



Australian Mental Health Outcomes and Classification Network

‘Sharing Information to Improve Outcomes’

An Australian Government funded initiative

Stakeholder Consultations 2004

Jane Pirkis, Philip Burgess, Tim Coombs, Adam Clarke,
David Jones-Ellis and Rosemary Dickson

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Executive Summary

Background

Australia's National Mental Health Strategy has emphasised the development of sound information to support service planning and delivery and, consequently, there has been considerable investment in information development over the last 10 years.

State/Territory Governments and the Australian Government are collaborating in a coherent national approach. All States/Territories have signed Information Development Agreements that require them to submit certain data to the Australian Government, namely de-identified, patient-level outcomes and casemix data (referred to as the National Outcomes and Casemix Collection, or NOCC) and admitted and non-admitted activity data (consistent with the National Minimum Data Set – Mental Health Care). The Australian Government has established three Expert Groups (Adult, Child and Adolescent, and Older Persons) to advise on the implementation and use of outcomes and casemix information in mental health services. In addition, it has provided resources to support the training of the mental health workforce in the use of outcomes and casemix measures, and setting up arrangements to receive, process, analyse and report on the NOCC and NMDS data submitted by States/Territories.

The Australian Mental Health Outcomes and Classification Network (AMHOCN)

The latter arrangements have been established by the Australian Government, under the banner 'Australian Mental Health Outcomes and Classification Network' (AMHOCN). AMHOCN is a consortium of three groups, and has been funded to provide national leadership in the development of outcomes and casemix concepts in mental health. It will undertake a work program with three components, each of which is the remit of one of the consortium members: a data management component (Strategic Data Pty Ltd, Victoria); an analysis and reporting component (The University of Queensland, Queensland); and a training and service development component (Institute of Psychiatry, New South Wales). The three components of AMHOCN were each contracted in late 2003, and first came together as a consortium in December of that year.

Stakeholder consultations: Purpose and method

An immediate concern for AMHOCN was determining States/Territories' current status and future needs/plans with respect to NOCC and NMDS implementation, in order to develop its overall workplan. With this purpose in mind, each State/Territory was invited to participate in a consultation with members of AMHOCN.

The consultations took place between 19 March and 30 April 2004, and elicited answers to eight sets of questions from stakeholders in all States/Territories. The consultations were attended by 123 stakeholders, representing a mix of policy-makers and technical personnel from central mental health units and mainstream health information sections, service managers, clinicians and individuals responsible for supporting the NOCC and NMDS collections at a site level, members of the Expert Groups, consumers and carers.

Stakeholder consultations: Key findings and implications for AMHOCN

There is considerable variability between States/Territories regarding the implementation of the NOCC and NMDS collections, in terms of systems, infrastructure, training, coverage, and analysis and reporting, all of which have implications for AMHOCN.

States/Territories differ in terms of the number of systems that are involved in the collection of NOCC and NMDS data, with some relying on as many as four statewide systems (sometimes with further degrees of complexity within the State/Territory). Some States/Territories have been

able to expand existing systems to incorporate the NOCC data, whereas others have had to establish separate systems (some of which are not yet fully implemented). Linking NOCC and admitted and non-admitted NMDS datasets is impeded in most States/Territories by the lack of a unique identifier. With one exception, linkage is only possible for parts of the data (usually NOCC and non-admitted NMDS data) and/or by conducting quite complex record linkage tasks. Many States/Territories have plans to reconcile their identifier systems, but this will not occur in the near future. This has implications for AMHOCN, in terms of the potential to link outcome data and activity data for the same episode of care.

States/Territories have differing levels of infrastructure to support the NOCC and NMDS collections. Human resources vary, with some States/Territories having a number of personnel deployed to train and support clinicians and managers, and others relying on one or two core individuals. Physical resources also vary, with some States/Territories having sophisticated data collection systems with on-line data entry, and others depending on batch entry of paper-based forms.

All States/Territories have conducted extensive training in the use of outcome measures (and many in the use of data collection systems that support routine outcome measurement), some using a direct approach, others using a train-the-trainer approach, and still others using a combination of the two, building skills in training as well as the ability to train in NOCC. Many are now beginning to consider issues of ongoing training and support. In particular, they are recognising the need for a second phase of training that goes beyond how to use the outcome measures, and focuses more on how to interpret and reflect upon profiles of particular measures (at individual and aggregate levels). Consideration is also being given to the accreditation of trainers. The support of AMHOCN is seen as crucial here, in terms of providing training expertise, developing and disseminating resources, and sharing lessons between jurisdictions.

Having put in place appropriate systems and trained a significant proportion of the mental health workforce, States/Territories are now implementing routine outcome measurement. They vary in terms of their progress with implementation, and, consequently, in terms of coverage. Some will be reporting NOCC data for the first time in 2003-04, others have been reporting for several years. Within States/Territories, there is variability by setting (with community services generally having higher coverage than inpatient services) and by outcome measure (with clinician-rated measures being completed to a greater extent than consumer-rated measures). This has implications for AMHOCN, in terms of its ability to report on the national data.

States/Territories have made different degrees of progress in terms of analysis and reporting of data. Some have not yet reached the point where they have produced reports at any level. Others are generating individual-level reports that allow clinicians to consider given consumers' scores on particular outcome measures, either at a single point in time or over time. Others are generating aggregate-level reports about compliance. A few have started producing some rudimentary, aggregate-level reports that provide information about groups of consumers under the care of a given clinician, team or service. Clinicians and managers are keen for timely feedback at all levels. There is a recognition that, without this, the momentum and goodwill that has been achieved to date will not be sustained. States/Territories are looking to AMHOCN for guidance about the structure of these reports, and for benchmarking and normative data. In addition, AMHOCN can support efforts to encourage reflection on these reports (e.g., training, awareness raising, and other forms of engagement), to increase the likelihood of their being used.

Recommendations

1. As a priority, AMHOCN should specify a framework for providing feedback to States/Territories in a manner that maximises its clinical and management utility. Specifically, feedback should take the form of reports that are relevant and useful at a range of levels (e.g., individual, team, service, and jurisdiction). The precise nature of the reports should be

informed by an iterative process, where data are provided back to States/Territories for comments, and subsequent reports are modified accordingly.

2. Reports from AMHOCN should provide reference points that allow individual scores to be compared with normative data, and service profiles to be benchmarked against those of their peers. For this to occur, the process of identifying peer groups of services must be given priority.
3. AMHOCN should begin providing feedback to States/Territories as soon as possible, recognising that the data are imperfect but that their quality and comprehensiveness will only improve if clinicians and managers find the feedback useful. The frequency of the feedback loop should be increased over time, to maximise the clinical and management utility of the data.
4. For now, AMHOCN's reports back to States/Territories should be based on NOCC data alone, in recognition of the difficulties in linking NOCC and NMDS data, and delays in receipt of NMDS data by Strategic Data from the Australian Institute of Health and Welfare. This has implications for defining episodes of care, and limits the extent to which immediate progress can be made on casemix classification refinement. It still provides scope, however, for much to be done regarding reporting outcome data in a manner that has clinical and management utility.
5. In parallel with the reporting of NOCC data, AMHOCN should focus its attention on the issue of linkages between NOCC and NMDS datasets – first broadly regarding unique identifiers, and then more specifically regarding what needs to occur at a State/Territory level for linkable data to be submitted.
6. AMHOCN should consolidate the existing State/Territory training efforts aimed at equipping the mental health workforce to complete routine outcome measures. Specifically, AMHOCN should develop and disseminate resources that fill particular gaps (e.g., information related to given outcome measures, such as the SDQ), and help States/Territories to streamline their training and re-training packages in a way that balances national consistency against the unique requirements of the local context.
7. AMHOCN should focus its training and service development efforts on developing the 'information literacy' of the mental health field. Specifically, it should foster the skills and knowledge required for interpreting and reflecting upon the meaning of outcome data (and later casemix data), at a range of levels. This will require a multi-faceted approach, tailored to the needs of particular groups, and might include national and local forums, face-to-face visits to explain reports, and the development and dissemination of relevant resources.
8. AMHOCN should foster information-sharing at a range of levels. In particular, it should take advantage of its 'bird's eye view', identifying good ideas and approaches in given States/Territories and promoting them in other jurisdictions. It should also disseminate relevant materials, acting as a clearing house for resources and information.
9. AMHOCN should explore processes for accrediting trainers, ensuring that national accreditation is consistent with and complementary to any existing accreditation efforts at a jurisdictional level.
10. AMHOCN should engage, nurture and support clinical leaders (particularly psychiatrists), champions and innovators.

Chapter 1: Setting the context

Background

Since Australian Health Ministers agreed to the National Mental Health Policy and the first National Mental Health Plan in 1992, the continued improvement of the quality and effectiveness of the treatment of people with a mental illness has been one of the major objectives of the National Mental Health Strategy. The Strategy recognises that this objective can only be achieved through the development of sound information to support service planning and delivery.

Under the Second National Mental Health Plan, there was a recognition that information development in the mental health sector had lagged behind that of the mainstream health sector, and that substantial work was required to obtain the data needed to inform service planning and delivery. As a consequence, the systematic implementation of routine outcome measurement in all public sector mental health services became a priority of the Second National Mental Health Plan.

Initially, implementation was impeded by difficulties in defining and measuring mental health outcomes. To accelerate the process, the Australian Health Ministers' Advisory Council (AHMAC) National Mental Health Working Group released a statement of *National Mental Health Information Priorities* in June 1999.[1] This outlined an ambitious plan to develop information infrastructure in all public mental health services to support and encourage good clinical practice, regularly inform about consumer outcomes, inform judgements about value for money, and produce national and State/Territory data as a by-product. Under the Australian Health Care Agreements (1998-2003), the (then) Commonwealth Government made \$38 million available to States/Territories to assist in achieving these objectives. All State/Territory jurisdictions prepared Information Development Plans and signed Information Development Agreements with the (then) Commonwealth Government to participate in the initiative.

The Information Development Agreements required States/Territories to provide the Commonwealth with de-identified, patient-level data for the 'outcomes dataset' and the 'casemix dataset', specified in the *National Mental Health Information Priorities* document. Together, these datasets are referred to as the National Outcomes and Casemix Collection (NOCC). The Information Development Agreements also required States/Territories to submit the patient-level components of the National Minimum Data Set (NMDS) – Mental Health Care, as described in the most current version of the National Health Data Dictionary.[2]

The new National Mental Health Plan (2003-2008) continues to provide a framework for the collection of outcomes and casemix data. Specifically, it supports the comprehensive implementation and further development of routine consumer outcome measures in mental health, and the reform of public sector funding models to better reflect need via continued development of mental health casemix classifications. The new Australian Health Care Agreements (2003-2008) support this ongoing policy direction, by providing \$9 million to embed the routine use of outcome measures in Australia's public sector mental health services.

The vision

It is expected that the above national investment in information development will achieve the following:

- The routine use of outcome measures (consumer- and clinician-rated) in all publicly funded or managed mental health services where such measures contribute both to improved practice and service management;

- An informed mental health sector in which benchmarking is the norm, with each service having access to regular reports on its performance relative to similar services that can be used in a quality improvement cycle;
- The informed use of casemix to understand the role of provider variation in differences between agencies in costs and outcomes; and
- A health services research culture within Australia's leading academic institutions that supports the industry with publications that reflect practice and contribute to debate about the next steps forward.

The Australian Mental Health Outcomes and Classification Network (AMHOCN)

The Information Development Plans are premised on collaboration between the Australian Government and the State/Territory Governments, with each party taking individual roles as well as working together to develop a coherent national approach. The Australian Government's key role is to establish the national infrastructure to support the introduction, application and ongoing development of outcomes and casemix data. This involves establishing three Expert Groups (Adult, Child and Adolescent, and Older Persons) to advise on the implementation and use of outcomes and casemix information in mental health services. It also involves providing resources to support the training of the mental health workforce in the use of outcomes and casemix measures, and setting up arrangements to receive, process, analyse and report on the NOCC and NMDS data submitted by States/Territories.

The latter arrangements have been established by the Australian Government, under the banner 'Australian Mental Health Outcomes and Classification Network' (AMHOCN). AMHOCN is a consortium of three groups, and has been funded to provide national leadership in the development of outcomes and casemix concepts in mental health. It will undertake a work program with three components, each of which is the remit of one of the consortium members:

- A data management component (Strategic Data Pty Ltd, Victoria), responsible for:
 - A process of receipt and acknowledgement of NOCC data submitted by States/Territories;
 - Development of a data warehouse to store and aggregate the data, including processes for incorporating annual updates and periodic revisions;
 - Preparation of data validation routines, running those routines and reporting back to States/Territories on data quality issues;
 - Working collaboratively and directly with States/Territories to resolve identified data quality problems;
 - Building the component files that will comprise the analysis datasets, in consultations with the analysis and reporting component; and
 - A process to return the episode-based datasets to States/Territories to enable local analysis.
- An analysis and reporting component (The University of Queensland, Queensland), responsible for:
 - Reports and recommendations on data quality from the perspective of outcomes and casemix measurement development;
 - Standard reports for jurisdictions prepared at the organisational level, and stratified by peer group, that provide comparative data for benchmarking purposes;
 - A series of periodic national publications that present aggregate data and address priority issues in outcome and casemix measurement;
 - Publication of normative data for use by mental health services in interpreting individual outcome measures and benchmarking exercises;

- Reports on the outcome and casemix measurement suite regarding the performance of individual measures, and contributing to the further development of those and other measures; and
- Further development of a mental health casemix classification.
- A training and service development component (Institute of Psychiatry, New South Wales), responsible for:
 - Developing educational resources to support the work of States/Territories in building skills within the clinical workforce in the use of the various standardised measures that underpin the casemix and outcomes collection;
 - Increasing understanding about the application of outcome and casemix measures as tools that can both inform individual clinical practice and assist in quality improvement initiatives taken at the service level;
 - Stimulating service quality improvements (e.g., information sharing and peer group benchmarking);
 - Establishing mechanisms for skills development and transfer to support local analysis and application of NOCC data;
 - Organising workshops and forums to 'showcase' initiatives; and
 - Setting up and maintaining an Australian website on mental health outcome measurement.

The three components of AMHOCN were each contracted in late 2003, and first came together as a consortium in December of that year.

Stakeholder consultations

An immediate concern for AMHOCN was determining States/Territories' current status and future needs/plans with respect to NOCC and NMDS implementation. The specifics of the immediate workplans of the three components, and the overall workplan of AMHOCN as a whole, were dependent on this information.

With this purpose in mind, each State/Territory was invited to participate in a consultation with members of AMHOCN. The invitations were extended in December 2003, and the consultations took place in March and April 2004.

Structure of the current report

The remainder of this report describes the stakeholder consultations. Chapter 2 provides a description of the way in which the stakeholder consultations were conducted, and Chapter 3 outlines the findings that emerged from them. Chapter 4 makes recommendations for the future work of AMHOCN in the light of these findings.

Chapter 2: Conducting the stakeholder consultations

Purpose

The purpose of the stakeholder consultations was to develop a full understanding of the context within which AMHOCN will operate, in terms of the current status of NOCC implementation (including technical and other challenges regarding the capture and reporting of the NOCC data set) and in terms of expectations and plans regarding training and retraining of staff, the reporting and analysis of NOCC data (locally and nationally), and the application of these data.

To achieve this purpose, answers were sought to eight sets of questions, namely:

1. What is your current status with respect to the implementation of National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?
2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?
3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?
4. What systems do you have in place for training or retraining staff in the measures and data collection? What are your future plans?
5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?
6. In what ways could the national data most beneficially be used to augment State/Territory-level data in your jurisdiction?
7. How could the national training and service development component of AMHOCN best support your jurisdiction?
8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction that are innovators or champions in this area? What are your plans for the identification and support of innovators?

Organising the consultations

A letter introducing AMHOCN was sent from the Director of the Australian Government's Health Priorities and Suicide Prevention Branch to the Directors of Mental Health in each State/Territory on 12 December 2003. This was followed on 18 December 2003 by a letter from the Institute of Psychiatry, on behalf of AMHOCN, asking each Director of Mental Health to invite relevant parties to participate in a consultation in his/her State/Territory, and to nominate a contact person with whom AMHOCN could liaise to organise the consultation.

Arrangements regarding the agenda and the venue for the consultation in any given State/Territory were then made with the contact person.

The consultations took place between 19 March and 30 April 2004. Table 1 shows the date for each State/Territory.

Table 1: Stakeholder consultation dates

Date	State/Territory
19 March 2004	Queensland
29 March 2004	Victoria
30 March 2004	Tasmania
31 March 2004	South Australia
1-2 April 2004	Western Australia
15 April 2004	New South Wales
16 April 2004	Australian Capital Territory
30 April 2004	Northern Territory

Attendance at the consultations

As noted above, the intention was to consult with relevant stakeholders from each State/Territory. States/Territories were free to nominate whomever they wished, but some guidance was given in the original letter from AMHOCN, which advised that representation was sought from those in the best position to respond to the above questions. Specifically, the letter suggested that States/Territories might wish to include policy-makers and technical personnel from central mental health units and mainstream health information sections. It also advised that consumers and carer representation was desirable. Most States/Territories sent along representatives from all of these groups, and many also sent service managers, clinicians and individuals responsible for supporting the NOCC and NMDS collections at a site level, as well as members of the Expert Reference Groups.

In total, 123 individuals attended the stakeholder consultations. Table 2 provides a breakdown by State/Territory.

Table 2: Number of attendees at stakeholder consultations, by State/Territory

State/Territory	No. of Attendees
New South Wales	10
Victoria	21
Queensland	28
Western Australia	23
South Australia	17
Tasmania	6
Australian Capital Territory	6
Northern Territory	12

At least four, and sometimes five, members of the AMHOCN consortium were present at all consultations, providing representation from all three AMHOCN components.

Structure of the consultations

The majority of the consultations took place over a full day. The shortest consultation was half a day in length.

All of the consultations began with a brief presentation^a from the AMHOCN consortium, and elicited answers to the eight sets of questions. Within this overall structure, there was some variation, depending on the requirements of the given State/Territory. Some States/Territories chose to split the consultation in two, inviting policy makers, planners and clinicians to attend one

^a The presentation is available from the MH-NOCC website (www.mhnocc.org).

session and technical personnel to attend the other. Some States/Territories gave formal presentations responding to specific questions; others took a more informal approach. In some cases, the information presented at the consultations was supplemented by a written response to the questions.

Recording the consultations

The consultations were not taped, but were transcribed by a note-taker. The notes were combined with any other written material (e.g., formal responses and presentations), and written up as a draft response to the eight sets of questions by the given State/Territory. These responses were then sent back to the States/Territories for comment on their accuracy, and modified accordingly.

Data analysis

The formal responses were examined at a global level to identify major themes, within each question set. Individual responses were classified according to these themes.

Chapter 3: Key findings

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

There is considerable variability between States/Territories regarding the implementation of the NOCC and NMDS collections. All States/Territories have recognised that the implementation process involves a number of strategies and approaches: developing appropriate data collection systems; establishing the infrastructure (i.e., the human and physical resources); training clinicians and managers in the use of outcome measures; embedding outcome measurement in routine practice, and providing ongoing support, training and feedback to maintain the commitment of staff. However, States/Territories have differed in the emphasis that they have given to these strategies and approaches, in how far they have progressed with overall implementation, and in the extent of coverage.

All States/Territories have developed appropriate data collection systems, or are in the final stages of doing so (see 2, below). In some cases, this has involved 'starting from scratch', and in others it has required modifications to be made to existing systems. For example, the systems used in Queensland to capture admitted and non-admitted NMDS information – the Hospital Based Corporate Information System (HBCIS) and Client Event Services Application (CESA), respectively – did not have the functionality to incorporate outcome measures, so the Outcomes Information System (OIS) was developed to do so. By contrast, in the Australian Capital Territory, the Mental Health Assessment Generation and Information Collection System (MHAGIC), which was used by all community teams to collect non-admitted NMDS data, was modified to collect outcome data and extended to inpatient services.

States/Territories have differing levels of infrastructure to support the NOCC and NMDS collections. Human resources vary, with some States/Territories having a number of personnel deployed to train and support clinicians and managers (usually at an area or regional level), and others relying on one or two core individuals. So, for example, Queensland has Zonal Outcomes Co-ordinators and Mental Health Information Support Officers providing 'on the ground' support, whereas Tasmania has a small, centrally-located team performing the same function. Physical resources also vary, with some States/Territories having sophisticated systems of online data entry (e.g., the Australian Capital Territory), others depending on batch entry of paper-based forms (e.g., Tasmania), and still others relying on a combination of the two (e.g., New South Wales and South Australia).

All States/Territories have conducted extensive training in the use of outcome measures (and many in the use of the data collection systems that support routine outcome measurement), some using a direct approach to training all staff, others using a train-the-trainer approach, whereby expert trainers trained key staff (e.g., within teams/units) who in turn trained others, and others using a combination of the two (see 4, below). Well over 7,000 clinicians and managers across Australia have received direct training; still more have received subsequent training under the train-the-trainer model. Several States/Territories are now moving on to a second wave of training (again, see 4, below).

Since training, most States/Territories have 'rolled out' routine outcome measurement. Some will be reporting NOCC data for the first time in 2003-04, others have been reporting for several years. Datasets have been made available to AMHOCN by most States/Territories. It should be noted that the available datasets are not necessarily complete, with many not covering the full year, all settings (with community services generally having higher coverage than inpatient services), or all outcome measures (with clinician-rated measures typically being completed to a

greater extent than consumer-rated measures). Table 3 provides an indication of the NOCC data that had been made available to AMHOCN by May 2004.

Table 3: NOCC data available to AMHOCN as at May 2004, by State/Territory and year

State/Territory	Year
New South Wales	2001-02, 2002-03
Victoria	2000-01, 2001-02, 2002-03
Queensland	2002-03 (last four months only)
Western Australia	2002-03
South Australia	-
Tasmania	2001-02
Australian Capital Territory	-
Northern Territory	2002-03 (last six months only)

Beyond initial training and rollout, some States/Territories have considered how to sustain routine outcome measurement. There is recognition by these (and other) States/Territories that unless routine outcome measurement becomes embedded in the process of clinical care, it will not be seen as a priority by clinicians and managers. So, for example, in New South Wales outcome measurement has been embedded in a standard protocol, which involves triage, assessment, review and discharge. Specifically, a suite of clinical modules has been developed that includes standard measures, so that at each point in the care pathway outcome measures are considered part of the process of care (e.g., the collaborative care planning module involves the clinician and consumer, and includes alignment between the problems identified by the clinician-rated HoNOS and the consumer-rated K-10). All New South Wales Area Mental Health Services will have the same modules and forms, produced in the form of standard medical record stationery that fits in clinical files. The process of embedding outcome measurement within the clinical process of care is enhanced by providing clinical interpretations of given scores on particular measures.

Some States/Territories have also begun to consider how best to provide feedback to staff (see 5, below). Again, there is recognition that unless staff begin to see outcome measurement bear fruit in terms of clinical and management utility, the goodwill and momentum that have been achieved to date will wane. Feedback in the form of reports is required at a variety of levels. Some States/Territories have developed individual-level reports that allow clinicians to profile an individual consumer's scores on a range of outcome measures, either at a single point in time or over time. For example, in the Australian Capital Territory, MHAGIC produces an electronic management plan, similar to the New South Wales module described above, which incorporates areas that the clinician and consumer might want to address, given the consumer's profile on the outcome measures. Similarly, in Western Australia, HoNOS scores of greater than 2 on Items 1 (Overactive, aggressive, disruptive or agitated behaviour) and 2 (Non-accidental self injury) trigger a risk assessment, and an alert is registered on PSOLIS.

Other States/Territories are generating aggregate-level reports about compliance. For instance, Western Australia generates statewide compliance reports that are distributed to mental health services every six weeks, and the Office of Mental Health works with services that are experiencing difficulties with compliance to review the systems in place for monitoring the NOCC collection.

A few States/Territories have started producing some rudimentary, aggregate-level reports that provide information about groups of consumers under the care of a given clinician, team or service. Tasmania, for example, has produced monthly reports for its Southern Region, which include aggregate-level data on average HoNOS scores at admission, review and discharge. Some States/Territories have begun to consider how best to provide these reports to areas and services. New South Wales, for example, has conducted a project involving workshops in all area health services, using their own data to demonstrate the clinical and management utility of the information. A similar process has been undertaken in Queensland.

In most States/Territories, routine outcome measurement has been associated with benefits and risks. In terms of benefits, there is broad acceptance that outcome measurement can guide clinical care, can promote dialogue between consumers, carers and clinicians, and can assist managers in making planning and resource allocation decisions. The key risk, or challenge, has been overcoming resistance by some clinicians and managers who do not view outcome measurement as a priority. The feedback described above will be crucial to bring these people 'on board', and to sustain the support of those who are currently committed to routine outcome measurement.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

As noted at 1, above, all States/Territories have developed data collection systems for NOCC data, or modified existing systems to achieve this end. Some are part of existing systems, and others are stand-alone.

States/Territories differ in terms of the number of systems that are involved in the collection of NOCC and NMDS data. The simplest scenario is one where outcome measurement functionality has been added to an existing system for recording activity in community mental health settings. In most of these instances, the system has been extended to inpatient settings for the collection of outcome data, where it runs alongside a separate Patient Administration System (PAS) for the collection of inpatient activity data. This occurs in Victoria (via RAPID/CMI), Tasmania (via the Outcomes Assessment and Review System, or OARS), the Australian Capital Territory (via MHAGIC), and the Northern Territory (via the Community Care Information System, or CCIS). Other States rely on as many as four statewide systems to collect NOCC and NMDS information, sometimes with further degrees of complexity at an area level, or between metropolitan and country settings.

3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

The Northern Territory is exceptional in being the only jurisdiction with a Client Master Index that allocates a given consumer a unique identifier that allows him/her to be 'tracked' across community and inpatient services, and over time. This means that the same identifier applies to NOCC data and non-admitted and admitted NMDS data. In all other States/Territories, linking NOCC and admitted and non-admitted NMDS datasets is impeded by the lack of a unique identifier across systems (and sometimes across metropolitan/country regions, areas or even services). At best, linkage is only possible for parts of the data (most commonly NOCC and non-admitted NMDS data) and/or by conducting quite complex record linkage exercises. Western Australia's PSOLIS system has a unique identifier that will allow episodes of care in different services and over time to be attributed to the correct individual, but its 'roll out' will not be completed until the end of 2004. Several other States/Territories have plans to reconcile their identifier systems (e.g., via the Client Directory Project in Queensland and the Client Data Linkage Project in New South Wales), but this will not occur in the near future.

The record linkage problem is further compounded by the fact that many States/Territories encrypt identifiers before they submit data to the Australian Government or the Australian Institute of Health and Welfare. The encrypted identifiers may not be the same from year to year.

4. What systems do you have in place for training or retraining staff in the measures and data collection? What are your future plans?

As noted at 1, above, all States/Territories have implemented comprehensive training programs and, as a consequence, have trained substantial proportions of their respective mental health workforces in routine outcome measurement. Some used a direct approach, bringing in experts to train all staff, others adopted a train-the-trainer approach, and others have combined the two. The direct approach is seen as having the benefit of consistency, while the train-the-trainer approach is seen as fostering capacity building and being less labour intensive. Some States/Territories have considered accrediting trainers, so that the advantages of both approaches can be combined. Managers are also more commonly being recruited as trainers, as part of a move to secure their commitment in leading the change process. South Australia has been innovative here, building capacity by training staff as trainers through the Certificate 4 in Workplace Training and Assessment, and investing in training in content knowledge around the NOCC collection. In this way, South Australia has addressed some of the difficulties inherent in more standard train-the-trainer approaches.

Many States/Territories are now beginning to consider issues of ongoing training and support. High levels of staff turnover in some States/Territories mean that there are new staff who have not been trained, and lags between training and implementation in some jurisdictions have resulted in skills being lost. In addition, many States/Territories are recognising the need for a second wave of training that goes beyond how to use the outcome measures and focuses more on how to interpret the results of specific measures (at individual and aggregate levels).

Some States/Territories have implemented ongoing training strategies. Western Australia, for example, has begun refresher training. Tasmania has implemented a second round of training, focusing on the outcome measures that were not covered in the original training (i.e., the LSP-16 and the BASIS-32). Queensland has put in place an ongoing training program that emphasises sustainability, clinical utility and building capacity, and involves its Zonal Outcomes Co-ordinators modeling for clinicians how outcome data can be used in clinical management. Most other jurisdictions have plans in place to implement a second wave of training that focuses on the clinical and management utility of outcome measurement.

Novel, clinician-focused approaches, such as the use of vignettes and interactive case studies in Victoria and Western Australia, have underpinned the initial and ongoing training in many States/Territories. Training has also typically involved the development of resources (e.g., guides and glossaries for specific measures, consumer and carer brochures), many of which are located on individual State/Territory websites.

5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?

To date, analysis and reporting has been limited, as most States/Territories have concentrated their efforts on training staff and implementing routine outcome measurement (see 1, above). As noted, some States/Territories have generated individual-level reports, a smaller number have generated aggregate-level compliance reports, and a still smaller number have begun to generate aggregate-level, content-based reports that provide profiles of consumers grouped by clinician, team or service. Individuals and groups in many States/Territories are eagerly awaiting these developments, such as a network of MH-OAT and MHIDP coordinators in New South Wales, which meets regularly to discuss analysis and reporting issues.

A range of factors has hampered efforts at analysis and reporting. These include resource issues (e.g., lack of personnel and technological constraints), data quality, a lack of clarity about which reports will have greatest clinical and management utility, and the absence of relevant normative and/or benchmarking data.

There is acknowledgement that without appropriate and timely feedback in the form of relevant reports that shed light on clinical and management issues, the current momentum will falter and data quality and comprehensiveness will be jeopardised. The development of the specific content of given reports will need to be an iterative process, with clinicians and managers being given the opportunity to comment on early reports, and reports being modified accordingly, so that they become a valued part of clinical and management decision-making processes. There is also a recognition that clinicians and managers will require support to reflect on the meaning of reports.

6. In what ways could the national data most beneficially be used to augment State/Territory level data in your jurisdiction?

Universally, States/Territories see the national data as having the potential to assist the planning, resourcing and delivery of mental health services (e.g., answering questions about the cost-effectiveness of different services and treatment approaches, identifying areas of best practice, providing evidence on the burden of mental illness for particular population groups, and informing local safety and quality initiatives).

States/Territories are looking to AMHOCN to provide normative and benchmarking data (to allow comparisons between similar groups of consumers in peer groups of services, within and across jurisdictions) and key performance indicators. Such data would allow important clinical and management questions to be explored. Accurately defining peer groups of services is seen as crucial here, and the salient characteristics of given jurisdictions must be taken into account (e.g., size and remoteness). Timely dissemination of these referencing and contextualising data is vital. So too is the presentation by AMHOCN of messages that are consistent with those being provided at a jurisdictional level.

Some jurisdictions have also indicated that case complexity measures would be of considerable use. Specifically, the NOCC casemix data could be used to understand the role of provider variation in differences between services' costs and outcomes.

The episode-based dataset that AMHOCN will ideally create, which combines NOCC data and NMDS data, is seen as having immense value at a jurisdictional level by many States/Territories. Some have the capacity to integrate additional information (e.g., costing data) into this dataset once it is returned.

States/Territories are also keen to receive information on the psychometric properties of the outcome measures. For example, data on correlations between measures would be useful, particularly correlations describing the relationship between clinician-rated and consumer-rated measures.

Beyond these specific data needs, there is also a desire on the part of States/Territories to draw on the analysis and reporting expertise of AMHOCN. There are clearly economies of scale in sharing common reports, statistical syntax and approaches to study design (e.g., when making epidemiological use of the data).

7. How could the national training and service development component of AMHOCN best support your jurisdiction?

States/Territories are looking to AMHOCN for support in their ongoing training endeavours. Additional people to act as training resources would be helpful in some States/Territories; some suggested that it would be useful to be able to 'buy in' expert trainers from AMHOCN or other States/Territories. AMHOCN could also help by running national forums for trainers, and/or co-ordinate the attendance at train-the-trainer workshops in larger States/Territories by potential trainers from smaller jurisdictions. In addition, AMHOCN could take a lead role in developing national accreditation processes for trainers that complement related activities that are already underway in some States/Territories.

Many States/Territories have expressed the view that they would like to move towards 'best practice' training models. This has implications for AMHOON in terms of working collaboratively with States/Territories to evaluate different approaches (e.g., direct versus train-the-trainer methods), and to develop standardised packages that could be modified to suit the local context. Many jurisdictions have called for a consistent set of resources to support training (e.g., manuals, vignettes, consistent information about protocols etc). Resources are accumulating across States/Territories, and some sharing is already occurring, but there are inconsistencies and gaps. The work of AMHOON should go beyond assisting States/Territories to streamline their approach to training the existing workforce, and should involve the development of training curricula for the future mental health workforce (e.g., modules for graduate and post-graduate programs aimed at mental health professionals, including psychiatric registrars). AMHOON also has a responsibility to support consumers and carers through training.

There is also a role for AMHOON in disseminating reports and reference materials, promoting information-sharing between jurisdictions, and fostering debate about unresolved issues in routine outcome measurement. These activities might occur through national and local forums, networks, the MH-NOCC website etc.

In terms of content, AMHOON could assist by providing information about the use of some specific outcome measures (e.g., information on the SDQ is currently lacking). However, a consistent message from States/Territories is that the content of resources and training needs to go beyond information on the administration of specific measures to include advice on how to interpret, reflect on and use the data. AMHOON should contribute to training that emphasises reflective practice, in terms of interpreting outputs from given outcome measures and considering the clinical implications of given results (e.g., understanding what changes over time on given measures mean, what magnitude of change is clinically significant, what contributes to these changes, and what they suggest in terms of care planning). Awareness-raising and other forms of engagement in this regard will increase the commitment to routine outcome measurement on the part of clinicians and managers, and will promote its sustainability.

As with analysis and reporting, AMHOON must ensure that its training endeavours reinforce the directions already being taken in given States/Territories. So, for example, any resources developed by AMHOON's training and service development component should complement existing training materials, and should not conflict with them.

8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction that are innovators or champions in the area? What are your plans for the identification and support of innovators?

As noted at 5, above, the use of NOCC and NMDS information is in its early stages in most States/Territories. However, some individuals and services within given jurisdictions have either put the data to particular use or are planning to do so, either in the context of one-off local projects or in more routinely-embedded ways. Victoria, New South Wales, Western Australia and Queensland have shown leadership in this regard. Examples include:

- Consideration of the tools themselves, both in terms of their appropriateness and in terms of their psychometric properties (e.g., validity, reliability, capacity to measure change);
- Consideration of participation, compliance and data quality issues (e.g., identification of anomalous episodes of care, examination of factors that improve participation with outcome measurement);
- Efforts to reference local data against relevant comparative data (e.g., comparisons with MH-CASC data and normative data);
- Use of outcome data in clinical processes (e.g., routinely using outcome data to inform treatment/management plans and review processes, tying scores on given outcome measures to risk assessments, and comparing scores on clinician-rated measures with

- scores on consumer-rated measures to generate discussions between clinicians and consumers about the implications of divergent scores);
- Use of outcome and case complexity data to inform service planning considerations:
 - Within-service evaluations that consider issues such as whether given programs are appropriate to consumer profiles, and whether services should be restructured or shift their focus or priorities;
 - Across-service evaluations (e.g., between psychiatric disability support services and clinical services) that consider the relative case complexity and consumer outcomes of each; and
 - Economic evaluations and cost-of-illness studies.

To a large extent, local champions or innovators have been responsible for these efforts. There is wide recognition by States/Territories that such champions and innovators must be identified to provide leadership at all levels (executive directors, middle managers, team leaders and individual clinicians), and that once identified they must be nurtured. Some States/Territories have already put in place mechanisms to do this, such as New South Wales, which has fostered a network of 'data junkies' and other interested parties, and Western Australia, which specifically targets senior staff to attend two days of training that equips them to 'lead the change'.

Chapter 4: Discussion and recommendations

Summary of key findings, and implications for AMHOCN

There is considerable variability between States/Territories regarding the implementation of the NOCC and NMDS collections, in terms of systems, infrastructure, training, coverage, and analysis and reporting, all of which have implications for AMHOCN.

States/Territories differ in terms of the number of systems that are involved in the collection of NOCC and NMDS data, with some relying on as many as four statewide systems (sometimes with further degrees of complexity within the State/Territory). Some States/Territories have been able to expand existing systems to incorporate the NOCC data, whereas others have had to establish separate systems (some of which are not yet fully implemented). Linking NOCC and admitted and non-admitted NMDS datasets is impeded in most States/Territories by the lack of a unique identifier. With one exception, linkage is only possible for parts of the data (usually NOCC and non-admitted NMDS data) and/or by conducting quite complex record linkage tasks. Many States/Territories have plans to reconcile their identifier systems, but this will not occur in the near future. This has implications for AMHOCN, in terms of the potential to link outcome data and activity data for the same episode of care.

States/Territories have differing levels of infrastructure to support the NOCC and NMDS collections. Human resources vary, with some States/Territories having a number of personnel deployed to train and support clinicians and managers, and others relying on one or two core individuals. Physical resources also vary, with some States/Territories having sophisticated data collection systems with on-line data entry, and others depending on batch entry of paper-based forms.

All States/Territories have conducted extensive training in the use of outcome measures (and many in the use of data collection systems that support routine outcome measurement), some using a direct approach, others using a train-the-trainer approach, and still others using a combination of the two, building skills in training as well as the ability to train in NOCC. Many are now beginning to consider issues of ongoing training and support. In particular, they are recognising the need for a second phase of training that goes beyond how to use the outcome measures, and focuses more on how to interpret and reflect upon profiles of particular measures (at individual and aggregate levels). Consideration is also being given to the accreditation of trainers. The support of AMHOCN is seen as crucial here, in terms of providing training expertise, developing and disseminating resources, and sharing lessons between jurisdictions.

Having put in place appropriate systems and trained a significant proportion of the mental health workforce, States/Territories are now implementing routine outcome measurement. They vary in terms of their progress with implementation, and, consequently, in terms of coverage. Some will be reporting NOCC data for the first time in 2003-04, others have been reporting for several years. Within States/Territories, there is variability by setting (with community services generally having higher coverage than inpatient services) and by outcome measure (with clinician-rated measures being completed to a greater extent than consumer-rated measures). This has implications for AMHOCN, in terms of its ability to report on the national data.

States/Territories have made different degrees of progress in terms of analysis and reporting of data. Some have not yet reached the point where they have produced reports at any level. Others are generating individual-level reports that allow clinicians to consider given consumers' scores on particular outcome measures, either at a single point in time or over time. Others are generating aggregate-level reports about compliance. A few have started producing some rudimentary, aggregate-level reports that provide information about groups of consumers under the care of a given clinician, team or service. Clinicians and managers are keen for timely feedback at all levels. There is a recognition that, without this, the momentum and goodwill that

has been achieved to date will not be sustained. States/Territories are looking to AMHOCN for guidance about the structure of these reports, and for benchmarking and normative data. In addition, AMHOCN can support efforts to encourage reflection on these reports (e.g., training, awareness raising, and other forms of engagement), to increase the likelihood of their being used.

Recommendations

The following recommendations are made in the light of the findings from the consultations, and are designed to inform the 2004-05 workplans of AMHOCN's three components. The recommendations are made in the context of three guiding principles. Specifically, the work of AMHOCN should: (a) align with existing efforts of States/Territories; (b) be about ensuring sustainability, through building capacity; and (c) be transparent.

1. As a priority, AMHOCN should specify a framework for providing feedback to States/Territories in a manner that maximises its clinical and management utility. Specifically, feedback should take the form of reports that are relevant and useful at a range of levels (e.g., individual, team, service, jurisdiction). The precise nature of the reports should be informed by an iterative process, where data are provided back to States/Territories for comments, and subsequent reports are modified accordingly.
2. Reports from AMHOCN should provide reference points that allow individual scores to be compared with normative data, and service profiles to be benchmarked against those of their peers. For this to occur, the process of identifying peer groups of services must be given priority.
3. AMHOCN should begin providing feedback to States/Territories as soon as possible, recognising that the data are imperfect but that their quality and comprehensiveness will only improve if clinicians and managers find the feedback useful. The frequency of the feedback loop should be increased over time, to maximise the clinical and management utility of the data.
4. For now, AMHOCN's reports back to States/Territories should be based on NOCC data alone, in recognition of the difficulties in linking NOCC and NMDS data, and delays in receipt of NMDS data by Strategic Data from the Australian Institute of Health and Welfare. This has implications for defining episodes of care, and limits the extent to which immediate progress can be made on casemix classification refinement. It still provides scope, however, for much to be done regarding reporting outcome data in a manner that has clinical and management utility.
5. In parallel with the reporting of NOCC data, AMHOCN should focus its attention on the issue of linkages between NOCC and NMDS datasets – first broadly regarding unique identifiers, and then more specifically regarding what needs to occur at a State/Territory level for linkable data to be submitted.
6. AMHOCN should consolidate the existing State/Territory training efforts aimed at equipping the mental health workforce to complete routine outcome measures. Specifically, AMHOCN should develop and disseminate resources that fill particular gaps (e.g., information related to given outcome measures, such as the SDQ), and help States/Territories to streamline their training and re-training packages in a way that balances national consistency against the unique requirements of the local context.
7. AMHOCN should focus its training and service development efforts on developing the 'information literacy' of the mental health field. Specifically, it should foster the skills and knowledge required for interpreting and reflecting upon the meaning of outcome data (and later casemix data), at a range of levels. This will require a multi-faceted approach, tailored to

the needs of particular groups, and might include national and local forums, face-to-face visits to explain reports, and the development and dissemination of relevant resources.

8. AMHOCN should foster information-sharing at a range of levels. In particular, it should take advantage of its 'bird's eye view', identifying good ideas and approaches in given States/Territories and promoting them in other jurisdictions. It should also disseminate relevant materials, acting as a clearing house for resources and information.
9. AMHOCN should explore processes for accrediting trainers, ensuring that national accreditation is consistent with and complementary to any existing accreditation efforts at a jurisdictional level.
10. AMHOCN should engage, nurture and support clinical leaders (particularly psychiatrists), champions and innovators.

References

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2. Australian Institute of Health and Welfare, N.H.D.C., *National Health Data Dictionary, Version 12*. 2003, Australian Institute of Health and Welfare: Canberra.

Appendix 1: New South Wales consultation (15 April 2004)

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

Through its Mental Health Outcomes And Assessment Training (MH-OAT) Project, New South Wales has focused on embedding NOCC and the NMDS within the clinical care process, conducting comprehensive training, building a system for collection of activity and outcomes data (described at 2, below), and developing clinical modules in which outcome measurement is integral to the process of care.

The training employed the services of the New South Wales Institute of Psychiatry, and involved over 600 staff in the state's 17 Area Mental Health Services. Additional resources have been developed by the Centre for Mental Health, most of which can be found on the MH-OAT website (<http://www.mhcs.health.nsw.gov.au/policy/cmh/mhoat/>).

Outcome measurement has been embedded in a standard protocol since July 2001, which involves triage, assessment, review and discharge. Specifically, clinical modules have been developed that incorporate standard measures at each of these points in the care pathway, and ensure that the outcome measures are considered within the process of care. So, for example, collaborative care planning, which involves the clinician and the consumer, makes specific reference to the HoNOS. All Area Mental Health Services will have the same modules and forms produced by the New South Wales Government Printer, in the form of standard medical record stationery that fits in patient files. The process of embedding outcome measurement within the clinical process of care is enhanced by providing clinical interpretations of given scores on particular measures (on screen for clinicians who are directly entering data, and via a manual for those who are using paper-based forms).

In terms of risks, the biggest barrier is technology. The data collection systems that underpin the NOCC and NMDS collections (see 2, below) rely on data collection that has been paper-based in many Areas, at least until recently. The majority of Areas have now moved to direct clinician entry into a single database (which has decreased the early resistance to MH-OAT on the part of clinicians), but many still have a backlog of data on paper forms. Technology also creates a barrier in terms of feedback. Not only do the technologically-based delays to data entry, outlined above, impact on the timeliness of feedback, but technological issues (e.g. physical access to computers and login/password access), limit clinicians' and managers' access to feedback.

There is a recognition that feedback is crucial to maintaining the momentum of clinicians and managers, and therefore efforts are now beginning to turn to the production of routine and ad hoc reports (see 5, below). Such reports need to be available to answer questions at a statewide level, as well as at the Area, service team and individual clinician level. Demonstrating that the data have clinical and management utility is crucial.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

The systems available for the collection/capture/storage of NOCC and NMDS data have been developed and refined through the Mental Health Information Development Project (MHIDP).

For inpatient settings, admitted NMDS data are collected via three systems: CERNER and ISOFT (both of which are managed by external vendors), and some in-house arrangements, such as HOSPAS. The latter two will not be changed to collect outcome measurements in the near future, but there is an intention to include a data collection function for outcome measurements within CERNER.

In ambulatory settings, the non-admitted NMDS data collection is known as the Mental Health Ambulatory Data Collection (MH-AMB). These data are collected via SCI MH-OAT (or a similar system known as FISCH) in all Areas. The lowest unit of aggregation here is the Area Mental Health Service, because almost all units within areas are general, rather than specific, in terms of function. The Mental Health Outcomes and Assessment Statistics (MH-OAT) data collection also occurs via these systems. SCI MH-OAT and FISCH have become embedded because they represent required data collection by NSW Health. They collect additional information over and above that which is required nationally by the non-admitted NMDS and NOCC, and therefore provide an even richer data source. Ultimately, SCI MH-OAT and FISCH will be replaced by CHIME, which is soon to undergo an Area-wide, one-year trial in the Hunter. Through CHIME, mental health will eventually be linked in to the mainstream data collection systems of NSW Health.

At an Area level, data from all of the above sources are collated in local Health Information Exchange (HIE) data warehouses. Data from the Area HIEs feed into a statewide HIE, maintained by NSW Health's Information Division. Various checks for validity and logical consistency occur at both Area and statewide levels. The admitted NMDS data are handled by the Information Division and forwarded to the Australian Institute of Health and Welfare (AIHW). The non-admitted NMDS data and NOCC data are handled by the Centre for Mental Health and forwarded to the AIHW and the Australian Government, respectively. The HIE is where inpatient and ambulatory NOCC and NMDS data 'meet' for the first time, and it is here that potential linkage could occur.

3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

Unique patient identifiers, and consequently the capacity to link NOCC and admitted and non-admitted NMDS data, vary by Area Health Service. The Hunter, Illawarra and Central Sydney are examples of Area Health Services where the identifier is unique, but most other Areas have more complex arrangements. In general, linkage is better where the mental health system draws its identifiers from some larger system. Identifiers for clinicians are standardised, however, creating the capacity to look at clinician activity across sites.

Efforts are being made to rationalise patient identifiers (e.g., new inpatient PAS systems are starting to overcome some of the issues with identifiers), and there is an increasing amount of linkage between datasets (clinical and administrative), but this will take time. These efforts are occurring within the mainstream health system, and are not exclusive to the mental health sector.

Although linkage across Areas (and services within Areas) is less than optimal, inpatient and ambulatory patient identifiers are the same over time (and encryption is the same over time). At present, names are included on inpatient datasets but not on ambulatory datasets, although this will change in July 2004. Ultimately, the potential to link data will be available, but this potential has not yet been realised.

The Client Data Linkage Project was an attempt to develop a unique statewide patient identifier, and mental health acted as a pilot in this project. The idea was that Area-based identifiers were linked to a unique statewide identifier in all Areas that had a unique identifier, and that these would then be linked by an overarching, manual matching process. The reconciliation process proved unmanageable, however, and there were concerns that duplicates remained. Instead,

attempts are now being made to match identifiers from different systems that feed to HIE wherever possible, as described above.

4. What systems do you have in place for training or retraining staff in the measures and data collection? What are your future plans?

As noted at 1, above, training to date has involved the New South Wales Institute of Psychiatry. Additional resources for ongoing use have been developed by the Centre for Mental Health.

5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?

New South Wales has a Datamart, which incorporates data from the HIE and can either be used directly or through a more sophisticated tool like HOIST (a SAS-based data warehouse). This creates the potential for a number of data distribution channels, as ready-made macros could be used to analyse data from given Areas, services or teams.

In addition, there is a corporate reporting tool known as Business Objects (BO) that draws on the Datamart. HOIST can be viewed as akin to a research and development stage that precedes ongoing investment in BO. As part of its COPO bid, New South Wales is intending to build a suite of standard reports, with the assistance of external contractors. These reports would be distributable via BO, delivered through web-based intranet services. BO is object-oriented, so if a measure is defined in a given way, it is inherited by all reports at all levels. It is not designed for detailed statistical analysis, but rather to provide reports in an easy way and at a range of different levels. These levels range from the Area Mental Health Service level, right down to the individual clinician level. Reports can be accessed at all levels by relevant parties, providing they had a browser or email and the appropriate password information. In practice, access to reports is variable, depending on issues like access to computers with the requisite communication capacity. The reports have a revision date, and it is possible to monitor whether given reports are being accessed. The turn-around time for new reports is variable, and depends on their complexity. The majority of the current work around BO involves defining reports that makes sense, considering issues such as layouts, contracts and the underlying Datamart.

The Mental Health Quality, Information and Clinical Systems (MH-QICS) Unit, which should be established by 1 July 2004, will have an important role in analysis and reporting. MH-QICS is funded by the Centre for Mental Health, and will be based at the Northern Sydney Area Mental Health Service. It will have a number of functions, including formulating policy related to quality, developing benchmarks relating to clinical indicators, refining clinical documentation, and building systems to promote access to care (e.g., developing rules regarding how the Area Mental Health Services with no inpatient units access the services of inpatient units in other Area Mental Health Services, and monitoring this access). It will have a clinical focus, but will draw on technical expertise. Its role will be broader than the MH-OAT initiative, but there will be clear overlaps, in that it will take data from HOIST and begin to close the feedback loop, providing salient, service-relevant information back to clinicians and managers. Over and above this, it will work with clinicians to develop trusting relationships that promote the adoption of best practice. MH-QICS will have 12 FTE Centre for Mental Health-funded staff (the Director, four staff involved in direct networking and liaison with Areas, three involved in the information development project around CHIME, and four involved with routine outcome measurement). New South Wales's COPO bid also includes a request for funding to support a biostatistics trainee and two graduates, who would be based in and supervised by the Epidemiology Branch, but would be employed by and conduct analyses on behalf of MH-QICS. This would assist the analysis capacity of MH-QICS.

Area Mental Health Services also have some local analysis capacity, because all Area Health Services have Population Health Units and all have access to HOIST. Some local analysis has occurred by keen HOIST users, but, to date, this has been limited by the fact that data have not been available in HOIST in a user-friendly form, and by the fact that different Area Health Services use different systems. Those who have made rudimentary use of HOIST data at an

Area level are now eager to conduct more complex analyses, and in particular to benchmark their services against their peers. MH-QICS will have a role here, in particular in defining peer groups and fostering networks between like services.

Much of the Area-level analysis has been led by an informal meeting of MH-OAT and MHIDP coordinators, who are primarily psychologists with an interest in analysing data to provide feedback to their own Area. This, however, is reliant on the interest of individuals within given Areas (e.g., Illawarra, Northern Sydney and Central Sydney), and is not a defined function. People with the required skills for data analysis tend to reside in public health units, but these people do not necessarily have content knowledge about mental health. Conversely, those with an understanding of mental health issues are not necessarily equipped to analyse data or even to understand reports. There is a need to improve the linkages between these parties.

6. In what ways could the national data most beneficially be used to augment state/territory level data in your jurisdiction?

The national data from AMHOCN could most beneficially augment state-level data by presenting a consistent message. This message should recognise the progress of New South Wales to date, the directions it has taken, and the decisions it has made. Whatever national data are presented, they should not provide conflicting messages. For this to occur, there needs to be close collaboration between AMHOCN and New South Wales.

In terms of content, the most useful data that AMHOCN could present would provide reference points – e.g., benchmarks, normative data and key performance indicators. This could enhance the management and clinical utility of the local-level data, by providing points for comparison. Some basic quality reports would also be desirable.

Ideally, these data should be provided in a series of reports, the specific nature of which should be debated. This requires an iterative process, whereby examples of reports are shown to states/territories (who in turn provide them to Areas and services), reactions are gauged, and reports are modified accordingly.

In addition to these reports, AMHOCN could assist New South Wales by providing ‘episodised’ data back for incorporation into HOIST, and by informing some of the specific analyses to be performed using HOIST. This would allow for more refined and complex analyses to occur at the state, Area and service levels. Likewise, AMHOCN could assist with decisions regarding the specific content of routine reports to be produced by BO.

7. How could the national training and service development component of AMHOCN best support your jurisdiction?

Just as the AMHOCN’s analysis and reporting component will best support New South Wales if it provides consistent messages about the utility of NOCC and NMDS data, the training and service development component will be of most use if it reinforces the directions already being taken by New South Wales. So, for example, any resources developed by the training and service development component should complement existing manuals and training packages, and should not conflict with them.

Specific resources that would be useful include widely-disseminated materials relating to the above national benchmarking, normative and performance indicator reference data, and related to the clinical interpretation of instruments. Dissemination channels might include the MH-NOCC website, as well as direct face-to-face sessions that slot into current cycles of events (e.g., regular meetings of MH-OAT and MHIDP personnel).

The national training and service development component of AMHOCN should also have a role in fostering debate about unresolved issues in routine outcome measurement. For example:

- peer groups of services need to be defined (in New South Wales, the unit structure from the National Survey of Mental Health Services would not yield meaningful data);
- the way to present scores on given measures needs to be considered;
- what constitutes a clinically significant change on a given measure needs to be clarified;
- the NOCC protocol regarding the timing of outcome measurement requires further exploration;
- the question of which specific measures to use should be re-visited; and
- issues about the ability of given casemix classification systems to predict resource use should be further examined.

8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction that are innovators or champions in the area? What are your plans for the identification and support of innovators?

As noted at 5, above, the use of the NOCC and NMDS information is in its early stages. Locally, most analyses have been fairly rudimentary, with no comparison point. There are examples of innovation in several Area Mental Health Services, however. Many of which further the overall aim of embedding the use of routine outcome measurement within the process of clinical care. These include:

- an analysis by Midwest Area Mental Health Service which referenced local data against the original Mental Health Classification and Service Costs (MH-CASC) Project data;
- an analysis of pre- and post-care K10 scores in Midwest Area Mental Health Service;
- efforts to reference local LSP-16 against norms in Northern Sydney Area Mental Health Service;
- the development of locally-relevant clinical protocols for the SDQ in Northern Sydney Area Mental Health Service and ;
- an analysis of quality and compliance in Western Sydney Area Mental Health Service, identifying anomalous episodes of care;
- the routine use of HoNOS profiles in clinical reviews in Wagga and the Greater Murray Area Mental Health Services;

In addition, the New South Wales Community Advisory Group (NSWCAG) has been very active in promoting a consumer perspective in the activities associated with routine outcome measurement. NSWCAG has taken the lead on the Consumer Perceptions and Experiences of Service project, aimed at identifying a tool to obtain feedback from consumers and designing a process to report on the data and to monitor services' use of the tool. NSWCAG has also developed a consumer-to-consumer training package.

Table 4: Consultation attendees – New South Wales

Name	Position/organisation
BEARD, Frank	A/Manager, Surveillance Methods, Centre for Epidemiology and Research
MA, Janet	MH-OAT, Centre for Mental Health
MANNES, Trish	Public Health Officer
MARCH, Debra	Project Manager, MH HIE, Centre for Mental Health
McGLOONE, Kieron	Mental Health Consultant, Centre for Mental Health
MUIR, Carolyn	Principal Information Officer, Centre for Mental Health
RAPHAEL, Beverley	Director, Centre for Mental Health
SARA, Grant	Director, Mental Health Quality, Information and Clinical Systems (MH-QICS) Unit, Centre for Mental Health
STEWART, Gavin	Manager, Evaluation, Centre for Mental Health
TRIDGELL, Paul	Director, Health Systems Performance

Appendix 2: Victorian consultation (29 March 2004)

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

In Victoria, the implementation of NOCC involved an initial pilot in four Round 1 services in 2000/2001, and then a broader roll-out to the rest of the specialist mental health sector. Victoria is now at the end of its implementation process, and the first year of data incorporating the entire specialist mental health sector will be calendar year 2004. Routine outcome measurement has just begun in the non-government sector, where it is currently restricted to the collection of consumer self-rated measures. Roll-out of consumer self-rated measures in this sector is expected to occur within the next 18 months.

Underpinning implementation in Victorian clinical services is a train-the-trainer approach. This was adopted with a view to building local capacity, in recognition of the fact that there is considerable staff movement within mental health services. In total, 700 individuals have been trained as trainers, with a further 6,000 clinicians trained locally.

Implementation has involved a relatively de-centralised model, whereby the Mental Health Branch has provided \$3m for information technology support, project officers, backfill etc, and different Area Mental Health Services have adopted different implementation models. The Area Mental Health Services have engaged at different levels, with services allocating responsibility for outcome measurement, embedding outcomes training into routine training programs, and developing locally-specific resource manuals to supplement statewide resources developed by the Mental Health Branch.

The implementation process has involved wide consultation and information-sharing, with visits to all implementation sites to understand local infrastructure, systems and processes. A statewide reference group was established early in the implementation process, and included sector, consumer and carer representation and informed the 'roll out'. Local reference groups (also often with consumer and carer representation) were involved, and each site had a local point of contact. Key individuals have been promoting routine outcome measurement through avenues beyond training forums. A website was developed in November 2002, and has since been updated weekly. Other resources include a comprehensive trainers' manual, a clinicians' reference guide, and consumer brochures.

Initially, there was some resistance to the implementation of routine outcome measurement. Consumers feared that it had a 'Big Brother' element, and clinicians and managers equated it with casemix and funding cuts. There has been a strong focus in the roll-out on the local utility of outcome measurement, and many consumers, clinicians and managers now have the sense that it has potential as a clinical and management tool. Consumers appreciate the fact that their own experience has been recognized (e.g., through the self-rated measures) and believe that outcome measurement can give them a voice. Clinicians and managers now see that outcome measurement can inform clinical practice (e.g., the allocation of cases in a case management system) and empower agencies in seeking funding. There is keen anticipation in the mental health sector about what the outcome data will show. There is also an awareness on the part of the Mental Health Branch that the interest of the sector needs to be fostered and maintained. The challenge in the next phase will be demonstrating that outcome measurement can inform questions of clinical and management utility, and maintaining the momentum.

Having said this, there are still pockets of resistance, and issues to be resolved. An overarching, broad issue is the need to ensure that outcome measurement promotes dialogue between

consumers, carers, clinicians and managers. Another is the continued monitoring of outcome measurement, to ensure ongoing reliability (e.g., accreditation of trainers has been discussed). More specific issues relate to the instruments themselves. For example, many clinicians regard the LSP-16 as an inappropriate measure for older people, particularly those who are in residential care who have many tasks performed for them. Likewise, some consumers are concerned about the BASIS-32, anecdotally describing it as 'insulting', 'bearing little relationship to reality' and 'not consistent with a holistic approach'. The importance of carer input has also been highlighted, and the forthcoming introduction of a carer measurement instrument will be welcomed.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

Collection of NOCC and NMDS data occurs via two systems:

- Activity data for the admitted patient collection of the NMDS are collected from the general hospital information system (VAED) and reported to the AIHW. Prior to submission to the AIHW, forensic data from the CMI/ODS is added to the hospital data for inclusion in the NMDS.
- Activity data for the non-admitted patient collection of the NMDS are collected via a mental health information system known as CMI/ODS, as are NOCC data. These are reported to the AIHW and the Australian Government, respectively. CMI/ODS incorporates a statewide ID, which allows patients to be tracked across services and over time, and integrates activity data and NOCC data collected in the community. CMI/ODS also collects admitted patient activity data, but there are problems aligning these data with the official admitted patient collection of the NMDS (see below).

Several points should be noted about these two systems. The first relates to CMI/ODS only, and concerns the notion of an episode, which differs slightly from that in other jurisdictions. CMI/ODS incorporates some key concepts related to issues of episode definition. In particular, episodes are related to periods of case management, or service components within case management. This differs from the NOCC protocol.

The second relates to the potential for linking data from the general hospital information system and CMI/ODS. Because the statewide mental health ID has not to date been incorporated into the general hospital information system, there are problems 'marrying' the admitted patient collection of the NMDS and NOCC data for community patients. At present, inpatient activity data are double-entered into the general hospital information system and into CMI/ODS (the exception is forensic inpatient services, which do not contribute to the admitted patient collection, and only record inpatient activity data via CMI/ODS). There are difficulties reconciling the two datasets because service types are identified differently, leading to problems with episode definition (e.g., in CMI/ODS an admission to a mainstream acute ward and an admission to a specialist acute ward would be counted as two episodes, whereas in the admitted patient dataset it would only be counted as one).

There are plans to incorporate the statewide ID into the general hospital system from 1 July 2004 and align service, program and activity types, but for 2003-2004 data there is no way of linking inpatient outcomes and activity data. For 2003-2004 data, it is not possible to link the NOCC data to the admitted patient collection of the NMDS without building statistical linkage keys, so there may be advantages in considering the admitted patient data from CMI/ODS in isolation. Although the general hospital system is a mature system, and is strong in terms of data quality (e.g., diagnosis is more consistently recorded here than in CMI/ODS), it does not include all of the service and activity concepts required for episode building. CMI/ODS has more comprehensive sub-centre codes that allow individuals to be 'located' more accurately.

3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

As noted above, Victoria has a statewide unique mental health identifier that allows patients to be tracked across community services and over time, but has problems regarding linkage to the admitted patient collection of the NMDS.

This unique identifier is encrypted, and the resultant encrypted number may be different over time. However, there is potential to track backwards and link people over time.

4. What systems do you have in place for training or retraining staff in the measures and data collection? What are your future plans?

Training in outcome measurement will form part of a broader training strategy in mental health, and, as noted, 700 individuals have been trained as trainers. An electronic survey has recently been conducted to determine how effective the training methodology and process has been.

Many resources have been developed, both centrally and at the Area Mental Health Service level, which can support the trainers in ongoing training activities. These include training manuals, and adult vignette videos.

5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?

To date, central analysis and reporting has been limited to questions of data compliance. Specifically, reports considering overall ratings and ratings by sub-centre have been provided back to Area Mental Health Services, in an effort to provide feedback about how the implementation is going and where there are gaps. The reports indicate that outcomes data is coming in from all Area Mental Health Services, but not necessarily from all components within them. At a rough estimate, 85% of sub-centres are actively collecting and supplying outcomes data. It is anticipated that the remainder will come on line before the end of the financial year.

At a local level, routine reports can be generated for individual consumers (e.g., profiling their progress on given measures over time). Clinicians (and consumers) have been using these and making suggestions for their improvement. For example, the reporting tool does not currently allow team leaders and managers to track compliance with the local outcome measurement protocol.

Aggregate level routine reports are also available, but these have not been used much to date as there has not been sufficient data available. There is a recognition that aggregate-level reporting needs to be embedded in the business process, in the context of performance measurement and benchmarking, for it to be maximally useful. There is also acknowledgement that the capacity to use this information to its fullest extent is yet to be developed. The Department has a standard method of reporting data to services which incorporates comparisons from identified peer services, rural, metropolitan, and total state averages. Outcome measurement reporting will be integrated into this framework.

As noted, feedback to consumers, clinicians and managers is seen as crucial in maintaining their commitment and improving compliance, and there is a recognition that there are differences in terms of information demands, depending on the stage of implementation. Those who have only relatively recently become involved in collecting outcome data are requesting individual-level consumer profiles, whereas those who have been involved in the initiative for longer are now demanding more complex reports (e.g., benchmarking information for different consumer groups at different times, dynamic information that can drive clinical management plans etc). Again, it is

stressed that whatever the level of information need, the data must be made available quickly for them to have clinical or management utility. This requires an iterative data management, analysis and reporting strategy that balances data quality against speed of output.

6. In what ways could the national data most beneficially be used to augment state/territory level data in your jurisdiction?

There is a need for normative or benchmarking data, against which scores for individual consumers in given settings can be referenced and contextualised.

Beyond such specific data needs, there is also a desire to draw on the analysis and reporting expertise of AMHOCN. There are clearly economies of scale in sharing common reports, statistical syntax and approaches to study design (e.g., when making epidemiological use of the data).

Now is a critical time for Victorian mental health services, as the majority will be contributing their first complete set of data to the 2003/2004 collection. If AMHOCN can assist at this crucial stage with reference data and analysis expertise, clinicians and managers are more likely to view routine outcome measurement as a worthwhile exercise.

7. How could the national training and service development component of AMHOCN best support your jurisdiction?

There are a number of potential roles for the training and service development component of AMHOCN. Firstly, assistance in the development and re-development of resources would be valued. For example, although Victoria has prepared video vignettes for adult outcome measures, no child and adolescent or older person equivalents exist, and the adult ones require updating because the original Victorian protocol has been superseded by the NOCC protocol. Likewise, resources that support clinicians to use measures about which they are most tentative would be useful (e.g., role play-based resources to assist clinicians provide explanations of self-rating measures to consumers). Any development or re-development of resources should be mindful, however, of the fact that the NOCC collection is viewed as a minimum, and some individual localities are collecting additional information.

Secondly, state-based 'best practice' forums could be supported by AMHOCN. The national NOCC forums were regarded as useful, but limited because of the small number of individuals who were able to attend. State-based forums would have the advantage of greater attendance, and would set the scene for future networking between individuals facing similar issues in different services.

Thirdly, AMHOCN could have a role in information-sharing, especially via the NOCC website. In particular, consistent information about protocols (e.g., standard ways of approaching the instruments), and information promoting the clinical utility of outcome measurement would be valued (e.g., modeling ways in which outcome information could be used in clinical care pathways).

Fourthly, AMHOCN could contribute to training that emphasizes reflective practice, in terms of interpreting outputs from given outcome measures and considering the clinical implications of given results (e.g., understanding what changes over time on given measures mean, what magnitude of change is clinically significant, what contributes to these changes, and what they suggest in terms of care planning). Much of the training to date has, quite appropriately, focused on the technicalities of the outcome measurement instruments, but there is now a need for training that emphasises the interpretation of data.

Fifthly, AMHOCN would be viewed as having a major role were changes to be made to the range of instruments or the NOCC protocol.

Sixthly, given that the Institute of Psychiatry is the auspice body for the training component of AMHOCN, it was suggested that it might address the issue of the engagement of psychiatrists in encouraging a climate of reflective practice informed by consumer outcome data.

Finally, AMHOCN could have an independent role in supporting consumers and carers through training. Specifically, the provision of education for consumers and carers that assists them to make informed choices about whether they participate or not would be valuable. As with the training for clinicians, consumer and carer education should also equip them to request particular types of feedback and to interpret information in context.

**8. How has your jurisdiction made use of the NOCC and NMDS information?
Are there particular individuals or services within your jurisdiction that are innovators or champions in the area? What are your plans for the identification and support of innovators?**

Various individuals, services and Area Mental Health Services have gone beyond routine reports described above, to use the data in specific ways. Others are not quite at this stage yet, but are working up project proposals. Examples of existing and future endeavours include:

- Consideration of the tools themselves, both in terms of their appropriateness and in terms of their psychometric properties (e.g., validity, reliability, capacity to measure change);
- Examination of factors that improve participation with outcome measurement (e.g., does feedback to clinicians improve compliance?);
- Within-service evaluations that consider issues such as whether given programs are appropriate to the consumer profiles, and whether services should be restructured or shift their focus or priorities;
- Across-service evaluations (e.g., between psychiatric disability support services and clinical services) that consider the relative case complexity and consumer outcomes of each; and
- Economic evaluations and cost-of-illness studies.

Table 5: Consultation attendees – Victoria

Name	Position/organisation
BARELLI, Phil	Senior Project Manager, Funding and Performance, Service Monitoring and Review Unit, Mental Health Branch, Department of Human Services
BOLT, Paul	Service Manager, Southern Health Adult Mental Health Service
BRANN, Peter	Eastern Health Child and Adolescent Mental Health Service
BUBNIC, Maria	Senior Project Manager, Quality, Service Monitoring and Review Unit, Mental Health Branch, Department of Human Services
CALLALY, Tom	Clinical Director, Community and Mental Health
CARTER, Kevin	Project Manager, Policy and Analysis Unit, Mental Health Branch, Department of Human Services
CLANCY, Deanna	Senior Clinical Advisor, Office of the Chief Psychiatrist, Department of Human Services
COLLINS, Isabel	Director, VMIAC
CURRAN, Damien	Manager, Mental Health Applications, Office of Health Information Systems, Department of Human Services
EASTON, Joy	Senior Project Manager, Service Monitoring and Review Unit, Mental Health Branch, Department of Human Services
GEORGE, Kuravilla	Director, Aged Mental Health, Eastern Health; Deputy Chief Psychiatrist
GILL, Lisa	Service Development Manager, St Vincent's Mental Health
GOH, Joyce	Manager, Planning and Quality, North Western Health, Melbourne Health
HALLAHAN, Alison	Manager, Service Monitoring and Review, Mental Health Branch, Department of Human Services
ROBERTSON, Jenny	Carer, Association for the Relatives and Friends of the Emotionally and Mentally Ill
SALO, Bob	Clinical Director, Royal Children's Hospital Mental Health Service
SPILLANE, Veronica	Project Manager, Outcome Measurement, Service Monitoring and Review Unit, Mental Health Branch, Department of Human Services
TRAUER, Tom	St Vincent's Hospital; Melbourne University; Monash University
TRIGLIA, Rita	Project Officer, Performance Reporting and Analysis, Department of Human Services
VAN HOEYDONCK, Gilbert	Senior Policy Advisor, Outcome Measurement, Service Monitoring and Review Unit, Mental Health Branch, Department of Human Services
WALKER, Karen	Senior Health Information Management Advisor, Health Data Systems and Standards, Department of Human Services

Appendix 3: Queensland consultation (19 March 2004)

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

In 2003, NOCC (known as the 'Outcomes Initiative' in Queensland) was implemented across all public sector mental health sites in the state. This involved training approximately 3,000 clinicians, and then 'going live'. NOCC data are now being collected from all service sites in Queensland's 36 districts.

The Outcomes Initiative has had various resource implications. During 2003, 'on the ground' support was provided by a Training Team, Zonal Outcomes Teams (ZOTs), led by Zonal Outcomes Co-ordinators (ZOCs), and Mental Health Information Support Officers (MHISOs). Three positions in corporate office, within the Systems and Outcomes Team, have been crucial for developing, implementing and marketing the initiative. Maintaining the momentum, and continuing to provide support at the district and service levels (e.g., through retraining), is seen as vital to the ongoing success of the initiative.

Considerable effort has been put into determining the comprehensiveness of the current outcomes data collection. Since December 2003, 'Outcomes Participation' reports have been compiled, which provide feedback to Zonal Outcomes Teams. These reports document the proportions of episodes at a service or district level that have beginning-of-episode and/or end-of-episode outcomes data recorded. They show a considerable range (0%-92% beginning-of-episode participation; 0-100% end-of-episode participation), with the lower participation tending to occur at smaller sites. To date, the 'Outcomes Participation' reports have been labour intensive to produce (involving manual checking of NOCC data against NMDS-defined episodes) and have been relatively simple in nature. There are plans, however, to develop centrally-generated, district level reports, and to introduce additional detail about data quality (e.g., participation on consumer self-administered outcome measures as well as clinician-administered measures; extent of 'missing' or 'not stated' responses).

Communication and consultation efforts have also been paramount. To date, these have focused on the Outcomes Initiative and targeted clinical service providers as the key individuals providing inputs to and seeking outputs from the system. Consumers and carers have been engaged at a state level, and two projects have been funded focusing on the needs of Indigenous consumers and consumers from culturally diverse backgrounds. Current and future plans include a focus on the broader information agenda, and tailored strategies to engage all key stakeholders. There is a particular emphasis on enhancing the capacity of districts to advise on program development, set the overarching framework, and have a role in governance. Developing and/or improving links with corporate stakeholders is also emphasised, as is generating comprehensive strategies for engaging consumers and carers at the local level.

Queensland has experienced some infrastructure issues in implementing its Outcomes Initiative. Specifically, bandwidth issues and issues related to clinician access to computers have been identified at certain sites across the state (although the latter has not been found to be related to participation). In addition, clinicians may have to use up to four systems when entering data (see below), each with a different login name and password (a project known as the Single Sign-On Project may address this). Practical issues, such as systems 'timing out' and passwords expiring have also caused frustration.

The benefits of the initiative are manifold:

- NOCC training has been completed and is highly regarded;

- The NOCC data collection system (OIS, see below) is user friendly, timely, and provides immediate clinical feedback;
- The communication strategy supported the implementation of NOCC;
- Success with the initial NOCC implementation has given the information agenda credibility;
- Residual funding has supported the transition of strategies and key staff to the next phase of implementation; and
- There is increasing acceptance by clinicians of the use of computers to support clinical work.

Nonetheless, there are some acknowledged risks:

- Failure to consolidate district strategies for maintaining a skilled workforce;
- Inability of enhancements to the NOCC data collection system (OIS, see below) to keep pace with demands by stakeholders for access to data;
- Failure to maintain credibility with key stakeholders and maintain the momentum;
- Delay in meeting new demands to demonstrate the utility of measures in care planning and clinical treatment;
- Inability to persuade resistors to support information development;
- Ongoing delays in developing new information systems infrastructure to meet requirements (see below); and
- Limited state investment in recurrent costs associated with information management.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

In Queensland, public mental health data is collected via a four separate information systems:

- **HBCIS (Hospital Based Corporate Information System):** This is the patient management system that has been operational in all inpatient facilities in Queensland since 1994. It records patient separations and patient days (or occupied bed days) occurring in public hospitals. These data constitute the Admitted Patients Collection of the NMDS. There are some issues about consistency (e.g., how different districts record leave), which are currently on the policy agenda. HBCIS does not record any mental health service activity/contacts, clinical interventions; nor does it allow for the collection of inpatient outcomes information. HBCIS unit record numbers (HBCIS UR numbers) are unique to the facility, so consumers may have multiple HBCIS unit record numbers. HBCIS does not allow for the transfer of information to CESA, OIS or MHAIS (see below).
- **CESA (Client Event Services Application):** This system has been in place since the mid-1990s, and records mental health activity data (i.e., service contacts, or 'provisions of service') for both inpatient and community settings. CESA comprises 19 separate, unlinked databases, located centrally. Each database has its own patient identifier (known as the CESA Oracle ID number), and consumers may have multiple identifiers. Community data are reported to the Australian Institute of Health and Welfare as the Community Mental Health Collection of the NMDS, after going through an iterative validation process whereby data are sent to the central system, extracted, analysed, sent back to districts, re-extracted, re-analysed and then sent to the Australian Institute of Health and Welfare. In 2002, all further development of CESA was ceased, and the relationship with the developer was severed. Consequently, it is not possible to make further modifications to CESA. Significant ongoing resources are, however, being expended to standardise the entry of data into CESA (e.g., standardising how 'provisions of service' are defined and entered). CESA is currently stable, and data corruption issues related to the entry of diagnosis have been resolved. It is unclear how long CESA will remain, although it is unlikely to be replaced within the next two years. OIS and MHAIS

(see below) were developed as interim solutions until an integrated replacement for CESA could be developed and implemented.

- **OIS (Outcomes Information System):** As CESA could not be enhanced to include the functionality required to collect NOCC data, OIS was developed for this purpose in early 2003. It was specifically developed for use as a clinical tool, with an emphasis on clinician data entry. It is deployed as a single, statewide database, accessible by all service sites. The identifiers for inpatient episodes (HBCIS UR numbers) and community episodes (CESA Oracle ID numbers) are recorded on OIS, concatenated with facility or network codes, to allow for linking at the national and statewide level. Currently, this linkage is done by hand by the 17 MHISOs (see below). Some further developments are underway to enhance the reporting capacity of the system (clinical and system profile). Given the consistency issues of HBCIS and CESA, OIS may provide a better gold standard for defining the beginning and end of episodes than the other systems.
- **MHAIS (Mental Health Act 2000 Information System):** This system was developed in early 2001 to record data on Mental Health Act status, as an interim solution to the fact that CESA did not have this functionality. Its primary purpose was to act as the official register of Mental Health Act status under the Act, but legal status data from this system is used in the Community Mental Health Collection of the NMDS. It is deployed as a single statewide database in all service sites across Queensland. There is a MHAIS number (i.e., an additional identifier), and linkage to CESA currently involves a matching exercise. However, the capacity to enter the identifier used by CESA (the CESA Oracle ID) on to MHAIS is currently being developed, and this will assist with data linkage. MHAIS is currently accessed by only a small number of users.

In 2002, a process commenced to detail the current requirements of a system to replace CESA and OIS (MHAIS is likely to remain out of scope for the immediate future at least). This process included the development of a series of detailed criteria against which to evaluate potential replacement systems.

Queensland Health has identified CHIME as a potential corporate enterprise solution for community health. CHIME would be a single, statewide system and would have a single ID number that an individual consumer would carry across services and over time.

A gap analysis showed that in its current form, CHIME does not meet the requirements for the mental health sector. At this stage, it is unclear whether CHIME will be implemented statewide (it is currently undergoing a trial in the QE2 district, and a decision will be made in May 2004 as to whether CHIME will be adopted across the health sector) and whether it can be modified to meet the requirements of the mental health sector. There is a recognition that linking mental health and general health data has benefits, but these must be weighed against the disadvantages of a system that is not specifically tailored to the needs of the mental health sector. Irrespective of whether CHIME is adopted as the solution for mental health, or whether a different option is pursued, the time frame for a replacement system for CESA and OIS is likely to be 2-3 years at least.

3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

As noted above, NOCC and NMDS data collection in Queensland relies on four different information systems, each of which has its own system of identifiers. Within systems, too, it is possible for individuals to have more than one identifier (e.g., up to 19 CESA Oracle IDs). There is no link/crosswalk between these identifiers, although there is capacity within some systems to enter identifiers from other systems (e.g., if a person is admitted then CESA is updated as well as HBCIS). The identifiers from these systems are not encrypted when the data are sent to the

Australian Institute of Health and Welfare or the Australian Government (the datasets are password protected and protected by legislation).

The Client Directory Project has the potential to overcome these problems, by creating an identifier that would allow an individual to be tracked across the state. This project is part of the Clinical Informatics Program, which is focusing on an enterprise-wide view to promote continuity of care. It involves a system that links identifiers from multiple systems across Queensland Health (not just mental health). The system contains individual records that comprise basic demographic information (last name, first name, middle name, date of birth, sex and first eight digits of Medicare number), and assigns each individual a Client Number. The system enables collation of information about the same person across different services, by using a matching algorithm. Specifically, it analyses each of the demographic fields separately, assigns a weight according to the degree of match, and then derives a total weight. If the weight is above a pre-determined threshold range, the system defines it as a match; if it is below, it defines it as a non-match; and if it falls within the range, it is regarded as a potential match. The Client Number is explicitly not designed to replace UR numbers at individual facilities.

Currently, two sites (Bayside and Gold Coast) are piloting the system. The pilot involves taking a passive feed from HBCIS, such that if a person is admitted to hospital they are allocated a Client Number. Matches, non-matches and potential matches are flagged, and potential matches are resolved manually by the site within a day, thereby ensuring that no individual is allocated more than one Client Number. Beyond this pilot implementation stage, there are plans to roll out the system to HBCIS (moving from the passive feed to an active feed which draws on a Client Directory list), and then to interface it with CHIME. Then, as different sites and sectors have an interest or a need, there is potential to broaden its application still further. At this stage, mental health is not on the agenda, however.

4. What systems do you have in place for training or retraining staff in the measures and data collection? What are your future plans?

Queensland has in place a formal training strategy which has a number of elements, all of which focus on sustainability, clinical utility and building capacity. Clinicians need to undertake training to become a registered user of the system, and cannot use the system unless they are a registered user.

As noted above, approximately 3,000 clinicians were trained in 2003. Ongoing training (e.g., initial training of new staff and/or updates for existing staff) is provided by the ZOTs, supported by 230 clinicians who received advanced training. There is also an e-learning strategy, which enables self-directed learning.

A key focus of the ongoing training involves the ZOTs modeling for clinicians how the outcomes data can be used. They emphasise the clinical utility of the measures, working through the profile of an individual consumer. Specifically, they discuss particular elements of the profile, and invite clinicians to consider the implications of this information for treatment and management.

5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?

Aside from the 'Outcomes Participation' reports (described above), recent efforts regarding analysis and reporting have focused on the individual consumer profiles (also described above) that can be generated by clinicians. While many clinicians have found these reports useful, there is a recognition that analysis and reporting efforts will need to become more sophisticated if the current momentum is to be maintained. There is a risk that clinicians will lose interest in submitting outcomes data (thus jeopardising the quality and comprehensiveness of the data), if they do not begin to see higher level outputs.

As a result, there are now moves to develop standard reports that can be generated at any organisational level. So, for example, service-level reports could be generated that, for a selected time period, match all collection occasions (i.e., beginnings and ends of episodes) and calculate changes in scores on given outcome measures for particular consumer groups. Such reports would allow districts and services to benchmark themselves against their peers.

Beyond this, there are plans for even greater sophistication. The first phase involves plans to enable ad hoc reporting from OIS and MHAIS. The second, more ambitious phase involves plans to link data from all systems (HBCIS, CESA, OIS and MHAIS) in a timely fashion to enable current analysis of combined datasets and a range of tailored ad hoc reports.

It is acknowledged that, for all levels of analysis and reporting, there is a need to equip clinicians and managers with the necessary skills to interpret and utilise the information. There is a perception that, currently, clinicians and managers are keen but are hindered by lack of knowledge regarding how to use the information that is becoming available to them.

6. In what ways could the national data most beneficially be used to augment state/territory level data in your jurisdiction?

National data has the potential to augment state data in a number of ways. Firstly, it creates opportunities for benchmarking and identifying best practice. Secondly, it enables quality checks to be made. Thirdly, it provides leverage to support requests for resource allocation. Fourthly, it provides evidence to inform national debate, particularly about service models. Finally, it provides a framework for state data dissemination.

7. How could the national training and service development component of AMHOQN best support your jurisdiction?

The national training and service development component of AMHOQN could best support Queensland by providing resources (electronic and face-to-face) that are tailored to the stage that the state has reached in terms of implementing NOCC and NMDS. Ideally, AMHOQN should act as an additional element, providing support for and sharing information with the Systems and Outcomes Team and the ZOTs (e.g., through forums).

8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction that are innovators or champions in the area? What are your plans for the identification and support of innovators?

Districts, services and individual clinicians and consumers have made use of the NOCC and NMDS information in a variety of ways. For example:

- Three districts have instituted policy statements that patient review is contingent upon outcomes data
- Services and clinicians are using outcomes data (particularly HoNOS data) to drive treatment planning, and there are demands for automatically generated care plans based on HoNOS profiles
- Clinicians and consumers are finding the MHI useful for generating discussion.

Leadership at all levels (Executive Directors, middle management, team leaders and individual clinicians) is seen as crucial in maximising the utility of the NOCC and NMDS information, and in maintaining the momentum. The ZOTs are seen as having a unique role in identifying and fostering 'information zealots'.

Table 6: Consultation attendees – Queensland

Name	Position/organisation
BARKER, Ron	Consumer Consultant, TPCH
CATCHPOOLE, Ruth	Systems and Outcomes Team, Mental Health Unit
CONNOR, Helen	Information Strategy Committee
CROSBIE, J	A/Manager, ACMHU – Toowoomba
FJELDSOE, Kevin	The Park
FRICOVIC, Ivan	M/MHU
GRAY, David	BAS / Information Services
HARRINGTON, John	Data Services Unit
HATZIPETREN, Luke	Zonal Outcomes Co-ordinator
HENRY, P	Mental Health Unit
HUMES, Di	BAS / Information Services
JACKSON, Andrew	Senior Technology Officer, Infrastructure Services
KYLE, Tony	Systems and Outcomes Team, Mental Health Unit
LEWIN, Dean	Systems and Outcomes Team, Mental Health Unit
LEWRY, Margaret	Queensland Community Advisory Group
LUCK, David	Information Services
McCLINTOCK, Christine	Manager, Epidemiology Services
McDERMOTT, Brett	Director, Mater Child and Youth Mental Health Service, and University of Queensland
MEEHAN, Tom	Service Evaluation, The Park
MOMENZACLUK, Sirous	Project Manager, Queensland Transcultural Mental Health Centre
O'NEILL, Monica	E/O Redcliffe Caboolture Mental Health Service
PEARSON, John	Zonal Outcomes Co-ordinator
PENHALIGAN, Kerri	MHISQ – Toowoomba Network
POWELL, J	Mental Health Unit
SCHAMBURG, E	Data Services Unit
STAPLEY, Kathy	Systems and Outcomes Team, Mental Health Unit
STOCKWELL, Alexis	Queensland Centre for Mental Health Research
WILLOCK, David	CHIME

Appendix 4: Western Australian consultation (1-2 April 2004)

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g. regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

Implementation of NOCC came as part of the implementation of the WA Mental Health Information Development Plan (MHIDP). The Plan targeted the development of information infrastructure and workforce skills to support the routine collection of consumer outcome measures and other quality improvement activities in line with the agreed national direction. There was a high degree of participation in the development of the WA MHIDP which involved consultation with a broad range of stakeholders including rural and remote and metropolitan mental health managers and consumers and carers.

The MHIDP has three main components:

- **PSOLIS:** PSOLIS is the computer based clinical information system which is currently being implemented throughout WA. 65% - 75% of the functionality of PSOLIS has been achieved and plans are in place to further develop the system, particularly in areas such as triage, bed management, ward transfer and reporting. PSOLIS has been implemented in all but one rural and remote service in WA and in over 50% of metropolitan sites. Approximately 1200 people have been trained in the application to date and there are approximately 1100 registered users of the system. Completion of the state-wide implementation is expected by the end of 2004.
- **Clinical Training Program (CTP):** The Clinical Training Program began late in 2002 and has, to date, trained 2267 staff in the use of NOCC. Refresher training has commenced, an evaluation has been on-going and a number of resources have been developed as part of the training program. NOCC business rules have been negotiated and agreed to by all key stakeholders. Local Expert Groups have provided advice and a link between state and national groups.
- **Business Process Re-engineering (BPR):** Creative and innovative measures were required in order to effect change from previous methods of data collection and assist in the implementation of the new clinical information system. The Business Process Re-engineering (BPR) and change management component assisted mental health services with their implementation of PSOLIS and NOCC.

All three components of the WA MHIDP are inter-related and all project teams work collaboratively. A comprehensive evaluation framework for the WA MHIDP was also developed to:

- Assess the implementation of the program activities;
- Provide feedback on the performance of the program in terms of reach, appropriateness and impact on the target groups;
- Ascertain if the program has achieved the desired outcomes; and
- Provide information that will assist in determining the direction of the delivery of the program.

Other key strategies that assisted in the implementation of NOCC and PSOLIS in area health services included:

- Establishment of the MHIDP Steering committee;
- Establishment of Area-wide and local mental health service MHIDP committees;
- Assessing hardware and subsequent investment in upgrade of IT infrastructure;
- Assessing staff readiness;
- Development of timelines;
- Dissemination of protocols;
- Responsibilities for collection of data were determined prior to implementation (i.e. who and how);
- Significant User Acceptance Testing of PSOLIS by mental health clinicians;
- Information sessions were offered; comprehensive web sites developed, newsletters published and forums were held to disseminate information on PSOLIS and NOCC;
- Clinical Training Program (see more detail at Q.4);
- Regional Coordinators (RCs) were employed to assist Area Health Services to prepare for implementation. They were an important part of the process as they were visible and involved in day-to-day work, helped to ensure sustainability, provided support to local and area committees and user groups, ensured standardisation and assisted communication; and
- PSOLIS debriefing sessions helped to resolve misunderstandings about the capabilities of the system. All key stakeholders were involved in these sessions including clinicians, administrative staff, consumers and carers.

Achievements include:

- The development and ongoing implementation of PSOLIS Stage 1, with completion of the implementation across the state expected by the end of 2004;
- Involvement of a wide range of stakeholders in PSOLIS and NOCC implementation, including clinicians, consumers, carers and administrative staff. Involvement has been at various levels - from the state-wide MHIDP Implementation Steering Committee through to Area-wide committees and local mental health service committees. Many local committees were instrumental in driving change;
- A significant additional investment in local IT infrastructure was required before PSOLIS was able to be implemented across the state. Many services did not have PCs that were capable of running PSOLIS and did not have sufficient resources in their local IT budgets to upgrade or replace hardware;
- The introduction of routine collection and reporting of consumer outcome and case complexity data by 40% of public specialist mental health organisations. In addition, three large Mental Health Services (MHS) initiated a paper-based collection of consumer outcome data while waiting for PSOLIS implementation. Significant early progress was made in raising awareness of NOCC and PSOLIS. As some delays were experienced with the introduction of PSOLIS, work on NOCC implementation continued;
- 2267 clinicians and administrative staff have been trained in the collection and use of consumer outcome information, representing the entire mental health clinical workforce. This has meant a significant investment of clinicians' time by mental health services to attend information sessions, training programs and to participate in PSOLIS development and User Acceptance Testing;
- Senior staff were targeted to 'lead the change' which assisted in the uptake of the NOCC and PSOLIS process;
- Commitment by management of mental health services of significant resources to participate in and lead committees and working groups;
- The implementation of National Minimum Data Sets for Mental Health Care that covers all public sector community mental health services as well as hospital units;
- CAMHS sector and some specialist services such as Consultation Liaison and shared care are enthusiastic and committed to the process; and

- Rural and remote areas, where PSOLIS and NOCC implementation were introduced first, are now utilising the system effectively.

Benefits have been:

- Clinical pathways have come under close scrutiny. Changes to pathways and development of written pathways have ensured a consistency across WA MHS;
- Policies and procedures have become more fully documented in many areas;
- Case management models have been developed more fully in areas where they were not well utilized;
- NOCC is becoming embedded within the clinical culture;
- Assessments have become standardised and mandatory;
- There has been an increased recognition of the benefits of regular assessments;
- NOCC is informing management plans;
- Clinical reviews have come under closer scrutiny. Changes have been made to ensure a greater consistency in the three month case reviews. Assessment of the client (and therefore completion of the NOCC) occurs more thoroughly at case reviews;
- Clinicians are starting to see the benefits of using the PSOLIS system overall. They like being able to see other services the client has accessed, who the treating psychiatrist is, having ready access to crisis and discharge plans and knowing whether a person is on a Community Treatment Order; and
- Client records are becoming more accurate and can be used with confidence in planning service delivery.

Issues and concerns:

- The unavailability of a fully functional PSOLIS - a Triage module, reporting tools and other areas of clinical utility are yet to be developed;
- Manual entry of some information in PSOLIS is still required;
- Less than optimal performance of PSOLIS occurs in areas with lower or congested bandwidth;
- Staff turnover is high in rural and remote areas – there is a continuing need to ensure that all staff are up to speed with NOCC and PSOLIS procedures;
- In rural and remote areas staff may often be away from their desks (travelling to remote services) and there can be delays in entering data;
- Rating on outcome measures is not always congruent with written assessment of the client, e.g. client is assessed as being extremely unwell but receives low scores on the HoNOS;
- Concerns in some areas that clinical staff do not have enough time for data entry, resulting in clerical staff doing it;
- Some clinical staff have concerns about the validity and clinical utility of NOCC data. There is a need for meaningful validation studies that would give an indication of clinical utility. However, it is anticipated that the NOCC data can demonstrate efficacy of treatment modalities;
- Some clinicians see benefits in having knowledge of HoNOS scores for clients in a specific diagnostic group; however other clinicians are more doubtful about the usefulness of this information; and
- There is some feeling that state-wide aggregate data would be more important than individual service data i.e. de-identified service data. Data could otherwise become tainted through the desire of services to show good results.

Future plans include:

- Consumer outcome measures will be used routinely to contribute both to improved clinical practice and service management. The collection, recording and reporting of data will be embedded into clinical practice;

- Close collaboration with research analyst to generate standard reports for mental health services. Mental health services will then be assisted to build systems to monitor compliance and ensure the data collected is reliable and accurate;
- Benchmarking will be established as the norm with all services having access to regular reports that can be used in a quality improvement cycle;
- Casemix tools will be investigated and made available to assist in understanding the contribution of provider variation to differences between agencies;
- Policy and planning decisions will be regularly informed by reliable information on service delivery and outcomes;
- Standardisation of policies and procedures across the state;
- Clinicians will be provided with additional research and analytical skills, enabling them to interrogate their data;
- Ongoing development of WA NOCC protocols will continue; and
- Ongoing work and liaison will take place with the three state Expert Outcomes groups.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

The information system TOPAS collects patient level data including NMDS data in inpatient settings in the metropolitan area and HCARE collects this data in rural and remote inpatient settings. NMDS and NOCC data will be sourced from PSOLIS, TOPAS and HCARE and reported through the Mental Health Information System.

PSOLIS will collect agreed data, including NOCC data, across all settings. The collection and reporting of NOCC data in this integrated system facilitates easier collection, improves the integrity of the data and can provide the data to assist individual clinical assessment, evaluation and treatment.

PSOLIS has been implemented in all rural and remote areas of WA except the South West Area Health Service and at selected metropolitan sites. The metropolitan sites include the Women's and Children's Mental Health Service, Graylands Hospital (inpatient only), Sir Charles Gardiner Hospital, Selby Lodge and Community Service, Osborne Clinic, Osborne Lodge, Clarkson Adult and CAMHS, Hillarys CAMHS, Joondalup Adult and Older Adult, Royal Perth Hospital and Inner City Mental Health Services. A strong commitment by all stakeholders and feasible plans have been put in place to complete the statewide implementation of PSOLIS by the end of 2004.

Some features of PSOLIS are:

- Every clinician and user in the state has a unique log-on and automatically opens up at their home page when they log-on;
- Operates on a case management model and can give a list of the clinician's clients; and
- Can give current reminders e.g. injections due and diagnoses missing from particular files.

Each client's record has:

- Summary screen;
- Comprehensive activation history throughout the state making it possible to see where the patient has been seen;
- Unique system patient number – bringing all other patient identifiers from other systems together;
- Crisis plans, treatment plans and discharge plans can be viewed;
- Current diary of events;
- Alerts categorised e.g. medical, forensic, social etc. highlighting violence, drug interactions and more;
- Status in WA e.g. whether active (receiving care); and

- Current legal status e.g. voluntary.

For each admission there is:

- Record of admission details;
- Mandatory reporting fields;
- Current diagnoses;
- Current legal status;
- Treating team information; and
- Record of clinical service events.

NOCC data is collected in PSOLIS via the "Outcome Measures Screen" which records the questions and answers given for a particular outcome measure and includes the date, time and information about who completed the measure. Record level validation ensures that if the outcome measure is not completed, PSOLIS will prompt for a reason.

3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

Each person entered in PSOLIS has a unique PSOLIS identifier. This number, the site and program ID, in conjunction with the "Link" function, will allow individuals to be tracked over time or across services. It also brings all other patient identifiers from other systems together within the system. This information is restricted to approved mental health clinicians. Security in the system is stream based and has one local administrator to oversee the stream. Levels of access can vary e.g. clerical staff do not have ability to change certain clinical items.

PSOLIS identifiers are not reported in the NMDS (Community and Inpatient).

In addition the Department of Health (DoH) has the capacity to link clients across all datasets through a matching process, however this link is currently not reported across the NOCC and NMDS (Community and Admitted). In fact currently Western Australia specifically scrambles identifiers in the Admitted and Community NMDS.

4. What systems do you have in place for training or re-training staff in the measures and data collection? What are your future plans?

The Clinical Training Program (CTP) team is currently responsible for delivering training in the NOCC instruments and protocols. 2267 staff (including clinicians, administrative staff, managers and team leaders) have received primary training. Refresher training has also commenced. Originally a train-the-trainer model was used but this was found to be not as effective as anticipated so focus has shifted to a more sustainable training program. This includes training for clinicians and managers to provide them with knowledge and skills to lead the change and implement appropriate business process re-engineering strategies.

The training has been broken into separate modules (specific to age speciality and service setting) and vignettes are used extensively throughout the training. An evaluation framework has been developed and pre and post evaluations were carried out for the NOCC training. Two independent NOCC training evaluations have been conducted and ratings have been collected on the different vignettes to determine effectiveness. The training and evaluation were based upon an action research model – with changes and refinements continually being made.

A number of resources have also been developed as part of the training process including:

- An Adult/Older Persons and CAMHS Clinicians guides;

- Glossaries for the HoNOS/HoNOS 65+ and HoNOSCA;
- Website with interactive case studies;
- Paper based measures that are available on the web;
- Consumer and carer brochures;
- Training materials; and
- Pens, magnets, cups etc.

The CTP has been successful because:

- Those involved have been flexible about how it has been carried out e.g. have provided training after hours;
- Centralised, standardised training has been provided by credible clinicians;
- Specific training has been given to a mental health service taking into account the setting, age specialty and program;
- Sites were visited beforehand to gather information about how best to present the training e.g. some sites had a preference for the use of some terms instead of others;
- There was liaison with the Regional Coordinators related to business process reengineering; and
- Two day training sessions were offered to equip senior staff to lead the change. Team leaders are now positive about the benefits of the system and of data collection.

Further CTP strategies for NOCC training and supporting mental health services with NOCC implementation include:

- In April 2004, all Area MHS staff development personnel will be provided with intensive training by the CTP team. The training aims to equip the staff development personnel to be able to competently provide the NOCC training at a health service level. The staff development personnel will be required to attend eight days of training. This will involve 4 days theory/practice in Adult /Older Persons Measures (April) and 4 days theory/practice in CAMHS Measures (May). Participants will also be observed on 4 occasions and marked against performance criteria and will be under supervision for an additional six training sessions before undergoing a written knowledge test (must achieve 70% pass) and presentation skills assessment. Area mental health services are aware that they are required to have the local mechanisms established to be able to provide the NOCC training by 2005;
- Work will be undertaken with accredited trainers to ensure that NOCC training is embedded as a core training course at local health services. An introduction to the NOCC protocol and consumer outcome measures will be implemented as part of the induction/orientation program for mental health service employees;
- Routine collection of agreed consumer outcome measures will be incorporated into duty statements and reflected in Job Description Forms;
- Support will be provided for those that have been accredited e.g. co-facilitating with trainees/staff development until they are confident to provide training locally;
- More accredited training will be offered;
- Educators/trainers network will be developed;
- WA MHIDP internet website (<http://www.mhidp.health.wa.gov.au>) will be updated regularly;
- Web based learning will be investigated – utilisation of interactive case studies;
- Negotiations will take place with universities to establish ways in which they can incorporate either information or educational sessions on the NOCC protocols and consumer outcome measures into their post graduate programs;
- Training materials will be provided as required;
- The Clinician's Guide will be updated as required;
- WA NOCC business rules will be updated as required; and
- Executive support will be provided to the three WA Expert Outcomes Groups (CAMHS, Adult and Older Persons).

5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?

At a mental health service level, PSOLIS provides reports on when assessments are due and what outcome measures are due. These reports can then be taken to team meetings for review and appropriate action.

Some preliminary analysis has been undertaken and at this stage, the Office of Mental Health is exploring options on the most effective ways to disseminate this information to health services.

As the data collected in PSOLIS becomes more reliable, WA is keen to continue work on improving the quality of the data and ensure that collection occurs according to the NOCC protocols. WA is keen to get high quality data by conducting further training, investigating quality improvement issues and working with AMHOCN to improve the admitted data collection. There is also interest in the national reports that AMHOCN can produce and the availability and release of this information.

The importance of providing quick feedback via reports to clinicians and others is recognised. This will demonstrate the potential usefulness of the reports and will get people interested in other information available from the data.

In order to progress and build an information infrastructure at a local level, clinicians and managers will need to have the tools and techniques to be able to utilise the NOCC data they have collected. WA intends to provide training to develop knowledge and skills for carrying out basic analysis, interpretation, presentation and application of the NOCC data. AMHOCN and WA can work together to develop a useful reporting system e.g. developing specific reports that are required by clinicians, by team leaders and administrators.

WA is committed to ensuring that there is a sustainable information infrastructure in place by and beyond 2006 to guide decision making at all levels of the mental health sector. This will require investment in building capacity at state-wide and local levels to analyse and report outcome, casemix and related data. To meet this need, the information system will require the implementation of graphical display tools, an ad hoc reporting module and dynamic screens.

It is proposed that senior research personnel with the appropriate level of data management and statistical skills and knowledge of research methods are appointed for a period of 24 months within the OMH. These resources will become state-wide experts in outcome data analysis and reporting and will work very closely with other researchers in the OMH and clinicians in the proposed Clinical Practice Improvement Unit. The position(s) will also provide advice to MHS management and clinicians as appropriate.

Expert Groups in WA have been consulted about their data analysis needs. The Child and Adolescent Expert Group have some ideas and the other groups will need to give the issue further consideration.

The same strategy that went into planning the implementation of NOCC and PSOLIS could be applied to the appropriate use of the data collection.

6. In what ways could the national data most beneficially be used to augment state/territory-level data in your jurisdiction?

WA would like to have close links and a strong working relationship established between AMHOCN and the relevant state resources. WA sees AMHOCN playing a key role in benchmarking and guiding the development and dissemination of normative data. It will be important to get information back to the jurisdictions as quickly as possible. Information fed back to the states may in large reports but specific reports that answer specific questions will be particularly useful. Linking the data to clinical practice will be important.

The provision of national data for comparative purposes would be most useful in building a body of evidence of the efficacy of different service models. Additionally, WA is keen to find positive marketing language related to benchmarking. Provision of information on the burden of mental illness for WA residents, particularly the indigenous people across jurisdictions, would be important.

7. How could the national training and service development component of AMHOCN best support your jurisdiction?

AMHOCN could best support WA by:

- Establishing a national accreditation program to ensure consistency within states and across jurisdictions. This will complement our state accreditation process and also increases individual's motivation to become involved in the training so that they can achieve the qualification. If you have nationally accredited trainers it reinforces the importance of the role and encourages them to stay abreast of changes to the protocols. The establishment of an accredited program may also encourage universities to acknowledge the calibre of the training;
- Keeping the trainers in all jurisdictions abreast of changes by creating a network that supports each other/exchanges ideas etc.;
- Conducting annual national forums or workshops;
- Providing advice regarding data analysis and interpretation;
- Providing comparative data;
- Providing assistance and advice in preparation of relevant reports, including templates for presentation in an easy to understand format;
- Ensuring that website forums are closely monitored and that submitted questions are responded to quickly; and
- Ensuring that contact details for AMHOCN components area readily available to key personnel in Office of Mental Health.

8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction that are innovators or champions in this area? What are your plans for the identification and support of innovators?

NMDS information has been used for a number of years for ongoing service planning and delivery and research purposes and this will continue.

At this preliminary stage, WA has focused on setting up the mechanisms to ensure compliance with NOCC and good feedback mechanisms to mental health services around their compliance is currently being established.

An important task for the OMH will be to assist mental health services to improve the quality of data that is collected and monitor compliance with the NOCC. Where compliance has been poor, the OMH has commenced assisting mental health services to review the systems in place for monitoring the NOCC. A number of strategies have been developed, including training and advising senior staff on their role in monitoring compliance and generating compliance reports. Mechanisms are currently being established to ensure that local administrators send the OMH a compliance report every month. This report will also be provided to local MHIDP and quality committees for appropriate action.

Further strategies are required to be developed that provide a systematic way of visiting all local mental health services, reviewing their processes and working with MHS to address issues hindering compliance.

At a state-wide level compliance reports are currently being generated and distributed to MHS every six to eight weeks. Compliance is now a standing agenda item at the WA MHIDP Steering committee meetings. A break down of compliance at admission, review and discharge is provided across the age specialties.

At a mental health service level the NOCC data is being used in a variety of ways including:

- Informing management plans.
- Informing the three month case reviews and providing the impetus for the reviews.
- HoNOS items that score a 3 or 4 are included in the clinical management plan.
- HoNOS individual scores in the Mental State Examination and formulation.
- HoNOS and LSP being used to validate the “clinicians case complexity tool”, which assesses the complexity of a community clinician’s caseload.
- At a regional inpatient mental health unit, HoNOS scores that are greater than 2 for items 1 and 2 immediately indicate a risk assessment is to be completed. At this stage an alert is also put into PSOLIS.
- As data has become more reliable, it is being used to plan service delivery.
- Local user groups from areas which have had PSOLIS for some period are now looking at defining work practices

A MHIDP forum in September 2002 encouraged local champions of NOCC and PSOLIS and helped to identify possible trainers.

Particular services that are innovators or champions in this area include:
Narrogin, Albany, Esperance and Graylands Forensic Services.

These services are successful for the following reasons: excellent management buy in; good processes in place; and good organisation practices.

WA specifically targets senior staff to attend a two days of training that equips them with skills to ‘lead the change’, understand the compelling reasons for change and to monitor compliance. WA continues to focus on assisting managers to learn about the PSOLIS reporting functionality.

Working with MHS to ‘embed the outcome measures into everyday practice’ through review processes in place often provides the opportunity to build relationships and encourage local champions.

Table 7: Consultation attendees – Western Australia

Name	Position/Organisation
Ass Prof Dinesh Arya	Area Director, South Metropolitan MHS
Mr David Bowdidge	A/Manager, Pilbara MHS
Mr Steve Carrigg	Manager, Kimberley MHS
Ms Joanne Clark	WA MHIDP Analyst
Ms Kerry Dawes	Business Analyst, PSOLIS Project, OMH
Ms Karen Dickinson	Manager, Clinical Training Program, OMH
Ms Nardene Fenton	Manager, Swan MHS
Ms Donelle Gillam	PSOLIS Implementation Coordinator, OMH
Dr Aaron Groves	Director, OMH
Mr Craig Headford	Business Analyst, PSOLIS, OMH
Ms Jenny Hoffman	Clinical Training Program, OMH
Ms Colleen Kirby	Social Work Coordinator, East Area MHS
Mr Jonathon Little	Senior Research Analyst, OMH
Dr Peter Melvill-Smith	Consultant Psychiatrist, Sir Charles Gairdner Hospital
Mr Richard Menasse	Manager, Great Southern MHS
Ms Denise Murtagh	Manager, Mental Health, Goldfields South East
Ms Danuta Pawelek	Director, WA MHIDP, OMH
Ms Harriett Pears	Senior Program Officer, OMH
Mr Tom Pinder	Manager, Mental Health Information System, Health Information Centre
Dr Mark Rooney	Area Director, East Metropolitan MHS
Mr Creswell Surrao	Clinical Training Program, OMH
Mr Ken Thomson	Manager, Central West MHS
Mr Garry Wallace	Chairperson, MHIDP Steering Committee, North Metro Area MHS

Appendix 5: South Australian Consultation (31 March 2004)

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

In South Australia, mental health service delivery for Adults and Older Persons is split between Metropolitan and Country services. A steering committee, with Metropolitan and Country representation, is overseeing the NOCC initiative in South Australia, but, to a large extent, NOCC implementation has progressed differently in Metropolitan and Country areas. For this reason, each is described separately below.

Child and adolescent mental health services are divided North (WCH) and South (FMC) and are responsible for the provision of both metropolitan and country services. Unlike Adults and Older Person's Services, there is no metro/county split of service delivery.

Metropolitan implementation

In Metropolitan South Australia, mental health service delivery is organized within catchments around hospitals that comprise those hospitals and community health services, including community mental health teams. These are known as health units. There are eight in total, and two – the Royal Adelaide Hospital and Noarlunga Health Services – undertook to pilot the NOCC, commencing in April 2003 with the establishment of NOCC Co-ordinators at each organisation. The former site is large and geographically spread; the latter is a smaller hub. The Royal Adelaide Hospital chose to implement a paper-based system (with a data entry person responsible for transferring information), while Noarlunga Health Services opted for direct clinician entry as it had the infrastructure to do so.

Clinicians were trained using a train-the-trainer approach. This training methodology was reviewed in August 2003, and it became evident that the train-the-trainer model was lacking in terms of both process and content, with inconsistencies in terms of training approaches and information delivered. Feedback from the pilot sites indicated that the trainers lacked training skills, and were not adequately equipped to deal with negativity and audience resistance. As a consequence, South Australia elected to invest in specialist trainers who completed training in Certificate IV Workplace Assessment and Training (a nationally-recognised qualification) in addition to training in the NOCC content. The goal was that these trainers would build capacity within areas to assist in sustaining the collection.

In June 2003, a second NOCC Project Manager was appointed, and located centrally within the Department of Human Services. In October 2003, following the pilot, NOCC Co-ordinators were appointed to the remaining Metropolitan health units required to collect NOCC data. Many sites experienced difficulties in filling these roles, due either to lack of interest or lack of appropriately equipped staff. All NOCC Co-ordinators undertook the Certificate IV Workplace Assessment and Training as a back-up in the event of trainers being unavailable.

From November 2003 until the end of March 2004, NOCC Co-ordinators and NOCC trainers have produced excellent results despite tight timeframes, initial resistance and some unexpected delays in the development of the information system to support NOCC. Support from management varied by site, and some sites experienced difficulties with trainers and industrial action. The pressure under which the NOCC Co-ordinators in particular (but also the NOCC trainers) have had to function must be recognised, and they must be commended for their efforts.

Currently, South Australia is completing the training phase of the NOCC implementation. The goal is to have as many clinicians trained in the suite of measures by 1 April 2004 as possible, with the expectation that data collection will commence soon after this. Although the training methodology for clinicians is consistent in terms of NOCC content, there has been some variation in the approach. One approach has been to train larger groups in the measures, and then to train smaller groups (e.g., ward by ward) in the information system. This approach is designed to cater for a lack of adequate training facilities and a lack of available computers. It is acknowledged, however, that it poses some risks within larger organisations, where there is a time lag between the first round of training in the measures and the second round of training in the information system, which may result in some clinicians forgetting how to rate the measures. The alternative approach has been to train in both the measures and the information system in one training session. Anecdotally, this appears to be the more successful method of training (although no empirical evaluation has been conducted) but is not possible in some organisations because of a lack of facilities.

Most sites have an *Implementation Working Group* in place with representatives from various stakeholder groups. Staff from IT departments, medical records personnel, quality managers, directors, team leaders, administrative staff, consumers and carers have been consulted in order to drive the project collaboratively from within the organisations. Where possible, the Department of Human Services NOCC Project Manager and CBIS Project Manager (see 2, below) have been in attendance at these meetings.

The approach taken at health units differs (e.g., some are using a paper-based system, whereas others have a system of direct data entry), as does the level of support for the NOCC data collection.

In terms of coverage to date, data are primarily only available from the Royal Adelaide Hospital and Noarlunga Health Services. It should be noted, however, that the size and nature of these sites mean that they provide a substantial sample of the data to come from adult services. It should also be noted that other metropolitan sites will begin submitting data soon. The aim is to have all metropolitan sites trained by the end of June 2004, with the hope that around 70-80% will be submitting data in the following financial year. In other words, preliminary data will be available for 2003-2004; more complete data will be available for 2004-2005.

Country implementation

Mental Health Services provided through country areas are organized somewhat differently from services provided through the metropolitan areas in South Australia. In the country, they are structured primarily around ambulatory services because inpatient mental health services for the country are delivered in the metropolitan area, following transport. The exception, as noted earlier, is CAMHS, whose service is run out of the WCH and FMC.

Piloting of the NOCC data collection has also commenced within country areas at Port Lincoln. At this site, data collection has been facilitated by the use of remote, hand-held PDAs.

In country sites, the NOCC collection has been postponed until April 2004, due to delays by some local CME Co-ordinators to upgrade CME (see 2, below). This has some advantages, in that the Rural and Remote Mental Health Service at Glenside Campus is due to start collecting NOCC data on April 1 2004, which will allow for continuity between inpatient and community settings.

To date, 100 country staff have been trained. An additional training day has been scheduled for April 19 2004 for the benefit of new staff and staff who have missed earlier training due to their being on leave.

A sustainability program will be discussed with Mental Health Program Managers at a date yet to be confirmed in April 2004.

Monitoring of NOCC data collection will occur through the Mental Health Program Managers to ensure completeness, compliance and timeliness.

Perceived benefits and risks

In terms of benefits, there is recognition that there is currently a lack of information on mental health services and the NOCC data has some potential to rectify this. In particular, the NOCC data will provide information to: (a) assist clinicians to determine whether services provided are assisting in the consumer's road to wellness; (b) assist directors and managers in local decision-making processes; and, (c) in benchmarking services against other like organisations within the state and even interstate.

With respect to risks, South Australia shares similar complexities with other jurisdictions in that resistance from within the workforce has been encountered, some staff need additional training, some sites have embraced the collection more than others, and some directors have shown stronger leadership than others. A number of issues have been raised about the NOCC Collector functionality, which will be addressed in the final CBIS product. The focus of current efforts has been on securing commitment from all stakeholders, to overcome resistance.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

In Metropolitan community and inpatient sites serving children and adolescents, adults and older persons, NOCC data are currently being collected via an interim 'NOCC collector'. In the single Metropolitan community residential site providing services for adults (Palm Lodge), NOCC data are also being collected although clinician compliance continues to be of concern. The 'NOCC collector' is to be replaced by a new mental health client management system in the third or fourth quarter of 2004. The new system is known as CBIS (Community Based Information System), and the database that sits behind it is known as CME (Client Management Engine).

Currently for the Metropolitan community services, Non-Admitted Patient NMDS data are collected via the existing CMS system, and the CAMHS Community systems and is consolidated and forwarded to the Australian Institute of Health and Welfare. De-identified Admitted Patient NMDS data is forwarded by local hospitals on a monthly basis to IMS. Once per year, the consolidated data is forwarded to the Australian Institute of Health and Welfare by IMS.

The situation in country areas is slightly different. Firstly, there are no designated mental health inpatient wards or long-term residential facilities, so the country NOCC data collection is only relevant to community settings. CAMHS Country sites collect their data through their own information systems. Secondly, the existing version of the CME allows the collection of NOCC data and NMDS activity data (which is forwarded to the Australian Institute of Health and Welfare), and will not be replaced by CBIS.

3. What unique identifier system do you use and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

There is no statewide unique identifier^b, but it is theoretically possible to track consumers' activity across the system in Metropolitan areas via a single metropolitan URN – or Mental Health Linking Number (MHLN). In Country areas, it is more difficult because an individual can potentially have up to 20 different URNs, one for each country site. Country URNs do not link to the metropolitan URN. However, work progressing towards a country CME consolidation project – where 20

^b The Office of Health Reform is undertaking an initiative that ultimately aims to completely link individuals' health records. This will not occur in the short term, however.

separate CME installations will be consolidated into one installation, resulting in one centrally allocated URN. The project has just received funding and will commence soon. It is expected to take 12-15 months to complete.

In Metropolitan areas, the introduction of CBIS will enable NOCC data to be linked to non-admitted NMDS data in the community, because the same URN will be used for NOCC and activity data. In Metropolitan inpatient settings, CBIS will have a facility for recording the MHLN, but this is not supplied to the Australian Institute of Health and Welfare. An additional dataset that contained the MHLN, the hospital URN and the establishment code would be required for matching purposes. In the Country, NOCC data and non-admitted NMDS are recorded against the same URN, but as noted, this could be one of 20.

Residential Care site, Palm Lodge will be collecting the NMDS data (from 1/7/2004) via a local database with the de-identified data forwarded to IMS. IMS will forward the data to the Australian Institute of Health and Welfare. The MHLN will be used to link NOCC and non-admitted NMDS data.

Appendix 1 provides more detail about the ability to link NOCC and NMDS data across service types and within Metropolitan and Country areas.

4. What systems do you have in place for training or retraining staff in the measures and data collection? What is your future plans?

South Australia is still undertaking initial training of staff. As outlined in 1, above, considerable investment in specialist trainers has been critical and will continue to be so.

A two and a half day workshop is scheduled for late April 2004 to examine issues of ongoing training and sustainability. All NOCC Co-ordinators will attend, having first consulted with trainers and members of the *Implementation Working Group* within their respective organisations.

A formal request is being drafted to AMHOCHN seeking the attendance of Tim Coombs at the workshop to advise on future training strategies that will promote sustainability, drawing on the experiences of other jurisdictions.

5. What are your current plans for analysis and reporting in your jurisdiction? What is your future plans?

The Mental Health Services and Programs Unit will be responsible for setting the local research agenda and championing the use of the data through a range of processes (e.g., routine clinical and service level reporting, benchmarking activities, safety and quality activities). Local analysis will be managed by a specialist position attached to the MH-CIAO Team, but whose work plan will be developed and directed by the Mental Health Services and Programs Unit. Recruitment of a person to fill that position will occur later in 2004.

South Australia's thinking with respect to analysis and reporting will be informed by AMHOCHN (in its role as the authoritative focal point for national leadership) and by work progressing in other jurisdictions. Analysis and reporting must be credible to clinicians, relevant to administrators and acceptable to governments.

There is recognition that reports must be available at a number of levels, and have clinical and management utility. For example, it will be desirable for clinicians to have timely access to individual consumer-level reports that can inform care planning, and also to more aggregated reports that profile their client load in terms of case complexity and typical outcomes, and trends over time. Data integrity reports would also be desirable. Efforts are now being concentrated on identifying the specific reports that would be desirable, and producing them for local use (e.g., there is a working group looking at these issues). Few, if any, sites are currently in a position to be able to print these reports, however. There is recognition that the commitment of clinicians

(and managers) is dependent upon feedback that they find useful. Without such feedback, and the related infrastructure support, the initiative is not sustainable in the long term.

At a higher level, there is an acknowledgement that these data have great potential to inform planning and development, and to underpin service evaluations. Interested parties are beginning to recognize ways in which the data could strengthen existing initiatives, and/or assist new ones. In particular, attention has focused on ways in which outcome data could be used to evaluate the effectiveness of given programs or services. Consideration has also been given to ways in which outcome data could be combined with resource use data (e.g., data on length of stay or costs of care) to assess cost-effectiveness. Examples include:

- Examining the psychometric properties of the outcome measures (e.g., their validity and reliability);
- Using outcome measures to compare the impacts of different models of care;
- Using outcome measures as the basis for understanding how supported accommodation programs can best ameliorate psychiatric disability for consumers;
- Using outcome measures to inform emergency demand strategies;
- Using outcome measures among the criteria for the clinical review program (in which clinicians from one service review another service); and
- Using outcome measures to evaluate the effectiveness (and, potentially, the cost-effectiveness) of a hospital at home team compared with conventional inpatient care.

6. In what ways could the national data most beneficially be used to augment state/territory level data in your jurisdiction?

National data linked to the admitted and non-admitted NMDSSs and the National Survey of Mental Health Services would provide jurisdictions with the opportunity:

- To undertake local and national benchmarking activities;
- To inform local safety and quality initiatives;
- To contribute to a national culture of research;
- To use the NOCC casemix data to understand the role of provider variation in differences between services' costs and outcomes;
- To improve outcomes for consumers through the ongoing development of NOCC data to assist the planning, resourcing and delivery of mental health services to meet the needs of the South Australian community;
- To accelerate the uptake of the proposed national key performance indicators; and
- To forge links with other jurisdictions that are at a similar stage of development and/or doing similar work.

At this stage, South Australia is still developing resources to support the training of the workforce in the measures. Training the workforce (clinical, administrative and management) in the interpretation and use of outcome and casemix data has not yet begun.

South Australia is still some way from being in a position where each service has access to regular, standardized reports on its performance that can be used in a quality improvement cycle. There is expertise in the state in the utilization of outcome measures, but there is, as yet, no focused agenda to capitalize on these resources at this stage.

Examples of national products that South Australia would find useful include:

- Reports on data quality, targeted at the level of individual jurisdictions, and designed to lead to improvements in quality;
- Standard reports for participating jurisdictions, prepared at the organisation level, and stratified by peer group, that provide comparative data for benchmarking purposes;
- A series of periodic national publications that present and discuss the aggregate data and address priority issues in outcome measurement; and
- Publication of normative data for use by mental health services in interpreting individual outcome measures and in benchmarking exercises.

7. How could the national training and service development component of AMHOCHN best support your jurisdiction?

The national training and service development component of AMHOCHN could best support South Australia by:

- Working collaboratively in developing ways to test the effectiveness of training (e.g., conducting an inter-rater reliability study);
- Continuing to develop a best practice training model (including standard documentation) for nationwide adaptation;
- Building ownership at a local level by affirming the importance of the NOCC Co-ordinators and NOCC trainers, nurturing local innovators and champions, and fostering links between these stakeholders (e.g., through regular newsletters and/or a national workshop);
- Identifying like services interstate, and acting as a conduit for information exchange and benchmarking;
- Co-ordinating meetings of all state/territory managers to formulate processes for benchmarking;
- Undertaking activities designed to increase understanding about the application of outcome and casemix measures as tools that can both inform individual clinical practice and assist in quality improvement initiatives at the service level;
- Facilitating the sharing of information between states/territories regarding the collection and use of the NOCC data (e.g., via national forums etc);
- Supporting the production of routine reports by, for example, in conjunction with innovators and champions, specifying core information that should be included in given reports and/or developing templates that can be used at a range of levels and across jurisdictions;
- Continuing to develop and update the MH-NOCC website, including maintaining the forums; and
- Promoting the use of NOCC data for research purposes by, for example, developing guidelines about access to data for external researchers, logging requests for access and maintaining a register of in-progress and completed research, encouraging researchers to share their results (e.g., via the MH-NOCC website), and co-ordinating links between researchers.

8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction that are innovators or champions in the area? What are your plans for the identification and support of innovators?

South Australia is still undergoing the initial training phase of implementation, and has therefore not yet made use of the NOCC and NMDS information.

Some champions are emerging, both in terms of services and individuals. At the service level, Noarlunga Health Services have successfully overcome most of the difficulties associated with implementation. The Department of Human Services could work more closely with Noarlunga Health Services and use their data as a basis for developing future reports.

Particular individuals from within the Department of Human Services and from specific health units (e.g., the NOCC Co-ordinators) are very supportive of the NOCC initiative. They are conscious of the big picture, can see the potential benefits, and have worked tirelessly to bring the initiative to its current level. These people include clinicians, project staff and administrative staff. Unfortunately, some of these champions are at the point where they believe that NOCC implementation is an insurmountable task, given the current negativity from the field. Without these 'culture carriers', the initiative will not be as successful as it could be.

Table 8: Linking of NOCC and NMDS data – South Australia

NMDSs	METROPOLITAN			COUNTRY
	Child and Adolescent	Adult	Older Persons	
Admitted Patients Mental Health Care	Current: Interim process of collecting NOCC includes the recording of a metro client Unit Record Number (URN), however unable to link to client information within individual hospital's information systems.	Current: Interim process of collecting NOCC includes the recording of a metro client Unit Record Number (URN), however unable to link to client information within individual hospital's information systems.	Current: Interim process of collecting NOCC includes the recording of a metro client Unit Record Number (URN), however unable to link to client information within individual hospital's information systems.	No designated Mental Health Inpatient wards within the country regions of South Australia. Clients needing hospitalisation are transferred to Adelaide for treatment.
	Proposed*: CBIS will be located at hospitals to allow collection and input of the NOCC data. Proposed enhancement will allow CBIS to record hospital URN's to facilitate linking of inpatient and community episode information.**	Proposed*: CBIS will be located at hospitals to allow collection and input of the NOCC data. Proposed enhancement will allow CBIS to record hospital URN's to facilitate linking of inpatient and community episode information.**	Proposed*: CBIS will be located at hospitals to allow collection and input of the NOCC data. Proposed enhancement will allow CBIS to record hospital URN's to facilitate linking of inpatient and community episode information.**	As per above
Community Mental Health Care	Current: Interim process of collecting NOCC includes the recording of a metro client Unit Record Number (URN), however unable to link to community patient information systems URN.	Current: Interim process of collecting NOCC includes the recording of a metro client Unit Record Number (URN), with the ability to link to existing Client episode information in the current CMS system. (Both NOCC collection process and CMS use the same URN.)	Current: Interim process of collecting NOCC includes the recording of a metro client Unit Record Number (URN), with the ability to link to existing Client episode information in the current CMS system. (Both NOCC collection process and CMS use the same URN.)	Current: Country version of the Client Management Engine (CME) allows collection of NOCC data and client episode information using the same URN. However there are approx 20 separate CME installation in the country each allocating their own URN's. The country URN does not link to the metro URN.
	Proposed*: CBIS will replace existing client information systems and use the same URN for the client NOCC collection and other core client information (ie episode details) to enable linking of data.	Proposed*: CBIS will replace existing client information systems and use the same URN for the client NOCC collection and other core client information (ie episode details) to enable linking of data.	Proposed*: CBIS will replace existing client information systems and use the same URN for the client NOCC collection and other core client information (ie episode details) to enable linking of data.	As per "current" - CBIS only replacing metro community mental health information systems.
Residential Mental Health Care	N/A	Current: Interim process of collecting NOCC includes the recording of a metro client Unit Record Number (URN). Other client information not currently recorded in a manner to meet the new NMDS requirements commencing 1/7/2004. No ability to link data at present.	N/A	No Residential Mental Health Care facilities exist within the country regions of South Australia.
	N/A	Proposed*: CBIS will be used to allocate a client URN and capture NOCC data. The new database being developed to capture NMDS data from 1/7/2004 will record the client URN to enable linking.	N/A	As per above

Notes: CBIS to enable collection of NOCC for metro community, inpatient and residential settings. CBIS also will be used by metro community as their client information system. CBIS will generate a URN for new clients (subject to correct checking of the database for a record of the client in question). * Refers to linking associated with the introduction of the new Community Based Information System (CBIS) in 3 and 4th quarters of 2004. ** Need to address the issue of duplicate client identification numbers and associated reporting to the Australian Government.

Table 9: Consultation attendees – South Australia

Name	Position/organisation
BRYANT, Jacqui	Senior Project Officer, Data Management Unit, ICT
CRIBB, Tracee	Administrative Support Officer, Department of Human Services
DUSMOHAMED, Haroon	Country Division, Department of Human Services
GILL, Shane	Clinical Director, Royal Adelaide Hospital; Chair, NOCC Reference Group; SA Representative, Adult Outcomes Expert Group
GRAHAM, Rebecca	Principal Consultant, Clinical Governance, MHSIP
HESTER, Paul	Senior Project Officer, Strategic Planning and Corporate, Department of Human Services
JENKINS, André	Senior Consultant, MH-CIAO, Department of Human Services
LAMBERT, Cheryl	NOCC Co-ordinator, Flinders Mental Health
MICHAELS, Peter	Commonwealth Systems, CME
MILIOOTIS, Bill	NOCC Co-ordinator, LMHS
PRINCIPE, Iolanda	Director, Strategic Planning and Corporate Department of Human Services; Sponsor and Chair - MH –CIAO Steering Committee.
ROBINSON, Philip	Chief, Division of Mental Health, Women's and Children's Hospital
SANDERS, Graeme	NOCC Co-ordinator and Trainer, Glenside Hospital
SHEPHERD, Martin	Senior Business Analyst, Metropolitan Health
SPROULE, Helen	Project Manager, NOCC, Department of Human Services
STREET, Roslyn	Director, RGH Mental Health and Older Persons' Mental Health, Glenside
TAIT, Russell	Consumer Representative and Researcher, NOCC Reference Group

Appendix 6: Tasmanian consultation (30 March 2004)

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

Tasmania has made significant progress with the implementation of NOCC, with the collection of all but two NOCC measures from February 2000. The exceptions are the LSP-16 and the BASIS-32, which were first collected in August 2003. It should be noted, also, that the RUG-ADL was collected from the outset, but initially there was no facility for entering these data into the system. Tasmania produced its first NOCC dataset for the 2001-2002 period in 2003, and is currently deriving the 2002-2003 NOCC dataset. Planning is underway to introduce the SDQ into child and adolescent settings by July 2004. Simultaneous with the NOCC developments, Tasmania has been providing NMDS data for admitted and non-admitted patients.

Training and consultation with stakeholders have underpinned the implementation process. All existing clinical staff were trained in 1999-2000, prior to the introduction of the NOCC collection, and, since then, new staff have been trained in a one-to-one or small group environment (see 4, below). A Mental Health Information Advisory Group has provided advice to the implementation process, incorporating the views of clinical, management, consumer and academic representatives. Consultation will continue as new data are collected and outputs are produced.

During the training and stakeholder consultations, emphasis has been placed on the clinical utility of the outcome data. For example, the BASIS-32 has been promoted as a consumer-rated measure that aligns with the clinician-rated HoNOS and LSP-16, and creates opportunities in the clinical encounter for useful discussions between the clinician and the consumer.

Currently, Tasmania has reached the point in implementation of reasonable coverage, although there is variability by setting:

- All ambulatory service units are collecting NOCC and NMDS data;
- There are some compliance issues with NOCC and NMDS data in two community residential units, but planning is underway for the introduction of a residential care NMDS in July 2004 which should resolve these issues; and
- Of the three hospital inpatient units, one is now collecting NOCC data, one has been trained but staffing shortages have halted implementation, and the third is not collecting NOCC data because it falls outside Mental Health management (and within Hospital and Ambulance management). Implementation in the latter two inpatient units is being progressed through agency processes. All three inpatient units are reporting NMDS data.

Just as coverage is variable, so too is compliance. At a rough estimate, compliance with the HoNOS is probably at 80% and compliance with the LSP-16 is around 65% (although this varies by setting, and by collection occasion). Compliance with the BASIS-32 is much lower, at approximately 20%, but implementation of this instrument has really only just started. Related to compliance is quality of reporting, and there are suggestions that quality is not yet optimal. For example, under-scoring appears to be a problem with the HoNOS, as evidenced by that one early examination of the data found that 60% of admission HoNOS total scores were below 10, and that many showed no indication of a clinical problem. Getting the incentives right may impact upon both compliance and quality. Anecdotally, for example, one unit mandated that discharge was contingent upon a final HoNOS being completed, so the completion rate was high but the data quality was extremely low. Compliance and quality testing is on the agenda.

Future plans will concentrate on reporting data back to the field. There is a recognition that such feedback is necessary in order to show participants the clinical and management utility of the outcome measures, and to gain and/or maintain their support for the initiative.

There are also future plans to broaden the initiative to include the NGO sector, which has shown interest. This will involve a 'roadshow', incorporating further stakeholder consultations and additional training.

There are many perceived potential benefits of the implementation of the NOCC and NMDS collections. In particular, the production of standardised data collections is seen as enabling an informed approach to planning and management of services. The extensive range of data has provided important information on the personal and clinical profiles of consumers, and the services delivered to them, providing the potential to improve and standardise clinical practices. Having said this, there is an acknowledgement that these potential benefits have not been fully realised yet. There have been difficulties in developing and distributing agreed standard outputs (see 5, below).

There are also some perceived risks associated with the implementation of the NOCC and NMDS collections. These relate to maintaining and improving compliance and data quality, and the provision of appropriate infrastructure and collections systems to implement a clinical information system. With regard to the former, there is an acknowledgement that there needs to be an increased emphasis on feeding back useful information to the field if the initiative is to succeed, particularly as clinicians are coming from such a low base of reporting. With regard to the latter, the current NOCC and non-admitted NMDS collections are paper-based, and are entered centrally into an Access database which resides on a stand-alone PC. Within central office, data entry and interrogation facilities run on a peer-to-peer network. A trial has been conducted with the database system on a local server, and the response appears satisfactory. However, the Access database creates limitations as a server application, in that only a limited number of users can access the system at any one time. There are also networking issues. All units now have a network connection, but there is a lack of computers (i.e., many units only have one computer) and internal connection, so most units/teams have only one computer connected to the network. These issues are being progressively addressed by the Department of Health and Human Services, within its budget constraints. At present, though, the current system runs the risk of jeopardising compliance and data quality, due to clinicians not having ready access to data about individual consumers and overall caseloads.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

The collection of NOCC and NMDS data relies on two systems:

- **OARS (Outcomes Assessment and Review System):** OARS captures NOCC and NMDS data in community based care and residential settings, as well as in some free-standing inpatient units. There has been an attempt to incorporate the three hospital-based inpatient units into the system, but only one is currently reporting (and compliance here is dropping due to external circumstances). As noted at 1, above, OARS is a paper-based system. Carbon-copy forms are printed by a private printer and delivered directly to the services, completed by individual clinicians, and forwarded to the Mental Health Information and Evaluation Unit (with a copy retained by the service to be housed in the consumer's file). The BASIS-32 is provided to consumers with a reply-paid envelope that can be posted directly back to the Mental Health Information and Evaluation Unit. Data are entered centrally, and are stored on an Access database on a PC. NOCC data are provided to the Australian Government; non-admitted NMDS data are provided to the Australian Institute of Health and Welfare.

- **HOMER:** NMDS data for admitted patients is derived from HOMER, the hospital patient administration system that is operated by Hospital and Ambulance Services. This system was due for replacement two years ago, but the decision has been deferred until 2005. Essentially, it is a patient registration and tracking system that monitors bed days, costs etc. NMDS data for admitted patients are provided to the Australian Institute of Health and Welfare.

In terms of future plans, the OARS system will be operating on a local server in the near future. This will not produce any improvements in speed of operation or wide scale access. It is being driven by departmental IT policy that peer-to-peer networks are not to be supported. All computers in the department network must meet minimum levels of compliance and configuration standards by July 2004, requiring upgrades of all computers in the Mental Health Information and Evaluation Unit. As the standard configuration does not allow peer-to-peer networks, it has not been possible to upgrade equipment until the application becomes server based.

Future plans also include the development of an integrated, community-wide clinical information system known as the Community Client Health Profile (CCHP), which utilises software developed by TRAKHEALTH. The system incorporates an electronic medical record, case management and appointment system. This system, when fully implemented, will be used by the wide range of community health services in the Department of Health and Human Services (though not by inpatient services). A pilot study is about to commence in Community Nursing in the Northern Region to identify technical, data and strategic issues (e.g., how to use the system, what infrastructure and training is required etc.).

Mental Health is keen to be involved, and indeed to be the 'first cab off the rank' after the pilot. The CCHP system will incorporate all community NOCC and NMDS data, with clinical staff entering their data and having access to reporting facilities. A consultancy has just been let by Mental Health to identify the business requirements for a move into the CCHP environment. The consultants will also conduct a gap analysis between OARS and CCHP, develop a business case for funding, identify change management and training requirements, and develop an implementation plan. These processes are required to assess the current position, and to evaluate the costs and processes of moving mental health data collections to this enhanced environment.

The proposed introduction of CCHP is associated with some risk. Major improvements in the quantity and quality of office computers is required, as well as enhanced network bandwidth and connectivity. A significant workplace change management process will also be required to effectively implement the system. Both have significant resource implications for mental health.

3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

Tasmania does not have a system of unique identifiers. In the community, a statewide client identification system is being implemented, and will be utilised in the CCHP system. Tasmania's current identifiers are a mix of hospital allocated identifiers for inpatients (separate URN systems for inpatient services in each of the three regions) and clinician-created identifiers for consumers in community settings. The OARS system stores whatever identifiers are provided. The lack of standardised identifiers and the fact that data are stored on two systems (community-based and hospital-based) renders it extremely difficult to track consumers across inpatient and community episodes of care.

This identifier is internal to OARS tables and is used for validation checks. In theory, because OARS is a statewide system, patients entered into OARS should be unique (i.e., have a unique OARS patient number). However, there is a feeling that this is not reliably the case. In addition to the community and minimal inpatient data captured by OARS, admitted data provided to the

Australian Institute of Health and Welfare use hospital-based UR numbers and these data are not entered into OARS. Consequently, it is possible for the same consumer to have different, unlinkable numbers on each, rendering it difficult to know whether given episodes of care are rendered for the same person or different people. It is unclear whether the identifiers submitted to the Australian Institute of Health and Welfare in the admitted and non-admitted NMDSs can be linked to NOCC data.

A system of unique identifiers (known as SCRS) will be implemented when it is made available to Mental Health. It is integral to the CCHP system, and may not be adopted by Mental Health until CCHP is adopted. There was an initial proposal to update the OARS identifiers, but no progress has been made as technical issues with the hospital-based system have slowed implementation.

4. What systems do you have in place for training or retraining staff in the measures and data collection? What are your future plans?

Training is the responsibility of the Mental Health Information and Evaluation Unit's Training and Systems Support Officer (who is also responsible for overseeing the collection, administering the database, and undertaking analysis and reporting). Training was conducted for all clinical staff (300+) in 1999-2000, prior to the 'roll-out' of routine outcome measurement and the establishment of OARS. Training consisted of a seven-hour training session covering the collection protocols and data items, with a particular focus on the HoNOS. Since then, new staff have been trained in a one-to-one or small group environment. This is usually delivered on request from the service units, and although it has high costs in terms of time, effort and expense, it provides an opportunity for the Training and Systems Support Officer to visit service units personally and address any data issues.

The introduction of the LSP-16 and the BASIS-32 in 2003 required the development of a new training program. An implementation team was formed to address the broader issues and assist in the development of the training application. Specific LSP-16 and BASIS-32 training materials were developed, as were HoNOS review materials (including sample HoNOS outputs and materials focusing on under-scoring at admission, which had been identified as an issue). Using these materials, 20 four-hour training sessions were offered across the state. These were run by the Training and Systems Support Officer, assisted by a senior clinician who was the representative on the Adult Outcomes Expert Group and provided the national perspective on outcome measurement. Team managers were responsible for ensuring that their team members attended.

Planning is underway for training related to the introduction of the SDQ into child and adolescent settings, and the residential care NMDS. The former will involve establishing an implementation team with representation from child and adolescent staff to address specific issues. The latter will involve training of residential staff, but this is not expected to require a major program as most of the data items are already being collected.

In addition to training existing staff, efforts have been made to train new graduates. For example, training sessions have been conducted every six months with students in the University of Tasmania's Master of Psychology program.

The implementation of the CCHP system will involve extensive training and changes to work practices. The necessary training resources will be provided externally.

5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?

After consultation with clinicians, the Mental Health Information and Evaluation Unit developed an extensive series of annual output tables (known as Statistical Information Packages, or SIPs). These have been produced as Excel files, and have utilised a broad range of NOCC and NMDS data. The initial focus has been on profiling consumers by age, sex, diagnosis and HoNOS

scores at admission, review and discharge. There is a developing emphasis on equivalent data for other outcome measures. In particular, consideration is being given to the feasibility of implementing a population norm-based outcomes system for the LSP-16 and the BASIS-32, based on work presented by John Ware at the 2003 Health Outcomes conference. To date, the SIPs have been presented at a unit level (for both ambulatory and community residential units), with individual units identified such that one can be compared with another. The reports have been sent directly to unit managers, some of whom have shared them with their teams, and others of whom have not distributed them.

The Mental Health Information and Evaluation Unit is, in conjunction with the Regional Offices, defining and developing a monthly and quarterly reporting process utilising the data collected. At present, monthly reports have only been produced for the Southern Region. These include unit-level data for both ambulatory and community residential units on service intake, admissions, discharges and length of time in care by diagnosis, as well as average HoNOS scores at admission, review and discharge. The reports are generating considerable discussion among unit managers, who are now beginning to consider what the data mean, particularly in terms of accountability.

Preliminary discussions have also been had with personnel from Head Office to define their reporting requirements.

The current and planned output reporting is limited to the unit or team level, although individual reports can be provided on request. Indeed, ad hoc reports have been provided to project officers and service teams on request, and the Mental Health Information and Evaluation Unit has been actively encouraging clinical staff to request data specific to their needs, and, wherever possible, responding within 24 hours. There is an awareness on the part of the Mental Health Information and Evaluation Unit that clinicians and managers need to be supported to request and use data.

Currently, the production of all of the above reports relies on manual processes, but Tasmania is moving to automating the regular production of many of the above tables, and developing parameter-led interrogation facilities.

To further the development of key performance indicators and population-based planning, a Datamart has been created. This is an Access database with standardised reports, which incorporates finance and human resources data to the service unit level, and activity data from OARS. Population census data has also been incorporated to provide a geographical analysis tool. The Datamart can also generate the National Survey of Mental Health Services data and NMDS establishments, as both unit definitions and cost centres are included. The Datamart will be updated quarterly to provide regular reporting. Future plans for the Datamart include the incorporation of CDATA and MapInfo systems to enable the production of area-based maps for population-based analyses. The Social and Economic Indicators for Areas (SEIFA) will also be purchased, and this will further enhance the population-based analyses and create the potential to address questions of effectiveness and cost-effectiveness.

The response of the field to statistical reports to date has been mixed, but there is a general view that although they are interesting, they are not quite what is needed. Ideally, the field would like online, immediate feedback about individual consumers, which could inform their care planning. This is not feasible within the current paper-based, non-networked system. Even the data dissemination that has occurred has been problematic due to the limited network facilities. Presentations have been conducted for clinical staff and community organisations, in response to initial consultations with these groups who were supportive of the general concept of routine outcome measurement, but wanted to view the results of such an initiative.

6. In what ways could the national data most beneficially be used to augment state/territory level data in your jurisdiction?

The most beneficial use of the national data would be in the development appropriate benchmarks (to allow comparisons between similar groups of consumers in peer groups of services) and key performance indicators. Case complexity measures would also be of considerable use. Such data would allow important management questions to be explored, such as what constitutes an equivalent client load (in terms of resource demands) in different services.

Information on the correlations between measures would also be useful, particularly correlations describing the relationship between clinician-rated and consumer-/carer-rated measures.

Routine data and data relating to specific one-off questions in these areas would be useful.

7. How could the national training and service development component of AMHOCN best support your jurisdiction?

The development of a standardised suite of training packages would be useful. Training packages from other states/territories are accumulating, but there are inconsistencies and gaps. A particular example of training materials that are currently in demand are packages providing information on the SDQ. Training resources need to go beyond the administration of specific measures, however, to consider how to interpret and use the data.

Additional people to act as training resources would also be helpful. Training videos are useful, but not as valuable as interactive, face-to-face training. The previous outcomes forums were useful (particularly in terms of linking with other states/territories), and would certainly be worth repeating, but the number of attendees is limited, and tends to be restricted to clinicians and Expert Group representatives who do not really have the capacity to return to Tasmania and act as trainers (except perhaps in their own teams or units). Trainers need to be carefully selected, need to be willing and able to take on the role, and need support. There are various ways in which additional trainers could be provided, including the identification of potential Tasmanian trainers who could visit one of the larger states for train-the-trainer workshops. Alternatively, trainers from other states/territories could visit as a 'bridging solution'.

AMHOCN should also have a role in information-sharing, and in enlisting the support of stakeholders at all levels. For instance, providing examples of ways in which others are using the data (e.g., referring to the HoNOS for care planning) via forums such as conferences and the MH-NOCC website, would be of benefit. Likewise, educating managers about the ways in which the data could be used for planning etc., and giving the initiative the imprimatur of a national network give it strength.

8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction that are innovators or champions in the area? What are your plans for the identification and support of innovators?

As noted in 5, above, Tasmania has an extensive range of annual tables and is moving to implementing monthly management reports, and automating these reporting processes.

Some clinicians (in selected teams and units) are starting to see the clinical utility of the data. So, for example, clinicians in one team are making rudimentary comparisons between scores on the BASIS-32 and scores on the HoNOS and LSP-16. The clinical implications of divergent scores are starting to be considered.

Some managers are beginning to recognise the value of the data for service planning (e.g., building a case for resource support based on demonstrated client loads etc.), but this type of use

is in its early phase. The Datamart facility will enhance planning processes, by facilitating population-based modeling of needs and resource use.

Data are gradually being used to inform specific mental health projects. At present, this is limited to staff in the Mental Health Information and Evaluation Unit working with project staff to provide statistical support for their projects.

A few innovators or champions are being identified. For example, the Tasmanian representatives on the Outcomes Expert Groups have provided a role in supporting the data collections, and conceptualising ways in which the data could be used. The representative on the Adult Outcomes Expert Group, for example, has been actively involved in the training and implementation processes. Tasmania has one team that sets the standard for data collection, and they have been identified as the exemplar for other teams to follow.

As the data quality and compliance issues are addressed, and reasonable time series data become available, the Mental Health Information and Evaluation Unit will be encouraging innovators and researchers to explore the potential of the data collected.

Table 10: Consultation attendees - Tasmania

Name	Position/organisation
FOX, Chris	Acting Southern Area Manager, Mental Health Services
HANKE, Annabel	Acting Team Leader, Clare House Child and Adolescent Mental Health Services
HOWATT, Jim	Information Support Officer
KEMP, Ray	Manager, Information Unit
MUNDAY, Ian	Team Leader, Northern District Teams Adult Mental Health Services
WOY, Wendy	Principal Occupational Therapist, Department of Health and Human Services

Appendix 7: Australian Capital Territory consultation (16 April 2004)

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

The ACT has a comprehensive information system in place across the mental health system (see 2, below). In terms of physical infrastructure, most clinicians doing case management in community teams have a computer on their desk to input data into this system. In inpatient settings, access to computers is not quite so good, with there typically being one or two shared computers at workstations within a ward. The Mental Health Information Technology Team provides the human resources (3.4 FTE) to support the information system (i.e., running the system, providing training and producing reports).

There was an intensive training effort regarding outcome measurement in the ACT in 2002. Key people in teams were selected to train others. This worked reasonably well, but some of the trainers have left, and there has been movement of personnel within teams, so the ACT has 'regrouped' to begin the next wave of training, which, in part, involves the distribution of standardised materials to each site to support consistency of training.

A committee known as the Outcome Measurement Monitoring Group (OMMG) has been established to discuss implementation issues at bi-monthly meetings. In particular, the OMMG has examined compliance with the use of outcome measures, which is currently estimated to be at about 60%. There are also suggestions that although NOCC data collection is reasonably comprehensive, it is of sub-optimal quality. The OMMG is specifically designed to support those who are not completing the measures, or who are completing them poorly, via an intensive education program.

The OMMG has been involved in considering where the renewed training efforts should be focused, and has approved the above standardised materials for distribution to each site. In addition, it has responded to concerns that early training efforts got clinicians to the point of recording scores on given outcome measures, but not beyond this. Specifically, it has been looking at how to encourage clinicians to use outcome measures in care planning. This has been the prime objective for 2003, and it seems to be 'bearing fruit'. There are imminent plans to trial an approach which educates clinicians in the use of outcome measurement within one team, and to systematically evaluate it.

A challenge, or risk, to implementation has been the fact that clinicians are stretched, and outcome measurement is a lower priority than clinical work. There is a recognition that MHAGIC is much better than a paper-based system, but there is still a feeling that outcome measurement takes time that could otherwise be used for clinical care. These pressures are exacerbated in the ACT, where the workforce is ageing, and there are difficulties in recruiting and retaining new staff. A particular issue has been securing the involvement of psychiatrists. Their lack of involvement may jeopardise the sustainability of routine outcome measurement. Conversely, their support (e.g., championing the view that clinical decisions should take into account the consumer's profile on given outcome measures) would take the initiative ahead in 'leaps and bounds'. Efforts are now being put into encouraging psychiatrists and their teams to use routinely-collected outcome data to review consumer management. One team is acting as a pilot in this regard.

An additional challenge is that some view the suite of outcome measures as less than ideal. Specifically, some people argue that more symptom-based scales would be of greater relevance, particularly in inpatient settings.

A final challenge lies in the fact that casemix has negative connotations in many clinicians' minds. They associated casemix with funding cuts, and have concerns about its accuracy and applicability in mental health settings. Having said this, many recognise the importance of developing a clear picture of what works and what is most cost-effective for groups of consumers with particular levels of case complexity. There is still a need, however, to reassure clinicians that the role of AMHOCN is not to impose a casemix classification system upon services, but to further refine the existing systems.

Balanced against these risks is an acknowledgement of the benefits of routine outcome measurement. Clinicians are beginning to see that the measures can be useful in guiding care planning, and talking about the clinical implications of particular profiles on given instruments. Their discussion is not restricted to the clinician-administered instruments; they view the consumer-administered measures as providing an important 'reality check'. Managers are beginning to understand the value of the measures in terms of service planning and building arguments for resourcing. There is a need to capitalise on the interest of these stakeholders in the utility of outcome measurement, by offering training that supports critical thinking about how to interpret and use the information generated by the instruments at different levels, and by providing salient and timely feedback that can influence clinical and management decisions. The feedback should focus on how clinicians and managers can use outcome measurement as a tool (e.g., to optimise care planning or to guide resource decisions), as this will engender a different mindset whereby mental health staff view themselves as users of the data, rather than just collectors.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

As noted at 1, above, the ACT has a comprehensive information system in place for the collection/capture/storage of NOCC and NMDS data. Known as MHAGIC (Mental Health Assessment Generation and Information Collection System), it is a clinical information system that includes NOCC and NMDS data. MHAGIC prompts the clinician to administer and record the scores from a given outcome measure (or set of measures), and advises the clinician why the measure is being collected at the particular point in time (e.g., discharge from an inpatient episode; admission to a community episode). MHAGIC also records data on some additional outcome measures that are outside the NOCC suite, such as the BPRS.

MHAGIC is used by all community teams, with the exception of the eating disorders team. Having said this, the use of MHAGIC is variable across teams. It is used very well by the crisis team and the adult community teams, poorly by inpatient units, and somewhere in between by the child and adolescent and older persons teams. NOCC data and non-admitted NMDS data from MHAGIC are sent to the Australian Government and the Australian Institute of Health and Welfare, respectively.

MHAGIC is also used in inpatient units, but there are particular issues here. Canberra Hospital has a PAS system, so at the moment there is some double entry of data. There is an interface between MHAGIC and PAS, but it is one-way – i.e., it just transfers the admission date for the individual from PAS to MHAGIC. Calvary Hospital has a different database again. NOCC data are extracted from MHAGIC and sent to the Australian Government. Admitted NMDS data are extracted from both MHAGIC and PAS, sent to ACT Health to reconcile, and then sent to the Australian Institute of Health and Welfare. Validation processes occur at all stages.

3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

The ACT has two separate global identifiers. MHAGIC has one identifier that is unique across all mental health services. There is also a patient master index (PMI) that will eventually operate across all ACT Health services, but at present is only in place in mental health, diabetes and Canberra Hospital, and this generates a second identifier that is also unique across all mental health services. Calvary Hospital sits outside the PMI system, and has its own system of identifiers.

There is no direct link between the MHAGIC identifier and the PMI identifier, in the sense that they are two separate numbers with no logical relationship. However, MHAGIC stores a table of links between its identifiers and the PMI identifiers, and the PMI stores a copy of the MHAGIC identifier for each PMI identifier that has one.

The PMI identifier gets sent with NOCC to the Australian Government and with non-admitted and admitted NMDS data to the Australian Institute of Health and Welfare. The exception is Calvary Hospital, but because they use MHAGIC, the PMI identifier could potentially be derived.

4. What systems do you have in place for training or retraining staff in the measures and data collection? What are your future plans?

As noted above, the Mental Health Information Technology Team is responsible for training in the use of MHAGIC. Training in the use of outcome measures is the responsibility of Service and Staff Development. Training to date has largely been in how to use the outcome measures and record information from them on MHAGIC. This was seen as entirely appropriate as a starting point, but there is a view that now the base work has been done it is time to move on to a higher level. Future training needs to target service managers, team leaders and psychiatrists to convince them that routine outcome measurement is worthwhile and useful (i.e., as a clinical and management tool), to ensure their 'buy in'. The ACT's current COPO application includes a submission for support to undertake this training.

5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?

Individual-level reports from the NOCC data have been produced for clinicians, in the sense that there is now a modified management plan in MHAGIC which incorporates areas that the clinician and consumer might want to address, given the consumer's profile on the outcome measures. Specifically, a background process examines, at a subscale level, the outcome measures that have been administered. The process identifies subscale areas where the consumer has scored higher than 25% of what he/she potentially could have scored, and identifies these as potential areas for action. It also examines previous care plans, to see whether the given area has been addressed in the past. The process operates on data from the HoNOS (and HoNOSCA and HoNOS65+), the LSP-16, the BASIS-32 and the SDQ, and takes subscales from each instrument and aggregates across instruments. It identifies the specific instrument where the given problem was identified. The management plan in MHAGIC also has a drop-down list of areas that the clinician and consumer might want to address, and highlights in red any that relate to identified problems. At present, the only conceptual difficulty with the process is that it cannot distinguish between an outcome measure administered 12 months ago and one administered one day ago, nor between an outcome measure administered in an inpatient setting and one administered in a community setting. There are plans to address this, in order to refine the process in terms of relevance.

Beyond this, MHAGIC generates some individual-level graphs which monitor change for consumers, using NOCC data. Specifically, when a given outcome measure is administered, MHAGIC checks for previous instances of the same measure for the same consumer, and asks the clinician if he or she would like to see a graph.

The only aggregated NOCC reports that have been generated to date have related to compliance – teams are regularly given reports on their overall compliance and their compliance with different measures. As a consequence, compliance has improved over time (albeit not in a linear fashion).

It is not yet possible to aggregate data, to see, for example, how the average change in HoNOS scores for groups of consumers. There are, however, plans to develop such reports to give clinicians and managers the opportunity to examine data aggregated at a team level, and possibly later at an individual clinician level. The ACT's COPO application includes a submission for funding for an officer to examine needs regarding the use of aggregate data. There are also plans to consult with NSW about the types of reports that might have greatest clinical and management utility.

Reports using NMDS are fairly limited. Some aggregated reports have been routinely generated using NMDS data, profiling factors such as diagnosis, caseload, occupied bed days, and 28-day readmission rates. Some ad hoc reports have also been created, using NMDS data. Typically, these have been produced in response to a specific request from a project officer conducting a specific project for which they require baseline data, but they have also been used at a higher level to inform strategic planning processes.

6. In what ways could the national data most beneficially be used to augment state/territory level data in your jurisdiction?

The national data could most beneficially be used for benchmarking purposes. It would be useful to be able to compare the ACT with other jurisdictions, there are some issues that would need to be resolved. Firstly, it would be necessary to take into account the fact that the ACT is the size of an area mental health service in some of the bigger jurisdictions. For this reason, benchmarking efforts would necessarily involve the development of peer groups of services and stratifying factors. Secondly, issues regarding the sharing of information between jurisdictions would need to be dealt with.

The episode-based dataset that AMHOCN will create, which combines NOCC data and NMDS data, is seen as having immense value at a jurisdictional level. The ACT has the capacity to integrate costing data into this dataset once it is returned, which has the potential to answer comparative questions about the cost-effectiveness of different services and treatment approaches.

7. How could the national training and service development component of AMHOCN best support your jurisdiction?

In terms of the current workforce, the national training and service development component of AMHOCN could best support the ACT by fostering a standardised training approach across jurisdictions. The opportunity to 'buy in' some trainers would also be valued.

There is a recognition, however, that there is also a need to train the future workforce, in order for routine outcome measurement to become embedded in practice. Along these lines, the national training and service development component could also provide accredited training modules for graduate and post-graduate programs aimed at mental health professionals, including psychiatric registrars.

8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction that are innovators or champions in the area? What are your plans for the identification and support of innovators?

There are 'pockets of keenness' and some champions are emerging and beginning to see the value in, and make use of, routinely-collected outcome data. The Woden team is particularly keen, and has offered to pilot various aspects of the initiative. Not all of the members of the team are 'sold' on the idea, but the majority are beginning to see that outcome measures can answer salient clinical questions. In this case, the catalyst has been the team leader, who has promoted the utility of routine outcome measurement. Leadership has been crucial in this regard, and more charismatic leaders need to be identified and supported.

Table 11: Consultation attendees – Australian Capital Territory

Name	Position/organisation
COLOGON, John	Manager, Mental Health Information Technology Team, Mental Health ACT
FAHY, Peter	Director, Service and Staff Development, Mental Health ACT
JACOBS, Brian	General Manager, Mental Health ACT
KIDD, Kevin	Business Manager, Director of Nursing, Mental Health ACT
TROMPF, Linda	Manager, Mental Health Policy Unit, Mental Health ACT
WHYTE, Paul	Director, Community Mental Health – South, Mental Health ACT

Appendix 8: Northern Territory consultation (30 April 2004)

Questions relating to the eight key areas:

1. What is your current status with respect to the implementation of the National Outcomes and Casemix Collection (NOCC) and the National Minimum Data Set (NMDS) (e.g., regarding coverage, infrastructure, training, strategies, consultation with stakeholders and perceived benefits and risks)? What are your future plans?

An extensive training program was undertaken in late 2002, with expert trainers brought in for the purpose (see 4, below). Over 50% of the mental health workforce was trained during this period (albeit not necessarily in the use of all instruments). Simultaneously, data collection systems were developed and implemented (see 2, below). Once the training program and system development were complete, routine outcome measurement (OM) was 'rolled out' in the Northern Territory. There is a view that although the initial training was high calibre and comprehensive, and the data capture systems are more streamlined than in many other States/Territories, the Northern Territory has experienced difficulties in sustaining routine outcome measurement 'on the ground'.

After more than a year of full implementation, NOCC data collection is variable, according to the findings of a six-month project which is in the process of examining implementation issues, including compliance. In some areas (and in some units/teams within areas), the outcome measures are being administered reasonably comprehensively; in other – often more remote – areas, this is not the case. There are also differences in compliance with particular outcome measures. Since implementation, there has been a decrease for some measures - i.e., HoNOS, LSP and K10). To the end of 2003, the use of HoNOSCA and CGAS had actually improved. This compliance data has not yet been reported back to units/team managers, but there is an intention to do this when the report has been signed off (see Table 12).

The above-mentioned project specifically examined the views of clinicians, via a questionnaire (parts one and two) administered to case managers. The exercise achieved a 23% response rate (25 case managers). Barriers to OM compliance mentioned by the respondents were: lack of training (20); lack of time/human resources (17); lack of directives or prompting (6). Minimal feedback is also recognized as being a major barrier. Without increased support, outcome measurement will continue to be given low priority by most clinicians (see Table 13).

Various steps are being taken to address these issues. For example, for some teams, 100% compliance is unlikely to be achieved, so a better approach might be to encourage case managers to select a percentage of their caseload, which they consider to be manageable, and ensure that outcome measurement occurs for this group. An advantage of ensuring all OM's are completed for a discrete group of consumers is that it would allow the generation of both accurate and meaningful Reports. Other ways of making data collection less onerous are also being examined, such as incorporating outcome measurement into the assessment and review process in a way that the data are useful for clinical decision-making. Ultimately, it would be desirable for outcome measurement to become the norm under both the administrative and clinical aspects of care planning. This could be achieved by synchronizing clinical review dates (which are clinician-selected) with the OM due dates (automatically generated by the CCIS Diary function). Ideally, this review occasion would also incorporate servicing of the Individual Care Plan and updating the Risk Assessment Tool (RAT), in order to determine the optimal plan of care. The Northern Territory is moving in this direction, but there is still progress to be made.

2. What systems do you currently have in place for the collection/capture/storage of NOCC and NMDS data? What are your future plans?

Prior to the introduction of routine outcome measurement, all community mental health services in the Northern Territory were using a single database, the Community Care Information System (CCIS). There was also a hospital data collection system (Caresys) with a limited mental health component, which functioned primarily as a patient administration system. Together, these Corporate Information Systems (CIS) recorded non-admitted and admitted NMDS data, respectively.

With the introduction of routine outcome measurement, consideration was given to how best to capture relevant information. There was some concern regarding the uncertainty of the specific outcome instruments, and efforts were made to ensure that the system that was put in place would not quickly become obsolete. An assessment-authoring tool was chosen as the solution, because it has the flexibility to allow instruments to be added at different points in time. The CCIS platform, which is available in both community and inpatient settings, is viewed as being successful in alleviating anxiety about future changes.

The Northern Territory has a corporate data warehouse, which is the repository for data extracted from CIS and CCIS (as well as other data, such as financial information). Non-admitted and admitted NMDS data are submitted annually to the Australian Institute of Health and Welfare (the latter from Alice Springs and Royal Darwin Hospitals only, as these have the only specialist mental health beds and, under the N.T. Mental Health and Related Services Act (MHRSA) are Approved MH Treatment Facilities). NOCC data are extracted on a monthly basis, and the first NOCC extract (for the last six months of 2002/03) has been submitted to the Australian Government.

3. What unique identifier system do you use, and what is its capacity for enabling individuals to be tracked over time or across services? What processes do you undertake to de-identify NOCC and NMDS data? What are your future plans?

The Northern Territory has a Client Master Index (CMI) which operates across the health sector (i.e., beyond mental health), and means that a given consumer is allocated a unique identifier that allows him/her to be 'tracked' across community and inpatient services, and over time. This means that the same identifier applies to non-admitted and admitted NMDS data and NOCC data. There is, however, an encryption process which is used by the Northern Territory, which may render these identifiers different for the same person in different settings or at different points in time.

4. What systems do you have in place for training or retraining staff in the measures and data collection? What are your future plans?

As noted at 1, above, the initial training strategy in the Northern Territory involved contracting interstate experts to directly train the workforce in the use of the relevant outcome measures. Although the training was thorough, it did not include all instruments (e.g., training was not provided in the use of the SDQ), and a significant proportion of staff have since left or lost their skills. Consequently, a priority for the Northern Territory is a relaunch of the outcomes initiative, with a refreshed training package and the ability to produce graphical reports. (see 5, below). This is the thrust of the Northern Territory's COPO bid.

Specifically, the bid requests resources for training/support personnel, who would operate under a model similar to that employed in Queensland. In this model, the regional coordinators play very much a supportive/assistive role, focused on getting out into the field, and travelling extensively throughout the State. In the NT, it is planned to develop a team named Consumer Outcome

Measures Embedding Team (COMET) which, will focus on embedding the use and culture of OMs, and also team members embedding themselves into the various Work Units throughout the NT. It is envisaged that COMET members will regularly attend team meetings, provide ongoing training and support in the use and interpretation of outcome measures and also enhance the use of CCIS modules relating to the use of OMs. The model of case management used in the N.T. identifies OM collections as being, primarily, part of the case managers role and responsibility. The regular use of OMs by medical officers has not been a priority. COMET will also identify the need for, and subsequently develop, training resources whilst looking for novel and user-friendly solutions to both previously identified and new/developing issues.

In addition to providing training/support in the mechanics of using the outcome measures, a key role for the new training/support personnel will be to train staff in how the measures can be useful in clinical management and care planning. In order to fulfil this role, and to maximize their acceptance, the people employed in these training/support roles will need to have clinical backgrounds.

Due to the geographical separation of the Mental Health Services, it would be beneficial to have members of COMET stationed in each region to provide both scheduled and ad hoc training/support. However, this option may not be feasible due to the need for COMET members liaise closely and support each other in various roles. Due to this, it may prove more practical to base the team in the Top End region.

Commonwealth funding, via the COPO process, is seen as necessary to 'kick start' the training/support unit. The intention is, however, to build capacity and embed the role within routine service operations.

5. What are your current plans for analysis and reporting in your jurisdiction? What are your future plans?

To date, the Northern Territory has focused on training, system development and implementation, rather than on analysis and reporting. Increasingly, however, efforts are beginning to turn to analysis and reporting, as there is awareness that clinicians and managers desire feedback at a range of levels. For example, consideration is being given to reviving a mental health newsletter, focusing on providing feedback to clinicians about outcome measurement (this might include frequently asked questions, and could be based on, and/or incorporate information from, newsletters in other jurisdictions, such as Queensland and Western Australia. Likewise, the possibility of providing links to the MH-NOCC website via the Intranet is being explored. So too is the possibility of embedding links within the outcome measures themselves, which would enable clinicians to go to the MH-NOCC website (or indeed other relevant websites, such as well-developed sites in other jurisdictions) for further information about a given instrument while they were administering it. It is recognized that, for some clinicians, lack of Internet access would limit these possibilities.

CCIS allows for graphical reporting of individual-level data, but as yet the specific nature of such reports has not been 'nailed down'. Attention is now being given to the sorts of reports that would be most useful (e.g., the Northern Territory has looked to Victoria for report templates, and to the Australian Capital Territory for how scores on given outcome measures could be used in a decision support capacity). There are issues about the logistics of getting this sort of information to clinicians' desktops in a timely and useful manner (e.g., related to the availability of IT support, and, until recently, relatively old technology), but there is recognition that this is crucial, and must happen soon, if the good will of clinicians is to be sustained.

The data warehouse provides the capacity to report CCIS data at an aggregate level, but very few reports have been generated to date, and none have been fed back to teams/units. There is a view that reports on compliance would be useful. There is also a view that content-based reports are needed, but that direction is lacking regarding what is required, what is meaningful and what is happening in other jurisdictions. Reports can be produced centrally, and, once they

are built, can be re-run and updated. Static reports that are updatable can be produced and disseminated via the intranet. There is also a tool that enables individuals and teams/units to directly access data and generate their own purpose-designed reports (Business Objects). The latter can be made available, but depends on users' skills, knowledge and capabilities. Again, there is an acknowledgement that feedback to clinicians and managers that demonstrates the clinical and management utility of routine outcome measurement is necessary to generate enthusiasm among those who are at risk of viewing themselves merely as 'data collectors'.

Part of the Northern Territory's COPO application involves explicating reporting structures at the five designated levels.

6. In what ways could the national data most beneficially be used to augment state/territory level data in your jurisdiction?

At present, there is a view that AMHOCN could most usefully assist the Northern Territory by helping with the task of defining the types of individual- and aggregate-level reports that would have the greatest clinical and management utility. In particular, AMHOCN could share information about how the data are being used in other jurisdictions. This view is balanced against recognition that there is a need to 'put something out there', to gauge the reactions of clinicians and managers as to what they would find most useful.

Once the Northern Territory is clearer about the specific reports that are required, AMHOCN could help by providing benchmarking and normative data. This would help to put the Northern Territory's data in context, and would allow questions like 'how is my client going compared with X?' and 'are my clients particularly unwell?' to be answered. AMHOCN's process of developing 'peer groups' for benchmarking purposes would have to be done in close collaboration with the Northern Territory, in order to take into account its unique context (e.g., the isolation of many teams/units).

7. How could the national training and service development component of AMHOCN best support your jurisdiction?

The training and service development support required from AMHOCN will depend to some extent on the success of the Northern Territory's COPO bid. However, regardless of the outcome, resources that help clinicians and managers interpret and reflect on the meaning of individual and group profiles on particular outcome measures would be useful.

8. How has your jurisdiction made use of the NOCC and NMDS information? Are there particular individuals or services within your jurisdiction who are innovators or champions in the area? What are your plans for the identification and support of innovators?

To date, little use has been made of the NOCC and NMDS data by the mental health field (see 5, above). However, there is an acknowledgement that cultivating the support of team leaders and psychiatrists is crucial to the ongoing sustainability of the routine outcome measurement initiative, and that this may involve working with them to develop an 'ownership' of the data. Training, support and timely feedback will be important in this regard.

Table 12: Quarterly breakdown for 2003 of outcome measures usage across the Northern Territory

Tool used	Q1	Q2	Q3	Q4		Sum for year 2003
FIHS	26	27	22	29		104
CGAS	41	48	37	65		191
RUGADL	2	7	2	0		11
K-10	45	49	39	25		158
HoNOSCA	47	54	40	70		211
HoNOS	148	126	141	66		481
LSP	67	83	57	33		240
Sum	376	394	338	288		1396
New Cases	323	443	461	457		1684

Table 13: Responses to questionnaire part 2

Rank	Issue of concern	Number of respondents	Comments
1	Lack of follow-up OM training	9	Overall lack of training was mentioned by twenty respondents.
2	Lack of initial OM training	8	
3	Staff shortages	7	Lack of human resources was mentioned by seventeen respondents.
4	Not enough time	6	
5	Not a priority	4	
6	Lack direction	4	
7	Lack of CCIS training	3	Six respondents felt there was an overall lack of directives or prompting.
8	Lack of prompting	2	
9	CCIS problems	2	
10	Poor feedback	2	
11	Limited computer access	2	

Table 14: Consultation attendees – Northern Territory

Name	Position/organization
BARKER, Terry	Mental Health Policy and Program Management
BRADLEY, Pat	Top End Mental Health Service Accreditation Officer/Nurse Educator
FORRESTER, Anthony	Project Officer, MHS COM review
KAUR, Anant	Clinical psychologist, Child and Adolescent Top End MHS
KERR, Peter	Manager, Community Care Information Service
COLLINS, Rod	Acting Director of Nursing/Adult Team Manager, TEMHS
MEEHAN, Denis	Chair, NTCAG
NAGEL, Tricia	Consultant psychiatrist, Top End Mental Health Service
ORR, Rebecca	Mental Health Service Development Officer, Mental Health Unit
SEARLE, Julie	Business Analyst, Corporate Information Services
SPENCER, Neil	CNC – Programs, Top End Mental Health Service
WEIR, Paul	CCIS Mental Health Business Analyst