

# Bone and Joint Health Strategic Clinical Network: Keeping Albertans moving

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**M**ore than 150 conditions affect bones, joints, ligaments, tendons and muscles, some of which — notably osteoporosis, osteoarthritis and low back dysfunction — contribute to some of the highest burdens of disability and pain.<sup>1</sup> In Canada, about 30% of individuals older than 50 years of age will have a fragility fracture, a consequence of osteoporosis.<sup>2</sup> In 2011 in Alberta, 15.8% of the population reported having arthritis and 20.2% reported low back pain,<sup>3</sup> and musculoskeletal conditions were one of the top 7 reasons for admissions to hospital and visits to emergency departments.<sup>3</sup> Recent reports also indicated that each Albertan will develop, on average, at least 1 musculoskeletal condition in their lifetime.<sup>4</sup> Such conditions are related to activity levels, being overweight and older age. Given Canada's aging population, a high and growing burden of musculoskeletal conditions can be anticipated.<sup>1,4</sup>

Alberta's Bone and Joint Health Strategic Clinical Network (BJH SCN; [www.ahs.ca/bjhscn](http://www.ahs.ca/bjhscn)) was established in 2012 to support musculoskeletal health of the province's population. It evolved from a provincial working group established in Alberta in the early 2000s that was tasked to respond to the wait-time crisis for hip and knee arthroplasty. The BJH SCN operates across the care continuum — from prevention to self-management to in-hospital care and postdischarge care — and across the lifespan, with a focus on innovative service delivery.

The mandate of the BJH SCN continues to be transformation of Alberta's health care system to ensure that Albertans have access to the right services and providers at the right time, as well as being able to participate in the processes leading the transformation. The strategic areas of work for the BJH SCN were originally in the acute care setting, with a more recent shift “upstream” to address conservative care and prevention strategies across the lifespan as they relate to musculoskeletal health (see figure and Appendix 1, available at [www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190581/-/DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190581/-/DC1)).

As with all Alberta's SCNs, the BJH SCN comprises a leadership team, core committee and a diverse network of partners and stakeholders across the province. A Scientific Office, purposefully embedded within the leadership team, ensures an evidence-informed approach in all SCN activities. It also provides a direct link to academic partners across the province.

### KEY POINTS

- Musculoskeletal conditions affect a substantial proportion of the Canadian population.
- The Bone and Joint Health Strategic Clinical Network (BJH SCN), established in 2012 to support the musculoskeletal health of Alberta's population, aims to operate across the care continuum — from prevention to self-management to care in hospital and postdischarge care — and across the lifespan, with a focus on innovative service delivery.
- Standardized evidence-informed provincial care pathways have been shown to positively affect patient outcomes and system efficiencies.
- Lean leadership, broad stakeholder engagement, key partnerships and a commitment to evidence-informed process innovation have driven the BJH SCN's successes.

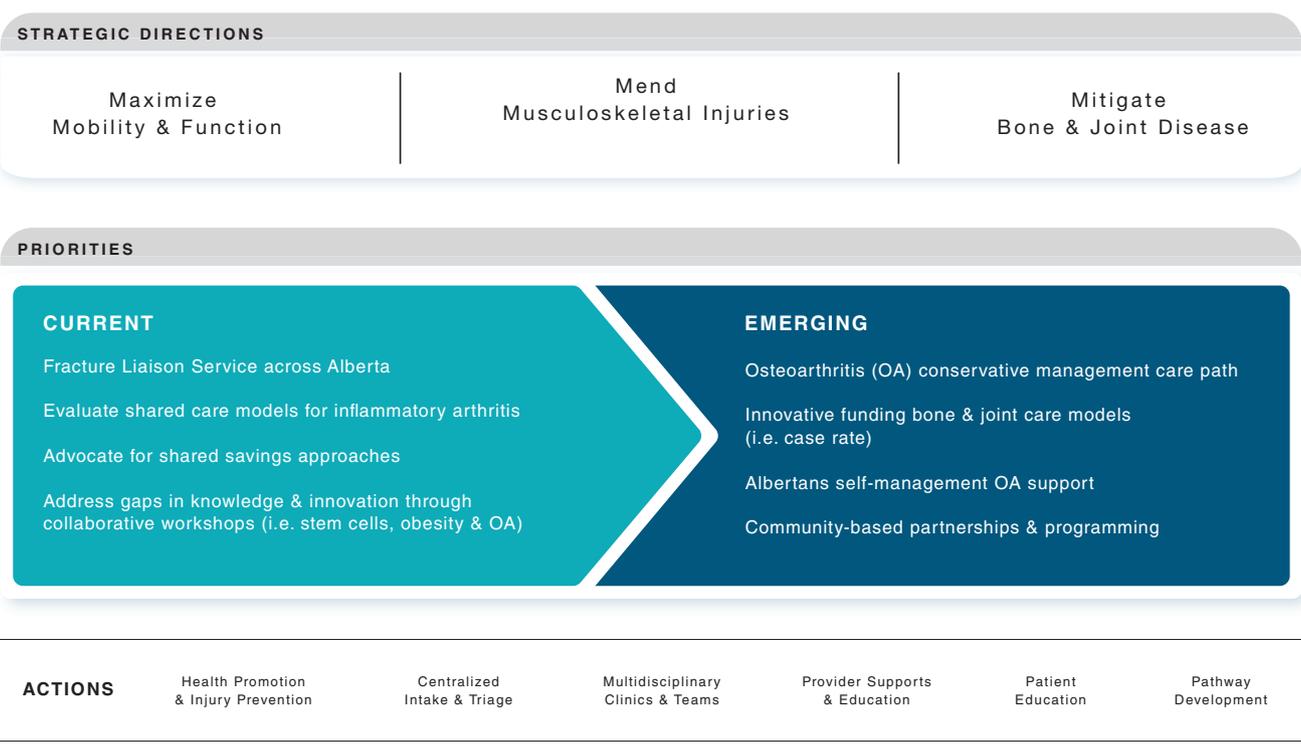
In collaboration with stakeholders, which include clinicians, patients, researchers, policy-makers and administrators, the BJH SCN has implemented beneficial system changes in 2 key areas — osteoarthritis and osteoporosis — which included the development, implementation and operationalization of standardized, evidence-informed care pathways and programs.

The hip and knee arthroplasty pathway, now operational in all Alberta hip and knee clinics, includes a central intake process and an embedded mechanism for quality improvement. A pragmatic randomized controlled trial showed that pain and functional outcomes improved significantly for patients using the new pathway compared with standard care over a 12-month follow-up period (Western Ontario and McMaster Universities Osteoarthritis Index score: treatment effect 2.56, 95% confidence interval [CI] 1.10–4.01; Short Form 36 Bodily Pain score: treatment effect 3.01, 95% CI 0.70–5.32).<sup>5</sup> System efficiencies gained included reduced length of stay from an average of 4.7 to 3.8 days and a decrease in readmission rates from 4.3% to 3.9%.<sup>6</sup>

Working with Bone and Joint Canada, a national network supporting the management of care for Canadians living with musculoskeletal conditions, the BJH SCN led the implementation of a pilot initiative of the Good Living with osteoarthritis: Denmark

**Bone & Joint Health Strategic Clinical Network Mission:**

To build the best bone & joint healthcare system through empowered citizens & teams guided by evidence and outcome based practices



Strategic directions and priorities of the Bone and Joint Health Strategic Clinical Network (BJH SCN).

(GLA:D)<sup>7</sup> neuromuscular exercise program for individuals with osteoarthritis in Alberta, in rural, urban, public and private spaces. A 2018 report on outcomes in Alberta indicated that after 3 months, the GLA:D pilot program had a positive effect on participants’ pain (with decreased use of medication including opioids), functional abilities, activities of daily life and overall quality of life.<sup>8</sup> The BJH SCN is co-leading a feasibility evaluation of the GLA:D program to ensure its success in Alberta; a report should be available by the end of 2019.

The Fragility and Stability Program was developed to address secondary fracture prevention for patients with osteoporosis via Catch a Break (<https://myhealth.alberta.ca/Alberta/Pages/Catch-a-break.aspx>) and the Fracture Liaison Service ([www.albertahealthservices.ca/scns/Page10781.aspx](http://www.albertahealthservices.ca/scns/Page10781.aspx)), and acute care, through a care pathway for hip fracture surgery. These 3 initiatives are being rolled out across Alberta. Development of a care pathway for postacute hip fracture (restorative) is underway, and relevant evidence is being gathered to identify current care gaps to facilitate increased coordination and standardization of care. Findings to date showed that the secondary prevention programs are cost-effective (an estimated \$9200 per quality-adjusted life-year compared with usual care)<sup>9</sup> and are acceptable to patients, providing appropriate care and information upon which to make decisions.<sup>10</sup> Results are outlined in the BJH SCN’s annual report,<sup>6</sup> and research publications are forthcoming.

The BJH SCN had some challenges and failures in attempts to achieve goals or effectively address priorities. For example, substan-

tial effort has gone into funding-model innovation for public health care programming. Although there is interest, to date these initiatives are not being considered for resource allocation planning in Alberta’s health care system. A shift from surgical referrals, which are often inappropriate for conditions such as musculoskeletal shoulder pathology, to evidence-based conservative management approaches for bone and joint problems has been another challenge for the SCN.

Factors that enabled success of BJH SCN initiatives include good leadership, broad stakeholder engagement, establishment of key partnerships and a commitment to being evidence informed. Beyond good leadership, the effectiveness of the BJH SCN team was closely linked to how the team works, with minimal hierarchy, openness and collaboration being key to enabling effective teamwork on the provincial mandate and broad scope of the initiative.

Current success builds on the hard work of the founders of the SCNs and the ongoing work of the senior leaders at Alberta Health Services (AHS). Patients, clinicians, administrators and researchers, across the musculoskeletal disciplines, worked collaboratively on BJH SCN projects and remain engaged on the leadership team, core committee and working groups. Diverse stakeholders, who function in the same musculoskeletal area (e.g., stem cells for osteoarthritis and arthroplasty for patients with obesity), but who otherwise may not interact, are brought together in SCN-facilitated workshops to determine joint actions and priorities at a provincial level.

Partnership with the Alberta Bone and Joint Health Institute has been instrumental to the BJH SCN's success. The institute is an invaluable resource for analytics and project management, and the driver behind the robust performance measures generated on BJH SCN projects.

Quality improvement research, including the measurement of health-system performance, patient-reported outcomes and cost, is embedded in clinical pathways.<sup>9</sup> Reporting back directly to front-line clinical teams in a timely fashion, through mechanisms such as the balanced scorecard, is a key element that leads to effective practice change. Members of the BJH SCN are involved in research aligned with its strategic priorities as co-investigators, collaborators, knowledge users and knowledge brokers.

The BJH SCN is well established in the Alberta health care system and continues to strive to deliver value-based care for Albertans within a culture of shared responsibility. A key focus will be the development of standardized care pathways with embedded measurement processes for community-based assessment and treatment across the province for people with knee, low back and shoulder musculoskeletal problems.

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