	Is this person generally angry or prickly towards others?	Non-turbulence	Anti-social	
6.	Does this person generally take offence readily?	Non-turbulence	Anti-social	
7.	Does this person generally make eye contact with others when in conversation?	Communication	Withdrawal	
8.	Is it generally difficult to understand this person because of the way he or she speaks (eg. jumbled, garbled or disordered)?	Communication	Bizarre	
9.	Does this person generally talk about odd or strange ideas?	Communication	Bizarre	

ORIGINAL ITEM NO.	ITEM DESCRIPTION	PARKER ET AL SUBSCALE	TRAUER ET AL SUBSCALE	LSP-16 ITEM NO.
10.	Is this person generally well-groomed (e.g. neatly dressed, hair combed)?	Self care	Self care	4
11.	Is this person's appearance (facial appearance, gestures) generally appropriate to his or her surroundings?	Communication	Bizarre	
12.	Does this person wash himself or herself without reminding?	Self care	Self care	
13.	Does this person generally have an offensive smell (e.g. due to body, breath or clothes)?	Self care	Self care	
14.	Does this person wear clean clothes generally, or ensure that they are cleaned if dirty?	Self care	Self care	5
15.	Does this person generally neglect her or his physical health?	Self care	Self care	6
16.	Does this person generally maintain an adequate diet?	Self care	Self care	9
17.	Does this person generally look after and take her or his own prescribed medication (or attend for prescribed injections on time) without reminding?	Responsibility	Compliance	10
18.	Is this person willing to take psychiatric medication when prescribed by a doctor?	Responsibility	Compliance	11
19.	Does this person co-operate with health services (e.g. doctors and/or other health workers)?	Responsibility	Compliance	12
20.	Is this person generally active (e.g. spends most of the time sitting or standing around doing nothing)?	Social contact	Withdrawal	
21.	Does this person generally have definite interests (e.g. hobbies, sports, activities) in which he or she is involved regularly?	Social contact	Withdrawal	
22.	Does this person attend any social organisations (e.g. church, club or interest group but excluding psychiatric therapy groups)?	Social contact	Withdrawal	
23.	Can this person generally prepare (if needed) her or his own food/meals?	Self care	Self care	
24.	Can this person generally budget (if needed) to live within his or her means?	Self care	Self care	
25.	Does this person generally have problems (e.g. friction, avoidance) living with others in the household?	Non-turbulence	Anti-social	13
26.	What sort of work is this person generally capable of (even if unemployed, retired or doing unpaid domestic duties)?	Self care	Self care	16

ORIGINAL ITEM NO.	ITEM DESCRIPTION	PARKER ET AL SUBSCALE	TRAUER ET AL SUBSCALE	LSP-16 ITEM NO.
27.	Does this person behave recklessly (eg. Ignoring traffic when crossing the road)?	Non-turbulence	Anti-social	
28.	Does this person destroy property?	Non-turbulence	Anti-social	
29.	Does this person behave offensively (includes sexual behaviour)?	Non-turbulence	Anti-social	14
30.	Does this person have habits or behaviours that most people find unsociable (e.g. spitting, leaving lighted cigarette butts around, messing up the toilet, messy eating)?	Self care	Anti-social	
31.	Does this person lose personal property?	Responsibility	Self care	
32.	Does this person invade others' space (rooms, personal belongings)?	Non-turbulence	Anti-social	
33.	Does this person take things which are not his or hers?	Responsibility	Anti-social	
34.	Is this person violent to others?	Non-turbulence	Anti-social	7
35.	Is this person violent to him or herself?	Non-turbulence	Anti-social	
36.	Does this person get into trouble with the police?	Non-turbulence	Anti-social	
37.	Does this person abuse alcohol or other drugs?	Non-turbulence	Anti-social	
38.	Does this person behave irresponsibly?	Non-turbulence	Anti-social	15
39.	Does this person generally make and/or keep friendships?	Social contact	Withdrawal	8

References:

Trauer T, Duckmanton RA, Chiu E (1995). The LSP: A study of its psychometric properties. *Australian and New Zealand Journal of Psychiatry,* 29, 492-499. [Note: This study made minor modifications to the LSP sub-scale structure to improve internal consistency.]

Rosen A, Parker G Hadzi-Pavlovic D. and Hartley R (1987) The Life Skills Profile: A measure assessing function and disability in schizophrenia. *Schizophrenia Bulletin*, 15, 325-337

Appendix C-5

The Resource Utilisation Groups - Activities of Daily Living Scale

GENERAL RULES OF SCORING:

- Record what the person actually does, not what they are capable of doing. That is, record the poorest performance of the assessment period.
- Do not leave any spaces blank except if the person is deceased.
- It is essential that the rater knows what behaviours and/or tasks are contained within each Scale and has a 'working knowledge' of the scale.

Bed Mobility: Ability to move in bed after the transfer into bed has been completed.

1 Independent/supervision: Is able to readjust position in bed, and perform own pressure area relief, through spontaneous movement around bed or with prompting from carer. No hands-on assistance required. May be independent with the use of a device.

3 Limited Assistance: Is able to readjust position in bed, and perform own pressure area relief, with the assistance of one person.

4 Other than Two-Person: Requires use of a hoist or other assistive device to readjust position in bed and physical assist pressure relief. Still requires the assistance of only one person for task.

5 Two-Person Physical Assist: Requires two assistants to readjust position, and perform own pressure area relief.

Toileting: Includes mobilising to the toilet, adjustment of clothing before and after toileting and maintaining perineal hygiene without the incidence of incontinence or soiling of clothes. *If the person cares for the catheter/other device independently and is independent on all other tasks, score 1.*

Record poorest performance if voiding and bowel care differ.

1 Independent/supervision: Is able to mobilise to the toilet, adjust clothing, cleans self, has no incontinence or soiling of clothing. All tasks performed independently or with prompting from carer. No hands on assistance required. May be independent with the use of a device.

3 Limited Assistance: Requires hands on assistance of one person for one or more of the tasks.

4 Other than Two-Person: Requires the use of a catheter/uridome/urinal and/or colostomy/bedpan/commode chair and/or insertion of enema/suppository. Requires the assistance of one person for the management of the device.

5 Two-Person Physical Assist: Requires two assistants to perform any step of the task.

Transfer: Includes the transfer in and out of bed, bed to chair, in and out of shower/tub.

1 Independent/supervision: Is able to perform all transfers independently or with prompting from carer. No hands-on assistance required. May be independent with the use of a device.

3 Limited Assistance: Requires hands-on assistance of one person to perform any transfer of the day/night.

4 Other than Two-Person: Requires the use of a device for any of the transfers performed in the day/night.

5 Two-Person Physical Assist: Requires two assistants to perform any transfer of the day/night.

Eating: Includes the tasks of cutting food, bringing food to the mouth and the chewing and swallowing of food. Does not include preparation of the meal.

1 Independent/supervision: Is able to cut, chew and swallow food, independently or with supervision, once meal has been presented in the customary fashion. No hands-on assistance required. If individual relies on parenteral or gastrostomy feeding which he/she administers him/herself score 1.

2 Limited Assistance: Requires hands-on assistance of one person to set-up or assist in bringing food to mouth and/or requires food to be modified (soft or staged diet).

3 Extensive Assistance/Total Dependence/Tube Fed: Person needs to be fed meal by assistant, or if the individual does not eat or drink full meals by mouth but relies on parenteral/gastrostomy feeding and does not administer feeds by him/herself.

Appendix C-6

The Resident Classification Instrument (RCI) Behaviour Scale

Physical Aggression

This question refers to physical aggression towards staff, visitors or other clients which requires individual attention and/or planned intervention. For non-admitted clients and same day clients rely on interview of carer to derive the score.

Include:

1) additional attention required for activities such as washing and dressing due to the person's physical aggression towards staff (e.g. biting and scratching);
2) intervention undertaken to manage episodes of physical aggression, including: assessment to ascertain the reason for extreme or frequent physical aggression; organisation and supervision of activities once the person has become physically aggressive; and individual therapy undertaken with the intention of preventing physical aggression.

Do <u>not</u> include:

1) attention required due to self-destructive behaviours (scored under behaviour);
2) routine activity programs;
3) any increased assistance and attention required by clients during their initial settling-in period;
4) attention/intervention required by a client due to verbal disruption unless the primary reason for such care is physically aggressive behaviour.

1 Requires minimal or no attention/intervention.
2 Requires attention/intervention on the majority of days.
3 Requires attention/intervention 2-3 times daily.
4 Requires attention/intervention more 4+ times daily.

Verbal Disruption

This question refers to verbal disruption requiring individual attention and/or planned intervention.

Include:

1) interventions undertaken to manage episodes of verbal disruption including: assessment to ascertain the reason for extreme or frequent verbal disruption; organisation and supervision of specific activities once the person has become verbally disruptive; and individual therapy undertaken with the intention of preventing verbal disruption;
2) attention required by a person who is confused and/or repeatedly asks questions.

Do <u>not</u> include:

1) routine activity programs;
2) any increased assistance and attention required by clients during their initial settling-in period;
3) attention/intervention required by a client who is being physically aggressive but who is being verbally disruptive at the same time (score under physical aggression).

1 Requires minimal or no attention/intervention.
2 Requires attention/intervention 1-3 times daily.
3 Requires attention/intervention 4-6 times daily.
4 Requires attention/intervention more 6+ times daily.

Behaviour This question refers to behaviour not included elsewhere which requires individual attention and/or planned intervention. Behaviours include: intrusiveness, resistiveness, self-destructiveness, disinhibition, wandering and absconding, withdrawal, restlessness, memory loss, confusion, disorientation, and impaired attention.

Include:

1) intervention required to manage episodes of behavioural disruption, including the individual therapy undertaken with the intention of preventing particular behaviour;
2) dealing with absconding episodes;
3) additional attention required to remedy situations resulting from abnormal behaviour - e.g. dressing a client who has removed their clothes, and reapplication of colostomy equipment, complex dressings and/or tubes, etc. after removal by the individual;
4) encouragement required by the client to participate in routine and social activities.

Do not include:

1) physical aggression towards staff, visitors or other clients (scored in physical aggression);
2) verbal disruptiveness including that arising from confusional states (scored in verbal disruption);
3) routine activity programs;
4) routine checking on clients who wander;
5) routine or 'normal' levels of social and emotional support, such as assistance to make a phone call, participation in conversations, etc;
6) any increased assistance and attention required by clients during their initial settling-in period.

1 Requires minimal or no attention/intervention.
2 Requires attention/intervention 1-3 times daily.
3 Requires attention/intervention 4-6 times daily.
4 Requires attention/intervention more 6+ times daily.

Appendix C-7

Glossary for Health of the Nation Outcomes Scales for Children and Adolescents (HoNOSCA)

Summary of rating instructions:

1) Rate each scale in order from 1 to 14

2) Do not include information rated in an earlier item

3) For each item, rate the MOST SEVERE problem that occurred during the period rated

4) All scales follow the format

0 = no problem
1 = minor problem requiring no action
2 = mild problem but definitely present
3 = moderately severe problem
4 = severe to very severe problem

NB: RATE 9 IF NOT KNOWN OR NOT APPLICABLE

Scale 1 Problems with disruptive, antisocial or aggressive behaviour

Include behaviour associated with any disorder, such as hyperkinetic disorder, depression, autism, drugs or alcohol.

Include physical or verbal aggression (e.g. pushing, hitting, vandalism, teasing), or physical or sexual abuse of other children.

Include antisocial behaviour (e.g. thieving, lying, cheating) or oppositional behaviour (e.g. defiance, opposition to authority or tantrums).

Do not include overactivity rated at scale 2. Truancy, rated at scale 13.

0 No problems of this kind during the period rated

1 Occasional quarrelling, demanding behaviour, undue irritability, etc., but generally calm

2 Occasional disruptive behaviour, lesser damage to property, or aggression

3 Aggressive behaviour such as fighting or persistently threatening or very oppositional or more serious destruction to property or moderate delinquent acts

4 Disruptive in almost all activities or at least one serious physical attack on others or animals or serious destruction to property

Scale 2 Problems with overactivity and attention deficit

Include overactive behaviour associated with any disorder such as hyperkinetic disorder, mania or arising from drugs.

Include problems with overactive behaviour, restlessness or fidgeting or inattention.

0 No problems of this kind during the period rated

1 Occasional restlessness or slight overactivity, etc., but generally calm

2 Definite overactivity and/or attention problems but can usually be controlled by the child or by admonition

3 Moderately severe overactivity and/or attentional problems that are sometimes uncontrollable by the child or by admonition

4 Severe hyperactivity and/or attentional problems that are present in most activities and almost never controlled by child or by admonition

Scale 3 Non-accidental self injury

Include self harm such as hitting self and self cutting. Suicide attempts, overdoses, hanging, drowning, etc.

Do not include accidental self injury due e.g. to severe learning or physical disability, rated at scale 6.

Do not include illness or injury as a direct consequence of drug/alcohol use, rated at scale 6.

0 No problems of this kind during the period rated

1 Occasional thoughts about death, no self harm or suicidal thoughts

2 Definite suicidal thoughts or mild non-hazardous self harm, such as wrist scratching

3 Moderately severe suicidal intent (includes preparatory acts e.g. collecting tablets) or moderate non-suicidal self harm (e.g. small overdose)

4 Serious suicidal attempt (e.g. serious overdose), and/or deliberate self injury during the period rated

Scale 4 Problems with alcohol, substance/solvent misuse

Do not include aggressive/disruptive behaviour due to alcohol or drug use, rated at scale 1.

Do not include physical illness or disability due to alcohol or drug use, rated at scale 6.

0 No problems of this kind during the period rated

1 Minor alcohol or drug use

2 Excessive alcohol or drug use

3 Severe drug or alcohol problems

4 Incapacitated by alcohol or drug problems

Scale 5 Problems with scholastic or language skills

Include problems in reading, spelling, arithmetic, speech or language associated with any disorder or problem, such as specific developmental learning problem, or physical disability such as hearing problem.

Include reduced scholastic performance associated with emotional or behavioural problems.

Do not include temporary problems resulting purely from inadequate education.

0 No problems of this kind during the period rated

1 Minor impairment within the normal range of variation

2 Definite impairment of clinical significance

3 Substantial problems, much below the level expected on the basis of mental age, past performance or physical disability

4 Extreme impairment very much below the level expected on the basis of mental age, past performance or physical disability

Scale 6 Physical illness or disability problems

Include physical illness or disability problems that limit or prevent movement, impair sight or hearing, or otherwise interfere with personal functioning.

Include movement disorder, side effects from medication, physical effects from drug/alcohol use, or physical complications of psychological disorders such as severe weight loss.

Include consequences of self injury such as head banging.

Do not include somatic complaints with no organic basis, rated at scale 8.

0 No incapacity as a result of a physical health problem during the period rated

1 Slight incapacity as a result of a health problem during the period (e.g. cold, non-serious fall, etc.)

2 Physical health problem imposes mild but definite functional restriction

3 Moderate degree of restriction on activity due to physical health problems

4 Complete or severe incapacity due to physical health problems

Scale 7 Problems associated with hallucinations and delusions

Include hallucinations and delusions irrespective of diagnosis.

Include odd and bizarre behaviour associated with hallucinations and delusions.

Include problems with other abnormal perceptions such as illusions or pseudo-hallucinations

Do not include disruptive or aggressive behaviour associated with hallucinations or delusions, rated at scale 1.

Do not include overactive behaviour associated with hallucinations or delusions, rated at scale 2.

0 No evidence of hallucinations or delusions during the period rated

1 Somewhat odd or eccentric beliefs not in keeping with cultural norms

2 Delusions or hallucinations (e.g. voices, visions) or other perceptual abnormalities are present, but there is little distress or manifestations of bizarre behaviour, ie. Clinically present but mild

3 Marked preoccupation with delusions, hallucinations or abnormal perceptions, causing much distress and/or manifested in obviously bizarre behaviour, ie. Moderately severe clinical problem

4 Mental state and behaviour is seriously or adversely affected by delusions or hallucinations or abnormal perceptions, with severe impact on child/adolescent or others

Scale 8 Problems with non-organic somatic symptoms

Include problems with gastrointestinal symptoms such as non-organic vomiting or cardiovascular symptoms or neurological symptoms or non-organic enuresis and encopresis or sleep problems or chronic fatigue.

Do not include movement disorders such as tics, rated at scale 6.

Do not include physical illnesses that complicate non-organic somatic symptoms, rated at scale 6.

0 No problems of this kind during the period rated

1 Slight problems only, such as occasional enuresis, minor sleep problems, headaches or stomach aches without organic basis

2 Mild but definite problem with non-organic somatic symptoms

3 Moderately severe, symptoms produce a moderate degree of restriction in some activities

4 Very severe or symptoms persist into most activities. The child is seriously or adversely affected

Scale 9 Problems with emotional and related symptoms

Rate only the most severe clinical problem not considered previously.

Include depression, anxiety, worries, fears, phobias, obsessions or compulsions, arising from any clinical condition including eating disorders.

Do not include aggressive, destructive or overactivity behaviours attributed to fears, phobias, rated at scale 1.

Do not include physical complications of psychological disorders, such as severe weight loss, rated at scale 6.

0 No evidence of depression, anxieties, fears or phobias during the period rated

1 Mildly anxious; gloomy; or transient mood changes

2 An emotional symptom is clinically present but is not preoccupying and the child has a degree of control

3 Marked preoccupation with emotional symptoms, which intrude into some activities and are uncontrollable at least sometimes

4 Emotional symptoms intrude into most activities and are nearly always uncontrollable

Scale 10 Problems with peer relationships

Include problems with school mates and social network. Problems associated with active or passive withdrawal from social relationships or problems with over intrusiveness or problems with the ability to form satisfying peer relationships.

Include social rejection as a result of aggressive behaviour or bullying.

Do not include aggressive behaviour, bullying rated at scale 1.

Do not include problems with family or siblings rated at scale 12.

0 No significant problems during the period rated

1 Either transient or slight problems, occasional social withdrawal

2 Definite problems in making or sustaining peer relationships. Problem causing distress due to social withdrawal, overintrusiveness, rejection or being bullied

3 Marked problems due to active or passive withdrawal from social relationships, overintrusiveness and/or to relationships that provide little or no comfort or support, e.g. as a result of being severely bullied

4 Severe social isolation with hardly any friends due to inability to communicate socially and/or withdrawal from social relationships

Scale 11 Problems with self care and independence

Rate the overall level of functioning, e.g. problems with basic activities of self care such as feeding, washing, dressing, toilet, also complex skills such as managing money, travelling independently, shopping, etc, taking into account the norm for the child's chronological age.

Include poor levels of functioning arising from lack of motivation.

Do not include lack of opportunities for exercising intact abilities and skills, as might occur in an overrestrictive family, rated at scale 12.

Do not include enuresis and encopresis rated at scale 8.

0 No problems of this kind during the period rated; good ability to function at all times

1 Minor problems only, e.g. untidy, disorganised

2 Self care adequate, but major inability to perform one or more complex skills (see above)

3 Major problems in one or more areas of self care (eating, washing, dressing) or major inability to perform several complex skills

4 Severe disability in all or nearly all areas of self care and/or complex skills

Scale 12 Problems with family life and relationships

Include parent-child and sibling relationship problems.

Include relationships with foster parents, social workers/teachers in residential placements. Relationships in the home and with separated parents/siblings should both be included. Parental personality problems, mental illness, marital difficulties should only be rated here if they have an effect on the child. Problems include poor communication, arguments, verbal or physical hostility, criticism and denigration, parental neglect/rejection, overrestriction, sexual and/or physical abuse. Include sibling jealousy, physical or coercive sexual abuse by sibling.

Do not include aggressive behaviour by child, rated at scale 1.

0 No problems during the period rated

1 Slight or transient problems

Moderate but definite problem, e.g. some episodes of neglect or hostility

2 Marked problems, e.g. neglect, abuse, hostility and/or frequent threatened or actual

3 family/carer breakdown or reorganisation

Serious problems with person feeling or being victimised, blamed, abused or

4 seriously neglected by family or carer, frequently resulting in the person being seriously isolated from, or hostile to the family

Scale 13 Poor school attendance

Include truancy, school refusal, school withdrawal or suspension for any cause. If school holiday, rate the last two weeks of the previous term.

0 No problems of this kind during the period rated

1 Slight problems, e.g. late for one or two lessons

2 Definite but mild problems, e.g. missed several lessons because of truancy or refusal to go to school

3 Marked problems, absent several days during the period rated

4 Severe problems, absent many days or all days. Include school suspension, exclusion or expulsion for any cause during the period rated

Scale 14 Accommodation arrangements

Summarises degree to which patient's ability to use intact functions is restricted by residential environment. Requires knowledge of patient's usual domestic environment during period rated. If this information is not available, rate 9. Consider overall level of performance patient could reasonably be expected to achieve given help in an appropriate domestic environment. Take into account balance of skills and disabilities. How far does the environment restrict, or support, patient's optimal performance and quality of life? Rating must be realistic, taking into account the overall problem level during the period, and ratings on Scales 1-13.

If basic level conditions (e.g. heating, light, food, money, clothes, security and dignity) aren't met, rate 4. If so, is there help to cope with disabilities and a choice of opportunities to use skills and develop new ones?

Do not rate the level of functional disability itself, rated on Scale 11.

NB: Rate patient's usual accommodation. If in acute ward, rate the home accommodation. If information not available, rate 9.

0 Accommodation and living conditions are acceptable; helpful in keeping any disability rated at Scale 11 to the lowest level possible, and supportive of self-help

1 Accommodation is reasonably acceptable although there are minor or transient problems (e.g. not ideal location, not preferred option, doesn't like the food, etc.)

2 Significant problems with one or more aspects of the accommodation and/or regime (e.g. restricted choice; staff or household have little understanding of how to limit disability, or how to help use or develop new or intact skills)

3 Distressing multiple problems with accommodation; e.g. some basic necessities absent; housing environment has minimal or no facilities to support patient's independence

4 Accommodation is unacceptable: e.g. lack of basic necessities, patient is at risk of eviction, or 'roofless', or living conditions are otherwise intolerable making patient's problems worse

Appendix C-8
Children's Global Assessment Scale (CGAS)

GENERAL RULES FOR RATINGS

- Rate the patient's most impaired level of general functioning for the specified time period by selecting the *lowest* level which describes his/her functioning on a hypothetical continuum of health-illness. Use intermediary levels (e.g. 35, 58, 62).
- Rate actual functioning regardless of treatment or prognosis. The examples of behaviour provided are only illustrative and are not required for a particular rating.

100-91 *Superior functioning* in all areas (at home, at school and with peers); involved in a wide range of activities and has many interests (e.g., has hobbies or participates in extracurricular activities or belongs to an organised group such as Scouts, etc); likeable, confident; 'everyday' worries never get out of hand; doing well in school; no symptoms.

90-81 *Good functioning in all areas*; secure in family, school, and with peers; there may be transient difficulties and 'everyday' worries that occasionally get out of hand (e.g., mild anxiety associated with an important exam, occasional 'blowups' with siblings, parents or peers).

80-71 *No more than slight impairments in functioning* at home, at school, or with peers; some disturbance of behaviour or emotional distress may be present in response to life stresses (e.g., parental separations, deaths, birth of a sib), but these are brief and interference with functioning is transient; such children are only minimally disturbing to others and are not considered deviant by those who know them.

70-61 *Some difficulty in a single area but generally functioning pretty well* (e.g., sporadic or isolated antisocial acts, such as occasionally playing hooky or petty theft; consistent minor difficulties with school work; mood changes of brief duration; fears and anxieties which do not lead to gross avoidance behaviour; self-doubts); has some meaningful interpersonal relationships; most people who do not know the child well would not consider him/her deviant but those who do know him/her well might express concern.

60-51 *Variable functioning with sporadic difficulties or symptoms in several but not all social areas;* disturbance would be apparent to those who encounter the child in a dysfunctional setting or time but not to those who see the child in other settings.

50-41 *Moderate degree of interference in functioning in most social areas or severe impairment of functioning in one area,* such as might result from, for example, suicidal preoccupations and ruminations, school refusal and other forms of anxiety, obsessive rituals, major conversion symptoms, frequent anxiety attacks, poor to inappropriate social skills, frequent episodes of aggressive or other antisocial behaviour with some preservation of meaningful social relationships.

40-31 *Major impairment of functioning in several areas and unable to function in one of these areas* (i.e., disturbed at home, at school, with peers, or in society at large, e.g., persistent aggression without clear instigation; markedly withdrawn and isolated behaviour due to either mood or thought disturbance, suicidal attempts with clear lethal intent; such children are likely to require special schooling and/or hospitalisation or withdrawal from school (but this is not a sufficient criterion for inclusion in this category).

30-21 *Unable to function in almost all areas* e.g., stays at home, in ward, or in bed all day without taking part in social activities *or* severe impairment in reality testing *or* serious impairment in communication (e.g., sometimes incoherent or inappropriate).

20-11 *Needs considerable supervision* to prevent hurting others or self (e.g., frequently violent, repeated suicide attempts) *or* to maintain personal hygiene *or* gross impairment in all forms of communication, e.g., severe abnormalities in verbal and gestural communication, marked social aloofness, stupor, etc.

10-1 *Needs constant supervision* (24-hour care) due to severely aggressive or self-destructive behaviour or gross impairment in reality testing, communication, cognition, affect or personal hygiene.

Appendix C-9

Factors Influencing Health Status and Contact With Health Services

GENERAL RULES FOR RATINGS

Indicate whether any of the following factors have required special clinical evaluation, therapeutic treatment, diagnostic procedures or increased clinical care and/or monitoring during the course of the episode.
Note: This item applies to specialist Child and Adolescent mental health services only

☐ **Maltreatment syndromes**

- Neglect or abandonment
- Physical abuse
- Sexual abuse
- Psychological abuse

☐ **Problems related to negative life events in childhood**

- Loss of love relationship in childhood
- Removal from home in childhood
- Altered pattern of family relationships in childhood
- Problems related to alleged sexual abuse of child by person within primary support group
- Problems related to alleged sexual abuse of child by person outside primary support group
- Problems related to alleged physical abuse of child
- Personal frightening experience in childhood
- Other negative life events in childhood

☐ **Problems related to upbringing**

- Inadequate parental supervision and control
- Parental overprotection
- Institutional upbringing
- Hostility towards and scapegoating of child
- Emotional neglect of child
- Other problems related to neglect in upbringing
- Inappropriate parental pressure and other abnormal qualities of upbringing
- Other specified problems related to upbringing

☐ **Problems related to primary support group, including family circumstances**

- Problems in relationship with spouse or partner
- Problems in relationship with parents and in-laws
- Inadequate family support
- Absence of family member
- Disappearance and death of family member
- Disruption of family by separation and divorce
- Dependent relative needing care at home
- Other stressful life events affecting family and household
- Other specified problems related to primary support group
- Problem related to primary support group
- Unspecified

☐ **Problems related to social environment**

- Problems of adjustment to life cycle transitions
- Atypical parenting situation
- Living alone
- Acculturation difficulty
- Social exclusion and rejection
- Target of perceived adverse discrimination and persecution

☐ **Problems related to certain psychosocial circumstances**

- Problems related to unwanted pregnancy
- Problems related to multiparity
- Seeking and accepting physical
- Nutritional and chemical interventions known to be hazardous and harmful
- Seeking and accepting behavioural and psychological interventions known to be hazardous or harmful
- Discord with counsellors

☐ **Problems related to other psychosocial circumstances**

- Conviction in civil and criminal proceedings without imprisonment
- Imprisonment and other incarceration
- Problems related to release from prison
- Problems related to other legal circumstances
- Victim of crime and terrorism
- Exposure to disaster
- War and other hostilities

Source:

Tenth Revision of International Classification of Diseases, Chapter XXI, Factors influencing health status and contact with health services

PART D

The MH-CASC Data Collection Forms

INSERT EPISODE REGISTRATION FORM

INSERT ADULT REPEAT CLINICAL RATINGS FORM

INSERT ADULT FINAL CLINICAL RATINGS FORM

INSERT CHILD/ADOLESCENT REPEAT CLINICAL RATINGS FORM

INSERT CHILD/ADOLESCENT FINAL CLINICAL RATINGS FORM

INSERT STAFF ACTIVITY FORM

PART E

Descriptive Statistics on the Patient Analysis Cohorts

Appendix E-1

Sociodemographic Characteristics

Table 13: Gender distribution by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
Male	1,848	613	4,828	56	1,294
Female	1,752	332	4,963	69	803
Missing	13	4	15	20	1
Total	3,613	949	9,806	145	2,098
% Female	48.7%	35.1%	50.7%	55.2%	38.3%

Table 14: Age distribution by episode type

	Episode Type				
Age Range (years)	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
0-4				1	115
5-9				14	697
10-14	10		18	36	817
15-19	214	10	321	71	455
20-24	419	51	1050	2	12
25-29	508	78	1171	1	2
30-34	496	86	1212		
35-39	427	70	1163		
40-44	357	69	1010		
45-49	296	59	834		
50-54	224	62	711		
55-59	143	39	466		
60-64	105	55	387		
65-69	102	73	345		
70-74	112	114	363		
75-79	87	98	309		
80-84	57	55	217		
85-89	28	21	128		
90-94	11	6	32		
95-99	1	2	7		
Missing/Invalid	16	6	62	20	
Total	3,613	954	9,806	145	2,098
Mean	39.8	53.7	42.7	14.4	11.0
25th Percentile	27	35	29	13	8
Median	36	54	39	15	11
75th Percentile	49	72	53	16	14
SD	16.9	20.1	17.6	3.4	4.0

Table 15: Marital status by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
Never	1,566	521	4,461	121	2,039
Widowed	202	93	743		1
Divorced	361	102	1,202		
Separated	276	37	609	1	
Married	954	138	2,486		
Missing	254	58	305	23	58
Total	3,613	949	9,806	145	2,098

Table 16: Aboriginal and Torres St Islander status by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
Aboriginal – Torres St islander	100	22	149	3	31
Not Aboriginal – Torres St islander	3,499	926	9,599	142	2,066
Missing	14	1	58	3	1
Total	3,613	949	9,806	148	2,098

Table 17: Country of birth by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
Australia	2,881	801	6,890	134	2,019
Oceania - Antarctica	60	12	189	1	11
Europe	477	102	1,667	4	27
Middle East - Nth Africa	29	7	143	2	3
SE Asia	68	8	259	2	15
NE Asia	18	1	50	2	5
Sth Asia	22	1	100		3
North America	8	4	20		1
South America	12	2	53		10
Africa	16	1	61		4
Missing	22	10	374		
Total	3,613	949	9,806	145	2,098

Table 18: Interpreter requirements by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
Required	89	22	413	3	22
Not required	3523	927	9381	142	2074
Missing	1		12		2
Total	3,613	949	9,806	145	2,098

Table 19: Pension status by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
None	833	73	1,652	100	1,914
Unemployment benefits	489	15	986	4	17
Sickness benefits	296	26	788	2	7
Aged pension	308	251	1,125		
Disability pension	808	328	3,926	2	46
Repatriation pension	60	56	73		3
Other pension	200	6	484		29
Missing	619	194	772	37	82
Total	3,613	949	9,806	145	2,098

Table 20: Accommodation status by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
None	92	10	70	1	11
Private	2636	134	7768	106	1983
Residential support	111	72	401	1	41
Special Accomm House	45	4	239	1	9
Boarding House	68	13	332	1	3
Nursing home	85	482	264		4
Shelter	18		14	1	3
Hostel	67	14	250		3
Caravan	33	1	93		1
Unknown	356	168	152	1	10
Missing	102	51	223	33	30
Total	3,613	949	9,806	145	2,098

Table 21: Number of dependent children status by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
None	2,283	750	6,780	109	1,907
One	225	8	615	1	8
Two	100	1	283		2
Three	21	1	67		
Four	10		11		
Five or more	2		3		
Missing	972	189	2,047	35	181
Total	3,613	949	9,806	145	2,098

Appendix E-2
Clinical Characteristics

Table 22: Reason for episode end by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
Treatment Setting Change - Within Area	1,146		534	38	43
Treatment Setting Change - Out of Area	869		206	41	61
Treatment Complete	1,229		480	31	230
Deceased	7		21		
Lost to Care	108			5	
Further Contact Deferred	15			2	
Study End	127	949	8,565	22	1,764
Missing	112				
Total	3,613	949	9,806	145	2,098

Table 23: Psychiatric service history by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
None	861	34	1,077	42	1,084
Previous inpatient admission	2,325	785	5,943	59	199
Previous community care only	171	20	1,798	34	684
Unknown	256	110	988	10	131
Total	3,613	949	9,806	145	2,098

Table 24: Psychiatric service history by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
< 3 months	968	36	1,306	55	428
3-6 months	234	47	681	22	338
7-11 months	226	30	655	19	322
12-24 months	253	44	958	13	293
> 24 months	1,229	728	5,016	13	432
Unknown	703	64	1,190	23	285
Total	3,613	949	9,806	145	2,098

Table 25: Principal diagnosis by episode type

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
Organic, including symptomatic, mental disorders	125	186	514		14
Amnestic syndromes due to psychoactive substance abuse	10	26	27		
Subtotal Organic Disorders	**135**	**212**	**541**	**0**	**14**
Alcohol intoxication, harmful use, dependence and withdrawal	164	11	74		2
Other psychoactive substance intoxication, harmful use, dependence and withdrawal	126	1	68	3	9
Subtotal Substance Abuse Disorders	**290**	**12**	**142**	**3**	**11**
Psychotic disorders due to psychoactive substance use	105	4	123	4	6
Schizophrenia	749	498	3,640		10
Schizotypal disorders	29	3	63	3	4
Delusional disorders	46	3	159	3	2
Acute and transient psychotic disorders	83	2	125	7	10
Schizoaffective disorders	103	10	422	1	2
Other nonorganic psychotic disorders	21	1	146		8
Subtotal Schizophrenia, Paranoia and Acute Psychotic Disorders	**1,136**	**521**	**4,678**	**18**	**42**
Manic episodes and bipolar affective disorders, current episode manic	339	36	605	1	10
Depressive episodes; bipolar disorders, current episode depressed or mixed; recurrent depressive disorders	803	65	1,465	26	83
Persistent mood disorders including cyclothymia and dysthymia; and other mood disorders	58	10	348	4	27
Subtotal Mood Disorders	**1,200**	**111**	**2,418**	**31**	**120**
Anxiety disorders including phobic anxiety, panic disorder, generalised anxiety disorder and other neurotic disorders	58	3	360	4	114
Subtotal Anxiety Disorders	**58**	**3**	**360**	**4**	**114**
Obsessive - compulsive disorders	10	1	88	2	42
Subtotal Obsessive Compulsive Disorders	**10**	**1**	**88**	**2**	**42**
Adjustment disorders: Brief depressive reactions	141	1	174	3	46
Adjustment disorders: Prolonged depressive reactions	32		182	2	42
Other adjustment disorders	23	1	48	2	104
Post-traumatic stress disorders	52	2	75	3	40
Subtotal Stress and Adjustment Disorders	**248**	**4**	**479**	**10**	**232**
Somatoform disorders	4		26	2	10
Subtotal Somatoform Disorders	**4**	**0**	**26**	**2**	**10**
Anorexia nervosa and atypical anorexia nervosa	21	4	10	6	17
Eating disorders other than anorexia nervosa	5	2	15		5
Subtotal Eating Disorders	**26**	**6**	**25**	**6**	**22**
Non-organic sleep disorders			1	2	5
Mental and behavioural disorders associated with the puerperium	3		4		
Psychological / behavioural factors associated with disorders or diseases classified elsewhere	17		17	5	70
Abuse of non-dependence-producing substances			2		
Unspecified behavioural syndromes associated with physiological disturbances and physical factors	14		13		22
Subtotal Behavioural Syndromes Associated with Physiological Disturbances and Physical Factors	**34**	**0**	**37**	**7**	**97**

	Episode Type				
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community	Child Completed Inpatient	Child Community
Paranoid / schizoid personality disorders	15	8	32		
Dissocial personality disorders including antisocial personality disorder	48	5	39		3
Emotionally unstable personality disorders (includes borderline and impulsive)	163	11	214	5	6
Histrionic / anankastic / anxious / dependent personality disorders	27	7	71		1
Other personality disorders	18	8	29	1	1
Subtotal Personality Disorders	**271**	**39**	**385**	**6**	**11**
Sexual dysfunction, not caused by organic disorders or disease		2	4		
Disorders of sexual preference	1	1	12	1	
Psychological and behavioural disorders associated with sexual development and orientation			3		4
Subtotal Sexual Disorders	**1**	**3**	**19**	**1**	**4**
Mild mental retardation	7	8			28
Moderate mental retardation	3	19			11
Severe mental retardation		2			
Profound mental retardation					1
ther mental retardation	1	1			
Subtotal Mental Retardation	**11**	**30**	**0**	**0**	**40**
Specific developmental disorders of speech and language					69
Specific developmental disorders of scholastic skills			1		37
Specific developmental disorders of motor function					3
Mixed specific developmental disorders			3		38
Pervasive developmental disorders		3	4	1	26
Other disorders of psychological development					1
Subtotal Disorders of Psychological Development	**0**	**3**	**8**	**1**	**174**
Hyperkinetic disorders			2	1	168
Conduct disorders	2		1	7	173
Mixed disorders of conduct and emotions	2	1	4	21	414
Emotional disorders with onset specific to childhood			1		118
Disorders of social functioning with onset specific to childhood and adolescence	1		1	4	58
Tic disorders			1		3
Non-organic enuresis					7
Non-organic encopresis					10
Other behavioural and emotional disorders with onset usually occurring in childhood or adolescence			1	3	59
Subtotal disorders of childhood and adolescence	**5**	**1**	**11**	**36**	**1,010**
Unspecified mental disorders /Mental disorders not otherwise specified	23		37	2	8
Missing	161	3	552	16	147
Total	**3,613**	**949**	**9,806**	**145**	**2,098**

Note: Principal Diagnosis based on MH-CASC Clinical Terms – See Appendix B-4

Table 26: Mean HoNOS scores by item by episode type (Adult episodes only)

Item No	Item Title	Episode Type		
		Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community
1	Aggressive behaviours	2.4	2.9	1.9
2	Suicidal behaviours	2.0	1.4	1.6
3	Substance abuse	2.0	1.4	1.6
4	Cognitive problems	2.0	2.9	1.9
5	Physical illness - disability	1.7	2.4	1.8
6	Hallucinations - delusions	2.2	2.7	1.9
7	Depressed mood	2.5	2.1	2.3
8	Other problems	2.4	2.9	2.3
9	Social relationships	2.6	3.6	2.7
10	Overall disability	2.3	3.4	2.4
11	Living arrangements	2.1	2.5	2.0
12	Occupational issues	2.1	2.6	2.1

Note: All HoNOS item scores have been transformed by adding 1, moving the valid range from 0-4 to 1-5.
HoNOS based on First Clinical Rating.

Table 27: Mean and distribution of HoNOS-10 totalscores by episode type (Adult episodes only)

	Episode Type		
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community
N valid observations	3,287	936	8,739
Mean	21.3	24.9	20.1
Std Deviation	6.4	6.4	6.2
CV	0.30	0.26	0.31
5th Percentile	12	14	11
25th Percentile	16	20	15
50th Percentile	21	25	19
75th Percentile	25	29	24
95th Percentile	33	36	31

Note: All HoNOS item scores have been transformed by adding 1, moving the valid range from 0-4 to 1-5.
HoNOS-10 based on First Clinical Rating.
HoNOS-10 total score based on the sum of the transformed scores for items 1-10.
Valid observations exclude records with missing values on any of the HoNOS-10 items.

Table 28: Mean LSP-16 scores by item by episode type (Adult episodes only)

Item No	Item Title	Episode Type		
		Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community
1	Conversation	1.7	2.5	2.0
2	Withdrawal	2.0	2.6	2.2
3	Warmth to others	2.2	2.8	2.2
4	Grooming	1.8	2.6	2.0
5	Cleanliness	1.7	2.6	1.9
6	Physical neglect	1.8	2.7	1.9
7	Violence	1.7	2.1	1.7
8	Making friends	2.2	3.0	2.3
9	Diet	1.7	2.3	1.8
10	Medication – Self	2.0	2.9	2.0
11	Medication – Dr	1.9	2.1	1.9
12	Co-operation	1.9	2.1	1.9
13	Household problems	2.2	2.5	2.1
14	Offensive behaviour	1.7	2.3	1.8
15	Irresponsible behaviour	2.3	2.8	2.0
16	Work capability	2.3	3.5	2.5

Table 29: Meansand distribution of LSP-16 subscale scores by episode type (Adult episodes only)

LSP Subscale	Item Title	Episode Type		
		Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community
Anti-social	Mean	2.41	1.95	1.92
	SD	0.84	0.74	0.87
	CV	0.35	0.38	0.46
Compliance	Mean	2.37	1.91	1.98
	SD	0.75	0.70	0.86
	CV	0.32	0.37	0.44
Self-care	Mean	2.75	1.87	2.02
	SD	0.80	0.67	0.80
	CV	0.29	0.36	0.40
Withdrawal	Mean	2.73	2.04	2.18
	SD	0.78	0.68	0.75
	CV	0.29	0.33	0.34

Note: See Appendix C-4 for item composition of LSP subscales.

Table 30: Mean and distribution of LSP-13 total scores by episode type (Adult episodes only)

	Episode Type		
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community
N valid observations	3,143	949	8,943
Mean	25.1	34.3	26.4
Std Deviation	7.4	8.7	9.1
CV	0.30	0.25	0.34
5th Percentile	14	20	14
25th Percentile	19	28	19
50th Percentile	24	34	25
75th Percentile	30	41	32
95th Percentile	39	49	44

Note: LSP-13 Total score based on sum of all items except Compliance subscale.
Valid observations exclude records with missing values on any of the LSP-13 items.

Table 31: Mean and distribution of RUG-ADL total scores by episode type (Adult episodes only)

	Episode Type		
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community
N valid observations	386	421	1,197
Mean	5.7	8.1	5.7
Std Deviation	3.5	5.2	3.5
CV	0.62	0.64	0.61
5th Percentile	4	4	4
25th Percentile	4	4	4
50th Percentile	4	5	4
75th Percentile	5	12	5
95th Percentile	16	18	14

Note: RUG-ADL total score based on First Clinical Rating.
Valid observations exclude records with missing values on any of the RUG-ADL items.

Table 32: Mean and distribution of RCI total scores by episode type (Adult episodes only)

	Episode Type		
	Adult Completed Inpatient	Adult Ongoing Inpatient	Adult Community
N valid observations	384	421	1192
Mean	3.9	5.3	3.8
Std Deviation	1.7	2.7	1.5
CV	0.45	0.51	0.40
5th Percentile	3	3	3
25th Percentile	3	3	3
50th Percentile	3	4	3
75th Percentile	4	7	4
95th Percentile	8	11	7

Note: RCI total score based on First Clinical Rating.
Valid observations exclude records with missing values on any of the RCI items.

Table 33: Mean HoNOSCA scores by item by episode type (Child/Adolescent only)

		Episode Type	
Item No	Item Title	Child/Adolescent Completed Inpatient	Child/Adolescent Community
1	Aggressive behaviours	2.4	2.4
2	Overactivity	1.6	1.7
3	Self-injury	1.9	1.2
4	Substance abuse	1.6	1.2
5	Scholastic problems	2.0	2.1
6	Physical illness – disability	1.4	1.3
7	Hallucinations – delusions	1.6	1.1
8	Somatic symptoms	1.2	1.3
9	Emotional symptoms	3.3	2.8
10	Peer relationships	2.6	2.4
11	Self-care	1.6	1.5
12	Family life	3.5	2.9
13	School attendance	2.2	1.5
14	Accommodation	1.6	1.2

Note: All HoNOSCA item scores have been transformed by adding 1, moving the valid range from 0-4 to 1-5.
HoNOSCA based on First Clinical Rating.

Table 34: Mean and distribution of HoNOSCA total scores by episode type (Child/Adolescent only)

	Episode Type	
	Child/Adolescent Completed Inpatient	Child/Adolescent Community
N valid observations	124	2,067
Mean	28.3	24.4
Std Deviation	7.7	6.2
CV	0.27	0.26
5th Percentile	19	16
25th Percentile	23	20
50th Percentile	26	23
75th Percentile	33	28
95th Percentile	43	36

Note: All HoNOSCA item scores have been transformed by adding 1, moving the valid range from 0-4 to 1-5.
HoNOSCA based on First Clinical Rating.
HoNOSCA total score based on the sum of the scores for all items 1-10.
Valid observations exclude records with missing values on any of the HoNOSCA items.

Table 35: Mean and distribution of CGAS scores by episode type (Child/Adolescent only)

	Episode Type	
	Child/Adolescent Completed Inpatient	Child/Adolescent Community
N valid observations	135	2,098
Mean	58.5	63.2
Std Deviation	16.5	15.6
CV	0.28	0.25
5th Percentile	35	35
25th Percentile	45	53
50th Percentile	60	65
75th Percentile	70	75
95th Percentile	88	88

Note: Valid observations exclude records with missing data.

Table 36: Mean and distribution of FIHS scores by episode type (Child/Adolescent only)

	Episode Type	
	Child/Adolescent Completed Inpatient	Child/Adolescent Community
N valid observations	145	2,098
Mean	2.4	2.1
Std Deviation	1.7	1.6
CV	0.69	0.74
5th Percentile	0	0
25th Percentile	1	1
50th Percentile	2	2
75th Percentile	4	3
95th Percentile	5	5

Note: Valid observations exclude records with missing data.

PART F

Summary Statistics on Performance of AN-DRGs

Table 37: Analysis of AN-DRG3 by length of stay - All completed inpatient episodes in MH-CASC dataset with MDC19

Untrimmed episode statistics										
Class	**n**	**Mean LoS**		**SD**	**CV**		**Q1**	**Median LoS**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
Schizophrenia	702	15.6		13.5	0.87		5.0	11.0	22.0	4.4	47.5
Paranoia & Acute Psychotic	135	14.9		10.8	0.72		7.0	12.0	21.0	3.0	42.0
Major Affective	904	16.8		13.8	0.82		6.0	13.0	24.0	4.0	51.0
Other Affective & Somatoform	120	12.2		11.3	0.93		4.3	8.5	15.8	3.7	33.0
Anxiety	80	14.4		13.2	0.92		4.0	10.0	20.0	5.0	44.0
Eating & OCD	28	19.8		15.8	0.80		8.0	15.0	27.8	3.5	57.4
Personality & Acute Stress	565	9.4		10.6	1.13		3.0	5.0	11.0	3.7	23.0
Childhood Mental	7	13.7		19.8	1.44		2.0	5.0	15.0	7.5	34.5
All Untrimmed	2,541	14.5		13.1	0.91		4.0	10.0	20.0	5.0	44.0
Trimmed episode statistics											
Class	**n**	**Mean LoS**	**(Comparison mean LoS)[1]**	**SD**	**CV**	**(Comparison CV)[1]**	**Q1**	**Median LoS**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
Schizophrenia	677	14.1	(8.0)	11.0	0.78	(1.18)	5.0	11.0	20.0	4.0	3.6%
Paranoia & Acute Psychotic	133	14.4	(8.8)	9.7	0.68	(1.01)	6.5	12.0	21.0	3.2	1.5%
Major Affective	883	15.8	(7.5)	12.0	0.76	(1.27)	6.0	13.0	23.0	3.8	2.3%
Other Affective & Somatoform	113	10.1	(3.8)	7.3	0.73	(1.09)	4.0	8.0	15.0	3.8	5.8%
Anxiety	76	12.3	(2.8)	9.4	0.77	(0.88)	4.0	9.5	18.0	4.5	5.0%
Eating & OCD	27	18.1	(8.1)	13.5	0.74	(1.42)	8.0	15.0	27.0	3.4	3.6%
Personality & Acute Stress	508	6.4	(2.5)	5.1	0.79	(1.00)	3.0	5.0	8.0	2.7	10.1%
Childhood Mental	6	6.5	(1.0)	5.6	0.86	(0)	2.0	4.0	12.8	6.4	14.3%
Trimmed	2,423	12.9		10.8	0.84		4.0	10.0	18.0	4.5	4.6%
RIV Untrimmed	**5.0%**										
RIV Trimmed @ Hi	**11.3%**										
(Comparison RIV[1])	**(11.7%)**										

1 Comparison figures from Australian Casemix Clinical Committee (1996)

Table 38: Analysis of AN-DRG3 by total episode cost: All completed inpatient episodes in MH-CASC dataset with MDC19

Untrimmed episode statistics

Class	n	Mean episode cost	SD	CV	Q1	Median episode cost	Q3	Q3-Q1 Ratio	Hi Trim point
Schizophrenia	702	$4,580	$4,403	0.96	$1,473	$3,276	$6,163	4.2	$13,199
Paranoia & Acute Psychotic	135	$5,112	$3,954	0.77	$2,386	$4,307	$6,462	2.7	$12,575
Major Affective	904	$5,204	$5,016	0.96	$1,643	$3,649	$7,287	4.4	$15,753
Other Affective & Somatoform	120	$3,721	$3,650	0.98	$1,313	$2,764	$4,622	3.5	$9,586
Anxiety	80	$4,215	$3,973	0.94	$1,269	$2,661	$6,111	4.8	$13,375
Eating & OCD	28	$4,923	$3,500	0.71	$1,919	$3,979	$7,348	3.8	$15,491
Personality & Acute Stress	565	$2,928	$3,644	1.24	$894	$1,628	$3,353	3.8	$7,040
Childhood Mental	7	$4,667	$5,380	1.15	$1,034	$2,518	$6,933	6.7	$15,780
All Untrimmed	2,541	$4,415	$4,489	1.02	$1,326	$2,963	$5,787	4.4	$12,479

Trimmed episode statistics

Class	n	Mean episode cost	SD	CV	Q1	Median episode cost	Q3	Q3-Q1 Ratio	% Trimmed
Schizophrenia	666	$3,860	$3,071	0.80	$1,388	$3,054	$5,405	3.9	5.1%
Paranoia & Acute Psychotic	128	$4,475	$2,832	0.63	$2,283	$4,063	$5,856	2.6	5.2%
Major Affective	866	$4,508	$3,633	0.81	$1,607	$3,457	$6,631	4.1	4.2%
Other Affective & Somatoform	112	$3,040	$2,269	0.75	$1,162	$2,688	$4,442	3.8	6.7%
Anxiety	77	$3,696	$2,958	0.80	$1,218	$2,633	$5,612	4.6	3.8%
Eating & OCD	28	$4,923	$3,500	0.71	$1,919	$3,979	$7,348	3.8	0.0%
Personality & Acute Stress	507	$1,917	$1,507	0.79	$842	$1,473	$2,459	2.9	10.3%
Childhood Mental	7	$4,667	$5,380	1.15	$1,034	$2,518	$6,933	6.7	0.0%
Trimmed	2,391	$3,687	$3,167	0.86	$1,257	$2,733	$5,160	4.1	5.9%
RIV Untrimmed	**3.8%**								
RIV Trimmed @ Hi	**9.9%**								

Table 39: Analysis of AN-DRG3 by length of stay: All completed inpatient episodes in MH-CASC dataset withMDC19 plus 'intended same day' admissions from hospital morbidity data

Untrimmed episode statistics

Class	n	Mean LoS	SD	CV	Q1	Median LoS	Q3	Q3-Q1 Ratio	Hi Trim point
Schizophrenia	957	11.7	13.2	1.13	1.0	7.0	17.0	17.0	41.0
Paranoia & Acute Psychotic	150	13.5	11.0	0.82	5.0	11.0	20.3	4.1	43.1
Major Affective	1,772	9.1	12.6	1.39	1.0	2.0	14.0	14.0	33.5
Other Affective & Somatoform	152	9.8	11.0	1.12	2.0	7.0	15.0	7.5	34.5
Anxiety	275	4.9	9.4	1.91	1.0	1.0	4.0	4.0	8.5
Eating & OCD	240	3.2	8.1	2.52	1.0	1.0	1.0	1.0	1.0
Personality & Acute Stress	1024	5.6	8.9	1.59	1.0	2.0	6.0	6.0	13.5
Childhood Mental	10	9.9	17.3	1.74	1.0	2.5	12.8	12.8	30.4
All Untrimmed	4,580	8.5	11.9	1.40	1.0	2.0	12.0	12.0	28.5

Trimmed episode statistics

Class	n	Mean LoS	(Comparison mean LoS)	SD	CV	(Comparison CV)	Q1	Median LoS	Q3	Q3-Q1 Ratio	% Trimmed
Schizophrenia	913	9.8	(8.0)	10.0	1.02	(1.18)	1.0	6.0	16.0	16.0	4.6%
Paranoia & Acute Psychotic	148	13.0	(8.8)	10.1	0.77	(1.01)	5.0	11.0	20.0	4.0	1.3%
Major Affective	1,653	6.6	(7.5)	8.3	1.27	(1.27)	1.0	1.0	10.0	10.0	6.7%
Other Affective & Somatoform	145	8.1	(3.8)	7.5	0.93	(1.09)	2.0	6.0	13.0	6.5	4.6%
Anxiety	230	1.5	(2.8)	1.5	0.97	(0.88)	1.0	1.0	1.0	1.0	16.4%
Eating & OCD	212	1.0	(8.1)	-	-	(1.42)	1.0	1.0	1.0	1.0	11.7%
Personality & Acute Stress	912	3.0	(2.5)	3.0	0.99	(1.00)	1.0	1.0	4.0	4.0	10.9%
Childhood Mental	9	4.7	(1.0)	5.2	1.12	(0)	1.0	2.0	8.5	8.5	10.0%
Trimmed	4,222	6.2		8.1	1.30		1.0	2.0	9.0	9.0	7.8%
RIV Untrimmed				**5.2%**							
RIV Trimmed @ Hi				**14.3%**							
RIV Trimmed @ Hi (Eating & OCD untrimmed)				**12.8%**							
(Comparison RIV[1])				**(11.7%)**							

Comparison figures from Australian Casemix Clinical Committee (1996)

Table 40: Analysis of proposed modifications to AN-DRG3: All completed inpatient episodes in MH-CASC dataset with MDC19 plus 'intended same day' admissions from morbidity data

Untrimmed episode statistics

Class	n	Mean	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio	Hi Trim point
Intended Same day	2091	1.0	-	-	1.0	1.0	1.0	1.0	1.0
Schizophrenia	685	16.0	13.5	0.84	6.0	12.0	23.0	3.8	48.5
Paranoia & Acute Psychotic	133	15.1	10.7	0.71	7.0	13.0	21.0	3.0	42.0
Major Affective	896	17.0	13.8	0.81	6.0	13.0	24.0	4.0	51.0
Other Affective & Somatoform	117	12.5	11.3	0.91	5.0	9.0	16.0	3.2	32.5
Anxiety	78	14.8	13.2	0.89	4.0	10.5	20.3	5.1	44.6
Eating & OCD	28	19.8	15.8	0.80	8.0	15.0	27.8	3.5	57.4
Personality & Acute Stress	545	9.7	10.7	1.11	3.0	5.0	11.0	3.7	23.0
Childhood Mental	7	13.7	19.8	1.44	2.0	5.0	15.0	7.5	34.5
All Untrimmed	4580	8.5	11.9	1.40	1.0	2.0	12.0	12.0	28.5

Trimmed episode statistics

Class	n	Mean	(Comparison mean LoS)	SD	CV	(Comparison CV)	Q1	Median	Q3	Q3-Q1 Ratio	% Trimmed
Intended Same day	2091	1.0	(1.0)	-	-	(0)	1.0	1.0	1.0	1.0	0.0%
Schizophrenia	664	14.6	(12.7)	11.2	0.76	(0.94)	5.3	11.0	21.0	4.0	3.1%
Paranoia & Acute Psychotic	131	14.6	(10.1)	9.6	0.66	(0.91)	7.0	12.0	21.0	3.0	1.5%
Major Affective	875	15.9	(15.4)	11.9	0.75	(0.86)	6.0	13.0	23.0	3.8	2.3%
Other Affective & Somatoform	109	10.1	(7.1)	7.0	0.69	(0.94)	4.5	8.0	15.0	3.3	6.8%
Anxiety	74	12.6	(4.2)	9.4	0.74	(0.78)	4.0	10.0	18.3	4.6	5.1%
Eating & OCD	27	18.1	(21.3)	13.5	0.74	(0.95)	8.0	15.0	27.0	3.4	3.6%
Personality & Acute Stress	488	6.6	(5.4)	5.1	0.76	(0.94)	3.0	5.0	9.0	3.0	10.5%
Childhood Mental	6	6.5	(5.3)	5.6	0.86	(1.13)	2.0	4.0	12.8	6.4	14.3%
All Untrimmed	4465	7.5		10.0	1.33		1.0	2.0	11.0	11.0	2.5%
RIV Untrimmed	**36.6%**										
RIV Trimmed @ Hi	**44.1%**										
(Comparison RIV[1])	**35.6%**										

Comparison figures from Australian Casemix Clinical Committee (1996)

PART G

Summary Statistics on Performance of Clinical Panels' groups

Table 41: Analysis of hypothesised clinical groups by total episode cost: Adult completed inpatient episodes

Untrimmed Episode Statistics									
Class	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
Anxiety Disorders: Uncomplicated (A1)	41	$3,873	$3,171	0.82	$1,261	$2,282	$6,054	4.8	$13,245
Anxiety Disorders: Moderate Complications (A2)	20	$6,717	$4,915	0.73	$3,153	$5,293	$10,426	3.3	$21,336
Mood Disorders: Manic Episode with c/c (M1)	166	$6,197	$5,364	0.87	$2,631	$4,231	$8,669	3.3	$17,727
Mood Disorders: Manic Episode no c/c (M2)	162	$5,494	$4,395	0.80	$2,275	$3,979	$7,938	3.5	$16,432
Mood Disorders: Major Depression with Melan & c/c (M3)	94	$6,616	$8,228	1.24	$1,427	$2,852	$8,884	6.2	$20,069
Mood Disorders: Major Depression with Melan no c/c (M4)	43	$5,103	$5,518	1.08	$1,123	$3,166	$6,759	6.0	$15,214
Mood Disorders: Major Depression no Melan & c/c (M5)	161	$5,194	$5,097	0.98	$1,491	$3,134	$7,469	5.0	$16,436
Mood Disorders: Major Depression no Melan no c/c (M6)	458	$4,994	$4,587	0.92	$1,463	$3,710	$6,808	4.7	$14,824
Mood Disorders: Other Depressions (M7)	58	$4,615	$4,052	0.88	$1,519	$3,506	$6,051	4.0	$12,848
Organic Disorders: With Severe c/c (O7)	64	$6,659	$4,629	0.70	$2,864	$6,190	$8,935	3.1	$18,041
Personality Disorders: No Complications (P1)	80	$3,608	$4,255	1.18	$1,185	$2,035	$4,363	3.7	$9,131
Personality Disorders: Moderate Complications (P2)	32	$3,316	$5,240	1.58	$914	$1,706	$3,158	3.5	$6,523
Personality Disorders: Severe Complications (P3)	112	$2,252	$2,839	1.26	$704	$1,427	$2,183	3.1	$4,400
Schizophrenia Disorders: Recent with c/c (S1)	271	$4,918	$5,049	1.03	$1,546	$3,356	$6,592	4.3	$14,161
Schizophrenia Disorders: Recent non c/c (S2)	188	$4,653	$4,081	0.88	$1,838	$3,639	$6,085	3.3	$12,455
Schizophrenia Disorders: With c/c: Hi Functioning (S3)	29	$3,533	$4,254	1.20	$923	$2,170	$5,346	5.8	$11,981
Schizophrenia Disorders: With c/c: Med Functioning (S4)	49	$3,875	$3,049	0.79	$1,349	$3,625	$5,549	4.1	$11,849
Schizophrenia Disorders: With c/c: Low Functioning (S5)	222	$6,141	$5,216	0.85	$2,158	$4,453	$8,793	4.1	$18,746
Schizophrenia Disorders: No c/c: Hi Functioning (S6)	31	$4,148	$2,886	0.70	$2,046	$3,856	$6,138	3.0	$12,274
Schizophrenia Disorders: No c/c: Med Functioning (S7)	46	$5,508	$5,025	0.91	$2,015	$3,670	$9,763	4.8	$21,385
Schizophrenia Disorders: No c/c: Low Functioning (S8)	86	$5,777	$4,358	0.75	$2,565	$4,729	$7,774	3.0	$15,587
Stress & Adjustment Disorders: Brief & no c/c (T1)	53	$2,172	$2,670	1.23	$925	$1,533	$2,767	3.0	$5,529
Stress & Adjustment Disorders: Brief & with c/c (T2)	126	$2,017	$2,870	1.42	$659	$1,162	$2,459	3.7	$5,160
Stress & Adjustment Disorders: Prolonged & no c/c (T3)	48	$4,746	$4,208	0.89	$1,020	$3,835	$7,376	7.2	$16,910
Stress & Adjustment Disorders: Prolonged & with c/c (T4)	57	$3,888	$3,973	1.02	$1,148	$2,349	$5,528	4.8	$12,097
All Untrimmed	2,697	$4,849	$4,819	0.99	$1,438	$3,300	$6,689	4.7	$14,565

Table 41: Analysis of hypothesised clinical groups by total episode cost: Adult completed inpatient episodes (cont'd)

Trimmed Episode Statistics									
Class	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
Anxiety Disorders: Uncomplicated (A1)	41	$3,873	$3,171	0.82	$1,261	$2,282	$6,054	4.8	0.0%
Anxiety Disorders: Moderate Complications (A2)	20	$6,717	$4,915	0.73	$3,153	$5,293	$10,426	3.3	0.0%
Mood Disorders: Manic Episode with c/c (M1)	159	$5,513	$4,275	0.78	$2,595	$4,115	$7,664	3.0	4.2%
Mood Disorders: Manic Episode no c/c (M2)	157	$5,064	$3,711	0.73	$2,208	$3,907	$7,350	3.3	3.1%
Mood Disorders: Major Depression with Melan & c/c (M3)	86	$4,653	$4,550	0.98	$1,300	$2,612	$7,287	5.6	8.5%
Mood Disorders: Major Depression with Melan no c/c (M4)	38	$3,415	$3,034	0.89	$1,077	$3,013	$4,634	4.3	11.6%
Mood Disorders: Major Depression no Melan & c/c (M5)	154	$4,534	$4,102	0.90	$1,369	$2,751	$6,786	5.0	4.3%
Mood Disorders: Major Depression no Melan no c/c (M6)	441	$4,419	$3,537	0.80	$1,447	$3,589	$6,212	4.3	3.7%
Mood Disorders: Other Depressions (M7)	54	$3,806	$2,778	0.73	$1,477	$3,226	$5,385	3.6	6.9%
Organic Disorders: With Severe c/c (O7)	63	$6,402	$4,180	0.65	$2,806	$5,969	$8,678	3.1	1.6%
Personality Disorders: No Complications (P1)	71	$2,379	$1,853	0.78	$1,015	$1,760	$3,383	3.3	11.3%
Personality Disorders: Moderate Complications (P2)	30	$2,048	$1,549	0.76	$861	$1,611	$3,021	3.5	6.3%
Personality Disorders: Severe Complications (P3)	101	$1,469	$1,001	0.68	$617	$1,335	$2,030	3.3	9.8%
Schizophrenia Disorders: Recent with c/c (S1)	255	$3,985	$3,230	0.81	$1,517	$3,116	$5,628	3.7	5.9%
Schizophrenia Disorders: Recent non c/c (S2)	175	$3,854	$2,870	0.74	$1,700	$3,357	$5,330	3.1	6.9%
Schizophrenia Disorders: With c/c: Hi Functioning (S3)	28	$2,861	$2,284	0.80	$914	$2,083	$4,905	5.4	3.4%
Schizophrenia Disorders: With c/c: Med Functioning (S4)	48	$3,691	$2,794	0.76	$1,332	$3,190	$5,456	4.1	2.0%
Schizophrenia Disorders: With c/c: Low Functioning (S5)	217	$5,755	$4,577	0.80	$2,129	$4,235	$8,536	4.0	2.3%
Schizophrenia Disorders: No c/c: Hi Functioning (S6)	31	$4,148	$2,886	0.70	$2,046	$3,856	$6,138	3.0	0.0%
Schizophrenia Disorders: No c/c: Med Functioning (S7)	45	$5,126	$4,351	0.85	$1,927	$3,664	$9,202	4.8	2.2%
Schizophrenia Disorders: No c/c: Low Functioning (S8)	82	$5,137	$3,290	0.64	$2,507	$4,435	$7,406	3.0	4.7%
Stress & Adjustment Disorders: Brief & no c/c (T1)	51	$1,753	$1,104	0.63	$918	$1,511	$2,503	2.7	3.8%
Stress & Adjustment Disorders: Brief & with c/c (T2)	117	$1,491	$1,194	0.80	$624	$1,107	$2,012	3.2	7.1%
Stress & Adjustment Disorders: Prolonged & no c/c (T3)	47	$4,457	$3,742	0.84	$1,000	$3,492	$7,244	7.2	2.1%
Stress & Adjustment Disorders: Prolonged & with c/c (T4)	54	$3,230	$2,799	0.87	$984	$2,237	$4,997	5.1	5.3%
All Untrimmed	2,565	$4,193	$3,659	0.87	$1,371	$3,076	$5,912	4.3	4.9%
RIV Untrimmed	**6.4%**								
RIV Trimmed @ Hi	**11.6%**								

Table 42: Analysis of hypothesised clinical groups by 8-week episode costs: Adult ongoing inpatient episodes

Untrimmed Episode Statistics

Class	n	Mean	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio	Hi Trim point
Mood Disorders: Manic Episode with c/c (M1)	20	$15,950	$5,554	0.35	$11,783	$15,257	$17,145	1.5	$25,188
Mood Disorders: Major Depression no Melan no c/c (M6)	31	$16,295	$7,526	0.46	$11,871	$14,917	$18,997	1.6	$29,686
Organic Disorders: With Severe c/c (O7)	154	$13,931	$2,969	0.21	$11,793	$13,117	$16,122	1.4	$22,616
Schizophrenia Disorders: Recent with c/c (S1)	34	$15,687	$6,571	0.42	$11,007	$15,167	$20,600	1.9	$34,988
Schizophrenia Disorders: Recent non c/c (S2)	26	$12,300	$3,980	0.32	$9,456	$12,316	$14,866	1.6	$22,981
Schizophrenia Disorders: With c/c: Low Functioning (S5)	256	$13,656	$4,015	0.29	$11,127	$12,968	$15,086	1.4	$21,025
Schizophrenia Disorders: No c/c: Med Functioning (S7)	38	$12,497	$4,437	0.36	$7,976	$11,174	$15,348	1.9	$26,405
Schizophrenia Disorders: No c/c: Low Functioning (S8)	93	$12,618	$3,120	0.25	$10,682	$12,088	$14,026	1.3	$19,042
All Untrimmed	652	$13,753	$4,268	0.31	$11,220	$12,962	$15,732	1.4	$22,500

Trimmed Episode Statistics

Class	n	Mean	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio	% Trimmed
Mood Disorders: Manic Episode with c/c (M1)	19	$14,951	$3,391	0.23	$11,249	$15,166	$17,101	1.5	5.0%
Mood Disorders: Major Depression no Melan no c/c (M6)	30	$15,177	$4,302	0.28	$11,760	$14,865	$17,703	1.5	3.2%
Organic Disorders: With Severe c/c (O7)	153	$13,865	$2,864	0.21	$11,786	$13,101	$16,060	1.4	0.6%
Schizophrenia Disorders: Recent with c/c (S1)	34	$15,687	$6,571	0.42	$11,007	$15,167	$20,600	1.9	0.0%
Schizophrenia Disorders: Recent non c/c (S2)	26	$12,300	$3,980	0.32	$9,456	$12,316	$14,866	1.6	0.0%
Schizophrenia Disorders: With c/c: Low Functioning (S5)	247	$13,188	$3,023	0.23	$11,055	$12,810	$14,669	1.3	3.5%
Schizophrenia Disorders: No c/c: Med Functioning (S7)	38	$12,497	$4,437	0.36	$7,976	$11,174	$15,348	1.9	0.0%
Schizophrenia Disorders: No c/c: Low Functioning (S8)	89	$12,245	$2,615	0.21	$10,602	$12,043	$13,807	1.3	4.3%
All Trimmed	636	$13,421	$3,535	0.26	$11,156	$12,871	$15,338	1.4	2.5%

RIV Untrimmed	**5.6%**
RIV Trimmed @ Hi	**6.8%**

Table 43: Analysis of hypothesised clinical groups by 8-week episode costs Adult community episodes

Untrimmed Episode Statistics									
Class	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
Anxiety Disorders: Uncomplicated (A1)	248	$468	$487	1.04	$160	$307	$581	3.6	$1,212
Anxiety Disorders: Moderate Complications (A2)	106	$590	$568	0.96	$212	$403	$754	3.6	$1,567
Anxiety Disorders: Severe Complications (A3)	32	$791	$799	1.01	$270	$535	$1,003	3.7	$2,104
Obsessive-Compulsive Disorders: Low Complications (C1)	56	$681	$998	1.47	$185	$322	$582	3.1	$1,177
Obsessive-Compulsive Disorders: Med Complications (C2)	29	$625	$598	0.96	$176	$475	$762	4.3	$1,641
Mood Disorders: Manic Episode with c/c (M1)	133	$905	$1,048	1.16	$200	$527	$1,200	6.0	$2,700
Mood Disorders: Manic Episode no c/c (M2)	436	$836	$1,164	1.39	$266	$520	$921	3.5	$1,904
Mood Disorders: Major Depression with Melan & c/c (M3)	93	$672	$615	0.92	$295	$493	$804	2.7	$1,569
Mood Disorders: Major Depression with Melan no c/c (M4)	70	$788	$782	0.99	$231	$537	$1,043	4.5	$2,260
Mood Disorders: Major Depression no Melan & c/c (M5)	185	$667	$720	1.08	$193	$385	$882	4.6	$1,916
Mood Disorders: Major Depression no Melan no c/c (M6)	1108	$631	$780	1.24	$184	$379	$796	4.3	$1,714
Mood Disorders: Other Depressions (M7)	367	$594	$924	1.55	$163	$380	$726	4.4	$1,570
Organic Disorders: No c/c: Low Dependency (O1)	83	$518	$564	1.09	$181	$288	$681	3.8	$1,431
Organic Disorders: With c/c: Low Dependency (O4)	40	$724	$793	1.09	$205	$426	$1,022	5.0	$2,247
Organic Disorders: With Severe c/c (O7)	272	$507	$608	1.20	$152	$319	$638	4.2	$1,366
Personality Disorders: No Complications (P1)	128	$892	$1,045	1.17	$270	$490	$1,223	4.5	$2,653
Personality Disorders: Moderate Complications (P2)	100	$645	$632	0.98	$214	$478	$776	3.6	$1,618
Personality Disorders: Severe Complications (P3)	129	$835	$1,095	1.31	$240	$450	$875	3.6	$1,826
Schizophrenia Disorders: Recent with c/c (S1)	595	$823	$952	1.16	$246	$498	$1,060	4.3	$2,280
Schizophrenia Disorders: Recent non c/c (S2)	594	$761	$737	0.97	$286	$529	$979	3.4	$2,019
Schizophrenia Disorders: With c/c: Hi Functioning (S3)	80	$741	$722	0.97	$249	$506	$1,066	4.3	$2,292
Schizophrenia Disorders: With c/c: Med Functioning (S4)	173	$820	$858	1.05	$278	$563	$989	3.6	$2,056
Schizophrenia Disorders: With c/c: Low Functioning (S5)	1035	$933	$1,086	1.16	$292	$551	$1,184	4.1	$2,524
Schizophrenia Disorders: No c/c: Hi Functioning (S6)	404	$569	$608	1.07	$186	$351	$732	3.9	$1,551
Schizophrenia Disorders: No c/c: Med Functioning (S7)	578	$687	$734	1.07	$221	$459	$894	4.0	$1,902
Schizophrenia Disorders: No c/c: Low Functioning (S8)	592	$854	$904	1.06	$288	$555	$1,073	3.7	$2,252
Stress & Adjustment Disorders: Brief & no c/c (T1)	70	$527	$629	1.19	$209	$341	$547	2.6	$1,053
Stress & Adjustment Disorders: Brief & with c/c (T2)	197	$412	$501	1.22	$156	$247	$404	2.6	$776
Stress & Adjustment Disorders: Prolonged & no c/c (T3)	178	$545	$889	1.63	$158	$322	$586	3.7	$1,229
Stress & Adjustment Disorders: Prolonged & with c/c (T4)	202	$616	$885	1.44	$202	$358	$590	2.9	$1,172
All Untrimmed	8313	$719	$870	1.21	$221	$438	$882	4.0	$1,874

Table 43: Analysis of hypothesised clinical groups by 8-week episode costs Adult community episodes (cont'd)

Untrimmed Episode Statistics									
Class	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
Anxiety Disorders: Uncomplicated (A1)	228	$354	$262	0.74	$154	$292	$505	3.3	8.1%
Anxiety Disorders: Moderate Complications (A2)	99	$479	$372	0.78	$171	$385	$585	3.4	6.6%
Anxiety Disorders: Severe Complications (A3)	30	$620	$440	0.71	$258	$456	$983	3.8	6.3%
Obsessive-Compulsive Disorders: Low Complications (C1)	46	$306	$206	0.67	$164	$261	$399	2.4	17.9%
Obsessive-Compulsive Disorders: Med Complications (C2)	27	$497	$373	0.75	$164	$415	$614	3.7	6.9%
Mood Disorders: Manic Episode with c/c (M1)	124	$682	$606	0.89	$189	$468	$1,045	5.5	6.8%
Mood Disorders: Manic Episode no c/c (M2)	395	$568	$415	0.73	$245	$467	$794	3.2	9.4%
Mood Disorders: Major Depression with Melan & c/c (M3)	85	$524	$336	0.64	$258	$436	$711	2.8	8.6%
Mood Disorders: Major Depression with Melan no c/c (M4)	65	$633	$541	0.86	$215	$495	$931	4.3	7.1%
Mood Disorders: Major Depression no Melan & c/c (M5)	172	$508	$417	0.82	$175	$340	$796	4.5	7.0%
Mood Disorders: Major Depression no Melan no c/c (M6)	1033	$473	$390	0.82	$170	$352	$681	4.0	6.8%
Mood Disorders: Other Depressions (M7)	340	$427	$336	0.79	$151	$334	$599	4.0	7.4%
Organic Disorders: No c/c: Low Dependency (O1)	76	$391	$336	0.86	$158	$263	$558	3.5	8.4%
Organic Disorders: With c/c: Low Dependency (O4)	36	$495	$388	0.78	$195	$300	$766	3.9	10.0%
Organic Disorders: With Severe c/c (O7)	256	$390	$302	0.77	$144	$293	$595	4.1	5.9%
Personality Disorders: No Complications (P1)	119	$663	$564	0.85	$262	$456	$979	3.7	7.0%
Personality Disorders: Moderate Complications (P2)	91	$490	$375	0.77	$201	$385	$701	3.5	9.0%
Personality Disorders: Severe Complications (P3)	114	$508	$383	0.75	$236	$404	$655	2.8	11.6%
Schizophrenia Disorders: Recent with c/c (S1)	559	$643	$528	0.82	$234	$457	$920	3.9	6.1%
Schizophrenia Disorders: Recent non c/c (S2)	553	$604	$436	0.72	$276	$477	$836	3.0	6.9%
Schizophrenia Disorders: With c/c: Hi Functioning (S3)	78	$669	$562	0.84	$246	$496	$1,029	4.2	2.5%
Schizophrenia Disorders: With c/c: Med Functioning (S4)	160	$620	$436	0.70	$268	$516	$888	3.3	7.5%
Schizophrenia Disorders: With c/c: Low Functioning (S5)	963	$704	$569	0.81	$273	$514	$995	3.6	7.0%
Schizophrenia Disorders: No c/c: Hi Functioning (S6)	371	$424	$342	0.80	$176	$308	$597	3.4	8.2%
Schizophrenia Disorders: No c/c: Med Functioning (S7)	544	$545	$419	0.77	$209	$411	$785	3.7	5.9%
Schizophrenia Disorders: No c/c: Low Functioning (S8)	552	$660	$495	0.75	$272	$516	$912	3.4	6.8%
Stress & Adjustment Disorders: Brief & no c/c (T1)	63	$352	$218	0.62	$195	$322	$452	2.3	10.0%
Stress & Adjustment Disorders: Brief & with c/c (T2)	172	$256	$158	0.62	$150	$219	$328	2.2	12.7%
Stress & Adjustment Disorders: Prolonged & no c/c (T3)	165	$354	$261	0.74	$146	$297	$460	3.2	7.3%
Stress & Adjustment Disorders: Prolonged & with c/c (T4)	178	$366	$242	0.66	$186	$325	$464	2.5	11.9%
All Untrimmed	7694	$539	$449	0.83	$205	$401	$745	3.6	7.4%
RIV Untrimmed	**2.7%**								
RIV Trimmed @ Hi	**7.1%**								

Table 44: Analysis of hypothesised clinical groups by total episode cost: Child/adolescent completed inpatient episodes

Untrimmed Episode Statistics									
Class	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
Child & Adolescent: Low (K2)	23	$7,147	$5,471	0.77	$1,928	$5,150	$12,409	6.4	$28,129
Child & Adolescent: Severe (K5)	71	$7,476	$6,825	0.91	$2,414	$5,369	$10,802	4.5	$23,383
All Untrimmed	94	$7,396	$6,493	0.88	$2,372	$5,243	$11,629	4.9	$25,514

Trimmed Episode Statistics									
Class	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
Child & Adolescent: Low (K2)	23	$7,147	$5,471	0.77	$1,928	$5,150	$12,409	6.4	0.0%
Child & Adolescent: Severe (K5)	68	$6,506	$5,001	0.77	$2,382	$5,197	$10,368	4.4	4.2%
All Trimmed	91	$6,668	$5,101	0.76	$2,372	$5,160	$11,143	4.7	3.2%

RIV Untrimmed	**0.0%**
RIV Trimmed @ Hi	**0.3%**

Table 45: Analysis of hypothesised clinical groups by 8-week episode costs: Child/adolescent community episodes

Untrimmed Episode Statistics

Class	n	Mean	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio	Hi Trim point
Child & Adolescent: Psychoses (K1)	51	$846	$838	0.99	$248	$599	$1,136	4.6	$2,468
Child & Adolescent: Low (K2)	789	$351	$372	1.06	$131	$249	$424	3.2	$864
Child & Adolescent: Medium (K3)	545	$422	$581	1.38	$130	$266	$478	3.7	$1,000
Child & Adolescent: High (K4)	37	$479	$595	1.24	$194	$335	$509	2.6	$981
Child & Adolescent: Severe (K5)	1011	$531	$678	1.28	$164	$324	$612	3.7	$1,285
All Untrimmed	2433	$454	$584	1.29	$144	$289	$513	3.6	$1,065

Trimmed Episode Statistics

Class	n	Mean	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio	% Trimmed
Child & Adolescent: Psychoses (K1)	47	$659	$540	0.82	$243	$512	$944	3.9	7.8%
Child & Adolescent: Low (K2)	740	$278	$186	0.67	$126	$234	$388	3.1	6.2%
Child & Adolescent: Medium (K3)	503	$298	$214	0.72	$124	$248	$414	3.3	7.7%
Child & Adolescent: High (K4)	35	$354	$229	0.65	$182	$326	$415	2.3	5.4%
Child & Adolescent: Severe (K5)	935	$373	$274	0.74	$155	$299	$518	3.3	7.5%
All Untrimmed	2260	$331	$252	0.76	$137	$264	$443	3.2	7.1%

RIV Untrimmed	**2.8%**
RIV Trimmed @ Hi	**6.5%**

PART H

Summary Statistics on Performance of MH-CASC Classification Model

Table 46: Analysis of MH-CASC Classification by total episode cost: Adult Completed Inpatient episodes

Untrimmed Episode Statistics										
Code	**Class Description**	**n**	**Mean Epi Cost**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
ACI-1	Age < 65 years, diagnosis other than schizophrenia or mood or eating disorder	1,098	$3,210	$3,684	1.15	$976	$1,896	$4,144	4.2	$8,897
ACI-2	Age < 65 years, schizophrenia or mood or eating disorders, voluntary status, low-medium severity	769	$3,524	$3,449	0.98	$1,185	$2,512	$4,642	3.9	$9,827
ACI-3	Age < 65 years, schizophrenia or mood or eating disorders, voluntary status, high severity	195	$5,417	$5,864	1.08	$1,614	$3,307	$7,352	4.6	$15,958
ACI-4	Age < 65 years, schizophrenia or mood or eating disorders, involuntary status, low/medium severity	615	$5,312	$4,677	0.88	$1,875	$3,902	$7,233	3.9	$15,271
ACI-5	Age < 65 years, schizophrenia or mood or eating disorders, involuntary status, high severity	523	$6,372	$5,649	0.89	$2,192	$4,653	$8,841	4.0	$18,813
ACI-6	Age 65-85 years, low ADL dependency	320	$5,806	$4,626	0.80	$2,142	$4,590	$8,613	4.0	$18,320
ACI-7	Age 65-85 years, high ADL dependency	60	$6,916	$5,133	0.74	$2,924	$5,211	$9,901	3.4	$20,368
ACI-8	Age > 85 years	33	$9,607	$5,811	0.60	$5,064	$9,276	$11,837	2.3	$21,997
	All Untrimmed	3,613	$4,562	$4,616	1.01	$1,351	$3,058	$6,168	4.6	$13,393

(cont'd)

Trimmed Episode Statistics											
Code	**Class Description**	**n**	**Mean Epi Cost**	**Cost Weight**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
ACI-1	Age < 65 years, diagnosis other than schizophrenia or mood or eating disorder	1,029	$2,484	0.64	$2,062	0.83	$928	$1,714	$3,474	3.7	6.3%
ACI-2	Age < 65 years, schizophrenia or mood or eating disorders, voluntary status, low-medium severity	723	$2,864	0.73	$2,131	0.74	$1,126	$2,355	$4,173	3.7	6.0%
ACI-3	Age < 65 years, schizophrenia or mood or eating disorders, voluntary status, high severity	183	$4,386	1.12	$3,927	0.90	$1,555	$2,905	$6,846	4.4	6.2%
ACI-4	Age < 65 years, schizophrenia or mood or eating disorders, involuntary status, low/medium severity	585	$4,591	1.18	$3,433	0.75	$1,748	$3,763	$6,535	3.7	4.9%
ACI-5	Age< 65 years, schizophrenia or mood or eating disorders, involuntary status, high severity	504	$5,727	1.47	$4,503	0.79	$2,109	$4,468	$8,223	3.9	3.6%
ACI-6	Age 65-85 years, low ADL dependency	312	$5,426	1.39	$4,011	0.74	$2,081	$4,398	$8,264	4.0	2.5%
ACI-7	Age 65-85 years, high ADL dependency	59	$6,655	1.71	$4,759	0.72	$2,885	$5,126	$9,585	3.3	1.7%
ACI-8	Age > 85 years	31	$8,710	2.23	$4,720	0.54	$5,035	$9,260	$11,047	2.2	6.1%
	Trimmed	3,426	$3,900	1.00	$3,471	0.89	$1,297	$2,794	$5,443	4.2	5.2%
	RIV Untrimmed	**8.7%**									
	RIV Trimmed @ Hi	**16.3%**									
	RIV Trimmed @ Hi & Sameday	**16.6%**									

Table 47: Analysis of MH-CASC Classification by length of stay: Adult completed inpatient episodes

Trimmed Statistics									
Code	**Class Description**	**n**	**Mean LOS**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**
ACI-1	Age < 65 years, diagnosis other than schizophrenia or mood or eating disorder	1,029	7.8	7.0	0.89	3.0	5.0	11.0	3.7
ACI-2	Age < 65 years, schizophrenia or mood or eating disorders, voluntary status, low-medium severity	723	10.4	8.1	0.78	4.0	8.0	15.0	3.8
ACI-3	Age < 65 years, schizophrenia or mood or eating disorders, voluntary status, high severity	585	14.0	11.0	0.78	5.0	12.0	19.5	3.9
ACI-4	Age < 65 years, schizophrenia or mood or eating disorders, involuntary status, low/medium severity	183	14.7	12.9	0.88	5.0	10.0	21.0	4.2
ACI-5	Age< 65 years, schizophrenia or mood or eating disorders, involuntary status, high severity	504	17.0	14.3	0.84	6.0	13.0	25.0	4.2
ACI-6	Age 65-85 years, low ADL dependency	312	17.8	13.1	0.73	8.0	15.0	26.0	3.3
ACI-7	Age 65-85 years, high ADL dependency	59	18.6	13.0	0.70	7.0	16.0	26.0	3.7
ACI-8	Age > 85 years	31	26.3	16.4	0.62	13.0	26.0	32.0	2.5
	Trimmed	3,426	12.4	11.2	0.90	4.0	9.0	18.0	4.5
	RIV Untrimmed								
	RIV Trimmed @ Hi								
	RIV Trimmed @ Hi & Sameday								

Table 48: Analysis of MH-CASC Classification by total episode cost: Adult Ongoing Inpatient episodes

Untrimmed Episode Statistics										
Code	**Class Description**	**n**	**Mean Epi Cost**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
AOI-1	Age ≤ 33 years, schizophrenia or organic disorder, voluntary	21	$10,229	$4,099	0.40	$7,778	$10,363	$13,347	1.7	$21,701
AOI-2	Age ≤ 33 years, schizophrenia or organic disorder, involuntary, low aggression	55	$14,336	$3,699	0.26	$12,024	$14,143	$16,286	1.4	$22,680
AOI-3	Age ≤ 33 years, schizophrenia or organic disorder, involuntary, high aggression	89	$16,477	$5,710	0.35	$12,557	$15,562	$18,788	1.5	$28,135
AOI-4	Age ≤ 33 years, diagnosis other than schizophrenia or organic disorder	44	$19,546	$7,855	0.40	$14,548	$17,668	$21,248	1.5	$31,299
AOI-5	Age 34-64 years, schizophrenia or organic disorder, no aggression	125	$12,377	$3,018	0.24	$10,296	$12,182	$13,953	1.4	$19,439
AOI-6	Age 34-64 years, schizophrenia or organic disorder, with aggression	179	$13,698	$3,794	0.28	$11,308	$12,865	$15,014	1.3	$20,572
AOI-7	Age 34-64 years, diagnosis other than schizophrenia or organic disorder	67	$15,344	$4,190	0.27	$12,907	$15,054	$17,378	1.3	$24,084
AOI-8	Age 65+ years, schizophrenia or substance abuse or mental retardation, no ADL dependency	74	$11,787	$2,681	0.23	$9,687	$11,253	$13,456	1.4	$19,109
AOI-9	Age 65+ years, schizophrenia or substance abuse or mental retardation, with ADL dependency	58	$13,917	$2,555	0.18	$11,701	$13,587	$16,031	1.4	$22,525
AOI-10	Age 65+ years, organic disorder, low-medium ADL dependency	111	$13,339	$2,716	0.20	$11,420	$12,926	$15,206	1.3	$20,883
AOI-11	Age 65+ years, organic disorder, high ADL dependency	44	$15,352	$3,349	0.22	$12,630	$14,632	$17,561	1.4	$24,958
AOI-12	Age 65+ years, diagnosis other than organic disorder or schizophrenia	82	$15,668	$6,071	0.39	$12,470	$14,710	$16,925	1.4	$23,607
	All Untrimmed	949	$14,201	$4,590	0.32	$11,414	$13,382	$16,218	1.4	$23,424

Table 48: Analysis of MH-CASC Classification by total episode cost: Adult Ongoing Inpatient episodes (cont'd)

Trimmed Episode Statistics											
Code	**Class Description**	**n**	**Mean Epi Cost**	**Cost Weight**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
AOI-1	Age ≤ 33 years, schizophrenia or organic disorder, voluntary	21	$10,229	0.75	$4,099	0.40	$7,778	$10,363	$13,347	1.7	0.0%
AOI-2	Age ≤ 33 years, schizophrenia or organic disorder, involuntary, low aggression	54	$14,145	1.03	$3,450	0.24	$12,001	$14,070	$16,163	1.3	1.8%
AOI-3	Age ≤ 33 years, schizophrenia or organic disorder, involuntary, high aggression	85	$15,624	1.14	$4,084	0.26	$12,316	$15,299	$18,636	1.5	4.5%
AOI-4	Age ≤ 33 years, diagnosis other than schizophrenia or organic disorder	40	$17,632	1.28	$4,819	0.27	$14,477	$17,220	$20,736	1.4	9.1%
AOI-5	Age 34-64 years, schizophrenia or organic disorder, no aggression	121	$12,110	0.88	$2,671	0.22	$10,251	$12,083	$13,778	1.3	3.2%
AOI-6	Age 34-64 years, schizophrenia or organic disorder, with aggression	169	$13,088	0.95	$2,785	0.21	$11,252	$12,701	$14,333	1.3	5.6%
AOI-7	Age 34-64 years, diagnosis other than schizophrenia or organic disorder	65	$14,989	1.09	$3,703	0.25	$12,764	$14,971	$17,030	1.3	3.0%
AOI-8	Age 65+ years, schizophrenia or substance abuse or mental retardation, no ADL dependency	74	$11,787	0.86	$2,681	0.23	$9,687	$11,253	$13,456	1.4	0.0%
AOI-9	Age 65+ years, schizophrenia or substance abuse or mental retardation, with ADL dependency	58	$13,917	1.01	$2,555	0.18	$11,701	$13,587	$16,031	1.4	0.0%
AOI-10	Age 65+ years, organic disorder, low-medium ADL dependency	110	$13,242	0.97	$2,528	0.19	$11,420	$12,898	$15,141	1.3	0.9%
AOI-11	Age 65+ years, organic disorder, high ADL dependency	44	$15,352	1.12	$3,349	0.22	$12,630	$14,632	$17,561	1.4	0.0%
AOI-12	Age 65+ years, diagnosis other than organic disorder or schizophrenia	78	$14,559	1.06	$2,975	0.20	$12,293	$14,635	$16,563	1.3	4.9%
	Trimmed	919	$13,722	1.00	$3,495	0.25	$11,353	$13,240	$15,833	1.4	3.2%
	RIV Untrimmed	**16.8%**									
	RIV Trimmed @ Hi	**19.1%**									

Table 49: Analysis of MH-CASC Classification by total episode cost: Adult Community episodes

Untrimmed Episode Statistics										
Code	**Class Description**	**n**	**Mean Epi Cost**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
AC-1	Other focus of care, voluntary, low clinical severity, low disability	1,449	$424	$513	1.21	$139	$266	$493	3.6	$1,026
AC-2	Other focus of care, voluntary, low clinical severity, moderate disability	483	$537	$618	1.15	$183	$341	$654	3.6	$1,360
AC-3	Other focus of care, voluntary, low clinical severity, high disability	299	$698	$1,009	1.44	$189	$382	$736	3.9	$1,558
AC-4	Other focus of care, voluntary, moderate clinical severity, low-moderate disability	2,254	$563	$600	1.07	$188	$368	$723	3.8	$1,525
AC-5	Other focus of care, voluntary, moderate clinical severity, high disability	1,187	$753	$846	1.12	$252	$493	$926	3.7	$1,937
AC-6	Other focus of care, voluntary, high clinical severity	1,469	$751	$921	1.23	$234	$464	$943	4.0	$2,005
AC-7	Other focus of care, involuntary, low clinical severity	317	$599	$707	1.18	$179	$363	$774	4.3	$1,666
AC-8	Other focus of care, involuntary, moderate-high clinical severity	1,181	$888	$1,030	1.16	$290	$577	$1,087	3.8	$2,284
AC-9	Intensive extended focus of care, voluntary	835	$922	$962	1.04	$319	$610	$1,166	3.7	$2,437
AC-10	Intensive extended focus of care, involuntary	332	$1,344	$1,384	1.03	$449	$898	$1,738	3.9	$3,670
	Total untrimmed	9,806	$694	$844	1.22	$208	$422	$843	4.0	$1,794

Table 49: Analysis of MH-CASC Classification by total episode cost: Adult Community episodes (cont'd)

Trimmed Episode Statistics											
Code	**Class Description**	**n**	**Mean Epi Cost**	**Cost Weight**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
AC-1	Other focus of care, voluntary, low clinical severity, low disability	1,330	$304	0.58	$224	0.74	$132	$239	$417	3.2	8.2%
AC-2	Other focus of care, voluntary, low clinical severity, moderate disability	445	$397	0.75	$299	0.75	$174	$303	$553	3.2	7.9%
AC-3	Other focus of care, voluntary, low clinical severity, high disability	272	$442	0.84	$347	0.79	$173	$345	$593	3.4	9.0%
AC-4	Other focus of care, voluntary, moderate clinical severity, low-moderate disability	2,108	$443	0.84	$344	0.78	$180	$338	$612	3.4	6.5%
AC-5	Other focus of care, voluntary, moderate clinical severity, high disability	1,098	$572	1.09	$435	0.76	$235	$454	$788	3.4	7.5%
AC-6	Other focus of care, voluntary, high clinical severity	1,362	$556	1.06	$444	0.80	$221	$419	$766	3.5	7.3%
AC-7	Other focus of care, involuntary, low clinical severity	293	$444	0.84	$381	0.86	$172	$295	$648	3.8	7.6%
AC-8	Other focus of care, involuntary, moderate-high clinical severity	1,102	$679	1.29	$517	0.76	$272	$524	$954	3.5	6.7%
AC-9	Intensive extended focus of care, voluntary	776	$717	1.36	$549	0.77	$299	$555	$991	3.3	7.1%
AC-10	Intensive extended focus of care, involuntary	310	$1,068	2.03	$841	0.79	$426	$846	$1,524	3.6	6.6%
	Trimmed	9,096	$526	1.00	$456	0.87	$196	$387	$717	3.6	7.2%
	RIV Untrimmed	5.7%									
	RIV Trimmed @ Hi	12.7%									

Table 50: Analysis of MH-CASC Classification by number of treatment days: Adult Community episodes

		Trimmed Episode Statistics							
		n	Mean	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio
AC-1	Other focus of care, voluntary, low clinical severity, low disability	1,330	3.8	3.1	0.83	1.3	3.0	5.0	4.0
AC-2	Other focus of care, voluntary, low clinical severity, moderate disability	272	5.2	4.3	0.82	2.1	4.3	7.0	3.3
AC-3	Other focus of care, voluntary, low clinical severity, high disability	445	5.4	4.4	0.82	2.0	4.0	7.2	3.5
AC-4	Other focus of care, voluntary, moderate clinical severity, low-moderate disability	2,108	5.7	4.6	0.81	2.0	4.3	8.0	4.0
AC-5	Other focus of care, voluntary, moderate clinical severity, high disability	293	5.9	5.0	0.85	2.0	4.3	8.2	4.1
AC-6	Other focus of care, voluntary, high clinical severity	1,362	6.5	5.2	0.81	2.5	5.0	9.2	3.7
AC-7	Other focus of care, involuntary, low clinical severity	1,098	7.0	5.5	0.78	3.0	5.5	9.5	3.2
AC-8	Other focus of care, involuntary, moderate-high clinical severity	1,102	8.4	6.4	0.76	3.3	6.9	11.9	3.6
AC-9	Intensive extended focus of care, voluntary	776	8.8	6.5	0.74	4.0	7.1	12.0	3.0
AC-10	Intensive extended focus of care, involuntary	310	12.8	9.4	0.73	5.4	10.5	18.3	3.4
	Trimmed	9,096	6.5	5.6	0.86	2.5	5.0	9.0	3.7
	RIV Untrimmed								
	RIV Trimmed @ Hi								

Table 51: Analysis of MH-CASC Classification by total episode cost: Child/Adolescent Completed Inpatient episodes

Untrimmed Episode Statistics

Code	Class Description	n	Mean Epi Cost	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio	Hi Trim point
CCI-1	Other diagnoses, low disruptive/aggressive behaviour	59	$4,541	$3,854	0.85	$1,852	$3,156	$6,112	3.3	$12,502
CCI-2	Other diagnoses, high disruptive/aggressive behaviour	46	$6,839	$5,021	0.73	$2,663	$5,684	$10,629	4.0	$22,578
CCI-3	Mood, somatoform, or eating disorder	40	$9,505	$8,037	0.85	$3,446	$7,549	$12,641	3.7	$26,434
	All Untrimmed	145	$6,639	$5,954	0.90	$2,232	$4,852	$10,240	4.6	$22,252

Trimmed Episode Statistics

Code	Class Description	n	Mean Epi Cost	Cost Weight	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio	% Trimmed
CCI-1	Other diagnoses, low disruptive/aggressive behaviour	55	$3,802	0.63	$2,749	0.72	$1,851	$2,949	$5,234	2.8	6.8%
CCI-2	Other diagnoses, high disruptive/aggressive behaviour	46	$6,839	1.13	$5,021	0.73	$2,663	$5,684	$10,629	4.0	0.0%
CCI-3	Mood, somatoform, or eating disorder	38	$8,339	1.38	$6,252	0.75	$3,306	$6,826	$12,403	3.8	5.0%
	Trimmed	139	$6,048	1.00	$5,032	0.83	$2,109	$4,592	$9,151	4.3	4.1%
	RIV Untrimmed	**11.6%**									
	RIV Trimmed @ Hi	**14.5%**									
	RIV Trimmed @ Hi & Sameday	**14.4%**									

Table 52: Analysis of MH-CASC Classification by length of stay: Child/Adolescent Completed Inpatient episodes

		Trimmed Episode Statistics							
		n	Mean LOS	SD	CV	Q1	Median	Q3	Q3-Q1 Ratio
CCI-1	Other diagnoses, low disruptive/aggressive behaviour	55	10.5	9.1	0.86	4.0	8.0	16.0	4.0
CCI-2	Other diagnoses, high disruptive/aggressive behaviour	46	17.3	13.7	0.79	5.8	15.0	26.0	4.5
CCI-3	Mood, somatoform, or eating disorder	38	24.6	19.0	0.77	8.5	20.5	42.3	5.0
	Total Trimmed	139	16.6	14.9	0.90	5.0	12.0	23.0	4.6

Table 53: Analysis of MH-CASC Classification by total episode cost: Child/Adolescent Community episodes

Untrimmed Episode Statistics										
Code	**Class Description**	**n**	**Mean Epi Cost**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
CC-1	Age < 6 years, high functioning	39	$201	$190	0.95	$79	$156	$272	3.4	$560
CC-2	Age < 6 years, not high functioning	146	$353	$298	0.84	$143	$247	$449	3.1	$908
CC-3	Age 6-12, low-moderate school attendance problems, low disruptive/antisocial.	821	$354	$289	0.81	$149	$277	$445	3.0	$890
CC-4	Age 6-12, low-moderate school attendance problems, high disruptive/antisocial	199	$476	$370	0.78	$225	$372	$606	2.7	$1,177
CC-5	Age 6-12, high school attendance problems	53	$789	$854	1.08	$264	$505	$870	3.3	$1,779
CC-6	Age > 12 years, low severity, low functioning	33	$822	$1,014	1.23	$250	$483	$793	3.2	$1,608
CC-7	Age > 12 years, low severity, high functioning	493	$453	$558	1.23	$143	$282	$525	3.7	$1,098
CC-8	Age > 12 years, high severity, low psychosocial complications	131	$758	$1,047	1.38	$143	$387	$820	5.7	$1,834
CC-9	Age > 12 years, high severity, high psychosocial complications	183	$1,048	$1,065	1.02	$321	$628	$1,453	4.5	$3,151
	All Untrimmed	2,098	$490	$610	1.24	$161	$312	$559	3.5	$1,155

Table 53: Analysis of MH-CASC Classification by total episode cost: Child/Adolescent Community episodes (cont'd)

Trimmed Episode Statistics											
Code	**Class Description**	**n**	**Mean Epi Cost**	**Cost Weight**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
CC-1	Age < 6 years, high functioning	37	$165	0.44	$111	0.67	$69	$156	$208	3.0	5.1%
CC-2	Age < 6 years, not high functioning	136	$294	0.78	$197	0.67	$141	$230	$406	2.9	6.8%
CC-3	Age 6-12, low-moderate school attendance problems, low disruptive/antisocial.	776	$304	0.81	$195	0.64	$143	$263	$415	2.9	5.5%
CC-4	Age 6-12, low-moderate school attendance problems, high disruptive/antisocial	186	$404	1.07	$244	0.60	$212	$349	$553	2.6	6.5%
CC-5	Age 6-12, high school attendance problems	48	$547	1.45	$355	0.65	$255	$486	$803	3.1	9.4%
CC-6	Age > 12 years, low severity, low functioning	28	$439	1.16	$260	0.59	$232	$429	$660	2.8	15.2%
CC-7	Age > 12 years, low severity, high functioning	459	$333	0.88	$249	0.75	$131	$259	$460	3.5	6.9%
CC-8	Age > 12 years, high severity, low psychosocial complications	117	$445	1.18	$396	0.89	$136	$307	$636	4.7	10.7%
CC-9	Age > 12 years, high severity, high psychosocial complications	169	$817	2.16	$707	0.86	$309	$573	$1,083	3.5	7.7%
	Trimmed	1,956	$377	1.00	$341	0.90	$154	$289	$488	3.2	6.8%
	RIV Untrimmed	**12.4%**									
	RIV Trimmed @ Hi	**18.8%**									

Table 54: Analysis of MH-CASC Classification by number of treatment days: Child/Adolescent Community episodes

Trimmed Episode Statistics									
Code	**Class Description**	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**
CC-1	Age < 6 years, high functioning	37	3.1	2.7	0.87	1.0	2.0	4.5	4.5
CC-2	Age < 6 years, not high functioning	459	4.5	3.8	0.83	2.0	3.0	6.0	3.0
CC-3	Age 6-12, low-moderate school attendance problems, low disruptive/antisocial.	776	4.6	3.2	0.70	2.0	4.0	6.0	3.0
CC-4	Age 6-12, low-moderate school attendance problems, high disruptive/antisocial	136	4.6	3.4	0.73	2.0	4.0	6.0	3.0
CC-5	Age 6-12, high school attendance problems	28	5.5	3.6	0.65	3.0	5.0	8.0	2.7
CC-6	Age > 12 years, low severity, low functioning	117	5.8	5.7	0.99	2.0	3.0	8.0	4.0
CC-7	Age > 12 years, low severity, high functioning	186	6.2	4.2	0.68	3.0	5.0	8.0	2.7
CC-8	Age > 12 years, high severity, low psychosocial complications	48	8.4	6.2	0.74	3.3	7.0	12.0	3.7
CC-9	Age > 12 years, high severity, high psychosocial complications	169	9.3	8.0	0.86	3.0	7.0	13.0	4.3
	Trimmed	1,956	5.3	4.6	0.86	2.0	4.0	7.0	3.5
	RIV Untrimmed								
	RIV Trimmed @ Hi								

Table 55: Analysis of MH-CASC Classification by episode costs: Adult 'Bundled Care' episodes

Trimmed Episode Statistics										
Code	**Class Description**	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**Hi Trim point**
AB-1	Voluntary, mild clinical severity, low suicide risk, age less than 80 years	3,398	$803	$1,671	2.08	$179	$365	$748	4.2	$1,602
AB-2	Voluntary, moderate clinical severity, low suicide risk, age less than 80 years	764	$1,276	$2,228	1.75	$279	$556	$1,250	4.5	$2,706
AB-3	Voluntary, mild-moderate clinical severity, low suicide risk, age 80+ years	237	$1,774	$3,723	2.10	$187	$403	$990	5.3	$2,194
AB-4	Voluntary, mild-moderate clinical severity, high suicide risk	378	$1,502	$2,365	1.57	$235	$614	$1,569	6.7	$3,571
AB-5	Voluntary, high clinical severity, diagnosis other than mood or organic disorder, low psychotic symptoms	562	$1,264	$2,053	1.62	$281	$572	$1,340	4.8	$2,930
AB-6	Voluntary, high clinical severity, diagnosis other than mood or organic disorder, severe psychotic symptoms, age less than 33 years	206	$2,577	$3,782	1.47	$511	$1,146	$2,721	5.3	$6,036
AB-7	Voluntary, high clinical severity, diagnosis other than mood or organic disorder, severe psychotic symptoms, age 33+ years	212	$1,233	$1,917	1.55	$268	$598	$1,273	4.8	$2,780
AB-8	Voluntary, high clinical severity, diagnosis mood or organic disorder	408	$2,423	$4,100	1.69	$298	$760	$2,649	8.9	$6,176
AB-9	Involuntary, none or mild aggressive/disruptive behaviour, mild clinical severity	412	$1,671	$3,184	1.91	$237	$603	$1,506	6.3	$3,408
AB-10	Involuntary, no aggressive/disruptive behaviour, moderate to high clinical severity	438	$2,922	$3,947	1.35	$470	$1,087	$3,937	8.4	$9,138
AB-11	Involuntary, with aggressive/disruptive behaviour, age less than 33 years	452	$4,321	$5,273	1.22	$698	$2,216	$5,909	8.5	$13,725
AB-12	Involuntary, with aggressive/disruptive behaviour, age 33+ years	600	$3,948	$5,155	1.31	$541	$1,576	$5,376	9.9	$12,628
	Total untrimmed	8,067	$1,670	$3,173	1.90	$239	$536	$1,417	5.9	$3,184

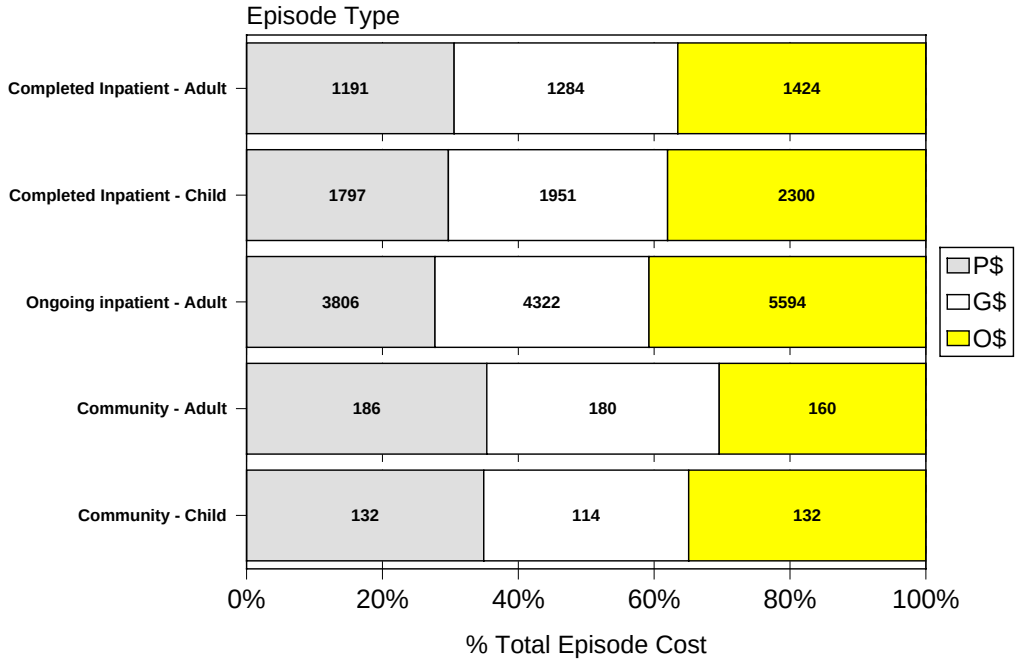
Table 55: Analysis of MH-CASC Classification by episode costs: Adult 'Bundled Care' episodes (cont'd)

Trimmed Episode Statistics										
Code	**Class Description**	**n**	**Mean**	**SD**	**CV**	**Q1**	**Median**	**Q3**	**Q3-Q1 Ratio**	**% Trimmed**
AB-1	Voluntary, mild clinical severity, low suicide risk, age less than 80 years	3,043	$422	$344	0.82	$165	$319	$576	3.5	10.4%
AB-2	Voluntary, moderate clinical severity, low suicide risk, age less than 80 years	677	$668	$577	0.86	$253	$477	$921	3.6	11.4%
AB-3	Voluntary, mild-moderate clinical severity, low suicide risk, age 80+ years	203	$478	$439	0.92	$158	$309	$723	4.6	14.3%
AB-4	Voluntary, mild-moderate clinical severity, high suicide risk	331	$753	$727	0.96	$212	$475	$1,083	5.1	12.4%
AB-5	Voluntary, high clinical severity, diagnosis other than mood or organic disorder, low psychotic symptoms	509	$741	$649	0.88	$259	$493	$1,097	4.2	9.4%
AB-6	Voluntary, high clinical severity, diagnosis other than mood or organic disorder, severe psychotic symptoms, age less than 33 years	181	$1,361	$1,231	0.90	$455	$1,008	$1,844	4.1	12.1%
AB-7	Voluntary, high clinical severity, diagnosis other than mood or organic disorder, severe psychotic symptoms, age 33+ years	191	$696	$593	0.85	$239	$517	$1,024	4.3	9.9%
AB-8	Voluntary, high clinical severity, diagnosis mood or organic disorder	362	$1,215	$1,431	1.18	$254	$598	$1,511	5.9	11.3%
AB-9	Involuntary, none or mild aggressive/disruptive behaviour, mild clinical severity	369	$765	$728	0.95	$216	$490	$1,078	5.0	10.4%
AB-10	Involuntary, no aggressive/disruptive behaviour, moderate to high clinical severity	400	$1,941	$2,209	1.14	$438	$933	$2,540	5.8	8.7%
AB-11	Involuntary, with aggressive/disruptive behaviour, age less than 33 years	423	$3,296	$3,433	1.04	$666	$1,845	$4,771	7.2	6.4%
AB-12	Involuntary, with aggressive/disruptive behaviour, age 33+ years	555	$2,818	$3,152	1.12	$501	$1,321	$4,342	8.7	7.5%
	Trimmed	7,244	$1,007	$1,679	1.67	$217	$457	$1,004	4.6	10.2%
	RIV Untrimmed	**12.6%**								
	RIV Trimmed @ Hi	**27.9%**								

PART I

Cost Components and Service Weights for MH-CASC Classes

Figure 10: Cost Components by episode type

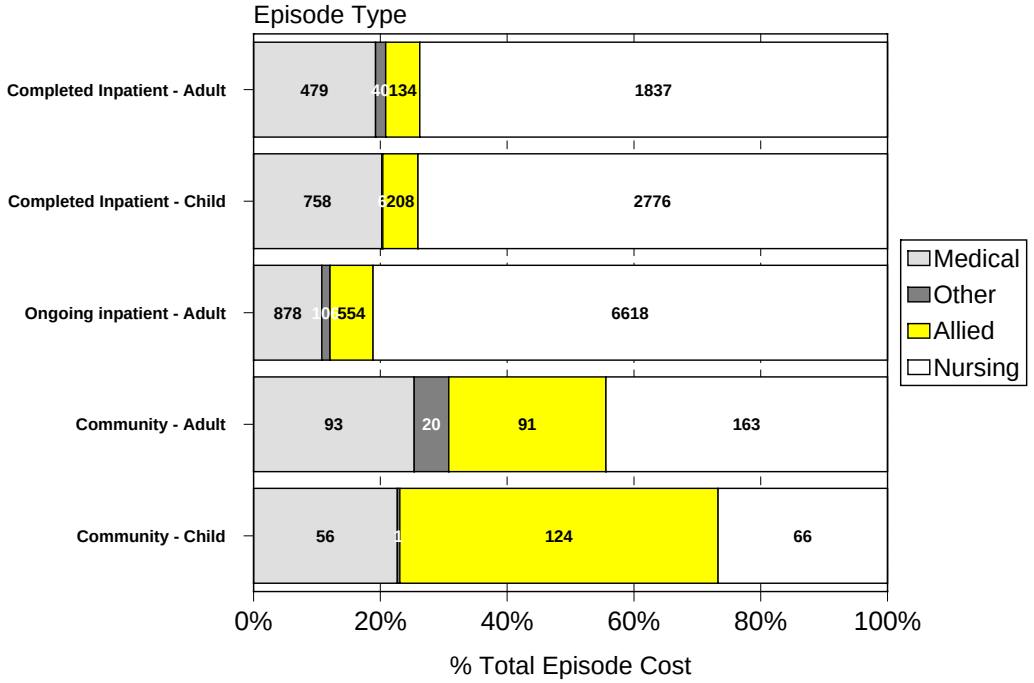


	Total	P	G	O
Completed Inpatient - Adult	$3,900	$1,191	$1,284	$1,424
Completed Inpatient – Child/Adol	$6,048	$1,797	$1,951	$2,300
Ongoing Inpatient - Adult	$13,722	$3,806	$4,322	$5,594
Community - Adult	$526	$186	$180	$160
Community – Child/Adol	$377	$132	$114	$132

Key:
P – Direct Care, Patient Attributable time
G – Direct Care, General time
O – Overheads and infrastructure

Note: Based on trimmed episodes

Figure 11: Service Weights by episode type



	Total	Nursing	Medical	Allied	Other
Completed Inpatient - Adult	$2,490	$1,837	$479	$134	$40
Completed Inpatient – Child/Adol	$3,748	$2,776	$758	$208	$6
Ongoing Inpatient - Adult	$8,156	$6,618	$878	$554	$106
Community - Adult	$367	$163	$93	$91	$20
Community – Child/Adol	$247	$66	$56	$124	$1

Table 56: Adult Completed Inpatient classes - Cost Components and Service Weights

CLASS	DESCRIPTION	N	Cost Weight	Episode Cost	Cost Components			% Direct Care Cost			
					Direct Care – Patient Attributable	Direct Care – General Time	Overheads & infrastructure	Nursing	Medical	Allied Health	Other health care
ACI-1	Age < 65 years, diagnosis other than schizophrenia or mood or eating disorder	1,029	0.64	$2,484	0.28	0.33	0.39	0.72	0.21	0.06	0.02
ACI -2	Age < 65 years, schizophrenia or mood or eating disorders, voluntary status, low-medium severity	723	0.73	$2,864	0.29	0.33	0.38	0.71	0.23	0.05	0.02
ACI -3	Age < 65 years, schizophrenia or mood or eating disorders, voluntary status, high severity	183	1.12	$4,386	0.28	0.32	0.40	0.72	0.21	0.05	0.02
ACI -4	Age < 65 years, schizophrenia or mood or eating disorders, involuntary status, low/medium severity	585	1.18	$4,591	0.31	0.36	0.34	0.76	0.18	0.05	0.01
ACI -5	Age< 65 years, schizophrenia or mood or eating disorders, involuntary status, high severity	504	1.47	$5,727	0.31	0.35	0.34	0.75	0.18	0.06	0.01
ACI -6	Age 65-85 years, low ADL dependency	312	1.39	$5,426	0.32	0.29	0.39	0.76	0.18	0.05	0.02
ACI -7	Age 65-85 years, high ADL dependency	59	1.71	$6,655	0.39	0.27	0.34	0.81	0.14	0.04	0.01
ACI -8	Age > 85 years	31	2.23	$8,710	0.41	0.27	0.32	0.83	0.12	0.04	0.01
Total		3,426	1.00	$3,899	0.31	0.33	0.37	0.74	0.19	0.05	0.02

Table 57: Adult Ongoing Inpatient classes - Cost Components and Service Weights

CLASS	DESCRIPTION	N	Cost Weight	Episode Cost	Cost Components			% Direct Care Cost			
					Direct Care – Patient Attributable	Direct Care – General Time	Overheads & infrastructure	Nursing	Medical	Allied Health	Other health care
AOI-1	Age ≤ 33 years, schizophrenia or organic disorder, voluntary	21	0.75	$10,229	0.30	0.33	0.37	0.73	0.09	0.11	0.07
AOI-2	Age ≤ 33 years, schizophrenia or organic disorder, involuntary, low aggression	54	1.03	$14,145	0.26	0.37	0.37	0.78	0.10	0.09	0.02
AOI-3	Age ≤ 33 years, schizophrenia or organic disorder, involuntary, high aggression	85	1.14	$15,624	0.27	0.36	0.37	0.78	0.12	0.08	0.02
AOI-4	Age ≤ 33 years, diagnosis other than schizophrenia or organic disorder	40	1.28	$17,632	0.32	0.31	0.37	0.76	0.15	0.08	0.01
AOI-5	Age 34-64 years, schizophrenia or organic disorder, no aggression	121	0.88	$12,110	0.23	0.36	0.40	0.80	0.11	0.08	0.02
AOI-6	Age 34-64 years, schizophrenia or organic disorder, with aggression	169	0.95	$13,088	0.28	0.32	0.40	0.83	0.10	0.06	0.01
AOI-7	Age 34-64 years, diagnosis other than schizophrenia or organic disorder	65	1.09	$14,989	0.30	0.30	0.40	0.75	0.15	0.08	0.02
AOI-8	Age 65+ years, schizophrenia or substance abuse or mental retardation, no ADL dependency	74	0.86	$11,787	0.22	0.33	0.45	0.85	0.10	0.05	0.00
AOI-9	Age 65+ years, schizophrenia or substance abuse or mental retardation, with ADL dependency	58	1.01	$13,917	0.26	0.27	0.47	0.86	0.09	0.06	0.00
AOI-10	Age 65+ years, organic disorder, low-medium ADL dependency	110	0.97	$13,242	0.29	0.27	0.43	0.87	0.08	0.05	0.01
AOI-11	Age 65+ years, organic disorder, high ADL dependency	44	0.97	$15,352	0.36	0.24	0.40	0.88	0.06	0.05	0.01
AOI-12	Age 65+ years, diagnosis other than organic disorder or schizophrenia	78	1.06	$14,559	0.29	0.27	0.44	0.82	0.13	0.06	0.01
Total		919	1.00	$13,722	0.28	0.31	0.41	0.81	0.11	0.07	0.01

Table 58: Adult Completed Inpatient classes - Cost Components and Service Weights

CLASS	DESCRIPTION	N	Cost Weight	Episode Cost	Cost Components			% Direct Care Cost			
					Direct Care – Patient Attributable	Direct Care – General Time	Overheads & infrastructure	Nursing	Medical	Allied Health	Other health care
AC-1	Other focus of care, voluntary, low clinical severity, low disability	1,330	0.58	$304	0.33	0.34	0.32	0.32	0.34	0.29	0.05
AC-2	Other focus of care, voluntary, low clinical severity, moderate disability	445	0.75	$397	0.36	0.34	0.30	0.43	0.26	0.23	0.08
AC-3	Other focus of care, voluntary, low clinical severity, high disability	272	0.84	$442	0.31	0.43	0.26	0.45	0.25	0.27	0.03
AC-4	Other focus of care, voluntary, moderate clinical severity, low-moderate disability.	2,108	0.84	$443	0.35	0.33	0.31	0.38	0.30	0.26	0.06
AC-5	Other focus of care, voluntary, moderate clinical severity, high disability	1,098	1.09	$572	0.33	0.38	0.29	0.46	0.20	0.30	0.04
AC-6	Other focus of care, voluntary, high clinical severity	1,362	1.06	$556	0.36	0.34	0.30	0.44	0.28	0.24	0.05
AC-7	Other focus of care, involuntary, low clinical severity	293	0.84	$444	0.36	0.34	0.30	0.51	0.24	0.19	0.07
AC-8	Other focus of care, involuntary, moderate-high clinical severity	1,102	1.29	$679	0.36	0.33	0.30	0.50	0.22	0.22	0.05
AC-9	Intensive extended focus of care, voluntary	776	1.36	$717	0.36	0.35	0.30	0.48	0.23	0.23	0.05
AC-10	Intensive extended focus of care, involuntary	310	2.03	$1,068	0.38	0.29	0.33	0.54	0.18	0.20	0.09
Total		9,096	1.0	$526	0.35	0.34	0.30	0.44	0.25	0.25	0.06

Table 59: Child/Adolescent Completed Inpatient classes - Cost Components and Service Weights

CLASS	DESCRIPTION	N	Cost Weight	Episode Cost	Cost Components			% Direct Care Cost			
					Direct Care – Patient Attributable	Direct Care – General Time	Overheads & infrastructure	Nursing	Medical	Allied Health	Other health care
CCI-1	Other diagnoses, low disruptive/aggressive behaviour	55	0.63	$3,802	0.27	0.34	0.39	0.76	0.18	0.05	0.00
CCI-2	Other diagnoses, high disruptive/aggressive behaviour	46	1.13	$6,839	0.30	0.32	0.38	0.76	0.18	0.06	0.00
CCI-3	Mood, somatoform, or eating disorder	38	1.38	$8,339	0.31	0.31	0.38	0.71	0.24	0.05	0.00
Total		139	1.00	$6,048	0.30	0.32	0.38	0.74	0.20	0.06	0.00

Table 60: Child/Adolescent Community classes – Cost Components and Service Weights

CLASS	DESCRIPTION	N	Cost Weight	Episode Cost	Cost Components			% Direct Care Cost			
					Direct Care – Patient Attributable	Direct Care – General Time	Overheads & infrastructure	Nursing	Medical	Allied Health	Other health care
CC-1	Age < 6 years, high functioning	37	0.44	$165	0.33	0.25	0.42	0.11	0.16	0.73	0.00
CC-2	Age < 6 years, not high functioning	136	0.78	$294	0.35	0.25	0.40	0.11	0.11	0.78	0.00
CC-3	Age 6-12, low-moderate school attendance problems, low disruptive/antisocial.	776	0.81	$304	0.35	0.28	0.37	0.24	0.15	0.61	0.00
CC-4	Age 6-12, low-moderate school attendance problems, high disruptive/antisocial	186	1.07	$404	0.35	0.29	0.36	0.29	0.18	0.53	0.00
CC-5	Age 6-12, high school attendance problems	48	1.45	$547	0.38	0.31	0.32	0.26	0.17	0.56	0.00
CC-6	Age > 12 years, low severity, low functioning	28	1.16	$439	0.31	0.34	0.34	0.06	0.39	0.55	0.00
CC-7	Age > 12 years, low severity, high functioning	459	0.88	$333	0.34	0.31	0.35	0.24	0.28	0.48	0.00
CC-8	Age > 12 years, high severity, low psychosocial complications	117	1.18	$445	0.36	0.32	0.32	0.33	0.29	0.38	0.00
CC-9	Age > 12 years, high severity, high psychosocial complications	169	2.16	$817	0.34	0.34	0.32	0.37	0.32	0.31	0.00
Total		1,956	1.00	$377	0.35	0.30	0.35	0.27	0.23	0.50	0.00

PART J

Supplementary Analysis Papers

Appendix J-1
Analysis of Focus of Care

The use of the 'Focus of Care' concept in the MH-CASC Project was without precedent, representing an attempt to define the intersection of the related concepts of 'patient need' and 'goal of care'.

Consultation during the project planning stages indicated that the concept had strong credibility with clinicians as a vehicle for defining 'bundled episodes' that crossed treatment settings. Clinicians argued that some concept like Focus of Care was integral to the definition of mental health episodes, as it brings together two key concepts – that patients' needs change over time as they move between stages of a mental illness, and the focus of treatment (and associated resource use) changes accordingly. Clinicians also argued that the clinical focus is not dependent on treatment setting. For example, treatment of patients in an acute phase occurs regularly in both inpatient and ambulatory setting.[1]

Based on these views, Focus of Care was specifically collected in the MH-CASC study to allow exploration of a more clinically meaningful classification of mental health episodes. In particular, the main interest was in using Focus of Care as a 'bridge' to link the inpatient and community care received by individual patients into a single 'bundled episode'. Within this model, changes in the Focus of Care would define the start and the end points of episodes. If changes in the Focus of Care were found to be associated with changes in costs for a patient and changes in clinical attributes, then it was considered possible to find a new way of defining episodes of care without being restricted by treatment setting boundaries.

It was recognised that, for such a concept to be used to bundle episodes across treatment settings, three conditions would need to be met.

- First, it would need to be established that there was consistency across inpatient and community settings in the way clinicians rated patients on the Focus of Care measure.
- Second, different levels of 'Focus of Care' need to be reliably differentiated in terms of their associated clinical profiles. That is, there should be clinically measurable differences between patients who are rated as having different Focus of Care requirements.
- Third, different levels of 'Focus of Care' would need also to be differentiated in terms of the level of care provided, and particularly, the costs of that care.

As indicated in Chapter 11 of the *Main Report*, the original plan to 'bundle' episodes by the Focus of Care measure could not be pursued due to the low number of multiple episodes included in the study dataset. As a consequence, only limited analysis was conducted on the performance of the measure and its relationship to clinical and cost variables. However, as the MH-CASC Project provided the first opportunity to examine empirically the concept of Focus of Care, the preliminary analyses conducted by the Project Team are presented in the current Appendix to serve as a basis for future work.

[1] Chapters 4, 11 and 16 of Volume 1 provide further discussion on Focus of Care.

The analyses cover four perspectives:[1]

- the relationship between Focus of Care ratings and treatment setting;
- the relationship between Focus of Care and clinical characteristics as measured by the HoNOS;
- the relationship between Focus of Care and episode costs; and
- the extent to which Focus of Care ratings change when patients moved between inpatient and community settings.

Relationship between Focus of Care and treatment setting

Table 61 summarises the relationship between the first Focus of Care rating and episode type, and indicates that the Focus of Care rating is strongly related to the care setting.

- For Completed Inpatient episodes, the overwhelming majority of patients (85%) were rated as Acute.
- For Ongoing Inpatient Episodes, or those episodes occurring mainly in longer term inpatient settings, 55% received an Intensive Extended Focus of Care rating, but a significant proportion (19%) were rated as Maintenance.
- For Community Episodes, patients rated as Maintenance represented the largest group (41%), but there was a reasonable distribution of ratings across the remaining Focus of Care types.

Table 61: Distribution of Focus of Care ratings by episode type

	Focus of Care rating				Total Episodes
	Acute	Functional Gain	Intensive Extended	Maintenance	
Completed Inpatient episodes	85%	6%	4%	4%	3,613
Ongoing Inpatient episodes	12%	15%	54%	19%	949
Community episodes	22%	25%	12%	41%	9,806

Relationship between Focus of Care and clinical attributes

Mean HoNOS profiles for each of Focus of Care ratings are presented in Figure 12 to

Figure 14[2]. The figures suggest that, within all three episode types, patients rated as Intensive Extended Focus of Care rating have the most elevated (and thus most severe) HoNOS

[1] Descriptive data presented here only applies to the adult analysis cohorts

[2] The number of observations is small for some Focus of Care types (e.g., Intensive Extended and Maintenance ratings for the Completed Inpatient cohort), and thus the mean profile is subject to greater measurement error. Caution is therefore required when interpreting differences.

profiles. The separation of the Intensive Extended Care group from patients assigned other Focus of Care ratings is reasonably clear in Completed Inpatient and Community episodes. However, in Ongoing Inpatient episodes, Intensive Extended Care patients look similar to patients rated as Maintenance Focus of Care, suggesting the two rating categories are not well differentiated within longer term inpatient settings.

For Completed Inpatient episodes, only minor differences are evident on the HoNOS profiles of the remaining three Focus of Care types (Acute, Maintenance, Maintenance) although there is a trend for the profile of the Maintenance group to be least elevated. For Community episodes, the Maintenance Focus of Care HoNOS profile is the least elevated while the HoNOS profile of patients rated as Acute Focus of Care approximates that of the Intensive Extended group.

Overall, with the exception of Intensive Extended Focus of Care HoNOS profiles, the data suggest that Focus of Care ratings cannot be related to a particular set of clinical attributes in a consistent manner across treatment settings. For example, Maintenance Focus of Care in Ongoing Inpatient episodes is associated with a more elevated clinical profile whereas in Completed Inpatient and Community episodes, this rating is associated with the least elevated profile. Similarly, an Acute Focus of Care in these latter two episode types has a different meaning when compared to Ongoing Inpatient episodes.

To examine the relationship between 'overall severity' and Focus of Care, Table 62 compares the HoNOS-10 total scores associated with the various Focus of Care ratings within each of the episode types. The summary data again highlight that greater clinical severity is associated with Intensive Extended Care ratings but the relativities and degree of differentiation between Focus of Care ratings differs across the treatment settings.

Figure 12: HoNOS profile by Focus of Care – Adult Competed Inpatient episodes

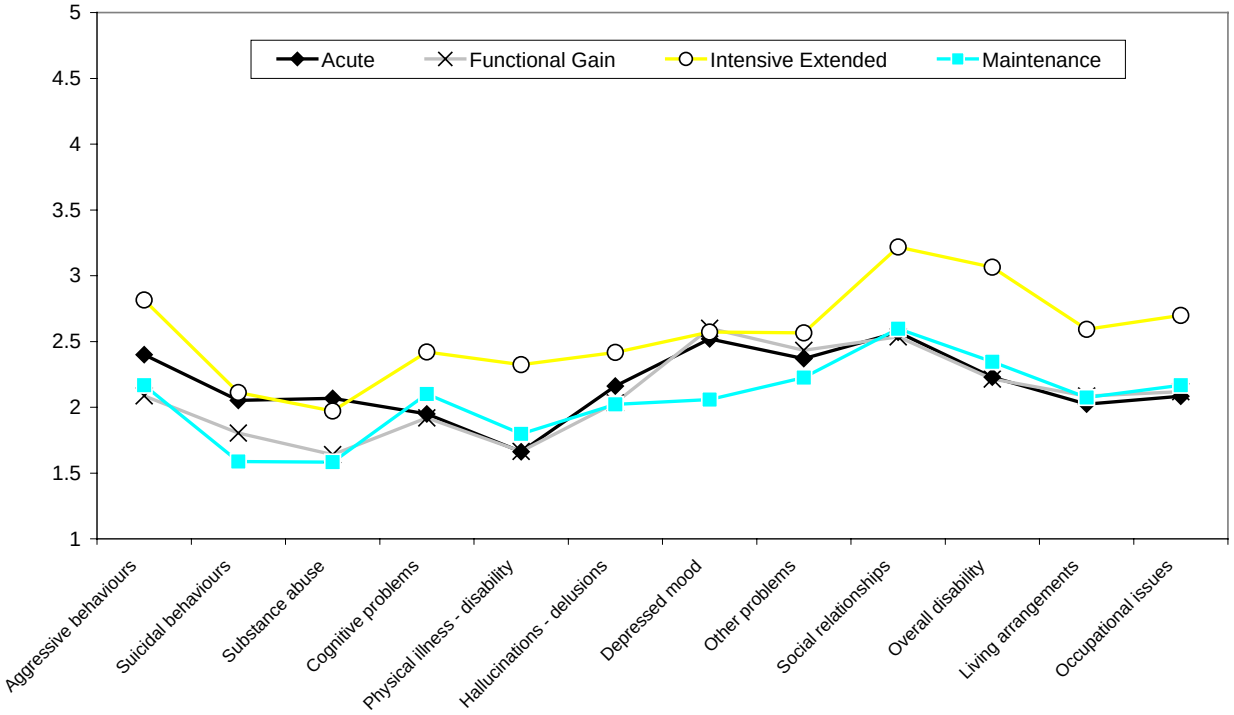


Figure 13: HoNOS profile by Focus of Care – Adult Ongoing Inpatient episodes

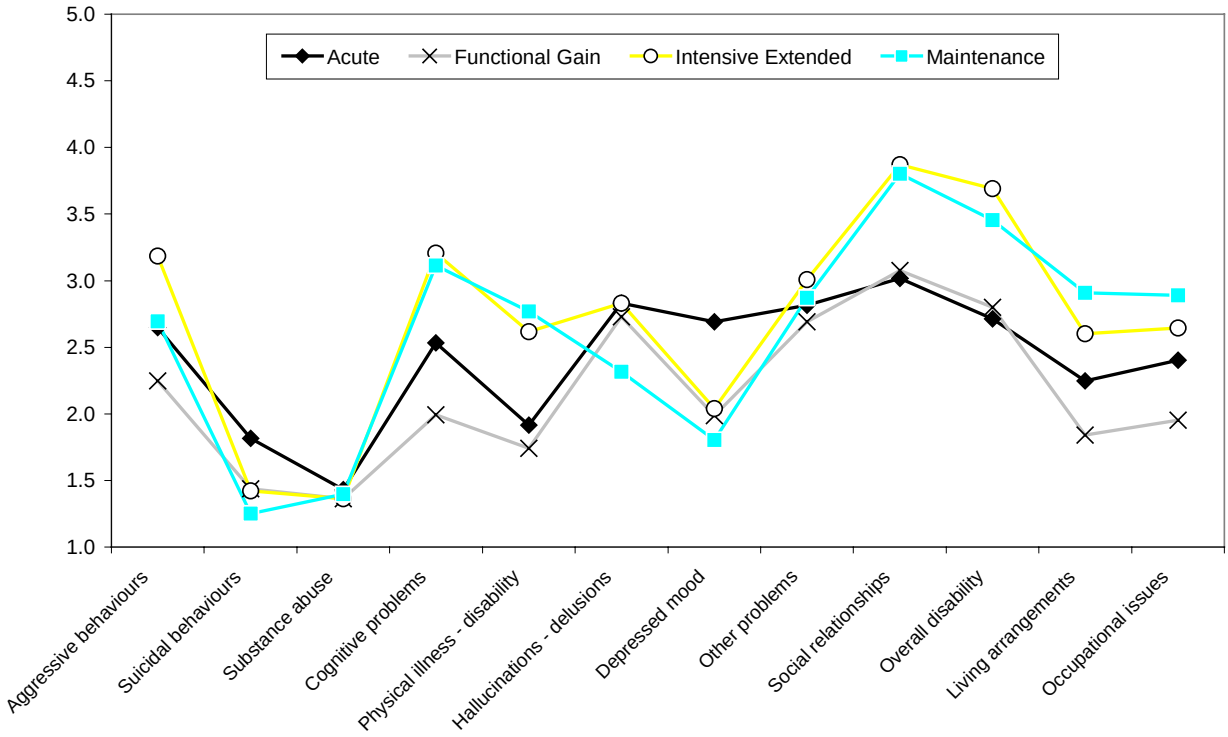


Figure 14: HoNOS profile by Focus of Care – Adult Community episodes

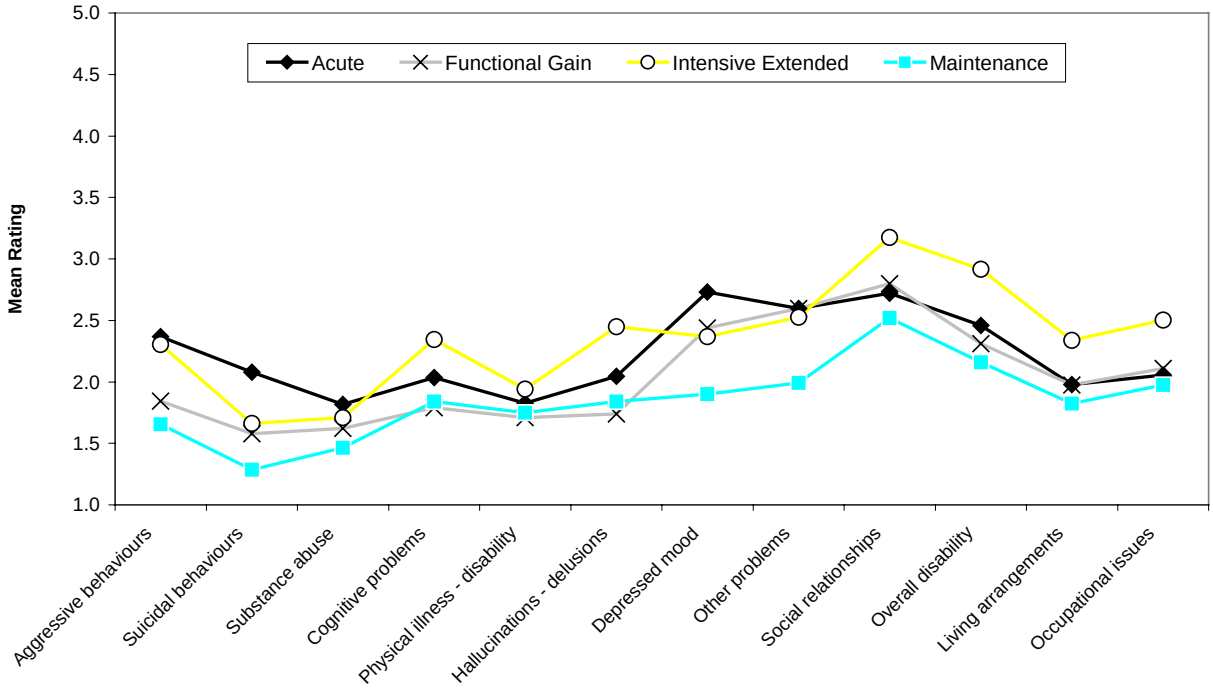


Table 62: HoNOS-10 score by Focus of Care by episode type

	Acute	Functional Gain	Intensive Extended	Maintenance
Completed Inpatient episodes	19.7	19.8	22.8	18.0
Ongoing Inpatient episodes	23.4	21.6	25.6	24.6
Community episodes	20.3	19.1	22.0	16.8

Two observations follow from these analyses. First, the profiles and HoNOS-10 severity scores suggest that Focus of Care ratings are setting specific; and second, these ratings have an internal consistency within setting. In other words, the four Focus of Care types have meanings that appear to be setting bound.

Relationship between Focus of Care and episode costs

Analyses described in Chapter 18 of Volume 1 indicate that Focus of Care was one of the better performing variables in explaining variation in episode costs for all episode types except Child/adolescent community episodes.

- for Completed Inpatient episodes, Focus of Care was the second best predictor (behind diagnosis);
- for Ongoing Inpatient episodes, it was the best performing predictor explaining almost twice as much variation in costs than its nearest rival, diagnosis; and
- for Community episodes, Focus of Care was also the best performing predictor.

Table 63 shows average episode costs for the four Focus of Care categories within each of the episode types.

Table 63: Average episode cost by Focus of Care by episode type

	Acute	Functional Gain	Intensive Extended	Maintenance
Completed Inpatient episodes	$4,418	$6,500	$7,576	$5,559
Ongoing Inpatient episodes	$18,054	$13,346	$14,042	$13,049
Community episodes	$769	$760	$1,039	$587

Note: Untrimmed episodes

Patients rated as Intensive Extended have the highest average episode costs for both Completed Inpatient and Community episodes.. For Ongoing Inpatient episodes, patients rated as Acute Focus of Care showed the highest average episode cost.

For Completed Inpatient episodes, the lowest average episode cost was for an Acute Focus of Care; while for Ongoing Inpatient and Community episodes, the lowest average episode cost were for Maintenance Focus of Care.

As the episode length for Ongoing Inpatient and Community episodes has been standardised at 8 weeks, differences in episode costs in reflect different levels of treatment intensity. In

contrast, higher costs in Completed Inpatient episodes may be attributed to greater length of stay, greater treatment intensity (i.e. higher levels of care per day) or both of these factors.

Table 64 controls for length of stay differences and present the average daily costs associated with the various Focus of Care ratings in Completed Inpatient episodes. The data indicate that higher episode costs associated with Intensive Extended Care patients are in fact a function both of longer stays and higher daily costs.

Table 64: Length of stay and average daily cost by Focus of Care for Completed Inpatient episodes

	Acute	Functional Gain	Intensive Extended	Maintenance	All episodes
Length of stay (days)	13.1	20.7	22.2	17.3	14.1
Av. cost per day	$337	$314	$341	$322	$335

Note: Untrimmed episodes

Changes in Focus of Care ratings for patients moving between treatment settings

The final aspect considered was whether there is continuity in Focus of Care ratings for patients with multiple episodes as they move from one treatment setting to another. The issue at stake is whether there is sufficient consistency in ratings across treatment settings to use the Focus of Care measure as a basis for 'episode bundling'.

As an indicative sample, adult patients were selected who had two or more episodes in which there was at least one movement between inpatient and community treatment settings. The analysis cohort comprised 830 patients who had two episodes, sequenced as follows:

- 364 patients had a community episode followed by an inpatient episode,
- 466 had an inpatient episode followed by a community episode;

Summary data on the last rating on the sequence of Focus of Care ratings in each of these two groups are presented in Table 65 and Table 66.

Table 65: Sequence of Focus of Care ratings in patients who had a community episode following an inpatient episode

		First Rating in the Community Episode				
		Acute	Functional Gain	Intensive Extended	Maintenance	Total
Last rating in the inpatient episode	Acute	**114**	94	28	115	351
	Functional Gain	10	**25**	4	10	49
	Intensive Extended	5	7	**9**	13	34
	Maintenance	5	5	1	**21**	32
Total		134	131	42	159	466

Table 66: Sequence of Focus of Care ratings in patients who had an inpatient episode following a community episode

		First Rating in the Inpatient Episode				
		Acute	Functional Gain	Intensive Extended	Maintenance	Total
Last rating in the community episode	Acute	**151**	7	4	11	173
	Functional Gain	46	**9**	1	4	60
	Intensive Extended	35	3	**9**	1	48
	Maintenance	56	7	6	**14**	83
Total		288	26	20	30	364

It is difficult to develop *a priori* predictions about expected rating sequences as a wide range of factors are likely to be influential. For example, it might be argued that the Focus of Care rating for patients discharged from inpatient to community care should change if the discharge has been in response to a change in the patients clinical condition. Alternatively, it can be argued that community teams have been established partly to replace the need for inpatient care and therefore patients might be expected to have similar needs at the point of discharge.

A simple index of consistency was defined to summarise the sequences shown in Table 65 and Table 66. The index was calculated as the proportion of ratings that were the same for time 1 and time 2 – represented by the shaded diagonal cells in the above tables.

- For patients in whom a community episode followed an inpatient episode, there was 36% consistency between ratings.
- For patients where a community episode followed by inpatient episodes, consistency was higher at approximately 50%.

At a face validity level, there is logic in the greater consistency in the former group of patients because a patient's needs and goal of treatment are more likely to be aligned between the two episodes of care than in the latter group, where post-discharge community follow-up is more likely to be concerned with different clinical factors and patient needs. There is also logic in several of the specific sequences, for example:

- The majority of patients (65%) rated as Maintenance prior to discharge are also rated as Maintenance when they commence community care;
- The majority of patients treated in the community who are subsequently admitted to hospital (79%) are rated Acute following admission, regardless of their most recent Focus rating in the community.

Nevertheless, the sequences evident in the above tables highlight the difficulties that would be faced in bundling episodes solely on the basis of the Focus of Care data item. Further empirical and definitional work is required to develop the measure if it is to be used for this purpose.

Conclusions

Focus of Care represented a simple measure designed to quantify a complex concept. Given that it was used in the MH-CASC Project with limited training, and no agreed national measurement standards, there are encouraging signs in the data collected. Several tentative conclusions may be drawn from the analyses presented here.

- Focus of Care ratings given by mental health clinicians are related to the context or setting in which the patient is treated, suggesting that item development and training would be necessary to bring the measure to satisfactory levels on reliability and validity criteria.
- Within treatment settings, there is greater internal consistency in the relationship between Focus of Care and clinical attributes.
- The measure appears to be more appropriate for use in community and short term inpatient settings than in longer term inpatient care.
- Differences in the clinical profiles of patients assigned to the various Focus of Care categories suggests that the measure can be reduced to a dichotomy between Intensive Extended Care and other Focus of Care types. Patients rated as 'Intensive Extended' Focus of Care tend to have more elevated HoNOS profiles, suggesting more severe clinical conditions, and associated treatment costs,. Consistent with this finding, these patients had higher episode costs in Completed Inpatient and Community episodes although this was not the case in Ongoing Inpatient episodes.

Appendix J-2

Predicting Legal Status from Clinical Attributes

During consultations about the MH-CASC Project findings, concerns were expressed about the use of legal status as classification variable. It was suggested that use of legal status for funding may create an incentive for people to be classified as involuntary to receive higher reimbursement. The contrary view is that the administrative requirements of mental health legislation are such that clinicians are unlikely to take such action, and their professional ethic is to use legal status only where it is necessary.

The preferred position would be to find the mix of clinical factors that can substitute for legal status within the classification. If this were possible, there would be a basis for development of a specific measurement scale for application in future classification work.

To explore the potential for this, further analysis was conducted with the adult 'bundled episode' cohort, selected because of the prominence of the legal status within the classification tree. Specifically, the Project Team sought to find which HoNOS and LSP-16 clinical variables, or combination of variables, could be used to correctly classify patients according to their legal status.

Initial review of the HoNOS and LSP-16 profiles (Figure 15 and Figure 16) suggested several variables may hold the key:

- For the HoNOS, Psychotic Symptoms (Scale 6) Aggressive Behaviour (Scale 1) and, to a lesser extent, Substance Abuse (Scale 3) gave the best differentiation of patients with involuntary patients scoring higher on each of these.
- For the LSP-16, involuntary patients scored slightly higher on 11 of the 16 scales than their voluntary counterparts, with items included in the Compliance subscale showing most promise.

Use of the variables in isolation, or combined as simple sums were unsuccessful in assigning patients to their correct legal status. A decision tree paradigm was therefore used to explore more complex relationships and determine the best configuration of the HoNOS and LSP-16 items for predicting legal status. Results are summarised in Figure 17.

Figure 15: HoNOS profile by Legal Status - Adult 'Bundled Episode' cohort

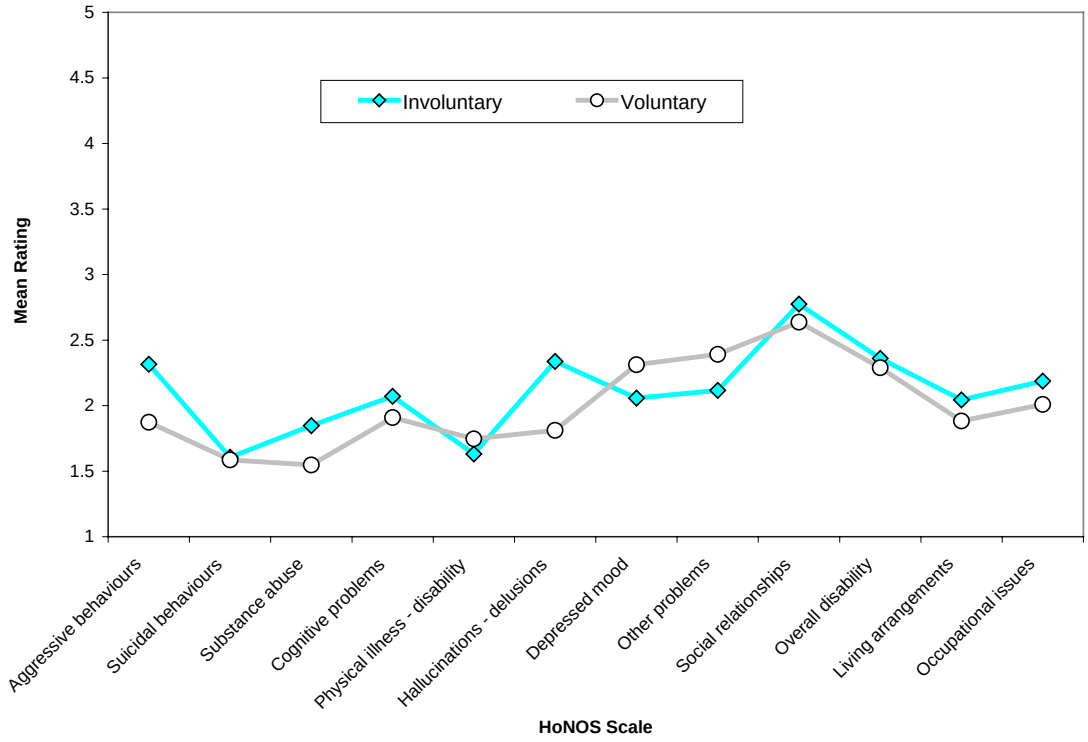


Figure 16: LSP-16 profile by Legal Status - Adult 'Bundled Episode' cohort

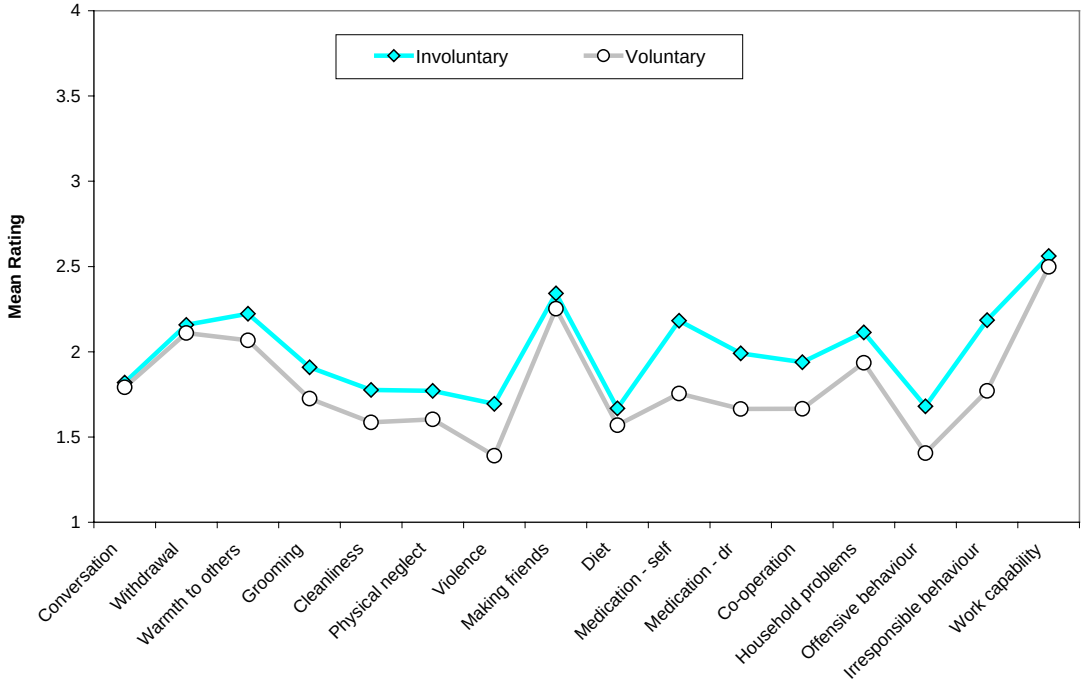
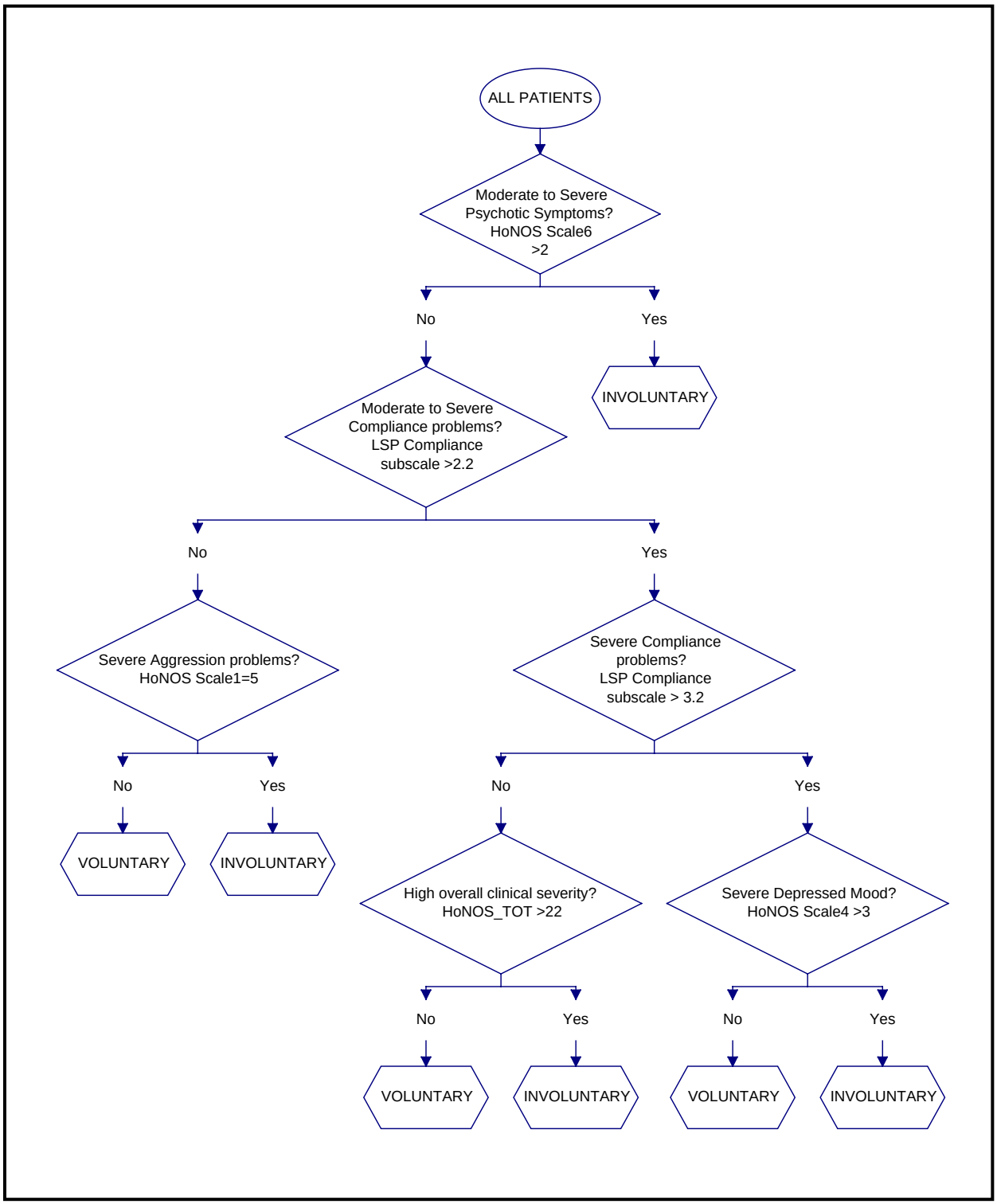


Figure 17: Decision tree for predicting Legal Status - Adult 'Bundled Episode' cohort



The optimal model relies on five composite measures – Psychotic Symptoms, Compliance, Aggressive Behaviour, Depressed Mood and Overall Severity. When used in the decision sequence shown in Figure 17, 80% of patients can be assigned to their correct legal status.

However, the performance of the model is variable for the two groups, achieving 97% accuracy for voluntary patients but only 14% for the involuntary group.

Table 67: Accuracy of decision model in predicting legal status

		ACTUAL LEGAL STATUS		
		Voluntary	Involuntary	Total
PREDICTED	Voluntary	5,965	1,645	7,610
	Involuntary	200	257	457
	Total	6,165	1,902	8,067

The aim of the model was to discover what attributes predict involuntary status. As it is only effective in predicting *voluntary* status, it could not be used as a substitute for the involuntary status dimension of the classification trees. At this stage, it can only inform future work on what patient factors may be used in the classification to replace the involuntary/voluntary split.