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## A Scoping Review of National Policies for Healthy Ageing in Mainland China from 2016 to 2020

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#### Abstract

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#### **Abstract**

There remains limited literature to facilitate understanding of healthy ageing-related policies in China over the last five-year policy planning cycle. This study aims to characterise all relevant policies and identifies the policy gaps from a health system perspective. A scoping review

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#### Review

## A Scoping Review of National Policies for Healthy Ageing in Mainland China from 2016 to 2020

Pengpeng Ye, MPH<sup>1,2</sup>, Ye Jin, MSc<sup>2</sup>, Yuliang Er, MSc<sup>2</sup>, Leilei Duan, MD<sup>2</sup>, Anna Palagyi, PhD<sup>1</sup>, Lijie Fang, PhD<sup>3</sup>, Bingqin Li, PhD<sup>4</sup>, Rebecca Ivers, PhD<sup>1,5</sup>, Lisa Keay, PhD<sup>1,6</sup>, Maoyi Tian, PhD<sup>1,7,\*</sup>

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#### ABSTRACT

There remains limited literature to facilitate understanding of healthy ageing-related policies in China over the last five-year policy planning cycle. This study aims to characterise all relevant policies and identifies the policy gaps from a health system perspective. A scoping review framework was used. A thorough search for healthy ageing-related policies was performed on the websites of all government ministries affiliated with the Chinese State Council. Essential information was extracted and mapped to an integrated framework of the World Health Organization's Health System Building Blocks and the Chinese 13th Five-Year Plan for Healthy Ageing. A total of 12471 policy documents were identified, while 99 policy documents were included. There were 14 ministries involved in the generation of policies, but multisectoral collaboration between the ministries remained limited. National Health Commission and Ministry of Civil Affairs were the leading ministries. Promoting the integration of medical services and older people care was most frequently addressed within these policies. Applying the health system perspective, governance and financing were often addressed, but there were limited policies on other components of the health system. The findings of this study support four policy recommendations: (1) to enhance multisectoral collaboration in policy development; (2) to strengthen health system building blocks, including healthcare workforce, service delivery, health information, and medical products and technologies; (3) to establish a consolidated policy system centered on the national healthy ageing plan; (4) to formulate a national implementation work plan to promote an integrated health care model for older people.

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#### 1. Introduction

Population ageing, while one of humanity's great successes due to advancement in public health and social and economic development, also raises many challenges [1]. It is projected that the proportion of people aged 60 years and over around the world will double from 11% in 2000 to 22% by 2050, with an estimated total of 2•1 billion people [2]. This dramatic growth in the older population will not only occur in high-income countries, but also in many low- and middle-income countries.¹ In China, an uppermiddle income country, the acceleration of population ageing has surpassed that of many higher-income countries [3]. Between 2010 and 2040, the proportion of adults aged 60 years and over in China

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<sup>&</sup>lt;sup>†</sup> Disclaimer: This translation in Chinese was submitted by the authors and we reproduce it as supplied. It has not been peer reviewed. Our editorial processes have only been applied to the original abstract in English, which should serve as reference for this manuscript.

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is expected to more than double, from 12•4% to 28%, reaching a total of 397 million older persons [3]. This looming demographic shift in China will present considerable social and economic challenges, particularly on meeting the urgent healthcare needs of Chinese older people in diverse areas, e.g., managing chronic noncommunicable diseases, providing dental care, combating sexually transmitted disease, and supporting palliative service [4,5].

In response to these emerging challenges, the 13<sup>th</sup> Five-Year Plan for Healthy Ageing, as the first national policy focused on healthy ageing, was formally released by the Chinese Central Government in March 2017. This was an important landmark, signalling healthy ageing as a key priority in the national political agenda for health [6]. This plan elaborated on the vision of healthy ageing and detailed 2020 goals [6]. However, despite the strong political will evident to address healthy ageing in China, there is limited literature examining the ageing policy landscape in China, so it is unclear where policy gaps remain. This scoping review was undertaken to systematically map all national policies for healthy ageing in mainland China over the last five-year planning cycle, from 2016 to 2020, with the aim of characterising the national policies for healthy ageing and identifying the policy gaps from a health system perspective.

#### 2. Methods

This scoping review is reported according to the guidance of the Preferred Reporting Items for Systematic reviews and Metaanalysis extension for Scoping Reviews (PRSIMA-ScR) Checklist [7]. The protocol was registered prospectively in the Open Science Framework (https://osf.io/3jcvp). The PRISMA-ScR checklist is provided in the supplementary material (supplementary file 1).

#### 2.1. Identifying the research question

This scoping review seeks to answer the following research questions:

- 1 What are the characteristics of healthy ageing policies in mainland China from 2016-2020?
- 2 What is the interrelationship between the policy documents?
- 3 What is the gap in policy development benchmarked to the 13<sup>th</sup> Five-Year Plan for Healthy Ageing?
- 4 To what extent do the current policy documents address the World Health Organization (WHO) Health System Building Blocks?

#### 2.2. Underlying the policy-making context

In China, major national policies are collectively and prospectively formulated by the Chinese Central Government for each five-year cycle, known as the 'Five-Year Plan' (Box 1). In the 13<sup>th</sup> Five-Year Plan from 2016 to 2020, the State Council issued the 13<sup>th</sup> Five-Year Plan for Healthy Ageing as the first national policy, to combat the challenges and facilitate opportunities of an ageing society (Box 1). This national plan prioritised nine domains of healthy ageing over the last five years, with a wide range of types of healthy ageing related policies formulated and issued by ministries affiliated with the State Council (Box 1).

#### Box 1 The policy-making context in China

1.1 National policy planning cycles: The current political organization of China involves a centralized power system. An overview of policy processes in mainland China is provided in the supplementary material (supplementary file 2) [8]. Major national policies are collectively and prospectively formulated

by the Chinese Central Government for each five year cycle, known as the 'Five-Year Plan'. This terminology was initially developed by the former Soviet Union to plan the economic growth over limited periods and was introduced to China in 1953. The 'Five-Year Plan' sets specific goals and provides direction for national social-economic development [9]. Chinese Central Government usually launches the preparation of major national draft policies two years prior to the next 'Five-Year Plan'. The final policy documents are then reviewed and approved by the National People's Congress. The most recent 'Five-Year Plan', the thirteenth policy planning cycle in China, extends from January 1, 2016 to December 31, 2020.

1.2 Policy benchmark framework: The 13th Five-Year Plan for Healthy Ageing was formulated in 2017, and indicated that healthy ageing had been identified as a priority in the national political agenda in China. In this plan, the goal of healthy ageing was articulated as to create a comprehensively supportive environment, extend healthy life expectancy, maintain the functional ability, and improve the health of older people.[6] The approach to achieve healthy ageing is to implement comprehensive and systematic interventions of all factors affecting health from the early stage of life [6]. Nine domains of healthy ageing are proposed in the plan, including health promotion and education, public health service, medical service system, integrated medical and aged care services, medical security system, Traditional Chinese Medicine, health industry, supportive environment, and professional workforce [6]. These domains were applied in this study to guide the policy search, document screening and analysis.

1.3 Policy making bodies: In China, the State Council as the chief administrative authority, is constitutionally synonymous with the Chinese Central Government since 1954. It directly supervises the subordinate governments in the provinces, autonomous regions, municipalities, and special administrative regions. The State Council is responsible for implementing the principles and policies of the Communist Party of China, as well as regulations and laws adopted by the National People's Congress. It executes the power of administrative legislation, proposal submission, and administrative leadership, as well as the power of management in the field of internal politics, diplomacy, national defence, finance, economy, culture, education, and other internal affairs. The structure of the State Council has undergone eight adjustments since 1982, with the latest structure launched in 2018 [10]. All national policies for healthy ageing are formulated and promulgated by the State Council and its affiliated ministries (including commissions, organizations, institutions, agencies directly under the State Council) [10].

1.4 Types of policy documents: In China, there are 15 types of policy documents, including Notice, Opinion and Announcement [11,12]. The function of policy documents depends on their type. The types and functions of policy documents are provided in the supplementary material (supplementary file 3). All types of policy documents share three common themes. First, for the direction of policy transmission, including: (1) from higher authority to lower; (2) from lower authority to higher; and (3) between parallel authorities. Second, for the strength of policy advice, including: (1) Command, requiring strict enforcement of the policy document; (2) Suggestion, strongly recommending the adoption of all or parts of the policy document; (3) Inform, the adoption of the policy document depends on the actual situation; and (4) Discussion or Deliberation: solution, decision or consensus have not been reached before the adoption of the policy document. Third, for the purpose of policy formulation purpose, including: (1) goal planning; (2) work deployment; (3) fact statement; and (4) opinion communication. The detailed themes of policy documents are also provided in the supplementary material (supplementary file 3).

#### 2.3. Data sources

The primary information sources for this review include: (1) the Chinese State Council website; and (2) the websites of all ministries affiliated to the State Council. The search was supplemented by a grey literature search in both English and Chinese language. English language grey literature sources include Open-Grey, Grey Literature Report, GreyNet International 2019, and websites of international organizations including United Nations, World Bank, Asian Development Bank and WHO, while Chinese grey literature was searched from the websites of National Institute for Global Strategy, Center for Public Policy Research, China Policy Research Network, and China Policy Network, E-China Government, Data People, and websites of Chinese electronic policy databases including Chinese National Knowledge Infrastructure (CNKI), Wanfang Data, and Big data of Policy. A detailed summary of data sources is provided in the supplementary material (supplementary file 4).

#### 2.4. Search strategy

Search strategies were developed separately for each data source and further refined through team discussion. If the data source did not provide the search function or the built-in search function did not execute properly, the third-party search engine, Baidu, was used to search within the website of data source with advanced search operators. Keywords used to identify policy documents targeting on older people in Chinese are *Lao Nian* (older or older people), *Lao Ling* (older or older people), *Lao Ren* (older people), *Gao Ling* (very old people), *Yang Lao* (aged care), and *Shi Lao* (old age-friendly), and in English are old, older, elder, elderly, aged, and ageing. An example of the search strategy of the websites of government ministries affiliated to the State Council is provided in the supplementary material (supplementary files 5 and 6).

#### 2.5. Eligibility criteria

Eligible policy documents met the following criteria.

#### 1 Inclusion criteria

- The policy document was issued between January 1, 2016 and May 31, 2020; and
- The policy document was published by the ministries at the national level affiliated to the State Council; and
- The eligible types of policy documents were the Resolution, Decision, Order, Announcement, Note, as well as Opinion, Notice and Notification that transmissed from higher authority to lower authority with Command strength level. The details of eligible types of policy documents are provided in the supplementary material (supplementary file 3); and
- The content of the policy document aligned with one or more domains in the 13<sup>th</sup> Five-Year Plan for Healthy Ageing; and
- The policy document targeted older people at the national level.

#### 2 Exclusion criteria

- · Any policy document published before 2016; or
- The full text of the policy was not publicly available; or
- The scope of the policy document was limited within a certain context, e.g., a region-specific policy; or
- The policy purpose was the fact statement, e.g., a technical standard or the statistical data.

#### 2.6. Data extraction

The data extraction was performed in three phases. In phase one, one reviewer (PY) performed the search in all information

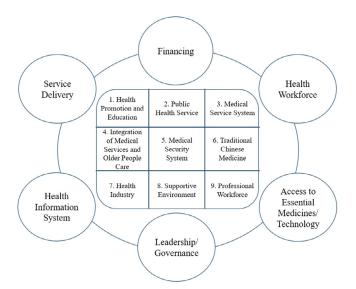


Fig. 1. The analytical framework

sources. In phase two, one reviewer (PY) screened the title of all identified policies and removed the duplicates. In phase three, the full text of all potential eligible policies was independently reviewed by two reviewers (PY and YJ). Review of the first 10 policies was completed by both reviewers and used as a training session to ensure a minimum of 95% inter-reviewer agreement. Any discrepancies were discussed to reach consensus. The essential information was extracted into a pre-defined data-extraction template in Microsoft Excel for Office 365 (version 1908), including name, source, issue date, type, ministries involved in the policy development, Five-Year Plan for healthy ageing domains and related health system perspectives.

#### 2.7. Analytical framework

We used a combined framework of the 13<sup>th</sup> Five-Year Plan for Healthy Ageing and the WHO Health System Building Blocks (Fig. 1). With strong and comprehensive policy support, health systems could be well realigned to enable the provision of integrated and person-centred care for ageing populations. WHO health system framework provided a means for understanding what constitutes the health system and how it is constructed [13].

#### 2.8. Synthesis of results

There were three steps for data synthesis. First, the essential data items of all eligible policy documents were tabulated and summarized. Second, the interrelationship of policy documents was identified from the formulation basis briefly described in the background of each policy. Third, the healthy ageing-related content of the policy documents was coded and mapped to the analytical framework as described above.

#### 2.9. Role of the funding source

Pengpeng Ye is supported by the Dr John Yu Fellowship from the George Institute for Global Health and Tuition Fee Scholarships from University of New South Wales. The funders did not have any role in study design, data collection, data analysis, interpretation and writing of the report.

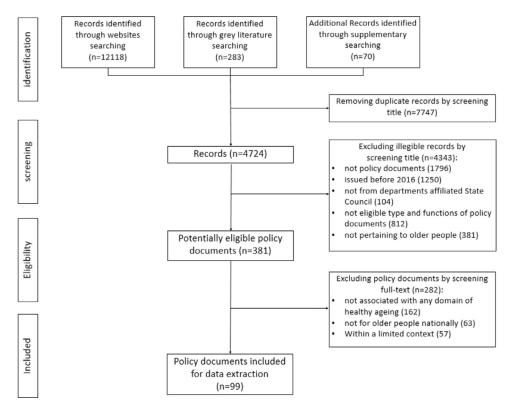


Fig. 2. The flow diagram of policy identification and search

#### 3. Results

The search yielded 12471 policy documents, of which 4724 remained after duplicates were removed. A further 4625 policy documents were removed after the title and full-text screening based on the eligibility criteria. A total of 99 eligible policy documents were included in the final analysis (Fig. 2). The essential data items of all eligible policies is in the supplementary material (supplementary file 7).

Between 2016 and May 2020, State Council and its affiliated ministries continuously issued policies related to healthy ageing each year. The predominant type of policy documents was a Notice, for work arrangements and processing (74•8%), followed by an Opinion, presenting central government's political commitment (24•2%) and an Announcement, used for important or statutory matters (1•0%). There were 21 policy documents issued by the State Council, while the rest were issued from 14 out of 66 State Council affiliated ministries. The National Health Commission had the most policies documents (27 documents) pertaining to healthy ageing, followed by the Ministry of Civil Affairs with 23 policy documents (Fig. 3).

The interrelationship of the policies is presented in Fig. 4 and Fig. 5. There were 42 policy documents jointly developed by multiple ministries, 69•1% of which were co-developed by two to four ministries. The maximum number of ministries involved in the co-development of a single policy was nineteen. The most common pair of ministries in those co-developed policies was the National Health Commission and Ministry of Civil Affairs (14 policy documents), followed by the National Health Commission and National Administration of Traditional Chinese Medicine (9 policy documents), Ministry of Civil Affairs and Ministry of Finance (8 policy documents) and Ministry of Civil Affairs and National Development and Reform Commission (8 policy documents) (Fig. 4). Additionally, two policy formulation pathways were identified based on the interrelationship of policy documents. Policies from the State Coun-

cil were usually the basis for the formulation of policies from its affiliated ministries. At the ministerial level, the policy formulation pathway only existed within the same ministry, but not across different ministries (Fig. 5). The interrelationship of all dependent healthy ageing-related policy documents among the State Council and its affiliated ministries are provided in the supplementary material (supplementary file 8).

Based on the healthy ageing domains of the analytical framework (Fig. 1), the top two priorities were the integration of medical services and older people care and the health industry (Fig. 6), largely addressed in 65 and 52 policy documents respectively. Traditional Chinese Medicine was addressed by the fewest number of policy documents. Only the State Council and National Health Commission addressed all domains of healthy ageing in their policies, while other ministries focused on domains related to their own administrative responsibilities. Applying the WHO Health System Building Blocks, policy documents referring to service delivery mainly focused on the effective provision of community-based and home-based services to older people. While providing more employment opportunities, protecting legitimate rights and interests of employees, offering in-service training and continuing professional development, and strengthening multidisciplinary cooperation were identified as the key themes for health workforce. The establishment of multi-source data sharing and linkage mechanism was repeatedly emphasized in the health information system. The access to essential medicines and technologies promoted the development of medical products for geriatric disease treatment and innovative technology for mitigating the loss of functional ability and care dependence. At the financing level, various securing existing financial supports and the expansion of potential financial sources were proposed, e.g., issuing share and corporate bonds, establishing public-private partnership and developing home reverse mortgage for endowment insurance [14]. The leadership and governance policies primarily aimed to mobilize social forces to participate in the development of health ageing by streamlining ad-

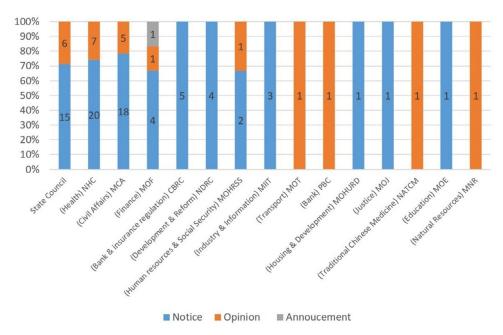


Fig. 3. The types of healthy ageing-related policy documents from State Council and its affiliated ministries in China from 2016 to May 2020 Notes: NHC: National Health Commission; MCA: Ministry of Civil Affairs; MOF: Ministry of Finance; CBRC: China Bank and Insurance Regulatory Commission; NDRC: National Development and Reform Commission; MOHRSS: Ministry of Human Resources and Social Security; MIIT: Ministry of Industry and Information Technology; MOT: Ministry of Transport; PBC: The People's Bank of China; MOHURD: Ministry of Housing and Urban-Rural Development; MOJ: Ministry of Justice; NATCM: National Administration of Traditional Chinese Medicine; MOE: Ministry of Education; MNR: Ministry of Natural Resources. The shortened names of each ministry is listed in parentheses. The numbers in each bar represent the number of policies by type issued by the corresponding ministry. The Notice policy is used for work arrangements and processing. The Opinion policy is used for presenting central government's political commitment. The Announcement policy is used for important or statutory matters.

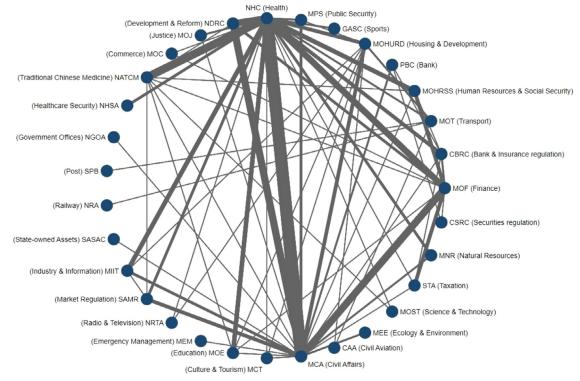


Fig. 4. The network plot of ministries involved in co-developed policies from 2016 to May 2020

Notes: NHC: National Health Commission; MPS: Ministry of Public Security; GASC: General Administration of Sport of China; MOHURD: Ministry of Housing and Urban-Rural Development; PBC: The People's Bank of China; MOHRSS: Ministry of Human Resources and Social Security; MOT: Ministry of Transport; CBRC: China Bank and Insurance Regulatory Commission; MOF: Ministry of Finance; CSRC: China Securities Regulation Commission; MNR: Ministry of Natural Resources; STA: State Taxation Administration; MOST: Ministry of Science and Technology; MEE: Ministry of Ecology and Environment; CAA: Civil Aviation Administration; MCA: Ministry of Civil Affairs; MCT: Ministry of Culture and Tourism; MOE: Ministry of Education; MEM: Ministry of Emergency Management; NRTA: National Radio and Television Administration; SAMR: State Administration for Market Regulation; MIIT: Ministry of Industry and Information Technology; SASAC: State-owned Assets Supervision and Administration Commission; NRA: National Railway Administration; SPB: State Post Bureau; NGOA: National Government Offices Administration; NHSA: National Healthcare Security Administration; NATCM: National Administration of Traditional Chinese Medicine; MOC: Ministry of Commerce; MOJ: Ministry of Justice; NDRC: National Development and Reform Commission. The shortened names of each ministry is listed in parentheses. The thickness of the lines is proportional to the number of times that ministries were involved in co-develop policies.

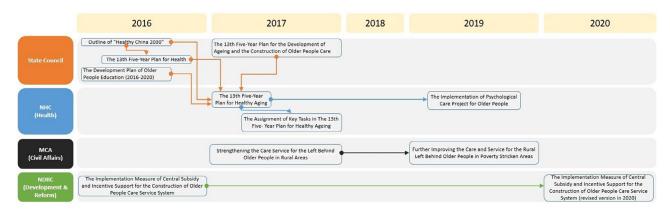


Fig. 5. The interrelationship of selected healthy ageing-related policy documents among the State Council and its affiliated ministries in China from 2016 to May 2020 Notes: NHC: National Health Commission; MCA: Ministry of Civil Affairs; NDRC: National Development and Reform Commission; The text in the hollow rounded rectangle is the name of the policy document. The dot-arrow solid lines represent the interrelationship of policy documents; the policy document with the dot was the basis for the formulation of the policy document with the arrow; different colours of lines represent the ministry where the policy document with the dot was issued.

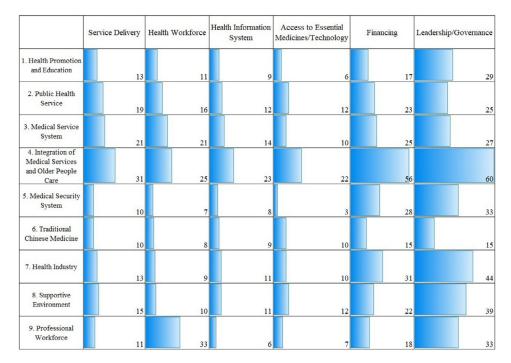


Fig. 6. The map of healthy ageing-related policy documents from 2016 to May 2020 in China to the analytical framework Notes: The numbers represent total policy documents addressing each WHO health system component and healthy ageing domain; the bar graph in each cell provides a visual representation of documents counts.

ministration, delegating powers and strengthening regulation [15]. In the combined analytical framework, all integrated components were addressed by the policy documents but with different extent of coverage. For example, financing and governance were largely covered by policies in all domains, particularly in the integration of medical services and older people care, whereas health information system and access to essential medicines and technologies were sparsely addressed in the health promotion education, medical security system and professional workforce domains (Fig. 6).

#### 4. Discussion

In this review, we provided an in-depth overview of all national healthy ageing policies issued in mainland China during the 13<sup>th</sup> Five-Year Plan. We identified the distribution pattern by types and ministries of policy documents as well as the characteristics of their interrelationships. Despite there being numerous policies on healthy ageing in mainland China over the past five years, there re-

main gaps in response to all health system building blocks across the Five-Year Healthy Ageing Plan framework.

Between 2016 and 2020, healthy ageing was continuously considered as a key item of the national political agenda. One-quarter of the policy documents were classified as Opinion, which is used to elaborate the insights and solutions of high-level decisionmakers towards important issues and generates a strong powerful impact on current policy implementation and future policy formulation [8]. This significant proportion of Opinion policy documents reflected a strong determination of Chinese Central Government to combat the challenges and facilitate opportunities of an ageing society. About 20% of ministries affiliated to the State Council had issued healthy ageing-related policies, of which the National Health Commission and Ministry of Civil Affairs were the leading ministries due to their major administrative responsibility in charge of the health system and older people care service, which are directly linked to healthy ageing. Despite that the Ministry of Transport, Ministry of Justice, China Bank and Insurance Regulatory Commission and People's Bank of China were not tasked to share responsibilities in the 13<sup>th</sup> Five-Year Plan for Healthy Ageing, [16] there were policy documents led by those ministries. For example, an Opinion policy to improve the transportation service for older people and disabled people was issued by the Ministry of Transport in 2018 [17]. This policy aligned well with the supportive environment domain in the Five-Year Healthy Ageing Plan. The participation of wider government sectors would potentially facilitate the coordination of health ageing policies and reduce the policy gaps [18].

Given the cross-cutting nature of healthy ageing issues, more than half of policies were co-developed by two or more government ministries. Multisectoral collaboration is strongly recommended as one of key global strategies to achieve the vision of healthy ageing by WHO [19]. Despite these efforts, this top-level coordination was still limited to a few selected ministries. With the development of healthy ageing policies in China, a policy field might require the involvement of more sectors than it is now to be implementable and impactful. It is also important for single ministry policies to be collaborative. There was a clear 'top-down' policy formulation pathway from the State Council to its ministries. This implied a strong impact of the State Council on the policymaking process. The 'within ministry' pathway was also clearly identified in some ministries. There was a lack of the other two pathways in the healthy ageing field. One is the 'bottom-up' pathway. For example, the fishing ban in Yangtze River was formulated by the Ministry of Agriculture and Civil Affairs, Ministry of Public Security, and State Administration for Market Regulation, then subsequently issued by the State Council to strongly enforce the implementation of such ban at the province level [20]. The other is the 'parallel ministry' approach, from one ministry to another. The 13<sup>th</sup> Five-Year Plan for Healthy Ageing as a co-developed milestone policy would be anticipated to realize the 'parallel ministry' approach from National Health Commission to other ministries. However, it led to the formulation of only one policy document directly echoing this five-year plan issued by the same ministry [21]. There is a need to establish a consolidated policy system centred on the 13th Five-Year Plan for Healthy Ageing, to minimise the fragmentation between the policies and eliminate the implementation barriers at various levels. This type of special task forces had already existed in other complex policy fields such as the education, environmental protection and energey industry [12].

In the 13th Five-Year Plan for Healthy Ageing, integration of medical services and older people care was widely addressed. This supports the WHO's approach to integrated health care for older people [22]. But there was a lack of policies to provide a national implementation work plan of the integrated health care model for older people. Unlike the other domains in the framework, Traditional Chinese Medicine had the least number of supportive policy documents. However, Traditional Chinese Medicine as a separate domain outside of other relevant domains had shown great importance from the Chinese Central Government. A number of laws and regulations had been enacted and implemented on fostering the development of Traditional Chinese Medicine since 2016 [23]. It also had been incorporated as a separate category into the National Essential Public Health Service Package since 2017 [24]. Given the unique perspective of Traditional Chinese Medicine in Health Maintenance and Disease Prevention, there might be an opportunity to integrate Traditional Chinese Medicine with the management of lifestyle factors affecting ageing-related diseases, to provide an affordable alternative, particularly for those in lowresource settings [25,26].

From the health system perspective, one notable strength of national policies related to healthy ageing in China was the great importance attached to leadership and governance. This finding differs from those of similar policy review studies conducted in other

countries [27-30]. This can be explained by the Chinese political system, as the world's largest single Party country. The essence of governance in healthy ageing in China identified in this policy review was to reduce excess intervention by the government over medical service and care for older people, and mobilize private sector and civil society to participate in the development of healthy ageing by transforming government functions from direct providers to a supervisory role. This strong emphasis on governance rather than government is expected to continue in the following planning cycles. Similar to the leadership and governance, financing was also largely addressed. National policies also encouraged diverse financial support models to raise adequate funds for all domains of healthy ageing. The political will for developing sustainable financing models for healthy ageing is strong. This is also evident from a recent study, suggesting there is an urgent need to increase the affordability of health care services that meet the needs of a rapidly ageing population [31].

Unlike leadership, governance and financing, the other four WHO Health System Building Blocks were sparsely addressed in the current healthy ageing policies. While information development was identified as a key priority in the 13<sup>th</sup> Five-Year Plan, its application to healthy ageing was not specified [32]. In addition, the development of big data applications in healthcare was promoted by the State Council, but there remains lack of attention to healthy ageing [33]. The current fragmented health information systems can hardly monitor the progress and quality of healthy ageing-related services [34]. Likewise, the limited access to essential medicines, health workforce shortages and poor quality of health services were recognised as key health system challenges in recent studies and the current policies were inadequate to overcome these longstanding issues [31,34–37].

This review synthesized the main characteristics of national policies for healthy ageing issued between 2016 to May 2020 in mainland China. Four recommendations are provided to support Chinese policymakers to develop future healthy ageing policies in the following planning cycles. First, to enhance multisectoral collaboration in the policy development; Second, to strengthen health system building blocks, including health information, medical products and technologies, service delivery model and health-care workforce; Third, to establish a consolidated policy system centred on the national healthy ageing plan; Fourth, to formulate a national implementation work plan to promote the integrated health care model for older people.

To our knowledge, this is the first scoping review focusing on national policies for healthy ageing in mainland China. The results of this scoping review provide a comprehensive understanding of the healthy ageing-related national policies formulated by the Chinese Central Government in the last policy planning cycle. Four limitations of this review have been identified. First, the data extraction completed in May 2020 and the policies were issued during January 2016-May 2020, not a complete five year cycle. Second, there might be some national policies issued prior to the 13<sup>th</sup> Five-Year Plan that could be related to certain healthy ageing domains. Those relevant policies were not included and synthesised in this review. Third, the data was collected from publicly searchable databases and media sources, therefore it was not possible for the authors to include policies that were not publicised. Fourth, the extracted data in this review was not sufficient to evaluate the implementation and effects of these policies.

As the challenge of population ageing has intensified, the demand for health services of older people is dramatically increasing in China. Although a strong political commitment to action on healthy ageing over the last five years, many policy gaps remain. Multisectoral collaboration, health system strengthening and integrated care services are therefore recommended for future policy development. In addition, the results of this scoping review

could inform a future study, with primary quantitative and qualitative data collections, to answer how these policies addressing the needs of ageing population. The methodology developed in this research can also be useful for future policy review in China and other countries.

#### **Contributors**

All authors have contributed to the production of this review. PY and MT conceptualised the study. PY wrote the protocol. PY, MT and AP designed the study methodology and contributed to the writing. PY, YJ, and MT participated in the scoping review process. YE and LD were involved in the interpretation of the data. PY drafted the manuscript. BL, LF, RI, LK and MT provided critical comments on drafts of the manuscript. All authors participated in the review of the manuscript, read and approved the final manuscript.

#### Data sharing statement

All data analysed or produced as a result of this review are included in the main file and Additional files. The authors had full access to all the data in the study and had final responsibility to submit for publication.

#### **Declaration of Competing Interest**

All authors declare no competing interests.

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#### Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.lanwpc.2021.100168.

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