Australian Mental Health Outcomes & Classification Network

‘Sharing Information to Improve Outcomes’

An Australian Government funded initiative

Overview of 2006-2007 MH-NOCC Data:

Technical & Conceptual Issues

Philip Burgess & Jane Pirkis

Version 1.0

March 2008

A joint Australian, State and Territory Government Initiative

Document Information

Title	Overview of 2006-2007 MH-NOCC Data: Technical & Conceptual Issues
Version	1.0
File	Overview of 2006-2007 Data: Technical & Conceptual Issues 20080306.doc

Suggested citation for this document

Burgess P & Pirkis J. (2008) Key Performance Indicators for Australian Public Mental Health Services - Potential Contributions of MH-NOCC Data: Developing indicators of effectiveness Version 2.0, Brisbane, Queensland.

Document History

Version	Date	Details
1.0	6 March 2008	Forwarded to NMHPSC for 7 March 2008 meeting

What is Australian Mental Health Outcomes and Classification Network?

The Australian Mental Health Outcomes and Classification Network (AMHOCN) was established by the Australian Government in December 2003 to provide leadership to the mental health sector to support the sustainable implementation of the outcomes and casemix collection as part of routine clinical practice. It aims to support states and territories and to work collaboratively with the mental health sector to achieve the vision of the introduction of outcomes and casemix measures. AMHOCN consists of three components: a data bureau responsible for receiving and processing information; an analysis and reporting component providing analysis and reports of submitted data; and a training and service development component supporting training in the measures and their use for clinical practice, service management and development purposes. Currently, the Australian Government has contracted the following organisations to undertake these roles: Strategic Data Pty Ltd, (data bureau); The University of Queensland (analysis and reporting); The NSW Institute of Psychiatry (training and service development). In February 2005, an AMHOCN State Liaison Manager role was established to coordinate activities between the state and territory health authorities and the AMHOCN components. The Australian Government has contracted Allen Morris-Yates to undertake that role. Further information regarding AMHOCN can be found at http://www.mhnocc.org.

Acknowledgments

This report has been prepared by Philip Burgess & Jane Pirkis.

This report is based on the extensive work undertaken by many people working in Australia's public mental health services, including consumers, carers, clinicians, service managers, who are implementing an outcomes focus within their local services. Our acknowledgment is extended to all these individuals. Acknowledgement is also made of the efforts by staff within the various mental health branches in each state and territory health department who have coordinated the data collections and reporting arrangements.

Feedback

Comments on the document are welcomed. Readers are encouraged to submit comments via the on-line NOCC forum at http://www.mhnocc.org/ Alternatively, comments can be forwarded to:

Professor Philip Burgess, School of Population Health, The University of Queensland,
Locked Bag 500, Richlands, QLD 4077. email – p.burgess@uq.edu.au

Table of contents

Section 1: Background & Context

This paper considers overarching technical issues that require consideration as a precursor to the modelling of candidate 'effectiveness' Key Performance Indicators from the Mental Health National Outcomes and Casemix Collection (NOCC) datasets.

It is has been prepared primarily to inform these discussions. Many of the issues are, however, relevant to other applications involving these datasets and AMHOCN standard reporting products (e.g., the Web-based Decision Support Tool – WDST, the AMHOCN Reports Portal and the AMHOCN Data Cube).

In accordance with agreements with the Department of Health and Ageing, no Jurisdictional data are identified. At the same time, it is assumed that the key objective is to measure and to compare Jurisdictions on an agreed set of Key Performance Indicators.

The materials presented in this report are based on the 22 February 2008 extraction from the AMHOCN Data Warehouse. These data were submitted by all Jurisdictions per the 2006-2007 Quality Through Outcomes agreement and represent data from 1 July 2006 to 30 June 2007 and represent a one-year 'snapshot' of routine outcomes collections for participating Mental Health Service Organisations over this period. For the purposes of analysis and reporting, however, it is necessary to establish that there are sufficient numbers of observations (and of sufficient quality) to be confident that observed patterns are in fact real and not artefacts of sampling errors.

This report considers the following issues in detail:

1. Whether the submitted data are of sufficient volume;
2. Whether these data are of sufficient quality;
3. What kinds of limitations arise from these datasets the nature of a one-year 'snapshot'; and
4. How these data can be organised to allow measurement and evaluation of Key Performance Indicators for Australia's public mental health services.

Determining whether data meet these standards is not straightforward. To that extent, a key goal of this report is to enable informed consideration of these matters in the context of how the National Outcomes and Casemix Collection might be used for comparative analysis and reporting.

Section 2: Overarching Principles

Initially, all data submitted by Jurisdictions are subject to a range of validation checks. Specifically, submitted data must conform to the data standards described in the *Technical specification of State and Territory reporting requirements for the outcomes and casemix components of 'Agreed Data' (Version 1.50)*;

These initial validation checks evaluate data integrity within a single Collection Occasion – that is, validity is only determined within a single Collection Occasion with no reference to other collection occasions recorded for that consumer within the same Mental Health Service Organisation;

Episodes of Mental Health Care are derived from sequences of collection occasions. Sequences are evaluated in terms of the following criteria:

a. One episode at a time: While an individual may have multiple episodes of mental health care over the course of their illness, they may be considered as being in only one episode at any given point of time for a particular Mental Health Service Organisation

b. Change of setting = new episode: A new episode is deemed to commence when a person's care is transferred between inpatient, community residential and ambulatory settings. A change of Mental Health Service Setting therefore marks the end of one episode and the beginning of another.

It is possible for NOCC data to be 'valid' when considered as a single Collection Occasion yet ultimately is considered 'invalid' when considered in the context of other collection occasions for the same consumer within a specific Mental Health Service Setting at the same Mental Health Service Organisation. Two general examples follow to illustrate this situation:

1. A consumer may be assessed with NOCC measures specific to the Child & Adolescent Collection Occasion Age Group at Admission to care and may be assessed with NOCC measures specific to the Adult Collection Occasion Age Group at Discharge from care. Given that the NOCC measures are specific to age group, it is not possible to compare these kinds of data;

2. A Mental Health Service Organisation reports two consecutive collection occasions for a given consumer which is logically not possible. When collection occasions are ordered chronologically, it is not possible for a consumer to have a sequence of events where an Admission is followed by another Admission, or a Discharge from care is followed by a Review.

A valid sequence of National Outcomes and Casemix Collection data, for a given consumer within mental health service settings at a particular Mental Health Service Organisation at specific points in time is crucial for analysis and reporting purposes.

Where anomalies such as those illustrated above occur, it is not possible to determine from the data submissions which data may be valid. Approximately 10% of all data submitted pass the initial, basic validation checks but are not plausible when considered in context. These kinds of data are excluded from further analysis.

The remainder of this report considers National Outcomes and Casemix Collection data that meet these minimum standards of referential integrity.

Section 3: Reporting Rates: Collection Occasions

This section describes the overall volume of data reported by Jurisdictions in 2006-2007, expressed as a rate per reference population. In the National Outcomes and Casemix Collection, a Collection Occasion is defined as an occasion during an Episode of Mental Health Care when the required dataset is to be collected in accordance with a standard protocol. The broad rule is that collection of data is required at both episode start and episode end. This is the highest level of reporting within the National Outcomes and Casemix Collection; all other clinical and consumer self-report measures are related to a single Collection Occasion.

Why is this important?

Describing the volume of data available for analysis will give a sense of how representative these data are of Australia's public sector mental health services. Variations in volumes of NOCC data also inform differences among Jurisdictions with respect to their organisation of mental health services.

A proper understanding of the representativeness of the NOCC data would be best informed by referencing these data to those reported to the National Minimum Data Sets (NMDS) for Admitted Patient Mental Health Care, Residential Mental Health Care and Ambulatory Mental Health Care. Unfortunately, it is not currently possible to link the NOCC data with the NMDS for Mental Health Care since there is no reliable means of linking the former to the latter data sets.

For the purposes of analysis and reporting, however, it is necessary to establish that there are sufficient numbers of observations (and of sufficient quality) to be confident that observed patterns are in fact real and not artefacts of sampling errors.

Overall trends in the reporting of NOCC data over time

Some Mental Health Service Organisations within Jurisdictions have been collecting and reporting NOCC data for almost 10 years. All Jurisdictions have reported NOCC material for the past 5 years albeit with significant variability. A large part of the variation among Jurisdictions is thought to be related to the natural implementation issues associated with the training of its workforce to collect the NOCC materials as well as the development of necessary infrastructure to support the collection (e.g., information systems, etc).

The following chart shows the overall rate of reported collection occasions per 10,000 population for each of the Jurisdictions for the past four financial years. Each Jurisdiction's base population size at 2005 is used as the denominator for these rates add does not account for either population differences within

key stratification factors such as relative age bands nor the overall organisation and funding of services within Jurisdictions. Assuming no variation on either of these two factors, if reporting rates were uniform across Jurisdictions then there would be no variation among Jurisdictions on this measure.

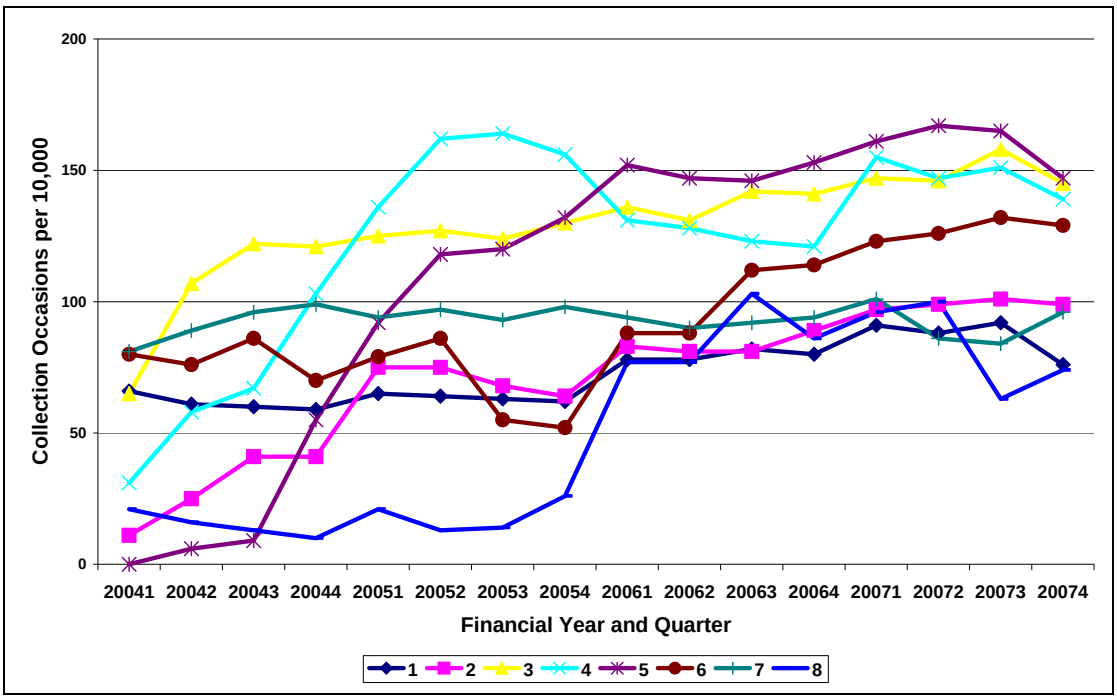

Figure 1: Collection Occasion Rate per 10,000 Population per Quarter in Financial Year per Jurisdiction

The following table shows the overall number of collection occasions reported for each of the three Collection Occasion Age Groups partitioned by Mental Health Service Setting.

Table 1: Number of Collection Occasions Reported for 2006-2007 by Age Group and Mental Health Service Setting

Collection Occasion Age Group	Psychiatric inpatient	Community residential	Ambulatory	Total
Child & Adolescent (0-17)	5971	167	46487	52625
Adult (18-64)	89665	3628	148777	242070
Older Person (65+)	11102	689	30006	41797
Total	**106738**	**4484**	**225270**	**336492**

It is immediately evident that there are few observations for either Child & Adolescent or Older Persons Community residential services. Based on the absolute numbers of Collection Occasion data reported, it is unlikely that there are sufficient observations for community residential mental health services

that are required to enable valid and reliable Key Performance Indicator development with the National Outcomes and Casemix Collection data. These data are not considered further in this report.

The following chart shows the ratio of reported collection occasions to expected collection occasions. These ratios are calculated simply on the basis of the national rate of reporting, as the reference rate, and then adjusted for the actual population size of each Jurisdiction. It can be seen that there is almost a two-fold variation between the highest and lowest ratios. This suggests that there remain ongoing challenges to achieve uniform rates of reporting across Australia.

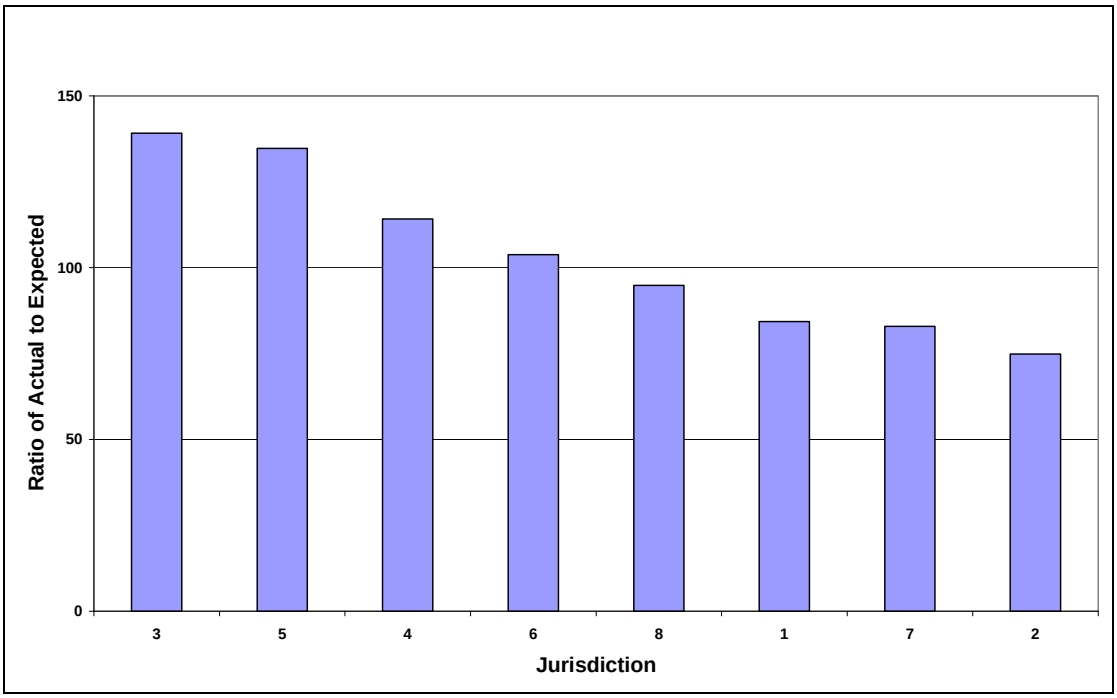

Figure 2: Standardised Collection Occasion Ratios: 2006-2007

Trends in the reporting of NOCC data by target population & mental health service setting

The agreed national protocol defines two essential partitions: Collection Occasion Age Group and Mental Health Service Setting. The former reflects the general organisation of specialist mental health services within program streams: (i) Child & Adolescent mental health services; (ii) General Adult mental health services and (iii) Older Persons mental health services. The latter reflects the three typical settings where mental health services are provided: (i) psychiatric inpatient care; (ii) community residential care; and (iii) ambulatory care.

Importantly, the combination of the three Age Groups and three Mental Health Service Settings determines both the specific nature of the NOCC measures to be collected as well as the collection cycle (i.e., what measures to be collected at particular points in the consumer's episode of mental health care).

It is important to consider these two factors in relation to Jurisdictional reporting rates.

The following charts show the rate per 10,000 population of reported collection occasions where the base population is the size of each Jurisdiction's population aged 0–17 years, 18-64 years and 65+ years.

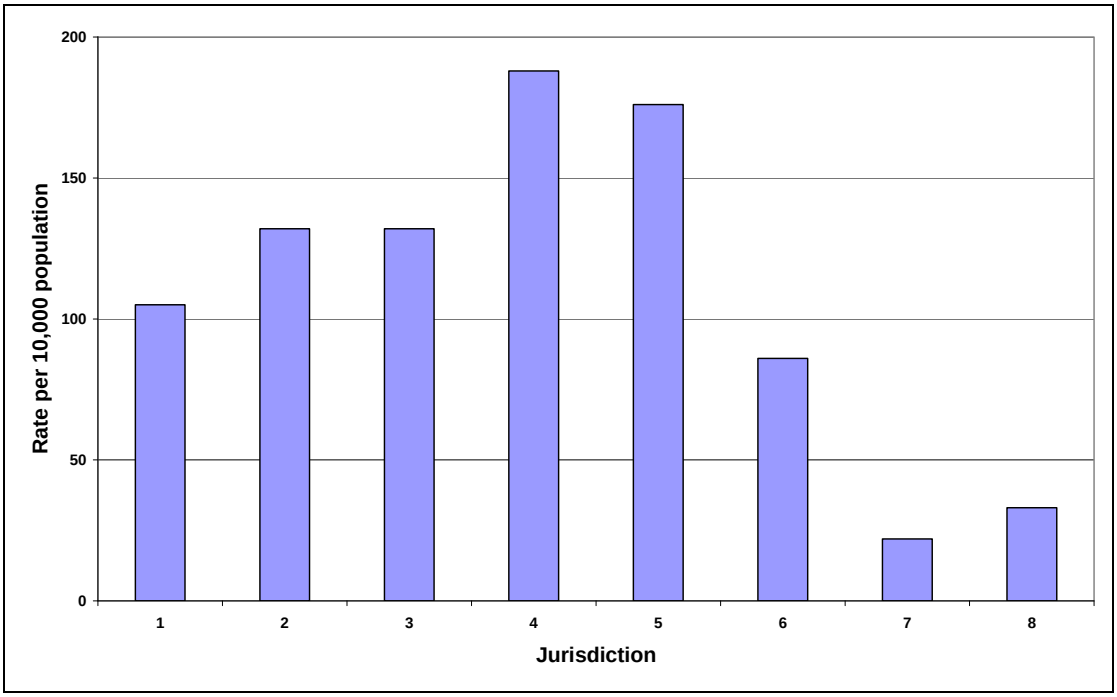

Figure 3: Collection Occasion Rate - Child & Adolescent Psychiatric Inpatient Services

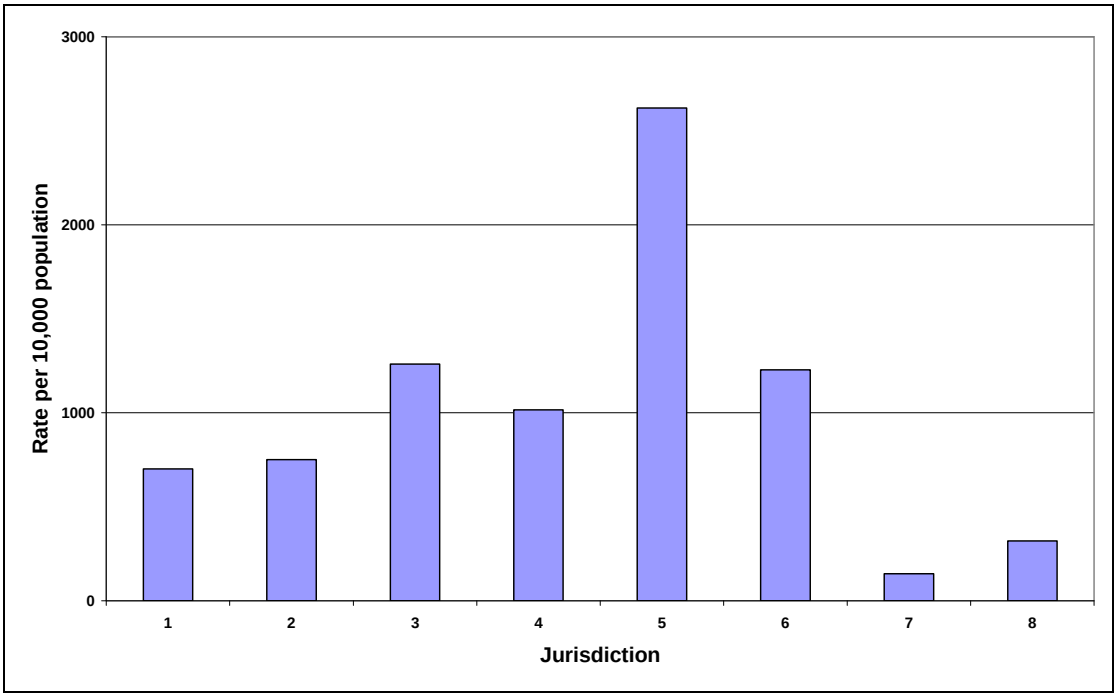

Figure 4: Collection Occasion Rate - Child & Adolescent Ambulatory Services

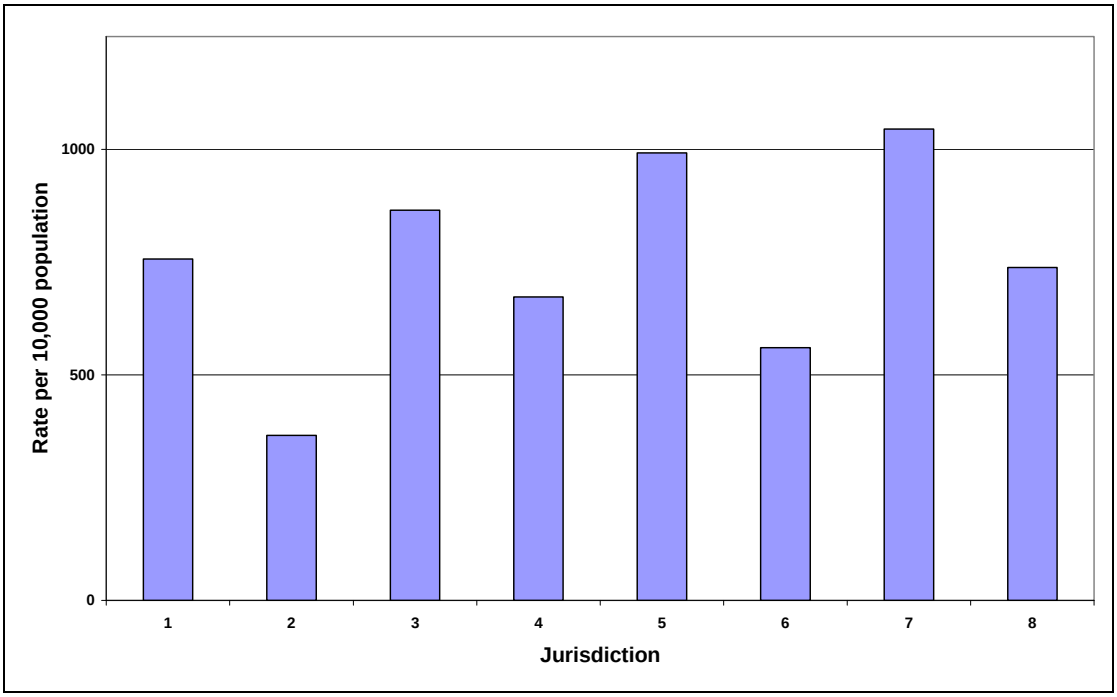

Figure 5: Collection Occasion Rate – Adult Psychiatric Inpatient Services

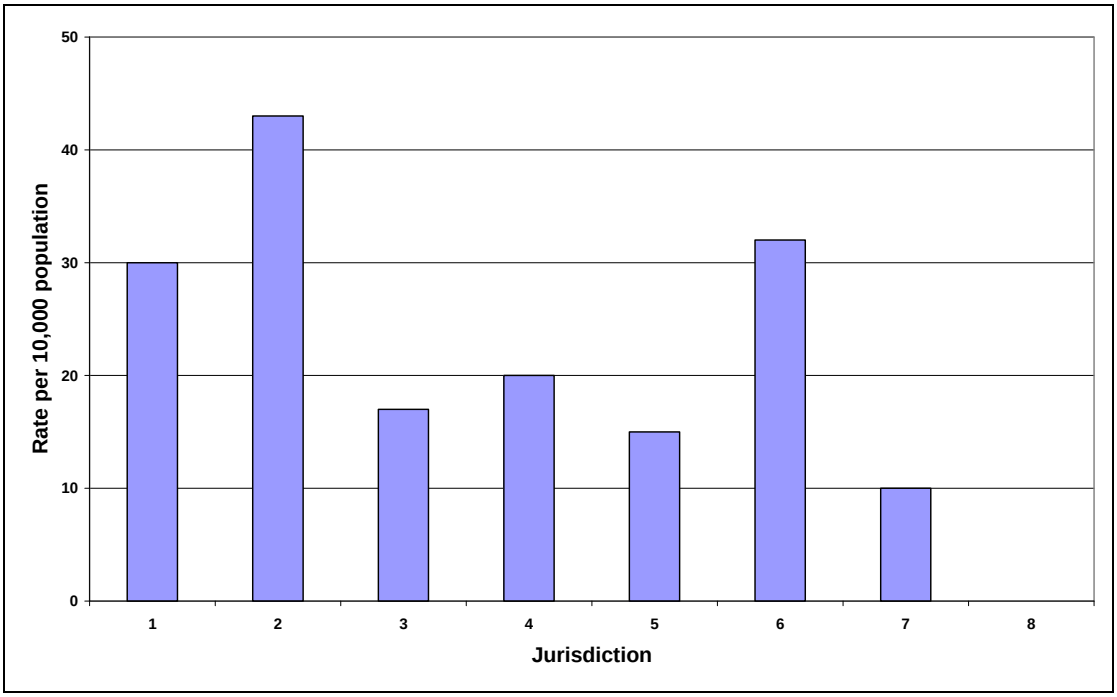

Figure 6: Collection Occasion Rate – Adult Community Residential Services

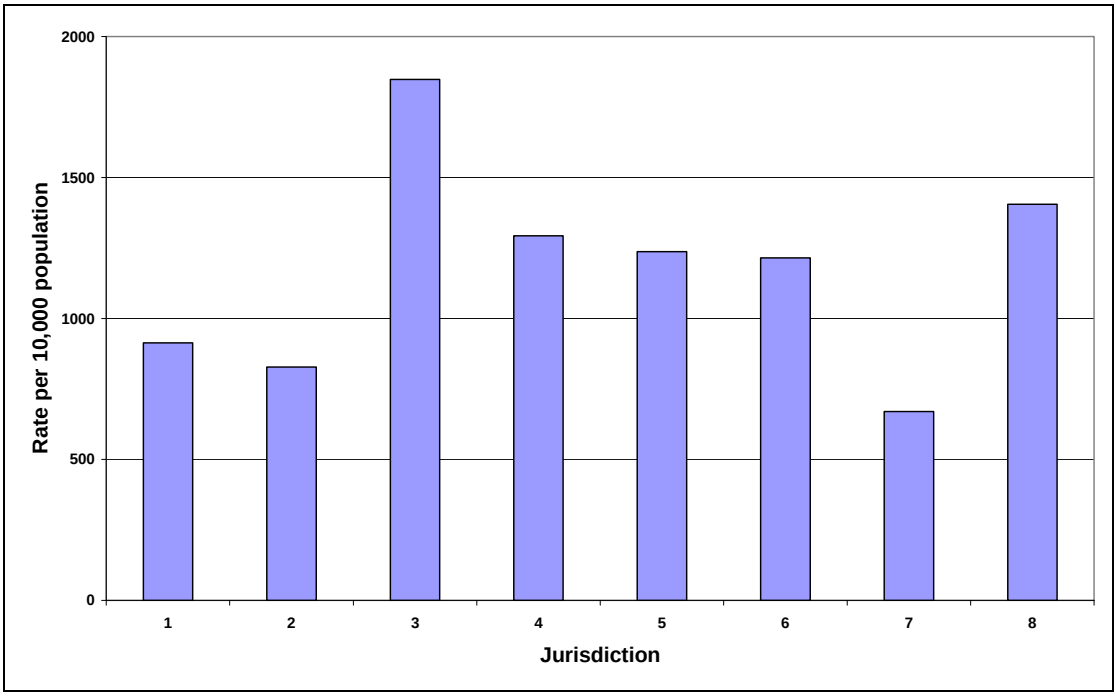

Figure 7: Collection Occasion Rate - Adult Ambulatory Services

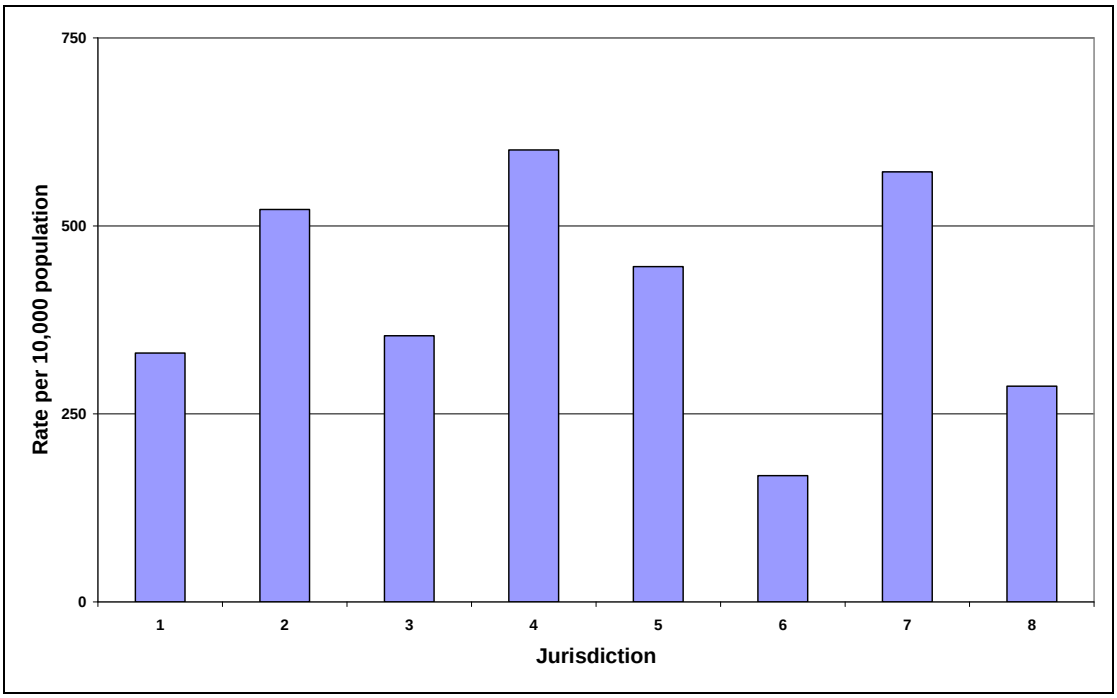

Figure 8: Collection Occasion Rate – Older Persons Psychiatric Inpatient Services

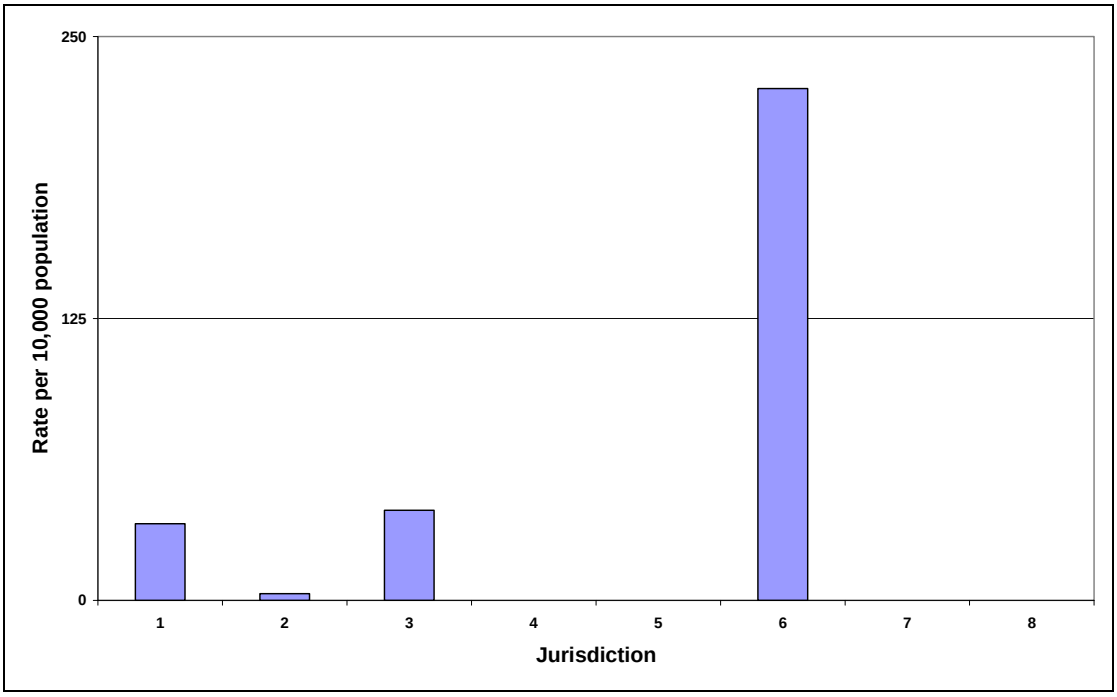

Figure 9: Collection Occasion Rate – Older Persons Community Residential Services

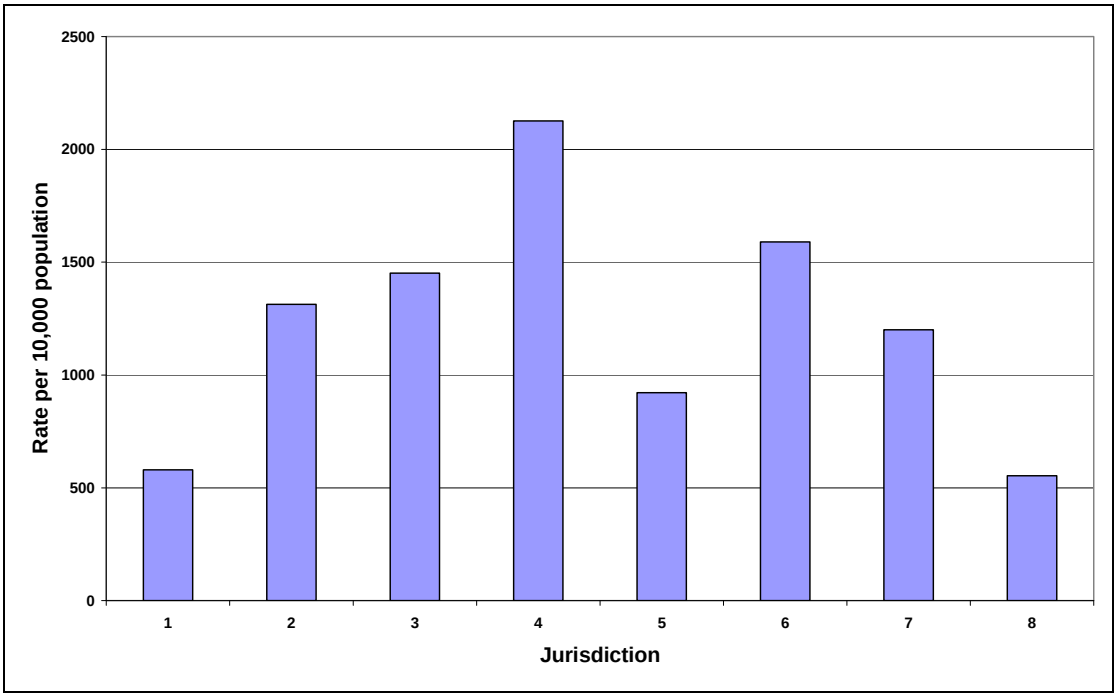

Figure 10: Collection Occasion Rate – Older Persons Ambulatory Services

Observations

Overall, it is clear that when considering the past four years, Jurisdictions are continuing the implementation processes associated with routine outcome collection. The raw volume of Collection Occasion data reported in 2006-

2007, however, represents more than a 90% increase in raw volume over that reported in 2003-2004.

There are, however, major variations among Jurisdictions. The Jurisdiction reporting the greatest volume of Collection Occasion data in 2006-2007 does so at a rate of almost twice that of the Jurisdiction reporting the least volume.

For collection occasions reported for the Child & Adolescent Age Group:

1. two Jurisdictions report very low relative volumes of Collection Occasion data for both psychiatric inpatient and ambulatory mental health services;
2. only one Jurisdiction reports any data for community residential services; and
3. one Jurisdiction reports more than twice the population rate of collection occasions than the next most frequently reporting and almost five times the national average.

.
For collection occasions reported for the Adult Age Group:

1. variations in Collection Occasion reporting rates are generally less marked for Adult Age Group than those observed for the Child & Adolescent Age Group;
2. for psychiatric inpatient services, there is almost a four-fold variation in rates at the two extremes of reporting;
3. relatively low volumes of Collection Occasion data are reported for community residential services;
4. for ambulatory services, three Jurisdictions report approximately two-thirds of the notional national average.

For collection occasions reported for the Older Persons Age Group:

1. two Jurisdictions report approximately half the volume of Collection Occasion data that would be expected on a notional national average;
2. four of the eight Jurisdictions do not report any Collection Occasion data for community residential services, a fifth virtually no data. The overall volume of Collection Occasion data for this setting is very low;
3. for ambulatory services, there is almost a four-fold variation in rates at the two extremes of reporting.

Section 4: Reporting Rates: Clinical Measures

The National Protocol prescribes what is collected and when it is collected. Table 4 from Section 7.1.3 of the NOCC Technical Specification summarises the protocol and is reproduced at Attachment 1. This section describes the degree to which reported data conform to the National Outcomes and Casemix Collection Protocol.

Why is this important?

In order to evaluate patterns arising from the NOCC datasets, it is important to establish a common basis for comparisons. It is important to note that there is some variation of the National Protocol in some jurisdictions, and even within Jurisdictions between Mental Health Service Organisations (e.g., some Jurisdictions mandate collection of consumer self-report measures in psychiatric inpatient mental health service settings). These variations, while relevant at a local level, introduce biases that would otherwise affect interpretation of national patterns. In order to minimise such biases, any data submitted with variation to the national protocol are not considered further

Identifying 'valid' and 'complete' NOCC measures

There are instances where measures prescribed by the national protocol are either not collected at all or are only partially complete. With respect to the former, it is, of course, unrealistic to expect perfect adherence to the National Protocol. There are often genuine reasons why data have not been reported (e.g., a consumer has not been in active care for a period of time, is subsequently 'discharged' from care and thus certain NOCC measures cannot be validly collected). With respect to the latter, 100% valid completion of all of the items that comprise a clinical measure is an ideal standard but not what occurs in actual practice.

At least two options exist for dealing with incomplete data: (i) uniformly exclude any measures that are less than 100% complete or (ii) set a threshold for 'completeness' where incomplete can be accepted for further analysis. The second option has been adopted by AMHOCN and the thresholds documented in the first edition Standard Reports. These thresholds have been reviewed in the context of the 2006-2007 National Outcomes and Casemix Collection submissions; with only one exception, these remain valid and have been used in the current report[1]. The current set of thresholds is reproduced at Attachment 2.

[1] Only the threshold for the BASIS-32 was revised; previously a threshold of at least 24 of the 32 items have 'valid' clinical ratings was set where items 2, 3 & 4 were considered a single item. The revised threshold is at least 22 of all 32 items have 'valid' clinical ratings.

Valid clinical ratings were identified if they met 4 criteria:

1. The NOCC Completion Status field was checked as 'Complete or Partially Complete';

2. The threshold cut-off was met for determining actual clinical ratings;

3. The measure was completed in accordance with the NOCC Protocol – that is, measures not prescribed by the Protocol were excluded regardless of whether they satisfied the first 2 criteria;

4. Measures that are prescribed as Protocol Exclusions should have a corresponding field value for Completion Status. These ratings were excluded regardless of whether measures met the threshold cut-off for completion to ensure uniformity across all MHSOs.

In terms of the fourth criterion, there was considerable variation among and within Jurisdictions in both: (i) the reporting of genuine Protocol Exclusion collection occasions; and (ii) the actual completion status of the clinical measure. In order to ensure uniformity across all Mental Health Service Organisations, 'candidate' Protocol Exclusion collection occasions were excluded from further analysis.

'Valid' & 'complete' clinical measures in the 2006-2007 NOCC datasets

The following Tables summarises the overall completion rates of the NOCC clinical measures with respect to the national protocol. The data reported are the proportion of collection occasions that have a 'valid' and 'complete' clinical measure as prescribed by the national protocol. The figures are displayed 'colour coded' to in one of three categories to assist readers: proportions between 67% & 100% are displayed in Green; between 34% & 66% are displayed in Yellow; and between 0% and 33% displayed in Red[2].

Three specific issues warrant comment when interpreting these findings:

First, for all three Collection Occasion Age Groups, it should be noted that completion rates for Diagnosis are reported in two ways: (i) initially, whether a 'valid' diagnosis is reported; and (ii) given that 'valid' diagnoses include "Non-psychiatric Disorder or Diagnosis Deferred". This category is excluded when separately reporting 'Mental Health Diagnoses'.

Second, it is noted that completion of consumer self-report measures is not mandated by the national protocol. Rather, these measures are generally required to be 'offered' to consumers. Other analyses, not reported in detail here, appear to indicate that these measures are 'offered and refused' in no more than 5% of all eligible collection occasions.

[2] The symbol × indicates that the measure is not required at that particular Collection Occasion, per Reason for Collection per Mental Health Service Setting.

Third, completion rates for the Child & Adolescent SDQ measure need to reference the consumer's age at time of the collection occasion. Two of the SDQ versions, Baseline & Follow-up versions completed by the 'parent', are suitable only for consumers aged between 4 and 10 years; four of the measures, Baseline & Follow-up versions completed by the 'parent' and the 'youth self-report', are suitable only for consumers aged between 11 and 17 years. Reported completion proportions reflect these requirements.

Table 2: Completion Rates of NOCC Clinical Measures - Child & Adolescent Services

MH Service Setting	Inpatient			Community Residential			Ambulatory		
Collection Occasion	**A**	**R**	**D**	**A**	**R**	**D**	**A**	**R**	**D**
HoNOSCA	86	86	78	91	90	42	91	86	55
CGAS	85	83	×	85	95	×	91	88	×
FIHS	×	79	66	×	38	25	×	77	52
SDQ-PC (4 – 10 years)	58	85	15	30	33	0	51	27	9
SDQ-PY (11 – 17 years)	20	12	5	58	6	5	43	20	6
SDQ-YR (11 – 17 years)	15	16	5	58	6	16	42	20	6
Diagnoses	×	97	99	×	95	100	×	99	99
MH Diagnoses	×	82	89	×	57	72	×	89	90
MH Legal Status	×	99	93	×	95	80	×	98	86

Table 3: Completion Rates of NOCC Clinical Measures – Adult Services

MH Service Setting	Inpatient			Community Residential			Ambulatory		
Collection Occasion	**A**	**R**	**D**	**A**	**R**	**D**	**A**	**R**	**D**
HoNOS	89	83	84	90	95	70	87	91	59
LSP-16	×	×	×	25	89	40	×	82	43
Consumer self-report	×	×	×	42	56	22	25	28	7
Diagnoses	×	90	96	×	98	99	×	98	99
MH Diagnoses	×	89	89	×	97	82	×	97	90
Focus of Care	×	×	×	×	×	×	×	92	79
MH Legal Status	×	89	87	×	98	86	×	98	88

Table 4: Completion Rates of NOCC Clinical Measures – Older Persons Services

MH Service Setting	Inpatient			Community Residential			Ambulatory		
Collection Occasion	**A**	**R**	**D**	**A**	**R**	**D**	**A**	**R**	**D**
HoNOS 65+	92	97	89	86	98	57	94	95	82
LSP-16	✖	✖	✖	28	96	40	✖	78	63
RUG-ADL	85	73	✖	79	90	✖	✖	✖	✖
Consumer self-report	✖	✖	✖	26	23	4	10	14	5
Diagnoses	✖	99	98	✖	91	93	✖	98	99
MH Diagnoses	✖	93	89	✖	91	83	✖	95	90
Focus of Care	✖	✖	✖	✖	✖	✖	✖	90	83
MH Legal Status	✖	97	92	✖	99	86	✖	97	96

Observations

Overall, there are several clear impressions formed with these data:

1. For all three Collection Occasion Age Groups, the HoNOS suite of measures have the highest completion rates;

2. Similarly, the HoNOS suite is more completely reported in psychiatric inpatient settings relative to ambulatory settings;

3. Moreover, the HoNOS suite is less well completed at Discharge from, compared with Admission to, ambulatory settings;

4. Consumer self-report measures are poorly recorded to the extent that these data are arguably insufficient in volume to be used for Key Performance Indicator reporting purposes;

5. LSP-16 completion rates are modest for both Adult and Older Persons ambulatory settings

6. Other clinical measures, including Mental Health Legal Status, Mental Health Diagnoses, are almost completely reported.

Based on these profiles, it is recommended that Key Performance Indicator development with the National Outcomes and Casemix Collection data be limited to the HoNOS suite of measures. Strategies need to be developed to improve compliance with consumer self-report measures if these are to be considered further.

Section 5: Sampling Frame & Censoring Effects

Jurisdictions submit National Outcomes and Casemix Collection data on an annual basis. These data represent a one-year 'snapshot' of routine outcomes collections for participating Mental Health Service Organisations over this period. This section describes the impact of two critical matters in relation to the analysis of data from 'annual extractions': (i) sampling frame effects on available observations for further analysis; and (ii) the kinds of data that remain eligible for analysis.

How do sampling frame & censoring effects arise?

The mental health datasets that arise under the National Outcomes and Casemix Collection protocol limit the extent to which analyses can take these factors into account. Across Jurisdictions there are significant variations in relation to their capacity to monitor consumers' mental health status over time. Specifically, there is no common system for tracking consumers' well-being between Mental Health Service Organisations and mental health service settings' nor is there a common system for tracking consumers' well-being over time. This is the case for several reasons.

First, not all Jurisdictions have a comprehensive state-wide 'patient identifier' that enables linkages between Mental Health Service Organisations – the identifiers used in one organisation may refer to totally different individuals in another organisation.

Second, the critical information that enables identification of consumers within Mental Health Service Organisations is not constant over time. For example, these critical identifiers might change as services are reorganised into different configurations or as Jurisdictions implement different systems for the identification of individual consumers.

Why is this important?

Sampling frame and censoring effects arise primarily from factors independent of the consumer's mental health status – it is both technically feasible and administratively convenient to define data collection cycles in these ways rather than cycles that might better reflect the consumer's natural history of mental illness, treatment and recovery.

Many consumers who receive mental health services undergo care over extended periods where the 'start' and 'end' points of care are difficult to identify. Thus, interpretation of a consumer's mental health status at any given point in time requires reference to the overall context of the consumer's well-being and the course of illness.

Moreover, many consumers under the care of an Area Mental Health Service may receive care, over a given period, from both specialist mental health

inpatient services and from specialist ambulatory mental health services. Both services could consider care provided as two discrete episodes of mental health care.

The net result of these factors is as follows: (i) a consumer's mental health mental health status at a single point in time cannot inform the consumer's status in relation to the broader, more relevant context; and (ii) data arising from the National Outcomes and Casemix Collection submissions can only be evaluated in relation to the 12-month sampling frame.

Taken together, these two factors are referred to as (i) sampling frame effects; and (ii) censoring effects. Both of these require further consideration in the design and reporting of the National Outcomes and Casemix Collection datasets to ensure fair and valid comparisons. It is also important to ensure that performance measures adequately reflect the kinds of mental health services provided to its consumers.

Hypothetical illustrations of sampling & censoring effects

The following figure is a diagrammatic representation of sampling and censoring effects that arise within the National Outcomes and Casemix Collection. The NOCC data reported for any given period are shaded in grey. The earliest data reported are from 1 July of the financial year; the latest data reported are to 30 June on the current financial year.

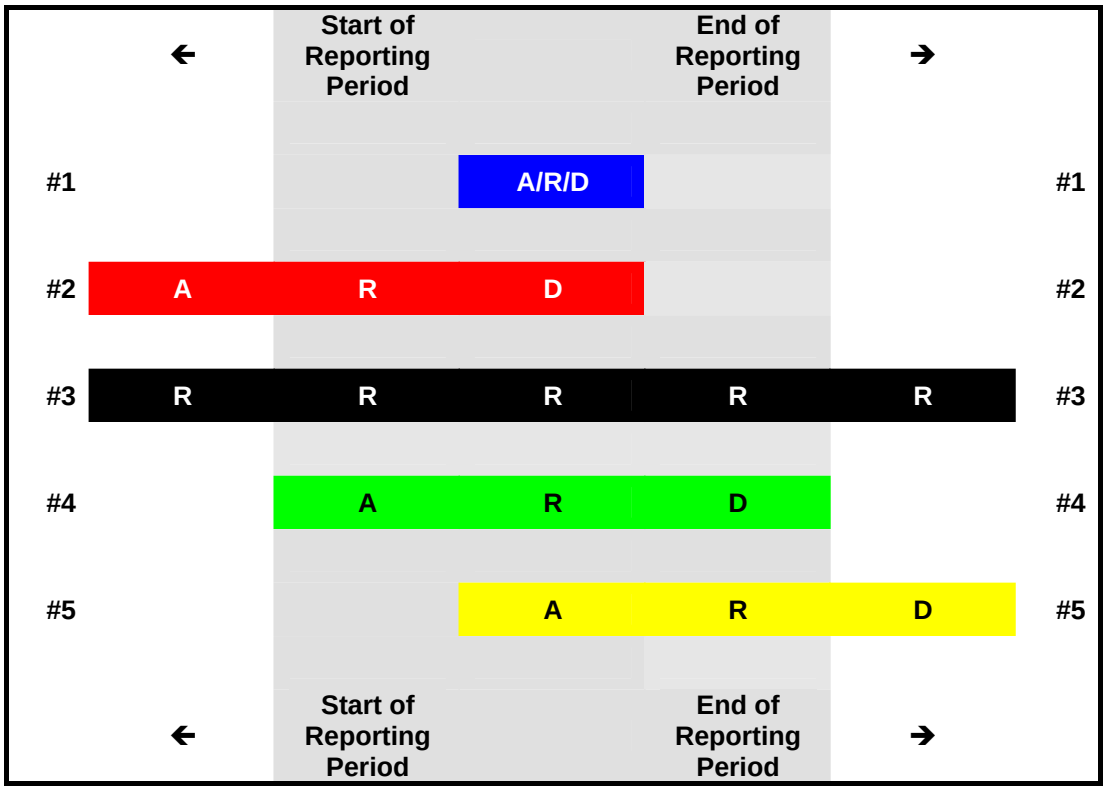

Figure 11: Diagrammatic Representation of Sampling & Censoring Effects

Five ‘hypothetical’ sequences of mental health care are illustrated.

In the first instance (#1 – “Singleton”), only a single collection occasion is recorded for this consumer throughout the reporting period. A single ‘one-off’ event could reflect either: (i) the *end* (Discharge) of an episode of mental health care that commenced prior to the current reporting period; or (ii) a single occasion of ongoing care *within* (Review) the reporting period ; or (iii) the *start* (Admission) of an episode of mental health care that was not ‘finalised’ *within* the reporting period.

Singleton collection occasions occur because of the sampling frame. For example, if the frame was extended to time periods earlier and later than the 2006-2007 financial year, would reduce the number of ‘censored’ observations (e.g., Admissions that occurred just prior to 1 July 2006 or Discharge that occurred after prior to 30 June 2007). Importantly, single collection occasions, by definition, do not represent periods of care and, thus, for the purposes of developing Key Performance Indicators for Effectiveness, etc, cannot be considered any further. It is important, however, to document the extent to which these kinds of ‘care packages’ arise and where they occur.

In the second instance (#2 – “Left-censored episode”), the consumer commenced an episode of mental health care *prior* to the reporting period and this episode of mental health care was ‘finalised’ *within* the reporting period. Thus, the data available for analysis are ‘*incomplete*’ since it is not possible to take into account mental health services provided *prior* to this period.

In the third instance (#3 – “Left & Right-censored episode”), the consumer commenced an episode of mental health care *prior* to the reporting period and this episode of mental health care was not ‘finalised’ *within* the reporting period. Thus, the data available for analysis are ‘*incomplete*’ since it is not possible to take into account mental health services provided either *before* or *after* this period.

In the fourth instance (#4 – “Completed episode”), the consumer commenced an episode of mental health care *within* to the reporting period and this episode of care also concluded *within* the reporting period. Thus, all of the data that make up this episode of care are available for analysis.

Finally, in the fifth instance (#5 – “Right-censored episode”), the consumer commenced an episode of mental health care *within* the reporting period but this episode of mental health care was not ‘finalised’ *within* the reporting period. Thus, the data available for analysis are ‘*incomplete*’ since it is not possible to take into account mental health services provided *after* this period.

Sampling frame & censoring effects in the 2006-2007 NOCC datasets

The following table shows the kinds of censoring effects occurring for each of the three Collection Occasion Age Groups in regardless of mental health service setting.

Table 5: Number and Type of Censored Collection Occasions by Age Group

Age Group	Left Censored	Left & Right Censored	Not Censored	Right Censored	Total
Child & Adolescent (0-17)	13983	5741	19383	13518	52625
Adult (18-64)	41332	50767	114267	35704	242070
Older Person (65+)	8014	6844	19411	7528	41797
Total	63329	63352	153061	56750	336492

The following charts show the relative proportions of censoring types, separately for each of the three Collection Occasion Age Groups, within psychiatric inpatient and ambulatory mental health service settings.

Initially, singletons are considered. These represent over 20% of all collection occasions reported in 2006-2007. The first pair of charts shows the 'Reason for Collection' for one-off single collection occasions, for the three Collection Occasion Age Groups, in psychiatric inpatient and ambulatory settings[3].

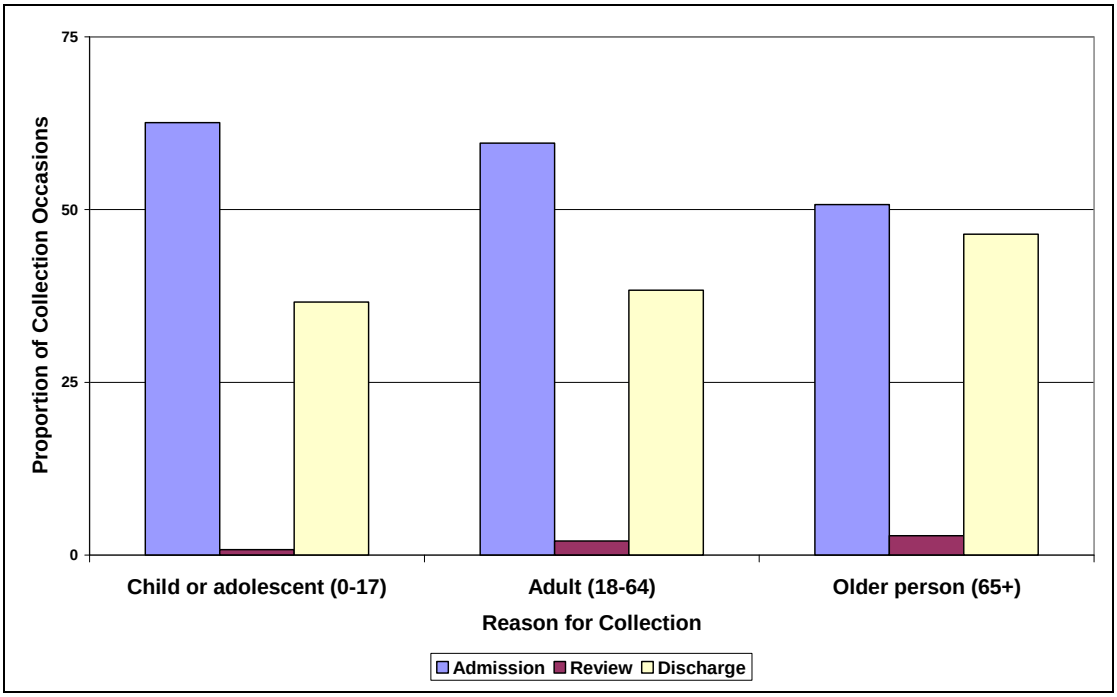

Figure 12: Single Collection Occasions by Age Group: Psychiatric Inpatient Services

[3] Data volume for Community Residential Services is not sufficient for reporting purposes

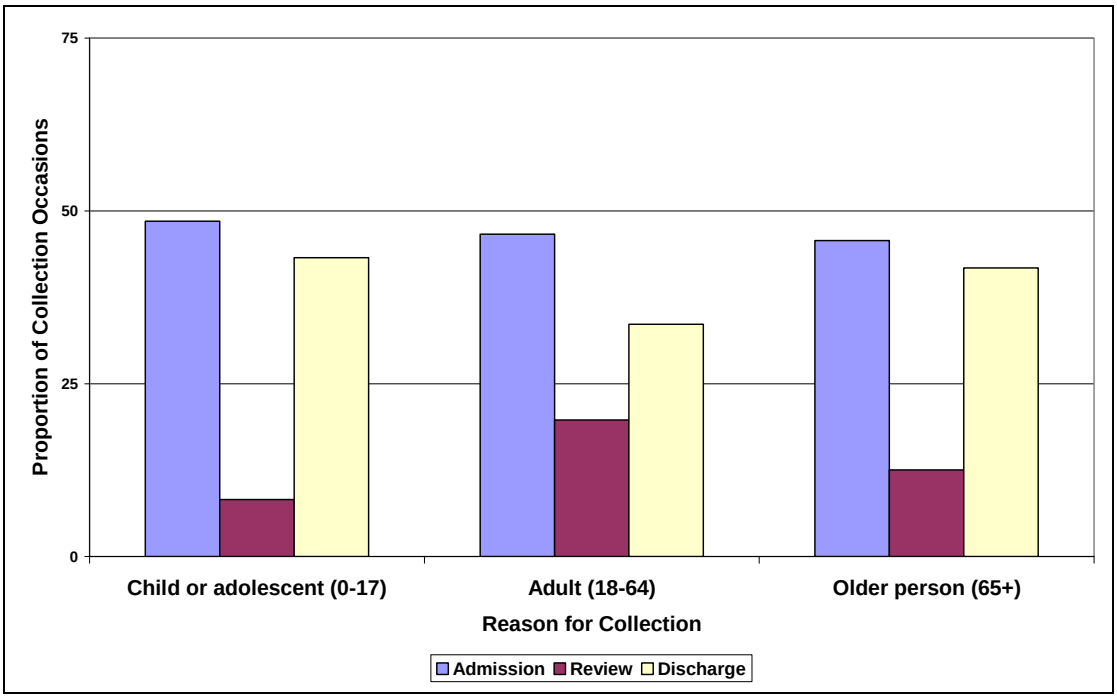

Figure 13: Single Collection Occasions by Age Group: Ambulatory Services

Not surprisingly, singletons are less likely to arise for 'Review' collection occasions than for either Admission or Discharge events. As would be expected too, 'Review' singletons are less likely to occur in psychiatric inpatient settings than in ambulatory settings.

From this point onwards, singleton collection occasions are excluded from any further consideration.

The next pair of charts shows the censoring effects, for the three Collection Occasion Age Groups, in psychiatric inpatient and ambulatory settings.

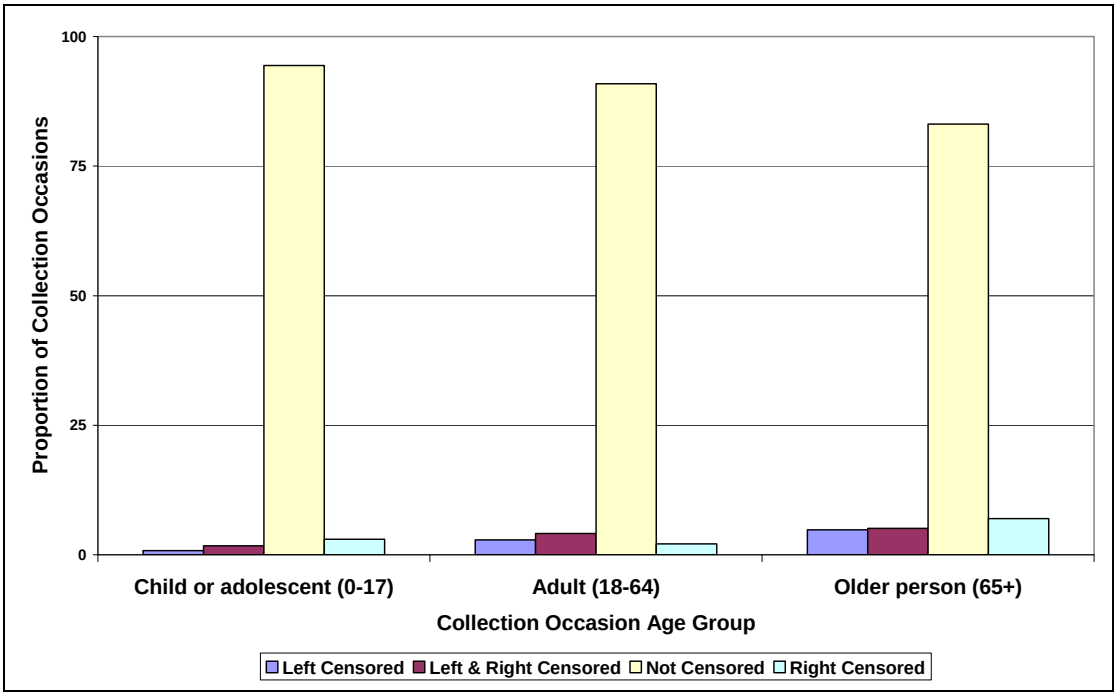

Figure 14: Censoring Effects by Age Group: Psychiatric Inpatient Services

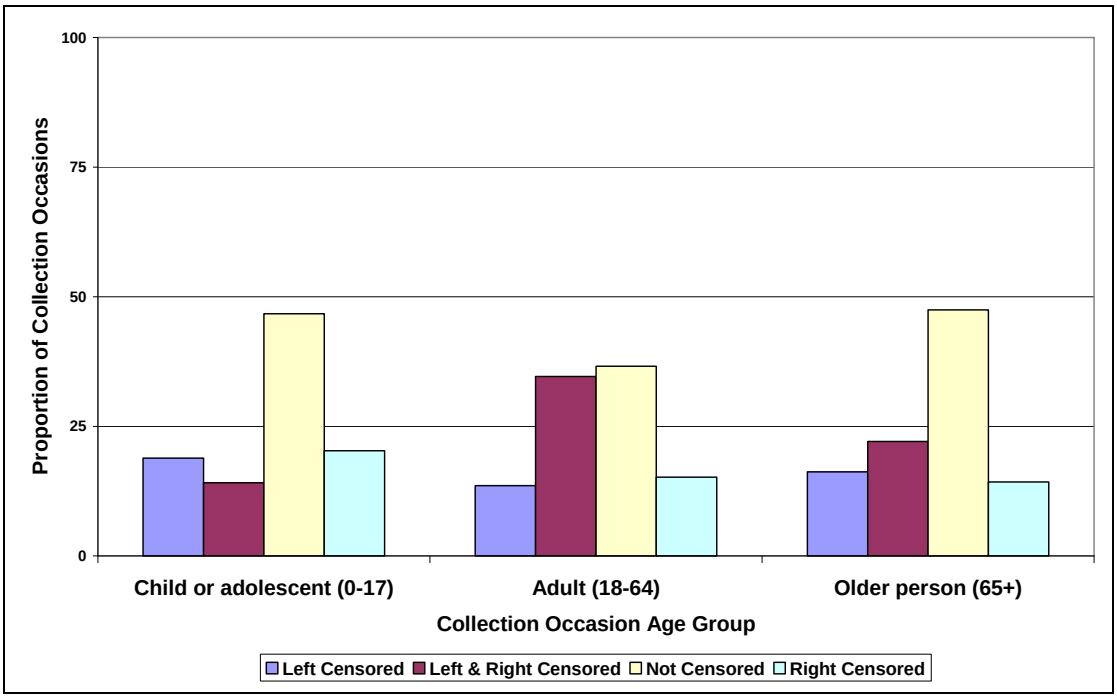

Figure 15: Censoring Effects by Age Group: Ambulatory Services

For psychiatric inpatient services, the majority of collection occasions form ‘complete’ periods of care. This is the case for all three age groups.

For ambulatory services, there is a greater range of censoring effects. For all three age groups, there are approximately equal proportions of ‘left’ censored and ‘right’ censored observations. For Child & Adolescent and Older Persons mental health services, the majority of Collection Occasion sequences that represent ‘completed’ periods of care. In contrast, for Adult mental health services, there are approximately proportions of sequences that represent either ‘completed’ periods of care or ‘ongoing’ periods of care.

Observations

From the foregoing analysis, the impact of the sampling frame and the patterns of censoring effects can be summarised as follows:

1. Single collection occasions account for approximately 20% of all National Outcomes and Casemix Collection data reported in 2006-2007. Whereas this represents a significant proportion of all data reported, these data do not contribute to consumer profiles of change and thus are excluded from further consideration.

2. For all three Collection Occasion Age Groups, ‘completed’ periods of care is the predominant sequence of collection occasions arising in psychiatric inpatient mental health services ;

3. For ambulatory mental health services the patterns are more complex and to some extent dependent on the consumer’s age group.

4. For Child & Adolescent and Older Persons mental health services, approximately 50% of all Collection Occasion sequences represent ‘completed’ periods of care.

5. For Adult mental health services, there are equal proportions of Collection Occasion sequences represent that represent either ‘completed’ or ‘ongoing’ periods of care.

Based on these observations, it is recommended that Key Performance Indicator development with the National Outcomes and Casemix Collection data be limited only to ‘completed’ periods of care for psychiatric inpatient mental health services. For ambulatory mental health services, it is recommended that indicator development include ‘completed’ periods of care; other censored observations in ambulatory settings require further investigation.

Section 6: Defining the unit of analysis

The National Protocol makes the distinction between the *unit of reporting* from the *unit of analysis*. The NOCC units of reporting are discrete events, namely, collection occasions. These serve as the building blocks to assemble higher level 'units of care' which are the subject of analysis. This section discusses issues in additional to those of sampling frame and censoring effects that need to be considered when defining NOCC units of analysis. Essentially, there are two matters to resolve: (i) what is the unit of counting for analysis purposes; and (ii) what are the kinds of 'episodes' that make up that unit.

Why is this important?

Many mental health consumers experience periods of mental illness that often require treatment over extended periods of time. Some consumers' mental health needs require treatment in a variety of settings (e.g., inpatient mental health care and ambulatory mental health care).

Ideally, when designing standard units of counting for the purposes of analysis and reporting, the unit of counting would incorporate all of the services a consumer receives throughout the course of an episode of mental illness. In practice, this is difficult to achieve on technical grounds (e.g., how to link all of the relevant information into a single consolidate records) and on conceptual grounds (e.g., there is no clear consensus regarding definitions of 'episodes of mental illness').

For convenience, units of counting are typically organised into 'episodes of care'. Some of these episodes of care as defined by the mental health service setting where the consumer receives care, especially where there are discrete events that identify the start and the end points of an episode (e.g., the period of care from admission to discharge in an inpatient setting is typically referred to as an 'inpatient episode of care').

Other episodes of care are defined by periods of time – for example a 3-month period of care. A problem in designing standard unit of counting, especially for ambulatory care, is the fact that different consumers will receive different 'packages' of care over a fixed time period. One consumer may receive daily treatment from a mobile intensive support team (i.e., 91 days of actual care); another weekly sessions with a specialist mental health worker (i.e., 13 days of care actual)

The overarching is to define a unit of counting that will establish a common basis for comparisons within similar mental health services.

Hypothetical illustrations of collection occasion sequence pairs

The following figure is a diagrammatic representation of Collection Occasion sequence pairs. As before, the NOCC data reported for any given period are shaded in grey. The earliest data reported are from 1 July of the financial year; the latest data reported are to 30 June on the current financial year.

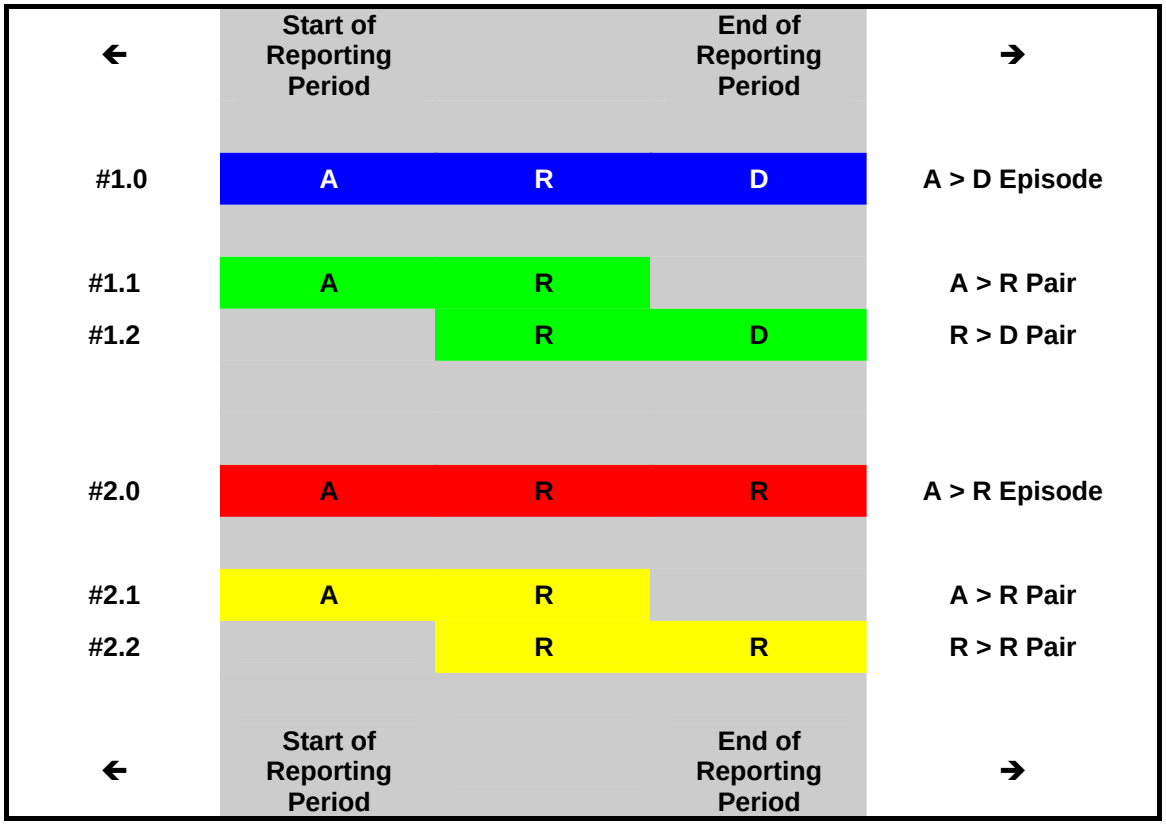

Figure 16: Diagrammatic Representation of Sampling & Censoring Effects

In the first illustration (#1.0), there are three collection occasions, an Admission followed by a Review followed by a Discharge. One approach to classify these collection occasions as an episode of care would be to take the Admission occasion as the start of the episode and the Discharge occasion as the end of the episode. Typically, data related to the Review occasion would be ignored.

In the second illustration (#1.1 & #1.2), the original set of three collection occasions is separated into two separate pairs representing discrete periods of care: (i) the first pair starts with the Admission occasion and ends with the Review occasion – an 'A > R' pair; and (ii) the second pair starts with the Review occasion and ends with the Discharge occasion – an 'R > D' pair.

In the third illustration (#2.0), there are also three collection occasions, an Admission followed by a Review followed by another Review. An episode of care approach would classify a single episode starting with the Admission and

finishing with the second Review. The final illustration shows how a period of care approach would classify the pairs: (i) an ‘A > R’ pair and an ‘R > R pair.

Both methods for defining the ‘unit of counting’ are legitimate and each has respective strengths and weaknesses. These are briefly considered.

The former method, ‘episode of care’, is more closely aligned to traditional counting methods within the health care industry especially with respect to ‘acute inpatient’ care types. It’s limitations are primarily with the fact that many ‘episodes of care’ in the mental health care sector can span long time intervals and, this, the initial assessments of status may have occurred many months or years prior to the subsequent discharge from the ‘episode of care’.

The latter method, ‘periods of care’, is less well-established within the health care industry. Its limitations are primarily that assessment of health status at points in time while the consumer remains under care by definition will be incomplete and cannot represent the whole picture of services or ultimate service outcomes. Its strength is that it more adequately reflects the relatively long-term nature of mental illness and the common treatment packages designed to meet consumer’s ongoing needs for care.

Patterns of care evident in the NOCC datasets

The two candidate methods for defining the unit of analysis, namely episodes of care and periods of care, can be profiles within the National Outcomes and Casemix Collection datasets.

Analysing sequences of collection occasions for individual consumers is necessary to determine the most appropriate unit of analysis. Episodes of care are derived by taking the first Collection Occasion for a consumer (within a specific Mental Health Service Organisation within a particular mental health service setting. Periods of care are derived by organising collection occasions into logical, ordered sequences and then extracting consecutive pairs.

It should be noted that creation of episodes of care and periods of care starts with the same ‘pool’ of collection occasions – they are simply organised differently. Importantly, there will be fewer episodes of care than periods of care since the former considers only the first and the last Collection Occasion in any given sequence.

Tables 6 and 7 separately show the overall number and types of ‘episodes of care’ and ‘periods of care’ respectively for each of the three Collection Occasion Age Groups.

Table 6: Number & type 'episodes of care' by Age Group

Censored Episode Status	Child & Adolescent	Adult	Older Person	Total
Left Censored	2347	7140	1704	11191
Left & Right Censored	1619	15270	1972	18861
Not Censored	8967	55021	8897	72885
Right Censored	2636	7698	1634	11968
Total	**15569**	**85129**	**14207**	**114905**

Table 7: Number & type of 'periods of care' by Age Group

Collection Occasion Sequence	Child & Adolescent	Adult	Older Person	Total
Admission > Review	3822	11049	2836	17707
Admission > Discharge	7781	51670	7695	67146
Review > Review	5300	35696	6073	47069
Review > Discharge	3533	10491	2906	16930
Total	20436	108906	19510	148852

The following table shows the relationships between the two different approaches of 'counting'.

Table 8: Relationship between 'episodes of care' & 'periods of care'

Censored Episode Status	**Collection Occasion Sequence**				
	Admission > Review	Admission > Discharge	Review > Review	Review > Discharge	Total
Left Censored	-	-	33.0%	67.0%	100.0%
Left & Right Censored	-	-	100.0%	-	100.0%
Not Censored	7.2%	83.7%	1.9%	7.2%	100.0%
Right Censored	68.4%	-	31.6%		100.0%
Total	11.9%	45.1%	31.6%	11.4%	100.0%

By definition, all ‘left & right censored’ episodes of care types correspond directly to all ‘review to review’ periods of care types. The remaining episodes of care types involve different patterns of care types.

Approximately two-thirds the collection occasions that form ‘left censored’ episodes of care, involve periods of care sequences where the ‘review to discharge’ sequence represents the interval from the ‘last’ review to the end of care. A similar profile is evident for collection occasions that form ‘right censored’ episodes of care, involve periods of care sequences where the ‘admission to review’ sequence represents the interval from the start of care to the ‘first’ review of care.

Completed episodes of care involve all four kinds of care sequences. There is, however, a majority of Collection Occasion sequences that only involve a single pair, namely ‘admission’ to care and then ‘discharge’ from care.

The following charts show the relative proportions of ‘episodes of care’ and ‘periods of care’, separately for each of the three age groups, within psychiatric inpatient and ambulatory mental health service settings.

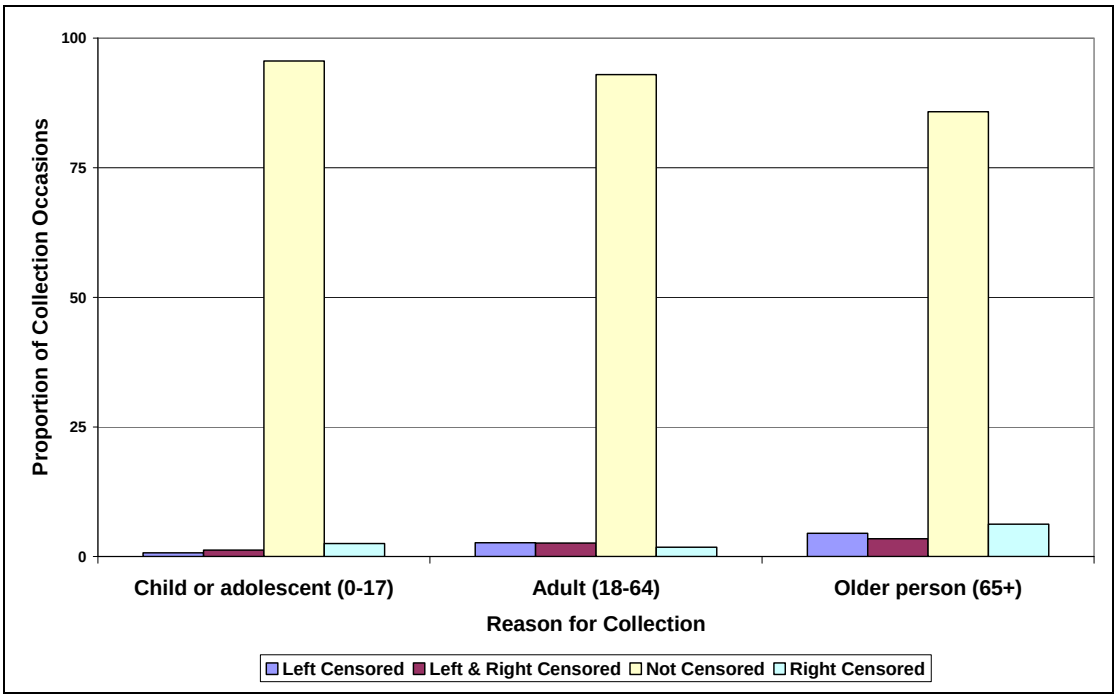

Figure 17: 'Episodes of Care' by Age Group: Psychiatric Inpatient Services

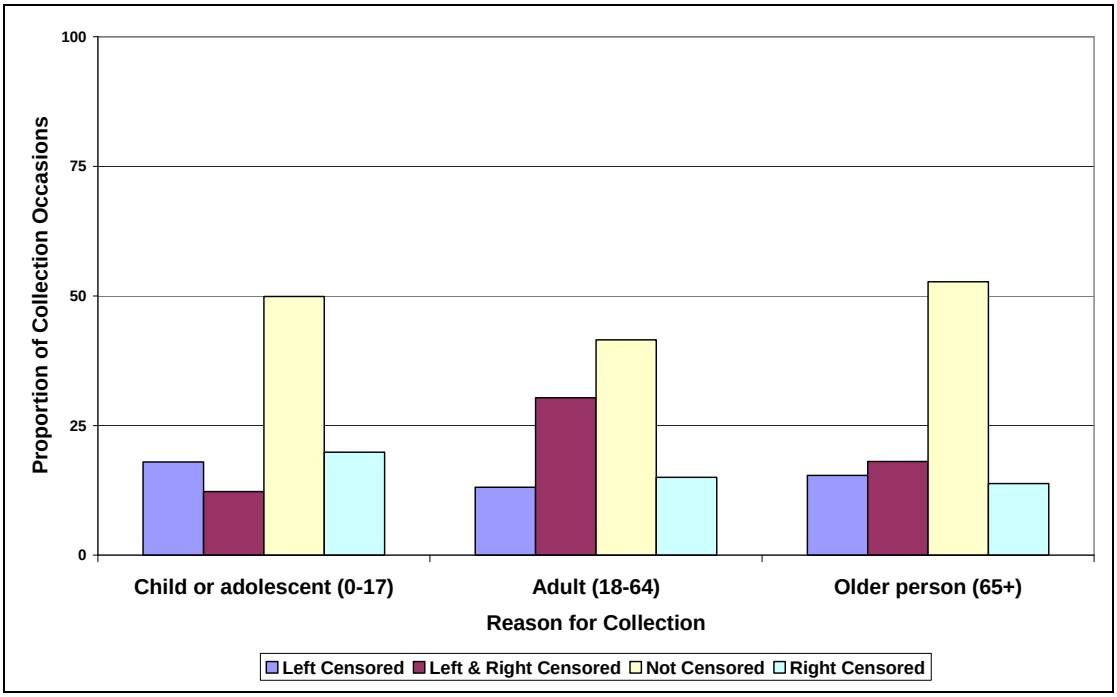

Figure 18: 'Episodes of Care' by Age Group: Ambulatory Services

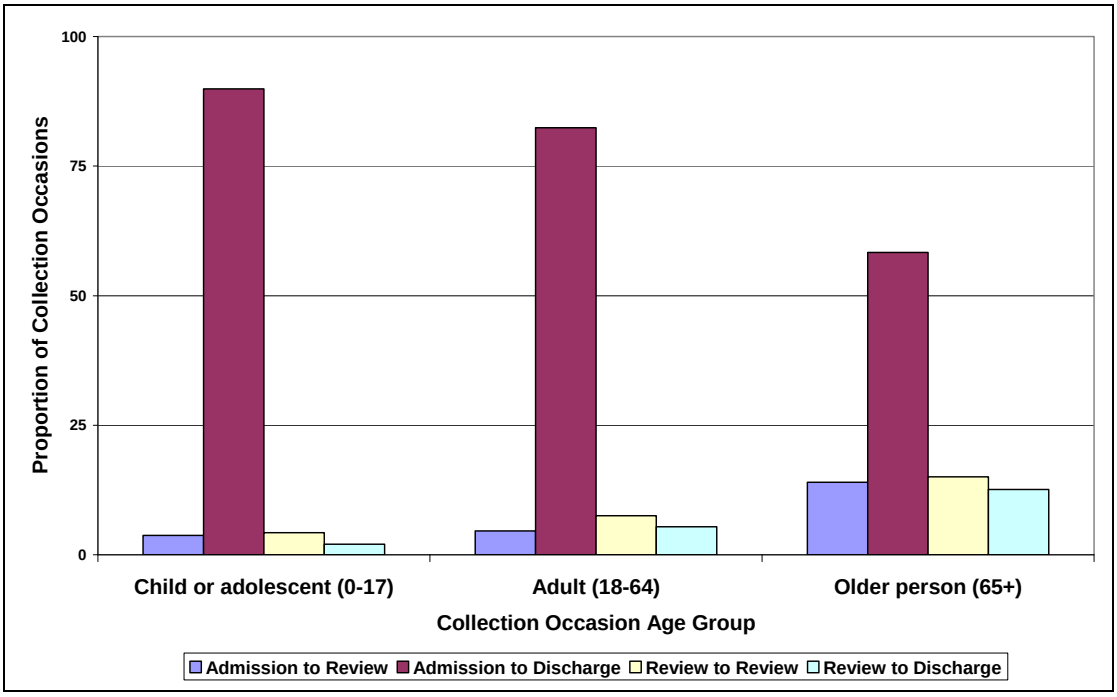

Figure 19: 'Periods of Care' by Age Group: Psychiatric Inpatient Services

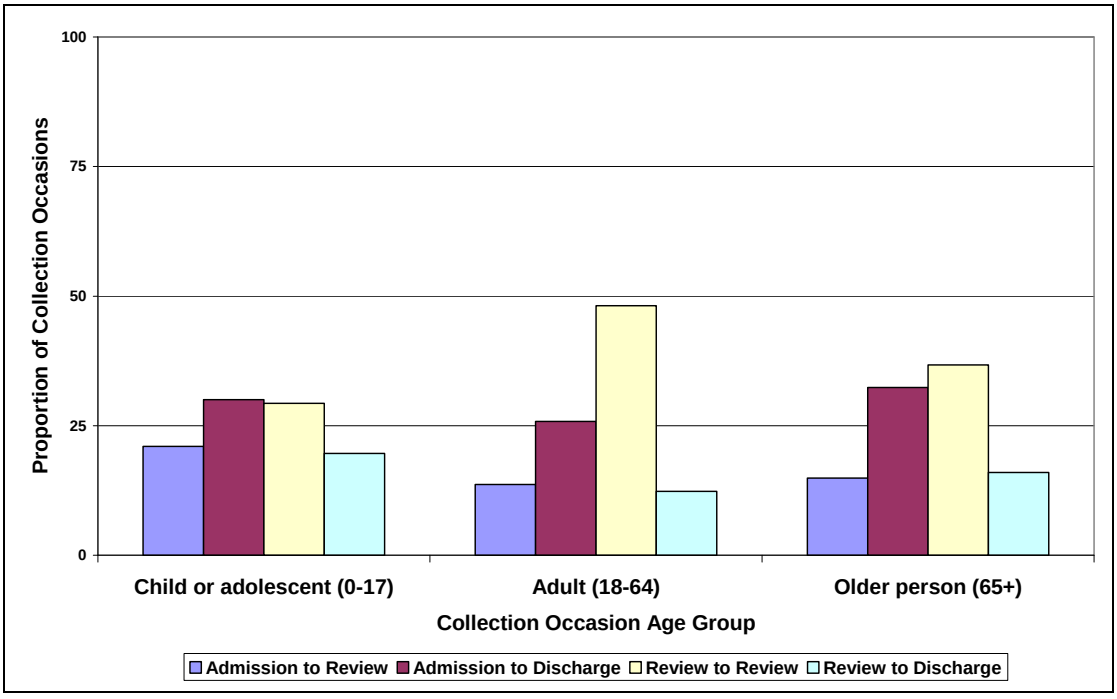

Figure 20: 'Periods of Care' by Age Group: Ambulatory Services

Summary

In order to compare performance, it is necessary to ensure observations can be standardised. Completed episodes meet that standard since the start and the end of care have been measured.

For incomplete episodes, there is a standard comparison for all episodes in the period from the start of care to first review.

There is no standard comparison for ongoing episodes of care or those that are ‘right’ censored. Whereas these care types include the end of care, it is not possible to reliably measure the start of that care. All ‘right’ censored patterns of care are excluded from further analysis.

Deciding whether the unit of counting is either a ‘period of care’ or an ‘episode of care’ requires further consideration. This distinction is practically irrelevant for psychiatric inpatient patterns of care since over 90% of activity can be classified as ‘completed’ For ambulatory mental health services, it is recommended that both units of counting be analysed and further considered.

Results from the foregoing analysis are summarised in the following tables, for episodes of care and periods of care respectively.

The critical difference between these summaries is that episodes of care are derived by considering the first and the last collection occasions in the sampling frame; periods of care are derived by considering consecutive pairs of collection occasions. Where there is no ‘review’ (i.e., an Admission followed by a Discharge), then an episode of care will be identical to a period of care. As expected, the relative frequencies of ‘completed episodes are more or less identical in psychiatric inpatient mental health service settings. Where patterns of care are more likely to be provided over extended periods of time, then the relative proportions of episodes of care is different from those of periods of care – this is the case in both community residential and ambulatory mental health settings.

The findings also suggest that the volumes of patterns of care in community residential mental health settings are not sufficient to reliably measure comparative performance. Similarly, less than 10% of all patterns of care in psychiatric inpatient services involve a ‘review’ – most episodes are relatively brief. Accordingly, it is recommended that these care types be excluded from further consideration

Table 9: 'Episodes of Care' Types by Mental Health Service Setting and Age Group

MH Service Setting	Episode of Care Type	Child & Adolescent	Adult	Older Person	Total
Psychiatric inpatient	**Complete**	2495	35610	3751	41856
	Admission to Last Review	65	686	273	1024
Community residential	**Complete**	18	427	52	497
	Admission to Last Review	4	161	25	190
Ambulatory	**Complete**	6454	18984	5094	30532
	Admission to Last Review	2567	6851	1336	10754
Total		**11603**	**62719**	**10531**	**84853**

Table 10: 'Periods of Care' Types by Mental Health Service Setting and Age Group

MH Service Setting	Period of Care Type	Child & Adolescent	Adult	Older Person	Total
Psychiatric inpatient	**Admission to Discharge**	2457	34368	3246	40071
	Admission to First Review	103	1928	778	2809
Community residential	**Admission to Discharge**	17	399	45	461
	Admission to First Review	5	189	32	226
Ambulatory	**Admission to Discharge**	5307	16903	4404	26614
	Admission to First Review	3714	8932	2026	14672
Total		**11603**	**62719**	**10531**	**84853**

Observations

1. Single collection occasions account for approximately 20% of all National Outcomes and Casemix Collection data reported in 2006-2007. Whereas this represents a significant proportion of all data reported, these data do not contribute to consumer profiles of change and thus are excluded from further consideration.

2. For all three Collection Occasion Age Groups, the predominant sequence of collection occasions arising in psychiatric inpatient mental health services representing 'completed' periods of care.

3. For ambulatory mental health services the patterns are more complex and to some extent dependent on the consumer's age group.

4. For Child & Adolescent and Older Persons ambulatory mental health services, approximately 50% of all Collection Occasion sequences represent 'completed' periods of care.

5. For Adult mental health services, there are equal proportions of Collection Occasion sequences represent that represent either 'completed' or 'ongoing' periods of care.

6. There are too few observations in community residential mental health services to warrant further analysis with respect to the development of Key Performance Indicators.

7. Similarly, there are too few observations in comprising transitions from Admission to First Review in psychiatric inpatient mental health services to warrant further analysis with respect to the development of Key Performance Indicators.

8. By applying the above mentioned exclusion criteria, there remains 83,142 matched pairs comprising 'episodes of care' and 84,166 matched pairs comprising 'periods of care'.

9. The overall proportion of reported NOCC collection occasions available for analysis represents almost two-thirds (63.4%) of all data submitted by Jurisdictions.

Section 7: Counting Clinical Ratings - 'Matched' Pairs

The final step in the preliminary process is to match the start and the end points for episodes of care and/or periods of care with clinical ratings.

The Health of the Nation Outcome Scales (HoNOS) suite of measures is common to all three collection occasion age groups and is prescribed for collection in all three mental health service settings and for all three collection occasions. It follows then that Key Performance Indicator research and development should focus on the Health of the Nation Outcome Scales.

The following tables present summary details regarding the process of matching the NOCC collection occasion information with the HoNOS. It can be seen that 'Matched pairs' can be found for approximately 67% of episodes of care and 74% of periods of care,

Table 11: 'Matched pairs' for episodes of care by Age Group

Collection Occasion Age Group	Matched Pair	Baseline Only	Follow-up Only	No Clinical Ratings
Child & Adolescent	66.6%	6.4%	23.0%	4.0%
Adult	65.2%	6.4%	23.4%	4.9%
Older Persons	79.1%	3.8%	14.7%	2.4%
Total	**67.1%**	**6.1%**	**22.3%**	**4.5%**

Table 12: 'Matched pairs' for periods of care by Age Group

Collection Occasion Age Group	Matched Pair	Baseline Only	Follow-up Only	No Clinical Ratings
Child & Adolescent	68.0%	21.4%	4.1%	6.5%
Adult	72.9%	15.6%	5.2%	6.4%
Older Persons	85.9%	8.2%	2.9%	3.0%
Total	**74.0%**	**15.4%**	**4.7%**	**5.9%**

More detailed analysis of these patterns is presented in the following two tables.

Table 13: 'Matched pairs' for episodes of care by Age Group and care type

Age Group	MH Service Setting	Episode of Care Type	Matched Pair	Baseline Only	Follow-up Only	No Clinical Ratings
Child & Adolescent	Psychiatric inpatient	Complete	61.1%	5.7%	27.0%	6.2%
	Ambulatory	Complete	67.6%	6.3%	22.7%	3.4%
	Ambulatory	Admission to Last Review	69.6%	7.5%	19.6%	3.3%
Adult	Psychiatric inpatient	Complete	64.6%	5.8%	25.0%	4.6%
	Ambulatory	Complete	64.9%	7.0%	22.3%	5.7%
	Ambulatory	Admission to Last Review	69.6%	7.9%	18.3%	4.2%
Older Persons	Psychiatric inpatient	Complete	75.7%	4.8%	16.1%	3.5%
	Ambulatory	Complete	81.6%	3.1%	13.6%	1.7%
	Ambulatory	Admission to Last Review	79.5%	3.7%	14.8%	2.0%

Table 14: 'Matched pairs' for periods of care by Age Group and care type

Age Group	MH Service Setting	Period of Care Type	Matched Pair	Baseline Only	Follow-up Only	No Clinical Ratings
Child & Adolescent	Psychiatric inpatient	Admission to Discharge	75.5%	10.8%	3.7%	10.0%
	Ambulatory	Admission to Discharge	55.1%	34.9%	3.2%	6.8%
	Ambulatory	Admission to First Review	82.4%	7.6%	5.5%	4.5%
Adult	Psychiatric inpatient	Admission to Discharge	79.4%	10.4%	6.0%	4.3%
	Ambulatory	Admission to Discharge	58.7%	28.0%	2.8%	10.5%
	Ambulatory	Admission to First Review	81.2%	7.5%	7.1%	4.2%
Older Persons	Psychiatric inpatient	Admission to Discharge	84.6%	6.8%	4.7%	4.0%
	Ambulatory	Admission to Discharge	82.5%	12.5%	1.7%	3.3%
	Ambulatory	Admission to First Review	92.2%	3.0%	2.8%	2.0%

Key Points

1. Approximately 65% of all data submitted by Jurisdictions form either episodes of care or periods of care;

2. These data are the pool of potential candidates for analysis and reporting of Key Performance Indicators;

3. Of the candidate pairs, approximately 70% have clinical ratings on the Health of the Nation Outcome Scales that would allow for analysis and reporting of change scores.

Attachment 1: Data to be collected at each Collection Occasion within each Mental Health Service Setting, for consumers in each Age Group

Mental Health Service Setting	INPATIENT			COMMUNITY RESIDENTIAL			AMBULATORY		
Collection Occasion	A	R	D	A	R	D	A	R	D
Children and Adolescents									
HoNOSCA [1]	●	●	●	●	●	●	●	●	●
CGAS	●	●	✖	●	●	✖	●	●	✖
FIHS	✖	●	●	✖	●	●	✖	●	●
Parent / Consumer self report (SDQ) [2, 3]	●	●	●	●	●	●	●	●	●
Principal and Additional Diagnoses	✖	●	●	✖	●	●	✖	●	●
Mental Health Legal Status	✖	●	●	✖	●	●	✖	●	●
Adults									
HoNOS [1]	●	●	●	●	●	●	●	●	●
LSP-16 [4]	✖	✖	✖	●	●	●	✖	●	●
Consumer self-report (MHI, BASIS32, K10+) [3, 5]	✖	✖	✖	●	●	●	●	●	●
Principal and Additional Diagnoses	✖	●	●	✖	●	●	✖	●	●
Focus of Care [6]	✖	✖	✖	✖	✖	✖	✖	●	●
Mental Health Legal Status	✖	●	●	✖	●	●	✖	●	●
Older persons									
HoNOS 65+ [1]	●	●	●	●	●	●	●	●	●
LSP-16 [1]	✖	✖	✖	●	●	●	✖	●	●
RUG-ADL	●	●	✖	●	●	✖	✖	✖	✖
Consumer self-report (MHI, BASIS32, K10+ [3, 5])	✖	✖	✖	●	●	●	●	●	●
Principal and Additional Diagnoses	✖	●	●	✖	●	●	✖	●	●
Focus of Care [6]	✖	✖	✖	✖	✖	✖	✖	●	●
Mental Health Legal Status	✖	●	●	✖	●	●	✖	●	●

Attachment 1: Abbreviations and Symbols

A	Admission to Mental Health Care
R	Review of Mental Health Care
D	Discharge from Mental Health Care

●	Collection of data on this occasion is mandatory
×	No collection requirements apply

Attachment 1: Notes

(1) Discharge ratings for the HoNOS, HoNOS65+ and HoNOSCA are not required for inpatient episodes less than 3 days duration.

(2) Discharge ratings for the SDQ are not required for any episode of less than 21 days duration because the rating period used at discharge (previous month) would overlap significantly with the period rated at admission.

(3) The classification of consumer self-report measures as mandatory is intended only to indicate the expectation that consumer's will be invited to complete self-report measures at the specified Collection Occasions, not that such measures will always be appropriate. Special considerations applying to the collection of self-report measures are described in section 7.5.

(4) The LSP-16 is not included as a measure for use in inpatient settings as, in its current form, it requires ratings to be based on the consumer's functioning over the previous three months. This is difficult for the majority of inpatient episodes which are relatively brief.

(5) Introduction of adult consumer self-report measures in inpatient episodes is not included as a national requirement at this stage but will be reviewed in the future following experience in use of the measures in other settings. Individual Jurisdictions or service agencies may however choose to trial these measures in inpatient settings.

(6) Restriction of the Focus of Care only to ambulatory care episodes for adults and older persons is based on experience in the MH-CASC study which found it be of limited value in inpatient and community residential settings and with child/adolescent patients.

Attachment 2: Completion criteria for each of the NOCC measures

NOCC Measure	Age Group	Completion Criteria
HoNOSCA	C&A	At least 11 of the first 13 HoNOSCA items have Valid Clinical Ratings
CGAS	C&A	Any Valid Clinical Rating
FIHS	C&A	At least 6 of the 7 FIHS items have Valid Clinical Ratings
SDQ – all Versions	C&A	At least 20 of the first 25 items have Valid Clinical Ratings
Age	C&A	Aged at least 1 day to less than 25 years inclusive
HoNOS / 65+	A&OP	At least 10 items have Valid Clinical Ratings
LSP-16	A&OP	At least 14 items have Valid Clinical Ratings
FoC	A&OP	Any Valid Clinical Rating
BASIS-32	A&OP	At least 22 items have Valid Clinical Ratings***
K10+	A&OP	At least 9 items have Valid Clinical Ratings
MHI-38	A&OP	At least 30 items have Valid Clinical Ratings
Age	A	Aged between 15 and 110 years inclusive
RUG-ADL	OP	All 4 items have Valid Clinical Ratings
Age	OP	Aged between 55 and 110 years inclusive
Principal Diagnosis	All	Any Valid MHCASC Diagnosis Summary Group
MHLS	All	Either Voluntary or Involuntary Status recorded
Sex	All	Either Male or Female Sex recorded

Explanatory Notes:

C&A	Child & Adolescent Collection Age Group
A&OP	Adult AND Older Person Collection Age Group
A	Adult Collection Age Group
OP	Older Person Collection Age Group