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Title:

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Date:

2018-01-01

Citation:

Briggs, A. M., Page, C. J., Shaw, B. R., Bendrups, A., Philip, K., Cary, B. & Choong, P. F. (2018). A model of care for osteoarthritis of the hip and knee: Development of a system-wide plan for the health sector in Victoria, Australia. Healthcare Policy, 14 (2), pp.47-58. <https://doi.org/10.12927/hcpol.2018.25686>.

Persistent Link:

<https://hdl.handle.net/11343/253763>

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A Model of Care for Osteoarthritis of the Hip and Knee: Development of a System-Wide Plan for the Health Sector in Victoria, Australia

Modèle de soins pour l'arthrose de la hanche et du genou : développement d'un plan pansystémique pour le secteur de la Santé à Victoria, en Australie



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Abstract

Osteoarthritis (OA) imposes a significant burden to the person, the health system and the community. Models of Care (MoCs) drive translation of evidence into policy and practice and provide a platform for health system reform. The Victorian MoC for OA of the hip and knee was developed following a best-practice framework, informed by best-evidence and iterative cross-sector consultation, including direct consumer consultation. Governance and external expert advisory committees consisting of local OA care champions facilitated the development and consultation processes. The MoC outlines key components of care, care that is not recommended, and suggests phased implementation strategies. This paper describes the MoC development process and lessons learned.

Résumé

L'arthrose est un lourd fardeau pour les personnes, le système de santé et la communauté. Les modèles de soin (MdS) permettent de transposer les données en politique ou en pratique, en plus d'offrir une plateforme pour la réforme du système de santé. Le MdS de Victoria pour l'arthrose de la hanche et du genou a été développé en suivant un cadre de pratique exemplaire, en tenant compte des meilleures données et en menant des consultations intersectorielles itératives, notamment auprès de la clientèle. Le développement et la consultation ont été facilités par des comités de gouvernance et d'experts-conseils externes formés de champions locaux des soins pour l'arthrose. Le MdS présente les éléments clés des soins, relève les soins non recommandés et propose des stratégies de mise en œuvre par phases successives. Cet article décrit le processus de développement du MdS ainsi que les leçons qui en ont été tirées.

Background

Osteoarthritis (OA) is recognized as a major health issue in Australia and across the globe (Cross et al. 2014) and an Australian National Health Priority Area since 2002. In Australia, approximately 2.2 million people live with OA, often co-morbid with other chronic health conditions. Projections estimate that this will rise to 3.1 million Australians by 2030, with the highest prevalence expected in people aged 55 years and over (Ackerman et al. 2018). The expected sharp rise in global prevalence is attributed to population aging, obesity and an increasing prevalence of risk factors for chronic health conditions (Kopeck et al. 2016).

OA affects people from early middle-age onwards and symptoms associated with OA can have a profound impact on the person's ability to socialise and maintain regular work, which has significant downstream consequences for national workforce productivity and human capital (Ackerman et al. 2015; Arthritis and Osteoporosis Victoria 2013; Schofield et al. 2016; Schofield et al. 2015). In 2012, OA accounted for 41% of the \$9.51 billion (AUD)

spent on musculoskeletal conditions in Australia (Arthritis and Osteoporosis Victoria 2013), with a large proportion of total cost attributed to hip and knee joint replacement surgery. The lifetime risk of requiring total knee or hip joint replacement surgery has risen substantially in the 10-year period between 2003 and 2013 internationally (Ackerman et al. 2017a; Ackerman et al. 2017b). These trends will have significant implications for health service delivery quality and efficiency in Australia and other countries. In the state of Victoria, Australia, the direct healthcare costs attributed to OA care are expected to exceed \$693 million (AUD) in 2030 (2015 dollars) (Ackerman et al. 2016).

Like other chronic health conditions, management of OA may be complex and require components of care to be delivered by different parts of the health system at different times over a protracted period. This approach to care collides with the historic structure and functionality of healthcare systems in high-income economies, which have had better capacity for responding to acute or episodic health needs, particularly in the context of hospital services (i.e., curative healthcare), rather than care delivery and self-management support over long periods (i.e., rehabilitative healthcare) (Briggs and Dreinhöfer 2017). As health systems internationally come to terms with the need for a paradigm shift from curative to rehabilitative healthcare, policy makers, health funders and administrators, service delivery organizations, clinicians, and consumers seek tools to support these complex transitions. Here, system-level Models of Care (MoCs) offer one such option (Briggs et al. 2016a).

An MoC is an evidence- and consultation-informed policy or framework that outlines the optimal manner in which condition-specific care should be made available and delivered to consumers within a local health system (Briggs et al. 2014). It articulates what care is appropriate, with a focus on high-value care, and how it could ideally be delivered. The implementation focus of MoCs is a substantial and important extension from clinical guidelines, which inadequately support implementation of evidence to practice (March et al. 2010; Nelson et al. 2014). Recent reviews have examined the current state of OA MoCs globally (Allen et al. 2016; Dziedzic et al. 2016; Lim et al. 2016). The aim of this paper is to describe the development of the Victorian MoC for OA of the hip and knee – a process to translate evidence and experience into a system-wide plan and summarize the lessons learned.

Objective

Recognizing the burden of disease of OA in Victoria, Australia, the Department of Health and Human Services (DHHS) commissioned the development of an MoC in 2015 under the auspices of the Victorian Musculoskeletal Clinical Leadership Group (CLG). The Musculoskeletal CLG, established in 2013, consists of a multidisciplinary group of clinicians, consumers, and policy makers who represent a range of peak bodies tasked with providing advice to government regarding musculoskeletal health service delivery issues. “Peak” bodies refer to those that undertake a national or jurisdictional leadership, advocacy or representation role, such as professional societies or non-government consumer organizations.

Setting

The setting for this initiative was the Victorian health system, comprising all levels of the system – primary care and community care, hospital services and private health settings. In Australia, health services are delivered through a mixed public and private model. Primary care services are administered by the Commonwealth government, while hospital services are predominantly managed by state and territory governments. Importantly, the focus of the MoC was on the broader health system, not just components of the system for which the DHHS has responsibility. While recognizing the burden of OA at all joints, the focus of the MoC was hip and knee joint OA as the majority of the prevalence of OA and health expenditure relates to these sites and the associated population-level burden of disease is high and increasing (Cross et al. 2014).

Methods

Governance

The DHHS and St Vincent's Hospital, Melbourne (SVHM), provided financial support to appoint two part-time project leads from October 2015 to March 2017 (AMB, CJP). A project governance sub-committee, supported by a DHHS secretariat, was established comprising CLG members, project leads and representatives from SVHM, to oversee the management of the project and facilitate a reporting line to the CLG. The subcommittee was responsible for monitoring milestones, reporting and overseeing contractual obligations. Once the project commenced, an External Expert Advisory Committee (EEAC) was established to provide independent clinical and health service advice and facilitate consultation across the life of the project (n=25 multidisciplinary members identified as local OA clinical/service champions). The EEAC members ascribed to a Terms of Reference, which included the requirement for them to act as liaisons with their professional/peak organizations.

Development process

The MoC was developed following a best-practice framework (Briggs et al. 2016b). This Framework was developed as a global initiative through the Global Alliance for Musculoskeletal Health of the Bone and Joint Decade. It provides an empirically defined, best-practice approach to development, implementation and evaluation of MoCs and policy for non-communicable conditions, with a focus on musculoskeletal health. It was informed by 93 individuals across 30 countries and is publicly supported by 54 peak international organizations.

The MoC development process comprised four sequential phases, underpinned by the guiding principles of i) continuous consultation; ii) continuous incorporation of best available evidence as it became available; and iii) alignment with existing and emerging relevant policy, frameworks or position statements.

Consultation process

Each phase of development involved consultation.

PHASE 1

In phase 1, an electronic survey was disseminated to 17 peak Victorian and national bodies, public and private health services, Victorian Primary Health Networks, four consumer organizations and Victorian government departments. The survey was open-ended, allowing respondents (n=75) to describe key issues in OA care (Box 1).

BOX 1. Components of the phase I consultation survey

- What is currently working well in OA service delivery in Victoria?
- What needs improvement in OA service delivery in Victoria?
- What are the current barriers to consumers accessing/receiving:
 - > The **right care** for their OA?
 - > Care at the **right time** for their OA?
 - > Care from the **right team** for their OA?

Phase 1 also involved an initial scoping of consumers' views on OA care (data not shown).

These phase 1 consultation data were analyzed deductively using a summative content-analysis approach (Hsieh and Shannon 2005), consistent with the method reported by Cunningham and Wells (2017) to develop an initial framework for the MoC, which outlined important components of the MoC.

PHASE 2

The phase 1 initial framework for the MoC was presented to the EEAC for initial discussion at an inception workshop in April 2016. At the conclusion of this workshop, the following outcomes were achieved:

1. A defined scope for the MoC, including a population definition and continuum of care boundaries.
2. A defined structure for the MoC with foci of:
 - a. *What* care should be delivered?
 - b. *What* care should not be delivered?
 - c. *How* should care be delivered?
3. Establishment of topic working groups to develop content.

Consultation with EEAC members continued for a period of five months, during which time the components of the MoC were drafted and refined. Content was developed by topic working groups comprised of the project leads and EEAC members. All content related to

components of care needed to be supported by evidence (local data, clinical trial, systematic review or clinical guideline), rather than opinion-based, consistent with the development Framework we adopted (Briggs et al. 2016b). Over this period, EEAC members responded to two rounds of an online survey, powered by SurveyMonkey® (California, US), to provide comment on the components of the MoC (contextual information; guiding principles and standards of care; components of care including non-pharmacological care, pharmacological care and surgical care; strategies for care delivery; and background). These consultation-based data were used to further refine the MoC. Between the surveys, meetings with individual EEAC members or teleconferences with groups of EEAC members were held to further discuss and refine components on the MoC. At the conclusion of the five-month consultation and development cycle, seven clinical issues remained to be discussed and resolved at a final face-to-face workshop with all EEAC members in September 2016.

Concurrently, a consumer organization was commissioned to undertake an independent, in-depth consultation with consumers across Victoria regarding health service issues related to OA care (n=36; 75% residents of metropolitan Melbourne; 25% residents of rural or remote Victoria). The outcomes of this consultation have been published elsewhere (Nolan et al. 2016). A recent systematic review of consumers' needs in OA care was also used as a primary evidence source for the MoC (Wluka et al. 2016).

The outcome of phase 2 was the development of a full draft MoC.

PHASE 3

In phase 3, the full draft of the MoC was distributed to the same stakeholder groups as phase 1 for comment using an online survey to collect quantitative and qualitative data. Specifically, respondents were asked to review each component of the MoC and provide a nominal response ranking of their level of agreement with the content (Table 1). Where respondents either did not support the content or had suggested changes, they were asked to provide free-text responses to explain their selection. These responses were reviewed to further refine the MoC. Over this 3-month consultation, 43 submissions were received and analyzed quantitatively (Table 1) and qualitatively using a content analysis method (Hsieh and Shannon 2005). EEAC members acted as liaisons for consultations with the peak bodies they represented.

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TABLE 1. Quantitative feedback from the phase 3 consultation, presented as proportions (%) by nominal response category

Draft MoC section	Component	Support content in its current form	Support content, but changes required	Do not support content in its current form	Not relevant to my expertise or organization
Part 1: Introduction	Context description	88.0	12.0	0	0
Part 2A: Context of the MoC	Structure, guiding principles, approach to OA care and diagnosis	84.0	16.0	0	0
Part 2B: Components of care (<i>what</i> care)	Non-pharmacologic care	80.0	20.0	0	0
	Pharmacologic care	68.0	16.0	4.0	12.0
	Surgical care	64.0	20.0	4.0	12.0
	Care that should <u>not</u> be delivered	64.0	16.0	4.0	16.0
Part 2C: Enablers to care delivery (<i>how</i> to deliver care)	Building peoples' capacity to more effectively participate in care	92.0	8.0	0	0
	Models of health service delivery	92.0	8.0	0	0
	Information and communication technology	84.0	12.0	0	4.0
	Health policy and planning	92.0	8.0	0	0
Part 3: Background	The case for change	92.0	8.0	0	0

PHASE 4

Following the phase 3 consultation, the MoC was revised again and re-distributed to peak Victorian and national bodies for final comment and endorsement in phase 4.

Outcome: Final drafting and public support

The MoC describes appropriate assessment and key components of care for OA, including: non-pharmacologic and non-surgical care for all (education, reassurance and support for appropriate self-management, physical activity and exercise, weight loss/nutrition management, management of persistent pain based on contemporary pain science); pharmacologic care; and total joint replacement surgery (Victorian Musculoskeletal Clinical Leadership Group 2018). Knee arthroscopy, as a primary intervention, and the routine use of magnetic resonance imaging (MRI) are specifically not recommended. Enablers to care delivery are

summarized in Figure 1. Each enabler is supported by suggested implementation strategies within the MoC. The MoC is publicly supported by 20 peak organizations.

FIGURE 1. Enablers to OA care delivery in Victoria

Building peoples' capacity to participate in care	• Community education about OA • Delivery of accurate information to people in multiple formats and in culturally sensitive modes • Availability of local services to support effective self-management
Models of health service delivery	• Flexible public and private funding models • Maximizing workforce resources and efficiencies • Building workforce capacity in OA care • Delivery of care locally • Processes for surgical referrals management in public hospitals
Information and communication technologies	• Capacity to monitor OA outcomes • Digitally enabled service delivery models • Information and communication technologies to support shared-care
Health policy and planning	• Integration of the MoC with state health policies and funding agreements

Discussion

The Victorian MoC for OA of the hip and knee describes an evidence and consultation-informed blueprint for OA care delivery for the state of Victoria, supported by local stakeholders. Importantly, the MoC aligns with existing state health policy, MoCs in other jurisdictions (Department of Health [Western Australia] 2010; NSW Agency for Clinical Innovation 2012) and nations (Allen et al. 2016), recent national initiatives aimed at optimizing care for OA (Arthritis Australia 2014; Australian and New Zealand College of Anaesthetists 2010; Royal Australian College of General Practitioners 2009; Therapeutic Guidelines 2017) and contemporary OA guidelines and clinical care standards (Australian Commission on Safety and Quality in Health Care 2017; March et al. 2010; Nelson et al. 2014; Stoffer et al. 2015), building momentum for national service improvement. A seminal review of OA MoCs highlights international progress in developing and implementing innovative service models that prioritize first-line, high-value management strategies for OA, such as exercise, weight loss and support for self-management; appropriate pain management; and pathways that facilitate timely and appropriate selection of suitable candidates for joint replacement surgery (Allen et al. 2016). That review also identified the need to contextualize service models according to the local environment. The Victorian MoC incorporates these components of care (i.e., “what care”), and outlines strategies to implement care in the Victorian context (i.e., “how to deliver the care”).

The MoC now provides a platform for the Victorian health sector to collaboratively engage in system and service reform to improve care for people with hip or knee OA. While supported by the DHHS, the MoC is not intended as implementation responsibility for state government, but rather an enabler for all participants in the health system to work in partnership towards health service improvements. In this context, it is affirming that a multi-disciplinary EEAC and 20 peak organizations have publicly supported the MoC.

The development process was guided by an existing Framework, which ensured an appropriate, inclusive and transparent approach to development (Briggs et al. 2016b). We suggest this same best-practice Framework be used to guide implementation activities for the MoC under the stewardship of a representative implementation advisory group. Our ability to comply with all the recommendations in the best-practice Framework was limited by project resourcing and timeline restrictions. For example, while the use of online consultations was efficient, a greater face-to-face presence would have been preferred as a mechanism to facilitate engagement by external stakeholders, particularly those in rural areas and to expand the scope of the consumer consultation.

The establishment of a governance framework for the project provided context about the project to both internal (e.g., government) and external stakeholders and an explicit description of project management. The governance subcommittee provided an important structure to the project, ensuring reporting responsibilities and milestones were met and a formal mechanism for troubleshooting established. The establishment of the EEAC was similarly a critical component of the MoC development process. This group provided independent, expert advice on components of care, assisted with content development and facilitated consultation with, and endorsement by, peak bodies. Engaging nominees from peak organizations from inception of the project ensured sustained engagement with the development process and will likely facilitate the implementation stage.

Engaging a consumer organization to lead and undertake targeted consumer consultation minimized any possible or perceived bias and allowed project leads to focus on other components of work. We recommend that future endeavours allocate a greater proportion of funds to consumer consultation activities and plan these budgets with consumer organizations to ensure feasibility.

While engagement with the DHHS was facilitated by a secretariat role, the progress of the project was impacted by a change of government and the dynamic nature of strategic priorities. The process of developing the MoC and use of the development and implementation Framework can be applied across conditions and across settings. While some modifications in processes will be important to align with local sociocultural factors, the use of evidence and phased consultation is broadly transferable.

Acknowledgements

The Victorian Department of Health and Human Services and St Vincent's Hospital Melbourne are acknowledged for financially supporting this project under the auspices of the Victorian Musculoskeletal Clinical Leadership Group. The members of the External Expert Advisory Group are gratefully acknowledged for their time and expertise: Associate Professor Ilana Ackerman, Mr. Nigel Broughton, Ms. Robyn Blackmore, Dr. Stephen Bunker, Professor Flavia Cicuttini, Ms. Lisa Collison, Professor Richard de Steiger, Associate Professor Michelle Dowsey, Dr. Chris Fong, Ms. Naomi Gandler, Dr. Naomi Harris, Professor Rana Hinman, Clinical Associate Professor Malcolm Hogg, Ms. Naomi Kubina, Clinical Associate Professor Keith Lim, Clinical Associate Professor Susan Liew, Dr. Helen Lindner, Dr. Anita Munoz, Ms. Genevieve Nolan, Dr. Vanessa J Rice, Dr. Debra Schulz,

Dr. Janice Sheringham, Dr. Jane Simms, Mr. Bill Suen, and Mr. Jason Wallis.

Musculoskeletal Australia is acknowledged for independently conducting the consumer consultation to inform the Model of Care. Tim Buckley, Barbara Whyte and Sharon Christie (Department of Health and Human Services, Victoria) are acknowledged for their role as project secretariat. AMB is supported by a fellowship awarded by the Australian National Health and Medical Research Council (#1132548).

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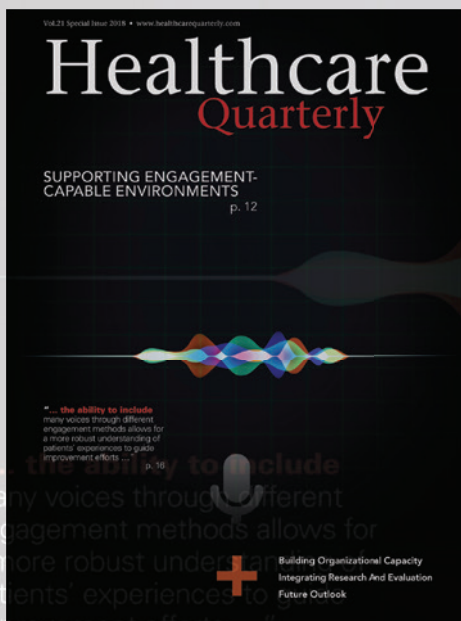
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