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# Improving the accessibility of health care for internal migrants in China: Achieving the aim of equalization

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**SUMMARY** Although equitable access to healthcare is considered key to the health of internal migrants, more concerted efforts are needed to improve the accessibility of healthcare in low- and middle-income countries. The software CiteSpace was used to analyze scientific literature on healthcare utilization among internal migrants in China since 2000. We focused on factors influencing access to healthcare, including geographical, economic, sociocultural, and institutional aspects. The government is urged to play a role in ensuring equal access to healthcare through policies, resource distribution, and information technology. Improving the accessibility of healthcare for internal migrants and achieving egalitarian goals is of great significance to promoting public health and fostering social equity and inclusivity.

***Keywords*** accessibility, health care, migration, low- and middle-income countries

As a special socio-economic phenomenon arising from social transformation and development, population mobility is an important factor in achieving the miracle of China's rapid economic growth. Migration takes place under China's household registry system and mainly occurs from rural to urban areas, from the undeveloped western regions to the developed eastern regions (*1*). According to The Seventh National Population Census in 2020, internal migrants in China totaled 376 million in 2020, accounting for approximately 26.62% of the total population (*2*). The provision of healthcare to China's internal migrants is a classic and essential topic, especially in the context of current public health emergencies such as the COVID-19 pandemic. Improving healthcare for internal migrants requires considering the characteristics of the new era, including prevention and control of emerging and re-emerging infectious diseases or chronic non-communicable diseases, mental health, and major public health emergencies. In addition, external environmental changes also need to be considered, such as technological developments, construction of transportation infrastructure, digital media, new business models.

With the increasing popularity of mobile Internet technology, various online medical, health management, and appointment reservation services are gradually emerging (*3*). Innovative mobile payment and e-commerce models provide more convenient access to healthcare among internal migrants. While developing these new technologies and business models, however, attention must also be paid to privacy protection and information security. Scientific and technological progress provides more opportunities, but avoiding adverse effects such as information asymmetry and a digital divide is also important (*4*). We need to actively promote the use of medical technology, establish intelligent medical models based on the Internet and big data, and enhance health education for internal migrants in order to improve their access to healthcare.

To comprehensively understand the hotspots of research on healthcare utilization among internal migrants in China since 2000, the software CiteSpace (Chaomei Chen, Drexel University, College of Computing and Informatics, *https://citespace.podia.com/*) was used to perform a quantitative analysis of scientific literature and generate a series of knowledge maps (*5*). Using the keywords "healthcare", "migrant population", "internal migrants", and "China/Chinese" in the Web of Science Core Collection database, we retrieved a total of 207 relevant articles. Figure 1 shows a co-occurrence network of research keywords. The main theme revolves around the accessibility of healthcare for internal migrants. The size of the circles indicates the frequency of the keywords, with larger circles representing higher frequencies. Figure 2 shows all newly emerging keywords for each time period.

For instance, accessibility emerged most often during the period of 2008-2009. The timeline provides a more detailed depiction of the temporal evolution of keywords within a specific cluster. The smaller the cluster number, the more keywords are included in the cluster. Figure 3 showcases topics such as health discrimination against internal migrants and barriers to seeking healthcare. As is shown, research has focused on access to healthcare, the healthcare-seeking behavior of key populations, and mental health.

Equity in access to healthcare is key to the health of internal migrants. The World Health Organization (WHO) pioneered the concept of accessibility, which was used to denote the local population's ease of access to primary care. Accessibility to healthcare is a vague term with various definitions (*6*). In 1968, R.M. Andersen proposed that access to healthcare is the process of accessing the healthcare system by any effective means and continuing to function (*7*). Previous studies have indicated that accessibility can be divided into availability, affordability, acceptability, adequacy, and accessibility (*8*). Ascertaining the factors influencing the accessibility of healthcare for internal migrants is important to improving the quality of their health.

The Andersen health behavior model has been widely used to explore the factors influencing access to healthcare (*9*). This model suggests that individual characteristics, community resources, and the healthcare policy environment interact with each other to collectively influence an individual's healthcare needs, healthcare-seeking behavior, and utilization of services (*10*). We categorized the factors influencing internal migrants' access to healthcare into geographical, economic, sociocultural, and institutional aspects. (*1*) Geographic accessibility refers to the proximity and ease of movement between where internal migrants are located and healthcare facilities. For example, in remote areas or places with limited transportation options, internal migrants may have difficulty accessing timely medical care. (*2*) Economic accessibility refers to the ability of internal migrants to afford healthcare. It is influenced by factors such as income levels, health insurance coverage, and the cost of medical care. (*3*) Sociocultural accessibility encompasses the knowledge, cultural background, and social support that internal migrants possess in terms of healthcare. This includes awareness, attitudes, beliefs, and social support related to healthcare issues. The lack of cultural understanding

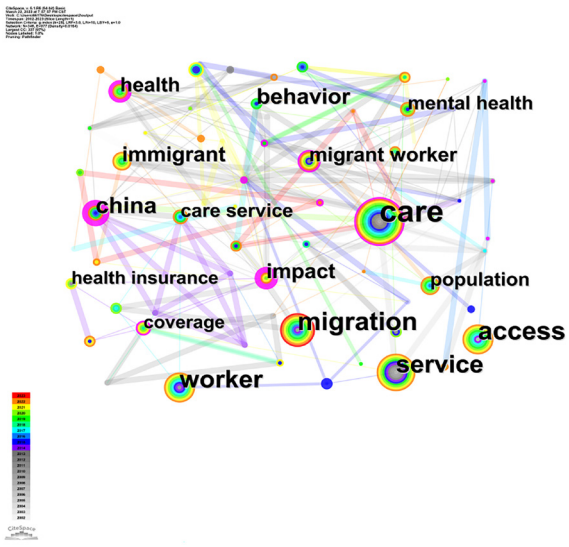


**Figure 1. Keyword co-occurrence map for research on healthcare among internal migrants in China since 2000.**

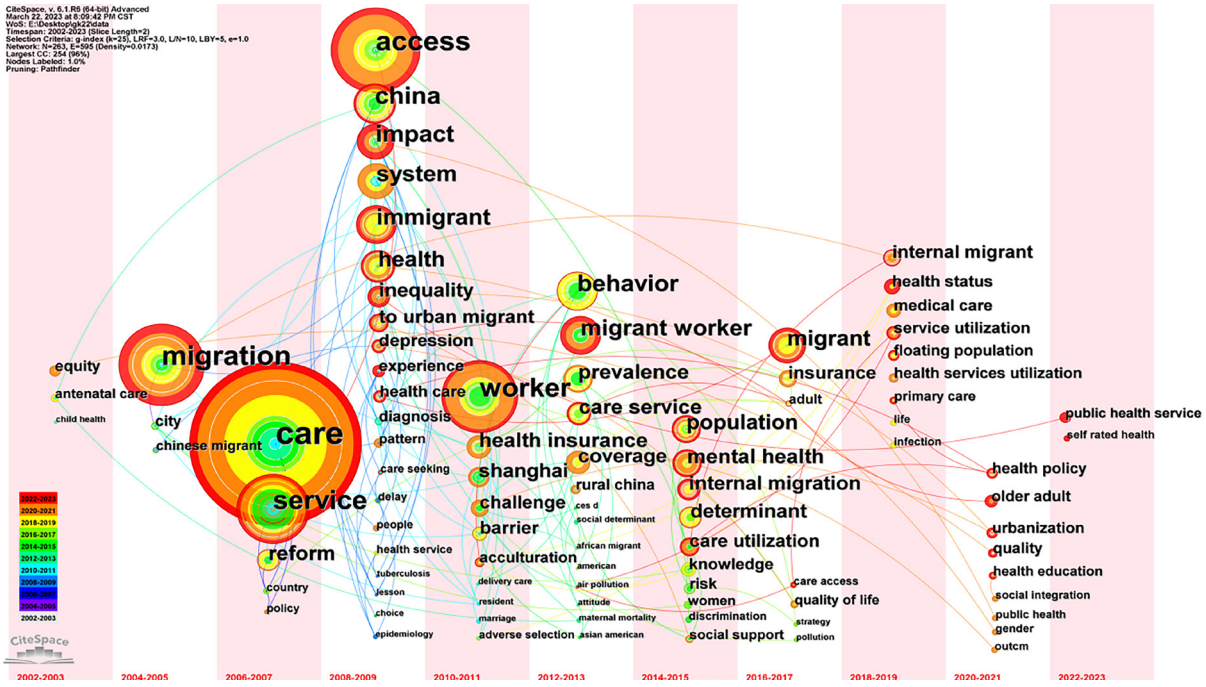


**Figure 2. Time zone map for research on healthcare among internal migrants in China since 2000.**

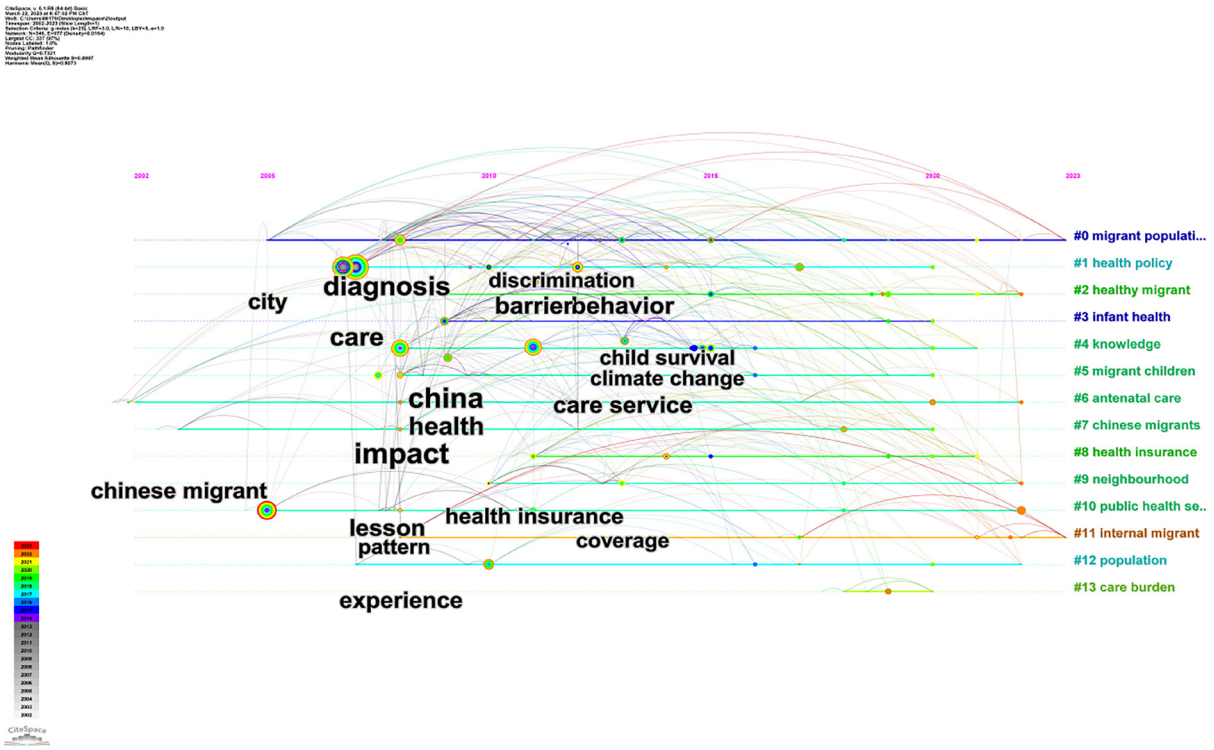


**Figure 3. Timeline of research on healthcare for internal migrants in China since 2000.**

and social support can reduce the willingness and ability of internal migrants to utilize healthcare. (*4*) Institutional accessibility refers to the inclusive and supportive nature of policies and systems towards internal migrants' utilization of healthcare. This includes aspects such as health insurance coverage, registries for internal migrants, and the availability of community healthcare facilities. Institutional inequities can preclude internal migrants from enjoying the same level of healthcare as local residents.

The government plays a vital role in ensuring equal access to healthcare for internal migrants, including efforts in areas such as systems, healthcare resources, and information technology. First is establishing robust policies and legal frameworks to ensure equal access to healthcare for internal migrants. This may involve implementing specific policies such as providing temporary residency permits to safeguard their right to healthcare. Second is increasing the distribution of healthcare facilities and resources, particularly in areas with high concentrations of internal migrants. Third is utilizing information technology to enhance healthcare for internal migrants. This involves, for example, creating electronic health records that enable the sharing of and access to medical information across regions, improving diagnostic and treatment continuity. In addition, the involvement of social healthcare organizations is a positive aspect to further bridge the gaps in healthcare and meet the diverse needs of internal migrants. These organizations can offer services such as health education, preventive measures, and psychological support to address specific healthcare needs.

Enhancing the accessibility of healthcare for internal migrants in China necessitates the acknowledgement and remediation of various individual and systemic issues, encompassing the provision of healthcare that is not only economically feasible but also culturally congruent, as well as the implementation of policy reforms aimed at removing barriers hindering migrants' access to healthcare. By concurrently targeting both individual and systemic factors, such as the affordability and cultural appropriateness of healthcare, as well as policy restrictions impeding access to healthcare, significant progress can be made in improving the overall accessibility of healthcare for internal migrants in China. In line with 3.8 of the Sustainable Development Goals (SDGs) - namely, to achieve universal healthcare coverage, including access to quality and safe essential healthcare - we are now exploring classic themes by incorporating the new features of the era. We hope to provide a useful shared learning platform for all policymakers and healthcare providers working in migration and health.

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