

Focusing on the Health of China's Working-Age Population to Improve Social Productivity

Pfizer

Executive Summary

China is currently facing a new phase of economic growth and the need to address the challenges posed by its changing demographic. As China's economy transitions from a period of rapid expansion to one of high-quality development, upgrading its industrial structure and encouraging a shift from old to new growth drivers are essential. At the same time, China's demographic structure is characterized by a sub-replacement fertility rate, an aging society, and varied population growth across regions. The total population is trending downward, shifting from incremental growth to gradual overall decline. In the face of this new normal for population development, the first meeting of the 20th Central Financial and Economic Commission placed a strong emphasis on understanding and correctly evaluating the shifting dynamics of China's population growth.¹ President Xi Jinping stated in an editorial titled "Supporting Chinese-style Modernization with High-Quality Population Development" that "the demographic dividend is not only related to the number and structure of the population, but also to the quality of the population, economic policies, and supporting measures."² High-quality development requires a high-quality population and work force, driving high-quality economic growth through the enhancement of human capital.

Under this new normal for population development and new era of high-quality economic development, health is an important factor in measuring population quality.³ China's main health indicators have shown a positive trend of improvement following the epidemic. The average life expectancy in the country has reached 78.2 years, and other key health indicators now surpass the average for upper-middle-income countries.⁴ Although the overall quality of China's population is improving, there are still regional and demographic imbalances, and there is room for improvement when compared to leading developed countries.⁵

With the aim of proactively adapting to the new normal for population development, the first meeting of the 20th Central Financial and Economic Commission emphasized "focusing on improving the overall quality of the population as a means to support Chinese-style modernization with high-quality population development." The *Outline of the Fourteenth Five-Year Plan for*

National Economic and Social Development of the People's Republic of China and the Vision for 2035 underscored the need to “build a comprehensive and full-cycle health system” in order to “optimize the demographic structure, expand the demographic quality dividend, and improve human capital and people’s capacity for comprehensive development”.⁶

To fully realize the population quality dividend, it is crucial to further improve the health of the populace. With the implementation of the “Healthy China” strategy, China has laid out the goal of enhancing the health of its entire population, with a particular focus on working-age population. The *Outline of the “Healthy China 2030” Plan* emphasizes that ensuring the health of the entire population is the core goal of building a healthy China.⁷ As China plunges deeper into its demographic transition and enters the next phase of the Healthy China Initiative, efforts should focus on improving the health of the working-age population. To further solidify progress made in disease control and prevention, China should consider focusing on diseases that place a heavier burden on the working-age population and incur higher societal costs, ensuring that China can sustainably develop and harness the “demographic quality dividend.” Migraines are a prime example, as they are highly prevalent amongst the working-age population and have become a significant impediment restricting the productivity of China’s labor force and socio-economic development.

To realize the goal of health for all as soon as possible, China should place a heightened focus on migraines and other diseases that are highly prevalent among the working-age population. Reducing the impact of these diseases on working-age people can be accomplished by upgrading diagnostic and treatment capabilities, strengthening patient education, and accelerating the introduction of innovative therapeutic drugs.

As an active practitioner of “in China for China,” Pfizer is committed to supporting the implementation of the Healthy China strategy. To improve China’s ability to address the growing burden of migraines, Pfizer proposes the following three recommendations for future policy actions:

- **First, improve migraine diagnosis and treatment capabilities and standardize migraine treatment management** by training neurologists and headache specialists, standardizing treatment processes, and promoting multidisciplinary collaboration among neurology, psychiatry, and rehabilitation medicine to develop joint treatment plans.
- **Second, enhance patient education by improving disease awareness and health management capabilities**, particularly for high-risk groups and individuals at risk of cardiovascular disease. Efforts should be made

to raise migraine awareness and advocate for standardized medication use to reduce the rate of MOH incidences. To address a lack of public awareness, information about migraines can be disseminated through online and offline lectures and social media platforms to reduce societal misunderstanding and bias toward migraines.

- **Third, accelerate the introduction of innovative drugs to meet the needs of all patients.** The clinical application of innovative migraine medications should be expedited to address the treatment requirements of high-risk patients and those who respond poorly to existing therapies.

1. Introduction

Under the Healthy China strategy, the prevention and control of NCDs has become a key component of achieving universal health goals. The *Healthy China 2030 Plan* explicitly identifies “health for all” as the fundamental goal of building a healthy China and includes the prevention and control of NCDs such as cancer, stroke, and coronary heart disease as key focus areas.⁸ Significant progress has been made under the Healthy China strategy. Research from the National Center for Cardiovascular Diseases shows that since 1990, China’s clinical service capabilities for cardiovascular diseases have improved significantly, with continuous declines in in-hospital mortality rates for various cardiovascular conditions.⁹ For example, from 1990 to 2019, the age-standardized incidence of stroke in China decreased by 9.3%, and the age-standardized mortality rate dropped by 39.8%,¹⁰ demonstrating that related policy interventions and treatment methods have been effective and scientifically sound.

However, with China’s demographic transition and evolving lifestyles, the next phase of the Healthy China strategy should focus on enhancing the health of the working-age population. To further solidify progress made in the control of major NCDs, China should consider focusing on diseases that place a heavier burden on the working-age population and incur higher societal costs, ensuring that China can sustainably develop and harness the “demographic quality dividend”. The prevention and control of migraine, as the second most prevalent neurological disease, is of great significance. Neurological diseases such as migraine have a high possibility of creating disability, are difficult to detect, and are prevalent among the working-age population. As a result, migraine has become one of the leading sources of global disease burden.¹¹ Therefore, standardizing migraine diagnosis and treatment pathways and improving the accessibility of innovative treatments are essential for enhancing China’s NCD prevention and control system.

Enhancing the accessibility of innovative treatments is not only a necessary step in realizing the Healthy China vision, but also an important mean of creating a globally competitive pharmaceutical innovation ecosystem. The 20th National Congress of the Communist Party of China explicitly stated that “ensuring the people’s health is a priority in development.”¹² The *Resolution of the Central Committee of the Communist Party of China (CPC) on Further Deepening Reform Comprehensively to Advance Chinese Modernization* stated that strategic industries, including biopharmaceuticals, should be developed, and that relevant mechanisms to support the development and use of innovative drugs and medical devices should be improved.¹³ Active support to the promotion and use of innovative medications will not only help to fulfill public demand for high-quality

medications, but also serve as a crucial prerequisite for advancing China's transition from a "big pharmaceutical country" to a "pharmaceutical powerhouse."¹⁴

As an active practitioner of "rooted in China and servicing China", Pfizer is committed to supporting the implementation of the Healthy China strategy. Through our "Pfizer China 2030 Strategy", we plan to invest USD 1 billion over the next five years to increase the accessibility of innovative drugs, enhance diagnostic capabilities and treatment standards for diseases including migraine, and promote the development of the local biotech industry. We aim to support the development of China's healthcare sector and to accelerate the achievement of the Healthy China goals.

2. Standardizing Migraine Diagnosis and Treatment is Crucial for Reducing the Disease Burden on the Working-Age Population and Optimizing NCD Prevention and Control

2.1 Neurological diseases such as migraine impose a growing socioeconomic burden on the working-age population, necessitating increased attention and focus.

Migraine is ranked by the World Health Organization (WHO) as the world's second most disabling neurological disease, affecting over 1 billion people.¹⁵ Globally, migraine is the second leading cause of disability-adjusted life years (DALYs) lost due to neurological conditions, after stroke.¹⁶ As a form of recurrent, moderate-to-severe primary headache, migraine is often accompanied by symptoms such as nausea (79.9%), vomiting (29%), photophobia (53.8%), and phonophobia (54.5%).¹⁷

Migraine is a major non-traditional risk factor for stroke and could significantly increase the risk of stroke for patients, thereby causing a severe disease burden. Migraine can significantly increase the risk for stroke,¹⁸ ¹⁹ hidden intracranial lesions,²⁰ and cardiovascular disease,²¹ contributing to higher costs of subsequent treatment and higher disease burdens. Studies show that migraine increases the risk of stroke by a factor of 1.7.²² Hence, several domestic and international clinical guidelines have underscored the importance and necessity of proactive migraine management. The 2024 American Stroke Association/American Heart Association (ASA/AHA) guidelines for primary stroke prevention recommend assessing and adjusting vascular risk factors for migraine patients aged 18-64 (with or without aura) to reduce stroke risk (Class I recommendation). The "Chinese Cerebrovascular Disease Clinical Management Guidelines (Second

Edition)” also recommended that reducing the frequency of migraine attacks can decrease stroke risk.

Migraine is highly prevalent among the working-age population, especially women. Consequently, its impact on socioeconomic development goes beyond the disease burden borne by patients. Research shows that the working-age population is more susceptible to migraine, with the incidence rate rising in younger age groups and peaking at 40-49 years.²³ The incidence rate of migraines in women is approximately two to three times that of men.²⁴ The economic impact of migraine on society is reflected in reduced work efficiency, particularly affecting the working hours of the working-age population. In China, migraine patients experience an average of 26 days of absenteeism or reduced work efficiency due to headaches every year, with an additional 30.8 days where daily activities were significantly impacted.²⁵ A household survey published in 2012 on migraine found that migraine causes approximately RMB 58 billion in direct costs annually in China, while the overall indirect socioeconomic losses amount to RMB 273.7 billion.²⁶

2.2 Controlling the disease burden of migraine requires improving public awareness, especially in the healthcare system, to avoid exacerbating the disease burden through non-standardized treatments.

China urgently needs to strengthen its migraine diagnosis and treatment capabilities. Data shows that the consultation rate for migraine in China is only at 52.9%, with a correct diagnosis rate as low as 13.8%,²⁷ indicating a clear shortage in diagnosis and treatment capabilities. China’s migraine diagnosis and treatment system faces systemic issues. First, healthcare workers lack sufficient knowledge of migraine, which is compounded by a lag in evidence-based medicine, inadequate clinical analysis capabilities, and outdated textbooks and academic resources.²⁸ Second, China’s diagnosis and treatment network need to be optimized: China lacks sufficient coverage of headache centers and headache specialty clinics compared to some developed countries.²⁹

Non-standardized migraine treatment increases the risk of medication-overuse headache (MOH), further exacerbating the disease burden. A lack of awareness of standard migraine treatments among patients often leads them to “endure when possible” or resort to self-prescribed medicine, which increases the risk of irregular medication use. Abuse of traditional acute painkillers can increase the number of headache days, creating a vicious cycle that ultimately results in patients experiencing more than 10 headache days per month and developing MOH.³⁰ Previous studies show that about 46% of chronic headaches in migraine

patients are caused by overuse of analgesic medications.³¹ The “Chinese Guidelines for the Diagnosis and Treatment of Medication-Overuse Headache (First Edition)” state that compound analgesics are the most overused medications by MOH patients in China, accounting for 60.8%-93.0% of all MOH cases, with caffeine-containing compounds being the most common. Studies show that patients who overuse compound analgesics, triptans, opioids, or multiple analgesics in combination may develop MOH faster than those who overuse single-component analgesics.³²

In China, approximately 9.1%-12% of migraine patients develop MOH.³³ The average annual economic burden on MOH patients is three times that of ordinary migraine patients.³⁴ The “Chinese Migraine Diagnosis and Treatment Guidelines (2022 Edition)” recommended that acute treatment should be initiated at the onset of headache to improve treatment efficacy and avoid overuse. The “Chinese Guidelines for the Diagnosis and Treatment of Medication-Overuse Headache (First Edition)” recommended that patient education should be the first step in MOH treatment.

2.3 Controlling the disease burden of migraine requires providing appropriate treatment methods to all patients, meeting their specific needs.

Over the past 20 years, no new drugs for first-line migraine treatments have been introduced to the market in China, leaving patients with cardiovascular disease risks, MOH patients, and patients unresponsive to existing treatments with few treatment options. Currently, the only targeted treatment for migraine that is covered by medical insurance are triptans, which are unsuitable for migraine patients with cardiovascular disease.³⁵ In China, approximately 25% of migraine patients suffer from cardiovascular disease. As NSAIDs and triptans may increase patients’ risk of cardiovascular disease, these patients have long lacked effective treatment options for migraine symptoms. Further, approximately 36% of migraine patients respond poorly to triptans, meaning that these patients do not experience pain relief within two hours in three out of five uses. Patients who fail to respond to acute migraine treatment demonstrate a high likelihood of repeated painkiller use and an increased risk of developing MOH, further exacerbating the disease burden. In sum, there are many unmet needs regarding migraine in China.

With the launch of calcitonin gene-related peptide (CGRP) receptor antagonists in the market, migraine patients around the world now have innovative treatment options to meet their migraine treatment needs. For patients who fail to respond to triptans, CGRP receptor antagonists, which show excellent efficacy and safety, have become a common and effective acute treatment option. Patients taking

CGRP receptor antagonists show no significant increase in cardiovascular disease risks, indicating their relative safety for adult patients with cardiovascular disease-related risk factors.³⁶ The “Chinese Guidelines for the Diagnosis and Treatment of Medication-Overuse Headache (First Edition)” note that CGRP receptor antagonists (or gepants), when used as needed over the long term, do not increase the risk of MOH and can reduce the use of other MOH-inducing drugs (such as opioids and barbiturates), making them the ideal choice for patients at risk for MOH.³⁷

Currently, China still lags in migraine diagnosis and treatment. As of February 2025, among the eight CGRP drugs launched globally, only three have been approved in China.³⁸

3. Policy Recommendations

To achieve the goals outlined in the “Healthy China 2030 Blueprint” and provide comprehensive, full-life cycle health protection for the people, China needs to further strengthen its migraine diagnosis and treatment capabilities and improve access to innovative therapies to adequately address factors affecting the health of the working-age population. First, China should comprehensively raise awareness of migraine in the healthcare system and in society at large while elevating migraine diagnosis and treatment capabilities. Second, China should accelerate the clinical use of innovative drugs to effectively control the health impacts of migraine and reduce its burden on socioeconomic productivity, thus addressing the challenges brought about by China’s changing demographic landscape.

3.1 Improve migraine diagnosis and treatment capabilities and standardize migraine treatment management.

To improve the current state of migraine diagnosis and treatment, we recommend that China focuses on three areas: specialist training, optimization of diagnosis and treatment processes, and multidisciplinary collaboration. Enhancing these three areas will comprehensively enhance China’s clinical diagnosis and treatment capabilities for migraine.

First, we recommend enhancing training for specialists in neurology, headache, and related fields, improving their professional skills in migraine diagnosis and treatment. Establishing special funds and scholarships can encourage medical professionals to engage in migraine research and practice. Second, we recommend establishing standardized migraine diagnosis and treatment processes from medical history collection to physical examination, auxiliary examinations, and treatment plan formulation, ensuring systematic and comprehensive evaluation and treatment for patients. Finally, we recommend strengthening multidisciplinary

collaboration between neurology, psychiatry, and rehabilitation medicine to jointly develop treatment plans. Multidisciplinary collaboration can significantly improve patients' quality of life, reduce recurrence rates, and provide comprehensive services tailored to the different symptoms and needs of migraine patients.

3.2 Strengthen patient education to improve disease awareness and self-health management capabilities.

Targeting population groups with a high incidence of migraine and migraine patients at risk of cardiovascular diseases, we recommend enhancing patient education efforts and raising awareness of migraine throughout society, focusing on advocating for standardized medication use to reduce the disease burden and prevent MOH caused by overreliance on painkillers. Insufficient public awareness of migraine is a major cause for the low consultation rate. Disease education could be strengthened through online and offline lectures and other forms of activities to improve patients' own health management capabilities. At the same time, social media platforms and other channels could be utilized to popularize knowledge of migraine, reduce societal misunderstanding and bias, and create a supportive social atmosphere for migraine patients.

3.3 Accelerate the introduction of innovative treatment drugs to meet unmet medical needs.

The clinical use of innovative migraine medications should be accelerated to ensure that high-risk patients and those unresponsive to existing therapies can promptly access safe and effective treatment options. We recommend organizing regular training sessions for practitioners of various disciplines, ensuring that clinicians stay up to date on the latest international research advancements in migraine to enhance their understanding of the latest treatment options and their ability to apply novel treatment methods. At the same time, domestic and international pharmaceutical companies and research institutions should be encouraged to actively collaborate with medical institutions, building and optimizing collaborative industry-academia innovation platforms to provide support for the continuous improvement of innovative drugs.

Pfizer is committed to accelerating innovation and ensuring that Chinese patients can have timely access to globally innovative medical achievements, thereby advancing the continuous improvement of the health of China's working-age population. By enhancing clinical diagnosis and treatment capabilities, strengthening patient education, and accelerating the introduction of innovative drugs, China could significantly improve the current state of migraine treatment, effectively controlling personal and societal burdens caused by the disease. These

efforts will not only support the realization of the strategic goals under Healthy China but will also help to address the challenges brought by demographic changes, improve productivity in the context of increasing labor demand, and build a concrete foundation for the country's sustainable development.

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