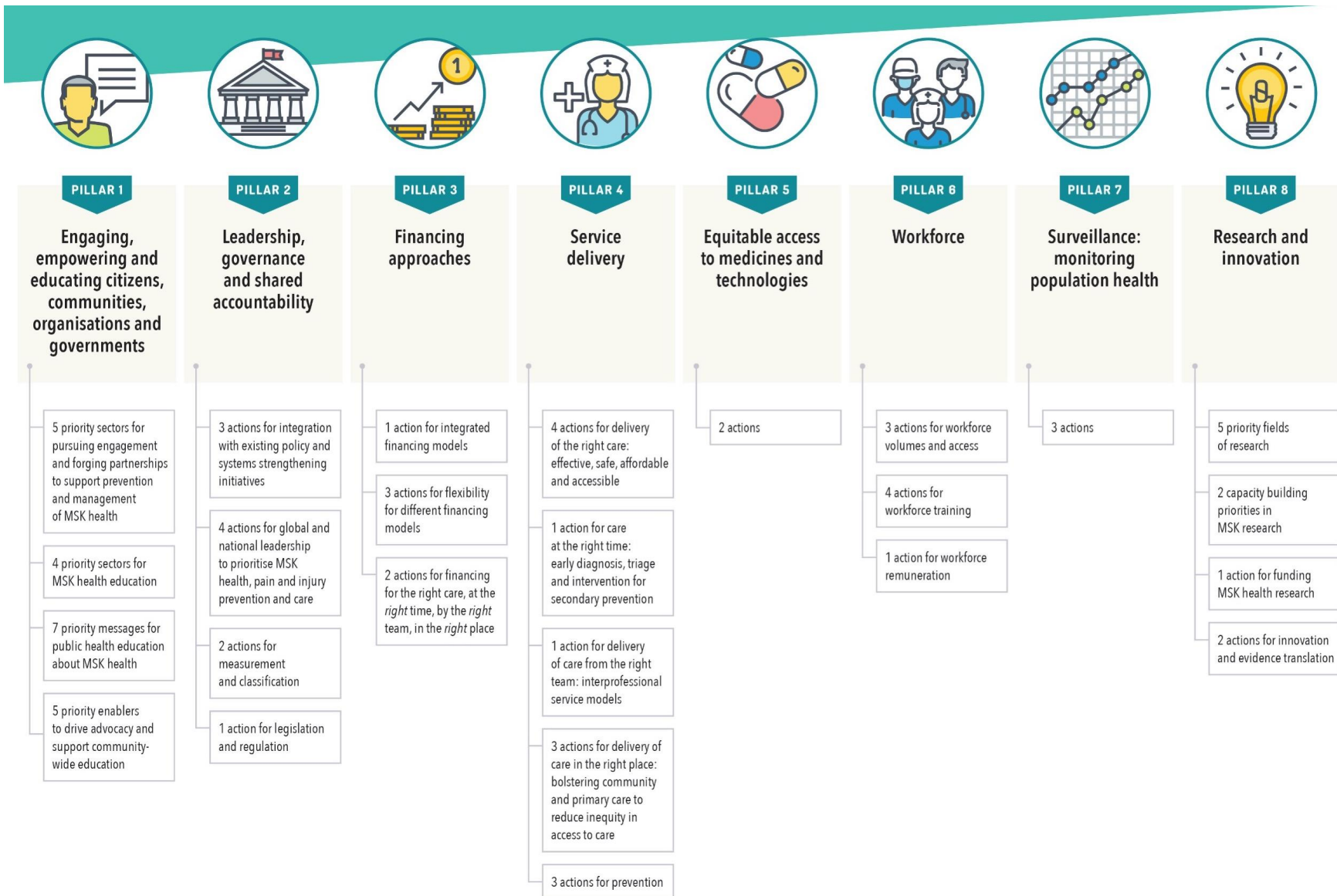


## Supplementary file

### Table of Contents

File S1: Figure 1.....	2
File S2: Systematic internet search.....	3
File S3: Active dissemination partners .....	5
File S4: Social media analytics data by platform and language .....	6
File S5: Themes identified from qualitative content analysis of free text comments from the phase 1 survey (n=61)^.....	8
File S6: Mean (SD) rank of importance for each of the 8 Pillars of the Roadmap, presented as pooled mean ranks and disaggregated by income band.....	10



File S1: Figure 1. Overview of the 8 priority pillars to strengthen health systems for improved prevention and management of musculoskeletal (MSK) health. Reproduced from Briggs et al (<https://doi.org/10.1016/j.semarthrit.2022.152147>) under licence agreement 5587490812227 with Elsevier.

## File S2: Systematic internet search

A systematic search for regional organisations representing either the regions of Africa, Asia, Asia-Pacific, Latin America or global organisations was performed using Google (Mountain View, CA, USA) from 4 July 2022 to 27 July 2022 (Box 1). Snowball searches were also conducted by searching within the websites of identified organisations.

**Box 1.** Keyword search strategy used to identify global and/or regional professional organisations

### Chiropractic

Chiropractor/ic + society + Region name (or global/international)  
Chiropractor/ic + Association + Region name (or global/international)  
All of the above + Region name (or global/international)

### Gerontology/Geriatrics

Geriatrics + Society+ Region name (or global/international)  
Gerontology + Association + Society + Region name (or global/international)  
All of the above + Region name (or global/international)

### Occupational Therapy

Occupational Therapy + society + Region name (or global/international)  
Occupational Therapy + Association + Region name (or global/international)  
All of the above + Region name (or global/international)

### Orthopaedics

Orthopaedics + Association + Society + Region name (or global/international)  
Orthopaedics Specialist + Association + Society + Region name (or global/international)  
All of the above + Region name (or global/international)

### Pain Medicine

Pain + Association + Society + Region name (or global/international)  
Pain + Chapters + IASP + Region name (or global/international)  
Anaesthesiology + Pain + Region name (or global/international)  
All of the above + Region name (or global/international)

### Paediatrics/Adolescent health

Paediatrics + Association + Region name (or global/international)  
Paediatrics + Society + Region name (or global/international)  
All of the above + Region name (or global/international)

### Physiotherapy

Physio/Physiotherapy + Association + Region name (or global/international)  
Physio/Physiotherapy + Society + Region name (or global/international)  
Physical Therapy + Association + Region name (or global/international)  
Physical Therapy + Society + Region name (or global/international)  
All of the above + Region name (or global/international)

### Rehabilitation

Rehab + Rehabilitation + Association + Region name (or global/international)

Rehab + Rehabilitation + Society + Region name (or global/international)

All of the above + Region name

**Rheumatology**

Rheumatology + Association + Society + Region name (or global/international)

Rheumatism + Association + Society + Region name (or global/international)

Arthritis + Association + Society + Region name (or global/international)

Musculoskeletal + Association + Society + Region name (or global/international)

All of the above + region name

## File S3: Active dissemination partners

Active dissemination partner organisations <sup>^</sup>	Region
Asia Pacific Research Network on Ageing (APPRA)	Regional (Asia-Pacific)
Academic Consortium for Integrative Medicine & Health	Global
African League Against Rheumatism (AFLAR)	Regional (Africa)
AO Alliance Foundation	Regional (Sub-Saharan Africa and Asia)
Arab League of Associations for Rheumatology (ArLAR)	Regional (Middle East)
Asia Pacific League of Associations for Rheumatology (APLAR)	Regional (Asia-Pacific)
Global Alliance for Musculoskeletal Health (GMUSC)	Global
International Association for the Study of Pain (IASP)	Global
IASP Global Alliance of Partners for Pain Advocacy Presidential Task Force	Global
International Federation of Musculoskeletal Research Societies (IFMRS)	Global
International Federation of Orthopaedic Manipulative Physical Therapists Incorporated (IFOMPT)	Global
International Society of Physical and Rehabilitation Medicine (ISPRM)	Global
Paediatric Taskforce, Global Alliance for Musculoskeletal Health	Global
Pan American League of Associations for Rheumatology (PANLAR)	Global
Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT)	Global
World Federation of Chiropractic (WFC)	Global
World Physiotherapy and it's regional chapters (Africa, South America, Asia)	Global / Regional (Africa, South America, Asia)

<sup>^</sup> an additional 5 dissemination partners were identified, however, these partners did not provide evidence of active dissemination activities.

## File S4: Social media analytics data by platform and language

Social media platform	Language						
	Arabic	Brazilian Portuguese	English	Simplified Chinese	Hindi	Latin American Spanish	Swahili
<b>TWITTER</b>							
Total number of posts across organisations <sup>a</sup>	5 (0)	1 (0)	21 (4)	4 (2)	4 (2)	3 (2)	2 (2)
(Number of reposts) <sup>b</sup>							
Analytic time window in median days (min-max) <sup>c</sup>	114 (32 – 140)	153 (153–153)	105 (13 – 188)	75 (20 – 145)	76 (13 – 147)	13 (9 – 13)	119 (105 – 132)
[Number of organisations]	[4]	[1]	[15]	[4]	[4]	[3]	[2]
Median (min-max) number of impressions across all posts <sup>d</sup>	524 (149 – 570)	1608 (1608–1608)	490 (87 – 2530)	525 (405 – 1068)	519 (252 – 806)	499 (107 – 589)	641 (188 – 1093)
[Number of organisations]	[4]	[1]	[15]	[4]	[4]	[3]	[2]
Mean (SD), min-max, number of impressions per day <sup>d</sup>	6.4 (6.3), 1.4 – 15.7,	10.5 (0), -	23 (40.8), 0.8 – 156.6,	13.3 (10.7), 4.0 – 28.3,	18.1 (25.6), 2.5 – 56.3,	20.1 (22.3), 3.2 – 45.3,	5 (4.6), 1.8 – 8.3,
[Number of organisations]	[4]	[1]	[15]	[4]	[4]	[3]	[2]
Median (min-max) number of engagements across all posts <sup>e</sup>	11 (7 – 19)	30 -	21.5 (2 – 107)	14 (6 – 21)	10 (6 – 13)	10 -	13 (12 – 14)
[Number of organisations]	[3]	[1]	[12]	[2]	[2]	[1]	[2]
Mean (SD), min-max, number of engagements per day <sup>e</sup>	0.1 (0.04) 0.06 – 0.10	0.2 (0) -	4.4 (2.1) 0.7 – 7.3	0.1 (0.1) 0.05 – 0.1	1.4 (0.01) 2.37 – 2.38	0.1 (0) -	0.1 (0.03) 0.09 – 0.1
[Number of organisations]	[3]	[1]	[12]	[2]	[2]	[1]	[2]
<b>FACEBOOK</b>							
Total number of posts across organisations <sup>a</sup>	2 (0)	1 (0)	13 (2)	1 (0)	0 (0)	1 (0)	1 (0)
(Number of reposts) <sup>b</sup>							
<b>INSTAGRAM</b>							

Total number of posts across organisations <sup>a</sup> (Number of reposts) <sup>b</sup>	2 (0)	0 (0)	7 (0)	1 (0)	1 (0)	0 (0)	1 (0)
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- a. Total number of posts across organisations: Represents the total number of posts (including re-posts) about the roadmap.
- b. Number of reposts: The number of times a post about the roadmap was reposted, regardless of whether it was a new post or a repost of an earlier post by the same organisation or another organisation.
- c. Analytic time window: the period (days) between when the social media data (impressions/engagements) were retrieved from the social media platform and the date that the same post was posted.
- d. Impressions: Count of the total number of times a user views the roadmap post in their timeline or search results
- e. Engagements: Count of the total number of times a user interacted with a post. Clicks anywhere on the post, including reposts, replies, follows, likes, links, embedded media, username, profile photo, or post expansion.

## File S5: Themes identified from qualitative content analysis of free text comments from the phase 1 survey (n=61)^.

Theme	Description	Exemplar quote(s) <sup>#</sup>
1	The Roadmap needs to more clearly identify the role of interprofessional practice to improve MSK health.	<i>"Inter-professional linkages could have been stressed more."</i>
2	There is a need to consider the unique context in LMICs, where MSK health is not a priority health condition, especially among the African countries. Within these settings, adaptation of the Roadmap and support for implementation (especially financing) will be needed.	<i>"This report is very important. But there is no money in Africa to implement this report. This [MSK health] is a developed country affair. There is practically no funding for musculoskeletal research, education or advocacy in Africa. Musculoskeletal diseases are foreign language to the African government and health authorities. Musculoskeletal NGO's in Africa are left by donors to bark like toothless dogs."</i>  <i>"The reports are very informative. However most middle-income countries may need to adjust it to fit in their context due to lack of infrastructure and health systems."</i>
3	There is now a need to transition to implementation support, since there are ongoing challenges with implementation, especially in regard to influencing the awareness and priorities of national or local governments.	<i>"How the strategies and blueprint developed could be practically incorporated will be of value."</i>  <i>"I am the person in charge of the Healthy Back Program of the Municipal government, where I live and work professionally, the report has been very useful, but it happens that when trying to apply certain strategies, especially referring to public policies in prevention of musculoskeletal health in the community, I do not find reception, and interest in the governments of the day. It seems that I cannot place the issue of the importance of musculoskeletal health in the discussion of important issues of public health policy."</i>
4	The Roadmap is a valuable tool for health systems strengthening in MSK health.	<i>"All I can say is: "It's about time" we see NCD and MSK concerns taking the center field with the WHO and many National and NGO organizations interested in more cost-effective and outcome-based results in MSK care. This is very important work and I can leverage this project into several Public Health and Community service actionable."</i>  <i>"These reports are a valued and welcomed addition to the body of evidence surrounding the care and management of musculoskeletal disorders. As the world recognises the shift in emphasis from communicable to non-communicable diseases, reports of this nature will have an increasing impact on health policy and investment from nations, particularly in low- and middle-income countries."</i>



5	Across the Roadmap and within implementation planning, greater consideration of the importance of sex and gender to MSK health is needed.	<i>“The outlined plan will help guide the future for global MSK care. However, additional integration of the impacts of sex and gender throughout the document may raise awareness of the need to better understand how the outcomes (including pain) of prevention and intervention efforts may vary based on a patient’s sex or gender. The resulting information will allow us to provide improved patient-centered care.”</i>
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^ free text comments that were unrelated to the Roadmap were not analysed

# responses written in languages other than English were translated to English for analysis.

File S6: Mean (SD) rank of importance for each of the 8 Pillars of the Roadmap, presented as pooled mean ranks and disaggregated by income band.

<b>Pillar</b>	<b>Pooled mean (SD); n=75</b>	<b>HICs mean (SD); n=43</b>	<b>LMICs mean (SD); n=32</b>
Pillar 1: Engaging, empowering and educating communities	2.5 (1.7)	2.4 (1.7)	2.6 (1.7)
Pillar 2: Leadership, governance and shared accountability	3.0 (1.8)	2.9 (1.7)	3.1 (1.9)
Pillar 3: Financing approaches	4.7 (2.0)	4.88 (2.0)	4.3 (2.0)
Pillar 4: Service delivery	3.9 (1.8)	3.7 (1.5)	4.1 (2.0)
Pillar 5: Equitable access to medicines and technologies	4.8 (1.8)	4.91 (1.8)	4.7 (1.7)
Pillar 6: Workforce	5.2 (2.0)	5.4 (2.1)	5.0 (1.9)
Pillar 7: Surveillance: monitoring population health	6.7 (1.8)	7.0 (1.5)	6.3 (2.1)
Pillar 8: Research and innovation	5.3 (2.4)	4.86 (2.4)	5.9 (2.4)

HICs: respondents from high-income countries

LMICs: respondents from low- and middle-income countries