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## Issues brief

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## Table of Contents

1.	Community-based allied health chronic disease management.....	6
1.1	The Medicare Chronic Disease Management program .....	7
1.2	Demand for community-based allied health services is increasing.....	8
2	The Chronic Disease Management data gap .....	9
2.1	Medicare data for financial administration .....	9
2.1.1	Incentives for addressing data gaps.....	10
2.2	Digital health record data for improved patient care.....	11
2.2.1	Electronic Medical Records.....	11
2.2.2	Data collection standards .....	12
2.3	Non-admitted patient allied health data for informing public health services .....	13
2.3.1	Allied healthcare variation.....	14
3	Using data to improve Chronic Disease Management .....	15
3.1	Quality of care and patient engagement .....	15
3.2	Healthcare decisions .....	16
3.3	The value of community-based allied health data is enhanced through data linkage .....	16
3.4	Data to inform service planning and policy making.....	17
4	Conclusion and recommendations .....	18
4.1	Collect nationally consistent data on meaningful outcomes.....	19
4.2	Support development of evidence through data on routine care.....	19
4.3	Enhance context specific service delivery through identification of local health needs.....	19
4.4	Create balanced incentives for provider participation in data collection .....	19
4.5	Invest in rapid development of nationally consistent allied health terminology for clinical data entry.....	20
4.6	Implement digital infrastructure to support community-based allied health data collection	20

## Key messages

- Community-based allied health services are an effective and efficient way to address chronic conditions that contribute to modifiable burden of disease and potentially preventable hospitalisations. This is recognised in the Addendum to National Health Reform Agreement 2020-2025 which identifies community-based care as essential to improving health outcomes for all Australians and the sustainability of the Australian health system.
- Despite significant investment of public funds into Medicare-funded allied health services, there is no comprehensive data on how and why people access care, the management they receive, and resulting outcomes. As such, there is limited information to guide allied health service planning, design, delivery, and policy-making.
- Collection of community-based allied health data would facilitate active patient engagement in care decisions, provision of context specific management, planning for appropriate workforce supply, and advancement in health service and policy design. This supports efforts to improve access to allied health care, improved outcomes and equity in outcomes, enhanced sustainability of service delivery, and reduced avoidable hospitalisations.
- The following recommendations about data collection are made to support community-based allied health chronic disease management:
  - Collect nationally consistent data on outcomes that matter most to patients with chronic conditions.
  - Support development of evidence through collection of diagnoses, clinical management, and outcomes of patients seen during routine care.
  - Enhance context specific service delivery through identification of local allied health needs.
  - Create incentives for allied health provider participation in data collection.
  - Invest in rapid development of nationally consistent allied health terminology for clinical data entry.
  - Implement standardised terminology and interoperability standards into digital infrastructure to support community-based allied health data collection and use.

## Executive summary

Allied health services are integral to the management of chronic conditions in the community setting, yet little data about them are collected, impeding health service planning, design, and policy decisions. It is unclear what, when, and where allied health services are required and how they would be best provided.

Community-based allied health services funded by Medicare through the Chronic Disease Management program represent a significant and growing component of the health care system. Data-driven strategic leveraging of allied health services has significant potential to improve the safety, quality, and efficiency of chronic disease management through service models including greater integration of care; diversified skills-mix enabling flexible workforce planning to address unmet health needs; greater community-based management to reduce avoidable hospitalisations; and depth of knowledge in specific care domains.

Existing data collection provides information on the number and geographic distribution of Chronic Disease Management services, but does not include comprehensive information on the types of chronic conditions managed, how they are managed, and the outcomes of management. This type of clinical data should be collected to guide proactive workforce planning, inform design of innovative service delivery, support patient-provider care decisions, and identify areas of sub-optimal performance for quality improvement.

There is a lack of digital infrastructure to support the collection of allied health data. Development and implementation of nationally consistent clinical terminology for data entry, software interoperability standards for data exchange and sharing, and support for organisational adoption of new digital health technologies are required.

Collection of data by allied health providers is limited by a lack of time and incentives. However, sufficient uptake of collection is needed to allow for meaningful interpretation and utilisation of data. Government should consider introducing a longer initial appointment Chronic Disease Management allied health item that attracts a higher rebate, as well data collection incentives similar to that used in general practice.

## 1. Community-based allied health chronic disease management

The importance of community-based care, as essential to improving health outcomes for all Australians and the sustainability of the Australian health system, is recognised in the Addendum to National Health Reform Agreement 2020-2025 (COAG, 2020) and the Long Term National Health Plan (Department of Health, 2019a). Strengthening community-based care systems is also identified as a priority area in the National Strategic Framework for Chronic Conditions (2017) for addressing the increasing burden of chronic disease (AHMAC, 2017).

Allied health professionals are an integral part of the chronic disease management team within the community, providing specific professional knowledge and a comprehensive management approach (Harris & Lloyd, 2012). Indeed, practice guidelines for the most common chronic conditions (Australian Institute of Health and Welfare, 2018a) support the use of interventions that can be delivered by allied health professionals (Table 1).

*Table 1. Chronic disease conditions and guideline-based allied health interventions*

Chronic condition		Guideline-based allied health intervention	
% contribution to overall Australian burden of disease		Example	
Cancer	19	Exercise for people living with cancer	Segal et al., 2017
Cardiovascular disease	15	Nutritional review for reducing cardiovascular disease risk	National Vascular Disease Prevention Alliance, 2012
Mental health conditions	12	Exercise for depression	Malhi et al., 2015
Arthritis	4	Weight loss for hip and knee osteoarthritis	Victorian Musculoskeletal Clinical Leadership Group, 2018
Back pain and problems	4	Cognitive behavioural approach for chronic low back pain	Oliveira et al., 2018

Chronic obstructive pulmonary disease	4	Pulmonary rehabilitation to prevent deterioration	Yang et al., 2020
Asthma	2	Assessment of psychological stressors for severe asthma	Chung et al., 2014
Diabetes	2	Foot care plan for intermediate and high-risk type 2 diabetes	RACGP, 2016

Community-based allied health services constitute a significant, and growing, portion of the primary care system. Between 2007-08 and 2016-17, the number of community-based allied health Medicare funded services increased by 91% to 21.1 million services per year; and the number of private health insurance funded services increased by 29% to 51.1 million services per year. In comparison, over the same period, the number of general practice services saw a smaller increase of only 18% (AIHW, 2018a). General practitioner referrals to allied health have also increased, from 2.1 in 2006–07 to 3.6 in 2015–16 per 100 problems managed (Britt et al., 2016). As the community-based allied health sector grows, planning, design, and delivery of high value services will have greater potential to influence healthcare outcomes and sustainability.

## 1.1 *The Medicare Chronic Disease Management program*

Community-based allied health is funded through a number of sources, including the Department of Veteran Affairs, private funding (private health insurance and patient out-of-pocket costs), third party funding (National Disability Insurance Scheme, Transport Accident Commission, and Workers Compensation) and Medicare, which provides public funding within a limited scope.

Since 2005, Medicare has funded community-based allied health services under the Chronic Disease Management program (formerly known as the Enhanced Primary Care scheme) (Department of Health, 2014). Under this program, patients with a chronic medical condition, who require ongoing care from their general practitioner, and at least two other health providers, may access up to five allied health services per year. People of Aboriginal and Torres Strait Islander descent are eligible for an additional five allied health services per year. In both cases, community-based allied health services must be referred for by a general practitioner as per the *Health Insurance (Allied Health Services) Determination 2014*. Only private allied health organisations can provide Chronic Disease Management services, as under *Section 19(2) of the Health Insurance Act 1973*, organisations that receive government funding, for example, hospitals and Local Hospital Networks, are prohibited from accessing additional Medicare benefits.

Allied health professionals from a range of disciplines have essential roles in the prevention, management, and treatment of chronic disease. Thirteen allied health professions are funded under the Chronic Disease Management program including Aboriginal and Torres Strait Islander health practitioners, audiologists, chiropractors, diabetes educators, dietitians, exercise physiologists, mental health workers, occupational therapists, osteopaths, physiotherapists, podiatrists, psychologists, and speech pathologists (Department of Health, 2014). These include both professions regulated by the Australian Health Practitioner Regulation Agency (Ahpra) and self-regulated professions.

Given that 26% of patients provided with a Chronic Disease Management plan use all five available appointments (Medicare Benefits Schedule Review Taskforce, 2018), and that the available sessions may be divided between multiple allied health professions, five Medicare funded sessions is likely to be insufficient to adequately manage chronic conditions (Allied Health Professions Australia, 2017; Haines et al., 2010). Moreover, 23% of Australians have two or more chronic conditions at the same time (AIHW, 2018a), which increases the number of sessions required for optimal management. As a consequence, many patients seek alternative public health services outside of the Chronic Disease Management program (Haines et al., 2010), resulting in additional administrative burden, fragmentation of care, or sub-optimal treatment (Foster et al., 2008).

Increases in disease severity and admissions to hospital can be prevented by early and effective community-based chronic disease management (Reynolds et al., 2018). In 2018, recognising the increasing health and economic burden associated with insufficient chronic disease management, the Allied Health Reference Group for the Medicare Benefits Schedule Review Taskforce recommended increasing the number of allied health appointments available under Chronic Disease Management plans (Medicare Benefits Schedule Review Taskforce, 2018). However, the number of additional appointments to be made available was not specified. This may be a consequence of deficits in allied health data required to inform optimal service allocation.

## **1.2 Demand for community-based allied health services is increasing**

By 2054-55, the number of Australians aged 65 and over is expected to increase to 8.9 million people (23% of the population; Commonwealth of Australia, 2015). This is more than double the 3.8 million Australians over 65 recorded in 2017 (15% of the total population; AIHW, 2018c).

In 2017–18, 64% of people aged 65 to 79 years and 70% of people aged 80 and over used a Medicare funded allied health service, compared with 31% of people aged less than 65 years (AIHW, 2019b). Over the five years leading up to 2018-19, Chronic Disease Management service volumes grew by 67% (Department of Human Services, 2019). In 2018-19, 8.1 million Chronic Disease Management services were provided at a cost of \$434 million (Department of Human Services, 2019). Over the same period, an additional 60,000 services costing \$3.3 million were provided under item numbers specific for people of Aboriginal and Torres Strait Islander descent (Department of Human Services, 2019).



Given the incidence of chronic disease increases as we age, growth in Australia's aging population will continue to increase demand for Chronic Disease Management services into the foreseeable future (Commonwealth of Australia, 2015). Understanding the types of chronic conditions being managed, how they are being managed, and the outcomes of management will be essential to improving patient outcomes, mitigating increasing health system costs, supporting program innovation, and to facilitate better workforce planning (AIHW, 2019b). This cannot be achieved without data obtained from allied health service provision.

## 2 The Chronic Disease Management data gap

In Australia, the collection of community-based allied health data to inform service level planning or policy is minimal (AIHW, 2018a). Existing data sources primarily serve other functions, such as to enable payments to be made, with useable data on the diagnoses, management, and outcomes of patients seen under the Chronic Disease Management program not comprehensively collected. The full extent of the data gap, and its effect on community health and policy is unknown.

### **Sources of allied health data (2020)**

- **Medicare:** for financial administration (AIHW, 2015).
- **Electronic medical records:** to support individual patient care (Office of the National Coordinator for Health Information Technology, 2019).
- **Allied Health Non-Admitted Patient National Best Practice Data Set (AHNAP NBPDS):** to inform public sector organisation services (AIHW, 2018b).

### **2.1 Medicare data for financial administration**

Medicare is Australia's universal health insurance scheme, designed to subsidise primary care (including in limited circumstances, allied health) and provide free or subsidised care for Australians and residents (Australian Parliament House, 2016). As such, the Medicare data collection exists as a consequence of servicing the fee for service model and for the purpose of specific administrative decision-making determinations.

Data collected through Medicare includes:

- provider profession, location, and volume of services provided which gives an indication of current supply and distribution of healthcare services; and
- patient age, sex, and address which gives a general indication of healthcare demand (AIHW, 2015; Crettenden et al., 2014).

This narrow collection of data does not adequately provide the health system with the appropriate information to be able to understand the opportunities and challenges of supply and unmet demand; including planning for region specific health needs and the development of innovative care models that best suit local populations (Booth et al., 2016; Buchan & Law, 2016; Ghosh, Charlton, Girdo, & Batterham, 2014). To achieve this, additional clinical data, comprising condition specific information will need to be collected.

This should include:

- **Diagnoses being managed:** to inform proactive planning in response to region specific trends in health needs (Ghosh et al., 2014);
- **Clinical interventions:** to guide patient and provider design of high-value management plans (Edwards, Davies, & Edwards, 2009);
- **Patient outcomes:** to drive quality improvement through variation identification and benchmark setting (Duckett, Coory, & Sketcher-Baker, 2007).

In 2018, the Allied Health Reference Group, as part of the Medicare Benefits Review, recommended the creation of a new Medicare item for allied health providers to cover a more comprehensive initial assessment that would allow time for data collection and reporting (Medicare Benefits Schedule Review Taskforce, 2018). This recommendation should be supported, including mandatory reporting of data for each service provided.

### 2.1.1 Incentives for addressing data gaps

Allied health providers responsible for collecting data and complex clinical narratives most often have a primary role that focusses on service provision; and limited resources, lack of training, core practice functions, and time pressures on service delivery create challenges to reporting clinical data (AIHW, 2019a; Ghosh et al., 2014; Shaw et al., 2019). Incentives for the collection of data are needed to compensate allied health providers for the additional burden and ensure sufficient uptake of data reporting to be useful for informing decision-making. However, given the costs associated with the provision of private provider time, it may be unfeasible to fully finance additional data collection and reporting time at a market rate. Negatively-framed incentives could also be considered to reduce the implementation cost to Government (Vlaev et al., 2019). For example, restricting access to scheduled fees for the proposed longer initial appointments until training on data collection and quality improvement principles are completed.

In 2019, financial incentives for the collection and reporting of improvement measures were introduced into general practice through the Quality Improvement Practice Incentives Program (QI-PIP; Department of Health, 2019b) as an avenue for increasing uptake of data collection by general practice. Under the QI-PIP, accredited general practices share de-identified, aggregated data with local Primary Health Networks (PHNs) and participate in quality improvement activities, in return for receiving financial remuneration, as well as information to help review and improve performance. No similar incentives for data reporting exist for allied health.

The Government should consider a modified QI-PIP that includes appropriate data governance and risk management for increasing uptake of Chronic Disease Management data collection by allied health providers. However, for a QI-PIP style incentive to be successfully implemented in allied health, improvement in data collection systems and IT infrastructure will be needed. For example, existing systems within general practice facilitate the collection and reporting of data (RACGP, 2019) through more homogenous practice support software, often with built in capacity for practices to easily report information to PHNs.

## 2.2 *Digital health record data for improved patient care*

The quality and safety benefits of digital health records are well recognised (Menachemi & Collum, 2011) and yet their introduction in Australia has not been universally well received (Carroll & Butler-Henderson, 2017). A number of factors including meaningful use by other practitioners and patients, the attitude of professional bodies towards their use, and financial incentives have affected the adoption of digital health systems by allied health practitioners (Department of Health and Ageing, 2011). In 2011, 14% of allied health providers were found to keep electronic medical records entirely, while 86% of providers were found to keep paper medical records or a combination of both (Department of Health and Ageing, 2011). Contemporary data on the use of digital health systems across allied health is lacking.

### **Digital Health Record Systems**

There are three main types of digital health records used in Australia (Office of the National Coordinator for Health Information Technology, 2019). These are:

- **Electronic medical records (EMRs):** digital versions of the paper charts in provider offices, clinics, and hospitals. EMRs contain notes and information collected by and for the providers in a single healthcare organisation and are mostly used by providers for diagnosis and treatment.
- **Electronic health records (EHRs):** contain information that can be managed, added to, and accessed by individual patients and by multiple service providers across multiple healthcare organisations. They are built to take a broader view of a patient's care.
- **Personal health records (PHRs):** contain the same information as electronic health records, but are designed to be set up, accessed, and managed by patients.

### 2.2.1 **Electronic Medical Records**

Electronic medical record systems are intended to improve patient care and outcomes; increase efficiency and lower costs; improve billing procedures; reduce the frequency of lost records, data, and medication errors; and provide better access to patient histories. Following aggregation and analysis, data contained within electronic medical records can also be used for various secondary uses, including clinical research, disease surveillance, service planning, and quality improvement (Kruse, Stein, Thomas, & Kaur, 2018; McKeeby & Coffey, 2018). They also provide numerous opportunities to advance allied health practice and policy. National emergencies, such as the 2019-2020 Australian bushfires and global health crises, such as the COVID-19 pandemic, have also highlighted the need for public health agencies to be able to process population level data received from multiple sources.

In 2011, over 75 electronic medical record systems were found in use across allied health, of which, the top 3 comprise 22% of the market, and the top 10 comprise 42% the market (Department of Health and Ageing, 2011). More recently, a 2018 review of physiotherapy electronic medical records identified 27 different systems in use within this profession alone (Australian Physiotherapy Association, 2018).

Although substantial public funding has been invested into supporting general practice to engage with digital health technology, such as the My Health Record, similar investments into allied health uptake has not occurred (Allied Health Professions Australia, 2017). Only 64% of electronic medical record software used in physiotherapy practice can integrate with My Health Record (Australian Physiotherapy Association, 2018). The diversity of data recording systems in Australia, combined with an absence of uniform standards in clinical terminology and data structures within allied health, remains a primary barrier to interoperable infrastructure and data aggregation (Health Information Society of Australia, 2019).

## 2.2.2 Data collection standards

In 2017, 79% of electronic medical record software used in physiotherapy practice includes structured coding capabilities, although these predominantly focus on coding diagnoses and not treatments or outcomes (Australian Physiotherapy Association, 2018). In general practice, coded entry was used in 80% of cases to document reason for encounter (NPS MedicineWise, 2018). The degree to which structured coding capabilities is used by allied health providers remains unknown, however, inconsistencies in data collection impede comparisons between collections. Cross agency support and coordinated effort between the Commonwealth Department of Health and service providers for increasing the use of coded entry by allied health will be required to improve quality and safety, identify service gaps, set benchmarks, and support research and policy making within the primary health care sector (Health Information Standards Organisation, 2018).

In 2018, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) was commissioned to develop standardised data definitions and data exchange capabilities for use in primary care (CSIRO, 2019). However, the utility of this scheme for allied health will depend on the degree to which providers are consulted in the early stages of developing structured codes, and the adoption of these codes in practice by providers. Furthermore, incentives may be required to encourage providers to invest in the necessary IT infrastructure to support electronic data collection and alignment with data standards, this may be modelled off the eHealth practice incentives program that provides incentives for general practice to keep up-to-date with digital health and adopt new technology (Services Australia, 2020). Implementation will also require engagement with the private sector to facilitate uptake of these data standards, including with digital health record software vendors, from which there are 86 software products listed on the My Health Record register (Australian Digital Health Agency, 2020a).

The data contained within electronic medical records is one of the most sensitive forms of personal information (Office of the Australian Information Commissioner, 2020). Initiatives to harness electronic medical record data to inform community-based allied health planning should be designed with consideration for patient privacy, including legislative and ethical factors such as data governance, information security, personnel security, ICT security and physical security (Department of Health, 2018a; Wallis et al., 2018).

## 2.3 *Non-admitted patient allied health data for informing public health services*

The Allied Health Non-Admitted Patient National Best Practice Data Set (AHNAP NBPDS) supports the reliability of clinical information on allied health service provision in public hospitals and Local Hospital Networks (AIHW, 2018b). Established in 2018, this data set contains administrative data, similar to Medicare data, including patient and provider characteristics; and clinical information, including the reason for allied health intervention, assessments performed, and interventions provided, although collection of this data is optional (AIHW, 2018b).

The extent to which these clinical fields are completed within the AHNAP NBPDS is unclear, although analysis from Queensland Health shows that when allied health data collection is optional, diagnosis is recorded in only 78% of services, and outcomes recorded in 62% of services (Moretto et al., 2020). It is anticipated that data from the AHNAP NBPDS will be used to guide the standardisation of allied health data (AIHW, 2018b). Failure to increase engagement with the allied health sector, through the AHNAP NBPDS and /or other measures, will impact on the ability to develop strategies for addressing issues of allied health service planning and design (Nsubuga et al., 2006).

The AHNAP NBPDS contains a mixture of coded and free text data, with clinical information entered via free text (AIHW, 2018b). However, in the absence of coded data, the usefulness of clinical information stored within the AHNAP NBPDS is reduced, since free text is more difficult to analyse than data entered using standardised codes. Free entry text may have ambiguous data definitions and additional steps are required to extract the text (Shepherd, 2019). Advances in artificial intelligence and natural language processing may increase the capacity for future free text data analysis (Ohno-Machado, Nadkarni, & Johnson, 2013). Nevertheless, significant progress towards standardising clinical terminology has been made by the National Clinical Terminology Service in the areas of general practice and hospital care (Australian Digital Health Agency, 2020b) and the government should support investment to further develop the AHNAP NBPDS to improving definitions for use by allied health.

Data on Chronic Disease Management services is not, as a general rule, recorded in the AHNAP NBPDS. However, some Medicare items for allied health, including Chronic Disease Management, can be claimed under *Exemption 19(2)* of the *Health Insurance Act 1973* by hospitals and public health services in rural and remote communities, where private community-based providers are limited (Department of Health, 2020a). With services in many areas indicating a need for allied health services to occur outside of the hospital environment, the inclusion of private practice data in rural and remote areas would ensure that allied health data is able to capture potential for growth, or trends in growth, and would contribute to future planning of services at an appropriate level.

Australians in very remote areas attend half as many primary care services per capita as those in major cities and report a lack of nearby health services as a barrier to access (AIHW, 2019c). Improving allied health data collection that supports planning and design of health services to improve access to primary health care, particularly in rural and remote areas, may improve health outcomes and equity in outcomes for those with chronic conditions (Katterl et al., 2012).

## **Telehealth for allied health service providers and COVID-19**

In 2020, new temporary MBS telehealth items, including for chronic disease management, were made available to help reduce the risk of community transmission of COVID-19 and provide protection for patients and health care providers (Department of Health, 2020b).

Telehealth items for allied health service providers play a critical role in improving access to care, particularly for rural and remote communities (Services for Australian Rural and Remote Allied Health, 2020); and have the ability to drive more proactive engagement with patients, especially those with chronic health conditions (Hanlon et al., 2017; Woehrle et al., 2017).

While the Government has indicated support for telehealth to continue post pandemic (Woodley, 2020), it will be important to anticipate the opportunities presented by telehealth to the allied health sector during this period in order to ensure its long-term future (Physiotherapy Research Foundation, 2020). This will require understanding how telehealth service provision can deliver high quality, safe, patient-centred care.

Data capture mechanisms, including identifiers for telehealth-enabled occasions of service, will be critical for service planning and continuous improvement, and should include information on clinical efficacy and safety, patient and provider experience, and assessment of quality and value of services (Faux & Grain, 2020). Coding clinical information about community-based patient care and leveraging our electronic health record systems will assist the delivery of high value, accountable telehealth policies moving forward.

### **2.3.1 Allied healthcare variation**

High hospitalisation rates and substantial variation in health care outcomes for people with chronic diseases suggest that recommended care is not always provided for people with these conditions (ACSQHC, 2017).

Hospitalisation rates due to chronic disease are highest among Aboriginal and Torres Strait Islander Australians, people living in areas of relative socioeconomic disadvantage, and those living in remote areas (ACSQHC, 2017). In part, this can be attributed to variation across jurisdictions and local areas in the availability of the range of services that are needed to provide quality chronic disease prevention and care. For example, data shows a 16-fold difference in hospitalisations for patients with chronic obstructive pulmonary disease between local areas with the lowest and highest incidence rates (ACSQHC, 2017).

While data driven best practice has been shown to reduce variation in health care outcomes, improve care quality, and reduce costs (Harrison et al., 2020; Lugtenberg, Burgers, & Westert, 2009), the lack of allied health management and outcomes data limits the ability to reduce care variation through Chronic Disease Management services.

In order to understand the population health needs across the continuum of chronic disease management, and to increase monitoring and reporting of service provision, governments and

stakeholders should come to a consensus on nationally agreed data items and standards for essential elements of allied health care.

## 3 Using data to improve Chronic Disease Management

### 3.1 *Quality of care and patient engagement*

Actively engaging patients to make decisions about their own care enables them to directly influence the quality of care they receive and is essential to providing the most appropriate healthcare for that person (Hoffmann et al., 2014). Collecting data on patient engagement and experience is also central to reform of health care design and delivery, improving accountability, and for building patient centred care into the allied health care sector (Gardner et al., 2016). Patient outcome measures which point to levels of health literacy and capacity for self-management can be used to track improvements in activation in populations over time and data collected at the service level can also be used as measures of quality at a system level (Consumers Health Forum of Australia, 2019).

The Australian Charter of Healthcare Rights (ACSQHC, 2019) and the National Strategic Framework for Chronic Conditions both recognise active and informed patient participation in care decisions as an underlying principle of healthcare in Australia (AHMAC, 2017). However, the collection of patient reported data or patient activation measures (PAM) in the Australian allied health care sector is not well developed or standardised, limiting the ability of patients to participate in shared decision-making (AIHW, 2014).

The impact of these data gaps on service provision can have long lasting repercussions, not only on an individual's social, emotional, physical and economic wellbeing (AHMAC, 2017), but also across the healthcare system, since chronic illness accounts for a large proportion of healthcare costs (Swerissen, Duckett, & Wright, 2016). Therefore, steps should be taken to ensure data is collected such that there is sufficient information to support active patient participation in the management of their chronic conditions.

The capability of allied health providers to improve patient engagement is limited by a lack of data to enable informed patient decisions about their care. Greater understanding of how to facilitate active patient participation is needed, with systematic reviews demonstrating mixed effects on patient satisfaction, treatment choice, and health outcomes (Boss et al., 2015; Geerse et al., 2018; Joosten et al., 2008; Williams, Sansoni, Morris, Grootemaat, & Thompson, 2016). Collection of context specific data is needed to inform the development of effective patient activation initiatives in Australia.

### **3.2 Healthcare decisions**

Evidence to support allied health providers make care decisions is limited (Longhurst, Harrington, & Shah, 2014; Scott et al., 2012). For example, only 19% of recommendations in clinical practice guidelines for cardiac conditions are based on randomised controlled trial (RCT) evidence (Tricoci, Allen, Kramer, Califf, & Smith, 2009). Research that will increase our understanding of the most effective, and cost-effective, applications of allied health to the management of chronic conditions should be supported (Harris & Lloyd, 2012; Medicare Benefits Schedule Review Taskforce, 2018). Using data collected on real world management of patients, rather than experimental research designs, may be a cost-effective way to support evidence development (Shah, Drozda, & Peterson, 2010). This would also assist translation of knowledge into the sector, which is typically constrained by the evaluation of undifferentiated populations, rather than considering care contexts such as patient and provider characteristics (Hitch, Pepin, Lhuede, Rowan, & Giles, 2019; Rothwell, 2005). Management of chronic conditions by allied health must consider not only what treatments work, but for whom, and in what circumstances (Baugh Littlejohns & Wilson, 2019). Population wide data collection on conditions seen by allied health providers, the management provided, and the outcomes of management may support individual patient-provider decision-making by filling gaps in evidence and recognising contextual factors, which can improve patient outcomes (Longhurst et al., 2014).

### **3.3 The value of community-based allied health data is enhanced through data linkage**

The value of community-based allied health data collection is best demonstrated through linkage with other data collections, including those from general practice, hospitals, and clinical registries (AIHW, 2019a). Data linkage provides important information about the effectiveness and safety of treatments and clinical care, particularly for complex and chronic conditions whose care involves multiple service providers over long periods of time (Department of Health, 2018a); and provides important feedback on policy decisions, facilitating evaluation and iterative improvements.

For example, a cross-sectional study of Aboriginal and Torres Strait Islanders in remote Northern Territory used linked clinical and hospital data to examine the relationship between the utilisation of community-based services and the number of hospitalisations. This contributed to the identification of optimal levels at which community-based services should be allocated to ensure hospitalisations are minimised and high-risk individuals are identified for early intervention (Zhao, Wright, Guthridge, & Lawton, 2013).



Significant work is being undertaken to create national health data linkages, for example, through the National Primary Health Care Data Asset (AIHW, 2019a) and the National Integrated Health Services Information Analysis Asset (Briffa, Jorm, Jackson, Reid, & Chew, 2019). Nevertheless, the absence of standardised allied health data for inclusion in these data sets is likely to influence the validity and completeness of data linkage; and the value of data collections is likely undermined due to the significant gaps in understanding of the bundle of care provided to people with chronic conditions.

Within recognised legislative and privacy requirements, de-identified aggregated data derived from linked datasets has the potential to provide valuable information about how people develop diseases; how diseases progress under different preventive and treatment strategies; and how health dollars can be more efficiently and effectively focused. Standardised and reportable allied health data should be included in the National Primary Health Care Data Asset (AIHW) and be suitable for other data sets (AIHW, 2019a).

### **3.4 Data to inform service planning and policy making**

Despite representing approximately 20% of the health workforce (Allied Health Professions Australia, 2017), detailed data to inform Australian allied health workforce and service planning is lacking (Allied Health Professions Australia, 2017; Naccarella, 2015; Nancarrow et al., 2017). Consequently, allied health providers have been largely underrepresented in health service and policy decisions (Buchan & Law, 2016).

With the exception of Medicare administrative data that reveals the number and location of services provided, there is no systematic collection of data on allied health provision of Chronic Disease Management. Without data about the conditions managed and the distribution of need for allied healthcare services within the community, planning for appropriate workforce supply and composition of skill sets is impaired. Allied health services that are unable to adequately meet population health needs contribute to potentially avoidable increases in chronic disease severity and admissions to hospital (Reynolds et al., 2018).

Strategic leveraging of the allied health workforce has significant potential to improve the healthcare system through service models with greater integration of care, expanded scope of practice, greater community-based management, and improved skills-mix (Buchan & Law, 2016). This aligns with reforms outlined under the Addendum to National Health Reform Agreement 2020-2025 which aim to reduce potentially avoidable hospitalisations through improved care models and co-ordination in the community setting (COAG, 2020). Collected data should reflect the value of allied health integration with the healthcare system, as opposed to focusing on isolated service events or professional silos (Buchan & Law, 2016), and be used by government to facilitate horizontal alignment of Chronic Disease Management policy and planning with the broader healthcare system (Queensland Health, 2015).

Existing allied health service data is focused on supply rather than projected demand (Naccarella, 2015). Collection of data about the conditions being managed is needed for accurate and timely

projections of future healthcare demands and to enable proactive service planning that is able to effectively meet local population needs and optimise resource allocation (Queensland Health, 2015). Context specific service planning may occur for a particular geographic catchment, such as rural and remote areas; population group, such as Aboriginal and Torres Strait Islander peoples; or clinical service, such as telehealth (Queensland Health, 2015). A barrier to effective allied health utilisation has been a focus on defining individual discipline roles and constructing artificial practice boundaries (Buchan & Law, 2016). Moving forward, data on community needs and the skills required to meet those needs should be prioritised over discipline specific identifiers, as this allows for workforce substitution, such as in rural generalist roles (Nancarrow et al., 2017).

Planning for appropriate workforce and service delivery is particularly complex in the community-based allied health sector due to the diversity in service offerings and high proportion of private organisations for which government has little direct control (Swerissen, Duckett, & Moran, 2018). According to 2017 workforce statistics, the majority of allied health providers work in the private sector, for example, 87% of podiatrists, 73% of physiotherapists, and 69% of Aboriginal and Torres Strait Islander health practitioners (Department of Health, 2020c). However, the flexibility of the private sector also allows for timely responses to local healthcare needs, such as through commissioning by Primary Health Networks. Commissioning allows healthcare funders to focus on the health need to be met, and allows providers to provide innovative solutions (Department of Health, 2018b). To enable this, data that identifies region and condition specific disease management should be collected such that service gaps can be identified and performance monitored for iterative program improvement (Booth et al., 2016).

Paying for outcomes is one of the long-term system wide reforms to be developed as part of the Addendum to National Health Reform Agreement 2020-2025 (COAG, 2020). However, evidence that performance contingent funding can improve process-of-care outcomes over the short term, 2 to 3 years, within the community-based setting is lacking and there is insufficient evidence to determine its effect on long term or health outcomes (Mendelson et al., 2017).

In Australia, the implementation of performance contingent funding models is restricted by a lack of robust data collection on outcomes and meaningful parameters on which to moderate performance expectations (KPMG, 2019). Outcomes of Chronic Disease Management that are meaningful to patients, providers, and the health system should be collected to allow performance contingent funding models to be explored and implemented.

## 4 Conclusion and recommendations

The Addendum to National Health Reform Agreement 2020-2025 recognises enhancing health data as critical for long-term health reforms, playing an important role in supporting shared patient-provider decision making, improved service delivery, policy development, and systems planning (COAG, 2020). However, data collection initiatives have historically focused on hospital and general practice services, leaving a gap in data on community-based allied health despite their significant contribution to providing care for the growing population of people with chronic conditions.

Effective harnessing of community-based allied health services can improve patient care and reduce avoidable hospitalisations for people living with chronic conditions. Although there is an increasing number of Chronic Disease Management services being provided, there is little data to guide patients, providers, the health sector, and government on how this care may be best provided and the patient outcomes being achieved.

Additional collection of clinical data is required to inform optimal treatment approaches, innovative service delivery, appropriate workforce supply, and design of the Chronic Disease Management program. Design of data collection should include: national consistency of data elements; infrastructure to support data collection, reporting, and sharing; and incentives for collection.

#### **4.1 *Collect nationally consistent data on meaningful outcomes***

Longitudinal data on outcomes that matter most to patients with chronic conditions should be collected and fed back to patients and providers in a timely manner to inform care decisions. Selection of measures should be made with meaningful input from patients and providers. The Australian Institute of Health and Welfare has prior experience with developing primary care indicators and should be considered as the lead organisation for developing nationally consistent outcome measures.

#### **4.2 *Support development of evidence through data on routine care***

The introduction of a longer initial appointment Chronic Disease Management allied health item would facilitate collection of data on specific conditions, how they are managed and the outcomes of management. Collected data should be used to inform what interventions work, for whom, and in what contexts. Access to this longer initial appointment should be restricted to those who have completed training on data collection and quality improvement principles.

#### **4.3 *Enhance context specific service delivery through identification of local health needs***

Aboriginal and Torres Strait Islander Australians, people living in areas of relative socioeconomic disadvantage, and those living in remote areas have poorer chronic disease outcomes. Data on local Chronic Disease Management service supply, demand, and variation should be collected and used to inform region specific service planning and promote context specific service delivery innovations. PHNs are well placed to utilise data on service gaps to commission community-based allied health services.

#### **4.4 *Create balanced incentives for provider participation in data collection***

Balanced financial incentives, both positive and negative, to improve the collection and reporting of allied health data should be considered. A modified Quality Improvement Practice Incentives Program (QI PIP) could positively influence allied health data collection; while restricting access to scheduled fees for the proposed longer initial appointments may provide a negatively framed incentive. Alternative levels and mechanisms of incentives should be evaluated through pilot programs prior to wide scale implementation.

#### **4.5 *Invest in rapid development of nationally consistent allied health terminology for clinical data entry***

Significant investment to rapidly advance progress towards nationally consistent allied health terminology for coded data entry of clinical information should be provided to facilitate data aggregation and analysis. Developed terminology will need to reflect the breadth of allied health practice and should involve consultation with peak allied health member organisations. Terminology development should build on existing work in the Allied Health National Best Practice Data Sets and by the National Clinical Terminology Service.

#### **4.6 *Implement digital infrastructure to support community-based allied health data collection***

Implementation of data definitions and interoperability standards are needed to support data aggregation and analysis across community-based allied health and linkage with broader health sector data. The Australian Digital Health Agency should work with the health sector and digital health record providers to implement standard clinical terminology and interoperability standards across allied health. Systems should have capability to integrate with My Health Record and the National Primary Health Care Data Asset.

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