

## ePub<sup>WU</sup> Institutional Repository

Yumei Zhu and August Österle

China's policy experimentation on long-term care insurance: Implications for access

Article (Published)  
(Refereed)

*Original Citation:*

Zhu, Yumei and Österle, August (2019) China's policy experimentation on long-term care insurance: Implications for access. *The International Journal of Health Planning and Management*. pp. 1-14. ISSN 0749-6753

This version is available at: <http://epub.wu.ac.at/7093/>

Available in ePub<sup>WU</sup>: August 2019

ePub<sup>WU</sup>, the institutional repository of the WU Vienna University of Economics and Business, is provided by the University Library and the IT-Services. The aim is to enable open access to the scholarly output of the WU.

This document is the publisher-created published version.

## RESEARCH ARTICLE

# China's policy experimentation on long-term care insurance: Implications for access

Yumei Zhu  | August Österle 

Department of Socioeconomics, WU Vienna University of Economics and Business, Wien, Austria

**Correspondence**

August Österle, Department of Socioeconomics, WU Vienna University of Economics and Business, Welthandelsplatz 1, 1020 Wien, Austria.  
Email: [august.oesterle@wu.ac.at](mailto:august.oesterle@wu.ac.at)

**Summary**

China's population is aging rapidly, while the traditional long-term care (LTC) system that heavily relies on families is eroding. In response, China has embarked on a journey of policy experimentation for long-term care insurance (LTCI) since 2016, launching LTCI pilots in 15 pioneer cities. These pilots have a great diversity in participation, eligibility, and provision. This paper estimates the prevalence of LTC needs and analyzes the impact of the LTCI pilots on access. Although substantial progress has been achieved, the overall coverage of LTCI is still relatively small, and a large proportion of vulnerable people needing LTC seem to be left behind because of the strict eligibility criteria. This analysis suggests that future policy experimentation on LTCI reform in China needs to address the following pressing policy issues: expanding the coverage of LTCI; narrowing rural–urban disparities in access; improving access for vulnerable subpopulations; and reducing the heavy reliance on institutional care.

**KEYWORDS**

access, China, inequality, long-term care, policy experimentation

## 1 | INTRODUCTION

For millennia, families have borne the main responsibility for caring frail older people in China. However, the traditional caregiving system is increasingly strained, and a growing number of older people need some kind of long-term care (LTC).<sup>1</sup> Between 2015 and 2050, the number of people aged 60 years and over will more than double

---

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.  
© 2019 The Authors. The International Journal of Health Planning and Management published by John Wiley & Sons Ltd

from 222 million to 480 million. The number of older people with limitations in activities of daily living (ADLs) is projected to rise from 40 million in 2015 to 98 million in 2050.<sup>2-5</sup> Thus, in that period, the demand for LTC is growing by a factor of 2.5, while the pool of potential informal caregivers is shrinking. Hence, the need for LTC coverage outside traditional informal networks and the risk for unmet LTC needs will grow substantially in China.<sup>1,6</sup> Additionally, China also faces challenges to bridge disparities in LTC needs and LTC coverage among different socioeconomic groups and regions during its rapid socioeconomic modernization and urbanization.<sup>6-8</sup> In this context, the Chinese government has started a process of policy experimentation for long-term care insurance (LTCI) in 2016, aiming at establishing and improving the policy framework for social LTCI till 2020.

Given China's sheer size and regional socioeconomic differences, it is clearly difficult to implement a one-size-fits-all approach for LTCI. As with many reforms in other policy areas,<sup>9,10</sup> China decided to develop LTCI through policy experimentation. Under the umbrella of "experimentation," the central government encourages subnational governments to carry out pilot programs for exploring novel policy options and solving problems through a process of trial and error. Lessons learned from the pilot programs will help the central government find an appropriate policy with contextual fit nationwide.<sup>10</sup> Hence, 15 pioneer cities<sup>11</sup> were selected for implementing LTCI pilots, instead of a direct start with a national scheme. Since the first day of their implementation, the performance of these LTCI pilots has received increasing attention from researchers and policy makers. Several studies addressed cost issues, including financial efficiency<sup>12</sup> and expenditure projections.<sup>13,14</sup> However, besides a balanced budget, meeting individuals' needs and improving access to LTC services are also key features of a successful LTCI. But respective information is still scant for these fresh pilots. Therefore, this paper is an attempt to fill this gap. It provides an in-depth analysis of the effects of the LTCI pilots on access in terms of coverage, eligibility, and benefits and of the challenges to be addressed in improving existing pilots before nationwide implementation. More specifically, the analysis proceeds in three steps. Firstly, it estimates the proportion of the population aged 45+ in need of care, differentiating by three levels of dependency. Secondly, assuming a nationwide implementation of the LTCI pilots, the paper explores the proportion of the population covered by each LTCI pilot, it studies eligibility for benefits in each of the LTCI programs, and the types of benefits provided in each of the LTCI programs. Thirdly, these results will be discussed with a view to changes required to ensure more comprehensive and more equal access to LTCI.

To allow for a full picture of the context, the paper starts by briefly introducing the background of China's current policy experimentation on LTCI. After introducing data and methods, the paper proceeds with introducing the main results for estimating needs, coverage, eligibility, and benefits. This is then followed by a discussion of the most critical factors of the current LTCI pilots in terms of access and a brief conclusion and outlook.

## 2 | BACKGROUND

For LTC policy experimentation and innovation in China, pioneer cities were selected from diverse geographical regions, with variations in economic development, population aging, and fiscal capacities. To date, all the 15 cities have launched their individual LTCI pilots that are varying in program design. Differences include, but are not limited to, targeting a specified population or providing universal coverage; covering all ages or concentrating on older people; setting broad or narrow eligibility criteria for benefits; requiring a high or low copayment; providing institutional care and/or noninstitutional care services; allowing cash allowances or not. Table 1 provides a summary of the broad features of the 15 LTCI pilots.

Despite substantial space for flexible policy tailoring, the subnational governments developed LTCI pilots under an overall policy framework set by the central government. This encourages pilots to establish a stand-alone LTCI fund but allows them to be financed by the medical insurance system for reducing implementation difficulties and financial pressure. As a result, while LTCI is designed as an independent insurance system, all LTCI pilots still opt for medical insurance funds as the principal, and even the sole, funding source of LTCI. This dependency relationship results in the fact that China's medical insurance system acts as the landscape of emerging LTCI. The medical

**TABLE 1** Pilot LTCIs in 15 pioneer cities: a summary in China

Pioneer Cities	Target Population				Eligibility to Benefits				Provision	
	Employee	Urban Residents	Rural Residents	Any Others	Physical Disability			Intellectual Disability	In-Kind Services	Cash Allowance
					Severe Disability	Moderate Disability	Mild Disability			
Anqing	Yes				Yes				Institutional and home care	Yes
Chengde	Yes				Yes				Institutional and home care	
Chengdu	Yes				Yes				Institutional and home care	
Chongqing	Yes				Yes				Institutional and home care	
Guangzhou	Yes				Yes		Yes		Institutional and home care	
Ningbo	Yes				Yes				Institutional care	
Qiqihar	Yes				Yes				Institutional and home care	
Shangrao	Yes				Yes		Yes		Institutional and home care	Yes
Changchun	Yes	Yes			Yes				Institutional care	
Jingmen	Yes	Yes	Yes		Yes				Institutional and home care	
Shihezi	Yes	Yes	Yes		Yes				Institutional and home care	Yes
Nantong	Yes	Yes	Yes		Yes	Yes			Institutional and home care	Yes
Qingdao	Yes	Yes	Yes		Yes	Yes	Yes		Institutional and home care	
Suzhou	Yes	Yes	Yes		Yes	Yes			Institutional and home care	
Shanghai	Yes	Yes and ages 60+	Yes and ages 60+		Yes and ages 60+	Yes and ages 60+	Yes and ages 60+		Institutional, community, and home care	

Sources: Summarized from subnational government publications of the 15 pioneer cities on LTCIs between 2016 and 2017.

insurance system consists of three basic insurances, namely the urban employee basic medical insurance scheme (UEBMI), the urban resident basic medical insurance scheme (URBMI), and the new rural cooperative medical system (NRCMS) for rural residents.<sup>15</sup> Via these three pillars, China's medical insurance system has achieved 95% coverage of the population, while large disparities still exist among subpopulations because of the differences in the funding level and in the benefit packages.<sup>16</sup> Since LTCI pilots largely depend on the funding pools of the medical insurance system, they naturally inherit properties of the medical insurance system to some extent.

### 3 | DATA AND METHODS

In identifying and analyzing LTCI pilot policy and program content, we reviewed LTCI policy and guidance documents enacted by the national and subnational governments. The collection of documents took place from 2016 till December 2017. The review involved a search of the websites of the key governmental organizations, including the Ministry of Human Resources and Social Security and their provincial and municipal bureaus, the State Council, and the provincial and municipal governments.

The next stage is to formulate the concept of access. The precise formulation of access is highly contingent on the context where the analysis is taking place.<sup>17</sup> For China, given the lack of formal LTCI coverage, access is often considered to primarily refer to whether or not the individual is insured under LTCI. However, our analysis will go beyond LTCI coverage and will also consider eligibility for benefits, and the type of benefits provided in order to allow for a more comprehensive study of the impacts of the pilot programs on access to LTC.

In order to better understand these impacts, we use data from the 2015 wave of the China Health and Retirement Longitudinal Study (CHARLS). The data are used to estimate the prevalence of LTC needs and the population covered by LTCI, assuming a nationwide roll-out of each of the pilots. CHARLS is a nationally representative survey of the Chinese population aged 45 and older and is conducted by the China Center for Economic Research at Peking University. In total, 21 095 individuals participated in the 2015 wave. Our analysis is based on 19 939 respondents aged 45 and older who provided information on functional disabilities and medical insurance coverage.

The extent of LTC needs is categorized based on functional disability. Ten out of the 15 LTCI pilots explicitly adopt the Barthel Index to measure a person's level of functional independence. Thus, we estimate the size of the population needing LTC based on the Barthel Index, assessing the performance of 10 basic ADLs: feeding, bathing, grooming, dressing, bowels, bladder, toilet use, transfers (bed to chair and back), mobility (on level surface), and stairs. The total score is formed by adding the score on each activity and ranges from 0 to 100, with a higher score indicating a greater independence in ADLs. The CHARLS survey contains questions regarding the performance of these ADLs. Respondents' ADL scores are determined based on the Barthel Index, which categorizes their levels of independence into four types: severe disability (score: 0–40), moderate disability (score: 41–60), mild disability (score: 61–99), or full independence (score: 100). Further details on the Barthel Index and ADL scores for respondents' performance are available in the Appendix. Building on the estimation of the population in need of care for three levels of dependency ("Who needs long-term care?"), we next use our sample to estimate the coverage with LTCI ("Who participates in long-term care insurance?"), and we explore eligibility for benefits ("Who receives benefits from long-term care insurance?") and the benefits provided ("What are the benefits from long-term care insurance?"). The estimates follow the assumption that LTCI pilots are rolled-out nationwide, allowing a comparative perspective on how inclusive the different pilots are.

## 4 | RESULTS

### 4.1 | Who needs long-term care?

In China, most of the population in need of LTC is middle-aged and older adults; 57.2% of people who need daily care were aged 45 years or over in 2010, and this proportion is projected to reach 76.7% of 110.5 million disabled

people by 2050.<sup>18,19</sup> According to our analysis of the CHARLS 2015 wave, 14.3% of people aged 45 or over have daily care needs because of functional limitations (Table 2); 86.7% of the disabled are those with mild disability, and 7.0% and 6.3% are the moderately and severely disabled, respectively. With respect to their medical insurance coverage, we note that more than half of these disabled people aged 45 or over are rural residents enrolled in NRCMS. The proportion of rural residents in NRCMS accounts for approximately 65%, 66%, and 71% of the dependent populations with severe, moderate, and mild disability, respectively (Table 2). Of the severely disabled, around 11% and 9% are urban employees enrolled in UEBMI and urban residents enrolled in URBMI. The moderately disabled and mildly disabled have similar proportions of coverage in UEBMI and URBMI. The remaining disabled population, accounting for 18% to 19% of each tier, are not insured by any of the three medical insurances.

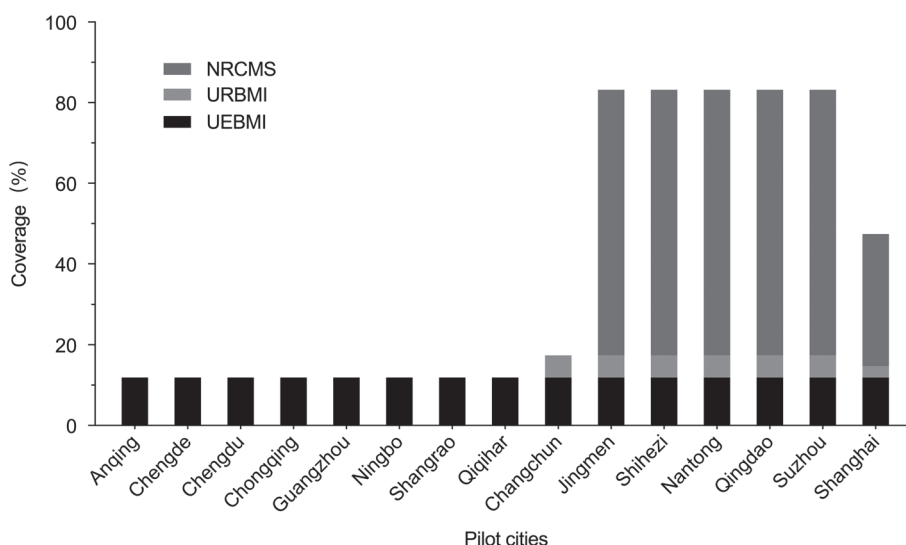
### 4.2 | Who participates in long-term care insurance?

Next, we estimate LTCI participation rates among adults aged 45 or over from the 2015 wave of CHARLS, assuming that the LTCI pilots are rolled-out nationwide (see Figure 1). Urban employees enrolled in UEBMI are the priority

**TABLE 2** Population with ADL disability, by three basic medical insurances, using the 2015 wave of CHARLS (N = 19 939)

Level of Disability	All	UEBMI (Urban Employees)		URBMI (Urban Residents)		NRCMS (Rural Residents)		Any Others	
		No.	(n) %	No.	(n) %	No.	(n) %	No.	(n) %
Severe	181	20	11.0%	10	5.5%	117	64.6%	34	18.8%
Moderate	201	18	9.0%	14	7.0%	132	65.7%	37	18.4%
Mild	2485	158	6.4%	104	4.2%	1757	70.7%	466	18.8%
Independent	17072	2180	12.8%	968	5.7%	11105	65.0%	2819	16.5%
Total	19939	2376	11.9%	1096	5.5%	13111	65.8%	3356	16.8%

Source: Authors' analysis of data from the China Health and Retirement Longitudinal Study, 2015.



**FIGURE 1** Estimated LTCI coverage rates, by basic medical insurances (N=19 939)  
Source: Authors analysis of data from the China Health and Retirement Longitudinal Study, 2015

group to be covered by LTCI pilots in the policy experimentation. More than half of the cities (Anqing, Chende, Chengdu, Chongqing, Guangzhou, Ningbo, Shangrao, and Qiqihar) only cover the urban employees. Using the aforementioned information on LTC needs and medical insurance status, this would lead to a LTCI participation rate as low as 11.9% of adults aged 45 or over. The LTCI pilot in Changchun extends to urban residents enrolled in URBMI. Accordingly, 17.4% of the middle-aged and older adults would be eligible to receive protection under this specific LTCI design. In other cities (Jingmen, Shihezi, Nantong, Qingdao, and Suzhou), LTCI pilots further extend to rural residents enrolled in NRCMS, leading to a considerably larger LTCI coverage rate of 83.2% in adults aged 45 or over. Urban employees, urban residents, and rural residents under the three medical insurances are also eligible to participate in the Shanghai LTCI pilot. However, rural and urban residents must be aged 60 and above, while there is no such age requirement for urban employees. Thus, it is estimated that only 47.3% of adults aged 45 or over would be eligible to be insured by the Shanghai LTCI pilot design.

Individuals who do not have any of the three medical insurances are ineligible to participate in any LTCI pilots, irrespective of their care needs. According to Table 2, 16.8% of the middle-aged and older adults would not qualify for LTCI enrollment, of which 15.4% have severe, moderate, or mild ADL disability.

### 4.3 | Who receives benefits from long-term care insurance?

In LTCI pilots, eligibility for receiving LTC benefits is determined by several factors, including the assessment of disability, types of disability (physical or intellectual), minimum eligibility thresholds, and age limits. Most pilots assess the disability based on a simple scoring system, the Barthel ADL scale that emphasizes the physical indicators of applicants. A few pilots add assessment tools, such as the Karnofsky Performance Status (KPS) or the Mini Mental State Examination (MMSE), or introduce their own comprehensive instruments to assess the disability. Despite some variations in the scale for assessment, LTCI pilots generally categorize disabled people into three severity levels: severe, moderate, and mild disability.

Those covered by LTCI are eligible for benefits if they have disabilities that result in a need for support in ADLs and treatments expected to last for at least 6 months. Eleven of the 15 cities (Anqing, Chengde, Chengdu, Chongqing, Guangzhou, Ningbo, Qiqihar, Shangrao, Changchun, Jingmen, and Shihezi) set severe physical disability as the minimum threshold for receiving LTC benefits. Besides severe physical disability, participants suffering from moderate physical disability are only eligible for receiving LTC benefits in the LTCI pilots of Nantong, Qingdao, and Suzhou. Shanghai is the one and only pilot where LTCI provides benefits to mildly disabled people.<sup>20</sup>

In contrast with providing benefits to the physically disabled in all LTCI pilots, only three cities, Guangzhou, Qingdao, and Shangrao, expand LTCI coverage to people with intellectual disabilities. However, it is also not without limits in these three LTCI pilots. For instance, the intellectually disabled are ineligible for LTC benefits unless they are ADL-qualified in Guangzhou. In the case of Qingdao, people with intellectual disabilities have to fulfill additional requirements, including the age of 60 and above, severe dementia, and enrollment in UEBMI or URBMI. These restrictions exclude many younger people and rural residents with intellectual disabilities. Among the 15 cities, it is only the Shangrao pilot that does not discriminate in eligibility between the physically and the intellectually disabled.

Additionally, none of the 15 LTCI pilots sets a minimum age limit for LTC benefits except for Shanghai, where people under the age of 60 are ineligible to receive benefits. Under the age limit, although younger employees are eligible to participate in LTCI, they are unable to receive benefits until reaching the minimum age.

### 4.4 | What are the benefits from long-term care insurance?

LTCI pilots provide benefits via two basic forms: in-kind services and cash allowance (Table 1). In-kind services are essentially covered by LTCI in all pilot cities. Specifically, however, in Changchun and Ningbo, in-kind services are limited to institutional care. In the other cities, LTCI covers institutional care and home care. In addition, in the Shanghai pilot, benefits are extended to community care services provided by nursing homes. While all the 15 pilots

provide in-kind services, cash allowances are rarely covered. Only four cities (Anqing, Shihezi, Nantong, and Shangrao) offer the cash option as an alternative to in-kind services to maximize the choices of LTCI participants.

To mitigate the waste of services, in-kind services are generally subject to copayments up to a certain benefit ceiling. These copayments differ between pilots and for different services, ranging from 10% to 60% (see Table 3). In the pilots in Changchun and Qingdao, copayment levels differ by medical insurance rather than type of service. Eg, the Changchun pilot requires a 10% copayment for urban employees in UEBMI and a 20% copayment for urban residents in URBMI. Similarly, the Qingdao pilot requires a 10% copayment for urban employees and higher copayments for URBMI and NRCMS participants. In the previous reform of medical insurance, Qingdao consolidated

**TABLE 3** Differences in LTCI benefits among 15 pioneer cities in China

Pioneer Cities	In-Kind Services	Cash Allowances
Anqing	Institutional care: CNY 40–CNY 50 per day; 40%–50% copayment Home care: CNY 25 per day	CNY 15 per day
Chengde	Institutional care: CNY 50–CNY 60 per day; 30% copayment Home care: CNY 40 per day; copayment	
Chengdu	Institutional care: 30% copayment Home care: 25% copayment	
Chongqing	Institutional care: CNY 50 per day Home care: CNY 50 per day	
Guangzhou	Institutional care: CNY 120 per day; 25% copayment Home care: CNY 115 per day; 10% copayment	
Ningbo	Institutional care: CNY 40 per day	
Qiqihar	Institutional care: CNY 20–CNY 30; 45%–40% copayment Home care: CNY 20; 50% copayment	
Shangrao	Institutional care: fixed payments Home care: quota payment	CNY 15 per day
Changchun	UEBMI participants: 10% copayment URBMI participants: 20% copayment	
Jingmen	Institutional care: CNY 100–CNY 150 per day; 25%–30% copayment Home care: CNY 40–CNY 100 per day; 20% copayment	
Shihezi	Institutional care: CNY 25 per day; 30% copayment Home care: CNY 25 per day; 30% copayment	CNY 25 per day
Nantong	Institutional care: 40%–50% copayment Home care: CNY 40 per day	CNY 40 per day
Qingdao	UEBMI participants: 10% copayment Residents at a higher premium for medical insurance: 20% copayment; residents at a lower premium for medical insurance: 60% copayment (only home visit care available)	
Suzhou	Institutional care: 40% copayment Home care: fixed payments	
Shanghai	Institutional care: 15% copayment Community care: 10% copayment Home care: 10% copayment	

Sources: Summarized from subnational government publications of the 15 pioneer cities on LTCIs between 2016 and 2017.



URBMI and NRCMS and re-divided participants into two categories, namely residents who pay a lower premium and residents who pay a higher premium. With respect to LTCI copayments, residents at a higher premium pay 20% copayment, whereas those at a lower premium have to cover 60% of their benefits themselves. Note that the latter is most likely to be the rural population previously enrolled in NRCMS.

## 5 | DISCUSSION

The primary goal of LTC experimentation in China is to explore novel policy options that effectively address growing LTC needs. And, in fact, rolling-out any of these pilots nationwide would be an important step for developing a more comprehensive LTC system. However, with a view to the above analysis, current LTCI pilots exhibit numerous challenges for ensuring universal and equal access to LTC in China.

### 5.1 | LTCI coverage is insufficient to meet the increasing needs of disabled people

LTCI pilots fill a much-needed gap in public support for LTC, but the number of beneficiaries remains relatively small because of strict eligibility criteria, even in pioneer cities with a broader population coverage. LTCI in Qingdao, for instance, has covered all those under the three medical insurances and has extended benefits to those with moderate and severe physical disability and to those with intellectual disability. Still, less than 2% of its older population aged 60 years and over has received benefits from LTCI by the end of 2017.<sup>21</sup> According to our estimates, only between 9% and 11% of the disabled are urban employees enrolled in UEBMI. The major population in need of LTC are rural residents enrolled in NRCMS, accounting for more than 60% of the disabled. Accordingly, in cities where LTCI only covers urban employees, the share of those receiving LTC benefits will be much lower than in the case of Qingdao. This discloses a large gap between the needs of disabled people and access to LTC benefits in China's policy experimentation on LTCI. Additionally, the share of the older population receiving benefits is significantly lower than that in some countries with developed LTCI, for example Japan and Germany, where LTCI provides benefits to 13.5% and 10.5% of their population aged 65+, respectively.<sup>22</sup>

### 5.2 | Favoring urban employees exacerbates rural–urban disparities in unmet LTC needs

In most LTCI pilots, urban employees in UEBMI receive preferential access to public support. More than half of the pilots completely exclude the vast rural population. Evidence from previous studies indicates that China's rural–urban disparities in income and in access to medical care result in differences in health outcomes, with the rural population being worse off than the urban counterpart.<sup>23–27</sup> An analysis of data from CHARLS also showed that rural–urban disparities exist in unmet LTC needs and that the gap increased significantly with the intensity of needs.<sup>8</sup> The majority of people with potentially greater LTC needs are those in the rural population, but the exclusion under most LTCI pilots leaves them lacking access to LTC. That may further exacerbate existing rural–urban disparities in unmet LTC needs, because LTC services continue to be unaffordable for many rural residents without access to LTCI.

To narrow rural–urban disparities, some pilots are in a process of integrating those insured by URBMI and NRCMS and of further expanding LTC coverage for the rural population. However, inequalities remain. For instance, most rural participants of LTCI in Qingdao are ineligible for institutional care, but also have to pay a higher copayment for benefits compared with their urban participants. That could create access barriers for the rural population. Evidence from Qingdao points out that, during the first 6 months after the LTCI coverage expansion to the rural population, more than 86% of beneficiaries remain urban employees. The cost of home visit services that are available for rural beneficiaries only accounted for 0.33% of the total LTC expenditure in that city.<sup>28</sup>

### 5.3 | Unequal access to LTCI remains for certain vulnerable subpopulations

Apart from disadvantages for rural residents, unequal access to LTCI also exists for many vulnerable subpopulations because of the narrow eligibility criteria. Firstly, the dependency relationship between LTCI pilots and the medical insurance system has left out the population without basic medical insurance. Our analysis of data from CHARLS shows that around 17% of disabled adults are not involved in any of the three basic medical insurances. This number is consistent with a previous analysis based on the Chinese Longitudinal Healthy Longevity Survey (CLHLS), reporting that 21% of the older disabled population in China is without medical insurance.<sup>29</sup> Actually, many studies suggested that these people are one of the most disadvantaged subpopulations likely to have less income and worse health status in China.<sup>24,30,31</sup> The lack of access to both public medical care and to LTC will double down them to an even more disadvantaged position.

Secondly, most LTCI pilots prefer people with physical disabilities and exclude a significant number of the intellectually disabled people needing LTC. Around 11.9% of China's disabled people are those with intellectual disabilities, and the prevalence is expected to accelerate.<sup>32</sup> However, in many pilots they are ineligible for benefits, leading to a new inequality in access to LTCI between the physically disabled and the intellectually disabled. Finally, in the city of Shanghai, urban employees have to pay into the health care system (which funds LTCI) without access to LTC benefits before they turn 60 years. While comprehensible from a funding perspective, such a strict age limitation is counter the principle of social insurance and unfair for the younger disabled employees if there are no alternative care provisions. LTCI systems in South Korea and Japan also set age limits. Accordingly, only those aged 65 years and older are eligible for all types of LTC in these countries, but younger participants still have access to LTC benefits here in case of age-related LTC needs.<sup>33,34</sup>

### 5.4 | Preference for institutional care can lead to new inequalities in access to LTC

In the current LTCI pilots, there is no clear preference for home care and community care in terms of provision and copayment. In contrast, some pilots only cover services in institutions or set a lower copayment for institutional care when compared with noninstitutional care. Evidence from other countries shows that policy initiatives favoring institutional care potentially lead to a rapid expansion of institutional care services and over-institutionalization.<sup>22,35</sup> And, the preference for institutional care can create new inequalities in access to LTC in China, where LTC facilities are insufficient and unevenly distributed.<sup>1</sup> Currently, there are 7 million beds in older care facilities, covering 3% of the older population in China.<sup>36</sup> The shortage of LTC facilities and the preference for institutional care in the LTCI pilots could not only lead to longer waiting times. Spending more on institutional care could also restrict beneficiaries' access to other, potentially more cost-effective LTC services. What is more, there is an uneven geographical distribution of LTC facilities concentrating in urban areas. For instance, more than 98% of designated LTC facilities are concentrated in urban areas of Qingdao.<sup>28</sup> Similarly, Nantong has 18 designated LTC facilities, and all of them are located in urban areas.<sup>37</sup> Thus, for the population in rural areas where institutional facilities are underdeveloped, opportunities to access formal care services remain very limited.<sup>6</sup>

## 6 | CONCLUSION

China is functioning as a laboratory of diverse policy innovations for LTCI. The policy experimentation is gradually changing the LTC landscape in China, complementing a family care-based LTC system progressively with a formal LTC system in which institutional care, community care, home care, and cash allowances are provided. By the end of 2017, approximately 4.4 million people had participated in the 15 LTCI pilots, and more than 75 000 participants had received LTC benefits.<sup>38</sup> The LTC policy experimentation has a great potential to explore novel policy options and to assess the pros and cons of alternative approaches. Rolling out these pilots nationwide will be a major step in

developing a more comprehensive system of LTC addressing growing needs for LTC and decreasing informal capacities to provide the necessary care. However, as the analysis has shown, in the current design of LTCI pilots, important disparities in access to LTC remain unresolved, with many vulnerable people in need of LTC left on their own and their informal networks. Hence, to improve access to LTC, policy makers need to address numerous challenges, including limited personal coverage of LTCI pilots, rural–urban disparities in access to LTC services, uneven access for certain vulnerable subpopulations, and a preference for institutional care that potentially undermines a more comprehensive development of home care services.

## ACKNOWLEDGEMENTS

We would like to acknowledge the National School of Development of Peking University for providing the dataset, and we thank the CHARLS research and field team for collecting the data. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## CONFLICT OF INTEREST STATEMENT

The authors declare that there are no financial or other relationships that might lead to a conflict of interest. The manuscript has not been published in whole or in part nor is it being considered for publication elsewhere. All authors have reviewed the final version of the manuscript and approved it for publication.

## ETHICS STATEMENT

This study does not require ethical approval. The data from the China Health and Retirement Longitudinal Study (CHARLS) are publicly available. This study had been approved by Peking University, Beijing, China. It is not possible to identify individuals from the information provided.

## ORCID

Yumei Zhu  <https://orcid.org/0000-0002-5798-2901>

August Österle  <https://orcid.org/0000-0002-2213-8815>

## REFERENCES

1. Feng ZL, Liu C, Guan XP, Mor V. China's rapidly aging population creates policy challenges in shaping a viable long-term care system. *Health Aff.* 2012;31(12):2764-2773.
2. China National Committee on Ageing. *The Fourth National Survey of Rural and Urban Living Conditions of the Elderly in China*. Beijing: China National Committee on Ageing; 2016.
3. Ministry of Civil Affairs of the People's Republic of China. *Statistical report of the People's Republic of China on the development of social services in 2015*. Beijing: China Statistics Press. <http://www.mca.gov.cn/article/sj/tjgb/201607/20160700001136.shtml> Published 2016. Accessed.
4. China Research Center on Aging. *Development of Elderly Care Institutions in China*. Beijing: Hualing Publishing House; 2015.
5. United Nations. *World Population Ageing: 1950–2050*. New York: United Nations; 2002.
6. Liu T, Sun L. An apocalyptic vision of ageing in China: old age care for the largest elderly population in the world. *Z Gerontol Geriatr.* 2015;48(4):354-364.
7. Wu B, Mao ZF, Zhong R. Long-term care arrangements in rural China: review of recent developments. *J Am Med Dir Assoc.* 2009;10(7):472-477.
8. Zhu YM, Österle A. Rural-urban disparities in unmet long-term care needs in China: the role of the hukou status. *Soc Sci Med.* 2017;191:30-37.

9. Hellman S. *Experimentation Under Hierarchy: Policy Experiments in the Reorganization of China's State Sector, 1978–2008*. Cambridge, Massachusetts: Center for International Development at Harvard University; 2008.
10. Husain L. Policy experimentation and innovation as a response to complexity in China's management of health reforms. *Globalization Health*. 2017;13:54.
11. 15 pioneer cities are Chengde (Hebei), Changchun (Jilin), Qiqihar (Heilongjiang), Shanghai, Nantong (Jiangsu), Suzhou (Jiangsu), Ningbo (Zhejiang), Anqing (Anhui), Shangrao (Jiangxi), Qingdao (Shandong), Jingmen (Hubei), Guangzhou (Guangdong), Chongqing, Chengdu (Sichuan), Shihezi (the Xinjiang Production and Construction Corps).
12. Yang W, Jingwei He A, Fang L, Mossialos E. Financing institutional long-term care for the elderly in China: a policy evaluation of new models. *Health Policy Plan*. 2016;31(10):1391-1401.
13. Lu B, Mi H, Zhu Y, Piggott J. A sustainable long-term health care system for aging China: a case study of regional practice. *Health Systems & Reform*. 2017;3(3):182-190.
14. Lu B, Liu X, Yang M. A budget proposal for China's public long-term care policy. *J Aging Soc Policy*. 2017;29(1):84-103.
15. Cheng TM. Early results of China's historic health reforms: the view from minister Chen Zhu. Interview by Tsung-Mei Cheng. *Health Aff*. 2012;31(11):2536-2544.
16. Meng Q, Fang H, Liu X, Yuan B, Xu J. Consolidating the social health insurance schemes in China: towards an equitable and efficient health system. *Lancet*. 2015;386(10002):1484-1492.
17. Goddard M, Smith P. Equity of access to health care services: theory and evidence from the UK. *Soc Sci Med*. 2001; 53(9):1149-1162.
18. Yu H. Universal health insurance coverage for 1.3 billion people: what accounts for China's success? *Health Policy*. 2015;119(9):1145-1152.
19. Harwood RH, Sayer AA, Hirschfeld M. Current and future worldwide prevalence of dependency, its relationship to total population, and dependency ratios. *Bull World Health Organ*. 2004;82(4):251-258.
20. In Shanghai, the dependent population is classified in six levels of disability. Level 1-2 are classified as mild disability, 3-4 and 5-6 are moderate and severe disability, respectively. Only those in disability levels 2-6 are eligible for LTC benefits.
21. Zhang YH, Zheng BW. Promoting the development of long-term care insurance system in China. *Chinese Social Sciences Today*. 31/01, 2018. [http://www.cssn.cn/shx/shx\\_jjshx/201802/t20180202\\_3838767.shtml](http://www.cssn.cn/shx/shx_jjshx/201802/t20180202_3838767.shtml). Accessed 06/10, 2018.
22. Campbell JC, Ikegami N, Gibson MJ. Lessons from public long-term care insurance in Germany and Japan. *Health Aff*. 2010;29(1):87-95.
23. Liu X, Wong H, Liu K. Outcome-based health equity across different social health insurance schemes for the elderly in China. *BMC Health Serv Res*. 2016;16:9.
24. Zhang CC, Lei XY, Strauss J, Zhao YH. Health insurance and health care among the mid-aged and older Chinese: evidence from the national baseline survey of CHARLS. *Health Econ*. 2017;26(4):431-449.
25. Tang S, Meng Q, Chen L, Bekedam H, Evans T, Whitehead M. Tackling the challenges to health equity in China. *Lancet*. 2008;372(9648):1493-1501.
26. Jian WY, Chan KY, Reidpath DD, Xu L. China's rural-urban care gap shrank for chronic disease patients, but inequities persist. *Health Aff*. 2010;29(12):2189-2196.
27. Dai W. Is China facing the social risks associated with reliance on hospitalization for the care of the elderly with chronic diseases? *Int J Health Plan M*. 2019;34(2):794-805.
28. Zhang WB. Study on the practical implementation of long-term care insurance system and the social care: a case research on Qingdao long-term care nursing insurance. *Journal of Beijing University of Technology (Social Sciences Edition)*. 2017;17(6):24-33.
29. Zhang XR, Zhang LP. Aged-support situations of the disabled elderly. *Population Journal*. 2016;3(38):47-57.
30. Barnighausen T, Sauerborn R. One hundred and eighteen years of the German health insurance system: are there any lessons for middle- and low-income countries? *Soc Sci Med*. 2002;54(10):1559-1587.
31. Li YP, Malik V, Hu FB. Health insurance in China: after declining in the 1990s, coverage rates rebounded to near-universal levels by 2011. *Health Aff*. 2017;36(8):1452-1460.
32. Kwok HW, Cui Y, Li J. Perspectives of intellectual disability in the People's Republic of China: epidemiology, policy, services for children and adults. *Curr Opin Psychiatry*. 2011;24(5):408-412.
33. Rhee JC, Done N, Anderson GF. Considering long-term care insurance for middle-income countries: comparing South Korea with Japan and Germany. *Health Policy*. 2015;119(10):1319-1329.
34. Jeon B, Kwon S. Health and long-term care systems for older people in the Republic of Korea: policy challenges and lessons. *Health Systems & Reform*. 2017;3(3):214-223.
35. Tamiya N, Noguchi H, Nishi A, et al. Population ageing and wellbeing: lessons from Japan's long-term care insurance policy. *Lancet*. 2011;378(9797):1183-1192.
36. Ministry of Civil Affairs of the People's Republic of China. *Statistical Report of the People's Republic of China on the Development of Social Services in 2016*. Beijing: China Statistics Press; 2017.

37. Du YX. Difficulties and countermeasures in the implementation of long-term care insurance system: a case study of Nantong. *Labor Security World*. 2017;5(29):29-31.
38. Department of Medical Insurance. *Pilot long-term care insurance is processing smoothly*. Beijing: Ministry of Human Resources and Social Security of the People's Republic of China. [http://www.mohrss.gov.cn/SYrlzyhshbzb/shehuibaozhang/gzdt/201805/t20180502\\_293342.html](http://www.mohrss.gov.cn/SYrlzyhshbzb/shehuibaozhang/gzdt/201805/t20180502_293342.html) Published 2018. Accessed 02/05, 2018.

**How to cite this article:** Zhu Y, Österle A. China's policy experimentation on long-term care insurance: Implications for access. *Int J Health Plann Mgmt*. 2019;1-14. <https://doi.org/10.1002/hpm.2879>

## APPENDIX A

### THE BARTHEL INDEX

Activity	Score
Feeding	0 = unable
	5 = needs help cutting, spreading butter, etc., or requires modified diet
	10 = independent
Bathing	0 = dependent
	5 = independent (or in shower)
Grooming	0 = needs to help with personal care
	5 = independent face/hair/teeth/shaving (implements provided)
Dressing	0 = dependent
	5 = needs help but can do about half unaided
	10 = independent (including buttons, zips, laces, etc.)
Bowels	0 = incontinent (or needs to be given enemas)
	5 = occasional accident
	10 = continent
Bladder	0 = incontinent, or catheterized and unable to manage alone
	5 = occasional accident
	10 = continent
Toilet use	0 = dependent
	5 = needs some help, but can do something alone
	10 = independent (on and off, dressing, wiping)

(Continues)

Activity	Score
Transfers (bed to chair and back)	0 = unable, no sitting balance
	5 = major help (one or two people, physical), can sit
	10 = minor help (verbal or physical)
	15 = independent
Mobility (on level surfaces)	0 = unable
	5 = wheelchair independent, including corners
	10 = walks with help of one person (verbal or physical)
	15 = independent (but may use any aid; for example, stick)
Stairs	0 = unable
	5 = needs help (verbal, physical, carrying aid)
	10 = independent

Note. (1) Total score = 0–40: severe disability, (2) Total score = 41–60: moderate disability, (3) Total score = 61–99: mild disability, and (4) Total score = 100: Independency.

## APPENDIX B

### POINTS FOR THE PERFORMANCE OF ACTIVITIES OF DAILY LIVING (ADLs), BASED ON BARTHEL INDEX

Activity	Questions Used to Assess ADLs	Answer			
		Score = 0	Score = 5	Score = 10	Score = 15
Feeding	Do you have any difficulty with eating, such as cutting up your food?	Cannot do it	Have difficulty and need help	Dont have any difficulty/ have difficulty but can still do it.	-
Bathing	Do you have any difficulty with bathing or showering?	Cannot do it/ Have difficulty and need help	Dont have any difficulty/have difficulty but can still do it.	-	-
Grooming	(a) Do you have difficulty with reaching or extending your arms above shoulder level?	Cannot do it for (a)/ Have difficulty and need help for (a)/Cannot do it for (b)/ Have difficulty and need help for (b)	Dont have any difficulty/have difficulty but can still do it for (a),	-	-
	(b) Do you have difficulty with picking up a		and dont have any difficulty/ have difficulty	-	-

(Continues)

Activity	Questions Used to Assess ADLs	Answer			
		Score = 0	Score = 5	Score = 10	Score = 15
	small coin from a table?		but can still do it for (b).		
Dressing	Do you have any difficulty with dressing?	Cannot do it	Have difficulty and need help	Dont have any difficulty/ have difficulty but can still do it.	-
Bowels	Do you have any difficulties with controlling urination and defecation?	Cannot do it	Have difficulty and need help	Dont have any difficulty/ have difficulty but can still do it.	-
Bladder	Do you have any difficulties with controlling urination and defecation?	Cannot do it	Have difficulty and need help	Dont have any difficulty/ have difficulty but can still do it.	-
Toilet use	Do you have any difficulties with using the toilet, including getting up and down?	Cannot do it	Have difficulty and need help	Dont have any difficulty/ have difficulty but can still do it.	-
Transfers (Bed to chair and back)	Do you have any difficulty with getting into or out of bed?	Cannot do it	Have difficulty and need help	Dont have any difficulty	Have difficulty but can still do it.
Mobility (on level surfaces)	(a) Do you have difficulty with walking 100 m?	Cannot do it	Have difficulty and need help for (a),	Have difficulty and need help for (a),	Dont have any difficulty/ have difficulty but can still do it for (a)
	(b) Do you have difficulty with lifting or carrying weights over 10 jin, like a heavy bag of groceries?	-	and dont have any difficulty/ have difficulty but can still do it for (b).	and cannot do it/Have difficulty and need help for (b)	-
Stairs	Do you have difficulty with climbing several flights of stairs without resting?	Cannot do it	Have difficulty and need help	Dont have any difficulty/ have difficulty but can still do it.	-

Note. (1) Total score = 0–40: severe disability, (2) Total score = 41–60: moderate disability, (3) Total score = 61–99: mild disability, and (4) Total score = 100: independence.