



Smart Elderly Care Platforms in China: Practice, Challenges, and Policy Implications

— — *A Case Study of Smart Elderly Care Platform in Taiyuan, China*

Presented by:

Dr. Yixin Yao, Senior Research Fellow
Asian Development Bank Institute

ASEAN+3 Finance Think-tank Network Seminar
6 - 7 June 2024, Shanghai

Contents

1. INTRODUCTION

2. CHINA'S SMART ELDERLY CARE PLATFORM CONSTRUCTION IN DECADES

3. THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

4. POLICY IMPLICATIONS



AGING SOCIETY IN CHINA

- According to a report published by the United Nations Department of Economic and Social Affairs in 1956, when the proportion of the population aged 65 and above in a country or region exceeds 7% of the total population, this country or region is classified as an aging society.
- According to data from China's fifth census in 2000, the proportion of the population aged 60 and above accounted for **13.26% of China's total population**, indicating **China had become an aging society**.

AGING SOCIETY IN CHINA

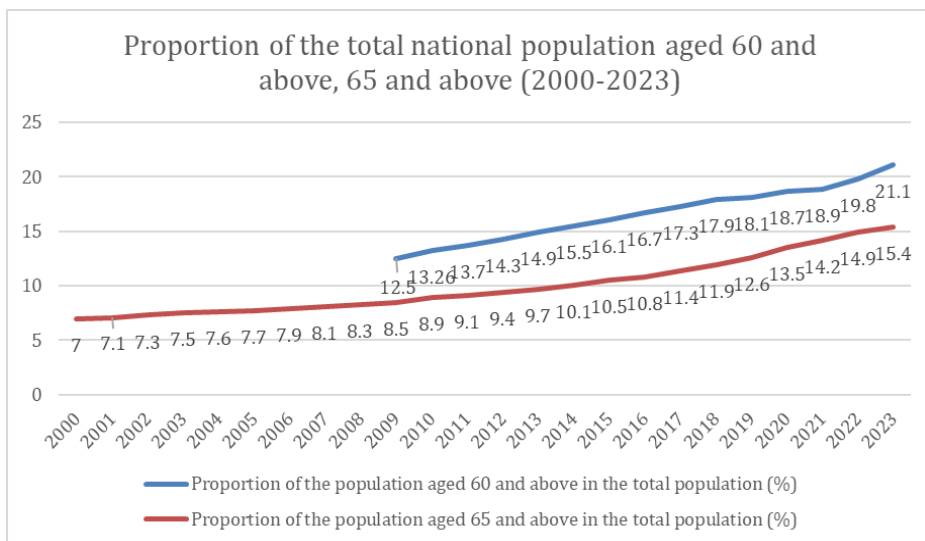


Figure 1. Changes in the proportion of the elderly population in China in relation to China's total population

- **Rising Elderly Population:**
From 2001 to 2023, the proportion of China's population aged 60 and above increased from 13.26% to 21.10%, and those aged 65 and above rose from 6.96% to 15.40%.
- **Future Projections:**
By 2050, it is projected that 39.80% of the population will be aged 60 and above, and 30.80% will be aged 65 and above, indicating a severe aging problem.

Data source: National Bureau of Statistics, 'Annual Report on the Development of the National Aging Affairs (2000-2023)'.

AGING SOCIETY IN CHINA

- Declining Birth Rates:
China's total population decreased by 2.08 million from 2022 to 2023, with a significant drop in birth rates.
- These trends indicate a growing demand for high-quality elderly care services, as the burden of family care increases and the need for new elderly care models becomes more urgent.

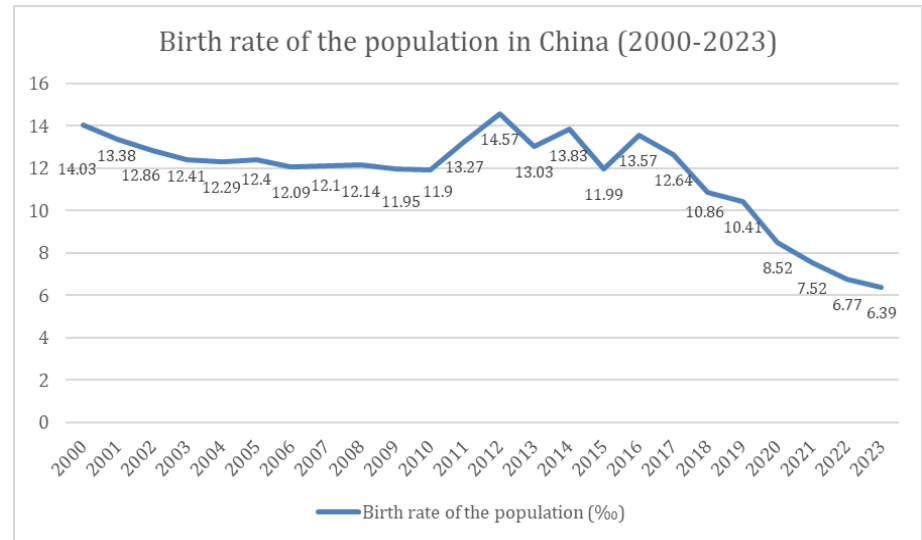


Figure 2. Birth Rate of the Population in China

Data source: National Bureau of Statistics.

DEFINITION OF SMART ELDERLY CARE

- Lack of Global Definition
- Definition by Chinese Government:
 - The term defined by “**Smart Healthcare Industry Development Action Plan (2017-2020)**”, jointly issued in 2017 by China’s Ministry of Industry and Information Technology, Ministry of Civil Affairs, and National Health and Family Planning Commission
 - Use of IoT, cloud computing, big data, and smart hardware to optimize health care resources and improve service quality and efficiency.
 - Promote intelligent upgrade, personalized services, and better quality of life for the elderly.

DEFINITION OF SMART ELDERLY CARE

Continue →

- Alternative Definitions by Scholars:
 - Varnai et al. (2015): Technology in public/private sectors improves elderly life in functional food, connected health, and assisted living.
 - Engineer et al. (2018): Emphasizes elderly's acceptance of technology.
 - Xi et al. (2014): Use of IoT, big data, and cloud computing for smart care and smart home environments in China.

CHINA'S SMART ELDERLY CARE PLATFORM CONSTRUCTION IN DECADES

Development Across China

- **All 31 provinces in China are actively developing smart elderly care platforms**, though the names and models vary.
- These platforms integrate technologies like IoT, cloud computing, mobile Internet, intelligent calling, and GPS positioning.
- The goal is to provide professional and intelligent elderly care services at home, covering institutional, home-based, and community day care.
- They aim to monitor the elderly's physical condition, safety, and daily activities, meeting their needs in life, health, and entertainment.

CHINA'S SMART ELDERLY CARE PLATFORM CONSTRUCTION IN DECADES

Organizational Structure:

- The **Ministry of Civil Affairs** is primarily responsible for national aging work and policy coordination.
- This ministry promotes the development of the elderly care industry and oversees the welfare and rights of the elderly.
- It works in collaboration with other key ministries, including the **National Development and Reform Commission** and the **Ministry of Finance**, etc.
- Together, these ministries implement policies and measures to support elderly care services.

CHINA'S SMART ELDERLY CARE PLATFORM CONSTRUCTION IN DECADES

Policies and Regulations:

- The central government has issued various policies to support smart elderly care, such as the "Smart Elderly Care and Health Industry Development Action Plan (2021-2025)".
- These policies encourage the **use of Internet, IoT, and cloud computing** to improve elderly care services.
- **Private capital** is encouraged to participate in the development of smart elderly care services.
- **Development finance loans** are used to support the construction of the elderly care service system.

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Demographic background

- Taiyuan, the capital of Shanxi Province in Northern China, has a population of approximately 5.4 million.
- It is a major industrial hub, known particularly for coal and steel production.
- The city has a significant elderly population, mirroring China's broader aging demographic trends.

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

The Smart Elderly Care Platform in Taiyuan

- The number of people aged 60 and above in Taiyuan reached 854,500 in 2020, accounting for **16.11% of the city's total population**.
- The platform uses **data from the Taiyuan Civil Affairs Bureau** to accurately identify service recipients by categorizing them into different groups such as empty-nest elderly, elderly living alone, etc.



Image Source: Zhongke Tongchang Wanjin Information Technology Co., Ltd.

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

The Smart Elderly Care Platform in Taiyuan

[Continue →](#)

- The platform covers all scenarios of smart elderly care through sub-platforms for family elderly care bed management, home care services, call services, and community canteen supervision.
- The platform provides full cloud supervision, offering 24-hour monitoring for elderly safety, real-time distress monitoring, and one-stop services for community canteens.

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Achievements of the Smart Elderly Care Platform in Taiyuan:

- Integrate advanced technologies like AI, IoT sensing technology, and big data to create a comprehensive elderly care service system.
 - All-Inclusive Data Analysis
 - All-Round Process Safety Monitoring
 - All-Encompassing Health Management
 - All-Integrated Intelligent Services



Image Source: Zhongke Tongchang Wanjin Information Technology Co., Ltd.

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Achievements of the Smart Elderly Care Platform in Taiyuan:

- Centralize more than 500 community home-based elderly care service providers, serving over 12,000 elderly people annually with various assistance services.



Image Source: Zhongke Tongchang Wanjin Information Technology Co., Ltd.

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Challenges Faced by the Smart Elderly Care Platform in Taiyuan

Funding Supply Issues

- Significant investment is required for technology application, development, and training.
- China Science TopChance Waking Information Technology Co. Ltd. has invested 24 million yuan RMB
- An extra 20 million yuan RMB is needed for further improvement, with government-led construction reducing efficiency and profitability.



Image Source: Google.com

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Challenges Faced by the Smart Elderly Care Platform in Taiyuan

Insufficient Platform Promotion

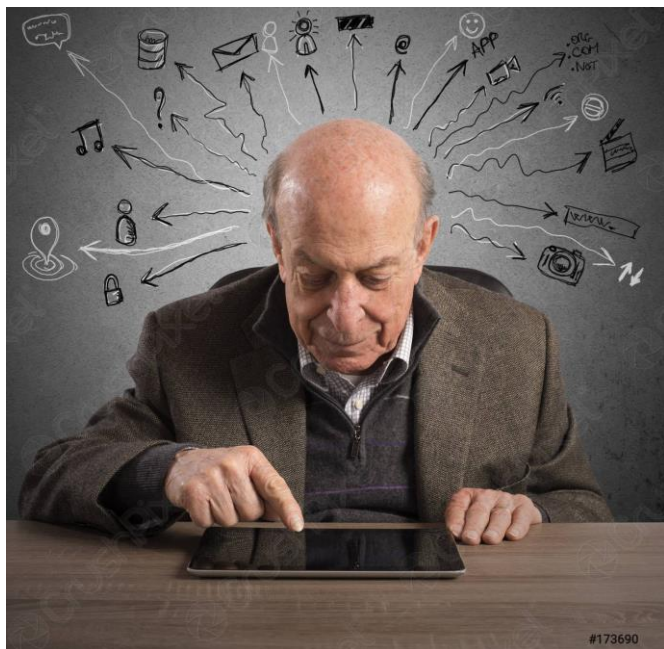


Image Source: Google.com

- Only about 7% of the elderly population in Taiyuan has registered on the platform.
- Elderly people not familiar with smartphones find it difficult to access services, lack proficiency in digital technology.
- Privacy concerns and fear of financial losses deter elderly individuals and their families from using the platform.

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Challenges Faced by the Smart Elderly Care Platform in Taiyuan

Shortage of Technical Personnel

- The platform requires specialized technical talent, including AI engineers and data governance professionals.
- Current investment in building and training technical teams is insufficient, leading to a lack of sustainable technical support.
- Continuous platform construction necessitates more advanced technical expertise.



Image Source: Google.com

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Challenges Faced by the Smart Elderly Care Platform in Taiyuan



Financial Stability



Risks of Financial Sustainability

- Balancing investment costs and benefits in the digital transformation of elderly care is challenging.
- Initial investments in technology, talent, and funds have not yet formed a sustainable and profitable model.
- The elderly population has limited consumption capacity, leading to a long capital recovery period and high risks.

Image Source: Google.com

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Challenges Faced by the Smart Elderly Care Platform in Taiyuan

Inconsistent Smart Elderly Care Standards:

- Difficulty in replicating Taiyuan's advanced experience to other regions and unifying elderly care standards with other service providers.
- Need for standardized construction of smart elderly care across different regions.
- Accelerating standardized elderly care construction at provincial and national levels remains a phased challenge.



Image Source: Google.com

THE PRACTICE OF SMART ELDERLY CARE PLATFORM: A CASE STUDY

Next Steps for the Taiyuan Smart Elderly Care Platform

- Enhancing Platform Utilization: By 2025, aims to deepen the coverage of “smart terminals + digital platforms” and increase daily usage rates among elderly residents.
- Increasing Market Share: Expand the “Taiyuan experience” nationwide, piloting elderly care products in Henan and Shaanxi provinces, and extending to 10 cities in Shanxi Province.
- Enhancing Capital Integration for Platform Operations: Over the next five years, use data as a driving force, explore emerging digital service scenarios, and establish ecosystems for smart health and elderly care applications to achieve sustainable growth in the elderly care economic industry.

POLICY IMPLICATIONS

Establishing and Improving

- Various departments have issued policies, but lack mechanism to form an integrated and coherent development strategy and plan.
- A **cross-departmental mechanism** and special coordination organization are needed for integrated development.



Image Source: Google.com

POLICY IMPLICATIONS

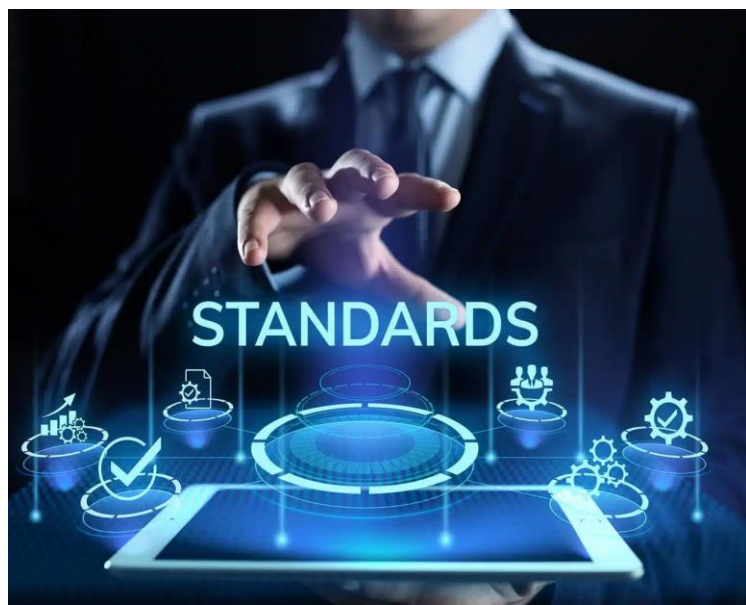


Image Source: Google.com

Establishing Unified Standards

- Local governments have differing technical standards, leading to uneven platform quality.
- Formulate unified technical standards, clarify interface design, function settings, and data security requirements.
- Strengthen supervision, establish an evaluation mechanism, and protect data security with unified standards.

POLICY IMPLICATIONS

Achieving Integrated Management

- Platforms are mainly municipal or district-level, causing data sharing and service integration issues.
- Strengthen IT research and development to solve data sharing technical problems.
- Cultivate and train smart elderly care talents for integrated platform management.



Image Source: Google.com

POLICY IMPLICATIONS



Image Source: Google.com

Enhancing International Cooperation

- Engage in international cooperation and knowledge sharing, learning from countries like the US, Japan, and European nations.
- Utilize resources from international organizations like the Asian Development Bank for financial support, technical guidance, and policy research.
- Explore innovative models and best practices for smart elderly care services on a global scale.

Thank You

