NSW Chronic Disease Management Program – Connecting Care in the Community

Service Model 2013
The Agency for Clinical Innovation (ACI) recognises the unique position of Aboriginal people in the history and culture of NSW. The ACI would like to acknowledge the traditional owners of the lands referred to in this report. We would also like to acknowledge and pay respect to elders of the communities covered in this report.

The ACI would like to sincerely thank the large number of people involved in consultations for the CDMP Service Model who gave willingly of their time and experience and stories so that it truly reflects the current implementation of the CDMP.

A special thank you to members of the CDMP Implementation Network for their continual support of the program.

The Agency for Clinical Innovation (ACI) is the lead agency in NSW for promoting innovation, engaging clinicians and designing and implementing new models of care.

All ACI models of care are built on the needs of patients, and are underpinned by extensive research conducted in collaboration with leading researchers, universities and research institutions.

For further details on the ACI visit: www.aci.health.nsw.gov.au

Susan Brownlowe,
Manager, Chronic Care, Agency for Clinical Innovation
# Glossary

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACI</td>
<td>Agency for Clinical Innovation</td>
</tr>
<tr>
<td>AMS</td>
<td>Aboriginal Medical Services</td>
</tr>
<tr>
<td>CCAP</td>
<td>Chronic Care for Aboriginal People</td>
</tr>
<tr>
<td>CCSS</td>
<td>Care Coordination and Supplementary Services</td>
</tr>
<tr>
<td>CDMP</td>
<td>Chronic Disease Management Program – Connecting Care in the Community</td>
</tr>
<tr>
<td>CVC</td>
<td>Coordinated Veterans’ Care</td>
</tr>
<tr>
<td>ED</td>
<td>Emergency Department</td>
</tr>
<tr>
<td>eMR</td>
<td>electronic Medical Record</td>
</tr>
<tr>
<td>GP</td>
<td>General Practice</td>
</tr>
<tr>
<td>GPMP</td>
<td>General Practice Management Plan</td>
</tr>
<tr>
<td>HARP</td>
<td>Hospital Admission Risk Program</td>
</tr>
<tr>
<td>IPART</td>
<td>Independent Pricing and Regulatory Tribunal</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>JH&amp;FMHN</td>
<td>Justice Health &amp; Forensic Mental Health Network</td>
</tr>
<tr>
<td>LHD</td>
<td>Local Health Districts</td>
</tr>
<tr>
<td>MDS</td>
<td>Minimum Data Set</td>
</tr>
<tr>
<td>MLs</td>
<td>Medicare Locals</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Government Organisations</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>ONI</td>
<td>Ongoing Needs Identification</td>
</tr>
<tr>
<td>PAS</td>
<td>Patient Administration System</td>
</tr>
<tr>
<td>PD</td>
<td>Policy directive</td>
</tr>
<tr>
<td>PPHs</td>
<td>Potentially preventable hospitalisations</td>
</tr>
<tr>
<td>REALM</td>
<td>Rapid Estimate of Adult Literacy in Medicine</td>
</tr>
<tr>
<td>TCA</td>
<td>Team Care Arrangement</td>
</tr>
<tr>
<td>TOFHLA</td>
<td>Test of Functional Health Literacy in Adults</td>
</tr>
</tbody>
</table>
## CONTENTS

1. PURPOSE ............................................................................................................................. 1

2. BACKGROUND .................................................................................................................... 2
   2.1 Introduction ..................................................................................................................... 2
   2.2 Policy and planning context .......................................................................................... 2

3. THE NSW CHRONIC DISEASE MANAGEMENT PROGRAM ............................................. 3
   3.1 Purpose ............................................................................................................................ 3
   3.2 Target population ............................................................................................................ 3
   3.2.1 Priority populations ................................................................................................. 4
   3.3 Specialty Services .......................................................................................................... 5
   3.3.1 Sydney Children's Hospitals Network ........................................................................ 5
   3.3.2 Justice Health & Forensic Mental Health Network .................................................... 5
   3.4 Principles ....................................................................................................................... 6
   3.4.1 The Patient-Centred Medical Home ........................................................................ 6

4. CORE ELEMENTS .............................................................................................................. 8
   4.1 Targeted enrolment ......................................................................................................... 8
   4.1.1 Supporting Aboriginal Identification ....................................................................... 9
   4.1.2 Risk assessment ...................................................................................................... 10
   4.1.3 Consent and enrolment ............................................................................................. 10
   4.2 Comprehensive assessment .......................................................................................... 11
   4.2.1 Health literacy ........................................................................................................ 11
   4.3 Shared care planning .................................................................................................... 12
   4.4 Care coordination ......................................................................................................... 13
   4.5 Self-management support ............................................................................................ 13
   4.6 Monitoring and review ................................................................................................. 15

5. RESOURCES ....................................................................................................................... 16
   5.1 Governance ................................................................................................................... 16
   5.2 Workforce ..................................................................................................................... 16
   5.3 Reporting ....................................................................................................................... 17
   5.4 Information Technology ............................................................................................... 17
   5.5 Evaluation .................................................................................................................... 17

6 REFERENCES ...................................................................................................................... 19
1. PURPOSE

This Service Model is informed by current service delivery of the NSW Chronic Disease Management Program – Connecting Care in the Community (CDMP) across the state. The Service Model describes the core elements and principles that underpin CDMP. It aims to build consensus and facilitate common understanding and communication about the CDMP in order to support the implementation and the ongoing development of the Program. The Service Model does not comprehensively describe local operational models in NSW.
2. BACKGROUND

2.1 Introduction

Chronic disease makes a significant contribution to the burden of morbidity and mortality in Australia\(^1\). The increasing burden of chronic disease is attributed to longer life expectancies, the ageing population and changing lifestyle practices.

In NSW, the health system that supports people with chronic disease is complex with multiple services, providers, funding bodies and governance structures which have tended to operate as ‘silos’. At a local level, Local Health Districts (LHDs), funded by the State Government, and Medicare Locals (MLs), funded by the Commonwealth Government, are responsible for planning and delivering health care across primary, community and acute care settings in collaboration with General Practice (GP), Aboriginal Medical Services (AMS), Non-Government Organisations (NGOs), private health care professionals, and private health insurers.

Due to this complexity, a person’s journey through the health system can be experienced as fragmented, and there is a risk of falling through the gaps as demonstrated by the high number of potentially preventable hospitalisations (PPHs) for people with chronic disease. In NSW in 2011-12, there were 59,407 PPHs for chronic obstructive pulmonary disease, congestive heart failure, diabetes complications, angina and hypertension, which accounted for over 80% of PPHs for chronic conditions.\(^2\)

The growing burden of chronic disease will continue to be felt through increasing pressure on hospitals if there is insufficient service integration to manage chronic disease in the community. Improving the health and wellbeing of people with chronic illness requires transforming a system that is essentially reactive – responding mainly when a person is sick – to one that is proactive and focused on keeping people healthy at home for as long as possible.

2.2 Policy and planning context

Over the past decade, the Australian and NSW health system has increasingly sought to respond to chronic disease by promoting system integration and comprehensive primary health care. A number of programs and strategies addressing chronic disease have been established by the NSW Health system including:

- The NSW Chronic Care Program in 2000
- The NSW Chronic Disease Prevention Strategy 2003-2007
- Rehabilitation for Chronic Disease Guidelines 2006
- The Chronic Care for Aboriginal People (CCAP) Program
- Integrated Primary and Community Health Policy 2007-2012

The need for a new model of integrated and shared care was emphasised in the following key reports:

- Independent Pricing and Regulatory Tribunal (IPART) Report
- Garling Inquiry into Acute Hospitals
- National Health and Hospitals Reform Commission reports

The National Health Reform Agreement 2011 between the Commonwealth and state and territory governments aims to strengthen primary care. As a result of this agreement, Medicare Locals (MLs) have been established and a National Primary Health Care Strategic Framework\(^7\) has been developed. Under this Framework, NSW will deliver a Bilateral Primary Health Care Plan to build a consumer-focused integrated primary health care system. In addition, GP SuperClinics and HealthOne NSW services have been established to facilitate multidisciplinary team care. These entities do not specifically focus on chronic disease or integrating primary and community services with the acute hospital sector.

There remains a need to draw together existing chronic disease services to create a smooth and seamless patient journey across the health system. The CDMP has been developed by the NSW Health system to meet the need for integrated care across primary, community and acute health settings for people with chronic disease in NSW.
3. THE NSW CHRONIC DISEASE MANAGEMENT PROGRAM

3.1 Purpose

The CDMP aims to support people with chronic disease to better manage their condition in order to improve their health, well-being and quality of life, prevent complications, and reduce their need for hospitalisation. The program provides care coordination and self-management support to help people with chronic disease in NSW access appropriate services; and manage their care needs, multi-morbidities, disease signs and symptoms, and medications.

The CDMP enables people with chronic disease and their carers to better navigate the health system. It promotes whole of system change to chronic disease management by spanning sectoral boundaries for the delivery of better coordinated, holistic, person-centred care for people with chronic disease and complex needs across multiple care providers and settings. It specifically focuses on enabling the primary health care sector to provide continuity of care by facilitating linkages with and referrals to community health and specialist medical services including generic and disease specific rehabilitation programs, Aboriginal chronic disease programs such as 48 Hour Follow Up and Closing the Gap programs, palliative care, aged care and disability services including falls prevention programs, and mental health and drug and alcohol services.

3.2 Target population

People often have more than one chronic disease with complex medical, functional and psychosocial needs that change over time. As a result, people with chronic disease require different levels of care and access to a range of services and providers at different stages as their disease progresses. Kaiser Permanente has described this as the ‘Kaiser Triangle’, which has informed national and international approaches to chronic disease prevention and management.

![Figure 1: Level of health care for people with chronic disease](image-url)
The CDMP targets people with chronic disease aged 16 years and over who are at high to very high risk of hospitalisation and who may benefit from care coordination and self-management support. The target chronic diseases are:

- Diabetes
- Congestive Heart Failure
- Coronary Artery Disease
- Chronic Obstructive Pulmonary Disease
- Hypertension

These diseases are targeted because:

- They contribute significantly to the burden of disease (including mortality and morbidity) on individuals, carers, the health system and the community.
- They result in the most frequent presentations to hospitals and drive the highest healthcare costs.
- Health outcomes and quality of life can be improved for people with these diseases by providing care coordination and self-management support in the community.

People with the CDMP’s target diseases are also likely to have other co-morbid conditions such as depression, arthritis, dementia, chronic renal failure or cancer, and have multiple and complex health and social needs. Therefore, the CDMP promotes holistic care to improve the health and wellbeing of people with chronic disease across the care continuum.

The CDMP acknowledges that the determination of whether a person with chronic disease is eligible for the CDMP involves a number of considerations including their need for and potential to benefit from the Program while also ensuring the best use of available resources. The local identification of the target population should be guided by a flexible, responsive and person-centred framework.

### 3.2.1 Priority populations

The CDMP actively seeks to enrol and support populations with high prevalence of chronic disease and those who are at higher risk of hospitalisation. These populations experience poorer outcomes due to the disproportionate burden of chronic disease and disadvantage, limited access to health services and the complexity of their care needs.

Populations that are prioritised for enrolment into the CDMP include Aboriginal people and frail elderly people. The CDMP recognises that other populations also experience a disproportionate burden of chronic disease, are at high risk of hospitalisation, and may be prioritised for enrolment to CDMP. These populations include people from culturally and linguistically diverse backgrounds, people with mental illness, people of low socio-economic status, people living in rural and remote locations and people living alone. Strategies should be utilised to ensure these populations receive a targeted service that is appropriate to their needs.

#### Aboriginal people*

Life expectancy for Aboriginal people continues to be significantly less than for non-Aboriginal people in Australia. About 80% of the life expectancy gap is attributed to chronic diseases such as diabetes, heart, lung, liver and kidney disease.9

The disproportionate burden of chronic disease in Aboriginal communities is associated with the consequences of European colonisation, in particular, the introduction of new infectious and chronic diseases and social dislocation. Many Aboriginal people live today in conditions of clear social and economic disadvantage and these social determinants contribute to a higher incidence of risk factors such as smoking and obesity.

---

*In this paper, the term Aboriginal people is used to refer to all the people who are the original inhabitants of NSW. In 2008, Aboriginal and Torres Strait Islander people comprised 2.2% of the total NSW population. The NSW Aboriginal population is 94.4% Aboriginal only, 3.4% Torres Strait Islander only, and 2.2% both Aboriginal and Torres Strait Islander. (Health Statistics NSW, 2011)*
Aboriginal people experience inadequate access to primary care and under-utilise available mainstream services. Reduced access to health services for Aboriginal people is a result of factors such as proximity, availability and appropriateness of services, transport availability, health insurance and health service affordability, and health literacy. Lack of trust is also cited as a reason for Aboriginal people not accessing health services.

Aboriginal people are more likely to be hospitalised for chronic disease than the general population and their rates of hospitalisation have increased significantly over the last ten years. In NSW, Aboriginal people are admitted to hospital at about 1.7 times the rate of non-Aboriginal people.

Comparative hospitalisation rates for Aboriginal people in NSW are:\(^\text{10}\)
- 2.7 times higher for diabetes.
- 1.6 times higher for cardiovascular disease.
- 3.9 times higher for COPD.

Current data also suggests that Aboriginal people are more likely to experience a readmission within 28 days than non-Aboriginal people.\(^\text{10}\)

**Frail elderly people**

Chronic diseases are the leading cause of death and disability for people aged 65 years and over. In 2004-05, almost all older Australians reported having at least one chronic condition and 80% reported having three or more chronic conditions.\(^\text{11}\) Over 50% of older people reported having a disease of the circulatory system including hypertension, ischaemic heart disease, and cerebrovascular disease.\(^\text{11}\)

The prevalence of chronic disease is strongly correlated with age and is a significant factor in older people’s utilisation of hospitals, including Emergency Department presentations. Older people are more likely to require admission and have longer lengths of stays than younger people. In 2011-12, people aged 85 years and over accounted for 7% of all hospital admissions and 13% of days spent by patients in hospital.\(^\text{2}\) In 2004–05, 20% of hospitalisations for older people were due to diseases of the circulatory system.\(^\text{12}\) Falls are also a major cause of hospitalisation among older people,\(^\text{13}\) and older people with type 2 diabetes are at increased risk of falling.\(^\text{14}\)

The ageing of Australia’s population and the prevalence of chronic disease among older people will continue to pose a significant challenge to the health and aged care system.

### 3.3 Specialty Services

#### 3.3.1 Sydney Children’s Hospitals Network

While the prevalence of chronic disease increases with age, young people are also affected by chronic disease, particularly as the risk factors for chronic disease start early in life. Aboriginal young people and young people living in remote areas are particularly vulnerable to poor health and chronic disease. The chronic diseases that pose significant risk to young people include diabetes, asthma and cancer. Diabetes accounts for about 1% of the burden of disease in young people and 0.9% of hospital separations.\(^\text{15}\)

The Sydney Children’s Hospitals Network has received funding to adapt the CDMP to meet the needs of young people with chronic disease. The Trapeze service has been established for young people aged 16 to 25 years with chronic complex conditions such as diabetes and severe respiratory compromise who are at very high risk of hospitalisation. Trapeze provides care coordination and health coaching to participants, and works closely with services in hospitals and the community to support the young person’s transition from paediatric to adult services and strengthen links to primary care. Aboriginal young people are prioritised for enrolment into the service.
3.3.2 Justice Health & Forensic Mental Health Network

People who come in contact with the criminal justice system experience an increased burden of chronic disease and are less likely to utilise health services. In 2012, almost 1 in 3 Australian prison entrants (32%) reported having a chronic disease. People in custody also have a high prevalence of risk factors for chronic disease including smoking, high blood pressure, obesity and high levels of drug and alcohol use. ‘On entry to prison, over 4 in 5 prison entrants reported being a smoker; and seven in ten had used illicit drugs in the 12 months prior’.18

The Justice Health & Forensic Mental Health Network (JH&FMHN) has been funded through CDMP to provide a care navigation service. This is vital for people in custody due to the continual movements throughout various custodial settings. JH&FMHN are also increasing the linkage between Justice Health and the community upon release. This service supports people across fifteen chronic diseases including the CDMP’s target diseases and asthma, chronic liver disease, chronic kidney disease, cancer, depression and musculoskeletal conditions. Aboriginal people are over-represented in the criminal justice system and have high rates of chronic disease, this service allows Aboriginal people to be prioritised for enrolment.

3.4 Principles

The CDMP provides an integrated ‘whole of person’ approach to care for people who are at high and very high risk of hospitalisation as a result of their established and often multi-morbid chronic disease and complex needs. It recognises the need to provide person-centred care that considers carer and family needs, multi-morbidity and the socio-economic influences on health holistically, rather than in isolation from each other.

This approach is in line with Aboriginal definitions of health, which are more holistic:

“‘Aboriginal health’ means not just the physical wellbeing of an individual but refers to the social, emotional and cultural wellbeing of the whole Community in which each individual is able to achieve their full potential as a human being, thereby bringing about the total wellbeing of their Community. It is a whole-of-life view and includes the cyclical concept of life-death-life”.19

The principles of the CDMP are to:

- Support the provision of coordinated, person-centred care that is empowering, respectful and appropriate.
- Enable the primary care sector to manage and support people with chronic disease as close to home as possible, ideally through a ‘medical home’ model. Hospital admissions related to chronic disease are often preventable if comprehensive care is provided in the community.
- Work in partnership to provide comprehensive and holistic care. The CDMP encourages a model of local shared governance with representation from LHDs, MLs, GPs, AMSs, chronic disease services and with input from NGOs and other community-based services.
- Implement evidence-based and evidence-informed care coordination and self-management support.
- Address health inequities especially for populations known to be at higher risk of hospitalisation including Aboriginal people, frail elderly people, people living in rural and remote locations, people from culturally and linguistically diverse backgrounds and people of low socio-economic status.

3.4.1 The Patient-Centred Medical Home

The CDMP is informed by the Patient-Centred Medical Home, a concept first described by the American Academy of Paediatrics for a single centralised source of care and medical record for children with complex health care needs.20 The concept has since been expanded to describe how primary care should be organised and delivered: the ‘medical home’ acts as the hub of care, co-ordinated by the primary care provider in conjunction with the multidisciplinary team and with specialist input.21 The aim is to deliver care as close to a person’s home as possible.
The ‘medical home’ is defined by its attributes rather than being linked to a specific provider, such as the GP. However, the person’s GP is usually in the best position to act as the ‘medical home’ because they have in depth knowledge and close personal relationships with their patients. Aboriginal Community Controlled Health Services (ACCHS) and AMSs are also well-placed to act as a ‘medical home’ as they provide integrated, holistic and appropriate care to Aboriginal people in their community that is empowering and respectful. The development of effective partnerships and the creation of multidisciplinary teams across primary, community and acute care, facilitated by the ‘medical home’, are essential for continuity of care for people with chronic disease.

The medical home is not yet systematically available across NSW. As such, the CDMP aims to build capacity by working in partnership with primary health care providers including GPs, AMSs, HealthOne NSW and GP SuperClinics to develop the ‘medical home’ model in NSW. The CDMP enhances care provided by the primary health provider by integrating it with other services provided by the primary, community and acute care sectors. In addition, the CDMP aims to facilitate collaboration between MLs and LHDs to tackle the systemic change needed to achieve an integrated health system whereby accessible and affordable medical homes are a reality for people with chronic disease in NSW.
The CDMP has been implemented by Local Health Districts (LHD) and Specialty Networks (SN) across NSW with flexibility that was responsive to local population needs, infrastructure and resources. As a result, local operational models are variable and differences are discernible, particularly in terms of access and intake points, and service delivery levels and methods.

There are, however, core service elements that are present across the Program. The core service elements of the CDMP are targeted enrolment; comprehensive assessment; shared care planning; service delivery in the form of care coordination and self-management support; and ongoing client monitoring and review.

### 4.1 Targeted enrolment

The CDMP enrols people who are most likely to benefit from care coordination and self-management support to help them manage their chronic disease in the community, and reduce their need for acute hospital care. People who experience difficulty managing their established, and often multi-morbid, chronic diseases are targeted for enrolment. They are identified by their high risk of or frequent hospitalisations, which impact on health outcomes and quality of life for the individual and their carer.

People who may be eligible for enrolment to the CDMP are identified through:

- Referrals from health care professionals (e.g. GP, medical specialist, nurse, Aboriginal Health Worker, allied health professional) or service provider (e.g. aged care, disability, mental health, drug and alcohol) and self-referrals (in some instances).
- Admitted patient data reports based on an algorithm, which currently identifies patients on their third hospital admission in a twelve month period with one of the target chronic diseases as their principal diagnosis.
- People enrolled in another NSW Health program, e.g. disease specific rehabilitation, falls prevention or 48 Hour Follow Up as part of Chronic Care for Aboriginal People program, may also be identified for enrolment to the CDMP if enrolment would provide additional service capacity to support the individual.
Enablers

A contact centre can support patient identification, communication, care navigation and ongoing management. There is increasing evidence that a contact centre can reduce usage of acute care services. The contact centre’s main functions may be to provide:

- A single point of contact for participants, including after-hours support.
- Centralised intake into the CDMP, and other chronic disease services.
- Referral to other health and community support services.
- Care coordination.
- Post discharge services.
- Telephone-based health coaching.
- Telehealth and telemonitoring services.
- Advocacy services.

Contact centres can provide a centralised, up-to-date source of information about the participant for his or her health care providers. They use information and communications technologies that have the capacity to handle high volumes of transactions for large catchments. Contact centres are important for the delivery of integrated care, although it is recognised that this infrastructure may not be available or sustainable in all areas.

Real time alerts and flags can ensure that the CDMP participant’s care providers are notified when he or she presents in emergency departments or is admitted to hospital. An alert with these details can be sent to CDMP staff.

The Patient Flow Portal is part of the Patient Administration System (PAS). It allows real-time identification of patients who are at high risk of admission and/or readmission to hospital within 28 days based on a number of factors including:

- Previous multiple unplanned admissions
- Previous multiple unplanned admissions under a specified or same specialty
- Previous 28 day readmission with Emergency Department (ED) presentation
- Previous 28 day readmission, with more than five ward moves in the current admission
- Aboriginality and remoteness
4.1.1 Supporting Aboriginal Identification

A system wide approach is needed to support the enrolment of Aboriginal people to the CDMP by ensuring that the standard Indigenous status question is asked correctly and consistently of all people, and that this information is recorded accurately.

Despite improvements in recent years, there are continuing problems with the under-identification of Aboriginal people in many health-related data collections in NSW. A survey of hospital staff in 2005 examined attitudes towards asking the Indigenous status question of clients and found that some frontline staff had negative attitudes toward collecting Indigenous status information. Specifically, some staff feared asking presenting patients whether they were Aboriginal because of concerns about provoking negative responses. As a result, NSW Health has developed a training framework and policy to support staff to correctly and consistently collect information on whether people identify as Aboriginal.

**Enablers**

**Identification of Aboriginal patients** is the subject of the NSW Health policy directive PD 2012_042 Aboriginal and Torres Strait Islander Origin – Recording of Information of Patients and Clients, which outlines the requirements for collecting and recording accurate information on whether clients of NSW Health services are Aboriginal.

The completion of training requirements as outlined in the *Respecting the Difference: An Aboriginal Cultural Training Framework for NSW Health (PD 2011_069)* supports staff to correctly and consistently collect information on whether patients are Aboriginal.

The 48 Hour Follow Up program allows potentially eligible Aboriginal people who have been identified in hospital to be referred to CDMP for care coordination and self-management support in the community. The 48 Hour Follow Up program involves a phone call to Aboriginal people aged 15 years and older with chronic disease within two working days of discharge from hospital to check on the person’s wellbeing, medication management and follow up appointments with the AMS, GP or specialist. The Aboriginal Health Worker can support Aboriginal people identified through 48 Hour Follow Up to transition into CDMP.

4.1.2 Risk assessment

Once a participant is identified for enrolment to CDMP, a risk assessment is carried out to determine his or her risk of hospitalisation. This determination guides decision-making about whether the person should be enrolled in the CDMP and what level of support is required. It also guides decision making around the provision and intensity of care coordination, self-management support and/or referral to other services. The risk assessment should incorporate an escalation plan that allows CDMP staff to escalate the person with chronic disease to the appropriate service or clinician for rapid review and specialist care.

Risk assessment can be based on the referrer’s or health professional’s clinical judgement or through administration of a risk assessment tool. There is currently no standard risk assessment tool mandated for use throughout NSW. Each LHD determines the approach and criteria for risk. This variation allows for the consideration of the population’s needs and local resources. The tools and criteria used to undertake risk assessment should be based on evidence.

**Enabler**

There is currently no mandated risk stratification tool for CDMP. The Western Hospital Admission Risk Program (HARP) Risk Calculator is used by many LHDs to guide risk stratification informed by the participant’s needs.
4.1.3 Consent and enrolment

Once a person has been identified as eligible for the CDMP, they must be formally enrolled into the program. Consent to participate in the program must be obtained from each individual to allow his or her personal information to be shared among service providers.

The enrolment process is complete when information about CDMP has been provided to the person through provision of the program brochure, and verbal or written consent to participate has been obtained. The CDMP Minimum Data Set (MDS) must also be collected at this time. The MDS prescribes the minimum amount of information that should be known about a participant, and includes basic demographic information and if they identify as an Aboriginal or Torres Strait Islander person.

4.2 Comprehensive assessment

Comprehensive assessment allows for a better understanding of the person’s needs and circumstances to inform care planning. The key principles of comprehensive assessment are that it is:

- Multidimensional i.e. collects information on a wide range of domains including medical health, physical functioning, psychological functioning and social functioning.
- Interdisciplinary i.e. involves input from different disciplines.
- Investigative, i.e. provides an in-depth assessment of the area of functioning.
- Leads to the identification of health and care needs and the appropriate interventions.39

The comprehensive assessment should address ‘all of those facets of a person’s life that are to relevant to the decision-making that follows from the assessment, such as the development of care plans and/or referrals to services.’11 This will ensure that all factors affecting a person’s health and well-being are known in order to facilitate the planning of their care. The comprehensive assessment should:

- Consider the person’s health literacy.
- Identify carer strain and links to carer and other support services.
- Discuss advance care planning.
- Identify any falls risk.
- Review medications.

Once a person is enrolled, the CDMP facilitates a comprehensive assessment by:

- Drawing together the results of previous assessments into one complete source of information about the participant.
- Supporting the participant’s primary care provider to gather or complete a comprehensive assessment in the absence of existing assessment information. Completing a comprehensive assessment on behalf of the primary care provider where they are unable to manage this process.

Care Coordinator led home visits may be beneficial for participants where further support is needed to gain a comprehensive assessment. For Aboriginal people in the CDMP, the involvement of Aboriginal Health Workers to introduce the CDMP model is recommended to ensure appropriate engagement and care for Aboriginal people.

The comprehensive assessment is shared with the participant’s primary health provider and other health professionals involved in his or her care.

Enabler

There is currently no standardised comprehensive assessment tool for use across NSW Health. However, the Ongoing Needs Identification (ONI)30 has been used in some areas as a guide to undertaking comprehensive health assessments.

The comprehensive assessment should be shared among health professionals and service providers through infrastructure, such as the contact centre, or systems such as the electronic medical record or a secure messaging service e.g. Argus.
4.2.1 Health literacy

Health literacy is the ability to obtain, process, and understand basic health information, access services and make decisions about care. Low levels of health literacy have been documented in Aboriginal people, culturally and linguistically diverse populations, and people of low socioeconomic backgrounds. Lower health literacy is associated with increased use of health services and poorer health outcomes. By assessing health literacy, the program will be able to provide tailored care to each individual and improve outcomes for participants.

Allied to the concept of health literacy is medication adherence. Low health literacy has been shown to be associated with poorer adherence to medication regimens, but adherence of those with low health literacy may be improved by targeted intervention.

**Enabler**

The three most commonly used health literacy assessment tools are the Test of Functional Health Literacy in Adults (TOFHLA), Rapid Estimate of Adult Literacy in Medicine (REALM), and the Newest Vital Sign. These are all designed to test literacy and numeracy skills through items specific to health. The 48 Hour Follow Up program is also developing an iPad Health Literacy tool that can be used for CDMP.

4.3 Shared care planning

People with chronic disease generally have more than one care provider and no single provider or program is likely to meet all aspects of their care needs. Where there are multiple care providers, it is important to ensure that everyone, including the person and carer, are informing the care plan and ultimately working towards achieving the same, agreed health goals. For Aboriginal people enrolled in CDMP, an Aboriginal Health Worker should also be involved in the development of the shared care plan to ensure that it appropriate and relevant.

The development of a shared care plan that the person with chronic disease, their carer, and all potential care providers contribute to minimises barriers to coordinated care. The CDMP aims to enable and assist health professionals and service providers to deliver coordinated care by bringing together multiple care plans to create a cohesive, shared care plan that is agreed upon by all care providers, and most importantly by the person. CDMP staff may liaise with GPs to support their use of the GP Management Plan (GPMP) and Team Care Arrangement (TCA) Medicare Benefit Schedule items.

A shared care plan is an individualised management plan for a person with chronic disease. Accordingly, the information that is included in a care plan will vary from person to person depending on their needs and circumstances. The care plan should be a living document that is regularly reviewed to include all the relevant information about a person and their changing health status and care needs.

At a minimum, the shared care plan should include the person’s diagnoses; interventions (pharmaceutical and others) being undertaken to manage the condition; and goals. The shared care plan should have a multidisciplinary care focus and incorporate self-management support (with participant and carer education) so that all parties work together to achieve the best possible outcome. The shared care plan should also include an escalation plan that allows the participant to access rapid and appropriate specialist care if their condition deteriorates.

Advanced Care Planning is an important part of developing a care plan for people with chronic disease and should be documented as part of the shared care plan. Strategies should be considered to promote routine advanced care planning and to support clinicians in developing an appropriate advanced care plan.

Shared care planning is consistent with the NSW Health Care Coordination Policy Directive and Manual which describes the processes that hospitals need to follow when transferring the care of patients. Hospitalisation usually results in significant changes in the management of a person’s condition, and everyone involved in the person’s care should be informed of these changes. A shared care plan is an important resource to communicate these changes.
4.4 Care coordination

Effective care coordination is a critical element of chronic disease management. There is currently no agreed definition for care coordination, but it can be considered as the deliberate organisation of care to a person to facilitate the timely delivery of care in a manner that is consistent with the person’s clinical and psychosocial needs. This usually involves assembling the personnel and other resources needed to provide care and effectively exchange information between the person and all providers involved in care. It can also be expressed as ensuring that a person can access the right care, at the right time, in the right place and by the right provider.

Care coordination encompasses a holistic view of the person with chronic disease including their mental, physical and social wellbeing, social supports and care needs. Coordination includes aspects such as a medication review, falls clinic referral and assistance to access appropriate services and self-care supports including meals on wheels, respite and day care. Referral to appropriate services involves advocacy and consideration of the person’s financial and social situation.

The participant’s primary care provider is generally best placed to manage their overall health care as they are the first point contact for clinical services and ongoing care, and can develop holistic knowledge of their patients. The primary care provider should be aware of and engaged in all significant treatment decisions made in hospital and community settings, and should be recognised as the key planner of care across settings – including acute, rehabilitation and palliative care.

The objective of care coordination delivered as part of CDMP is to achieve better outcomes, support the individual and their carer, and reduce the risk of hospitalisation or unnecessary Emergency Department presentations. The intensity of care coordination can vary according to the participant’s needs ranging from occasional telephone support to intensive care coordination (also known as case management) and regular home visits.

The CDMP is currently one of a number of care coordination services that are available through LHDs, MLs, AMSs or individual providers. Other services include the Indigenous Chronic Disease Care Coordination and Supplementary Services (CCSS) Program, Coordinated Veterans’ Care (CVC) Program, disease specific case management services and the Partners in Recovery program. The CDMP aims to complement these services and act as an additional resource where needed. The care coordinator workforce within LHDs, MLs and AMSs need to work in partnership to reduce duplication and identify and overcome any service gaps.

The effective exchange of information between care providers improves the overall management of the person’s chronic conditions. Ideally, CDMP participants have their care plans recorded at the local contact centre and in their medical record, where available. Relevant information can be added to the stored information at the contact centre by care providers, and this will assist the coordination of care.
CDMP staff can provide active assistance in implementing shared care plans by:

- Coordinating services and appointments as per the participant’s care plans and needs
- Encouraging attendance at appointments/services
- Organising transport
- Connecting participants with and navigating them through the various community and health services
- Supporting development of self-management skills by providing education
- Supporting participant’s adherence to treatment regimens
- Supporting self-care and activities of daily living
- Undertaking scheduled monitoring and review.

4.5 Self-management support

Self-management support is the ongoing partnership between the person and their care provider(s) that empowers, prepares and supports the person to manage their health and ongoing care, ultimately making them more confident about managing their conditions and more likely to alter their behaviours.

Self-management support\(^42\) activates people by helping them to understand their needs, feel more confident managing their condition and supporting them to work towards their goals. There is good evidence that improved self-efficacy is associated with better clinical outcomes.\(^43\)

Approaches to self-management support include health coaching or motivational interviewing by telephone or in person; monitoring symptoms with technology; group or individual education programs with an active goal setting component; coaching with proactive goal setting and follow up; provision of information; and programs based on psychological and emotional support that acknowledge people’s stage of change.

Health coaching supports people with chronic disease by:

- Increasing their knowledge of their conditions
- Helping to address barriers to making lifestyle changes
- Helping people to take control of symptoms by monitoring them and responding appropriately
- Encouraging people to actively share in decision making with their health professionals.
- Encouraging people to better manage the physical, social and emotional impact of the condition on their lives.

Participants enrolled in the CDMP have access to health coaching to support lifestyle risk factor management (weight, physical activity and healthy eating) and disease management. The coaching is based on their shared care plan, and follows the goals and actions specified in that plan, developed by the person, their carer (when appropriate), and agreed by the person’s care providers.
4.6 Monitoring and review

An important component of the CDMP is monitoring and reviewing the health and health related activities of all people enrolled in the program. Ongoing interaction and communication with the participant and their carer/ family is crucial to ensure the service they are receiving meets their needs and circumstances. This is particularly important given participants are not routinely discharged from the CDMP, which is designed to provide ongoing support to participants as they transition into and out of other chronic disease services as appropriate to their needs.

The participant’s shared care plan should describe their situation and the care that they are receiving, identify a date when review is required and incorporate an escalation plan. Local systems need to be implemented to ensure the review process occurs. The review should confirm that the existing care arrangements are satisfactory and appropriate, or, if not, modify them to assist the person to achieve their goals. Local or regional contact centres may support the development of infrastructure required to flag participants due for review, and support the process of telephone-based reviews where required.

The primary care provider is best placed to lead the review of a participant’s shared care plan as they are generally the provider of most people’s ongoing care. The Medical Benefits Schedule governs the process by which general practitioners can carry out reviews of care plans.
5. RESOURCES

The key resources to support the CDMP include governance; workforce development; reporting; information technology; and evaluation.

5.1 Governance

The CDMP is focused on improving integration across the range of service providers involved in the care of a person with chronic disease. These arrangements need to be worked out at the local level and embedded into operational relationships. Local participants need to be clear about who is responsible for key activities.

The CDMP promotes a shared governance model at a local level including representation from the LHD (including CDMP and CCAP staff), ML, GPs and AMSSs, with input from NGOs and community services (including aged, disability and mental health services) where possible. The governance body can develop their own key performance indicators and reporting requirements for CDMP as appropriate.

At a state-wide level, The NSW Agency for Clinical Innovation (ACI) is responsible for supporting the implementation of CDMP. This role is undertaken in conjunction with the NSW Ministry of Health.

**Enabler**

HealthOne has published a document ‘Guidelines for Developing Governance Arrangements for HealthOne® NSW Services’. It has helped general practitioners, community health services and other health professionals to develop governance arrangements that support the integration of services at a local level. These guidelines are also relevant to the CDMP.

5.2 Workforce

A skilled and sufficiently resourced workforce is needed to enhance and integrate chronic disease services for people enrolled in the CDMP. The workforce provides support to the primary care provider to deliver coordinated care and continuity of care across primary, community and acute settings.

Within each LHD, the CDMP workforce may include the following positions:

- Program Manager
- Care Coordinators
- Contact centre staff
- Health Coaches

The positions undertake a variety of roles depending on local needs and service planning, and may be employed and/or located in the LHD or within the ML. A GP Liaison Officer, Practice Support Officer, Care Navigator and Aboriginal Health Worker are key positions for CDMP staff to work alongside to ensure smooth transitions across primary, community and acute care.

CDMP staff should engage with other local chronic disease programs such as disease specific rehabilitation, Closing the Gap Programs and the Chronic Care for Aboriginal People Program. Training should be developed and delivered in house or by appropriate external partners.
The CDMP enables the workforce from the LHD, ML, AMS and other services to collaborate more effectively. Effective integration may require a workforce development focus on integration with primary care, which is supported by change management and may be further supported by co-location of LHD provided services such as CDMP, CCAP, 48 hour follow up and disease specific rehabilitation programs.

### Enablers

To increase **workforce capacity** and ensure a consistent standard of care coordination across the CDMP, guidelines are being developed to outline the required skills, experience and knowledge for CDMP Care Coordinators, and an online database containing web-based training modules/resources, local opportunities for skill and experience development, and links to relevant websites will be made available.

The CDMP supports the provision of **health coaching training** to up skill the broader chronic disease workforce in health coaching and motivational interviewing. This will allow all professionals who are providing care to people with chronic disease to reinforce the key messages that have been developed as part of the shared care plan.

#### 5.3 Reporting

Each LHD in NSW has been funded by the NSW Ministry of Health to deliver CDMP to eligible people within their community. On a quarterly basis, LHDs submit a report to the ACI against key performance indicators including the number of people enrolled in CDMP against agreed targets.

To support program evaluation, LHDs also submit de-identified patient data against the program’s Minimum Data Set, which contains client demographics and information on interventions received via the CDMP. This data is submitted to the NSW Ministry of Health before being linked to other health data and transferred to the external evaluation consortium for analysis.

#### 5.4 Information Technology

Information Technology (IT) infrastructure is crucial for supporting the operations of the CDMP and facilitating access to relevant up-to-date information about participants. Currently, most of the information about a person’s care is held by the individual providers of the care, and there is no easy way for providers to access all relevant information, which may be held in several different information systems. IT infrastructure can overcome some of these barriers, and includes:

- Electronic patient records such as the electronic Medical Record (eMR) and personal eHealth record.
- Electronic and/or automatic referral forms built-in to existing systems such as Medical Director, or through Medicare Local websites.
- Shared access to systems such as CHIME and Cerner which allow patient information and MDS data to be captured and recorded.
- Real time flags and alerts: when CDMP clients present to emergency departments or become inpatients, an alert with these details are sent to CDMP staff and/or the person’s primary care provider.
- Use of secure messaging services such as Argus for referrals, to share care plans and assessments, transmit summaries, and transfer of care information.
5.5 Evaluation

An external consortium led by the George Institute for Global Health has been commissioned to undertake an evaluation of the CDMP. The evaluation will submit interim reports at agreed intervals with the final report due for completion in September 2014.

The purpose of the evaluation is to develop the evidence base regarding effective options for chronic disease management in NSW. It will do so by measuring the impact, reach, equity and costs of the CDMP through four major streams of investigation. The evaluation also includes a research stream to examine the experience of Aboriginal people participating in CDMP.

The four major streams are:

- **Patterns of health service utilisation**: analysis of linked health service use data for economic evaluation to assess value for money and inform the best place for investment to improve patient outcomes and reduce health costs for chronic disease management.
- **Program models, services and service providers**: interviews with service providers (e.g. staff in LHDs, GPs and MLs), site visits and reviewing service implementation documents will provide data that will be used to determine the cost-effectiveness of the CDMP and information on CDMP variations in different locations.
- **Patient and carer experience**: survey of a representative sample of participants to assess their experience of the CDMP, self-reported health status, self-efficacy and quality of life and in some cases satisfaction with any technology used. Survey data will be linked to health service utilisation data and other program data to assess the influence of different interventions on program effectiveness.
- **Review Process Pilot**: CDMP participants at select representative locations will be systematically contacted and reviewed over the course of their enrolment to identify the services participants were referred to, services received, self-rated health, and the models of care received.

Early data analysis appears to indicate people enrolled in the CDMP have reduced hospital admissions and length of stay. The NSW LHDs have also collected information and data about the impact of the CDMP on enrolled patient’s health and wellbeing, hospital admissions, and length of stay by conducting in-house audits and reviews of patient files. The results are promising and indicate an overall decrease in unplanned hospital admissions and length of stay pre and post-enrolment for patients.
6. REFERENCES

1. AIHW. (2010). Premature mortality from chronic disease. *AIHW bulletin no. 84*. Cat. no. AUS 133. Canberra: AIHW.
2. NSW Admitted Patient Data Collection and ABS population estimates (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health.
8. Figure is based on the ‘Kaiser Triangle’, Kaiser Permanente, 2005.


