



Reducing the impact of OA: A report on the prevention and effective management in Canada

Phase 1: Stakeholder engagement
Phase 2: Meeting

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Steering Committee

Bone and Joint Canada would like to acknowledge the individuals who participated on the Steering Committee.

First	Last	Position
Elizabeth	Badley	Senior Scientist, UHN, Toronto
Aileen	Davis	Senior Scientist, UHN, Toronto
Mary	Duggan	Manager, CSEP
Allyson	Jones	Associate Professor, University of Alberta, AB
Carlo	Marra	Dean, Memorial University, NFLD
Linda	Li	Associate Professor, University of BC, BC
Joanne	Simons	Chief Mission Officer, The Arthritis Society
Liz	Stirling	Assistant Director, IMHA, CIHR, Toronto

Background

Osteoarthritis and the resultant pain and disability are a significant and pressing problem across the world as identified in a number of international reports. According to the World Health Organization, 9.6% of men and 18.0% of women older than 60 years of age worldwide have symptomatic osteoarthritis (OA) making OA one of the most prevalent chronic diseases. However, OA is not only a disease of older age as 2 of 3 people with arthritis are under 65 yearsⁱ and 10% report symptomatic knee OA by age 60ⁱⁱ In Canada there are currently more than 4.6 million people living with OA and this will rise, within a generation (in 30 years) to more than 10 million (or one in four).

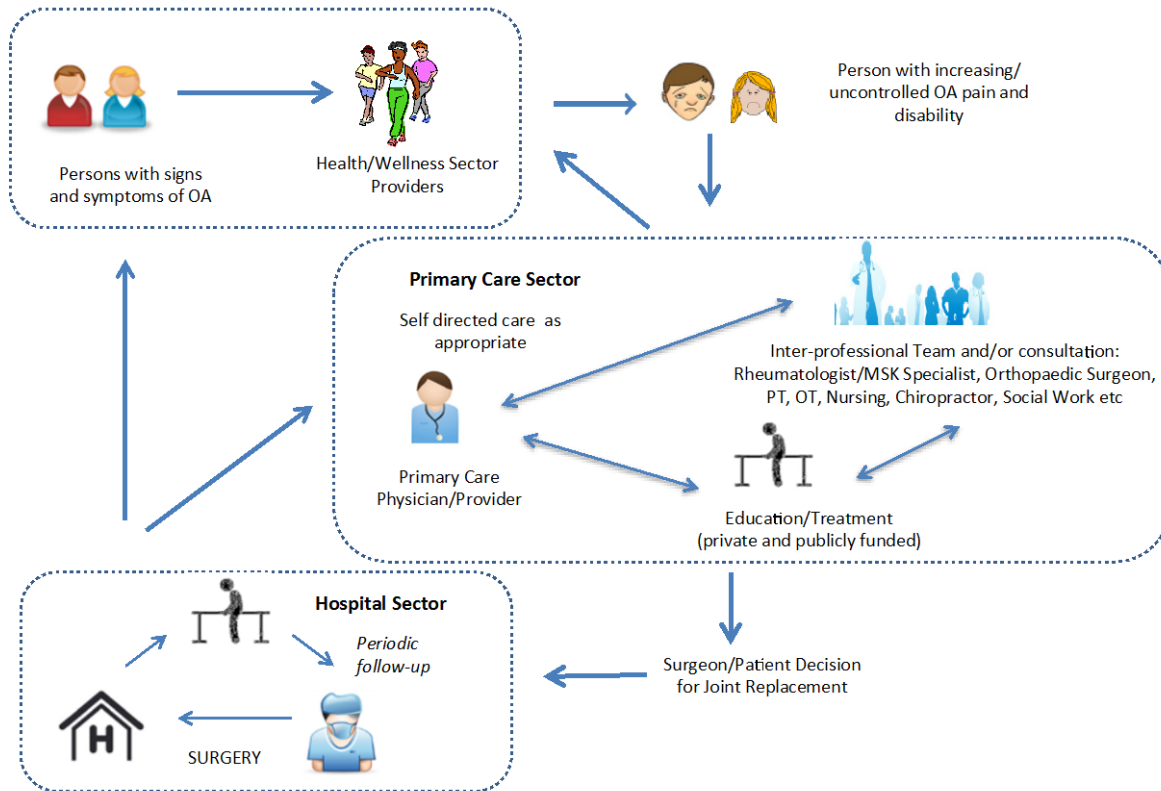
OA is also a major source of pain, severely impacting the health-related quality of life (HRQOL) and productivity of affected individuals. It leads to reduction in ability to work, therefore negatively affecting work place productivity and the Canadian economy.

OA is a result of wear and tear on the joints and is often related to obesity and/or previous trauma such as a sports injury. The condition is also influenced by increased longevity as well as lifestyle such as inconsistent or intense levels of physical activity. Arthritis knows no limits with respect to age or gender. Unfortunately, many Canadians living with the disease are told that it is “just arthritis” and that joint pain is a normal part of aging.

Systems approach to the prevention and management of OA

OA is a chronic disease that requires self-management strategies within a person’s everyday life to manage the symptoms. Early detection is critical to initiate this. The initial symptoms of OA include some mild joint pain and/or swelling and/or stiffness which can lead to reductions in physical activity levels. For individuals who experience disease progression, as the joint degenerates, symptoms fluctuate and become worse and medical interventions are required. At this time, these individuals need access to pharmacological and non-pharmacological treatments to manage the symptoms. This should take place within a primary care environment where patients are able to access the expertise of a number of health care providers. In many cases people with arthritis chose to access these providers independently; however, for others the primary care practitioner plays a role in helping to coordinate access to the relevant healthcare professional(s) and often needs to provide a referral. For a small percentage of people, their condition will continue to deteriorate and surgical options such as joint replacement may be necessary. The ongoing management of OA, therefore, requires a multisystem approach to care which includes access to health/wellness sector for self-management opportunities, primary care for the management of progressing symptoms including access to medications and assessment from the appropriate health care professionals to provide advice and education on minimizing symptoms and disease progression. This transition between health/wellness to health care sectors including tertiary care, if and when disease progresses, is demonstrated in the model below.

The Challenge: National Model of Care for the Prevention of Progression of OA



Any treatment model that is successful in the management of OA will be focused on preventing the initial cause of OA through risk factor reduction and/or will optimize the person's lifestyle so as to minimize disease progression. From a health care utilization perspective, the goal of such an approach is to keep the person with OA in the health/wellness sector and prevent their move into the more intensive and more expensive utilization of medical treatments including joint replacement. Evidence has identified that people 30 to 60 years with mild OA-like knee symptoms are seeking self-management strategies to prevent symptom progression and protect their kneesⁱⁱⁱ. There are a number of strategies that can be used in the management of OA including exercise which is beneficial for people with OA^{iv}. Moreover, for knee OA, evidence indicates targeted exercise needs to be performed with proper body position and be individually progressed to avoid excessive joint stress^v. Consideration also needs to be given to the risk factors associated with development and progression of OA^{vi vii}. These include obesity and the lack of exercise, which leads to lack of protective muscle power and overloading of joints, and extensive exercise which again can lead to overloading of joints through pounding weight bearing activity (such as running) and injury. This requires education on exercise and lifestyle that is reinforced through contact with the health and the fitness/wellness sectors. It is also important that people are able to access appropriate exercise programs on a regular basis.

Complexities in an OA model

Within the management of OA there are a number of other factors that generate a complex picture in developing an appropriate approach to the management.

1. Risk factors for OA

As noted above, the risk factors for OA are obesity, lack of exercise, and injury of the joint related to extensive activity such as in sports. As such there are psychological factors that will need to be considered in prevention and treatment programs to motivate individuals to reduce/manage their weight and participate in the appropriate levels and types of activity. For some people this will mean an increase in activity using motivational strategies and for others this may mean promoting a decrease or alteration in type of activity. For others, it may require a permanent change to activity levels if the joint loading activity results in symptom flare-ups or progression.

2. Services for early OA

Many patients who are experiencing signs and symptoms of early OA do not receive a diagnosis and there is little information and educational opportunities available for people with early OA-like symptoms. As such many people do not start to understand their OA and do not take the appropriate steps to modify their lifestyle factors until later in the disease process when joint damage and symptoms are occurring. Even for those diagnosed with early OA, they are often told it is just a consequence of 'getting older'. Given this, it is not surprising that there is a paucity of services for people with OA, particularly in the early course of the disease process.

3. Range of providers and scopes of practice

People with OA may receive interventions through a large range of providers including those working within a wellness sector as well as health care providers such as physiotherapists, occupational therapists, chiropractors, kinesiologists, athletic therapists etc. There is variation across the country in the scope of practice of each of these providers which can complicate patient access and result in a range of care options.

4. Public versus private sector care provision

There are limited publicly funded health care and wellness services available, particularly for individuals with early signs and symptoms of OA. Services are also limited for individuals who have experienced disease progression unless they have had surgery or meet eligibility requirements for funding determined by the provincial Ministries/Departments of Health. As such, many people have to access their services through private payers or pay out of pocket which results in variable access to both type and quantity of service.

OA care in Canada

Although there are Canadian guidelines with respect to pharmacological and non-pharmacological strategies, there is little information on the model of care that needs to be in place at a system level to successfully implement the treatments and optimize care for people with the earliest symptoms to those with end stage disease. Standards for overall arthritis care, including inflammatory and osteoarthritis, were set in 2005 and are provided in a report “Arthritis isn’t a big deal... ..until you get it. Ask 4 million Canadians. Report from the Summit on Standards for Arthritis Prevention and Care, November 1 – 2, 2005”. These standards reflect awareness, prevention, and management.

Project Goal

The *overall goal* of Bone and Joint Canada (BJC) is to develop a model to facilitate prevention, early diagnosis and access to evidence-based care for OA that reflects the needs of the individual appropriate to the severity of their disease. This model will be based on consensus that is evidence-informed and person-centred. It will link the health care system with the social and health/wellness sector to promote physical activity and reduce disease progression. The framework of the model will support strategies to keep individuals moving thereby improving outcomes and reducing health care needs and associated costs. Education related to OA and self-management is also a critical component of the framework. BJC will then support the implementation of the model by working closely with the other stakeholders in OA in Canada.

Phase 1: Stakeholder engagement

Between September and December 2013, BJC undertook a trans-Canada stakeholder engagement to identify programs and current practices that had been designed to implement best practices. Semi-structured interviews were conducted with researchers, practicing clinicians and policy makers focusing on identifying current practices as well as the barriers and challenges in the management of OA in Canada.

From this engagement (n=22), (Appendix A) it was clear that there has been little activity to implement changes at a system level in Canada since the Standards were developed in 2005. There were a number of examples of innovative practices that had been developed at a local or regional level to better manage the care needs of individuals with OA. However, services in Canada are a long way from addressing the barriers and achieving an effective system to both prevent and manage OA.

Results of the stakeholder engagement

Through the stakeholder engagement, it was identified that currently, within Canada, there are a number of perceived barriers to a coordinated approach to care and limited examples of local, effective solutions that have been used to address these barriers at a local or regional level. Below are the barriers and some examples of potential opportunities that were identified to improve care.

Challenge 1: Lack of implementation of evidence based strategies for primary and secondary prevention

- A. There are some evidence-based strategies that reduce the incidence of injury in sports (e.g. FIFA 11+) which reduces injury rates by up to 70% in youth athletes in soccer that are currently not implemented within Canada due to lack of a coordinated approach between health care providers and sporting organizations.

Potential opportunity: Work with sporting organizations to implement injury prevention programs.

- B. There is an epidemic of obesity that is leading to an increase in rates of OA.

Potential Opportunities: Work with other groups support the messaging from the experts in obesity.

- C. Exercise is an important strategy for secondary prevention of OA. There is limited knowledge regarding exercise to manage OA, including type and intensity. Current knowledge is not well disseminated.

Potential opportunities: Develop physical activity and exercise guidelines that promote the uptake of appropriate exercises for person with OA.

Challenge 2: Availability of education on halting disease progression in OA

- A. Although there are a number of initiatives that have developed educational information for people with OA, there is little information available on early OA, including the signs and symptoms and disease modifying opportunities.

- B. There is lack of education for the many individuals who assess and manage people with OA, specifically early OA. This includes those working in the health/wellness fields as well as primary care practitioners who often have little training in MSK disorders. This educational need includes appropriate exercise prescription and other management strategies.

Potential Opportunities: Educational programs are being undertaken in a number of regions for health care providers in OA such as a provincial program in British Columbia. There are also opportunities to improve access to patient education, educate wellness providers through a coordinated approach to education, the use of information technologies and remote programming.

Challenge 3: Lack of connection between the wellness and health care sectors

The health/wellness sector, which provides the person with the access to supported self-management, and the health care sector, which has the disease-specific assessment and treatments, are not well aligned. This leads to lack of access for people as well as confusion in education with different criteria for assessment and exercise prescription. The wellness sector uses wellness measures such as the PAR-Q and the Guidelines for Physical Activity which bias against exercise with knee pain without a health care

consultation. As noted above the primary care physicians may not be well trained to provide appropriate exercise guidance.

Potential Opportunities: Examples of opportunities that have been identified include the development of Physical activity guidelines for people with OA knee pain, opportunities to improve people's physical literacy and education and training of personal trainers on OA.

Challenge 4: System planning and coordination for health care interventions

- A. People who are experiencing OA need access to the most appropriate health care professional to ensure access to the best evidence-based care. This care includes education about their symptoms so that they can manage them effectively. The current system is an uncoordinated system where people may receive duplicate care or insufficient care based on the service provider available.
- B. As a chronic disease, the management of OA aligns with the management of other chronic diseases such as diabetes, osteoporosis and cancer all of which require a coordinated approach to facilitating physical activity. Currently, there is little coordination between these programs across the country

Potential Opportunities:

1. Planning for an inter-professional model of care that maximizes the ability of each professional to work within their scope of practice and provide evidence-based care.
2. Ensure the appropriate resources within the health care and health/wellness sectors so that individuals have access to a system that is coordinated.
3. Enhance access through the improved coordination of physical activity programs with other chronic disease populations.

Phase 2: OA Meeting

A meeting was held in May 2014 in Toronto to review the findings of the stakeholder engagement, present some of the innovative initiatives that are occurring across the country and identify opportunities to address gaps in knowledge that might be the basis of future research and implementation activities. The invitees to the meeting included researchers, clinicians, administrative and decision makers/policy makers as well as a range of stakeholders who represent professional associations and provide services for people with arthritis, including individuals from the health and wellness sector (Appendix A). This meeting used the findings of the stakeholder engagement as its basis to facilitate discussion and identify opportunities including, but not limited, to those examples identified in the stakeholder engagement.

This meeting targeted the areas of prevention and management of OA with the intent of enabling the development of action plans so that there is a framework for a coordinated approach to activity to reduce disease progression and improve the outcomes for people with OA.

Meeting goal

The *goal of this meeting* was to facilitate a national network of stakeholders from across the health care, social and health/wellness sectors to: 1) identify the evidence-based strategies that will support prevention, early diagnosis and effective management that are targeted at meeting the needs of individuals and, 2) develop action plans that will support the development and implementation of the identified strategies for individuals across the spectrum of disease severity.

The *objectives* of the meeting were to identify:

- activities where there is sufficient evidence to move to a coordinated implementation strategy at a regional/provincial or national level
- areas where additional research is needed to develop a national strategy
- potential partnerships to lead and implement the different strategies
- potential partnerships in other wellness and chronic disease areas that would align with the different strategies
- opportunities to measure the implementation successes of the strategies

A Steering Committee met monthly from January to May 2014 to develop the framework for the day including developing the agenda and providing guidance on attendees to ensure multi-sectorial representation from across Canada.

Meeting details

The meeting was hosted at the Holiday Inn in Toronto on May 23, 2014. There were 51 attendees with representation from all provinces except for Manitoba. The day was designed around the findings from the stakeholder engagement challenges of:

- 1: Lack of implementation of evidence based strategies for primary and secondary prevention
- 2: Level of education available on halting disease progression in OA
- 3: Lack of connection between the wellness and health care sectors
- 4: System planning and coordination for health care interventions

During the day there were presentations on different programs that address these challenges and therefore influence osteoarthritis care.

The day ended with a facilitated break out session for discussion on opportunities for future research and implementation initiatives including partnerships and opportunities for leadership. The agenda is in Appendix B.

Presentations

The day was started with a person who is living with OA as the keynote speaker. Maria Cappadocia is an avid participant in Tai Kwon Do and presented on how OA has had an effect on her life however how she continues to work hard through her physical activity pursuits to retain her strength and endurance. Maria set the stage for a new type of patient where there is a more defined need to address OA early and prevent progression.

The presentations were then divided into the following sections. A brief summary of each is provided below with additional information provided in Appendix C:

1. Current status on OA care

There were three sessions which provided an overview of the current status of Osteoarthritis including guidelines, patient needs and the realities of primary care provision.

a) *Making sense of guidelines for Osteoarthritis in an ever changing world: Joanne Jordan*

Dr. Jordan presented on the numerous guidelines that have been developed and how they use different criteria and are therefore difficult to use.

b) *The Perceptions and Experience of persons living with knee symptoms: Crystal McKay*

Through her work on early OA Crystal McKay has identified and presented on the perspective of individuals who have early knee symptoms

c) *Building capacity for osteoarthritis management in primary care: Julia Alleyne*

Dr. Alleyne presented on the challenges in managing osteoarthritis in the primary care sector and how additional training was required for primary care to have the skills to diagnose and understand the medical management and necessary exercise prescription for early OA.

2. Successful interventions - Providers

Six sessions were hosted that provided an overview of the programs that are currently available across the country which focus on increasing the ability of providers to improve their competence in the management of OA. Sessions included information from the health and wellness sectors as well as successful exercise programs including:

a) *Exercise and Education in Denmark: Ewa Roos*

This is an evidence-based 6-week targeted exercise and education program with demonstrated reduction in symptoms, improved function and HRQOL. A training program has been established for physiotherapists to deliver the program

b) *Educating Pharmacists – Shoppers Drug Mart Program: Carlo Marra*

A program which provides education to pharmacists to help them advise people with knee pain to undertake exercise

c) *On-Line Education of Providers “Getting a Grip”: Lynn Moore*

A new on line educational program for health care providers developed by The Arthritis Society

d) *A Practice Support Program in British Columbia: Liza Kallstrom*

The Practice Support Program (PSP) is a program in BC where primary care physicians are provided with education on the management of OA

e) *Early intervention in OA: Role of IT: Cheryl Hubley Kozey*

A presentation on an IT initiative that can be used to support patient exercise

3. Engagement of the Community – prevention

Five sessions provided an overview of initiatives that are currently in place that address the primary and secondary disease prevention.

a) ***A complete warm up program to prevent football (soccer) injuries: Matt Greenwood***

The Ontario Soccer Association in conjunction with BJC is currently implementing the FIFA 11+ in soccer clubs across Ontario

b) ***An Overview of Canadian Sport for Life – Connecting Physical Literacy to Athlete Development and Injury Prevention: Vicki Harber***

Physical literacy includes movement for children and youth as well as activity for older adults and is being promoted across the country

c) ***LiveWell: A new Model of Community Health IN MOTION PROGRAM: Genevieve Hladysh***

The program is an activation program in Hamilton Ontario which is a partnership between the YMCA, Hamilton Health Sciences and McMaster University

d) ***North Simcoe-Muskoka & Falls Prevention: Exercise and Education for Seniors: Melissa Lang***

The Ministry of Health and Long Term Care in Ontario have implemented a mandate for exercise and falls prevention classes in every region of Ontario

e) ***Exercise for Osteoarthritis – What is Safe?: Phil Chilibeck***

A review was provided of the work that was undertaken to develop safe guidelines for exercise prescription and the resultant changes to the Physical Activity Readiness Questionnaire (PAR-Q)

Break-out sessions

Following the presentations, 4 breakout groups were held in the afternoon: two related to Prevention (primary and secondary) and two on Treatment. The goal of these sessions was to build on previous work including to identify target audiences for messaging on OA, gaps in assessment and management, potential implementation and research priorities and to identify partners in the development of an OA framework for care delivery in Canada. This information was added to the findings from the stakeholder engagement, is provided in Appendix D and is summarized below.

Evaluation

There were 17 evaluation forms completed. Overall the evaluations were positive with an average score of 4.25 on a scale of 1 – 5 where 5 is excellent. Comments are provided in Appendix E.

Challenges and opportunities in an OA model

The management of OA is complex and requires a multi-system approach that includes the health and wellness sector intersecting with the health care sector to provide a coordinated approach to the education and information on lifestyle management as well as access to activity for people in Canada^{viii}. There was confirmation that the stakeholder findings reflected the challenges in OA in Canada and the following gaps and opportunities were identified through the course of discussion and in the break-out groups at the end of the meeting.

Gaps

Key gaps/barriers identified from the stakeholder engagement and meeting ranged from policy to care delivery.

- From a policy perspective, OA is not designated as a chronic disease by government and hence is missing from the policy agenda with the exception of some provinces where it has been included in an umbrella of chronic diseases;
- there also is no national policy agenda on injury prevention and it is often seen as part of an ‘activity’ movement; challenges exist as activity/exercise has been medicalized;
- for exercise programs many providers are not regulated health care professionals;
- available programs and access to programs/providers is expensive as many are not publically funded and treatment by health care professionals is expensive;
- many individuals need a shared care model/team approach that includes exercise, self-management strategies, education and access to medication;
- poor public knowledge about OA was identified as a major gap that could be addressed by a public awareness campaign.

From the care delivery perspective gaps were identified related to

- public awareness about early OA signs and symptoms and possible interventions;
- existence of “Centres of Excellence” where there is evidence-based, accessible, funded programs, particularly coordinated team care, for people with early OA or who are looking to prevent progression of symptoms;
- access to programs due to cost or eligibility restrictions; limited access to information on effective programs and their outcomes with no conduit to learn from one another;
- lack of undergraduate/professional program training on OA primary and secondary prevention and interventions.

Research opportunities

Research priorities were identified in both knowledge generation related to the pathophysiology of OA as well as program delivery methods using a structured approach to any implementation strategy that was embedded in evidence.

A. Areas of knowledge generation related to the pathophysiological understanding of OA included: either bullet below or number above for consistency

- impact of injury related to burden and societal costs;
- understanding optimal return to activity/sport to prevent long-term sequelae;
- modification of risk factors and prevention of OA;
- understanding the role of healthy muscles and joints in preventing OA;

- understanding the dose and type of activity and its relationship to disease progression and prevention

B. The following research priorities were identified related to knowledge generation around program delivery:

- program development for Canadian context (e.g. are programs elsewhere in the world such as Denmark transferable to the Canadian context?);
- development and evaluation of education programs for coaches, other non-health care based providers (e.g. trainers in gyms).
- understanding who will respond to treatment to allow targeted delivery, need to consider behavior change, under serviced and disadvantaged populations in this work;
- pain management and understanding of ‘acceptable’ levels of pain in the context of treatment.
- The role of the different health care providers including the physicians in the diagnosis and the use of appropriate medications and exercise prescription

In preparation for this work it was suggested that a review of existing programs and psychosocial factors related to OA outcomes and program uptake be conducted. This would facilitate sharing of best practices and assist in developing a framework for evaluation of programs.

Implementation science research is also required to: 1) implement and 2) evaluate existing pilot and local prevention and education programs more broadly, and ultimately with a variety of providers, and at a population level.

Leaders and partners

Partners identified for activities related to development, implementation, evaluation and translation of programs included: people with OA, The Arthritis Society, university departments, primary health care providers, health and wellness sector, professional associations/organizations, government/policy makers, community providers, private sector and industry, insurers, pharmacies, AAC, media/marketing.

Action items

In synthesizing the stakeholder engagement and the meeting discussion the following five priorities for action have been identified:

1) Implementation of what we know works

From the stakeholder engagement and the meeting presentations and discussion it was identified that there are currently programs that are available for OA prevention and to improve the management of individuals with early OA. However, these are at a local level and there is opportunity to expand them to a regional or provincial level or to transfer and evaluate the effectiveness of the program in local regions of other provinces. This includes programs that are health care based where there is a focused approach on

education on self-management and exercise as well as access to evidence-based medical care. There are also programs that are more population based that focus on participation in exercise that could reinforce exercise prescription to improve symptoms.

2) Conduct the research to evaluate any implementation and/or program transfer/expansion opportunities identified and/or develop an evaluation framework

It was noted that many of the programs are still in early stages and that the strategy must ensure a comprehensive research and evaluation approach to ensure the program is being developed to meet the needs of individuals with OA in the different regions of Canada.

3) Development of a repository of existing programs

There are a number of programs that were discussed and significant interest in the different type of approaches. It was identified that a repository of the programs with information about the programs and key contacts would be beneficial in continuing to promote their use across the country.

4) Engage with the other sectors, such as health and wellness, to more formally partner in developing programs

Many of the programs and initiative discussed required interaction with the health and wellness sector. Developing a more established relationship with this sector was therefore identified as important in moving forward improved programing in OA. Work should also be considered in building relationships within the private sector.

5) Target educators/providers with a consistent message related to prevention of primary and secondary OA and its management

Messaging to individuals with knee pain and potential OA will be important in reducing the progression of OA. Identifying the key stakeholder including health care and wellness professionals who will be connecting with these individuals and ensuring a consistent message will be important.

Next steps

It was identified through the stakeholder engagement and the meeting that there is a significant amount of work being undertaken across the country however it is on a small scale at a local level. There is therefore the need for stakeholders to take a leadership role to expand the different projects. However this will likely require funding to undertake the necessary work. There has been agreement that the role of BJC as a knowledge broker would assist in developing a coordinated approach by facilitating knowledge across the country. As such BJC will follow up with identified parties interested in sharing their work and will start to build a repository of programs as well as help to facilitate partnering where there is an interest.

Appendices

Appendix A: Stakeholders and Meeting attendees

Bone and Joint Canada would like to acknowledge and thank all those individuals who contributed to the development of these recommendations by participating in the stakeholder engagement sessions or attending the meeting.

M=Meeting; SE =Stakeholder Engagement

First	Last	Position	M SE
Rhona	McGlasson	Executive Director, BJC	
Julia	Alleyne, Dr.	Chair, BJC	M/SE
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Lauren	Beaupre	Associate Professor, University of Alberta, Edmonton	M/SE
Elizabeth	Badley	Senior Scientist, UHN, Toronto	M/SE
Jennifer	Bell	Head Athletic Therapist, Orangeville, ON	M
Kim	Bennell	Researcher, Australia	SE
Marcel	Billard	Physiotherapist, Eastern Health, NFLD	M
Trevor	Birmingham	Professor, Western University, ON	M
John	Bowman Dr	Family Physician, Collingwood, ON	SE
Maria	Cappadocia	Holistic Practitioner, Toronto, ON	M
Tom	Carter	CBI Health, ON	SE
Burt	Chesworth	Associate Professor, Western University, ON	M/SE
Phil	Chilibeck	Professor, University of Saskatchewan, SK	M
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Stefan	Fletcher	CEO, Rebalance, BC	SE
Alex	Fuentes	VP, Clinic Affairs, EMOVI Inc, QB	M
Simon	French, Dr.	Assistant Professor, Queen's University, ON	M/SE
Matthew	Greenwood	Manager Club Development, OSA, ON	M
Brenda	Hajdu	Executive Director, Canadian Orthopaedic Foundation, ON	M
Vicki	Harber	Professor, Canadian Sport 4 Life, AB	M
Gillian	Hawker	Physician in Chief, Women's College Hospital, ON	M
Genevieve	Hladysh	Senior Regional Manager, YMCA, Hamilton	M
Yvonne	Holtkamp	Advance Practice PT, Saskatoon. SK	SE
Cheryl	Hubley-Kozey	Acting associate Dean, Dalhousie, Nova Scotia	M

Allyson	Jones	Associate Professor, University of Alberta, AB	M/SE
Joanne	Jordan	Director, University of North Carolina, NC, USA	M
Liza	Kallstrom	Lead, BC Medical association, Vancouver, BC	M
Deborah	Kennedy	Manager, Sunnybrook Health Sciences Centre, ON	M/SE
Melissa	Lang	Physiotherapist, Orillia Soldiers Memorial Hospital, ON	M
Frances	Leblanc	Manager, Canadian Chiropractic Association, ON	M
Linda	Li	Associate Professor, University of BC, BC	M/SE
Valerie	Macdonald	Clinical Nurse Specialist, Burnaby BC	M
Alison	Macpherson	Associate Professor, York University, ON	M
Monica	Maly	Researcher, ON	SE
Carlo	Marra	Dean, Memorial University, NFLD	M/SE
Crystal	MacKay	PhD candidate, University of Toronto, ON	M
Carol	Miller	Director, Canadian Physiotherapy Association, ON	M
Ryan	Miller	Program Manager, Orillia Soldiers Memorial Hospital, ON	SE
Lynn	Moore	Director, The Arthritis Society, Toronto, ON	M
Bonnie	O'Hare	Osteocircuit, ON	SE
Rob	Petrella	Professor, Western University, ON	M/SE
Susan	Robarts	Advanced Practice Physiotherapist, SHSC, Toronto, ON	M
Ewa	Roos	Professor, University of Southern Denmark, Denmark	M
Artem	Safarov	Manager, College of family Physicians of Canada, ON	M
Janice	Sanger	Director, St John's NFLD	M
Denise	Schwartz	CBI Health, ON	SE
Joanne	Simons	Chief Mission Officer, The Arthritis Society, ON	M
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Liz	Stirling	Assistant Director, IMHA, CIHR, Toronto	M
Brandy	Tanenbaum	Program Coordinator, SHSC, Toronto, ON	M
Doug	Thomson	CEO, Canadian Orthopaedic Association, ON	M
Carter	Thorne	Rheumatologist, Newmarket, ON	SE
Lesley	Tombllin	Canadian Society for Exercise Physiology, ON	M
Rose	Wong	Research Coordinator, UHN, Toronto, ON	M

Appendix B: Meeting Agenda



National Model of Care for Management of Early OA

Airport Holiday Inn
970 Dixon Road, Toronto

A G E N D A

The objectives of the meeting are to identify:

1. activities where there is sufficient evidence to move to a coordinated implementation strategy at a regional/provincial or national level
2. areas where additional research is needed to develop a national strategy
3. potential partnerships to lead and implement the different strategies
4. potential partnerships in other wellness and chronic disease areas that would align
5. opportunities to measure the implementation successes of the strategies

TIME	TOPIC	PRESENTER
7:15 – 8:00	<i>Breakfast and Registration</i>	
8:00 – 8:05	Welcome and Introduction	Dr. Julia Alleyne
8:05 – 8:15	Why We Are Here: Objectives for the Day	Dr. Aileen Davis
8:15 – 8:35	Keynote Speaker: Active at 46	Maria Cappadocia
8:35 – 8:55	Current Status of OA Care 1) Making Sense of Osteoarthritis Guidelines in An Ever-Changing World	<i>Moderator: Elizabeth Badley</i> Joanne Jordan
8:55 – 9:15	2) The Perceptions and Experiences of Adults Living With Knee Symptoms	Crystal MacKay
9:15 – 9:35	3) Building Capacity for Osteoarthritis Management in Primary Care	Julia Alleyne
9:35 – 9:50	Discussion	
9:50 – 10:05	<i>Health Break</i>	
10:05 – 10:20	Successful Interventions – Providers 1) Good Life with Arthritis in Denmark GLA:D	<i>Moderator: Liz Stirling</i> Ewa Roos (Denmark)
10:20 – 10:35	2) Getting a Grip: Online Continuing Professional Development	Lynn Moore
10:35 – 10:50	3) The Practice Support Program in British Columbia	Liza Kallstrom
10:50 – 11:05	4) Pharmacists and Knee OA	Carlo Marra
11:05 – 11:20	5) Early Intervention in OA: Role for IT	Cheryl Hubley-Kozey
11:20 – 12:00	Discussion	

TIME	TOPIC	PRESENTER
12:00 – 12:30	Lunch	
12:30 – 12:45	Engaging The Community – Prevention 1) FIFA11+ and Ontario Soccer	Moderator: Linda Li Matt Greenwood
12:45 – 1:00	2) An Overview of Canadian Sport for Life – Connecting Physical Literacy to Athlete Development and Injury Prevention	Vicki Harber
1:00 – 1:15	3) YMCA (ON)	Genevieve Hladysch
1:15 – 1:30	4) North Simcoe-Muskoka & Falls Prevention: Exercise and Education for Seniors	Melissa Lang
1:30 – 1:45	5) Exercise for Osteoarthritis – What is Safe?	Phil Chilibeck
1:45 – 2:25	Discussion	
2:25 – 2:40	Health Break	
2:40 – 3:50	Breakout Groups Next Steps in the Management of OA in Canada – Implementation and Research 4 Breakout Groups: Prevention and Treatment Participants will be assigned to a specific group	Facilitator: Aileen Davis
3:50 – 4:00	Wrap Up	Dr. Aileen Davis

Special thanks and appreciation to CIHR-IMHA and Sanofi-aventis Canada Inc. for their funding in support of Management for Early OA



Presentation Handouts will be available through the website in the Members Section at www.boneandjointcanada.com.

Appendix C: Presentations

Making sense of OA Guidelines in an ever-changing world.

Joanne Jordan MD. MPH UNC

Dr. Jordan presented on the vicious cycle of knee pain including the ineffective management of OA treatment and need to change the paradigm. There are many guidelines in the management of OA however there are a significant number of issues with the development as well as the implementation of guidelines including the fact that there are too many guidelines and that they do not all agree. A systematic review was undertaken on OA guidelines that found that they using different criteria and looked at different treatments. The overall agreement was to: provide or refer patients to self-management programs; provide education, regular contact to promote self-care, joint protection strategies, and individualized treatment plans; advise patients to engage in low impact aerobic exercise, and if overweight to lose weight; consider range of motion, flexibility, endurance, and strengthening exercises, exercise combined with manual therapy, and PT/OT referral; recommend walking aids and assistive devices to improve ADL; discuss thermal modalities for hand, knee and hip OA; joint replacement is recommended for appropriate patients; arthroscopy with debridement is not indicated for symptomatic knee OA; for pharmacologic management of OA: 1st line: acetaminophen/paracetamol, 2nd line: topical capsaicin, and topical or oral NSAIDs (with appropriate risk stratification); refractory symptoms: consider tramadol, opioids, or possibly duloxetine; intra-articular therapy; use IA corticosteroids for hip or knee OA; consider IA hyaluronans for knee OA in select patients. It was recommended that future research was focused on the dissemination and implementation of guidelines with a focus on primary care.

The Perceptions and Experiences of Adults Living with Knee Symptoms

Crystal MacKay, PhD Candidate, University of Toronto

Ms. Mackay presented on qualitative work that had been undertaken to understand the needs of individuals living with OA. It was noted that OA is often viewed as a disease of the elderly and there is an increasing burden of OA in younger adults. There is therefore an opportunity for earlier interventions to potentially limit OA progression. The study looked at 35 – 65 year old with knee symptoms to explore the consequences of the knee symptoms and how people manage them. The work was undertaken in the GTA. The results were presented which showed that there is a disrupted physical, emotional and social life as well as a change in how individuals viewed their knee and self. With respect to physical activity disruption: participants often gave up high-level activities or changed how or how much they performed activities. For emotional disruption: participants described frustration, depression, and concern for future health. For social disruption: leisure, family, and work life. They also experienced an altered sense of self and had a new awareness and a lack of trust in their knee. People considered that the disease was preventable and modifiable and were able to link the cause of symptoms to actions or incidents that were modifiable (injuries, overuse). Participants believed that symptoms could be modified or controlled to some extent. People seek their own solutions to try to find a range of strategies through doing their own research, trial and error, and talking to peers. They do seek care from a range of health care providers but perceive limited options and inadequate guidance and support. Participants sought to actively manage their symptoms by using strategies as part of a regular routine of health practices, but found that it was sometimes a challenge to maintain due to time and costs. There is a desire for early intervention; need for more information, personalized help, and mechanism for long-term support; as well as a paradigm shift as medical care which is often reactive.

Building Capacity for Osteoarthritis Management in Primary Care

Dr. Julia Alleyne BSc PT, MD, CCFP Chair BJC

Dr. Alleyne presented on the history of the development of OA. She talked about the lack of education on non-surgical MSK within medical schools across the country thus significant gaps with increasing numbers complaining about OA joint pain. Individuals are experiencing symptoms at a younger age which is represented by a significant increase in total joint replacement in those below 54 years of age.

The profile of patients is that they want management solutions to their pain and disability. However, there is a lack of guidelines in the management of OA at the primary care level. From the perspective of primary care there is low confidence with joint examinations, difficulty in diagnosing inflammatory arthritis, delay in referring to specialists, inappropriate overuse of NSAIDs and lack of information for patients including exercise, medication and side effects, maintaining a healthy body weight, how to cope with arthritis, how to deal with pain and community resources. From a medical management perspective there is little that primary care physicians perceive that they can do for this patient population beyond investigations, medications prescription and referral to specialists. The approach is very medical with limited practice standards to guide interventions that help decrease pain and increase function. There is fear with NSAID dosage and overuse as well as little bridging into medications for chronic pain and sleep disorders. Although there are guidelines for exercise prescriptions many physicians have little experience with how to recommend exercises (i.e., type, frequency, etc.). There has thus been an increase in the use of physicians with an interest in MSK such as sports medicine. In conclusion, for future sustainable change, primary care needs to be given clinical decision making tools that support practice in real time. The education curriculum also needs to change to include MSK examination, criteria for investigations and referrals and office based management including exercise prescription.

Good Life with Arthritis in Denmark: GLA:D

Ewa Roos PT, PhD

Professor Ewa Roos presented on the Good Life with Arthritis in Denmark (GLA:D) which is a physiotherapist-delivered patient education and osteoarthritis-specific exercises according to evidence-based clinical guidelines available across Denmark. Currently over 200 hip and knee patients per month undergo an 8-week program which has been shown to reduce pain, reduce intake of painkillers and improve function. This program was developed as there was many the limitations in the care available for patients with OA due to professional hierarchies, financial incentives, health care organisation and patient beliefs. The program was started in 2012 when 68 physiotherapists were trained. At this time the program developed a Vision 2017 for GLA:D to be available nation-wide. To achieve this goal there needed to be increased awareness of GLA:D, establish GLA:D pilot projects in different settings (private practice, community, hospital), and educated/certified physical therapists running GLA:D courses, i.e. patient education and supervised arthritis-specific exercise. A nation-wide registry has been established and approved. Therefore as part of the program clients have to register their results and these are posted on a web site real time. The web site offers data on GLA:D outcomes and has a map of GLA:D certified clinics across Denmark. The program was designed for people experiencing sufficient pain or other symptoms to seek medical care. The program is patient education in group sessions (i.e., 3 sessions with one being patient-delivered) and 12 sessions of physiotherapist-supervised, arthritis specific neuromuscular exercises in groups although additional treatments are allowed. The program is private with pphysiotherapists paying for the training and patients paying out of pocket to participate in the program however a portion of the treatment costs are reimbursed. Results are promising and have been published in an annual report for 2013. Data for 719 patients with mean age of 63 years show 98% are satisfied, 92% uses new knowledge and skills every week, 1 of 3 stopped pain killers, 50% improved their physical activity level, as well as decreases in pain and increases in quality of life, etc.

Getting a Grip: Online Continuing Professional Development

Lynn Moore, Director Public Affairs, The Arthritis Society

Ms. Moore presented on the landscape of arthritis in Canada including OA and rheumatoid arthritis. She presented on the vision, mission and activities of The Arthritis Society in providing services to people with arthritis. The Getting a Grip on Arthritis is a free and on line accredited education program on arthritis for health care professionals. It provides primary health care providers the opportunity to improve their ability to identify arthritis, review current approaches to the management of arthritis and provide helpful advice to people with arthritis. The program was derived from a 9 hour workshop and was modified by subject matter experts through Memorial University. It was piloted in summer 2013 and launched in February 2014. The modules present “real life” cases and choices of action resulting in patient responses for learners to see the results of their decisions. Multi-media is used including text, audio, video and graphics. The goal of the OA module is to help providers recognize OA progression and how people live with arthritis as well as to better support their patients in self-management and coping. Within the OA module there are cases and content with group discussion and questions i.e., ‘ask the expert’ feature. References and additional resources are also provided. There is a mandatory pre- and post-test and a course evaluation. Since February 2014 there have been 85 participants from across Canada who have piloted the OA module. The next steps include translation to French, promote availability, make revisions based on new learnings and develop a similar program specific to the needs of pharmacists and nurses.

Impact: Dynamics of Human Motion Laboratory

Cheryl Hubley – Kozey MSc., PhD, Dalhousie University

Dr. Hubley Kozey presented on the use of IT in the management of OA. The average patient retains 7 % of information delivered through traditional means of communication - verbal or text; however, patients retain up to 50-70% of information delivered through rich digital media/digital assets (videos and 3D animations). There is therefore a critical need to engage, educate and empower patients through providing researched-based information and road maps for patients so they understand how to participate in their own management. This needs to leverage protocols and best practices in a web-based secure, private and customized environment; as well as break the requirement to deliver information in a bricks and mortar environment by complementing and enhancing delivery through a web-based platform. There are many goals of using IT which include reducing costs for patient and the system through reduced need for visits, and standardizing programs and messaging all of which result in increased efficiency. Capital Health in Nova Scotia has developed a program using an IT platform through a company called Kinduct Technologies. Kinduct have contracts with other companies such as major basketball and hockey teams as well as the Department of defense and as such have an already established infrastructure of functionality including applications and content (where applicable) for access control management and authentication, rehab, nutrition, assessment, measuring and monitoring (also serving bridge for analysis) and content libraries. As such, the Capital Health project has been able to pull from the information already available and has developed and included additional information to meet their needs. There is therefore a current trial for mild to moderate knee OA that is comparing traditional versus IT intervention, exercise, physical activity and outcome which is measuring the structural progression of OA through the laboratory (i.e., using objective kinematics, kinetics and musculature metrics). Thus, IT-based management (usable by patients and acceptable to health care providers) is worthy of investigation as a promising approach based on the potential number of advantages to both the patient and system.

The Practice Support Program in British Columbia

Liza Kallstrom, BC Medical Association

Ms. Kallstrom presented on the Practice Support Program (PSP) in BC which is designed to improve clinical and practice management by changing behaviours and office work flow in primary care. The program provides CME-accredited training and support for physicians and helps physicians to implement tools and resources in their daily practice that can address the Triple Aim. The program has developed a number of modules with training sessions and materials focused on specific gaps. It is provided in local communities by health authorities and practice coaches and by local physician peer colleagues. Support is provided to implement teaching into practice to help both physicians and their MOAs to make changes to improve clinical and practice management. A model has been developed on MSK which has included OA, RA and low back pain. The OA model work developed the information and the implementation strategies that are appropriate for a physician's office including assessment tools, support tools, tools for psychosocial needs and for joint action planning. It also developed information that provides awareness of the programs, services and resources available. Decision support information on the OA module was provided including pharmacological and non-pharmacological. Tools have been developed. Implementation has taken place through the last year however has been limited as family physicians do not appear to fully understand their role in the management of OA. The challenges are 'getting OA the respect that RA has' and a 'hook for OA' so that primary care take it seriously and change behaviour.

Pharmacists and knee OA

Carlo Marra PharmD, PhD, Memorial University

Dr. Marra presented on his research which looked to determine if a pharmacist-initiated, multidisciplinary intervention can improve quality of care and outcomes in knee OA. Through this study 136 patients were identified through pharmacists for knee pain and randomized to usual OA care or structure intervention which included an OA medication evaluation, booklet and education, physician letter and referral to physiotherapy and an exercise program for follow up care. Results found that those that underwent the intervention had improved outcomes in pain and function as well as radiograph findings. Improvements in quality of life and quality of care were also observed. Costing analysis was completed which showed negative (cost saving) from the ministry of health perspective. These results have been translated into practice through a relationship with Shoppers Drug Mart where there is a strategy to implement these findings in the local stores. Shoppers Drug Mart OA implementation has shown varying levels of success. Other partnerships include Arthritis Research Centre (ARC) and Arthritis Consumer Experts (ACE). A multi-site study is underway, PhitCoCare, to examine outcomes in a real world versus clinical trial setting. The study involves a novel partnership where pharmacists have access to and support from physiotherapists through a web-based application.

Session 3

A complete warm-up program to prevent football injuries

Matt Greenwood, Manager Development, Ontario Soccer Association

Mr. Greenwood presented in the activities of FIFA in the development of a program "FIFA11+" to reduce injury rates in youth athletes in Ontario. FIFA developed the program through the Medical Assessment and Research Centre based on the tracking of injury rates in high level competition. The training program is a complete warm up program that includes 6 prevention exercise with 3 levels of difficulty and 9 running exercises. The exercise program focuses on core stability, eccentric training of hamstrings, balance & proprioception, neuro-muscular control, plyometrics with "knee-over-toe". Through a grant with the Ontario Trillium Foundation the Ontario Soccer Association (OSA) and BJC are currently undertaking an initiative to pilot an implementation of the program in 20 clubs in Ontario. Activities will

also include hosting train the trainer courses to build a ‘network of champions’ with understanding from both a medical and sport/athlete perspective to facilitate training/implementation.

The Canadian Sport for Life Movement

Vicki Harber PhD, University of Alberta

Dr. Harber presented on the Canadian Sport for Life (CS4L) movement which has three key outcomes: Physical Literacy, Excellence and Active for Life. CS4L links various sectors including sports, education, recreation and health and aligns community, provincial, and national programming. The CS4L movement builds on the principles of long-term athlete development (LTAD). There are 7 stages guiding an individual experience in sport and physical activity across the life span and ten key factors influencing LTAD. The CS4L initiative set a 5 year activation strategy in 2012 with a focus on improving the quality of sport and physical activity and which acknowledges the interdependence and need to collaborate, share ideas and work together. There are many issues in facilitating activity in children including a society that has become more sedentary and risk adverse. Physical literacy is an approach that develops competence, confidence and motivation to participate in activity in structured and unstructured ways. The physical literacy movement is not just for children but is supported for all age groups and facilitates knowledge of, skills in, and attitude change towards movement and regular participation through the Active for Life approach. The CS4L initiative supports a number of “communities” where initiatives are being undertaken at a grass roots level. They also support safety initiative such as Playsafe.

North Simcoe-Muskoka LHIN: Exercise and Falls prevention education classes

Melissa Lang PT

Ms. Lang presented on the Ontario Ministry of Health and Long Term Care (MOHLTC) program to develop an exercise program for adults over 65 or over 55 who are living with chronic disease/complex health issues. The program is run by the Victoria Order of Nurses (VON) of Simcoe County and the North Simcoe Muskoka (NSM) Integrated Regional Falls Program which are providing the services throughout the NSM Local Health Integration Network (LHIN) which is a rural geography. The MOHLTC provided \$8 million a year for group exercise classes and \$2 million for falls prevention education. The purpose is to increase access to exercise, information, and support. The exercise classes must be provided a minimum of 2 hours per week, 48 weeks per year and the falls education classes a minimum of 24 hours per 48 weeks. The NSM LHIN are using a standardized program called the Seniors Maintain Active Roles Together (SMART) program which is lead by trained volunteers and paid exercise leaders. The NSM LHIN are funded to provide the exercise program to 4655 individuals and the falls program to 830 individuals annually. Currently there are programs in 75 community sites with over 300 exercise classes and 8 educational classes meaning the program is at 86% capacity with an additional 20 classes to be established. Although not developed directly for OA this program is facilitating exercise in seniors through a provincial policy mandate.

LiveWell: A new Model of Community Health IN MOTION PROGRAM

Genevieve Hladysh, Senior Regional Manager, YMCA of Hamilton/Burlington/Brantford

Ms. Hladysh presented on the YMCA LiveWell program which is a joint initiative between the YMCA, Hamilton Health Sciences (HHS) and McMaster University in Hamilton, Ontario. The partnership is a community partnership with a mission to promote wellness through community access to innovative, evidence-based programs. The Live Well program model fosters health optimization, health promotion, and capacity building. Patient discharged from hospital can access programs within the YMCA that are supported by trained individuals. There are a number of programs that people can access such as healthy hearts, diabetes, balance+ falls prevention and in motion for health bones and joints. Each program is designed based on evidence with its own standards. There is standardized staff training with refresher

training every 6 months. Within the model, the YMCA provides the medical screening and intake, program delivery, administrative and daily support to participants. HHS provides support to the community staff, health professional leads, educational curriculum development and referrals. McMaster University provides the evaluation and outcome measures, REB approval and student learning placements. The program is linked to other initiatives such as the Arthritis Society and the Regional Joint Assessment Centre.

Exercise for Osteoarthritis: What is safe?

Philip Chilibeck, PhD CSEP-CEP, University of Saskatchewan

Dr. Chilibeck presented on the systematic review of the exercise programs and adverse events in people with arthritis which led to revisions to the Physical Activity Readiness Questionnaire (PAR-Q). Of the 1257 articles that were reviewed 20 articles were included for arthritis (18 RCTs and 2 prospective trials). The following recommendations were identified: 1) Those with highly progressed joint disease / joint damage should engage in non-weight bearing physical activities (Level 2, Grade A); and, 2) Those with a recent flare-up or newly diagnosed arthritis should participate in low-moderate pool based (i.e. water aerobics) or cycle ergometer exercise (Level 3, Grade B). This review found that serious adverse events were minimal and that people with arthritis would benefit from biomechanical assessment for a more precise/individualized exercise prescription. The PAR-Q was then revised to create a decision tree for exercise specialists identifying the peoples' risk of adverse events as high or low and identifying the consultations required to maintain their safety. This was health care consultation for patients at high risk and biomechanical consultation for those at low risk. The PAR-Q+ is available at www.csep.ca.

Appendix D: Results of breakout sessions

Prevention

Targets for *primary* intervention included those at risk from childhood through to adults where there was a perceived opportunity for injury prevention or modification of other risk factors. Additionally, groups interacting with these individuals on multiple levels (parents, coaches, teachers, personal trainers, organizations) who had the opportunity to educate and support individuals were identified.

Secondary prevention strategies were identified as a priority for people with joint pain (particularly knee pain). This included individuals who had started to experience knee pain to ensure that they remain active even prior to a diagnosis as well as for who had been diagnosed with early OA and who had other chronic conditions linked with OA (e.g. metabolic syndrome etc.) and who needed assistance in becoming active. Exercise specialists who could deliver and or adapt programs for these individuals were identified as target audiences for education on OA.

Key gaps were identified from policy to care delivery. OA is not designated as a chronic disease by government and hence is missing from the policy agenda with the exception of some provinces where it has been included in an umbrella of chronic diseases. There also is no national policy agenda on injury prevention and it is often seen as part of an ‘activity’ movement. Some of the challenges that exist are that activity/exercise has been medicalized; many providers are not regulated; available programs and access to programs/providers is expensive as many are not publicly funded; many patients need a shared care model/team approach that includes exercise, self-management strategies and education. Finally poor public knowledge about OA was identified as a major gap that could be addressed by a public awareness campaign.

Research priorities were identified in both knowledge generation and implementation. Areas of knowledge generation related to: 1) impact of injury related to burden and societal costs; 2) understanding optimal return to activity/sport to prevent long-term sequelae; 3) modification of risk factors and prevention of OA; 4) understanding the role of healthy muscles and joints in preventing OA; 5) understanding the dose and type of activity and its relationship to prevention; and, 6) development and evaluation of education programs for coaches, other providers (e.g. trainers). Implementation science research is required to: 1) implement and 2) evaluate existing pilot and local prevention and education programs more broadly and ultimately with providers and at a population level.

Many potential partners were identified, some of whom were considered potential funding partners, others who were identified as collaborators to leverage existing common interests and still others to facilitate broad messaging.

Potential funding partners include: insurance companies, public health, corporate partners (e.g. IT), government (health promotion and health branches). Potential collaborators include: sports organizations (singular and national), gyms/fitness centre, schools, community centres, municipalities, parents/families. Finally links with media/marketing entities were identified.

Treatment

Target groups for treatment interventions included both individuals at risk for OA, those with OA and (potential) providers. There is a need to target the general public, including those who are sedentary, active and overweight and those who are at risk post injury. Identified providers included general practitioners and specialists (orthopaedics, physical medicine, rheumatology) fitness instructors/trainers and coaches. There is also a need to target trainees across the disciplines/providers to build education components related to early identification and treatment of OA.

Gaps were identified related to: public awareness about early OA signs and symptoms and possible interventions; existence of evidence-based, accessible, funded programs, particularly coordinated team care, for people with early OA or who are looking to prevent progression of symptoms; access to programs due to cost or eligibility restrictions; limited access to information on effective programs and their outcomes as no conduit to learn from one another; and lack of undergraduate/professional program training on OA primary and secondary prevention and interventions.

The following research priorities were identified related to knowledge genesis: 1) program development for Canadian context (e.g. are programs elsewhere in the world such as Denmark transferable to the Canadian context); 2) understanding who will respond to treatment to allow targeted delivery, need to consider behavior change, under serviced and disadvantaged populations in this work; 3) pain management and understanding of 'acceptable' levels of pain in context of treatment. In preparation for this work it was suggested that a review of existing programs and psychosocial factors related to OA outcomes and program uptake be conducted. This would facilitate sharing of best practices and assist in developing a framework for evaluation of programs.

Implementation and evaluation on a broad scale were critical emphasizing knowledge translation and exchange to promote uptake provincially and nationally. This was considered to key to addressing the over-arching question related to quantifying delay in joint (pain) deterioration and sustaining quality of life. Suggested metrics related to such quantification might be reduction in number of joint replacements, increase in referrals, changes noted in subsequent waves of the Canadian Community Health Survey etc.

Appendix E: Session Feedback

There were 17 evaluation forms completed. Overall the evaluations were positive with an average score of 4.25 on a scale of 1 – 5 where 5 is excellent. Comments from 13 of the evaluation forms about the day are provided below:

1. The strength of this conference was the diversity among presenters and participants creates great food for thought = well done
2. I appreciate the introduction to the context of continuum patient centres based care – early intervention/education is paramount. I do think we need more focus on interdisciplinary care (even beyond PT and nursing) and the psychosocial determinants of health and wellness
3. I liked the working groups with discussion at the end – this was great – a focused toolkit would provide strategic organization on a national level to guide regional implementation
4. Congratulations on putting together this event – everyone learned from it
5. Overall a very interesting meeting. Good opportunity to connect and also see what programs are in place and work with respect to some metrics
Need to implement strategies at a grass routes while educating these at the policy level.
6. Very worthwhile
7. If we want more traction should we not engage the public health system – bridging the gap btw PH and HC sectors – ie jt health as key PH concerns – de medicalize joint health
8. Looking forward to the follow up meeting – more emphasis working groups and building action plan – less lecture
Most pilots presented were not truly integrated and still limited access – needs broader discussion – appropriate care, access, funding public private bridge
9. What an amazing group of talent, brains, passion. Great job
10. Really enjoyed diversity of speakers and sector representation. Leaving with a lot of ideas
11. Very helpful and informative conference, strengthens – opportunities for collaboration
12. Wonderful meeting. I was able to meet and connect around new ideas and partnership opportunities
13. Thank you. Thought/idea provoking

Appendix F: References

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