



AUSTRALIAN GOVERNMENT  
DEPARTMENT OF HEALTH AND  
AGEING

Review of the Australian Mental  
Health Outcomes and  
Classification Network  
(AMHOCN)



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AMHOCN Final Report

29 July 2011

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# Abbreviations

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<b>ACT</b>	Australian Capital Territory
<b>AFRM</b>	Australasian Faculty of Rehabilitation Medicine
<b>AHMAC</b>	Australian Health Ministers' Advisory Council
<b>AHSRI</b>	Australian Health Services Research Institute
<b>AIHW</b>	Australian Institute of Health and Welfare
<b>AMHOCN</b>	Australian Mental Health Outcomes and Classification Network
<b>AR-DRG</b>	Australian Refined Diagnosis Related Groups
<b>AROC</b>	Australasian Rehabilitation Outcomes Centre
<b>ATSI</b>	Aboriginal and Torres Strait Islander
<b>BASIS-32</b>	Behaviour and Symptom Identification Scale 32
<b>CALD</b>	Culturally and Linguistically Diverse
<b>CGAS</b>	Children's Global Assessment Scale
<b>CIHI</b>	Canadian Institute for Health Information
<b>COAG</b>	Council of Australian Governments'
<b>DoHA</b>	Department of Health and Ageing
<b>DRG</b>	Diagnosis Related Groups
<b>FIHS</b>	Factors Influencing Health Status
<b>FIPS</b>	Federal Information Processing Standard
<b>FOC</b>	Focus of Care
<b>HMA</b>	Healthcare Management Advisors
<b>HoNOS</b>	Health of the Nation Outcomes Scales
<b>HoNOS65+</b>	Health of the Nation Outcomes Scales 65+
<b>HoNOSCA</b>	Health of the Nation Outcomes Scales for Children and Adolescents
<b>K-10+</b>	Kessler-10 Plus
<b>LSP-16</b>	Life Skills Profile 16
<b>MH-CASC</b>	Mental Health Classification and Service Costs
<b>MHI</b>	Mental Health Inventory
<b>MHISS</b>	Mental Health Information Strategy Subcommittee
<b>NGO</b>	Non-government organisation
<b>NHHN</b>	National Health and Hospitals Network
<b>NMDS</b>	National Minimum Data Set
<b>NMHP</b>	National Mental Health Plan
<b>NMHWG</b>	National Mental Health Working Group
<b>NOCC</b>	National Outcomes and Casemix Collection
<b>NSW</b>	New South Wales
<b>NT</b>	Northern Territory
<b>NZ</b>	New Zealand

<b>PCOC</b>	Palliative Care Outcomes Collaboration
<b>QLD</b>	Queensland
<b>RUG-ADL</b>	Resource Utilisation Groups-Activities of Daily Living Scale
<b>SA</b>	South Australia
<b>SDQ</b>	Strength and Difficulties Questionnaire
<b>TAS</b>	Tasmania
<b>The Institute</b>	New South Wales Institute of Psychiatry
<b>UQ</b>	University of Queensland
<b>VIC</b>	Victoria
<b>WA</b>	Western Australia
<b>wDST</b>	Web Decision Support Tool

# Executive Summary

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## BACKGROUND

In 2003 the Department of Health and Ageing (DoHA) funded the establishment of the Australian Mental Health Outcomes and Classification Network (AMHOCN). This consortium was to be a focus for national activity in the development of outcomes and casemix concepts in mental health. AMHOCN is the mechanism for collecting, warehousing, analysing and reporting on the data routinely collected by clinicians in public mental health services on the outcomes of care, known as the *Mental Health National Outcomes, and Casemix Classification* (NOCC) data. AMHOCN also provides training at the service level in outcomes collection.

The Government's vision in 2003 was that within five years the national investment in information development for mental health outcome measurement and casemix classification would achieve four deliverables. Those deliverables were:

- (1) Establish routine use of outcomes measures (consumer and clinician related) in all publicly funded or managed mental health services where such measures contribute to both improved practice and service management.
- (2) Generate 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.
- (3) Develop the informed use of casemix to understand the role of provider variation in differences between agencies in costs and outcomes.
- (4) Create a health service research culture within Australia's leading academic institutions that supports the industry with publications reflecting practice, and contributes to debate about next steps forward.

AMHOCN represented an innovative approach to health information management. However, it is essential to recognise that AMHOCN is only one component of the national infrastructure established to support the sustainable implementation of an outcomes and casemix measurement as part of routine clinical practice. Achievement of the deliverables was a shared responsibility between AMHOCN, state and territory governments and the Commonwealth Government. AMHOCN has played a key role in contributing to this realisation through national leadership around design of approaches to data management, analysis, reporting and sector development in relation to mental health outcome measurement and casemix classification.

## REVIEW METHOD

The review of AMHOCN commenced on 25 March 2011 and was completed within 12 weeks, in mid June 2011. The process included a high level desktop audit of deliverables developed by AMHOCN, a review of AMHOCN data management processes, 37 consultations gathering information from 50 key stakeholders across all jurisdictions, clinical specialty groups and the AMHOCN collaborative, and analysis of materials against AMHOCN objectives. The final report delivered in July 2011.



## OVERALL ASSESSMENT

The review found there is an ongoing need for the services AMHOCN provides. AMHOCN has made substantial contributions towards building an information foundation for measuring outcomes and developing mental health casemix concepts in Australia. The overall task was always ambitious and it has further increased in complexity since 2003. It is far from complete. Achieving the vision requires consolidation of what has already been delivered. Further, in response to government policy initiatives, reporting arrangements around the data collection needs review to promote its evolution and extension into new areas of activity.

The initial vision for AMHOCN was ambitious and the timetable for its implementation assertive. With no precedents to draw on AMHOCN has developed and implemented the NOCC from a “standing start” to being a benchmark data collection, and arguably world-leading, within a seven year time frame and with relatively small financial investment. AMHOCN has developed innovative technical solutions, fostered ‘information literacy’ in the public mental health sector, and produced reports that are meaningful to a range of audiences. It has provided critical support to states and territories in the establishment of routine outcome measurement in Australia’s public sector mental health services.

AMHOCN has progressed from having a primary concentration on the basic collection aspects of information. It has put the systems in place, prepared the documentation, trained the clinical workforce and implemented data quality processes to enhance the useability of the data collection. Over recent years AMHOCN has increasingly focused on providing information and systems that support decision-making. AMHOCN is fostering a service delivery culture in which information can support decisions at multiple levels and for multiple purposes. There is a demand to further extend this capacity.

On a number of occasions AMHOCN has conducted special projects and ‘research and development’ activities involving time limited funds and the appointment of special task groups. AMHOCN has delivered high quality results.

Sustainability of the current arrangements requires ongoing funding from DoHA to maintain data collection, a workforce educated in the collection and use of the data, and longer term planning to further evolve use of the data.

The programs proposed to underpin the National Health and Hospitals Network initiative will extend the requirement for the mental health sector to contribute more detailed and timely outcomes and casemix measures. To remain relevant AMHOCN requires clear strategies to chart a future development path around outcome and casemix measurement as well as contributing to quality improvement strategies in the sector.

## SPECIFIC FINDINGS AND FUTURE OPTIONS

Specific findings from the review are presented below, structured by the review framework for assessing AMHOCN’s performance:

### Achievements against vision

***Review finding #1: The review found strong evidence that routine collection of outcome data is now occurring in the mental health sector and AMHOCN has provided critical support to jurisdictions in the establishment and maintenance of that data collection.***

**Review finding #2:** *The review found that outcome measures are available for benchmarking purposes at an aggregate jurisdiction level and the mental health sector has an increased knowledge of benchmarking as a result of AMHOCN's data collection and reporting activities. However, the review found that the use of outcome measures for benchmarking purposes is not yet the norm at a service level.*

**Future Option #1:** *Support an increased use of outcome measures and benchmarking to improve practice and service management through initiatives including: 1) utilising the full reporting capacity of the NOCC data model; 2) making more detailed and stratified data accessible through AMHOCN's resources; and, 3) training in the utilisation of the more detailed data for these purposes.*

**Review finding #3:** *The review found that there is no routine use of casemix classification in the mental health sector. While AMHOCN has made casemix data available and provided training in the use of casemix classification, further research, development and agreement is required before a casemix classification is used for all consumers of mental health services. The review found that the original timetable for achievement of the objectives specified for AMHOCN in relation to casemix was overly ambitious.*

**Review finding #4:** *The review found evidence of a health services research culture developing as a result of AMHOCN's activities organizing conferences and workshops, publishing outcomes and casemix research, and making the NOCC data accessible.*

**Future Option #2:** *Support increased engagement with academic institutions with a focus on outcome measurement and an increased number of peer reviewed research publications based in part or wholly on NOCC data.*

#### Leadership effectiveness

**Review finding #5:** *AMHOCN has provided effective leadership to the mental health sector around outcomes and casemix collection.*

#### Stakeholder perspectives

**Future Option #3:** *Review the annual cycle for NOCC data submission with AMHOCN and the jurisdictions and target removal of barriers to: 1) more frequent submission cycles (eg quarterly); and, 2) reducing the lead-time between data submission and the availability of data for benchmarking, service management and casemix purposes.*

**Review finding #6:** *Feedback from the consultation process found that a significant majority of stakeholders considered that AMHOCN had made substantial progress towards realising the challenging objectives that it had originally been set. There was general support for the ongoing maintenance of a body like AMHOCN that has a role in promoting outcome measurement plus the development and application of casemix to the mental health sector.*

#### Role of consortium members

**Future Option #4:** *Develop resources and demonstrate the capacity of national outcomes and casemix measures to support clinical decision-making and improve the quality of the services provided to consumers of mental health services.*

**Future Option #5:** *Expand engagement with consumer and carer groups beyond membership of the MHISS to include developing and delivering training programs specifically targeting carers and consumers in the work of AMHOCN, the data that is available through the NOCC and the tools available to enable carers and consumers to analyse the dataset from their perspectives.*

**Future Option #6:** *The AMHOCN communication strategy needs to be reviewed. Its communications channels need to be extended beyond workshops, seminars, publications and the AMHOCN website. An expanded communication strategy would seek to: increase engagement with output from the NOCC more broadly across the mental health sector; promote AMHOCN's achievements; and communicate how the NOCC 'Gold' data warehouse can be used to inform service improvement.*

#### Value for money

**Review finding #7:** *The review found that the outputs delivered by AMHOCN represented value for money because it is unlikely that they could have been achieved at a lower cost, nor better outcomes achieved at the same cost.*

#### Evolution and sustainability

**Review finding #8:** *There is evidence that AMHOCN's component services and products have adapted and evolved as the awareness of outcome measures and analysis tools across the mental health sector has increased.*

**Review finding #9:** *In the absence of a different organisational structure, AMHOCN will continue to be dependent on DoHA funding for its ongoing existence. It was observed that AMHOCN's sustainability was compromised because of its reliance on a small number of individuals for analysis and reporting, and training and development services.*

## Other observations

**Future Option #7:** AMHOCN could increase understanding of its internal data management processes through initiatives that: 1) enhance the “episodiser” process providing greater transparency of how the data is linked to those who submit and utilise the NOCC data; 2) providing a simple reconciliation from jurisdictional data submission to the Gold data warehouse; 3) developing and delivering regular training for the jurisdictions including the full functionality of the MDS Validator, the “episodiser” process, criteria for inclusion in the Gold data warehouse; the reconciliation process; and, the importance of additional data quality reviews before data is submitted to the NOCC.

**Review finding #10:** Data security is consistently carried through to a high standard by the relevant AMHOCN consortium partners.

## STRATEGIC DIRECTIONS

AMHOCN currently operates in an uncertain, changing and challenging policy environment. HMA considered the future implications of a range of issues and identified priorities covering: sustainability; alignment with the national health reform agenda; embedding outcomes measurement in a national benchmarking platform; strategic planning; and, building strategic alliances.

Possible strategic directions arising from the review are presented below:

**Strategic Direction #1:** Maintain the current commercial arrangements with the AMHOCN collaborative for the short term while moving to place the organisation on a more sustainable footing through consideration of: 1) possible alternative revenue sources; 2) assessing the feasibility, costs and benefits of alternative organisational arrangements; and 3) developing succession planning for transfer of skills.

**Strategic Direction #2:** Align AMHOCN’s work-plan with the emerging national health reform agenda with particular focus on the new arrangements for national reporting of health organisation performance, aligning any further casemix research and development with the emerging directions for casemix and outcomes measurement in mental health.

**Strategic Direction #3:** Embed the current focus on outcome measurement within a broader benchmarking platform based on the national mental health performance framework and close alignment with the other national mental health data collections.

**Strategic Direction #4:** Build strategic alliances with other organisations, domestically and potentially internationally, which have similar or relevant national quality, outcomes, casemix or data management experience and / or responsibilities.

**Strategic Direction #5:** Review the collaboration’s vision and purpose to determine, agree, document and communicate the short-term strategic direction and priorities of AMHOCN.

## PART A: CONTEXT

# 1 Introduction

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## 1.1 BACKGROUND

The Department of Health and Ageing (DoHA) engaged Healthcare Management Advisors (HMA) to

*“Review the Australian Mental Health Outcomes and Classification Network (AMHOCN).”*

The Australian Government’s vision in 2003 was that, within five years, the national investment in information development for mental health outcome measurement and casemix classification would achieve four objectives. Those objectives were:

- (1) Establish routine use of outcomes measures (consumer and clinician related) in all publicly funded or managed mental health services where such measures contribute to both improved practice and service management.
- (2) Generate 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.
- (3) Develop the informed use of casemix to understand the role of provider variation in differences between agencies in costs and outcomes.
- (4) Create a health service research culture within Australia’s leading academic institutions that supports the industry with publications reflecting practice, and contributes to debate about next steps forward.

In 2003 the Australian Government established AMHOCN as a focus for national activity in the development of outcomes and casemix concepts in mental health. AMHOCN is the mechanism for collecting, warehousing, analysing and reporting on the data routinely collected by clinicians in public mental health services on the outcomes of care, known as the Mental Health *National Outcomes and Casemix Classification* (NOCC) data. AMHOCN also provides training at the service level in outcomes collection.

AMHOCN comprises a consortium of the following three organisations that provide data collection services, research and analysis, training and secretariat services:

- Strategic Data Pty Ltd (hereafter referred to as *Strategic Data*), responsible for data management;
- The University of Queensland (*UQ*), responsible for analysis, research and development of the NOCC data; and
- The New South Wales Institute of Psychiatry (*the Institute*), responsible for training and service development in relation to the NOCC data. The Institute also provides secretariat services to the consortium and expert groups established to advise on mental health information development.

## 1.2 REVIEW TERMS OF REFERENCE

The review's objectives were to evaluate the extent to which AMHOCN has:

- contributed to the achievement of the original vision;
- provided effective leadership to support the sustainable implementation of the outcomes and casemix collection as part of routine clinical practice;
- satisfied the expectations of its stakeholders in the services and products it deliver;
- provided value for money and produced quality results; and,
- adapted over the years to meet evolving needs.

Further, the review had to assess the extent to which each of the AMHOCN consortium members contributed to the achievement of these objectives.

The review was initiated on 25 March 2011. The final report (this document) was completed in July 2011.

## 1.3 METHODOLOGY

HMA conducted the review by employing the following methodology, agreed in advance with DoHA:

- (1) **Project initiation:** the start-up phase of the project confirmed the scope, communication strategies and clarified expectations between HMA and the Department.
- (2) **High level desktop audit:** HMA completed a desktop audit of the deliverables developed by AMHOCN. The audit provided the HMA team with a detailed understanding of AMHOCN's activities to date and informed development of the consultation framework. The *High Level Desk Top Audit* was provided to DoHA in late April 2011.
- (3) **Technical analysis – data management:** the HMA team reviewed the data management processes put in place by AMHOCN, including an assessment of their suitability in relation to meeting the overall objectives of AMHOCN and their sustainability. A *Working Paper on Data Management Processes* was provided to DoHA on 20 May 2011.
- (4) **Stakeholder consultation:** in May 2011 HMA undertook 37 interviews with 50 stakeholders. The consultation process provided detailed qualitative feedback on AMHOCN's efficiency and effectiveness, including assessments of the relationship between the consortium members and the Department as well as other stakeholders. A *Summary of the Consultation Process* was provided to DoHA on 20 May 2011.
- (5) **Analysis against objectives:** using information gained from the previous project stages, HMA prepared an assessment of AMHOCN's performance against the review objectives.
- (6) **Prepare final report:** the information from the above phases was incorporated into a final report for DoHA.



## 1.4 REPORT STRUCTURE

This document is the *AMHOCN Review Final Report*, the final deliverable for the project. It draws from the information gathered throughout the review process. Its purpose is to provide our analysis of AMHOCN achievements against the review requirements, and assess its effectiveness and impact. The final report addresses the six key review questions and specifies possible future directions.

The remainder of the report is structured as follows:

- *Chapter 2* presents a situation analysis, describing the context for the AMHOCN initiative and detailing the formal organisational arrangements and AMHOCN's contract requirements;
- *Chapter 3* details HMA's observations of AMHOCN's progress and achievements; and
- *Chapter 4* describes the implications of the review findings for the strategic directions of AMHOCN.

Accompanying this report is a series of technical papers that HMA used to formulate the report findings. They are:

- the high level desk top audit;
- a list of those consulted;
- the consultation discussion guides;
- a description of AMHOCN and related jurisdiction data management processes; and
- a summary of feedback from the consultation process.



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# 2

## Situation Analysis

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This chapter provides the contextual background for the AMHOCN review. It includes an overview of the organisational structure, IT architecture, and AMHOCN outputs and describes the broader policy context in which the consortium operates.

### 2.1 MEASUREMENT AND CLASSIFICATION IN MENTAL HEALTH – THE POLICY EVOLUTION

Development of outcome measurement in the mental health sector involved a long gestation period. Key milestones are summarised below:

- (1) ***The First National Mental Health Plan (April 1992)***<sup>1</sup>: one of the primary goals of the First National Mental Health Plan was to institute regular reviews of outcomes of services provided to persons with serious mental health problems and mental disorders. At that time there were no agreed outcome measures. Similarly, most Australian mental health services did not routinely collect clinical and service delivery data that could be used to compile measures of outcome. In response to this need, a major research program was initiated early in the strategy and anticipated to occur over a five year period.
- (2) ***Report on The Measurement of Consumer Outcomes in Mental Health (August 1994)***<sup>2</sup>: Professor Gavin Andrews *et al* examined the suitability of various measures of consumer outcome for routine clinical use in mental health services. The report identified six instruments of acceptable reliability, validity and sensitivity to change likely to be acceptable for routine application, including Health of the Nation Outcome Scales (HoNOS).
- (3) ***Report on Measuring Consumer Outcomes in Mental Health (April 1997)***<sup>3</sup>: this report extended the above review and field tested the recommended six adult outcome measures in a range of private and public sector clinical practice settings.
- (4) ***The National Information Priorities and Strategies under the Second National Mental Health Plan 1998-2003, First Edition (June 1999)*** committed jurisdictions to putting routine outcomes measurement in place:

*“This involves implementation in the day to day world of clinical practice.”*<sup>4</sup>

The Information Priorities document foreshadowed the need for an organisation like AMHOCN by referring to the need for the Commonwealth to support jurisdictions to implement core outcome measures by establishing a “central bureau”<sup>5</sup> that would facilitate “training, technical infrastructure, and access to optimised benchmark reports” and “a process for the national aggregation, analysis and reporting of core outcome data.”<sup>6</sup>

- (5) ***National Mental Health Information Development Funding Agreements, 1998-2003*** (implemented from 2000 onwards): The National Information Plan was backed up by the *National Health Information Development Funding Agreements*. These allocated

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\$37 m to the states and territories to support the development of clinical information systems that would further stimulate improvements in service quality, planning and policy development by promoting:

- the routine collection, use and reporting of a standard set of consumer outcome measures (HoNOS, LSP-13 and Consumer Self Ratings);
- the regular collection, use and reporting of patient data to allow casemix profiles to be developed; and
- the regular collection, use and reporting by service delivery agencies of the standard items included in the National Minimum Data Set for Mental Health Care.

In response the states and territories collaborated in the development of a data collection protocol for what has become known as the *National Outcomes and Casemix Collection* or *NOCC*, released in August 2002.

- (6) **Quality Through Outcomes' in Mental Health Care, Australian Health Care Agreements, 2003-08 (December 2003)** : a further \$20 million was invested in grants to states and territories with the focus on improving capacity to apply the NOCC data to improve service quality.

The Australian Government funded the establishment of AMHOCN in 2003 to complement the work of the states and territories by establishing a national infrastructure to produce national information collected using the NOCC.<sup>7</sup>

- (7) **National Mental Health Information Priorities, Second Edition (June 2005)**: the new edition of Information Priorities provided a stocktake of progress that had occurred over the previous decade, noting that the states and territories had overhauled or commenced the upgrade process to accommodate the new information requirements.

The development of the policy framework for outcome measurement over the last twenty years was complemented by commitments to develop the application of casemix concepts to mental health. The First National Mental Health Plan (1993 – 1998) gave rise to the Mental Health Classification and Service Costs Project (MH-CASC). The project resulted in the development of the MH-CASC classification model, which included 42 patient classes (19 for community and 23 for inpatient episodes). The model required the use of a “*small number of clinical scales applied at periodical intervals.*”<sup>8</sup>

The Second National Mental Health Plan (1998 – 2003) advocated the implementation of a national casemix classification that provided a focus for clinical protocol development and allowed for indicators of service quality to be adjusted for differences in casemix.

This historical review of the policy framework for outcome measurement and casemix development emphasises that realising change to data collection and management in the mental health area has required an extensive investment of time and resources. This reflects the complex governance, funding and service delivery arrangements for public mental health services (involving both the Commonwealth and states and territories), the varied information technology arrangement in each jurisdiction. There was a need for extensive developmental work that addressed formulation of standards, development of an understanding of the impacts of data collection on clinical processes, implementation of training, and agreement across multiple stakeholders on a shared vision for outcome and casemix classification development for public mental health services.

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## 2.2 NATIONAL OUTCOMES AND CLASSIFICATION COLLECTION

The principal objective of the NOCC initiative was to introduce routine measurement of consumer outcomes as a tool for driving quality improvement. The outcome measures contribute to monitoring whether a change has occurred for consumers as a result of the care they receive in public mental health services managed and operated by the jurisdictions. Using a range of clinician-rated and consumer-rated measures consumers and the clinician can map the journey of treatment and recovery over time. The information collected can also be used to help mental health services plan for improvements in service delivery<sup>9</sup>.

The measures that comprise the NOCC are:

- Health of the Nation Outcome Scales (HoNOS);
- Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA);
- Health of the Nation Outcome Scales 65+ (HoNOS65+);
- Life Skills Profile 16 (LSP-16);
- Resource Utilisation Groups – Activities of Daily Living Scale (RUG-ADL);
- Children’s Global Assessment Scale (CGAS);
- Mental Health Inventory (MHI);
- Behaviour and Symptom Identification Scale 32 (BASIS-32®);
- Kessler-10 Plus (K-10+);
- Strengths and Difficulties Questionnaire (SDQ)
- Factors Influencing Health Status (FIHS); and
- Focus of Care (FOC).

Version 1 of the NOCC specification was released in July 2002 to guide jurisdictions in the implementation of routine consumer outcomes measurement. Developed collaboratively between the jurisdictions, the NOCC specifications set the agreed ground rules for how consumer outcomes should be collected locally and reported nationally. The document was revised in December 2003 (Version 1.5)<sup>10</sup> to incorporate new measures for children and young people. A further version of the NOCC was introduced in 2008-09, known as *Version 1.6*. This version aligned aspects of the NOCC collection with mental health national minimum datasets (NMDSs) for mental health care and removed inconsistencies, redundancies and errors in earlier documentation.

## 2.3 MENTAL HEALTH NATIONAL MINIMUM DATA SETS

The NMDSs for mental health care are a set of mental health care-related data elements that have been agreed for collection each year by the Australian and state and territory governments. The main strength of an NMDS is that all data element definitions are agreed in detail by the National Health Information Standards and Statistics Committee, ensuring that what is collected is consistent with national health data standards. This provides a mechanism by which the data set can attain high levels of internal consistency and comparability across the jurisdictions<sup>11</sup>.

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The NMDSs for mental health care are comprised of four data sets:

- Admitted patient mental health care data set;
- Mental health establishments data set;
- Community mental health care data set; and
- Residential mental health care data set.

The Australian Institute of Health and Welfare (AIHW) manages these datasets, working in conjunction with data managers from the jurisdictions.

## 2.4 ORGANIZATIONAL STRUCTURE

AMHOCN comprises a consortium of three organisations:

- Strategic Data is contracted to perform the **data bureau function**, which receives and processes the mental health outcomes and casemix data submitted by the jurisdictions;
- UQ is contracted to act as a **specialist analysis and reporting** group which examines the data and provides ongoing research and development of mental health outcomes and casemix information at a national level while also providing a resource for such work at the jurisdictional level; and
- The Institute is contracted to act as a **national training and service development resource centre** for the ongoing use of outcomes and casemix measures, designed to inform and improve practice through workforce training, benchmarking and related activities. The Institute is also contracted to provide **secretariat support** to the AMHOCN consortium and Expert Groups established to advise on mental health information development.

While AMHOCN does not contain a project management component to coordinate the workload, consortium members schedule ad hoc meetings as required. Typically, meetings between Strategic Data and UQ occur weekly via teleconference and in person as necessary. UQ and the Institute typically meet weekly via teleconference also. AMHOCN have one formal annual meeting with DoHA.

AMHOCN is accountable to DoHA and reports to the Mental Health Information Strategy Subcommittee (MHISS) in an informational and advisory capacity. The MHISS is comprised of representatives of the jurisdictions and the Commonwealth and is tasked to provide technical advice and recommendations to the Mental Health Standing Committee (MHSC), which is responsible for the National Mental Health Strategy and the Council of Australian Governments' (COAG) National Action Plan on Mental Health. Other organisations attend MHISS as observers, including AIHW and the Australian Bureau of Statistics. The MHISS reports to the Health Policy Priorities Principal Committee of the Australian Health Ministers Advisory Council (AHMAC) through the MHSC.

The MHISS is required to provide MHSC with:

- regular progress reports on the implementation of mental health information development priorities under the National Mental Health Plan and to provide advice; and
- recommendations on the structure and content of the annual monitoring and reporting under the COAG National Action Plan on Mental Health.

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The MHISS is further tasked to provide technical advice and policy recommendations to the MHSC and the Australian Government on progress under the National Mental Health Strategy. In addition, it provides expert technical advice on mental health data to relevant stakeholders as directed by the MHSC and to the AIHW on the development of the National Mental Health Information Program.

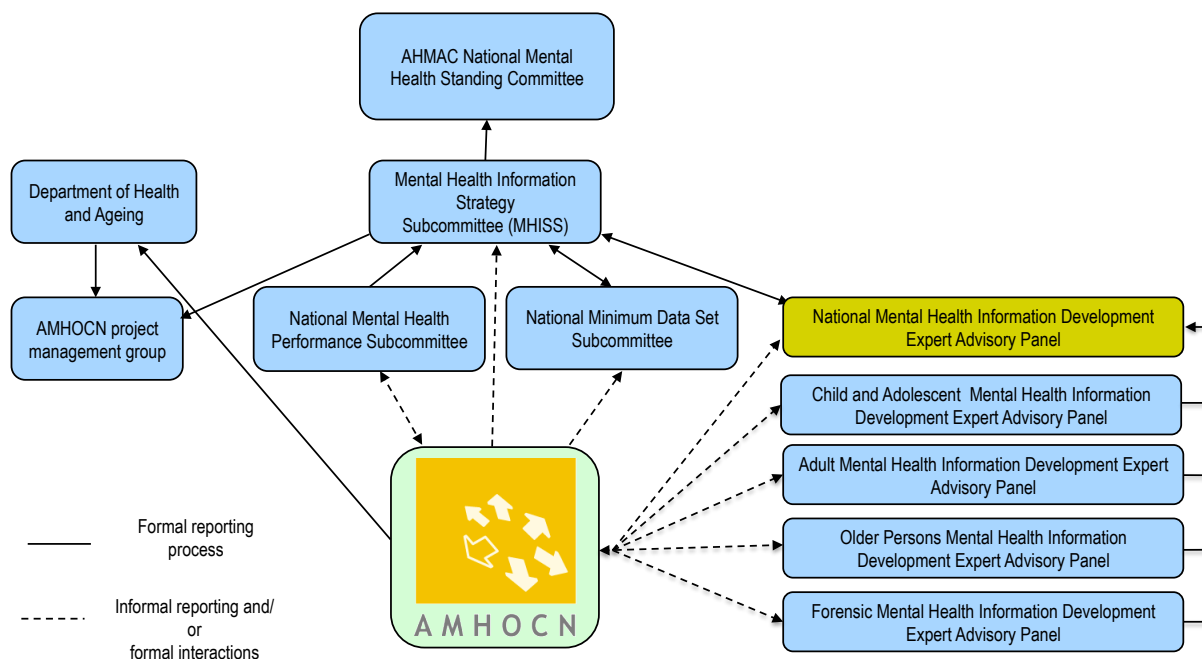
The MHISS has responsibility to lead the development of key performance indicators for public mental health services in Australia and establish a functional collaborative relationship with the Australian Commission on Safety and Quality in Health Care (ACSQHC) and the Safety and Quality Partnership Subcommittee (SQPS). Its terms of reference require establishment of linkages between mental health information and national mental health information processes through the MHSC, the national e-Health Information Principal Committee and relevant sub committees, the Private Mental Health Alliance, and the Prisoner Health Information Group.

DoHA is responsible for the monitoring and approval of separate annual work plans for each of the AMHOCN consortium members. The MHISS and the expert advisory panels it has established are responsible for commenting on the specific information needs of four specialist areas – child and adolescent mental health, adult mental health, older persons mental health, forensic mental health services. These panels feed into the National Information Development advisory panel. These panels report to the MHISS and provide advice on AMHOCN’s projects or work in progress under elements of their work plan.

Representatives of the analysis and reporting and training and service development components of AMHOCN regularly attend the MHISS and National Mental Health Information Development Expert Advisory Panel meetings as members/observers. AMHOCN also coordinates members to attend the specialist expert advisory panel meetings through its training and service development arm.

The relationships between AMHOCN, the MHISS and other organisational components responsible for managing national mental health information development are summarised in Figure 2.1, along with formal and informal reporting processes.

**Figure 2.1 Reporting Structure of AMHOCN**



## 2.5 CONTRACTUAL ARRANGEMENTS AND FUNDING

The three consortium members have separate contracts with DoHA. There have been three contract periods during the life of AMHOCN. These contracts period were:

- 2004 – 2008;
- 2008 – 2009; and
- 2009 – 2011.

Each contract detailed a number of deliverables to be achieved over the life of the contract and specified mandatory status reports to be submitted to DoHA at regular intervals. Where a deliverable of one consortium member was reliant on a deliverable of another consortium member such reliance was expressly mentioned in the contract.

Consortium members signed eight deeds of variation to the contracts. On most occasions these deeds of variation requested the consortium member to undertake additional special projects authorised by the MHISS.

HMA was provided with copies of all AMHOCN contracts. Funding for each consortium member was typically conditional on the supply of status reports by consortium members. Status reports were usually due every four months and the amount to be paid dependent on receipt of the status report. The values of payments to consortium members were constant over the life of the contracts.

Table 2.1 details AMHOCN's funding, broken down by contract and year. Up until 30 June 2011 AMHOCN received a total of \$13,380,881 or an average of \$1,911,554 per annum over the previous seven years.



**Table 2.1: AMHOCN Funding over a seven-year period**

Year	Description of Contract	Total
2004/2005	Contract for Services	\$85,800
2005/2006	Contract for Services	\$1,803,691
2006/2007	Contract for Services	\$1,886,122
2007/2008	Contract for Services	\$2,662,752
2008/2009	Contract for Services	\$2,627,475
2009/2010	Contract for Services	\$2,122,956
2010/2011	Contract for Services	\$2,192,85

## 2.6 IT ARCHITECTURE

The review prepared a working paper *on Data Management Processes* analysing AMHOCN's information technology architecture. This described data collection processes operating in jurisdictions at the clinical level. The review analysis found there were a wide variety of systems, procedures and methods in use across jurisdictions and, in some cases, within a jurisdiction. In certain jurisdictions the legacy nature of the IT systems in place require paper-based data collection and subsequent data input by clerical staff.

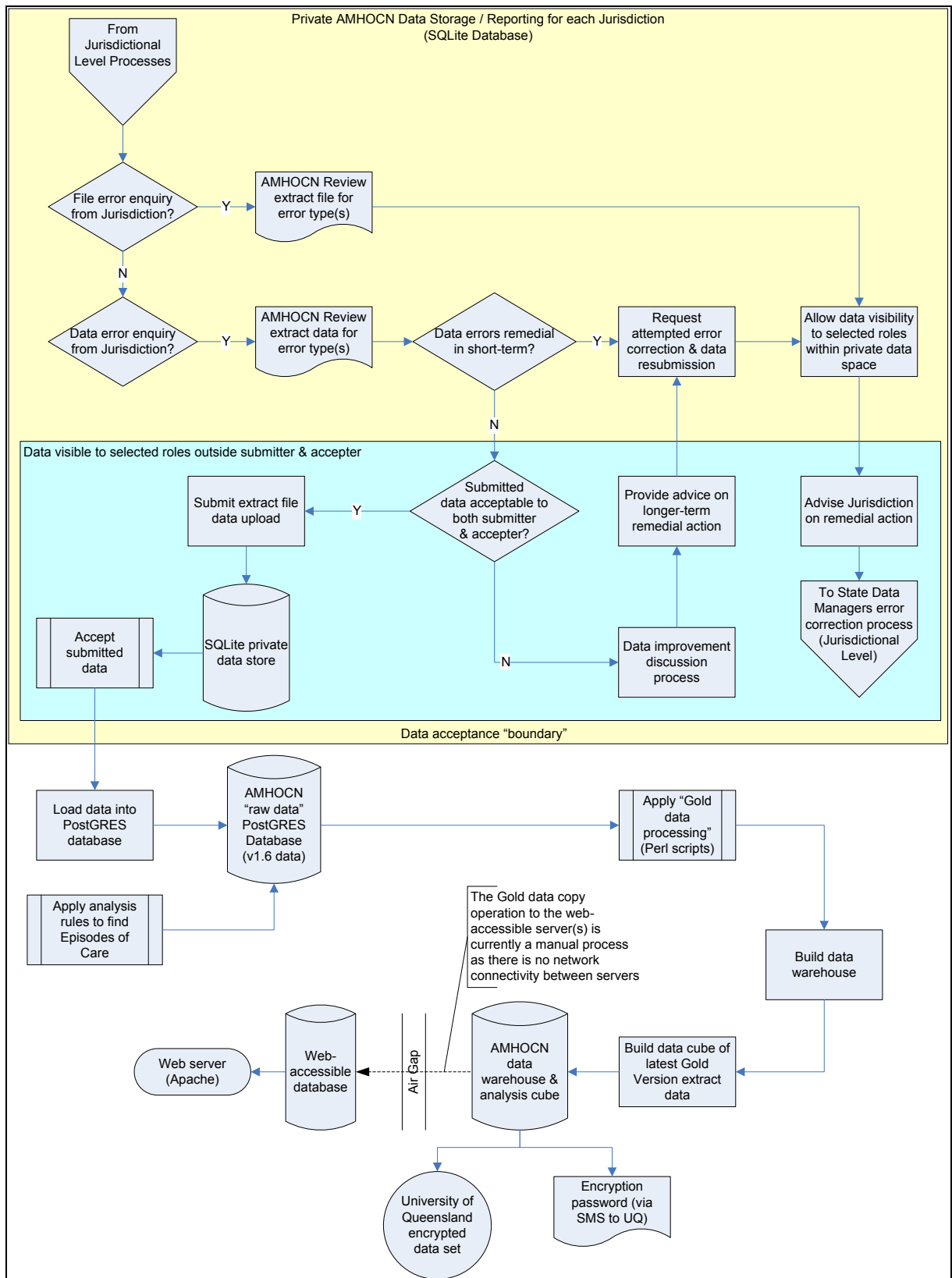
For the most part the extraction of the NOCC data from these systems occurs annually by jurisdictional data managers. After performing some precursory data validation processes the jurisdictional data managers upload the data to the AMHOCN *online validator*. At this point the extract data and all outputs reside wholly within a private space of database provided by Strategic Data. The database is accessible only to AMHOCN and the jurisdiction staff nominated as the data manager for the purposes of the AMHOCN data submission process. The online validator applies a set of business rules to the data extract to determine if the data can be validated. If the data extract validates correctly, the data stay within the private data space until UQ, the AMHOCN analysis and reporting partner "accept" the data extract.

If the data fail to validate, a set of reports are available online to the jurisdiction data manager that may indicate where the points of failure lie. The data manager or other jurisdictional level staff may be able to remedy some or all of the validation errors themselves prior to a re-extraction and resubmission of the data, or they may require and request assistance from AMHOCN.

The AMHOCN data management processes are in part advisory, based on manual checks of the data. Once the AMHOCN on line validator accepts the data UQ perform a pre-processing analysis of the data. If UQ identifies data quality issues, UQ telephones the jurisdiction and discusses the pre-processing analysis results, providing the jurisdiction with an opportunity to refine and re-submit their data before it is officially accepted. AMHOCN also assists the jurisdiction level data managers on remedial actions for file or data errors that may occur. As a result the AMHOCN processes include a sequence of semi-automated operations to take "accepted" jurisdictional level data through to the AMHOCN "Gold" data warehouse.

Figure 2.2 describes the AMHOCN level data management processes for NOCC.

**Figure 2.2: AMHOCN Level Data Management Processes for NOCC**





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## 2.7 OVERVIEW OF OUTPUTS

The review performed a high-level desktop audit that summarised AMHOCN's outputs. This found that the outputs could be categorised into four themes: training and development; analysis and reporting; data bureau; and, special projects, expert panels and support.

The audit identified interdependencies between the consortium member activities. Often more than one member contributes to an AMHOCN deliverable or output. For example, the AMHOCN website is a collaborative output where Strategic Data provides the supporting technology, UQ determine what data to include and how to present it, while the Institute is responsible for the training resources accessible via the website and updating the content.

The audit found 303 training and development outputs referenced on the website; 62% (187) were related to forums and workshops, 61 were training resources, 28 arose from the communication and publications strategy, and 27 related to governance.

The audit identified a further 128 analysis and reporting outputs where 48% (62) were reference and discussion reports, 29 related to expert panels, and 27 to governance.

There were 40 outputs classified to the data bureau. More than half (23) related to data governance issues, while the remainder addressed issues about websites, technical specifications, data management and validation processes.

Under the special projects category the vast majority of the 180 outputs related to secretariat services for the MHISS and its sub committees. The remainder covered reference documents and links to the jurisdictions mental health service websites.

## 2.8 BROADER POLICY CONTEXT

A range of initiatives at a broader health policy level have the potential to impact on the ongoing mental health information development agenda and the role that AMHOCN has played in assisting that work. This report was finalised prior to the National Health Reform Agreement being finalised. Initiatives that have the potential for a significant impact are:

- (1) The **National Health Performance Authority** will be established to develop and produce reports on the performance of hospitals and healthcare services. The Australian Government will also continue to develop and publish information on hospital performance on the MyHospitals website.
- (2) A **national funding body** to administer funds in the single national funding pool for public hospitals and report on the number of service provided.
- (3) An **Independent Hospital Pricing Authority (IHPA)** will set the efficient price for services provided by public hospitals.
- (4) **Activity based funding** which will be introduced from 1 July 2012, based on a national efficient price set by the IHPA.
- (5) **National Mental Health Commission** established as part of the Australian Government's budget package in May 2011 to provide leadership and to drive a more transparent and accountable mental health system.

The exact implications of these changes for AMHOCN are still to be assessed.

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## PART B: REVIEW FINDINGS

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# 3

## Assessment Against Review Objectives

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### 3.1 BACKGROUND

The review terms of reference were presented in Section 1.2 (see above). This chapter reviews AMHOCN's performance against each element of the terms of reference:

- Achievements against the original vision;
- Leadership effectiveness;
- Stakeholder perspectives;
- Contributions by the consortium members;
- Value for money; and
- Evolution and sustainability.

### 3.2 ACHIEVEMENTS AGAINST VISION

When AMHOCN was established in 2003 the vision was that within five years the national investment in mental health information development would achieve four deliverables:

- *the routine use of outcome measures 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 next steps forward<sup>12</sup>.*

Recognising that this national vision was principally the responsibility of the states and territories, an examination of the contribution of AMHOCN performance against each of these elements of the vision for AMHOCN is provided below.

#### 3.2.1 Routine use of outcome measures

There has been a significant increase over time in the national volume of NOCC data. This has grown from a base of just under 5,000 collection occasions in 2000-01 to almost 453,000 records in 2009-10. Since 2004-05 data volumes have increased by an average of 8.9% per annum.<sup>13</sup>

In 2004 AMHOCN identified a number of data quality anomalies in the first national dataset. Not all services were collecting outcome data, or for all of the collection occasions prescribed

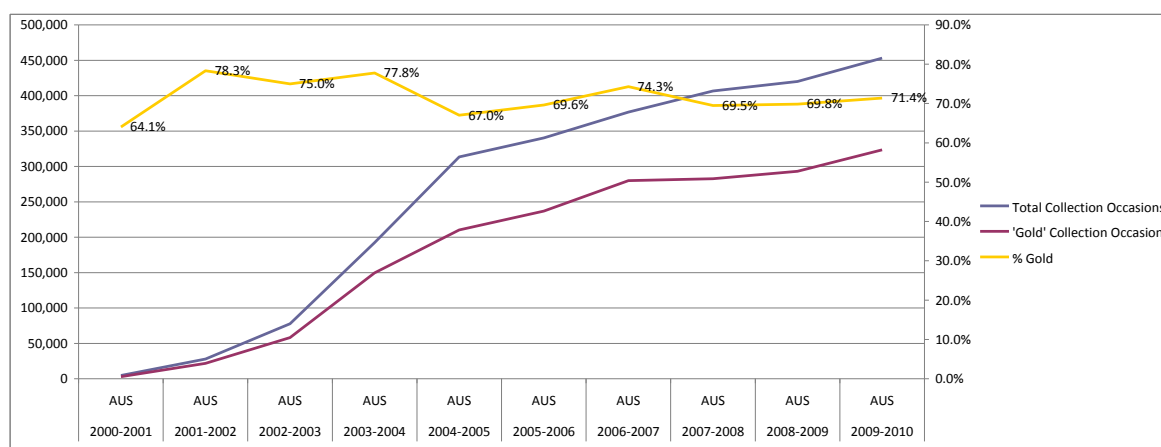
by the NOCC data model. Not all collection occasions were logically sequenced, so they could not always be rolled-up into episodes. In addition, individual clinical ratings were not always fully completed.

AMHOCN addressed this issue by implementing the concept of an *episode* in the NOCC data set. Implicit in the NOCC data model is a series of rules that dictate which sequences of collection occasions legitimately form episodes. For example, an admission followed by a discharge would constitute a legitimate episode whereas two consecutive admissions would not. AMHOCN identified all of the legitimate combinations of collection occasions and created an ‘episodiser’ algorithm to automate the process.

AMHOCN developed a *gold standard* data warehouse which only contains data that comply with the NOCC data model. The *gold* data must follow the business rules of the NOCC data model. For example, a change of service setting, such as a move from an inpatient unit to a community treatment team, triggers a new episode of care and no individual can be undergoing more than one episode of care at a time.

Figure 3.1 shows the volume and percentage of NOCC submitted data flowing through to the gold data warehouse. This is a measure of the extent to which **quality** outcomes data is being collected as a routine process at the clinical service level.

**Figure 3.1: Trends in Gross NOCC Collection Occasions and Gold Collection Occasions**



Source AMHOCN

Figure 3.1 provides clear evidence that the routine collection of outcome data has increased over the life of AMHOCN’s operations.

AMHOCN has begun research to understand the proportion of public mental health service collection occasions that have an outcome measure calculated, initially through linking the NOCC and the community mental health care NMDS. In 2010 AMHOCN reported to the MHISS that approximately one third of patients who receive community mental health care are represented in the NOCC. Further they advised nationally, approximately 59.6 % of all community care was reported for those patients. AMHOCN identified two major factors impacting the calculation:

- (1) **NOCC is based on an ‘episode of mental health care’ model:** in contrast the CMHC is based on an ‘activity’ model (e.g., service contacts, visits, etc.).
- (2) **There are problems with the integrity of linkage between datasets for patient and organisational identifiers:** AMHOCN found significant jurisdictional variation in matching of patient identifiers across data collections, with relatively low levels

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reported for both NSW and Queensland. Excluding these states materially increased the percentage of patient identifiers common to NOCC and CMHC, and therefore the percentage of community care reported.

The review found no clear evidence that outcome measures routinely contribute to assessments of how to improve practice and clinical management at the service level. There were certainly anecdotal observations made during the consultations that this occurred at the service level in some services in some jurisdictions. However, the review received no indication that this is routine practice. In fact, the more common view was that this original specification of the vision for outcomes measure usage was written at a time when stakeholders did not know how ambitious the aim was, nor a realistic timeframe to embed routine outcomes review into clinical practice. Factors limiting the achievement of the objective that were reported to the review were:

- the large number of stakeholders involved and the impact of staff turnover on maintaining awareness of the importance of outcome measurement;
- the limited level of funding available to AMHOCN;
- the voluntary nature of NOCC data collection;
- the inability of the current AMHOCN data management model to facilitate peer-to-peer de-identified comparisons of outcome data, reducing the value of the data at a clinical level; and,
- the requirement for some jurisdictions to implement new technology infrastructure to facilitate routine collection rather than relying on paper-based collection processes.

Nevertheless, the mental health sector is unique amongst public health services in Australia in having a broad framework and methodology in place for collecting routine consumer-level outcome data. The sector should be congratulated for grappling with this task, which is difficult both conceptually and logistically, and is clearly ahead of developments in other public health sectors such as acute, community care and primary care services.

***Review finding #1:*** *The review found strong evidence that routine collection of outcome data is now occurring in the mental health sector and AMHOCN had provided critical support to the jurisdictions in the establishment and maintenance of that data collection.*

### 3.2.2 Informed use of benchmarking

The stakeholder consultations revealed that knowledge and utilisation of benchmarking in the public mental health sector has increased significantly over the life of AMHOCN. In particular the *National Benchmarking Project* undertaken by AMHOCN and others between 2006 and 2008 has significantly increased that understanding.

As a result of AMHOCN's work, each mental health service has access to annual national reports and data sets that can be used in a quality improvement cycle. AMHOCN provides comparison of service outcome measures to national and jurisdictional benchmarks.

However, while the NOCC data model enables individual services to benchmark their performance relative to similar services within the same jurisdiction or across jurisdictions, there is no agreement with the jurisdictions to make this detailed level of information accessible through AMHOCN's reporting tools. Consultations with service providers on MHISS expert advisory panels revealed that there is support for making NOCC data available at a more granular level to facilitate benchmarking at organisational and service levels.

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**Review finding #2:** *The review found that outcome measures are available for benchmarking purposes at an aggregate jurisdiction level and the mental health sector has an increased knowledge of benchmarking as a result of AMHOCN's data collection and reporting activities. However, the review found that the use of outcome measures for benchmarking purposes is not yet the norm at a service level.*

**Future Option #1:** *Support an increased use of outcome measures and benchmarking to improve practice and service management through initiatives including 1) utilising the full reporting capacity of the NOCC data model; 2) making more detailed and stratified data accessible through AMHOCN's resources; and, 3) training in the utilisation of the more detailed data for these purposes.*

### 3.2.3 Informed use of casemix

The stakeholder consultations revealed that the knowledge of casemix in the mental health sector has increased since the establishment of AMHOCN.

AMHOCN consortium members were perceived to have a high level of expertise in and knowledge of casemix issues in the mental health sector. Stakeholders advised that AMHOCN had initiated research and education activities focused on informing the use of casemix. The *High Level Desk Top Audit* identified examples of casemix research and development papers authored by members of the AMHOCN consortium available from the AMHOCN website.

Stakeholders consider that there is a significant amount of preparatory work required before there can be an informed application of casemix principles to mental health, particularly around understanding the role of provider variation in differences between observed costs and outcomes.

All three AMHOCN contracts incorporated a requirement to undertake casemix research and development activities, including:

- exploring the utility of different case complexity classifications;
- supporting casemix classification development and implementation within public mental health services; and
- developing and implementing within the AMHOCN decision support and reporting tools a casemix grouper, based on the Mental Health Classification and Service Costs (MH-CASC) Project.

AMHOCN has been progressing the casemix agenda at a practical level. It has been researching the ability of the MH-CASC and AR-DRG classifications to predict resource usage and testing the linkage between the NOCC dataset and other national datasets that contain information from which resource use could be estimated. Additional research and development needs to be undertaken into the patterns and packages of care that will provide informative measures for casemix for consumers treated in the community. However, at this stage there is no routine use of casemix classification as part of the NOCC, and AMHOCN decision support and reporting tools do not include a casemix grouper.

There are several key contextual factors, beyond AMHOCN's control, that have slowed the introduction of casemix concepts in the mental health sector. They have been:

- 
- long lead times to establish sufficient data coverage and quality;
  - issues in linking the NOCC dataset with other relevant datasets;
  - lack of consistency in the way states and territories are reporting entity identifiers across the various national datasets;
  - jurisdictional variation in matching of patient identifiers across data collections;
  - a waning of the previous national commitment to casemix across the health industry until the recent national health reforms announced in April 2010; and
  - continued concern within the mental health sector about the impact casemix could have on clinical operations.

There is currently an extensive national work program being developed for the mental health sector as part of the implementation of the national health reforms (See Section 2.6). AMHOCN will need to refine its casemix development efforts to align with these reforms, especially proposals for activity based funding (ABF) and linking consumer outcomes to service level funding.

**Review finding #3:** *The review found that there is no routine use of casemix classification in the mental health sector. While AMHOCN has made casemix data available and provided training in the use of casemix classification, further research, development and agreement is required before a casemix classification is used for all consumers of mental health services. The review found that the original timetable for achievement of the objectives specified for AMHOCN in relation to casemix was overly ambitious.*

### 3.2.4 Health services research culture

Stakeholders saw AMHOCN as having built bridges between the academic sector with an interest in outcomes measurement area in mental health, and service providers. Stakeholders judged the conferences, workshops and forums organised by AMHOCN to be of a high quality. They had provided opportunities to showcase academic research, current clinical practice and contributed to debate about next steps forward.

AMHOCN consortium members commented that there are “pockets of excellence” in research collaborations. Leading academics were assessed as having participated in increased collaborations with mental health services since the NOCC data collections began.

The *High Level Desk Top Audit* identified a number of examples of conference and academic research papers available from the AMHOCN website.

Acceleration in the development of a mental health services research culture could be further progressed through:

- provision of access to de-identified data which can be stratified down through jurisdiction to organisation and service level;
- providing linkages with multiple NMDSs across time, organisations and jurisdictions;
- increasing the timeliness of the availability of NOCC data; and
- facilitating comparative analysis of outcomes and costs of different treatment protocols.

The current NOCC data model supports this level of research. However, making more detailed NOCC information accessible through AMHOCN’s reporting tools is dependent upon agreement by the jurisdictions and providing AMHOCN with additional resources.



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**Review finding #4:** *The review found evidence of a health services research culture developing as a result of AMHOCN's activities organizing conferences and workshops, publishing outcomes and casemix research, and making the NOCC data accessible.*

**Future Option #2:** *Support increased engagement with academic institutions with a focus on outcome measurement and an increased number of peer reviewed research publications based in part or wholly on NOCC data.*

### 3.3 LEADERSHIP EFFECTIVENESS

The stakeholder consultations revealed a consensus that AMHOCN had provided effective leadership to the mental health sector to support implementation of the outcomes measurement data collection and its role in routine clinical practice. Stakeholders advised that Australia is providing world's best practice in the implementation and use of outcomes measurement in the mental health sector. No other country in the world has a national collection of an outcomes measure suite across publicly managed mental health services<sup>14</sup>. The United Kingdom, Canada and New Zealand all utilize the resources on the AMHOCN website and AMHOCN's research and development has influenced policy and planning of government mental health services internationally. Australia is leading global research, development and application of the use of outcomes measurement in mental health. The *High Level Desk Top Audit* identified examples of international utilisation of resources available from the AMHOCN website

AMHOCN has been striving to seek structured engagement with experts from various areas of the mental health sector. The expert advisory panels, which formally meet twice a year, provide a vehicle for this dialogue.

The expert advisory panels are assessed by some stakeholders as being a valuable resource which contributes to timely strategic advice on specialist data development issues. This view is not uniform amongst those consulted. Some consultees felt that the panels need specific tasks and greater clarity around their roles to focus their activities.

Recognition of AMHOCN member's contribution to leadership of the sector was evidenced by their involvement in updating the *National Mental Health Information Development Priorities* document and the preparation of reports for COAG on outcome measurement in mental health.

AMHOCN has displayed leadership through its major role in a series of special projects for the MHISS and DoHA covering:

- risk adjustment (casemix) models;
- the *National Benchmarking Project*;
- benchmarking for forensic mental health services;
- the *Clinical Prompts* project;
- development of *Carer Measures* of outcomes;
- approaches to public reporting of mental health outcomes;
- assessing consumer outcomes measures focusing on recovery; and
- tailoring requirements of training modules for managing Indigenous and culturally and linguistically diverse (CALD) consumers.



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**Review finding #5:** *AMHOCN has provided effective leadership to the mental health sector around outcomes and casemix collection.*

### 3.4 STAKEHOLDER PERSPECTIVES

All stakeholders interviewed as part of the consultations were asked for their perspective on three questions:

- *Has AMHOCN achieved its overall objectives?*
- *What are the most and least successful AMHOCN project deliverables or outputs, and why?*
- *Is there an ongoing need for a structure like AMHOCN? If 'yes', is AMHOCN sustainable in its current format/structure and how could the structure be enhanced, modified, or alternative arrangements introduced?*

Feedback on these questions is summarised below.

#### 3.4.1 Achievement against objectives

Many of the stakeholders described AMHOCN as meeting or exceeding the expectations of the majority of its stakeholders through the services and products it delivers. There were comments on the complexity of the task they had been set.

“It’s a difficult space that they are working in. They [AMHOCN] have made a reasonable fist of it. It is difficult to say whether they have achieved their original objectives. In a challenging landscape they have done better than expected. The data management landscape [in mental health] is very messy.....”

**Member of MHISS commenting on the achievements of AMHOCN**

Overall, the consortium partners were assessed as accessible, professional, courteous, cohesive and obliging.

However, one jurisdiction was sceptical about the ongoing value of outcome measurement in its current form, where there is no capability to speedy access to cross-service and cross jurisdictional comparisons. Comments were made by those consulted that the process of outcome measurement had little relevance to operational service management in that jurisdiction.

“The data is being collected but not being used. It is not part of my performance dataset [that I report on] to the state.”

**Member of an Expert Advisory Panel commenting on the achievements of AMHOCN**

#### 3.4.2 Observations on AMHOCN project deliverables

Overall, stakeholders assessed the most successful AMHOCN project deliverables as:

- the web based information and web decision support tool (wDST) which allows users to interrogate the data in more detailed ways;
- training services generally. Stakeholders said the training materials, conferences, workshops, seminars, and the on-site training activities were of a very high standard; and,

- the data validation tool, which was unanimously nominated by jurisdictional data managers as useful because it provided greater efficiency and data security during data submission while providing user friendly and timely feedback on the quality of a jurisdiction's data. It was noted that, backed by DoHA funding, the validation tool developed for AMHOCN has subsequently been substantially extended to support the role of AIHW in the validation of the four NMDSs for mental health. Thus, despite its origins in AMHOCN and NOCC, it is now known as the *MDS Validator* and supports the validation of incoming data files in terms of their format, structure and plausibility.

The consultations identified that less successful AMHOCN project initiatives were:

- the limited progress in implementing casemix in the mental health sector; and,
- AMHOCN's standard reports, because they are only available on an annual basis there and was a long lead-time from data submission to publication of results, reducing their usefulness for benchmarking purposes.

The review noted a process for quarterly submission and reporting of NOCC data has been in place since 2006. The initiative, which targeted improving timeliness and making the feedback loop from submission to report more effective, was led by AMHOCN, endorsed by MHISS and agreed in principle by all states and territories. However, implementation of quarterly submissions by the states and territories has been low.

***Future Option #3:*** Review the annual cycle for NOCC data submission with AMHOCN and the jurisdictions and target removal of barriers to 1) more frequent submission cycles (eg quarterly); and, 2) reducing the lead-time between data submission and the availability of data for benchmarking, service management and casemix purposes.

### 3.4.3 Ongoing need for an AMHOCN structure

The majority of stakeholders saw an ongoing need for the services that AMHOCN provides. They could not identify another organisation with the breadth and depth of skills and expertise that could provide similar services. The large majority of stakeholders were concerned that without AMHOCN, standards around data collection would drop and NOCC data volumes, quality and utility would be adversely affected. In contrast, stakeholders in one jurisdiction considered that with sufficiently mature and granular data models, and appropriate technology infrastructure, they could promote a quality improvement framework without AMHOCN.

Government places priority on mechanisms that promote accountability, including reporting on the outcomes of service provision. Reporting on the impacts of mental health reform has been of particular interest to COAG reporting. There are calls for information to be more readily available, timelier and of greater relevance to the current national health reform agenda. Stakeholders commented that without AMHOCN's services there is a risk of there being a significant gap in the information collections that underpin national mental health reporting, restricting what is available to routinely monitor mental health system performance around outcomes of service delivery.

***Review finding #6:*** Feedback from the consultation process found that a significant majority of stakeholders considered that AMHOCN had made substantial progress towards realising the challenging objectives that it had originally been set. There was general support for the ongoing maintenance of a body like AMHOCN that has a role in promoting outcome measurement plus the development and application of casemix to the mental health sector.

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## 3.5 ROLE OF CONSORTIUM MEMBERS

It is difficult to comment on the roles of individual AMHOCN consortium in isolation. There are high levels of internal and external interdependency and often more than one member contributes to an AMHOCN deliverable. For example:

- Strategic Data is dependent on the jurisdictions submitting data before it can undertake data warehouse activities;
- Strategic Data is dependent on UQ's analysis and reporting for direction regarding much of the data warehouse development;
- The Institute provides a feedback loop to and from jurisdictions regarding data quality improvements;
- both UQ and the Institute are involved in managing website content;
- UQ is dependent on the data warehouse developments of Strategic Data (e.g., work on the enhanced validation tool, 'episodiser' and groupers), since these underpin its analysis and reporting capacity; and
- The Institute relies on both the Strategic Data and UQ for data that it can meaningfully report to jurisdictions and other key stakeholders at its various forums.

Commentary on the extent to which each member met their individual contractual responsibilities is provided below.

### 3.5.1 Strategic Data - data management and data bureau services

Strategic Data provides the data management and data bureau services component of AMHOCN. Table 3.1 sets out the deliverables in the AMHOCN contracts between Strategic Data and DoHA by contract period.

**Table 3.1: Strategic Data Pty Ltd's contacted deliverables by contract period**

2004 – 2008	2008 – 2009	2009 - 2011
Maintenance of the NOCC Data Dictionary and associated data set specifications.	Maintenance of the NOCC data dictionary and associated data set specifications:	Maintenance of the NOCC data dictionary and associated data set specifications.
Receipting, verification and storage of the project data sets provided by the states and territories.	Receipting, verification and storage of the project data sets provided by the states and territories.	Receipting, verification and storage of the project data sets provided by the states and territories.
Ongoing development of the data warehouse and its associated reporting capability.	Ongoing development of the data warehouse and its associated reporting capability.	Development and maintenance of the AMHOCN data warehouse.
Development of a web-accessible data cube to facilitate stakeholder access to the collected aggregate data.	Development of a web-accessible data cube to facilitate stakeholder access to the collected aggregate data.	Development and maintenance of the web accessible data cube, reports portal, and decision support tool.
Providing technical expertise on the AMHOCN data warehouse to the AMHOCN components	Providing technical expertise on the AMHOCN data warehouse to the AMHOCN components.	Provision of technical expertise with regard to the AMHOCN data sources to the AMHOCN components.
Technical support and infrastructure for the AMHOCN extranet, request tracker, and the NOCC Website.	Technical support and infrastructure for the AMHOCN extranet, request tracker, and the NOCC Website.	Provision and support of the technical infrastructure for the publicly accessible AMHOCN website (www.amhocn.org), online training environment, consortium wiki, and issue tracking system.
Maintenance of policy and procedure documentation	Maintenance of policy and procedure documentation.	Maintenance of the data bureau's policy and procedures.
AMHOCN component liaison	AMHOCN component liaison	AMHOCN inter-component liaison.
AMHOCN Reporting Requirements	AMHOCN Reporting Requirements	AMHOCN Reporting Requirements

From Table 3.1 it can be seen that the changes to the high-level contractual requirements of Strategic Data have been minimal over the contract periods.

Stakeholders unanimously assessed the quality, timeliness and accessibility of the AMHOCN data management arrangements (including data warehouse, data cube, decision support tools and related data dictionaries, standards and specifications) as meeting or exceeding expectations. The data management processes and expert technical support were assessed by the review as being of high quality.

The review found that data input from jurisdictions was well managed, appropriately quality checked and controlled, and is stored and managed in a secure manner in facilities that are appropriate to the task. There was extensive engagement with jurisdictions and seeks their input for improving data management processes through prototyping, review, quality control and a final development cycle.

Strategic Data's systems, back-end processes and operational processes were assessed as capable of managing the NOCC data in its current form on a long-term basis. The company advised they could also accommodate more frequent data submissions.

Stakeholders assessed the innovative capacity of Strategic Data as superior to many other data bureau services and that expert advice was responsive and accessible when required. They said there was an ongoing need for the data bureau component of AMHOCN to support collection of the NOCC dataset.

### 3.5.2 University of Queensland - analysis and reporting services

UQ provides the analysis and reporting services component of AMHOCN. It also has a significant role in the development of standard reports, reporting tools and presentation, analysing the quality of data submissions, and defining the NOCC data model.

Table 3.2 sets out the tasks in the AMHOCN contracts between UQ and DoHA by contract period.

**Table 3.2: UQ's contacted tasks by contract period**

2005 – 2008	2008 – 2009	2009 - 2011
Designing aggregate reports that focus on selected stratification factors, including diagnosis, gender and age	Analysis and reporting of NOCC data	AMHOCN Reporting Products
Providing resources for clinical decision support	Providing resources for clinical decision support	
Exploring case complexity classifications	Casemix classification research and development	Casemix Research and Development
Providing ongoing specifications for the Data Bureau component	Contribute to ongoing review of NOCC Technical Specifications	Review the NOCC Specifications
Providing Support to the benchmarking process	Advice to Mental Health Outcomes Expert Groups	
Producing new data extracts as required to support the Training and Service Development Component	Advice to National Mental Health Performance Subcommittee and the MHISS	Expert Advice to the MHISS and its Subordinate Subcommittees
Updating the reporting framework		Participation in a Review of AMHOCN

As with Strategic Data, there have been minimal changes to the structure of the summary level contractual requirements of UQ over the contract periods.

Stakeholders assessed the quality, depth and effectiveness of the standard reports, decision support tools and the available NOCC data as meeting expectations. The expert technical support of UQ on research and development and special projects were assessed as being of a high quality.

Stakeholders observed that the expert advice on analysis and reporting was responsive and accessible. UQ has undertaken a leadership role on the various special projects undertaken by

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AMHOCN, including the *National Benchmarking Project*, *Clinical Prompts Project*, *Consumer Recovery Measures Review*, and the *Review of Public Reporting on Mental Health*.

Some stakeholders nominated the AMHOCN website as one of the most successful AMHOCN deliverables because of its rich level of content. Other stakeholders said the website was problematic, suggesting that it could be more user friendly and streamlined. The criticisms appear to be largely around there being “too much material” on the site and that it was “difficult to navigate”. While there are some clear inconsistencies in how content is presented through the web site, these instances are relatively minor and the scope of content seems to be generally appropriate and in-context within subject sections of the web site. There are a relatively large number of downloadable documents made available from the site and this may give rise to the perception of there being “too much content”. Navigation is generally clear, well labelled, in-context and appropriate. The site hierarchy is not too deep to hamper navigation (usually two to three levels of content hierarchy). Major site sections are presented with a dedicated menu structure at the head of each page, and this structure is echoed in more detailed menus at the page foot. Context-specific navigation links are provided within content in an appropriate way. The web site provides navigation links to the other AMHOCN online resources, sometimes with a useful introductory page to the resource.

There is no summary document providing an overview of the AMHOCN website and structure for its evolution. AMHOCN did create a general schematic before launching the website, but has since focused on the content rather than upgrading its overall look and feel.

Late in 2010 AMHOCN decided to remove the *reports portal* from the website. This was because of concerns that the methodology and assumptions used to generate the standard reports were different to those used to generate the wDST. As a consequence, there were reconciliation issues. Many of those consulted during the review were not aware of the report portal’s unavailability. Those questioned advised the wDST satisfies their information requirements. AMHOCN is currently revising the reports portal to align it with the wDST and expect to release the tool shortly.

It has previously been observed that progress in the development and roll-out of casemix in the public mental health sector has been slower than originally anticipated because of the complexities involved (see Section 3.2.3). UQ has continued to promote service development in this area to the MHISS and suggest how casemix tools can operate in conjunction with the NOCC.

***Future Option #4: Develop resources and demonstrate the capacity of national outcomes and casemix measures to support clinical decision-making and improve the quality of the services provided to consumers of mental health services.***

### 3.5.3 The Institute - training and service development services

The Institute provides the training and service development component of AMHOCN. They also contribute to the development of analysis and reports and work with Strategic Data on the content available on the AMHOCN website.

Table 3.3 sets out the deliverables in the AMHOCN contracts between the Institute and DoHA.

**Table 3.3: The Institute’s contacted tasks by contract period**

2005 – 2008	2008 – 2009	2009 - 2011
Training materials which demonstrate the clinical, management and quality improvement utility of the NOCC.	Development of training materials and resources which demonstrate the clinical, management and quality improvement utility of the NOCC.	Creating sustainable training opportunities through the development of AMHOCN training resources
Australian Mental Health Outcomes and Classification Network forums and workshops	Australian Mental Health Outcomes and Classification Network forums and workshops	Highlighting innovation and good practice by holding forums and supporting the Australasian Conference
Key performance indicators Benchmarking Forums		Developing sector capacity for benchmarking
Training support to jurisdictions	Training support to jurisdictions	
Ongoing communication and publication strategy	Communication and publication Strategy	Strengthening communication activities
Attendance at meetings	International Mental Health Outcomes Conference	Support improvements in data quality

As with Strategic Data and UQ, there have been minimal changes to the structure of the summary level contractual requirements of the Institute over the contract periods, with the exception that training support to jurisdictions was removed as a specified deliverable. However, the review noted that the Institute continued to provide training support to jurisdictions under the requirement “highlighting innovation and good practice by holding forums”. It negotiated training support, on an as required basis, directly with individual states and territories.

In addition to the contracted AMHOCN tasks summarised in Table 3.3, the Institute played a significant role in the delivery of the special projects for MHISS and DoHA listed in Section 3.3. These supplementary deliverables were funded through contract variations or separate contracts.

Stakeholders unanimously assessed the quality, quantity and effectiveness of the training resources developed and provided by AMHOCN as meeting or exceeding expectations.

The review received comments that complimented the training methods adopted by the Institute, including the training materials, the conduct of seminars, and on-site training activities. Stakeholders advised that there was an appropriate training mix because AMHOCN adapted the training available for different users (e.g. clinicians, consumers, carers) and service delivery streams (e.g. Child & Adolescent, Adult, Older Persons, Forensics).



**Table 3.4: Training Participants and Training Days delivered by AMHOCN**

Year / Region	NSW	VIC	QLD	ACT	TAS	SA	NT	WA	W'shop	Online	Total
2004	297 (9)		184 (3)	125 (4)		75 (5)		127 (2)			
2005	316 (9)	250 (6)	293 (12)	198 (6)		233 (7)	36 (3)	160 (3)			
2006	403 (12)	337 (17)	190 (9)	26 (3)		116 (7)		165 (6)	200 (2)		
2007	245 (8)	114 (6)	120 (6)	35 (2)	40 (3)	177 (8)		227 (6)	365 (4)		
2008	100 (5)	620 (11)	213 (8)	80 (5)		347 (9)		183 (7)	78 (2)		
2009	350 (22)	150 (1)	14 (5)	65 (2)		32 (4)	109 (8)	154 (7)	26 (1)		
2010	362 (14)	80 (1)	66 (3)		40 (4)	229 (4)	40 (4)	120 (2)	250 (3)		
2011						50 (1)				699	
<b>Total</b>	<b>2,073</b>	<b>1,551</b>	<b>1,080</b>	<b>529</b>	<b>80</b>	<b>1,259</b>	<b>185</b>	<b>1,136</b>	<b>919</b>	<b>699</b>	<b>9,511</b>
<b>Days</b>	<b>79</b>	<b>42</b>	<b>46</b>	<b>22</b>	<b>7</b>	<b>45</b>	<b>15</b>	<b>33</b>	<b>12</b>		<b>301</b>

The conferences, workshops and forums organised by AMHOCN were highly regarded and assessed as providing the opportunity to better educate the mental health sector workforce around outcomes measures. These activities were described as being of high quality, quantity and effectiveness.

The online training was well regarded by jurisdictions that used it consistently. Some jurisdictions had not made use of this material, but it was not clear whether this was because:

- they had their own internal training programmes;
- they see it as an unnecessary supplementary tool; and/or,
- there was limited awareness and/or promotion of the tool within the jurisdictions.

Some jurisdictions admitted that online access availability or quality of computer infrastructure limited their capability to make this and other AMHOCN online resources easily available to service level staff. The online training tool itself appears to be well developed and to provide a useful set of clinical training functions available to any user who wishes to make use of it. Because both its use and results are private to the logged-in user this would also seem to be a useful mechanism for “refresher” knowledge.

The Institute has developed feedback mechanisms on the training. Stakeholders observed that AMHOCN’s training and development services had been responsive to this feedback and refinements occurred in response to feedback.

There is a need for training tools specifically targeted to sub-groups of mental health services consumers. For example, Aboriginal and Torres Strait Islander (ATSI) mental health consumers may experience a number of complex issues that will impact upon their health and well-being. Clinicians need to better understand what should be considered when rating the measures that comprise the NOCC for ATSI consumers. AMHOCN drafted training materials including vignettes to address this need<sup>15</sup>.

However, consumers and carers representatives consulted as part of the review considered that there had been limited progress in the area of using consumer outcome measures to assist in promoting dialogue between consumers and clinicians. Consumers and carer representatives commented that they were unaware of what is available from AMHOCN and how to access it. Consumers and carer representatives want to better understand the NOCC and how the information it contains can be used in advocacy of consumer and carer quality improvement initiatives.



**Future Option #5:** *Expand engagement with consumer and carer groups beyond membership of the MHISS to include developing and delivering training programs specifically targeting carers and consumers in the work of AMHOCN, the data that is available through the NOCC and the tools available to enable carers and consumers to analyse the dataset from their perspectives.*

Some stakeholders assessed that AMHOCN needs to review its communication strategy to improve its effectiveness. The review found that knowledge and appreciation of AMHOCN’s work across the mental health sector is inconsistent and in some areas limited. Outside the MHISS there is a lack of understanding about the exact role of AMHOCN, its leadership, involvement in mental health sector committees and special projects, and achievements. Te Pou in New Zealand was identified as a peer of AMHOCN which effectively delivers timely and relevant communication and promotional material to its stakeholders and the broader mental health sector.

**Future Option #6:** *The AMHOCN communication strategy needs to be reviewed. Its communications channels need to be extended beyond workshops, seminars, publications and the AMHOCN website. An expanded communication strategy would seek to: increase engagement with output from the NOCC more broadly across the mental health sector; promote AMHOCN’s achievements; and communicate how the NOCC ‘Gold’ data warehouse can be used to inform service improvement.*

### 3.5.4 The Institute - secretariat and support services

The Institute provides the secretariat and support services component of AMHOCN.

Table 3.5 summarises the tasks in the contracts between The Institute and DoHA around the AMHOCN secretariat functions.

**Table 3.4.4: The Institute’s contacted secretariat and support services tasks by contract period**

2005 – 2008	2008 – 2009	2009 – 2011
Secretariat services to Mental Health Outcomes Expert Groups	Secretariat services to Mental Health Outcomes Expert Groups	Coordinating and supporting the Mental Health Information Development Expert Advisory Panels
AMHOCN Network Coordination	AMHOCN Network Coordination	Providing coordination for AMHOCN
Liaise with Government stakeholders and prepare periodic reports		

Stakeholders observed that the secretariat support services provided by the Institute were professional, with timely minutes, agendas and efficient organisation of meetings. AMHOCN’s interaction with the MHISS was assessed as high quality with MHISS meeting papers always comprehensive and timely.

The multiple contract arrangement between the three AMHOCN members and the Government for services to one project is unusual. In HMA’s experience contract management efficiencies and risk management benefits are obtained from having one legal agreement with a lead or prime contractor. DoHA observed that the individual contracts require attention to multiple work plans and multiple reports for the one project.

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The secretariat services contracted from the Institute do not constitute a project management responsibility for delivering the overall outcomes of AMHOCN. No one AMHOCN consortium members has responsibility for strategic planning around future directions for AMHOCN.

### 3.6 VALUE FOR MONEY

The review was required to comment on whether DoHA has obtained the maximum benefit from the products and services it had acquired from the AMHOCN collaboration – a *value for money* assessment. Any assessment of value for money should not only incorporate the cost of goods and services but also take account of the mix of quality, breadth, fitness for purpose, timeliness, and convenience.

The funding made available by DoHA is detailed in Section 2.4 of this report. Sections 3.2 to 3.5 describe what AMHOCN has delivered and provide a strong endorsement of the breadth, quality and timeliness of those products and services. The value of the technical expertise developed during the project is strong but ultimately an intangible. The data in the NOCC Gold warehouse is considered by some stakeholders to be an invaluable resource that has the potential to enable future service development in the mental health sector.

AMHOCN has no peer organisation against which a direct comparison of costs could be undertaken. The review team obtained confidential details from Te Pou in New Zealand of their annual budget for services covering training, development, analysis, reporting and communications. The NZ Ministry of Health covers the cost of all data processing and data management. With the qualification that the calculation is a very high-level approximation, after adjusting for that difference in services and the scale difference between the two countries, AMHOCN is assessed as providing value for money on a cost comparative basis.

The review did obtain high level and confidential details from the Private Mental Health Alliance of the budget for its outcomes measurement system. However, the differences in services and the scale plus the lack of detail were assessed as rendering a similar cost adjustment and comparison unhelpful from the perspective of assessing AMHOCN's value for money.

Only one stakeholder, DoHA, were aware of the all the contractual and funding arrangements relating to AMHOCN. In assessing value for money, DoHA commented that it was difficult to place a specific value on the tools, resources and expertise developed by AMHOCN.

Many stakeholders commented that the AMHOCN collaboration appeared extremely productive for the small number of staff involved. During consultations AIHW assessed that the original investment in AMHOCN had not been significant when compared to the original vision and the products and services delivered.

**Review finding #7:** *The review found that the outputs delivered by AMHOCN represented value for money because it is unlikely that they could have been achieved at a lower cost, nor better outcomes achieved at the same cost.*

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## 3.7 EVOLUTION AND SUSTAINABILITY

### 3.7.1 Evolution

Strategic Data's provision of data management and data bureau services were assessed by stakeholders as evolving significantly over time. NOCC data submissions have progressed from mailing compact discs or e mailing large data files with no validation process. This now involves on-line data submission through an informative validation tool. The reporting capacity in the validation tool has also improved over time.

Initially AMHOCN created a website (<http://mhnocc.org>) to support the collection of outcome data. This site was not well utilised. User feedback indicated it was too narrow in its focus and difficult to navigate. It was also time-consuming for AMHOCN to maintain because its hosted forums were moderated. AMHOCN developed an alternative website (<http://amhocn.org/>) which emphasises the broader information development enterprise and was designed to be more user-friendly. The *High Level Desk Top Audit* identified 420 documents and resources on this website. It contains outputs including: on-line training; portable document files of manuals, slides and other training material; clinician decision support resources; documentation from international, national and regional workshops and forums; and the special project reports. It also includes detailed technical specifications as well as data management and validation processes.

AMHOCN's provision of analysis and reporting services were assessed as evolving significantly over the operation of AMHOCN. Initially reporting was described as having an academic style. However, the review was advised that reporting has improved to a form that is now seen as relevant to clinician and service needs.

Training was reported to have evolved from an initial basic skills and tools focus. It has now matured to address clinical utilisation of outcomes measures with examples of service improvements through benchmarking and analysis of outcomes measures. Training tools have evolved from classroom to interactive on-line tools incorporating vignettes.

AMHOCN's expertise has increased over time and the members are now viewed as expert technical advisors to MHISS and DoHA. AMHOCN's impact has extended beyond its outcomes measurement and casemix classification. DoHA frequently uses AMHOCN as a resource for other initiatives in the mental health information development area.

***Review finding #8:*** *There is evidence that AMHOCN's component services and products have adapted and evolved as the awareness of outcome measures and analysis tools across the mental health sector has increased.*

### 3.7.2 Sustainability

Sustainability was viewed by stakeholders as a key issue for AMHOCN. Three dimensions were seen as needing assessment: economic, organisational and personnel.

The current AMHOCN business model does not provide opportunities for generating independent revenue to underwrite the economic sustainability of AMHOCN. Since 2005 AMHOCN has been dependent solely on government funding for its ongoing existence. The collaboration has no other sources of revenue to sustain the products and services it delivers. It does not include fee for service activities in its business model. The term of the current AMHOCN funding arrangements concluded on 30 June 2011.

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The three partner collaborative organisational structure of AMHOCN is not visible to most stakeholders. AMHOCN appears to present as a united, seamless and effective “organisation”. Stakeholders were satisfied with the accessibility of AMHOCN personnel, which was generally via direct telephone or email.

Several stakeholders commented that the AMHOCN structure could be enhanced by an expansion of the consortium arrangement or through new strategic alliances to incorporate new members that can contribute fresh ideas and new perspectives. When making this comment stakeholders often observed that the AMHOCN arrangement is dependent on a few people. Stakeholders were concerned that this created a risk of “burnout” and that a more sustainable model would be one incorporating a broader range of people and organisations, particularly in relation to the analysis and reporting and training functions. Stakeholders contended that this would enable skills transfer and succession planning.

Proposals for additional members of AMHOCN included adding clinicians, additional academic organisations and jurisdictional representation.

An alternative perspective on sustainability is presented in Table 3.7, which compares and contrasts the AMHOCN / NOCC business model with Australia’s other two national health outcomes collections; the Palliative Care Outcomes Collaboration (PCOC) and the Australasian Rehabilitation Outcomes Centre (AROC). All three outcomes data collection initiatives utilise service providers to:

- develop consistency in the collection of information;
- provide evidence through the collection and analysis of information;
- assist with quality and standards reporting;
- provide a benchmarking service; and
- promote and support research.

The Australian Health Services Research Institute (AHSRI) is a self-funded health services research and development institute based at the University of Wollongong. Like AMHOCN, AHSRI works as a multidisciplinary team, with staff who have a variety of qualifications and expertise providing data bureau services, analysis and reporting services as well as training and workshop facilitation. AHSRI supports national outcomes data collections for palliative care (PCOC) and for rehabilitation services (AROC). In contrast to AMHOCN’s multi-party collaborative arrangement, AHSRI is a single organisation providing multiple services.

Further detail on AHSRI, PCOC and AROC is provided in Appendix A.

Table 3.7 contrasts the business model that supports the NOCC against those of PCOC and AROC.

**Table 3.7: Business model comparison of three Australian outcome measurement centres**

<b>Business Component</b>	<b>Sub Component</b>	<b>NOCC</b>	<b>AROC</b>	<b>PCOC</b>
Clinical focus		Mental Health	Rehabilitation	Palliative care
Level of reporting	Unit / Ward	No	No	Yes
	Service / Organisation	No	Yes	Yes
	State / Territory	Yes	Yes	Yes
	National	Yes	Yes	Yes
Reporting cycle		Annual	6 monthly	6 monthly
Sources of Funding	Commonwealth government	Yes	Yes	Yes
	Members subscriptions	No	Yes	No
	Fee for service	No	Yes	No
Breadth of coverage	Public sector	Yes	Yes	Yes
	Private sector	No	Yes	Yes
Data collection	Voluntary	No	Yes	Yes
	Mandatory	Yes	No	No
Governance	Management committee	Yes	Yes	Yes
	Governance Chairperson	State representative	AFRM	Independent
	Expert advisory group(s)	Yes	Yes	Yes
Data bureau		Strategic Data	AHSRI	AHSRI
Analysis and reporting		UQ	AHSRI	AHSRI
Training and workshops		The Institute	AHSRI	AHSRI
Secretariat to expert groups		The Institute	AHSRI	AHSRI
Quality improvement support	Dedicated regional resources	No	No	Yes

Consideration of options for developing AMHOCN's sustainability (see Section 4.1) could be informed by the business models that apply to the management of AROC and PCOC.

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**Review finding #9:** *In the absence of a different organisational structure, AMHOCN will continue to be dependent on DoHA funding for its ongoing existence. It was observed that AMHOCN's sustainability was compromised because of its reliance on a small number of individuals for analysis and reporting, and training and development services.*

## 3.8 OTHER OBSERVATIONS

### 3.8.1 Transparency of data being used in the 'gold' standard

Jurisdictions commented that they are unable to reconcile the volume of 'gold' collection occasions with the volumes in their specific data set. This is a consequence of AMHOCN's implementation of the concept of the 'episode' in mental health care and the use of the 'episodiser' algorithm to automate the process of identifying legitimately formed episodes. There is no reporting from the 'episodiser' to jurisdictions that would enable them to undertake reconciliations.

**Future Option #7:** *AMHOCN could increase understanding of its internal data management processes through initiatives that 1) enhance the "episodiser" process providing greater transparency of how the data is linked to those who submit and utilise the NOCC data; 2) providing a simple reconciliation from jurisdictional data submission to the Gold data warehouse; 3) developing and delivering regular training for the jurisdictions including the full functionality of the MDS Validator, the "episodiser" process, criteria for inclusion in the Gold data warehouse; the reconciliation process; and, the importance of additional data quality reviews before data is submitted to the NOCC.*

### 3.8.2 Data Security

AMHOCN data are stored in four repositories at three geographically separate locations:

- Strategic Data maintain a complete copy of all AMHOCN data on their development infrastructure;
- a complete copy of all AMHOCNC data is maintained on the core AMHOCN private server complex within a commercial data centre in Melbourne. In addition, a separate copy of the up-to-date Gold data is held in the same location but on different (web-accessible) servers; and
- a copy of the 'gold' data is held at UQ in encrypted form. This copy is not stored on central UQ servers but only on the reporting development machines at UQ.

Data security is consistently provided at a high standard by the relevant AMHOCN consortium partners, UQ and Strategic Data. Data transfers, whether on physical media or by data transmission, are encrypted to AS256 Standard with a one-time encryption password key being provided to the data recipient via a separate transfer mechanism (typically SMS).

Physical security at Strategic Data is good with monitored entry, exit and waiting areas. Entry to the premises is via a combined biometric (fingerprint) PIN pad. Strategic Data are currently undergoing security certification process to achieve compliance to US Government Federal Information Processing Standard (FIPS) 199<sup>16</sup>. This security certification effort has visibility to and approval of the Commonwealth.

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***Review finding #10:*** *Data security is consistently carried through to a high standard by the relevant AMHOCN consortium partners.*



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# 4

## Strategic Directions

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HMA considered the future implications of a range of issues and identified priorities covering: sustainability; alignment with the national health reform agenda; embedding outcomes measurement in a national benchmarking platform; building strategic alliances, and setting strategic directions. The future implications of these issues are considered below.

### 4.1 FUTURE SUSTAINABILITY

There has been an extensive investment in the development of the NOCC over the last seven years and building on a longer term commitment by the Australian Government and jurisdictions to introduce outcome measurement to guide service development in the mental health sector and promote quality improvement.

The review considered that sustainability in the short term (the next twelve to eighteen months) would best be achieved through maintenance of the current commercial arrangements with the AMHOCN collaborative. This will provide time for greater clarity to emerge around how it is proposed to implement the National Health Reform Agreement in the mental health sector and the extent to which this will incorporate outcome measurement as part of the activity based funding formula development. The work of AMHOCN should be critical to informing the development of these measures in the mental health sector.

However, during that short term period an assessment needs to be undertaken of alternative organisational structures for the services that AMHOCN provides. Any change to the structural arrangement after, say, eighteen to 36 months would need to facilitate:

- the continued routine collection of the NOCC data set from all public mental health services;
- introduction of new members to the collaborative with resources skilled in outcomes measurement, casemix, quality improvement programs and activity based funding;
- enhancing AMHOCN's current governance arrangements through the appointment of a single contracting party who has overall responsibility for AMHOCN and additional focus on broader stakeholder management and communication;
- increased capacity of the outcome measurement and casemix development activities to evolve over time;
- increased financial sustainability through a new business model including alternative funding streams eg charging for services; and
- succession planning and a decrease in dependence on a few individuals.

***Strategic Direction #1: Maintain the current commercial arrangements with the AMHOCN collaborative for the short term while moving to place the organisation on a more sustainable footing through consideration of 1) possible alternative revenue sources; 2) assessing the feasibility, costs and benefits of alternative organisational arrangements, and 3) developing succession planning for transfer of skills.***



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## 4.2 NATIONAL HEALTH REFORM AGENDA AND AMHOCN

AMHOCN currently operates in an uncertain, changing and challenging policy environment. The broad policy context within which AMHOCN operates is detailed in Section 2.6. However, while at a high level components of the national health reform agenda such as the NHPA, the IHPA and activity based funding have been communicated, the detailed processes and specifications of these initiatives are yet to be confirmed. The reforms are expected to have a major impact on the mental health sector and AMHOCN should be a valuable resource providing leadership, analysis and sharing its expertise.

Maintaining the current commercial arrangements with the AMHOCN collaborative in the short term (as per *Strategic Direction #1*) would retain knowledge and expertise that can be applied in planning for the proposed reforms.

In the short term, AMHOCN needs to place particular focus on the new arrangements for national reporting of health organisation performance. Its work plans need to align any further casemix research and development with the emerging directions for casemix and outcomes measurement in mental health.

***Strategic Direction #2: Align AMHOCN's work-plan with the emerging national health reform agenda with particular focus on the new arrangements for national reporting of health organisation performance, aligning any further casemix research and development with the emerging directions for casemix and outcomes measurement in mental health.***

## 4.3 NATIONAL PERFORMANCE FRAMEWORK

If NOCC stands alone it will be isolated and decline in relevance. The NOCC needs to become embedded into the fabric of national mental health data collections. Its full value would be as a resource integral to benchmarking quality outcomes, casemix and supporting sector wide analysis.

If the NOCC obtained the status of a national minimum dataset this embedding process would be assisted. Key stakeholders considered such a transition as being desirable as national minimum datasets have particular status in informing benchmarking exercises and in influencing policy, planning and funding decisions. Due to the highly structured NMDS process and complexity of the NOCC data it would be neither simple nor quick process to transition the NOCC to an NMDS.

Later in 2011 the National Mental Health Information Development Expert Panel is due to commence a review of NOCC with a view to developing recommendations for its further development over the next 10 years. The review will involve a stocktake to see whether the collection of the NOCC measures has achieved the objectives described when the collection was implemented and then a review of the measures to identify any gaps in the collection (e.g. measures specific to infants, or that have specific utility in forensic services), or redundancies between the measures. AMHOCN needs to work strategically within this process to promote the potential of outcomes data being placed on a broader benchmarking platform that is based on the national mental health performance framework and which incorporates the other national mental health data collections.

***Strategic Direction #3: Embed the current focus on outcome measurement within a broader benchmarking platform based on the national mental health performance framework and close alignment with the other national mental health data collections.***

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## 4.4 BUILDING STRATEGIC ALLIANCES

When AMHOCN was established it had no precedents - no peers with experience to draw on to inform its development and implementation. Since AMHOCN's inception, several new entities have been established in the Australian health care context whose work plans have relevance to agenda of monitoring outcomes to improve the quality of service delivery. These include the Australian Commission on Safety and Quality in Health Care (ACSQHC) and two related national outcomes centres PCOC and AROC. Other initiatives or relevance have been implemented overseas in New Zealand and Canada.

AMHOCN has developed an informal relationship with AHSRI and an effective alliance with Te Pou, its New Zealand counterpart. Building further alliances with other similar organisations such as Canadian Institute for Health Information (CIHI), PCOC, AROC and similar organisations would potentially provide AMHOCN with knowledge, expertise and access to intellectual property that may not otherwise be accessible. It could also inform and accelerate the research and development program. Additional details on CHIH, AHSRI, PCOC and AROC are provided at Attachment A and illustrate the scope for more formalised collaboration around approaches to regularly reviewing client outcomes of services.

***Strategic Direction #4: Build strategic alliances with other organisations, domestically and potentially internationally, which have similar or relevant national quality, outcomes, casemix or data management experience and / or responsibilities.***

## 4.5 STRATEGIC DIRECTION

If AMHOCN is to effectively address the new and emerging national health reform agenda and efficiently implement the roadmap for the future, it needs clarification of the strategic role and direction of AMHOCN. The original vision was documented in contractual arrangements and a number of stakeholders were not clear about AMHOCN's future direction. The review found that development in the short term, of a clear strategic direction will be essential in helping AMHOCN to systematically address and prioritise issues including: sustainability; alignment with the national health reform agenda; embedding outcomes measurement in a national benchmarking platform; building strategic alliances; and, the other future directions identified in this review.

The strategic direction for AMHOCN needs to be developed with and confirmed by the MHISS.

***Strategic Direction #5: Review the collaboration's vision and purpose to determine, agree, document and communicate the short-term strategic direction and priorities of AMHOCN.***

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## APPENDIX A COLLABORATIVE OPPORTUNITIES AROUND OUTCOMES DEVELOPMENT

### PALLIATIVE CARE OUTCOMES COLLABORATION

The Palliative Care Outcomes Collaboration (PCOC) is “a voluntary quality initiative to assist palliative care service providers to improve practice and meet the standards for improving quality palliative care for all Australians.”

The PCOC comprises of four zones and partners: University of Wollongong (PCOC Central), University of Western Australia (PCOC West), Flinders University (PCOC South) and Queensland University of Technology (POCC North).

PCOC is funded under the National Palliative Care Program and is supported by DoHA. Participation in PCOC is voluntary and open to all palliative care service providers across Australia. Representation is sought from public and private health sectors; rural and metropolitan areas and inpatient and ambulatory settings

Like AMHOCN, PCOC works with service providers to:

- develop consistency in the collection of information;
- provide evidence through the collection and analysis of information;
- assist with quality and standards reporting;
- provide a benchmarking service; and
- promote and support research.

PCOC is governed by a Board which meets at least twice a year and is responsible for the strategic and executive management of PCOC including its clinical and scientific governance and for compliance.

The collaboration establishes ad hoc scientific and clinical advisory committees to provide advice to the Board on development priorities, quality and outcome data and reporting policy, education issues and research and benchmarking priorities. Membership of these committees comprises individuals invited in their own right because of their particular expertise and representatives of key stakeholders.

One executive from each of the four collaborators participate in a directors group which is responsible for managing the operational functions of PCOC on day to day management, financial reporting and other accountability requirements. There are five regionally based Quality Improvement Facilitators who engage with service providers delivering assistance with education, service quality improvement and POCC data collection processes.<sup>17</sup>

### AUSTRALASIAN REHABILITATION OUTCOMES CENTRE

The Australasian Rehabilitation Outcomes Centre (AROC) is a voluntary data collection and analysis initiative to assist rehabilitation care service providers to improve practice and service delivery. It is a joint initiative of the Australian rehabilitation sector (including providers, funders, regulators and consumers) that commenced operation on 1 July 2002. It was established by the Australasian Faculty of Rehabilitation Medicine (AFRM) of the Royal

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Australasian College of Physicians. It is a not-for-profit self-funding organization whose business plan was developed by representatives from across the rehabilitation sector.

Like AMHOCN, AROC works with service providers to:

- develop consistency in the collection of information;
- provide evidence through the collection and analysis of information;
- assist with quality and standards reporting;
- provide a benchmarking service; and
- promote and support research.

AROC is governed by its own management advisory group consisting of representatives from across the sector. It has a scientific and clinical advisory committee to advise on clinical and scientific issues. Stakeholders can have a direct say in the ongoing development of the Centre through their representatives on these committees.

The AFRM is the data custodian of the AROC data set. The AFRM has appointed the Australian Health Services Research Institute (AHSRI) at the University of Wollongong to manage the AROC data set on its behalf and to undertake the day to day management of AROC.

AROC was established with funding from seven foundation members. These foundation members contributed funds during AROC's establishment phase. AROC is currently funded by a combination of a Subscription model (members of AROC pay an annual subscription fee for which they receive a number of core services) and a user pays model (where AROC acts on a fee for service basis).

Rehabilitation units who are members of AROC submit a prescribed data set, the AROC dataset, against each and every episode of rehabilitation they provide. AROC receives this data, collates and analyses it, and provides twice yearly reports to submitting hospitals, payers, and other interested stakeholders<sup>18</sup>.

## AUSTRALIAN HEALTH SERVICES RESEARCH INSTITUTE

AHSRI was opened in May 2011 as a self-funded health services research and development institute. It had its origins in an agreement between the Illawarra Area Health Service and the University of Wollongong (UoW) to establish a health services research and development centre. The UoW established the Centre for Health Service Development (CHSD) in 1993 at the request of, and in full cooperation with, the (then) Illawarra Area Health Service. The success and expansion of CHSD led to the creation of AHSRI.

CHSD continues as the arm of AHSRI that nurtures new research themes and programs, serving as the 'generalist health and community' research group doing strategic project-based research as an AHSRI 'centre'. There are seven other sub-centres within AHSRI, each focusing on specific areas and also operate as research centres within the AHSRI structure. The aim is to maintain flexibility and incentivize staff to work across centres and projects as per their interests and skills.

AHSRI comprises the following eight research centres:

- Centre for Health Service Development (CHSD)
- Palliative Care Outcomes Collaboration (PCOC)
- Australasian Rehabilitation Outcomes Centre (AROC)

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- National Casemix and Classification Centre (NCCC)
  - Australian Centre for Clinical Terminology and Information (ACCTI)
  - Australasian Occupational Science Centre (AOSC)
  - Australian Health Outcomes Collaboration (AHOC)
  - Centre for Applied Statistics in Health (CASiH)

AHSRI operates within the faculty structure of the University of Wollongong and is part of the Sydney Business School. The Institute has the same aims as the CHSD namely:

*“to improve the management and provision of health and community services in Australia by achieving greater equity in resource distribution, fairer access to services, better continuity within and across the health and community care sectors, and the use of evidence to assist management decision-making.”*

In addition to producing robust academic output, the products of the Institute include practical and expert advice to a variety of government and non-government agencies and interest groups.

AHSRI provides the following services for PCOC and AROC

- data management;
- research and analysis;
- data set development; and
- training.<sup>19</sup>

## CANADIAN INSTITUTE FOR HEALTH INFORMATION

The Canadian Institute for Health Information (CIHI) was established in 1994, as an independent, not-for-profit corporation that provides essential information on Canada’s health system and the health of Canadians. It is funded by federal, provincial and territorial governments, and guided by a board of directors made up of health leaders from across the country.

CIHI’s vision is to help improve Canada’s health system and the well-being of Canadians by being a leading source of unbiased, credible and comparable information that will enable health leaders to make better-informed decisions. It’s objectives include 1) working to create and maintain a broad range of health databases, measurements and standards; 2) developing reports and analyses from CIHI data and other outside sources; and, 3) working with stakeholders to help them better understand and use evidence-based insights and analyses in their day-to-day decision-making<sup>20</sup>.

## TE POU, NEW ZEALAND

Te Pou is New Zealand's National Centre of Mental Health Research, Information and Workforce Development. It’s key objectives are: to build a strong and enduring workforce to deliver mental health services to all people; and to develop a culture of continuous quality improvement in which information and knowledge is welcomed and used to enhance recovery and service development. Te Pou is a similar organisation to AMHOCN. It provides the equivalent of AMHOCN’s analysis and reporting as well as its the training services<sup>21</sup>.

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## ENDNOTES

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<sup>1</sup> Department of Health and Ageing, National Mental Health Policy, [http://www.health.gov.au/internet/main/publishing.nsf/content/BF4CF02AE1033BF1CA25722200119A23/\\$File/policy.pdf](http://www.health.gov.au/internet/main/publishing.nsf/content/BF4CF02AE1033BF1CA25722200119A23/$File/policy.pdf), accessed June 2011

<sup>2</sup> Andrews, G., Peters, L and Teeson, M., The Measurement of Consumer Outcomes in Mental Health: A Report to the National Mental Health Information Strategy Committee, Australian Government Publishing Service, Canberra, 1994

<sup>3</sup> Stedman, T., Yellowlees, P., Mellsop, G., Clarke, R., and Drake, S., Measuring Consumer Outcomes in Mental Health: Field Testing of Selected Measures of Consumer Outcomes in Mental Health, Department of Health and Aged Care, Canberra, 1997.

<sup>4</sup> Department of Health and Ageing, *National Information Priorities and Strategies under the Second National Mental Health Plan 1998-2003, First Edition*, AGPS, June 1999, p.25.

<sup>5</sup> Ibid., p.27

<sup>6</sup> Ibid., p.26.

<sup>7</sup> Department of Health and Ageing, *National Mental Health Information Priorities, Second Edition*, AGPS, June 2005 p. 27.

<sup>8</sup> Australian Department of Health and Ageing, Developing a Casemix Classification for Mental Health Services: Summary, <http://www.health.gov.au/internet/main/publishing.nsf/content/mental-pubs-d-casemix-toc>, accessed May 2011.

<sup>9</sup> Australian Mental Health Outcomes and Classification Network, National Outcomes and Casemix Collection Technical Specifications version 1.6, <http://amhocn.org/static/files/assets/16e7c0ab/NOCC-1x6-tech-spec-endorsed-20090213.pdf>, accessed May 2011.

<sup>10</sup> Australian Mental Health Outcomes and Classification Network, Overview of Clinician-Rated and Consumer Self-Report Measures (Version 1.50), [http://amhocn.org/static/files/assets/a09cf2c5/MHNOCC\\_Overview\\_DOHA.pdf](http://amhocn.org/static/files/assets/a09cf2c5/MHNOCC_Overview_DOHA.pdf), accessed May 2011  
Overview of clinician-rated and consumer self-report measures (Version 1.50)

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<sup>11</sup> Australian Institute of Health and Welfare, Mental Health FAQs, <http://www.aihw.gov.au/mental-health-faqs>

<sup>12</sup> Australian Department of Health and Ageing, ITRI 192/0203 Invitation To Register Interest - Australian Mental Health Outcomes and Classification Network (AMHOCN), 2003

<sup>13</sup> The exception to this overall trend was submissions from Queensland where collection occasions in 2008-09 dropped 25% (from 102,321 in 2007-08) following the introduction of a new information collection system. There was a further reduced by 7% in 2009-10 to 71,713 collection occasions. Health sector experience has shown that the implementation of new data collection systems has an initial detrimental impact on the quantity and quality of dataset submissions

<sup>14</sup> New Zealand has mandated a single measure (HoNOS) for a national collection rather than a suite of outcome measures.

<sup>15</sup> Using the National Outcomes and Casemix Collection with Aboriginal and Torres Strait Islander Consumers: Adult Measures Rating Principles and Casemix Collection Version 1.0 March 2011

<sup>16</sup> Standards for Security Categorization of Federal Information and Information Systems, which addresses security management) and 200 (Minimum Security Requirements for Federal Information and Information Systems, which is a risk management framework.

<sup>17</sup> <http://ahsri.uow.edu.au/pcoc/whatis/index.html>

<sup>18</sup> <http://ahsri.uow.edu.au/aroc/whatisaroc/index.html>

<sup>19</sup> <http://ahsri.uow.edu.au/staff/index.html>

<sup>20</sup> <http://www.cihi.ca/CIHI-ext-portal/internet/EN/SubTheme/about+cihi/vision+and+mandate/cihi010703>

<sup>21</sup> <http://www.tepou.co.nz/page/23-Welcome>