



Health policies for integrated prevention and management of non-communicable diseases among OECD countries

A systematic content analysis and assessment of integration of musculoskeletal health



Department of
Health



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At a glance

Context

- **Non-communicable diseases (NCDs)** are usually long-term conditions (chronic conditions) and are the result of a combination of genetic, physiological, environmental and behaviours factors.
- NCDs such as cancer, cardiovascular disease, lung disease and diabetes are the greatest contributors to premature deaths, accounting for about 70% of deaths globally. NCDs also account for 80% of the global disability burden.
- **NCDs include musculoskeletal pain conditions (e.g. back pain, arthritis). Musculoskeletal conditions are identified as the leading cause of disability globally,** accounting for 16% of all years lived with disability (YLDs).
- Formulation and implementation of health policy is a key component of health system strengthening, necessary to respond to the rising burden of NCDs.
- Despite the burden of disease, musculoskeletal conditions have not historically been integrated in policy, strategy and monitoring initiatives for NCDs.

Purpose of this project

- A systematic analysis of health policies focused on integrated prevention and/or management of NCDs among Member States of the Organisation for Economic Co-operation and Development (OECD) was undertaken in 2018–19. Policy documents were analysed by an international team of 13 multilingual reviewers.

Outcomes

- 44 policies of 30 OECD Member States were analysed.
- Policies described aims and strategies that focused on:
 - General principles for people-centred NCD prevention and management.
 - Enhancing service delivery for people with, or at risk of, NCDs.
 - Whole-of-system strengthening approaches to prevent and/or manage NCDs and improve population health.
- Most countries had national policies that explicitly covered cancer (83.3%), cardiovascular disease (76.6%), diabetes/endocrine disorders (76.6%), respiratory conditions (63.3%) and mental health conditions (63.3%).
- Only half (50.0%) these countries had policies that explicitly included musculoskeletal health and/or persistent pain in their stated scope.

Interpretation and implications

- Health policies for NCD prevention and management appropriately support system strengthening to respond to the rising burden of NCDs.
- While musculoskeletal conditions and their sequelae are considered explicitly by some countries, a stronger focus remains on conditions more closely associated with mortality.
- An expansion in health policy focus for NCD prevention and management to also systematically include disability reduction, especially that relates to musculoskeletal conditions, is needed to more closely align with global population health needs.

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Acknowledgements and project team

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List of abbreviations used in this report

AIDS	Acquired Immunodeficiency Syndrome
COPD	Chronic Obstructive Pulmonary Disease
GBD	Global Burden of Disease
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
ICD	International Classification of Disease
ICT	Information and Communication Technology
MSK	Musculoskeletal
NCD	Non-communicable Disease
OECD	Organisation for Economic Co-operation and Development; L'Organisation de coopération et de développement économiques
PA	Physical activity
SDG	Sustainable Development Goal
WHO	World Health Organization
YLD	Years Lived with Disability

A satellite view of Earth at night, showing the curvature of the planet and the glowing lights of cities and continents. The background is a deep blue space filled with stars.

1.

ABOUT THIS REPORT

1.1 The context of non-communicable diseases

Non-communicable diseases (NCDs) are generally long-term conditions (often referred to as 'chronic conditions') which tend to progress slowly. They result from a combination of genetic, physiological, environmental and behaviours factors. While there are many NCDs, cardiovascular disease, cancers, musculoskeletal conditions, mental health conditions, respiratory conditions and diabetes are among the most prevalent and associated with the highest burden of disease.

NCDs represent one of the most significant threats to global health, human capital and economic prosperity. The increasing prevalence and impact of NCDs present a substantial risk to achieving the targets of the 2030 Sustainable Development Agenda, in particular, achieving a reduction in premature deaths by one third by 2030 (Sustainable Development Goal (SDG) target 3.4)¹. NCDs also threaten the economic prosperity and development of all nations².

NCD fast facts

- **NCDs account for an increasing majority of the total global disease burden (62% currently)³:**
 - The relative contribution of NCDs to total global disease burden increased by 16% from 2007–2017.

- **NCDs are associated with significant personal health and participation impacts:**

- Responsible for 73% of deaths globally⁴.
- Account for 80% of the total global disability burden⁵ and are a major contributor to long-term ill health and disability.

- **Cardiovascular disease, cancer, respiratory diseases and diabetes account for the majority of premature mortality, reflecting 80% of the mortality burden.**

- **Musculoskeletal conditions are the leading cause of global disability accounting for 16% of the total global disability burden⁵.**

- Back pain, for example, has been the leading condition for global disability since 1990.
- Musculoskeletal conditions are frequently co-morbid with other NCDs and increase the risk of developing other NCDs^{6–10}.

On a background of rapid global population ageing, rising obesity levels and increasing prevalence of the shared environmental and behavioural risk factors for development of NCDs (e.g. physical inactivity, poor diet, air pollution and harmful use of alcohol and tobacco consumption), without significant intervention, the magnitude of the burden of disease attributed to NCDs will only increase and further threaten the sustainability of health systems and economies^{2, 5}.

1.2 Global responses to the impact of NCDs

The global imperative to respond to the burden of NCDs is clear and urgent. The United Nations has convened three high-level meetings to address the global burden of NCDs – in 2011, 2014 and 2018. These meetings aimed to initiate and drive global responses to the prevention and management of NCDs. Despite these efforts, progress towards meeting targets for the [World Health Organization \(WHO\) Global Action Plan for the Prevention and Control of NCDs 2013–2020](#) has been disappointingly slow^{1, 11}. Multiple barriers have been identified as limiting progress in addressing the burden of NCDs, including:

- Lack of political will.
- Lack of appropriate policy.
- Unhelpful commercial forces.
- Inadequate technical and operational capacity.
- Insufficient financing and inadequate financing models.
- Lack of accountability.
- Lack of acknowledgement about the need to integrate prevention and management approaches across multiple NCDs to address health holistically for people who commonly live with multiple NCDs (co- and multi-morbidity)^{12, 13}.

Health system strengthening approaches that include formulation of national policy and strategy to prioritise prevention and management of NCDs is considered essential to ensure a whole-of-system response and to create stronger health systems^{11, 14–21}.

The importance of integrating musculoskeletal conditions within NCD prevention and management policy

Health policy responses for NCDs have typically centred around strategies to address cardiovascular disease, cancer, respiratory diseases and diabetes (and more recently mental health); reflecting the mortality burden of these conditions and global performance targets and recommendations set by the WHO including:

- [Global Action Plan for the Prevention and Control of NCDs](#)¹¹
- [25x25 NCD Global Monitoring Framework](#)
- [Package of Essential Noncommunicable Disease Interventions](#)²²
- Premature mortality target for [SDG 3.4](#)[†]
- [NCD Country Capacity Survey](#) outcome measures¹⁵.

Historically, policies for NCDs and implementation performance measures have not considered conditions associated with long-term disability, such as musculoskeletal pain conditions, despite disability being a major contributor to disease burden and global mortality rates decreasing.

The importance of integrating musculoskeletal conditions within the broader health policy approach to NCD prevention and management has been argued extensively^{17, 20, 23–27} and recognised by some nations and WHO Europe in its regional plan for prevention and control of NCDs²⁸. Musculoskeletal health has also been recently recognised by WHO as a key determinant of healthy ageing^{29, 30}, elevating the critical significance of integration within contemporary NCD policy.

[†] SDG target 3.4: by 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

As an NCD group with unequivocal evidence for a profound burden of disease, it is appropriate and important that musculoskeletal conditions are integrated with other NCDs in health policies and programs targeting NCD prevention and control.



1.3 This project: Understanding the global NCD policy landscape and integration of musculoskeletal health and its sequelae

This project was undertaken to derive a contemporary snapshot of the current health policy landscape for prevention and management for NCDs in developed countries.

Recognising that system strengthening approaches for NCDs should ideally be approached in an integrated manner with strategies relevant across multiple NCDs and their risk factors³¹, this research focused on policies targeting an integrated approach to the prevention and/or management of NCDs, rather than focussing on policies and strategies for single diseases. Within this integrated approach to NCD prevention and management we sought to evaluate the extent of integration of musculoskeletal conditions and their typical sequelae (pain and mobility loss).

Aim of the research

To identify the characteristics of policies targeting prevention and/or management of NCDs and specifically:

- i. Synthesise policy aims and the strategies to achieve the stated aims.
- ii. Evaluate the extent to which musculoskeletal health was integrated.

The WHO monitors Member States' policy responses to NCDs through periodic capacity assessments (NCD Country Capacity Surveys); the most recent was reported for 2017¹⁵.

These assessments provide essential data on global responses to NCDs with a focus on policy and strategy, organisational infrastructure, surveillance and service capacity. However, the foci are limited to Member States' capacities related to cardiovascular diseases, cancer, diabetes and chronic respiratory diseases only. **A significant knowledge gap remains, therefore, in the current global policy landscape related to musculoskeletal health and the sequelae of mobility loss and persistent pain in the context of NCD prevention and management.**

For this formative research, policy capacity was explored among Member States of the Organisation for Economic Co-operation and Development (OECD) only. Member States of the OECD are recognised as global leaders in social and economic growth, therefore approaches undertaken by these nations may well be transferable to other settings.

2.

RESEARCH METHODS

2.1 Design

A review and analysis of health policies for integrated prevention or management of NCDs among OECD Member States was undertaken in 2018–19.

The project was overseen by a Steering Group and co-ordinated by two project leads, based in Australia (see Acknowledgements section). An accompanying technical research paper provides further details on the methods and expanded results³².

2.2 Data sources

In 2016, WHO established a document clearinghouse of Member States' policies, strategies and action plans for NCDs and their risk factors, NCD clinical guidelines and NCD legislation and regulation documents, submitted in response to periodic WHO NCD Country Capacity surveys (<https://extranet.who.int/ncdccs/documents/db>).

Policy documents for this research were extracted from this clearinghouse.

2.3 Eligibility for inclusion

Policy documents[†] that reported on integrated NCD prevention/management and were submitted to WHO between 2015–2017 as part of a WHO NCD Country Capacity Survey were eligible for inclusion in the research. The policy document had to describe a national or subnational approach to prevention and/or management of NCDs in an integrated manner; i.e. not focussing on one single NCD, such as cancer control.

[†] 'Policy documents' refer to any national-level government policies, strategies, action plans or programs submitted by a country in response to a WHO NCD Capacity Survey.

Relevant policy documents were archived on the WHO clearinghouse for 31 of 36 OECD Member States. No submissions were made by Austria, Finland, Greece, Luxembourg, New Zealand, or Turkey for integrated NCD policies as part of a WHO NCD Country Capacity survey. However, a relevant Turkish policy was later identified through a desktop Internet search. Although relevant policies may exist for Austria, Finland, Greece, Luxembourg and New Zealand, policies for these nations were not included since submissions satisfying the criteria for 'integrated NCD prevention/management policy' to a WHO NCD Capacity Survey were not made by these nations between 2015–2017.

2.4 Policy analysis process

A multidisciplinary and multilingual team of 13 reviewers (5 from Australia; 5 from Western Europe; 1 from Eastern Europe; 1 from Asia and 1 from North America) were assembled to screen policies for eligibility and undertake the review and data extraction task (see Figure 1).

A Protocol document and Data Extraction Template guided a standardised approach to the review and analysis tasks. Prior to commencement of the review period (December 2018 – March 2019), the Data Extraction Template was pilot tested in two rounds by a smaller team of reviewers. The technical paper provides further information about pilot testing and reliability outcomes³².

For documents published in a language outside the language competencies of the review team, online translation software was used to translate the text to English.

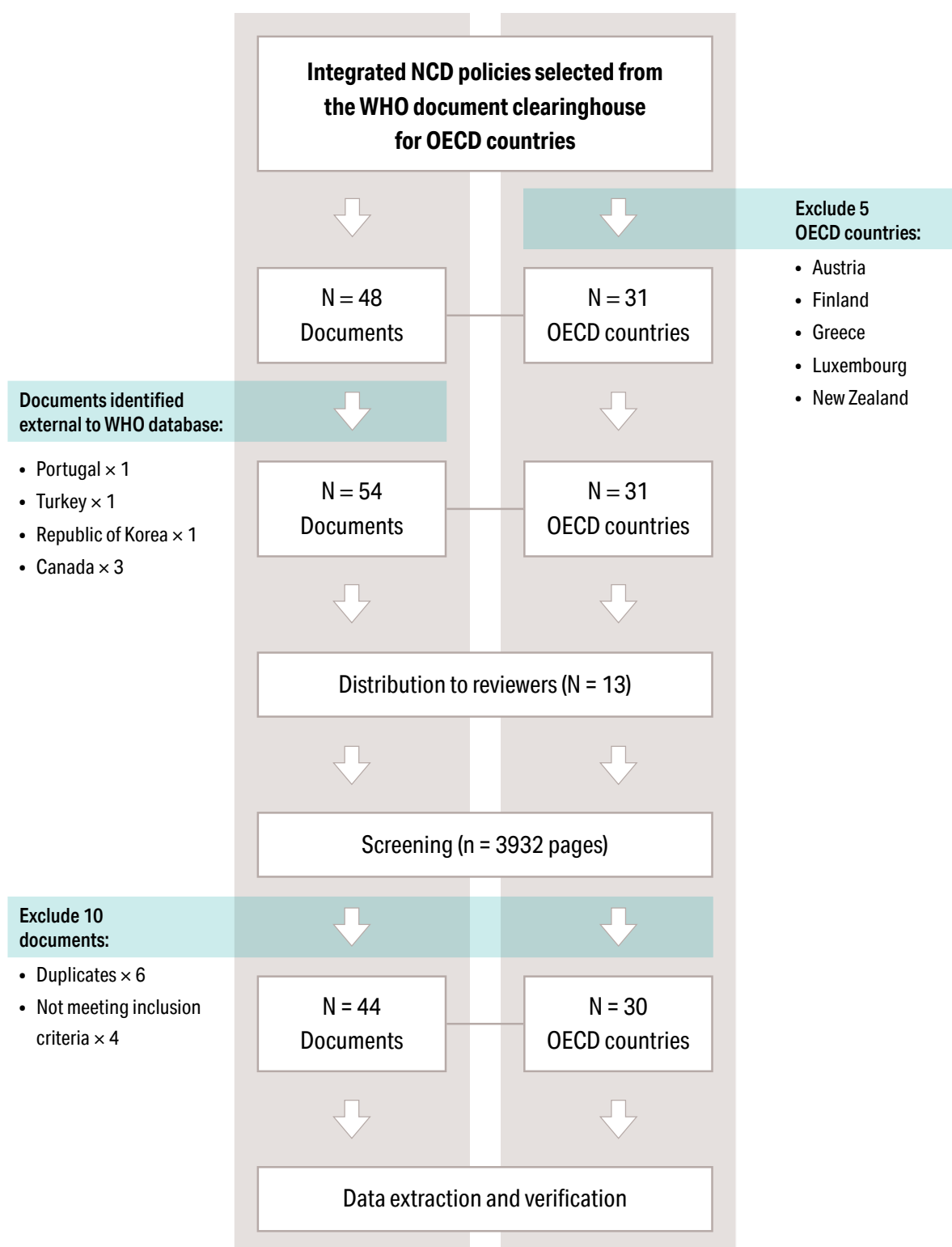


Figure 1: Flowchart outlining the document selection process.

2.5 Data extraction

The Data Extraction Template collected data from each policy document across a number of fields, listed below. Where an OECD Member State submitted more than one policy, a separate Data Extraction Template was used for each policy. Data fields included:

- Publication information.
- Vision and scope of the policy.
- Health conditions explicitly included in the policy.
- Strategies/actions proposed to achieve the objectives/aims of the policy.
- Extent of integration of musculoskeletal conditions, mobility/functional impairment and persistent non-cancer pain within the stated scope of the policy and scope of NCD prevention or management.

2.6 Data analysis

Reviewers submitted their completed Data Extraction Templates to a project officer who quality-checked each submission, based on a quality checklist developed prior to the review period. Simple (short-text) data were recorded verbatim, while summative content analysis was undertaken to analyse extensive text responses³³, using standard methods for inductive coding and meta-synthesis^{34, 35}. Broadly, this involved a 5-step process (Figure 2) for each data field.

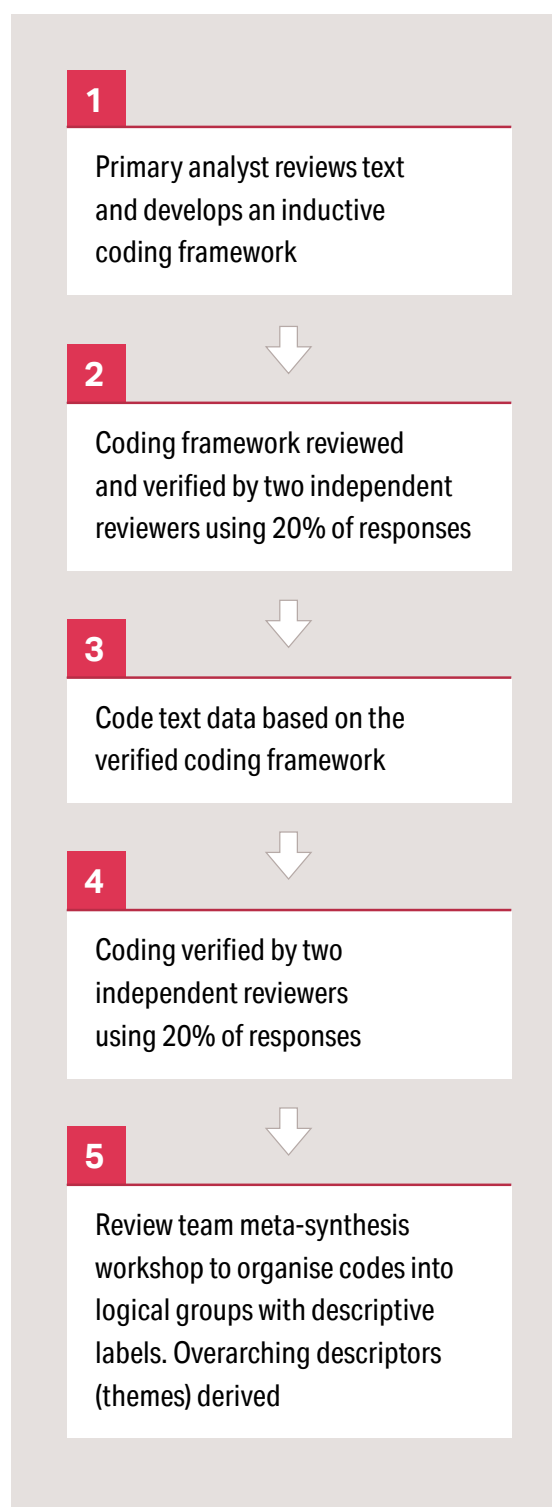


Figure 2: Five step analysis process used to content-analyse and meta-synthesise extracted text data from policy documents.

3.

KEY RESULTS

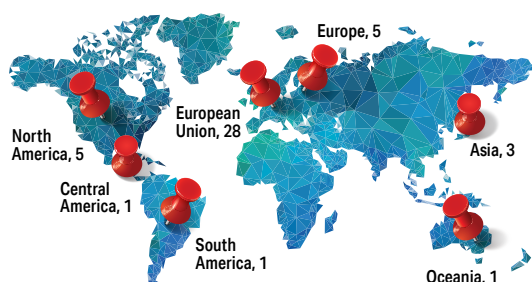


3.1 Snapshot of characteristics of included policies

44 policies from 30 OECD Member States³⁶⁻⁷⁹

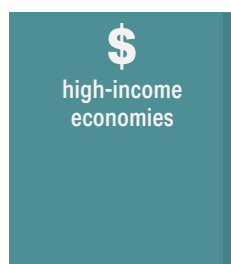


75% of policies were from European countries



All **44 policies** focused at the national level

95.4%
of policies

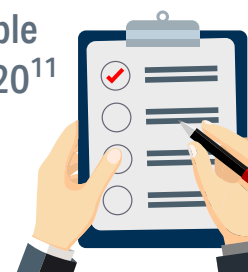


4.6%
of policies



Based on World Bank country classifications 2017–18

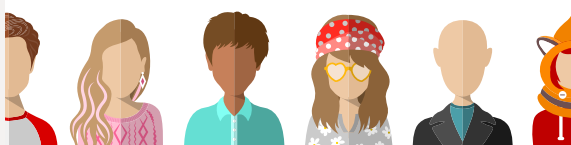
29.5% explicitly aligned with the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020¹¹



32 policies focused on NCD prevention and management

11 focused on prevention only

1 focused management only



All **44** policies stated an aim (Table 1)




42 outlined strategies to achieve the aim(s)










Table 1 provides a detailed overview of the policies included in the review.



Table 1: Characteristics of included policies.


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Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Australia (high)					
	National Strategic Framework for Chronic Conditions (2017; primary) ^{*36}	2017–25	✓	Prevention Management	All Australians live healthier lives through effective prevention and management of chronic conditions.
Belgium (high)					
	Chronic disease plan. Integrated health services for better health (2015; primary) ³⁷	n.s.	✗	Prevention Management	To support the improvement of the quality of life of the population, in particular people suffering from multiple chronic conditions and ensure that they can live better in their own environment (family, school, work) and the community and can engage in active self-management of their own health.
Canada (high)					
	Integrated Strategy on Healthy Living and Chronic Disease (2005; secondary) ^{*38}	n.s.	✗	Prevention Management	To provide a framework for the federal government to promote the health of Canadians and reduce the impact of chronic disease in Canada.
	Canada's Tobacco Strategy (2018; secondary) ^{*39}	2018–35	✗	Prevention	To achieve a target of <5% tobacco use by 2035.
	Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights (2010; primary) ^{*40}	n.s.	✗	Prevention	Canada is a country that creates and maintains the conditions for healthy weights so that children can have the healthiest possible lives.
	Let's get moving: A common vision for increasing physical activity and reducing sedentary living in Canada (2018; primary) ^{*41}	n.s.	✗	Prevention	A Canada where all Canadians move more and sit less, more often.




Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Chile (high)					
	National Health Strategy to Complete the Health Objectives of the Decade (2011; primary) ⁴²	2011–20	✗	Prevention Management	Reduce the impact of chronic communicable and non-communicable disease, traffic accidents and family violence, through actions, screening and prevention strategies, improved health coverage and treatment; target risk factors for NCDs; enhance work place health and safety and food safety; strengthen the public health system and health workforce; and build preparedness for emergency and disaster relief.
Czech Republic (high)					
	HEALTH 2020 National Strategy for Health Protection and Promotion and Disease Prevention (2014; primary) ^{*43}	2014–20	✗	Prevention Management	Stabilize the system of disease prevention, health protection and promotion and to initiate efficient mechanisms to improve health of the population, sustainable in the long-term.
	Long-term program of improving the health status of the population of the Czech Republic – Health for All in the 21st Century (2002; primary) ^{**44}	n.s.	✗	Prevention Management	Protect human health and development over the lifecourse and reduce the incidence of diseases and injuries and limit suffering.
Denmark (high)					
	Recommendations for preventative services for citizens with chronic diseases (2016; primary) ⁴⁵	n.s.	✗	Prevention Management	Guide how services in the municipalities can implement important preventative measures in the best possible way, so citizens all over the country will receive high quality services for prevention of chronic diseases.
	Care pathways for chronic diseases – the generic model (2012; primary) ⁴⁶	n.s.	✗	Prevention Management	To present a generic model of care to use as a basis for creating other (disease-specific) care pathways.






Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Estonia (high)					
	National Health Plan 2009–2020 (2012; primary) ^{*47}	2009–20	✗	Management	A longer health-adjusted life expectancy by decreasing premature mortality and illnesses.
France (high)					
	Laws Official Journal of the French Republic of January 27th, 2016: Law no 2016–41 January 26th, 2016 of the Modernisation of Our Health System (1). Keynote Title: Mobilizing Health System Members Around a Shared Strategy (2016; primary) ⁴⁸	n.s.	✗	Prevention Management	To mobilise health system members around a shared (health) strategy.
	National Health Strategy: Roadmap (2013; primary) ⁴⁹	n.s.	✗	Prevention Management	To address growing social and geographic inequalities which limit access to healthcare in France.
Germany (high)					
	IN FORM: Germany's initiative for healthy nutrition (diet) and more physical activity. National action plan for prevention of malnutrition, lack of physical activity overweight and associated diseases (2014; primary) ⁵⁰	n.s.	✓	Prevention Management	To improve the nutrition and physical activity behaviour in Germany in a sustainable way, such that: adults live healthier, children grow up healthier and will profit from a higher quality of life and an increased performance in their education, profession and private life; and diseases will decline that are caused by an unhealthy life style.
Hungary (high)					
	"Healthy Hungary 2014–2020" – Health Sector Strategy (2015; primary) ⁵¹	2014–20	✗	Prevention Management	To improve the health of Hungarians through different interventions (prevention, rehabilitation) and through further improvement to the whole health-care system across sectors with a focus on responsible and cooperative citizen participation.




Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Iceland (high)					
	Public health policy and actions to encourage a healthier society – with emphasis on children and adolescents under 18 years old (2016; primary) ⁵²	2016–18	✗	<div>Prevention</div> <div>Management</div>	Iceland will be one of the healthiest nations worldwide by 2030.
Ireland (high)					
	Tackling Chronic Disease: A Policy Framework for the Management of Chronic Diseases (2008; primary) ⁵³	n.s.	✗	<div>Prevention</div> <div>Management</div>	To promote and to improve the health of the population and reduce the risk factors that contribute to the development of chronic diseases; and to promote structured and integrated care in the appropriate setting that improves outcomes and quality of life for patients with chronic conditions.
	Healthy Ireland: A framework for improved health and wellbeing 2013–2025 (2013; primary) ⁵⁴	2013–25	✗	<div>Prevention</div> <div>Management</div>	A healthy Ireland, where everyone can enjoy physical and mental health and wellbeing to their full potential, where wellbeing is valued and supported at every level of society and is everyone's responsibility.




Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Italy (high)					
	National Prevention Plan 2014–2018 (2014; primary) ⁵⁵	2014–18	✓	Prevention	To establish the crucial role of health promotion and prevention as factors of social development and welfare sustainability, in light of demographic changes; adopt a public health approach that will guarantee equality and contrast disparities; express the cultural vision in public health values, objectives and methods; base health prevention, promotion and care interventions on best effective evidence, implemented with equality and planned to reduce disparities; accept and manage the challenge of cost-effective interventions, innovation and governance; and develop competence in professionals, people and individuals aiming at an appropriate and responsible use of available resources.
	National Chronicity Plan (2016; primary) ⁵⁶	n.s.	✓	Prevention Management	To contribute to the improvement of health protection for chronically ill people, reducing the burden on the individual, on his/her family and on the social context, improving the quality of life, making health services more effective and efficient in terms of prevention and assistance and assuring a higher harmonization and equity for citizens' access. This will be achieved by identifying a common strategy aiming at promoting a unified approach to interventions centred on the individual and oriented towards a better service organization and responsibilities of all the service providing actors.
	GAINING HEALTH: Making healthy choices easy (2008; primary) ⁵⁷	n.s.	✗	Prevention	To make healthy life choices easier for Italians and to promote information campaigns aimed at changing unhelpful behaviours, which contribute to causing non-communicable diseases of major epidemiological significance.

Nation (income band ⁵)	Policy title (year of publication; classification ^A)	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Japan (high)					
	Health Japan 21 (the second term) (2012; primary) ⁵⁸	2013–22	✗	Prevention	To improve lifestyles and the social environment; to enable all citizens from infancy to older adulthood to have hope and meaning for living; to achieve a vibrant society with healthy and spiritually rich lives according to life stages; and to improve sustainability of the social security system.
Republic of Korea (high)					
	National Health Plan 2020 in Korea (2011; secondary) ^{*59}	2011–20	✗	Prevention Management	To create a healthy world all people can enjoy together through an extension of healthy life expectancy, an improvement in health equity, and monitoring of health trends.
	The 3rd National Health Promotion Plan (2011–2020) (2011; primary) ⁶⁰	2011–20	✓	Prevention Management	To establish national policies aimed at enhancing the health of individuals and groups through health education, disease prevention, nutrition improvement, and the practice of healthy lifestyles.
Latvia (high)					
	Public Health Guidelines 2014 – 2020 (2014; primary) ^{**61}	2014–20	✓	Prevention Management	To increase the lived healthy life years of the Latvian population and prevent premature death through maintaining, improving and restoring health.

Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Lithuania (high)					
	Seimas of the Republic of Lithuania Resolution No XII-964 of Approval of the Lithuanian Health Strategy 2014–2025 (2014; primary) ^{*62}	2014–25	✗	Prevention	The attainment of improved health of the Lithuanian population by 2025 as well as longer life and reduced health inequities.
	The 2014–2020 National Program Progress Horizontal Priority “Health for All” Inter-institutional Operations Plan (2014; primary) ^{**63}	2014–20	✗	Prevention Management	To co-ordinate measures to enhance public health outcomes and implement the principle of health in all policies to achieve closer inter-agency cooperation on public health issues.
	The National Public Health Care Development Program for 2016–2023 (2015; primary) ^{*64}	2016–23	✗	Prevention Management	To set goals, tasks, assessment criteria and anticipated values of national public healthcare strategies and to ensure implementation of public healthcare goals and tasks set in the Lithuanian Health Programme for 2014–2025.
Mexico (upper middle)					
	National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes (2013; primary) ⁶⁵	n.s.	✓	Prevention Management	To improve the wellbeing of the population and contribute to the sustainability of national development by decreasing the prevalence of overweight and obesity among Mexicans, in order to impact the epidemic of non-communicable diseases, particularly type 2 diabetes, through public health interventions, a comprehensive model of medical attention and inter-sectoral political action.
The Netherlands (high)					
	All about health (2013; primary) ^{*66}	2014–16	✗	Prevention	To promote individual health and prevent chronic illness by means of an integrated approach within the settings in which people live, work and learn; give prevention a prominent place within healthcare; and maintain the quality of health protection, responding promptly to any new threats.

Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Norway (high)					
	NCD-Strategy 2013–2017. For the prevention, diagnosis, treatment and rehabilitation of four non-communicable diseases: cardiovascular disease, diabetes, COPD and cancer (2013; primary) ^{**67}	2013–17	✓	Prevention Management	To reduce premature death from cardiovascular disease, diabetes, chronic lung disease and cancer by 25% by 2025.
Poland (high)					
	The National Health Program for the years 2016–2020, Council of Ministers' Decree (2016; primary) ^{**68}	2016–20	✓	Prevention Management	To extend healthy life, improve health and related quality of life of the population, and reduce social inequalities in health.
Portugal (high)					
	National Health Plan 2020 Review and Outreach (2015; primary) ^{**69}	2015–20	✓	Prevention Management	To maximize the health gains by integrating sustained efforts in all sectors of society, and the use of strategies based on citizenship, equity and access in quality and in healthy policies.
Slovakia (high)					
	Updated National Health Promotion Program in Slovak Republic (2014; primary) ^{**70}	2014–30	✗	Prevention	To achieve a long-term improvement in the health of the Slovak population, extending life expectancy and quality of life, eliminating the incidence of health disorders that reduce quality of life and threaten premature human death. The policy is primarily aimed at influencing the determinants of health, reducing population-based risk factors and increasing involvement of various sectors of society.
Slovenia (high)					
	Resolution on National Health Care Plan 2016–2025 (2016; primary) ^{*71}	2016–25	✗	Prevention Management	To promote health and prevent diseases; optimise health care; enhance the performance of the health care system; and achieve equity, solidarity and sustainability in financing of health care.

Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Spain (high)					
	Strategy for Addressing Chronicity in the National Health System (2012; primary) ⁷²	n.s.	✗	Prevention Management	To decrease the prevalence of health conditions and chronic limitations of activity, reduce premature mortality of people who already have any of these conditions, prevent deterioration of functional capacity and complications associated with each process, and improve the quality of life of people and their caregivers.
Sweden (high)					
	A person centred public health policy (2012; primary) ⁷³	n.s.	✗	Prevention	To present a person centred public health policy.
	A cohesive strategy for alcohol, narcotic drugs, doping and tobacco (ANDT) policy (2011; primary) ⁷⁴	2011–25	✗	Prevention Management	A society free from illegal drugs and doping, with reduced alcohol-related medical and social harm, and reduced tobacco use.
Switzerland (high)					
	Action plan for the National Strategy on the Prevention of Non-Communicable Diseases (NCD-Strategy) 2017–2024 (2016; primary) ⁷⁵	2017–24	✓	Prevention Management	To improve the coordination between actors and agencies and to increase the efficiency in prevention and health promotion.
	National strategy for the prevention of non-communicable diseases (NCD-Strategy) 2017–2024 (2016; primary) ⁷⁶	2017–24	✓	Prevention Management	More people stay healthy or have, despite chronic illness, a high quality of life. Less people fall ill with avoidable, non-communicable diseases or die prematurely. Independent of their socioeconomic status, people are enabled to have a healthy lifestyle in a conducive healthy environment.

Nation (income band [§])	Policy title (year of publication; classification [^])	Time span	Explicit alignment with WHO Action Plan [#]	Focus	Purpose, aim or vision
Turkey (upper middle)					
	Multisectoral Action Plan of Turkey for Non-communicable Diseases 2017–2025 (2017; primary) ^{*77}	2017–25	✓	Prevention Management	To raise the health and wellbeing of the Turkish population through reducing preventable deaths and the disability burden attributable to NCDs and thus enabling citizens to maintain the highest attainable health status at all ages.
United Kingdom (high)					
	Living Well for Longer: A call to action to reduce avoidable premature mortality (2013; primary) ^{*78}	n.s.	✗	Prevention Management	To challenge and inspire the health and care system, in its widest sense, to take action to reduce the numbers of people dying prematurely, defined as premature deaths due to cancer, heart disease, stroke, respiratory disease and liver disease under the age of 75 years.
United States (high)					
	National Prevention Council Action Plan: Implementing the National Prevention Strategy (2012; primary) ^{*79}	n.s.	✗	Prevention	To identify National Prevention Council shared departmental commitments and unique department actions to further each of the strategic directions and priorities of the National Prevention Strategy.

[§] Income band determined from World Bank country classifications by income level: 2017–2018.

^{*} Source document published in English.

^{**} Source document translated to English.

[^] Classification: documents classified as primary or secondary. *Primary* documents are full or stand-alone national or jurisdictional policy or strategy documents. Primary documents may be brief, but should be interpretable as a stand-alone document. *Secondary* documents accompany primary documents (e.g. info-graphics, summary pages, excerpts from primary documents) and do not represent the full policy or document.

[#] Refers to the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020¹¹.

n.s. Not stated.

3.2 Aims of the policies

Through meta-synthesis, the aims of the included policies could be broadly categorised into three overarching concepts/themes with supporting sub-themes, as summarised below:

1. The need for system strengthening

- 1.1 Governance, financing and the workforce.
- 1.2 Emergency/disaster response capacity.
- 1.3 Expanding reach of health coverage and reducing inequality.
- 1.4 Population health monitoring.

2. Improved service delivery for people with, or at risk of, NCDs

3. Striving for improved population health

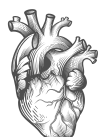
- 3.1 Targeting risk factors and promoting healthy lifestyles.
- 3.2 Reducing the impact of disease and injury.
- 3.3 Creating safe and healthy environments.

3.3 Integration of musculoskeletal health, pain and mobility

The policies of most countries explicitly covered in their stated scope:



83.3%
Cancer



76.6%
Cardiovascular
disease



76.6%
Diabetes/endocrine
disorders



63.3%
Mental health
conditions

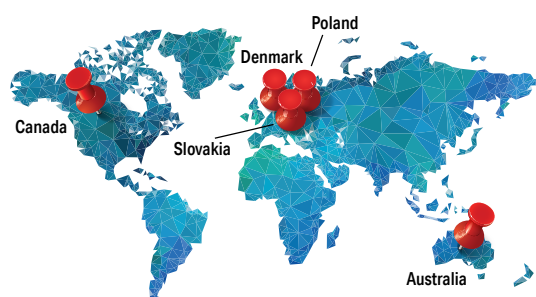


63.3%
Respiratory
conditions

50.0% of countries explicitly included musculoskeletal health and/or pain and mobility as conditions within the stated scope of their policies (Figure 3; Table 2)



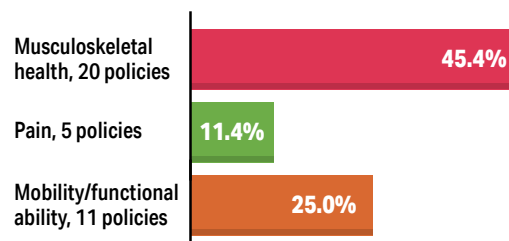
16.7% of countries had policies that included any chronic health conditions, implicitly addressing musculoskeletal health



Among 41 policies of 30 countries with a background commentary, **23** mentioned musculoskeletal health, pain or mobility/functional ability



Within the specific context of NCD prevention or management, **23 (52.3%)** policies of 19 countries explicitly referred to:






Nation	Number of policies	Cancer	Cardiovascular / cerebrovascular diseases	Diabetes / metabolic conditions	Mental health / psychiatric conditions	Respiratory conditions	Musculoskeletal conditions	Obesity / overweight	Chronic communicable diseases	Neurological conditions	Oral health conditions	Any chronic health conditions	Hypertension	Chronic kidney disease	Neurosensory conditions	Rare diseases	Liver diseases	Endocrine conditions	Gastrointestinal conditions	Diseases associated with substance abuse	Injury / accidents / trauma	Health states in population sub-groups	Diseases associated with unhealthy lifestyle choices	Disability in general	Reproductive and sexual health	Diseases associated with environmental toxins	Disasters and emergencies
Australia	1																										
Belgium	1																										
Canada	4																										
Chile	1																										
Czech Republic	2																										
Denmark	2																										
Estonia	1																										
France	2																										
Germany	1																										
Hungary	1																										
Iceland	1																										
Ireland	2																										
Italy	3																										
Japan	1																										
Republic of Korea	2																										
Latvia	1																										
Lithuania	3																										
Mexico	1																										
Netherlands	1																										
Norway	1																										
Poland	1																										
Portugal	1																										
Slovakia	1																										
Slovenia	1																										
Spain	1																										
Sweden	2																										
Switzerland	2																										
Turkey	1																										
United Kingdom	1																										
United States	1																										
Counts	44	25	23	23	19	19	15	13	10	6	5	5	4	3	3	3	2	1	1	11	9	8	7	6	4	1	1
% by country	-	83.3	76.7	76.7	63.3	63.3	50.0	43.3	33.3	20.0	16.7	16.7	13.3	10.0	10.0	10.0	6.7	3.3	3.3	36.6	30.0	26.7	23.3	20.0	13.3	3.3	3.3
Diseases / Health conditions																				Health states							




Figure 3: Frequency map of diseases/health conditions (left panel) and health states (right panel) explicitly cited as within the scope or coverage of the included policies by nation.




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Primary source is Briggs et al³². N.B. Musculoskeletal conditions encompass any condition of the musculoskeletal system or persistent non-cancer pain. Neurological conditions include any neurological or neurodegenerative condition.



Table 2: Health conditions/priority areas included within scope of included policies and the extent of integration of musculoskeletal (MSK) health, mobility (Mob) or functional ability (FA), and persistent non-cancer pain. Reproduced in adapted format under the terms of the Create Commons Attribution 4.0 International Licence (CC BY-NC 4.0) (primary source: Briggs et al³²).




Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Australia						
	National Strategic Framework for Chronic Conditions (2017; primary)* ³⁶	All chronic and complex health conditions across the spectrum of illness, including mental illness, trauma, disability and genetic disorders, including communicable and NCDs.	✗	✗	✗	all
Belgium						
	Chronic disease plan. Integrated health services for better health (2015; primary) ³⁷	NCDs (diabetes, cancer, asthma), chronic communicable disease (HIV-AIDS), mental health (psychoses), certain anatomical/ functional conditions (blindness, multiple sclerosis), rare diseases, following accidental injury (amputation, paralysis), complex multi-morbidities in the stages of high dependency or palliative care.	✗	✗	✗	all
Canada						
	Integrated Strategy on Healthy Living and Chronic Disease (2005; secondary)* ³⁸	All chronic diseases and explicitly states inclusion of diabetes, cancer, respiratory diseases and cardiovascular disease.	✗	✗	✗	all
	Canada's Tobacco Strategy (2018; secondary)* ³⁹	Chronic diseases associated with tobacco use.	✗	✗	✗	none
	Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights (2010; primary)* ⁴⁰	Obesity and overweight.	✗	✗	✗	all
	Let's get moving: A common vision for increasing physical activity and reducing sedentary living in Canada (2018; primary)* ⁴¹	n.s.	✗	✗	✗	all





Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Chile						
	National Health Strategy to Complete the Health Objectives of the Decade (2011; primary) ⁴²	Communicable diseases – HIV/AIDS, TB, acute respiratory disorders. NCDs – explicitly covers cardiovascular disease, hypertension, diabetes, chronic kidney disease, cancer, chronic respiratory disorders, mental health disorders, disability, oral health conditions, and musculoskeletal conditions. Injury – traffic accidents, workplace injury and family violence. Emergencies and disasters.	✓	✓	✓	some
Czech Republic						
	HEALTH 2020 National Strategy for Health Protection and Promotion and Disease Prevention (2014; primary) ^{*43}	NCDs: type 2 diabetes, cancer, cardiovascular diseases, mental disorders, and musculoskeletal diseases, among others.	✓	✗	✗	some
	Long-term program of improving the health status of the population of the Czech Republic – Health for All in the 21st Century (2002; primary) ^{**44}	New cancers, metabolic diseases especially diabetes, musculoskeletal diseases, respiratory diseases, cardiovascular disease, nervous and mental diseases, psychosomatic consequences of drug use, certain infections (AIDS).	✓	✗	✗	some
Denmark						
	Recommendations for preventative services for citizens with chronic diseases (2016; primary) ⁴⁵	All chronic conditions.	✓	✓	✓	all
	Care pathways for chronic diseases – the generic model (2012; primary) ⁴⁶	All chronic conditions.	✓	✓	✗	all





Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Estonia						
	National Health Plan 2009–2020 (2012; primary) ⁴⁷	Cancer, cardiovascular diseases, asthma, diabetes, mental health conditions.	×	×	×	some
France						
	Laws Official Journal of the French Republic of January 27th, 2016: Law no 2016–41 January 26th, 2016 of the Modernisation of Our Health System (1). Keynote Title: Mobilizing Health System Members Around a Shared Strategy (2016; primary) ⁴⁸	NCDs including: mental disorders, cancer, pain; diseases related to poor nutrition; diseases related to lifestyle conditions that are susceptible to change; diseases related to tobacco use; diseases related to illicit drug use (narcotics, psychoactive drugs); diseases related to poor oral health; conditions related to environmental conditions (e.g. air pollution); conditions related to exposure to harmful chemicals in consumer products (lead, asbestos, Bisphenol-A); injury; disability.	×	×	✓	some
	National Health Strategy: Roadmap (2013; primary) ⁴⁹	NCDs related to unfavourable health behaviours (tobacco consumption, excessive alcohol consumption, malnutrition, sedentary behaviours); individuals living with a disability or age-related loss of autonomy; other public health priority areas including youth health, obesity, mental health, cancer and age-related illness.	×	×	×	all
Germany						
	IN FORM: Germany's initiative for healthy nutrition (diet) and more physical activity. National action plan for prevention of malnutrition, lack of physical activity overweight and associated diseases (2014; primary) ⁵⁰	Overweight and obesity and their sequelae; diseases associated with inadequate physical activity; malnutrition and eating disorders (e.g. anorexia, bulimia); postural deformities in children and teenagers; work-related musculoskeletal disorders.	×	×	×	some



Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Hungary						
	"Healthy Hungary 2014–2020" – Health Sector Strategy (2015; primary) ⁵¹	Cardiovascular conditions; diabetes; chronic respiratory disease; musculoskeletal diseases; cancer; mental health; accident/injury; communicable diseases.	✓	✗	✗	some
Iceland						
	Public health policy and actions to encourage a healthier society – with emphasis on children and adolescents under 18 years old (2016; primary) ⁵²	Heart disease; diabetes; cancer; musculoskeletal conditions; migraine; drug abuse and mental health conditions.	✓	✗	✗	some
Ireland						
	Tackling Chronic Disease: A Policy Framework for the Management of Chronic Diseases (2008; primary) ^{*53}	Cardiovascular disease; diabetes; cancer; musculoskeletal conditions and osteoporosis; mental disorders; asthma and chronic bronchitis.	✓	✗	✗	some
	Healthy Ireland: A framework for improved health and wellbeing 2013–2025 (2013; primary) ^{*54}	Overweight and obesity; mental health; sexual health; disability.	✗	✗	✗	none




Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Italy						
	National Prevention Plan 2014–2018 (2014; primary) ⁵⁵	NCDs including cardiovascular diseases, cancer, respiratory diseases, diabetes, mental health conditions; neurosensory conditions, including hearing impairment and deafness, visual impairment and blindness; occupational health, including musculoskeletal conditions.	✗	✗	✗	none
	National Chronicity Plan (2016; primary) ⁵⁶	Chronic kidney disease; rheumatoid arthritis and chronic arthritis in developmental age (juvenile arthritis); ulcerative colitis and Crohn's disease; chronic heart failure; Parkinson's disease and Parkinsonism; chronic obstructive pulmonary disease; chronic respiratory failure; asthma; chronic endocrine diseases.	✓	✓	✗	some
	GAINING HEALTH: Making healthy choices easy (2008; primary) ⁵⁷	Cardiovascular diseases; cancer; diabetes; chronic respiratory diseases; mental health conditions; musculoskeletal conditions.	✓	✗	✗	n.s
Japan						
	Health Japan 21 (the second term) (2012; primary) ⁵⁸	Cancer; cardiovascular diseases; diabetes and chronic obstructive pulmonary disease.	✗	✗	✗	some

Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Republic of Korea						
	National Health Plan 2020 in Korea (2011; secondary)* ⁵⁹	Cancer; arthritis; cardio-cerebrovascular disease; obesity; mental health conditions; oral health; infectious diseases (tuberculosis, AIDS); injury prevention; health of population sub-groups (maternal, infant, elderly, worker's health, military health).	✓	✓	✗	n.s.
	The 3rd National Health Promotion Plan (2011–2020) (2011; primary) ⁶⁰	Cardiovascular disease; arthritis; obesity; diabetes; cancer; mental health; oral health; communicable diseases.	✓	✓	✓	some
Latvia						
	Public Health Guidelines 2014 – 2020 (2014; primary)** ⁶¹	Cardiovascular disease; cancer; paediatric/neonatal health; mental health.	✗	✗	✗	some
Lithuania						
	Seimas of the Republic of Lithuania Resolution No XII-964 of Approval of the Lithuanian Health Strategy 2014–2025 (2014; primary)* ⁶²	Cardiovascular disease; cancer; diabetes; chronic respiratory diseases and mental health disorders.	✗	✗	✗	some
	The 2014–2020 National Program Progress Horizontal Priority “Health for All” Inter-institutional Operations Plan (2014; primary)** ⁶³	Cardiovascular disease; cerebrovascular conditions; cancer; mental health conditions.	✗	✗	✗	some
	The National Public Health Care Development Program for 2016–2023 (2015; primary)* ⁶⁴	Mental health conditions; obesity; diabetes; cancer and cardiovascular disease.	✓	✗	✗	some

Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Mexico						
	National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes (2013; primary) ⁶⁵	Overweight; obesity; diabetes.	✗	✗	✗	some
The Netherlands						
	All about health (2013; primary) ^{*66}	Health conditions related to smoking, overweight/obesity, excessive alcohol consumption, and physical inactivity; depression; and diabetes.	✗	✗	✗	some
Norway						
	NCD-Strategy 2013–2017. For the prevention, diagnosis, treatment and rehabilitation of four non-communicable diseases: cardiovascular disease, diabetes, COPD and cancer (2013; primary) ^{*67}	Cardiovascular disease; diabetes; chronic obstructive pulmonary disease and cancer.	✗	✗	✗	all
Poland						
	The National Health Program for the years 2016–2020, Council of Ministers' Decree (2016; primary) ^{**68}	NCDs in general, with specific reference to acute myocardial infarction; stroke; cancer; asthma; chronic obstructive pulmonary disease; diabetes; depression and mental distress; dental caries; dementia; musculoskeletal pain; infertility; substance abuse conditions; specific communicable diseases (HCV, HBV, HIV, rubella, measles, polio); suicide; functional limitations on physical and sensory organs; and women's and children's health (pregnancy/labour/peri-natal maternal health, child health problems diagnosed in utero, developmental problems of newborns, low birth weight, fertility, infant and maternal mortality).	✓	✓	✗	some

Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Portugal						
	National Health Plan 2020 Review and Outreach (2015; primary)**69	Cardiovascular disease; cancer; diabetes; obesity; chronic respiratory diseases; disability; nutrition-related diseases, HIV/AIDs.	✗	✓	✗	some
Slovakia						
	Updated National Health Promotion Program in Slovak Republic (2014; primary)**70	All health conditions (communicable and non-communicable), with specific foci including cardiovascular diseases; diabetes and selected cancers (cervical, breast, colon/rectal).	✗	✗	✗	some
Slovenia						
	Resolution on National Health Care Plan 2016–2025 (2016; primary)*71	Cardiovascular disease; cancer; obesity; diabetes; chronic respiratory diseases; neurodegenerative diseases; autism; epilepsy; musculoskeletal diseases; diseases of the teeth and oral cavity; mental illness; conditions related to substance abuse (alcohol, tobacco smoking).	✓	✓	✗	some
Spain						
	Strategy for Addressing Chronicity in the National Health System (2012; primary)72	Cancer; ischemic heart disease; stroke; diabetes; mental health; chronic obstructive pulmonary disease; rare diseases; pain; palliative care.	✗	✓	✓	all

Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Sweden						
	A person centred public health policy (2012; primary) ⁷³	NCDs related to lifestyle behaviours with specific reference to: diabetes, cardiovascular disease, cancer, liver damage, hypertension, psychiatric diseases, stroke, musculoskeletal conditions and overweight; accidents and injury; communicable diseases, including sexually transmitted diseases.	✓	✓	✗	some
	A cohesive strategy for alcohol, narcotic drugs, doping and tobacco (ANDT) policy (2011; primary) ^{*74}	Any conditions associated with substance abuse.	✗	✗	✗	some
Switzerland						
	Action plan for the National Strategy on the Prevention of Non-Communicable Diseases (NCD-Strategy) 2017–2024 (2016; primary) ⁷⁵	Respiratory diseases; cancer; cardiovascular diseases; diabetes, musculoskeletal disorders; conditions related to substance abuse; mental health disorders.	✓	✗	✗	some
	National strategy for the prevention of non-communicable diseases (NCD-Strategy) 2017–2024 (2016; primary) ⁷⁶	Respiratory diseases; cardiovascular disease; cancer; diabetes, musculoskeletal disorders.	✓	✗	✗	all

Nation	Policy title (year of publication)	Health conditions/priority areas included within stated scope	Policy explicitly includes MSK health, mobility/ functional ability or persistent pain in the context of NCD management			Aims/objectives and strategies/ actions relevant to prevention or management of MSK, Mob/FA, or Pain (all, some, none, n/a)
			MSK	Mob/FA	Pain	
Turkey						
	Multisectoral Action Plan of Turkey for Non-communicable Diseases 2017–2025 (2017; primary) ^{*77}	Cardiovascular diseases; malignant neoplasms; respiratory diseases; diabetes; cancer (specifically breast and cervical cancers); chronic airway diseases; chronic obstructive pulmonary disease; asthma; disease related to lifestyle choices (tobacco consumption, second-hand smoke alcohol consumption, unhealthy diet [high salt consumption], raised blood cholesterol, and insufficient physical activity); obesity; hypertension; chronic kidney disease; musculoskeletal system diseases.	✓	✗	✗	some
United Kingdom						
	Living Well for Longer: A call to action to reduce avoidable premature mortality (2013; primary) ^{*78}	Cancer; circulatory disease (heart disease, stroke); respiratory and liver disease.	✗	✗	✗	all
United States						
	National Prevention Council Action Plan: Implementing the National Prevention Strategy (2012; primary) ^{*79}	Diseases related to lifestyle choices (tobacco, substance abuse, nutrition, physical inactivity; e.g. obesity, heart disease, hypertension, diabetes, certain cancers, respiratory infections, asthma, depression); injury/accidents (including violence); reproductive and sexual health; mental health.	✓	✗	✗	some

MSK: musculoskeletal; Mob: mobility; FA: functional ability or functional impairment; Pain: persistent non-cancer pain; n.s.: not stated; AIDS: acquired immunodeficiency syndrome; HBV: hepatitis B virus; HCV: hepatitis C virus; HIV: human immunodeficiency virus.

* source document published in English; ** source document translated to English

3.4 Strategies for integrated prevention and management of NCDs

3.4.1 Strategies at a glance

Through meta-synthesis methods, the strategies described in the included policies were broadly categorised into three overarching themes:

1. **General principles for people-centred NCD prevention and management.**
2. **Enhancing service delivery.**
3. **Whole-of-system strengthening approaches.**

Each of these broad themes was supported by a number of sub-themes (Figure 4).



Figure 4: Three overarching themes and supporting sub-themes derived through meta-synthesis, summarising strategies to achieve integrated prevention and management of NCDs.

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3.4.2 Strategies in detail

The following summaries provide further detail underpinning each of the three main themes by describing each sub-theme and its key concepts. Each key concept is relevant across all NCDs (implicitly including musculoskeletal health). Those concepts marked with a gold star ★ were identified in policies as a strategy to improve population-level musculoskeletal health, persistent pain or mobility impairments.

Theme 1 General principles for people-centred NCD prevention and management

For overarching theme #1, four sub-themes were derived. These are described below:

Subtheme 1.1

NCD prevention and management across the life course

Key concepts

- NCD prevention/management should be based on a care continuum across the life course from prevention (including maternal and child health care) through to rehabilitation and palliative care that is tailored to the individual's needs and that considers physical health, mental wellbeing and injury protection. A focus on vulnerable groups should be prioritised.
- NCD prevention/management should include initiatives that address social and financial consequences of, or risk factors for, NCDs and that promote physical and social function.
- NCD management should adopt a people-centred model of service delivery.

Subtheme 1.2

Promoting healthy behaviours, safe environments and reducing risk

Key concepts

- NCD prevention/management should be based on promoting a healthy and safe environment to minimise risk factors for NCDs including: food safety, exposure to chemicals, air and noise pollution, and climate change. This approach should extend to education and work environments.
- NCD prevention/management should support the development and implementation of multifaceted interventions to increase the volume of physical activity (PA) and reduce sedentary behaviour at the population level, targeting all ages (e.g. population awareness campaigns; supportive environments and transport options; work and school-based PA; leadership in PA initiatives; upskilling teachers in PA), with indicators to monitor performance.
- NCD prevention/management should be based on promoting healthy behaviours/lifestyles to minimise risk factors for NCDs with a strong focus on obesity management. Foci should include healthy lifestyles (nutrition focussing on a reduction of sugar, salt and saturated fats; physical activity; safe use of alcohol/tobacco; minimising substance abuse especially in youth; strategies to optimise mental health; and oral hygiene). This approach should extend to education and work environments, with particular attention paid to supporting healthy lifestyle environments for children in schools.



- NCD prevention/management should include public health education that is accessible and disseminated across various settings (e.g. work, school, kindergarten) and is tailored to target groups, with the outcome being a change in health beliefs and empowering positive health behaviours and improved capacity for self-management. In some settings, mass media is recommended as a dissemination tool.

★ NCD prevention/management should support the development and implementation of policies and/or programs that target reducing the potentially negative effects of alcohol, narcotics, doping substances and tobacco (ANDT) on the musculoskeletal system, on the mental health system and that reduce the chances of injury to the musculoskeletal system.

Subtheme 1.3

Effective partnerships to support people-centred care

Key concepts

- NCD prevention/management efforts (inclusive of service delivery, service design and policy formulation) should be approached with effective partnerships across the sector (e.g. government, civil society, volunteers, health services, industry) and with consumers and their families, including indigenous communities.

Subtheme 1.4

Research to support people-centred NCD care

Key concepts

- Support research that is accessible to decision-makers, that addresses societal need in NCD prevention/management, that considers emerging technologies/technology innovations, that examines the value of complementary and alternative medicines, and that is system-relevant.

For overarching theme #2, six sub-themes were derived. These are described below:

Subtheme 2.1

Improving care quality, safety and consumer satisfaction

Key concepts

- Deliver interventions or services to people with NCDs that are effective and safe (i.e. high-value interventions[‡]) and that improve care quality and consumer satisfaction.
- Ensure NCD prevention initiatives (e.g. programs, policies) are underpinned by quality criteria and include mechanisms to evaluate their effectiveness.

Subtheme 2.2

Early intervention

Key concepts

- NCD prevention should include timely interventions to identify and manage risk factors, enable early diagnosis (e.g. health checks, screening, education campaigns) and enable risk classification/stratification.
- ★ National health assessments or 'health checks' should include assessment of disability.
- ★ Implement policies and strategies for musculoskeletal injury prevention at work, for leisure and sport and that monitor injury prevalence.

Subtheme 2.3

Programs targeting condition specific NCDs

Key concepts

- Enable management of major NCDs through appropriate programs that are evaluated and supported by disease-specific clinical guidelines and established criteria for diagnosis and stratification. Mechanisms to update programs based on new evidence should be included.
- Enable NCD management through disease-specific and technology-enabled models of care that:
 - address a specific population or condition/disease group; and
 - contain evidence-based components of care, implementation strategies and mechanisms for monitoring and quality improvement.
- ★ Support strategies for obesity reduction/prevention, in addition to general nutrition and physical activity strategies.
- ★ Support delivery of mental health care through targeted health promotion, through accessible services (inclusive of mind-body therapies) and through provider training in mental health care.
- ★ Support specific system and service strategies for arthritis (identification of disease, supporting adherence to pharmacologic and non-pharmacologic care, integrated management between health services and clinicians, development of models of service delivery and models of care).

[‡] An intervention where evidence suggests it confers benefit to patients, or the probability of benefit exceeds probable harm, or, more broadly, the added costs of the intervention provide proportional added benefits relative to alternatives.



Subtheme 2.4

Improving access to NCD care

Key concepts

- Support NCD management by harnessing digital technologies (e.g. eHealth, telehealth, electronic medical records) to enable information/service access and exchange for consumers and health professionals to support self-management, system navigation and care delivery.
- Enable NCD management by supporting accessible services (geographically accessible, appropriate infrastructure, ICT support) irrespective of age, gender, residence and socioeconomic status, and ensure that services are culturally acceptable.
- Support effective NCD prevention and management by facilitating population access to essential medicines and essential laboratory medicine.

Subtheme 2.5

Care coordination and integration

Key concepts

- Implement community-based, multidisciplinary healthcare teams that are responsive to local needs and supported by a referral network for providers.
- Build and monitor capacity/competencies in the workforce (particularly in primary care) to deliver high-value NCD care, including foci on ageing, mental health, obesity management, physical activity and competencies in technology use.
- Support care coordination and integration between care providers, services, regions and existing programs (e.g. with ICT infrastructure, referral networks).
- ★ Ensure that health facilities have rehabilitation professionals working in multidisciplinary teams.
- ★ Ensure that citizens who have NCDs have comprehensive health plans developed, inclusive of supports for return to work.
- ★ Support the provision of community-based rehabilitation services, especially in areas where care disparities exist.

Subtheme 2.6

Supporting healthy ageing

Key concepts

- In the context of supporting older people living with NCDs, implement specific strategies and indicators to support healthy ageing (health promotion; health checks; interventions to address functional impairments or loss in intrinsic capacity; develop models of care for older people that include geriatric care and long-term care systems).



Theme 3

Whole-of-system strengthening approaches

For overarching theme #3, five sub-themes were derived. These are described below:

Subtheme 3.1

Capacity for emergency response to disasters and epidemics

Key concepts

- Build emergency response capacity to health disasters and epidemics.

Subtheme 3.2

Population health monitoring and performance

Key concepts

- To inform NCD prevention and management initiatives, electronic health information systems should be used to monitor population health. Monitoring should include health and injury outcomes and the social determinants of health.

- Set performance targets for NCD prevention/management, based on:
 - reduction in risk factors for NCDs;
 - prevention of premature mortality;
 - minimising morbidity (reduce disability and increase healthy life years);
 - reduction in disease incidence;
 - reduction in costs associated with NCDs;
 - reduction in care disparities and health inequalities due to financial or social factors in vulnerable groups (e.g. indigenous groups, ethnic minorities); and
 - empowerment of citizens to more actively manage their health / participate in their healthcare.

Subtheme 3.3

National care standards and reporting

Key concepts

- Establish national care/quality standards and standardised reporting for NCDs, care delivery and health outcomes to enable monitoring of care quality.

- ★ Develop care guidelines/quality standards relevant to the care of people with musculoskeletal conditions (e.g. rehabilitation guidelines; disability guidelines; community health promotion guidelines that include physical activity, nutrition, injury prevention, and mental health).

Subtheme 3.4

Financing to support NCD care

Key concepts

- Financing for NCD care must consider long-term health spending, resources to support implementation of policy/programs, compulsory insurance, funding only interventions and technologies with proven effectiveness and safety, universal health insurance, and payments linked to performance and quality.

- ★ Appropriately finance rehabilitation services to ensure appropriate quality care can be delivered sustainably.

- ★ Provide social and financial support packages for people living with disability and/or their carers.

Subtheme 3.5

Policy and regulation

Key concepts

- Ensure health, especially NCD prevention/management, is considered in all public policy and inter-ministerial activity (e.g. social policy, ageing policy, employment policy), including the evaluation of policies in terms of health impact.

- Support NCD prevention and management to be nationally prioritised agenda items.

- Strengthen health governance through the formulation of appropriate health and social care policies. These should be evidence-based, enable monitoring of outcomes that are aligned to international targets, address the needs of people with disability and support citizens to actively and positively manage their health.

- Develop and implement financial and marketing regulation and/or policy measures to support citizens make healthy choices and limit unhelpful commercial influences on health behaviours and outcomes (e.g. nutritional information for food, making healthy food affordable, regulation of advertising unhealthy foods, regulation of sales of illicit drugs via social media, tobacco control).



4.

SUMMARY AND IMPLICATIONS FOR POLICY AND PRACTICE

This research has systematically detailed the components of national policies of Member States of the OECD targeting integrated prevention and management of NCDs.

A key objective of the research was to evaluate the extent of integration of musculoskeletal health and its sequelae (persistent pain, mobility/functional ability impairment) in the context of priorities for NCD prevention and management. This is important since historically, musculoskeletal conditions have not featured strongly in global and national NCD prevention, management and monitoring frameworks^{17, 23–25}. Consequently, political attention and resource distribution for musculoskeletal conditions have been incommensurate with the burden of disease – *we manage what we measure*^{17, 23, 27, 80}.

Data provided in this report are important for understanding:

- National priorities among OECD Member States in NCD prevention and management.
- The extent to which WHO frameworks have been adopted to national-level activities.
- The evolution of NCD policy priorities over time and alignment with global health priorities and burden of disease.

4.1 Approaches in integrated prevention and management of NCDs

The included policies strongly supported an integrated approach to the prevention and management of NCDs with a clear focus on:

- Promotion of population health through risk minimisation and healthy environments.
- Supporting citizens to make healthy choices and adopt positive health/lifestyle habits.
- Reducing disparities in access to appropriate NCD care through a range of strategies, including leveraging technologies.

These components mirror the WHO approach to supporting healthy ageing, for example through the Integrated Care for Older People (ICOPE) approach¹⁶ and the objectives of the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020¹¹. Avoiding premature mortality was a strong performance indicator among the policies, consistent with targets for Sustainable Development Goals (SDG 3.4) and WHO monitoring frameworks for NCDs prevention and control (https://www.who.int/nmh/global_monitoring_framework/en/).

Across the policies, there was a strong focus on strengthening health systems to better manage NCDs and their sequelae. The Hungarian policy, for example, highlighted the need for a whole-of-system strengthening approach to achieve positive health gains⁵¹. The strategies outlined across the included policies mapped well to existing health system strengthening frameworks, such as the 2007 WHO model of Health System Building Blocks (including service delivery, health workforce, information and information systems, medical products and essential medicines, financing, and leadership and governance⁸¹) and the 2008 Health System 'Control Knobs' Framework (including financing, macro-level organization, payment, regulation and behaviour⁸²).

At a service level, the specific policy strategies aligned with the WHO Framework on Integrated People-Centred Health Services that includes⁸³:

1. Engaging and empowering people and communities.
2. Strengthening governance and accountability.
3. Reorienting the model of care.
4. Coordinating services within and across sectors.
5. Creating an enabling environment.

Specific strategies also aligned with WHO recommended interventions or 'Best Buys', for NCD prevention and management, such as interventions for physical activity and healthy behaviours and lifestyle choices relating to nutrition, enhancing activity levels and minimising substance abuse (alcohol and tobacco)³¹.

These findings suggest that current policies for integrated prevention and management of NCDs align well with contemporary global frameworks for health system strengthening, integrated service delivery and specific interventions for NCDs prevention and control.

4.2 Disease-specific foci within integrated care approaches

The majority of countries (63–83%) had policies that focussed on integrated prevention and/or management of cancer, cardiovascular disease, diabetes and respiratory conditions. This is unsurprising given that these conditions are the foci of the WHO NCD monitoring framework; are most strongly associated with mortality and are therefore more strongly linked to SDG target 3.4.

Relative to other NCDs, musculoskeletal health did not feature as prominently, identified as within scope among policies of only half the countries. Among those policies where musculoskeletal conditions were identified within the context of integrated prevention/management of NCDs, specific strategies were outlined, such as national disability checks, initiatives for musculoskeletal injury prevention, adequate rehabilitation services and an appropriately skilled

rehabilitation workforce. In the context of rehabilitation, the WHO Rehabilitation 2030 Agenda is likely to be an important catalyst for promoting rehabilitation approaches relevant musculoskeletal conditions^{84, 85}.

The WHO Rehabilitation 2030 Agenda provides an important catalyst for improving musculoskeletal health services.

Despite fewer OECD countries having policies with a focus on musculoskeletal health in the context of integrated prevention and management of NCDs, there is evidence of recognition and planned action towards improving the musculoskeletal health of populations in several OECD countries.

Policies of some countries focussed on 'all' NCDs, implicitly rather than explicitly including musculoskeletal health. While such a condition-agnostic focus is more likely to facilitate integrated management of NCDs, on a background of SDG 3.4 being linked to targets in reducing mortality alone, the opportunity to better integrate musculoskeletal health into policies and initiatives to address NCD prevention and management remains unclear. Meaningful population gains in musculoskeletal health and related pain outcomes may be limited until these health states are more explicitly integrated into national policy, program and financing models for NCD prevention and management and into the WHO NCD monitoring framework¹⁷.

The policies reviewed also had minimal focus on healthy ageing and consideration of the multimorbidity nature of NCDs. Although multimorbidity may be implicitly addressed among policies focussing on 'all' NCDs and also through strategies that are not disease-specific (e.g. health promotion, improving access,

integrated care), the absence of an explicit focus is inconsistent with the increasing prevalence of NCD multimorbidity, particularly that associated with ageing^{86, 87}. The 2020–2030 Decade of Healthy Ageing and the WHO World Report on Ageing and Health may be catalysts for driving the evolution of healthy ageing priorities in NCD policies²⁹.

Healthy ageing and multimorbidity did not feature strongly in policies. As policies for NCDs evolve, consideration of the relevance of healthy ageing and multimorbidity is likely to be increasingly important and may be better positioned by the advent of the 2020–2030 Decade of Healthy Ageing.

for example, have developed condition-specific models of care and are developing national strategies for musculoskeletal conditions and pain^{88–92}. Monitoring how these national strategies influence national health policy over time will be important. It will also be important to monitor how emerging national strategies influence national health policy over time and the impact of policy evolution of population health outcomes.

4.3 Interpretive considerations and future directions

This analysis was limited to policies of OECD Member States and was performed cross-sectionally. Extending this analysis to non-OECD States will be important, including low and middle-income countries. Monitoring national policy evolution for NCDs over time will be critical. This research provides a baseline framework to achieve these future initiatives.

The research relied on policies submitted by nations in response to a WHO NCD Country Capacity Survey. While this approach provided a level of standardisation to minimise document selection bias, it may mean that important national strategies failed to be captured or were inadvertently overlooked, particularly from countries such as Austria, Finland, Greece, Luxembourg and New Zealand where no policies were submitted. Many countries,

5.

RECOMMENDATIONS

1

Policy for integrated NCD prevention and management

Evolving national health policies targeting integrated prevention and management of NCDs should reflect contemporary population health and social care needs. In particular, policies must appropriately recognise the critical importance and impact of population ageing and conditions associated with morbidity on population health, such as musculoskeletal conditions. Key actions:

- 1.1** Integrate musculoskeletal health conditions (inclusive of persistent pain and mobility impairment) into policies targeting prevention and management of NCDs to enable an appropriate expansion of priorities and efforts from mortality reduction to supporting functional ability across the lifecourse.
- 1.2** Considering the strong association between NCDs and ageing and the prevalence of multimorbidity in evolving national health policies, recognise that musculoskeletal conditions feature prominently in multimorbidity profiles.
- 1.3** Continue to monitor global health policy capacity, for example through WHO NCD Country Capacity Surveys and include musculoskeletal conditions within the monitoring framework.

Advocacy and communication

Advocacy efforts to communicate the burden of disease and functional, participation and economic sequelae associated with musculoskeletal conditions and persistent pain must be maintained, with a focus on communication to national and sub-national policy makers. Key actions:

- 2.1** Communicate to WHO and other global, national and sub-national agencies (e.g. civil society and advocacy organisations, clinical societies, national governments, the OECD) the importance of including musculoskeletal conditions within the foci of integrated NCD prevention and management initiatives in order to guide appropriate prevention and management initiatives by Member States.
- 2.2** The global community should actively participate in forming the next iterations of the Global Action Plan for Prevention and Management of Noncommunicable Diseases, associated monitoring frameworks, and 'Best Buys' for NCDs. Concurrently, it will be important to highlight the relevance of musculoskeletal health within the WHO Rehabilitation 2030 agenda and Integrated Care for Older People (ICOPE) approach.

Population health monitoring

Monitor national population health outcomes that are inclusive of functional ability (rather than a focus solely on mortality) to collect further nationally-specific data on high-burden health conditions, such as musculoskeletal conditions and persistent pain aligned with the ICD-11 classification⁹³. These findings should be coupled with global health estimates, such as those derived from the sequential Global Burden of Disease (GBD) study.

6.

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