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Models of Care for musculoskeletal health in Australia: now more than ever to drive evidence into health policy and practice.

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Keywords: musculoskeletal; policy; model of care; implementation; Australia

Abstract

Musculoskeletal health conditions such as arthritis, osteoporosis and pain syndromes impart a profound socioeconomic burden worldwide, particularly in developed nations such as Australia. Despite the identified burden, substantial evidence-practice and care disparity gaps remain in service delivery which limits the potential for improved consumer outcomes and system efficiencies. Addressing these gaps requires a whole-of-sector response, supported by evidence-informed health policy. Models of Care (MoCs) serve as a policy vehicle to embed evidence into health policy and guide practice through changes in service delivery systems and clinician behaviour. In Australia, MoCs for musculoskeletal have been developed by networks multidisciplinary stakeholders and are incrementally being implemented across health services, facilitated by dedicated policy units. A web of evidence is now emerging to support this approach to driving evidence into health policy and practice. Understanding the vernacular of MoCs and the development and implementation of MoCs is important to embracing this approach to health policy.

Background

Historically, the health and socioeconomic consequences of chronic musculoskeletal conditions such as arthritis, osteoporosis and pain syndromes have been considered to impart a less substantial community and personal burden than those chronic health conditions more closely associated with mortality, such as cancer and cardiovascular disease. However, a web of evidence now consistently and irrefutably identifies musculoskeletal health conditions and pain of musculoskeletal origin as imparting profound morbidity and socioeconomic burden [1-6]. This burden is particularly pronounced in developed nations as evidenced by the Global Burden of Disease study [3,6]. In Australia, the burden of disease attributed to musculoskeletal conditions now exceeds that of all other chronic health condition in terms of years lived with disability (a morbidity-only index), and is second only to cancer when considering disability-adjusted life years (a composite index of morbidity and mortality). The prevalence in cases of chronic musculoskeletal conditions is conservatively projected to soar by 43% over the next two decades in Australia [2], driven most sharply by cases of osteoarthritis. Fundamental systemic and sector-wide changes in the way health services are delivered and funded, the manner in which health professionals are trained and provide care, and participation by consumers in co-management of their conditions are critical to ensure Australians continue to benefit from accessible and high-quality musculoskeletal healthcare. This imperative is similarly acknowledged in other developed nations. For example, in the United States priorities to reduce the burden of musculoskeletal disorders by 2020 have been developed [5] with particular emphasis on osteoarthritis [7]. In Australia, evidence-informed Models of Care (MoCs) are an important facilitator to these change processes [8,9].

Models of Care – what are they?

"Models of Care" is a term that has been used for some time among clinicians and service providers, most commonly used to describe hospital-based modes of clinical service delivery [9]. Further, MoCs have been used to describe clinical service delivery initiatives to consumers with musculoskeletal health conditions for some time. The development of MoCs for musculoskeletal health using a Health Network approach [8], however, is a more recent method used in Australia to develop state-wide policy or platforms for state-wide service and health improvement. In this context, MoCs for musculoskeletal health supersede earlier terms like "Service Improvement Frameworks, National Action Plans, and Clinical Frameworks and Pathways". While the underlying conceptual and theoretical perspectives do not differ greatly between MoCs and these terms, MoCs have a greater emphasis on operational attributes. That is, describing not only *what* the care should be but also *how* to implement it. Davidson et al provided an overview of theory underpinning development of MoCs [9]. Here, we build on their work by describing a contemporary perspective on MoCs in Australia and their relevance to musculoskeletal health – a clinical area which has historically received less attention in the context of service improvement.

A MoC is an evidence-informed policy or framework that outlines the optimal manner in which condition-specific care should be made available and delivered to consumers. MoCs aim to address current and projected community need in the context of local operational requirements. The guidance provided is coined as "the *right care*, delivered at the *right time*, by the *right team*, in the *right place*, with the *right resources*" [8]. Current Australian musculoskeletal MoCs are summarised in Table 1.

Despite a large volume of evidence, appraised and synthesised into clinical practice guidelines and other resources, the implementation of musculoskeletal evidence into practice by clinicians and positive health behaviours by consumers remains inadequate [10,11]. This may be driven, in part; by inadequate implementation of clinical guidelines into practice and that clinical practice systems inadequately support self-management or co-care for consumers. Further, for musculoskeletal health in particular, a lack of implementation research has been recently identified [12]. Ideally, MoCs are used as a facilitator to bridge the gap between evidence for what works (or doesn't work) in care delivery and practice, by describing not only *what* to do, but also *how* to do it within a health system. Recommendations are informed by multiple stakeholders including consumers and carers and existing local health policy [9]. Here, an important distinction is that a MoC is *not* a clinical practice guideline. Rather, MoCs complement clinical practice guidelines by serving as a guide to describe *how* best-evidence for delivery of musculoskeletal care can be implemented as a sector-wide model of service delivery by clinicians, consumers, and health systems across the disease continuum while considering practicalities of the local environment. For example, the Western Australian (WA) Spinal Pain Model of Care recommends building capacity among health professionals and consumers to adopt evidence-based practice and self-management behaviours using a community of practice approach facilitated by e-health, particularly for rural communities. The New South Wales (NSW) Osteoarthritis Chronic Care Program is a physiotherapist-led model delivered in a hospital ambulatory care setting that combines a multi-disciplinary health professional assessment and intervention with health coaching to implement self-management strategies targeted to individual patient's needs (http://www.aci.health.nsw.gov.au/models-of-care/musculoskeletal/osteoarthritis-chronic-care-program).

Models of Care for musculoskeletal health – how are they developed?

To ensure that a MoC is implementable in practice, recommendations are informed by the operational requirements and constraints of the jurisdiction for which the MoC is developed (Table 1). For example, it may be impractical to deliver services in some areas due to a lack of workforce volume and infrastructure capability, and thus e-health initiatives may be a preferable option [13]. Another important attribute of MoCs which more readily facilitates implementation than other health policies or guidelines is the contemporary manner in which they have been developed. Nowadays a Network model and the rigorous use of evidence are critical components to development. Both WA and NSW have developed MoCs using a *Health Network* process [8]. Here, a large group of multidisciplinary stakeholders, including health policy practitioners, from across the sector (e.g. more than 500 in WA and more than 300 in NSW) work collaboratively, supported by a central agency (the state Department of Health in WA; the Agency of Clinical Innovation in NSW), to identify priority areas for sector reform in musculoskeletal health and develop a MoC accordingly. The development process has been discussed in detail previously [8]. The rationale underpinning this approach is that collaborative creation of a MoC facilitates its uptake and implementation [14]. This is achieved principally through the engagement of multidisciplinary, cross-sector stakeholders. These stakeholders are supported by a central agency to form working relationships in order to identify and develop solutions to system barriers, informed by the best available evidence, that align with existing policy frameworks and health system characteristics or contemporary reform agendas. For example, primary care reforms promote development of workforce capacity in community and primary care centres to

support relocation of health services for the management of chronic diseases from tertiary hospitals to community facilities, where appropriate and feasible [15]. By working cooperatively from the initial stages of the MoC development, these same stakeholders become empowered to support implementation of the MoC in practice, thus creating a "pull" translation of evidence-informed policy into practice (i.e. where end users actively access and apply evidence/policy), rather than a "push" translation (i.e. where evidence creators attempt to disseminate evidence/policy to end users) [11]. For musculoskeletal health in particular, a multidisciplinary, cross-sector collaborative approach to MoC development is highly appropriate as the magnitude of the burden imposed by these condition warrants a whole-of-sector response. Moreover, health services for this suite of conditions are generally provided in ambulatory care settings, reinforcing the importance of involving stakeholders from across the community sector, as well as the hospital systems.

Models of Care – do they make a difference?

While the need for MoCs may be rationalised and the methods of development appropriate, a key question remains – do they actually make a difference to consumer outcomes or system performance? The introduction of MoCs as policy frameworks has been fairly recent, so definitive judgements around reach and impact are probably premature at this stage [14]. A key principle in the development of a MoC is the use of contemporary evidence [9]. MoCs are therefore important in contributing to closing critical evidence-policy gaps, and in the longer term may positively influence evidence-practice and care disparity gaps. For example, while an earlier review identified limited implementation of health policy into practice for osteoarthritis in Australia [16], this situation is slowly being redressed with the introduction of

MoCs; in this context particularly through the NSW MoC for osteoarthritis and WA MoC for Elective Joint Replacement (Table 1). Further, while the wait to access pain medicine services in Australia has been protracted for consumers [17], timely access has been dramatically improved in WA owing to the introduction of a system-oriented MoC for pain services [18], introduced in parallel with initiatives to build workforce and consumer capacity to better manage musculoskeletal pain syndromes [19-23]. A recent audit in WA identified positive uptake of all disease-group MoCs across the WA Health Services, particularly with respect to awareness and service planning, yet responders identified that sustainable implementation efforts were stymied by lack of resources to sustainably support implementation efforts [24]. In this regard, long term sustainability and impact of MoCs will be dependent on their uptake and support by middle and senior health managers and research providing evidence of their benefit for improving health outcomes and system efficiencies. There is no doubt that funding to support implementation of MoCs is critical. In many cases, up-front investments are predicted to save health systems considerable expenditure, such as the economic modelling undertaken to support the NSW Re-Fracture Prevention MoC. That evaluation demonstrated that if the MoC was systematically implemented across NSW over 240,000 fractures in people who have already sustained a minimal trauma fracture could be prevented over the next decade, averting over 250,000 bed days (unpublished data). In many cases, however, reform is underpinned by practice and culture shifts, which although take time, do not necessarily require major investment by government. Recent examples of low-cost, partnership-based implementation efforts are the development of an accredited postgraduate nursing course in musculoskeletal health and the *painHEALTH* initiative (http://painhealth.csse.uwa.edu.au/) by the Networks.

Models of Care – the future

While clinicians and other stakeholder may view the concept of, or term, "Models of Care", with some scepticism, we contend that all musculoskeletal health stakeholders, particularly health administrators, need to be at least aware of the existence of MoCs. All indications suggest that MoCs are here to stay in Australia, and internationally [25,26], thus an understanding of their purpose and scope will enable more informed participation in the Australian musculoskeletal healthcare debate, reform agenda, and defining research priorities. Increasingly, MoCs are being considered in planning of health services and decisions around resource allocations [24], providing preliminary evidence of system-related impact and a 'pull' policy translation. Key factors in the long-term success and sustainability of sector reform through MoCs will be the continued support by central agencies for their development (and updating to ensure alignment with best evidence) and implementation, acceptance by the sector, and investment or resource re-allocation by Government and other agencies to drive implementation and evaluation [14]. Engagement of health administrators and middle management is critical to this process, emphasising socioeconomic benefits of investing in implementation (e.g. multidisciplinary care), particularly minimising chronic disability and other health sequelae associated with chronic musculoskeletal disorders. Sector-wide support for reform in musculoskeletal health and support for MoCs is a critical component of this reform agenda. Ideally, this would be undertaken across jurisdictions to have a nationally-aligned approach to addressing the burden of musculoskeletal conditions, such as that proposed by the US Bone and Joint Initiative [5]. In Australia, a national strategy to improve care for people with arthritis called

"A Time to Move" was launched by Arthritis Australia in 2014. Further, targeted and pragmatic research supported by economic evaluation will be an additional requirement to support reach, impact and sustainability of MoCs for musculoskeletal health [5,27]. The first step is to understand the purpose of MoCs– now more than ever.

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Table 1 Models of Care for musculoskeletal health in Australia developed in Western Australia and New South Wales

Inflammatory Arthritis Model of Care (2009) [a]
Spinal Pain Model of Care (2009) [a]
Elective Joint Replacement Service Model of Care (2010)[a]
Osteoporosis Model of Care (2011) [a]
Osteoporotic Re-fracture Prevention Model of Care (2011)[b]
Osteoarthritis Chronic Care Program Model of Care (2012) [b]
Model of Care for the NSW Paediatric Rheumatology Network (2013) [b]
Service model for community-based musculoskeletal health in Western Australia (2013) [a]

a: developed by the WA Musculoskeletal Health Network (http://www.healthnetworks.health.wa.gov.au/network/musculoskeletal.cfm);

b: developed by the NSW Musculoskeletal Network (http://www.aci.health.nsw.gov.au/networks/musculoskeletal).