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Clinical trial

Priorities for the effective implementation of osteoarthritis management programs: an OARSI international consensus exercise

Jillian P. Eyles † *, David J. Hunter †, Kim L. Bennell ‡, Krysia S. Dziedzic §, Rana S. Hinman ‡, Martin van der Esch ||, Melanie A. Holden §, Jocelyn L. Bowden †, Joint Effort Initiative Members[a]

† *Institute of Bone and Joint Research, The Kolling Institute, The University of Sydney, And Rheumatology Department, Royal North Shore Hospital, Sydney, Australia*
‡ *Centre for Health, Exercise and Sports Medicine, Department of Physiotherapy, The University of Melbourne, Melbourne, Victoria, Australia*
§ *Research Institute for Primary Care and Health Sciences, Keele University, Keele, Staffordshire, United Kingdom*
|| *Reade Centre for Rehabilitation and Rheumatology Amsterdam, University of Applied Sciences Amsterdam, Netherlands*

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SUMMARY

Objective: The Joint Effort Initiative was endorsed by Osteoarthritis Research Society International (OARSI) in 2018 as a collaboration between international researchers and clinicians with an interest in the implementation of osteoarthritis management programs (OAMPs). This study aimed to identify and prioritise activities for future work of the Joint Effort Initiative.
Design: A survey was emailed to delegates of the 2018 OARSI World Congress attending a pre-conference workshop or with a known interest in OAMPs ($n = 115$). Delegates were asked about the most important issues regarding OAMP implementation. The top 20 issues were synthesised into 17 action statements, and respondents were invited to participate in a priority ranking exercise to determine the order of importance of the statements.
Results: Survey respondents ($n = 51$, 44%) were most commonly female (71%), with an allied health background (57%), affiliated with universities (73%) from Oceania (37%), and Europe/UK (45%). The five highest ranked action statements were:

i) Establish guidelines for the implementation of different OAMP models to ensure consistency of delivery and adherence to international best practice.
ii) Develop and assess training and education programs for health care professionals (HCPs) delivering OAMPs.
iii) Develop and evaluate the implementation and outcomes of novel models of OAMPs.
iv) Develop and assess core skill sets and resources for HCPs delivering OA care.
v) Develop a framework for enhancing the quality of care provided by OAMPs.

Conclusion: Prioritising statements will bring focus to the future work of the Joint Effort Initiative in the future and provide a basis for longer-term actions.
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Introduction

Osteoarthritis (OA) is a leading cause of global disability[1,2]. The prevalence of this disabling condition is projected to rise rapidly in the presence of an aging population and increasing rates of obesity[3]. International guidelines make clear, consistent recommendations for evidence-based management of OA[4]. There is relative consensus amongst these guidelines that hip and knee OA management should be tailored to the individual and include the

* Address correspondence and reprint requests to: Institute of Bone and Joint Research, The University of Sydney, and the Kolling Institute, Royal North Shore Hospital, Sydney, Australia.
E-mail addresses: jillian.eyles@sydney.edu.au (J.P. Eyles), david.hunter@sydney.edu.au (D.J. Hunter), k.bennell@unimelb.edu.au (K.L. Bennell), k.s.dziedzic@keele.ac.uk (K.S. Dziedzic), ranash@unimelb.edu.au (R.S. Hinman), m.vd.esch@reade.nl (M. van der Esch), m.holden@keele.ac.uk (M.A. Holden), jocelyn.bowden@sydney.edu.au (J.L. Bowden).
[a] See list of members in acknowledgements

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following three core effective, non-surgical, non-pharmacological interventions: i) self-management and OA education; ii) exercise; and iii) weight loss for people with hip or knee OA who are overweight or obese[5]. Serious discrepancy remains between these recommendations and the actual care received by patients, particularly underutilisation of the three core treatments[6] and over-reliance on pharmacological agents and surgery[7]. This discrepancy may be attributed to the following factors: inadequate time available to deliver complex interventions, lack of support for behaviour change, exercise interventions are undervalued, clinicians believe they are under-prepared, and dissonant patient expectations[8,9].

In order to address evidence-practice gaps, several specialist osteoarthritis management programs (OAMPs) have been developed and implemented internationally[10]. These OAMPs aim to deliver coordinated, evidence-based care for people with OA. We have operationally defined an OAMP as a model of evidence-based, non-surgical OA care that has been implemented in a real-world setting, and comprises the following four components:

i) personalised OA care - (tailored to the individual needs of the patient);
ii) provided as a package of care with longitudinal reassessment and progression;
iii) comprising two or more components of the core, non-surgical, non-pharmacological interventions (education, exercise, and weight-loss) and;
iv) optional evidence-based adjunctive treatments as required (e.g., assistive devices, psychosocial support).

The objectives of these programs are to help individuals address their pain, stiffness and loss of function, while improving their quality of life and maintaining independence. Existing OAMP service delivery models have been tailored to local contextual features and hence are all very different[10]. However, the core components of OAMPs consistently include education around OA, support for self-management, exercise programs and promotion of increased physical activity. These are often combined with other evidence-based therapies when indicated such as: weight loss interventions; psychological support; review of analgesics and prescription of assistive devices[10]. The international development of OAMPs is still in its infancy, and there is a pressing need for coordinated, broad-scale strategies to ensure the implementation of high quality, evidence-based programs as these are adapted to meet local needs.

The majority of OAMPs are available at a relatively small-scale, in high-income countries with stable healthcare systems within Europe, North America and Australasia[11–16]. A recent review has highlighted the need to develop, implement and evaluate models of service delivery across the spectrum of OA disease and pointed to the dearth of OAMPs in low- and middle-income countries[10]. In response to growing international interest in OAMPs, a group comprised mainly of researchers and clinicians have established the *'Joint Effort' Initiative* which was endorsed by the Osteoarthritis Research Society International (OARSI) in 2018. The Initiative seeks to provide a structure whereby activity related to implementation of OAMPs may be harmonised and standardised, particularly around optimising the quality and delivery of care, health professional training, fostering international research collaborations, while minimising duplication of effort and resources. The Initiative's mission is to investigate the most effective OAMP models to use, develop long-term strategies for effective implementation in different socioeconomic and cultural environments while ensuring the health professional workforce is appropriately skilled to deliver high-quality care and to help identify research priorities to facilitate best-practice care.

The first action of the Initiative was to identify and prioritise activities for future work. The prioritisation exercise was undertaken in two parts. Firstly, we invited delegates at the 2018 OARSI World Congress in Liverpool UK who were interested in OAMPs to participate in a survey. We sought their views on the most important issues surrounding the international implementation of OAMPs, and to identify potential gaps for further research. Following this broad survey, interested respondents were invited to participate in a prioritisation exercise to rank the top priorities for future action. This paper presents the findings and priorities identified by the survey and outlines the future actions of the Initiative.

Method

An overview of the process is outlined in Fig. 1.

Participants

We sent an email invitation to all delegates of the 2018 OARSI World Congress who were attending a pre-conference workshop or had a known interest in OAMPs ($n = 115$) to complete a survey (Survey 1). We then invited all consenting respondents to participate in a prioritisation exercise to rank the top priorities (Survey 2). Ethical approval was granted by the Human Research Ethics Committee of the University of Sydney (2018/262), and the survey was endorsed by the 2018 OARSI Conference Organisers. A study information sheet was provided to potential participants, and completion of the survey was considered indicative of informed consent to participate. Participation was voluntary, and only completed surveys were included in the analyses.

The surveys

Two custom-designed surveys were developed for this study.

Survey 1

The first survey was designed to seek participants' views on the most important issues that need to be addressed concerning the international implementation of OAMPs. A link to the survey was emailed to participants attending the OARSI pre-congress meeting 2 days before the event (24th April, 2018) via REDCap, a secure web-based application[17]. Following requests from the delegates, the survey remained open for 17 days until the 10th May, 2018 to allow participants to complete the survey once they returned home from the congress.

The survey took 10–15 min to complete. The first section asked questions about the respondent's demographics and their prior experience with OAMPs (see Appendix 1). In the second section, participants were asked to identify three issues they considered important for implementation of OAMPs that should be addressed. This free-text section was presented first so participant answers were not influenced by the multiple-choice options. The remainder of the survey presented multiple-choice questions spanning the three domains drawn from the Donabedian framework for quality assessment in healthcare[18] and a fourth domain focussed on research priorities. The domains were defined as:

i) *Structural and environmental considerations*: attributes of the setting or environment in which healthcare occurs, including material resources, human resources and organisational structure.
ii) *Process and implementation considerations*: how the person seeks care and the healthcare professional provides care.

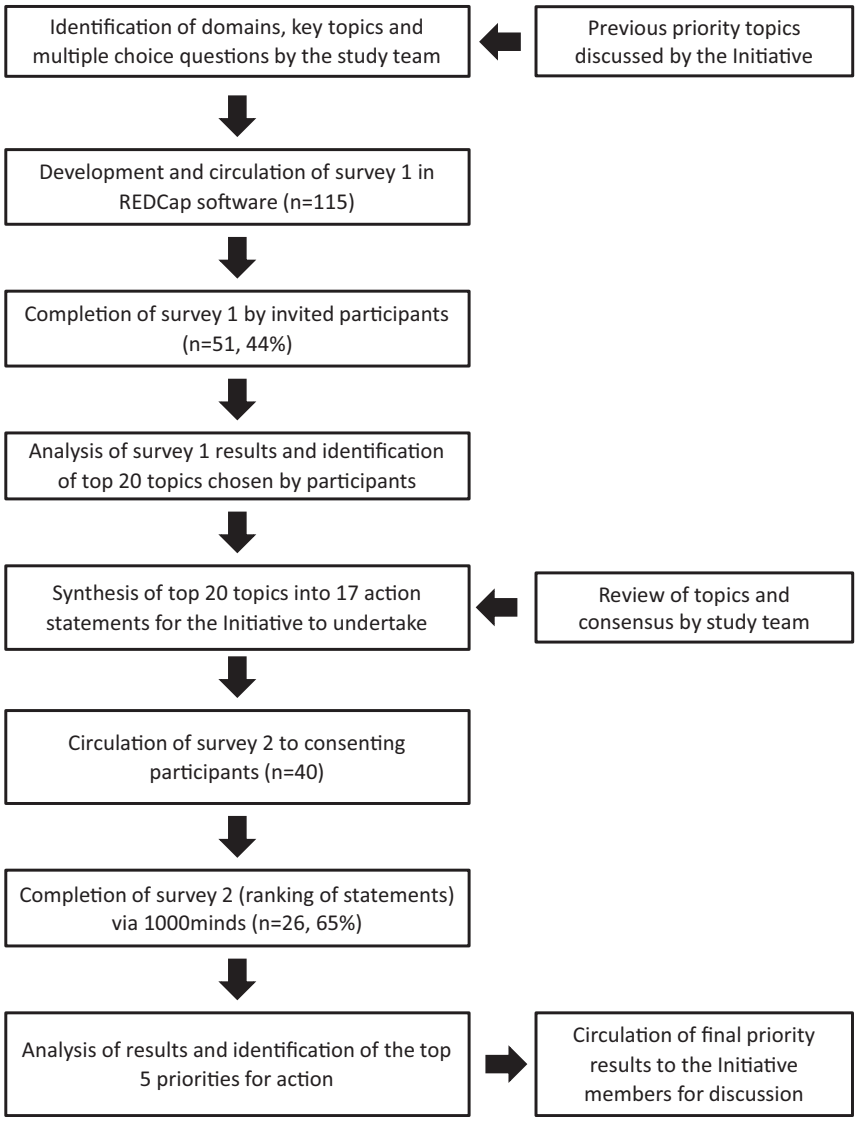

Fig. 1. Overview of the prioritisation process.

iii) *Outcome considerations*: the effects of care on the health of the person including changes in knowledge and behaviour.
iv) *Areas for OA management program implementation research*: potential research questions raised at previous Osteoarthritis Research Society International (OARSI) meetings by delegates with an interest in osteoarthritis management programs (OAMPs).

Finally, an open-ended question asked respondents to identify any considerations or research questions that had not been previously identified. Between seven and 13 multiple-choice options were provided for the four domains above. The options for each domain were developed following discussions amongst participants at previous OARSI OAMP workshops (Amsterdam, 2016 and Las Vegas, 2017), through literature review and consensus from the authors of this paper. The survey participants were asked to select the three options within each domain that they considered to be the most important issues for implementation of OAMPs. A full list of the survey questions is provided in the supplementary materials.

Survey 2

Using data from survey 1, action statements were developed for the prioritisation exercise conducted in survey 2. We compiled a list of the top 20 options chosen by participants in survey 1 derived from the top three rated options to each of the four domains (12 topics), then the next eight highest ranked options irrespective of the domain. The free-text responses were extracted from the database, and coded thematically (JB and JE), with reference to the multiple-choice topics. Three additional topics were identified (see Results), however these weren't identified with adequate consistency to justify inclusion as separate action statements. Specific action statements were then developed for each general topic aligned to the terms of reference of the Initiative and were deliberately broad in scope. They were checked for overlap by the authors, and 17 action statements were ultimately circulated for final prioritisation. Three of the original 20 topics were merged with others as they could be covered by one action statement (see Table II).

Participants of the prioritisation exercise were sent a link via the 1000minds software (www.1000minds.com) June 2018 and were

Table I
Participant demographics for survey 1 and survey 2. (*) designates multiple answers were allowed for that question

	Survey 1	Survey 2
	n (%) unless otherwise stated	n (%) unless otherwise stated
Total completed responses	51 (44)	26 (65)
Sex		
Female	36 (71)	17 (65)
Region		
Asia	1 (2)	1 (4)
Europe/UK	23 (45)	10 (38)
Oceania	19 (37)	12 (46)
North America	7 (14)	3 (12)
South America	1 (2)	0
Primary affiliation		
University	37 (73)	19 (73)
Hospital/other medical	12 (23)	6 (23)
Other research	2 (4)	1 (4)
Profession		
Medical	14 (27)	10 (38)
Allied Health	29 (57)	12 (46)
Scientist	5 (10)	3 (12)
Other	3 (6)	1 (4)
Current role	n=67*	n=35*
Allied Health	3	1
Medical	7	6
Researcher	47	24
Educator/lecturer	7	2
Public health/policy	2	2
Other	1	-
Practicing clinician		
yes	16 (31)	10 (38)
Years of experience mean years (SD)	13.6 (8.00)	12.5 (8.83)
Involved in research		
yes	50 (100)	26 (100)
Highest degree		
PhD	36 (70)	17 (65)
MD	2 (4)	1 (4)
Masters by Research	4 (8)	2 (8)
Completing PhD	9 (18)	6 (23)

given 2 weeks for completion. 1000minds is a decision-analysis research tool that prioritises statements according to their relative importance to the participant. Pairwise-ranking presented the participants with two action statements and asked, "Which of the following two options do you think is the higher priority to address?". This process was repeated until all 17 action statements were ranked using the minimum number of presentations.

Data analysis

De-identified individual data were downloaded from REDCap and 1000minds and exported to an Excel file. Descriptive statistics summarised demographic and survey data. Data are presented as frequency data for options of the four domains in survey 1 and ranked according to frequency. The data outputted from survey 2 using 1000minds included mean and median rankings for each action statement. Interquartile ranges were calculated in Excel for each action statement.

Results

Participant demographics

Of the 115 people invited to participate in survey 1, 51 (44%) of invitees completed responses (Table I). Of the 40 participants who consented to be contacted further for Survey 2, 26 (65%) participants provided complete responses. There were no major differences observed in the characteristics of respondents between the surveys because the second survey comprised a subset of the respondents from survey 1. Most respondents were female for surveys 1 and 2 (71% and 65% respectively) and approximately 50% had an allied health background. More than half of respondents in both surveys were affiliated with a university. There were representatives from 12 countries in survey 1 and nine countries in survey 2. Most respondents were from Europe/UK and Oceania. There were no representatives from the African region, and only one from Asia and South America. While a third of respondents were practising clinicians, all reported involvement in research, most held a PhD qualification. The mean years of experience was 13.6 (SD 8.00) years in survey 1 and 12.5 (SD 8.83) years in survey 2.

Results of Survey 1

Current management programs

Seventy-three percent of participants ($n = 37$) reported working with OAMPs, most frequently in a research capacity. The settings for these programs were primary care ($n = 17$), embedded within clinical trials ($n = 15$), community-based settings ($n = 15$), public hospitals ($n = 9$), private hospitals ($n = 8$), private clinics or university clinics (both $n = 7$) or commercial programs ($n = 3$). Four respondents reported working outside traditional models of healthcare delivery, including via online platforms, patient advocate organisations, and private health insurance programs. All stages of program implementation were represented (planning stage 17%, piloting program 36%, established and growing 36%, and established and stable 31%).

Results of multiple-choice questions

Results from survey 1 are presented in Fig. 2. The top 3 considerations selected for each domain were:

i) *Structural/environmental considerations*:
   1) operational funding for OAMPs,
   2) incorporation of OAMPs into different healthcare systems, and
   3) stakeholder engagement.

Reimbursement for participants to undertake OAMPs and increased engagement with healthcare policy were also important.

ii) *Process and implementation considerations*:
   1) the mode of delivery of the programs,
   2) development of specialised clinical skill sets for health care professionals (HCPs) working with OAMPs, and
   3) provision of accurate, up-to-date information for OAMP consumers.

The next most frequently occurring topics were training for health care professionals (HCPs) working in OAMPs, staying up-to-date with current evidence (e.g., knowledge translation) and developing an overarching framework for implementing OAMPs.

iii) *Outcome considerations*:
   1) managing therapeutic effects and ensuring behaviour change,
   2) ensuring both HCPs and consumers engaged with the program, and
   3) development of self-management capabilities.

The next most important outcome consideration was ensuring OAMPs were cost-effective.

Table II
Top 20 topics identified from Survey 1 and the respective action statements developed for each. Results are ranked in order by the highest priority topics identified by survey 2. A lower median value means participants rated this action as a higher priority for OAMP implementation

Rank survey 1	Topic presented in Survey 1	Action statement presented in Survey 2	Median Rank	(IQR)	Action statement ranking
8	Mode of delivery of the OA Management Program	Establish guidelines for the implementation of different OA Management Program models to ensure consistency of delivery and adherence to international best practice (see 7)	6.25	8.88	**1**
7	Implementation and adherence to international OA guidelines	Incorporated into statement 8 above	–	–	**1**
18	Training for OA management program personnel	Develop and assess training and education programs for HCPs delivering OA Management Programs	7.00	8.38	**2**
6	Novel models or pathways of OAMP	Develop and evaluate the implementation and outcomes of novel and innovative models or pathways of OA Management Programs	7.50	8.38	**3**
9	Skills, confidence and training (including core competencies) of health professionals delivering the OAMP	Develop and assess core skill sets and resources for HCPs delivering specialised OA care including those who operate with an extended scope of practice.	7.50	8.38	**3**
1	Managing therapeutic effects/behaviour change	Incorporated into statement 9 above	–	–	**3**
11	Quality of the OA care provided for consumers	Develop a framework for enhancing the quality of care provided to people living with OA who engage with OAMPs including measurement of care quality and strategies for improvement.	7.75	6.37	**4**
19	Developing consumer self-management	Develop, assess and compare programs in community settings (e.g., care managers/coordinators/teams) that aim to support self-management for people living with OA	8.50	6.87	5
16	Consumer engagement with the OAMP	Develop and assess strategies to enhance the engagement of people living with OA with OA Management Programs including uptake and adherence.	8.50	7.25	5
15	Health-care provider engagement with the program	Evaluate and develop strategies to enhance the engagement of all relevant health providers with OA Management Program models of care	8.75	5.25	6
2	Comparison of clinical outcomes and cost	Develop, evaluate and compare clinical outcomes vs cost-effectiveness for the delivery of different models of OA Management Programs	8.75	7.0	6
20	Cost-effectiveness of OAMPs	Incorporated into statement 2 above	–	–	6
4	Health care system	Evaluate the implementation of OA Management Programs, and how they operate within different healthcare systems (e.g., government supported vs user-pays)	8.75	8.63	6
17	Healthcare policy	Develop strategies to influence/change healthcare policy to support the implementation and maintenance of OAMPs	9.00	5.5	7
5	Skills, confidence and training of HCP delivering OAMPs	Develop and assess competency standards (certification) for all HCPs delivering OA Management Programs	9.75	7.63	8
12	Reimbursements of out-of-pocket for OAMP participants (public, private, insurance)	Develop strategies to engage healthcare policy and insurance agencies to limit out-of-pocket expenses for OA Management Program participants	10.25	10.0	9
14	Provision of accurate information for consumers	Develop and maintain resources that provide accurate, evidence-based information for people living with OA.	10.50	2.25	10
3	Operational funding for programs	Develop and assess strategies to secure and maintain operational funding for OA Management Programs	11.00	10.25	11
13	Stakeholder engagement	Implement and assess strategies that aim to achieve broad OA Management Program stakeholder engagement within the greater implementation framework	11.25	8.12	12
10	A core recommended set of outcome measures for OAMPs	Develop a set of minimum core set of outcome measures for OAMPs	12.25	7.37	13

iv) *Research priorities*:
   1) comparing clinical outcomes and cost-effectiveness of the programs,
   2) training for HCPs delivering OAMPs, and
   3) developing and testing novel models for OAMPs.

The next most frequent option chosen for research priorities was improving adherence to international guidelines.

Other considerations raised

Free text fields allowed respondents to identify additional issues considered important for implementation of OAMPs. Additional topics raised in this section, that were not included in the final action statements, were:

- ensure care delivered is personalised,
- address prevention and monitor disease progression in the programs, and
- marketing and promotion of the programs.

Results of Survey 2

The final ranked list of priority action statements from survey 2 are presented in Table II. The top five ranked statements were:

i. Establish guidelines for the implementation of different OAMP models to ensure consistency of delivery and adherence to international best practice.
ii. Develop and assess training and education programs for HCPs delivering OAMPs.
iii. Develop and evaluate the implementation and outcomes of novel and innovative models or pathways of OAMPs.
iv. Develop and assess core skill sets and resources for HCPs delivering specialised OA care including those who operate with an extended scope of practice.
v. Develop a framework for enhancing the quality of care provided to people living with OA who engage with OAMPs including measurement of care quality and strategies for improvement.

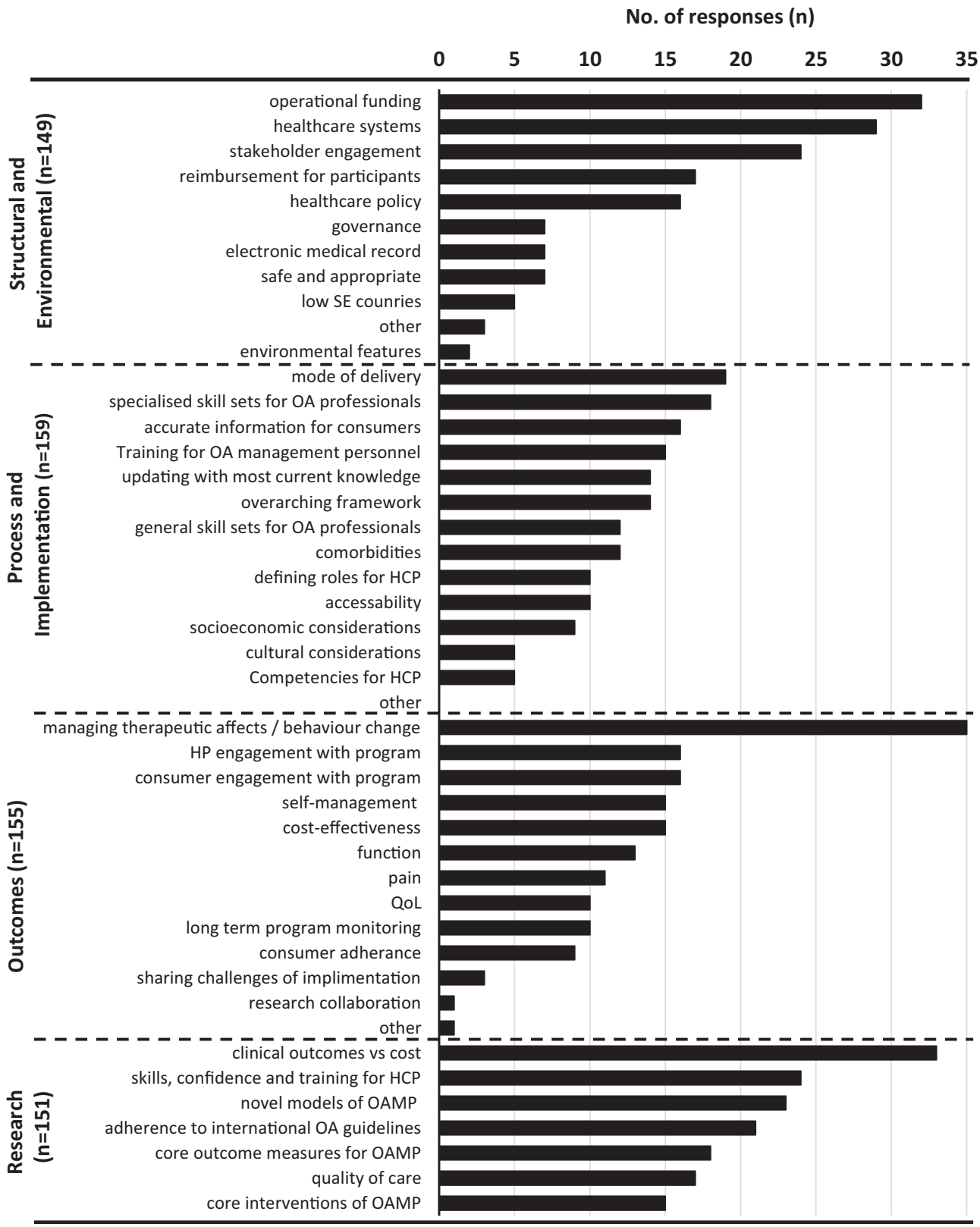

Fig. 2. Total number of responses received to multiple-choice options in each domain. A maximum of 3 responses were allowed for each domain.

The next highest-ranked priorities covered the themes of encouraging engagement of both consumers and HCP with the programs, evaluation of the cost of running OAMPs, and how they operate within local policy and healthcare environments. Securing operational funding for programs did not feature in the final top 10 priorities, even though it received a lot of support in the initial survey.

Discussion

As part of a coordinated response to the global rise in the burden of chronic disease, the World Health Organization (WHO) has released a global strategy to promote the implementation of integrated, people-centred health services. This strategy requires a fundamental paradigm shift in the funding, management and delivery of healthcare services[19] and requires the establishment of guidelines as to how these new, complex models of care may be implemented. Models of care for musculoskeletal health take the recommendations for evidence-based care (the 'what') and provide the 'how' regarding implementation of these recommendations. The model of care has been described as providing the right care, at the right time, in the right place, with the right team, using the right resources[20]. The highest ranked action statement identified in this study was to 'establish guidelines for the implementation of different OAMP models to ensure consistency of delivery and adherence to international best practice models of care'. The participants also felt that further work is required to assist international groups to achieve the changes to health service delivery necessary to establish OAMPs by providing guidance regarding not only the content, but also the processes that support the implementation of these programs.

An essential attribute of these major changes to health service delivery is the need to reorient and educate the health workforce[21]. This, coupled with the knowledge that health outcomes are largely dependent on the quality of training and capabilities of HCPs are important drivers for the need to build workforce capacity to support models of care such as OAMPs[22]. Deficiencies have been identified in the current and emerging global healthcare workforces regarding the capacity and capability to manage coordinated/integrated services such as OAMPs. There are chronic shortages of HCPs responsible for managing musculoskeletal disorders across all professions, particularly across low- and middle-income countries and in regional/rural areas[23].

There is growing evidence of a clear deficit in professional capabilities that limits the implementation of optimal evidence-based OA care in healthcare[24]. Several major barriers to the implementation of evidence-based OA care have been identified[24,25]. Important common themes include that clinicians feel under-prepared in terms of knowledge and skills to deliver treatments recommended by OA management guidelines, and clinicians report doubts about the effectiveness of treatments for OA. Given this evidence, it is unsurprising that the second most highly ranked action identified was the development of training and education programs for HCPs delivering care in OAMPs. The fourth highest ranked priority was closely related, and concerned the skills, confidence and training (including core competencies) of health professionals delivering OAMPs.

Some work has been done to address the perceived lack of training, knowledge and skills for health practitioners in general. A systematic review in 2010 identified that there was sparse literature available at the time regarding the effectiveness of educational strategies used to improve professional behaviours in the implementation of guidelines for OA management[26]. Since this review there have been several studies that have tested different strategies to improve the expertise of HCPs to deliver recommended OA care. A Canadian observational study of the Getting a Grip on Arthritis© program followed 553 HCPs in primary care for 6 months following inter-professional education workshops and found significant improvements in best practice scores for knee OA cases[27]. Two Dutch randomised controlled trials tested the effectiveness of an interactive workshop approach to educating HPCs about implementation of the Dutch physiotherapy guideline for hip and knee OA. The interactive workshop was found to improve HCP guideline knowledge and adherence[28,29].

The Management of OsteoArthritis In Consultations (MOSAICS) study in the United Kingdom tested the clinical and cost-effectiveness of a model OA consultation (MOAC) that implemented the National Institute for Health and Care Excellence (NICE) guidelines for OA management in primary care[30]. A key component of this trial was to develop and evaluate a training package for management of OA by GPs and practice nurses. The MOAC was developed in consultation with GPs and patients using a Delphi consensus exercise[31,32] following which the practice nurse training program to support the MOAC was developed and tested[32]. The MOAC was tested in a cluster randomised controlled trial in 10 general practices and demonstrated improvement in the implementation of the core NICE guidelines for OA care in the intervention group compared with controls[13]. Given the accumulated evidence regarding the use of educational interventions to improve the implementation of OA management guidelines, it is logical to consider the combined findings of this body of evidence and focus future efforts on harmonising rather than replicating the development of training and education programs for HCPs delivering care in OAMPs. Identifying the core capabilities required of HCPs to deliver high-quality OA care is the necessary first step and is work currently underway through the Initiative.

OAMPs have been implemented internationally and tested across a variety of settings including teaching hospitals (e.g., Osteoarthritis Chronic Care Program)[14], university clinics (e.g., Amsterdam Osteoarthritis Cohort)[33] physiotherapy clinics (e.g., ActiveA, Good Living with OA Denmark and Better Living with OA)[12,15], community care (e.g., ESCAPE-PAIN)[11] and general practice (e.g., PARTNER model, MOSAICS and the SAMBA model)[13,34,35]. Yet, there are many parts of the world that have not yet implemented OAMPs within their health systems. There is a raft of reasons why OAMPs have not become established uniformly across the world, and many of the perceived barriers and enablers to the management of OA have been synthesised in a recent systematic review[24]. There were no enablers reported, but several barriers were identified including the perception that OA as a condition is not that serious and is seen as a comorbidity in the context of other conditions (e.g., cardiovascular disease, diabetes)[2]. This perception has further compounded system-related barriers to the implementation of evidence-based OA care[36]. Where the health policy and infrastructure required to support differentiated OAMPs is lacking, new, innovative models of care might prove to provide at least part of the solution. New models of OA care service delivery utilising technology such as telehealth, online consultations and online platforms have been designed and are being tested in current research[37–40]. The third highest ranked activity statement of the Initiative was to 'develop and evaluate the implementation and outcomes of novel and innovative models or pathways of OAMPs'.

As these new models of service delivery for OAMPs are developed, tested and implemented, it is very important to consider the quality of OA care delivered across these programs. This was ranked the fifth most important consideration for future action in the Initiative consensus exercise. Quality care indicators were used to measure uptake of core non-surgical OA management in the MOSAICS study[13]. These quality indicators and other metrics that reflect whether the core components of OA management are met (i.e., education around OA, support for self-management, exercise programs and promotion of increased physical activity[10]) would go a long way to ensure the provision of consistent, quality care across all international programs.

There are several limitations to note with this study. First, the survey was limited to people attending the OARSI meeting, or who were existing members of the Initiative. Second, the participants of the survey, and the Initiative generally hail from high-income nations, have pre-existing involvement with OAMPs, and a strong research focus. Consequently, we received minimal input from lower- or middle-income countries, countries outside Western Europe and Australia. The disproportionate representation of our respondents may be due in part to the 2018 OARSI meeting being hosted in the UK, but is probably more related to the lack of OAMPs internationally[10] and the ad-hoc approach to their development. This important limitation is being addressed as an immediate priority by the Initiative. The Initiative Steering Committee now includes representatives from North America and Asia. We are currently inviting researchers and HCPs particularly from Africa, Asia, Central and South America to engage with the Initiative. Finally, the participants of this study were mostly academics, a smaller proportion were clinicians, while patients and the public were not consulted. It is crucial that all end-users including clinicians, patients and the public are engaged in this work. A North American consumer advocacy organisation now has representation on our steering committee, and we are currently developing strategies to involve HCPs, people with OA and the general public in our work.

The findings from this study are generic and should cross international borders. However, further discussions around implementation in different health systems and settings are critical as an ongoing focus of the Initiative. We have recently had a "Discussion Group" endorsed by OARSI and will use this forum to encourage greater participation in the Initiative's broader activities. .

Future actions

In addition to expanding our engagement and collaboration activities, the Initiative has proposed four working groups to address the areas prioritised. They will be:

- ***Core Capabilities***: This group is currently working to identify the core capabilities required of HCPs to deliver high-quality OA care. These core capabilities will provide a framework for the future development of strategies for training and educational activities. The working group is presently undertaking an international scoping exercise and is actively seeking input from consumers and clinicians.
- ***Training and Educational Resources***: This group will develop and evaluate a professional training and education program for HCPs delivering OAMPs.
- ***OA management program implementation:*** This group will seek to develop guidelines for the broad scale implementation of OAMPs. This may involve developing a compendium of information for HCPs, policy makers and consumers from different existing resources. New resources may also be developed as required. These resources will focus on ensuring that OAMPs meet the core recommendations for OA care and provide support for developing OAMPs.
- ***Outcomes of OAMPs:*** A working group will be assembled to work on developing a core set of outcome measures for OAMPs. This will enable the testing and comparison of existing and novel models of OA care service delivery particularly the comparison of clinical vs cost-effectiveness. Systems that include the ability to share data will also enable comparative effectiveness studies. A long-term goal may be to establish and maintain a data repository to facilitate future research of OAMPs.

Conclusion

Prioritizing statements will bring focus to the future work of the Joint Effort Initiative in the immediate future and provide a basis for longer-term actions.

Author contributions

DH conceived the study. JE, JB, DH, KB and KD designed the study, JB and JE collected and analysed the data, and JE and JB drafted the manuscript. All authors gave critical review and advice on the study design and interpretation, including the questions for both surveys. All authors contributed to reviewing and revising the manuscript and agreed on the final draft.

Conflict of interest

DJH provides consulting advice to Tissuegene, Merck Serono and TLCBio.

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Supplementary data

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