

Comparative Analysis on Chinese and US Medical Industry

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Abstract: Understanding the healthcare systems of China and the United States is essential due to their significant impact on global health policy and practice. This paper aims to compare and contrast the medical industries of these two nations, focusing on healthcare expenditure, drug pricing, public health initiatives, and system strengths and weaknesses. The analysis reveals that China's healthcare system, characterized by a dual framework integrating Traditional Chinese Medicine and Western practices, faces challenges such as unequal resource distribution and rising costs, despite effective government interventions in drug pricing. In contrast, the US system, renowned for its leadership in medical innovation, struggles with high drug costs and inadequate coverage, despite robust private and public insurance mechanisms. The paper concludes with recommendations for China to enhance transparency, expand social welfare, and improve resource distribution, while suggesting US with reforms to control drug prices and increase healthcare access. These findings underscore the need for continued research into healthcare workforce distribution, patient satisfaction, and the role of technology in healthcare delivery to further inform policy development.

Keywords: medical industry, drug pricing, medical innovation, public health

1. Introduction

Healthcare systems in different countries and regions differ significantly in terms of funding, infrastructure, quality and coverage of medical services. These differences are mainly affected by factors such as economic development level, government policies, cultural background and social system. China's medical industry is in a stage of rapid development with expanding coverage, but problems of unequal distribution of medical resources and rising medical costs still exist in urban and rural areas. This paper separately introduces the Chinese and US medical industry and the differences between them. The integration of Traditional Chinese Medicine (TCM) with Western medical practices has created a dual healthcare framework in China. The system is characterized by its emphasis on holistic treatment and prevention, but its weakness is that the distribution of the medical resources is not even.

The current pricing problem of China's pharmaceutical system has attracted much attention, mainly reflected in high drug prices, medical insurance coverage and reimbursement, and the relationship between pharmaceutical companies and hospitals. In recent years, the high price of imported anti-cancer drugs has caused widespread concern, despite government measures such as tax cuts, drug prices remain high, affecting patients' treatment choices [1]. The issue of the pricing and distribution of COVID-19 vaccines has also sparked widespread discussion, and how to promote the popularization of vaccines while ensuring fairness is an important issue at present. Additionally, the

lack of standardization and regulation in the production and practice of TCM can lead to inconsistent quality and safety concerns. While the US utilizes a personal medical care system, resulting in a lower death rate and a higher birth rate, it also spends significantly more on healthcare and medical innovation. However, this has led to an even greater inequality in resource distribution. The US health care system is dominated by private insurance, and the government also provides partial coverage through programs such as Medicare and Medicaid. As a leader in medical technology and innovation, US has the issue of high medical costs and inadequate coverage, which has been hotly debated [2].

This paper aims to compare and contrast the healthcare industries of China and the United States, focusing specifically on their drug pricing mechanisms and healthcare expenditure. Additionally, it analyzes the challenges related to unequal resource distribution and rising medical costs in both countries, and proposes actionable recommendations to address these issues.

2. Chinese medical industry

Through the synergistic efforts of the National Healthcare Security Administration (NHSA), the National Medical Products Administration (NMPA) and various medical institutions, China's pharmaceutical economic system has achieved effective control of drug prices and ensured the sustainability of medical insurance funds. The NHSA is responsible for managing China's health insurance system, effectively controlling drug prices through centralized procurement and price negotiations, thereby ensuring the sustainability of the health insurance fund. According to data from the NHSA, centralized procurement and price negotiations have saved over 100 billion yuan in medical insurance funds [3]. Moreover, the NMPA is tasked with the approval and regulation of drugs, ensuring their safety and effectiveness. The regulatory policies of the NMPA directly influence the market access and pricing of drugs. Additionally, medical institutions serve as the primary venues for drug use, and their drug procurement and utilization directly impact market demand and prices.

Through a multifaceted approach that includes government pricing, market-regulated pricing, and centralized procurement, China's drug pricing system has achieved significant success in ensuring both the accessibility and affordability of medicines. The NHSA plays a pivotal role in the pharmaceutical economic system by overseeing the national health insurance system. It employs centralized procurement strategies to negotiate drug prices, which has proven to be highly effective in controlling costs. The "4+7" pilot volume procurement initiative, launched in 2018, is a prime example of this approach. Under this program, the NHSA negotiated prices for 25 drugs across 11 cities, resulting in an average price reduction of about 52% for the selected medications [4]. This initiative not only lowered drug prices but also increased the transparency and efficiency of the procurement process. The savings achieved through such measures are crucial for maintaining the financial health of the national health insurance fund, which covers over 1.3 billion people in China.

The NMPA, at the same time, focuses on ensuring the safety and efficacy of pharmaceuticals through rigorous regulatory oversight. Its responsibilities include the approval of new drugs, monitoring the quality of existing medications, and enforcing compliance with safety standards. The NMPA's regulatory framework is essential for maintaining public trust in the pharmaceutical industry and ensuring that only safe and effective drugs reach the market. For instance, in 2021, the NMPA approved 49 new drugs, including innovative treatments for cancer and rare diseases, demonstrating its commitment to advancing public health [5].

The regulatory policies of the NMPA directly affect drug pricing by influencing the market entry and competition dynamics of pharmaceutical products. Medical institutions, including hospitals and clinics, are at the forefront of drug utilization. They are major purchasers of pharmaceuticals and their procurement practices significantly influence drug prices and market demand. Hospitals in China often have their own pharmacies and play a critical role in the distribution and administration of drugs. The procurement decisions made by these institutions can drive down prices through bulk purchasing

and competitive tendering processes. Moreover, the implementation of policies such as the “Zero Markup” policy for drugs sold in public hospitals has been instrumental in reducing the cost of medicines to patients. This policy, which prohibits hospitals from adding a markup on drug prices, has led to significant savings for patients and improved the affordability of healthcare services [1].

Government pricing is applied to essential and special drugs, ensuring that critical medications remain affordable. For example, drugs listed in the National Essential Drugs List are subject to government-controlled prices to ensure their accessibility to all citizens. Market-regulated pricing governs most non-essential drugs and new medicines, where prices are determined by market supply and demand but are still subject to government supervision. This approach encourages innovation and competition while preventing excessive pricing. Centralized procurement, facilitated by the NHSA, has been a game-changer in controlling drug costs. By leveraging the collective bargaining power of the health insurance system, the NHSA can negotiate lower prices with pharmaceutical companies, benefiting both the healthcare system and patients.

Overall, China’s pharmaceutical economic industry, through the coordinated efforts of the NHSA, NMPA and medical institutions, has made significant strides in managing drug prices and ensuring the sustainability of medical insurance funds. The system’s success is evident in the substantial savings achieved through centralized procurement and the effective regulation of drug safety and efficacy. As China continues to refine its pharmaceutical policies, the focus remains on enhancing the accessibility and affordability of medicines, ultimately improving the health outcomes of its population.

3. US medical industry

The US medical industry stands as a cornerstone of global healthcare, renowned for its pioneering role in research and development (R&D), its formidable manufacturing capabilities, and its intricate distribution networks. This sector’s influence extends far beyond national borders, shaping the landscape of medical innovation and patient care worldwide. However, the industry’s path is not without its hurdles, as it grapples with issues such as escalating drug prices, stringent regulatory frameworks, and fierce global competition.

The US is a global leader in pharmaceutical R&D, with numerous companies investing heavily in the discovery and development of new drugs, while the National Institutes of Health (NIH) and other government agencies provide substantial funding for biomedical research, which supports the industry’s innovation efforts. The pharmaceutical manufacturing in the US includes the production of both branded and generic drugs. Additionally, the industry adheres to strict regulations set by the US Food and Drug Administration (FDA) to ensure the safety, efficacy, and quality of manufactured drugs. The US is best known for its healthcare services, which includes a variety of service providers, from primary care physicians and specialists to hospitals and outpatient clinics. These providers prescribe and administer medications, influencing drug demand and usage patterns. Specifically, the system is supported by both public and private insurance, with programs like Medicare and Medicaid covering specific populations and private insurers offering a range of health plans.

Government also plays a crucial role in US medicine industry. The FDA is responsible for regulating the safety and efficacy of drugs, overseeing the approval process, and monitoring post-market safety. At the same time, the Centers for Medicare & Medicaid Services (CMS) administers public health insurance programs and influences drug pricing through negotiations and coverage decisions. Moreover, the drug prices in the US are primarily set by pharmaceutical companies based on market demand and the costs associated with R&D. New and patented drugs often have high price tags, while generic drugs are more affordable. The high cost of prescription drugs in the US has been extensively analyzed, along with the origins of these costs and exploration on potential reform measures [2]. Additionally, studies have investigated the impact of regulatory policies on

pharmaceutical revenues across nineteen countries, providing a comparative perspective on drug pricing and regulation. Government also influences the setting of drug prices, affecting the price set by public insurance programs which allows for price negotiations with pharmaceutical companies [6].

However, there still remains challenges for US medical industry since the high cost of prescription drugs in the US has been a persistent issue, prompting ongoing debates and calls for reform. US prescription drug spending reached approximately \$348 billion in 2020, accounting for about 10% of national healthcare expenditures [7]. Additionally, the US medicine industry faces increasing competition from international markets, particularly in the production of generic drugs.

All in all, the US medical industry's leadership in R&D, robust manufacturing, and complex distribution networks make it a global powerhouse in healthcare. However, the industry must navigate the challenges of drug pricing, regulation, and global competition to enhance healthcare accessibility and improve patient outcomes. With cooperation, stakeholders can forge a path toward a more equitable and effective healthcare system, ensuring that the benefits of medical innovation are shared by all.

4. Comparative analysis

The proportion for healthcare expenditure is also different between China and US. In China, healthcare spending accounted for approximately 7.1% of Gross Domestic Product (GDP) in 2021, with significant out-of-pocket expenses for individuals. In the US, healthcare spending is much higher, reaching about 18% of GDP in 2020, with a considerable portion borne by individuals despite insurance coverage.

There are several differences between the healthcare systems of China and that of the US. China's healthcare system is undergoing rapid development, expanding its coverage but facing challenges such as unequal distribution of medical resources between urban and rural areas and rising medical costs. In contrast, the US healthcare system is primarily driven by private insurance, with government programs like Medicare and Medicaid providing partial coverage. The US leads in medical technology and innovation, yet it is criticized for high medical costs and inadequate coverage. Additionally, China's social welfare system includes basic medical insurance for urban employees and rural residents, aiming to ensure healthcare accessibility. The US system, while offering Medicare for the elderly and Medicaid for low-income individuals, relies heavily on private insurance, which can lead to disparities in coverage and accessibility.

There are also differences in drug pricing. In China, drug pricing is influenced by government policies, with centralized procurement initiatives like the "4+7" pilot, aiming to reduce costs. However, high drug prices remain a concern, especially for imported medications. In the US, drug prices are market-driven, often resulting in high costs for new and patented drugs, although insurance negotiations can mitigate some of these expenses. In addition, the healthcare systems of China and the US also diverge in their approach to public health initiatives. China has made significant strides in public health, particularly in response to infectious diseases, as evidenced by its rapid response to the COVID-19 pandemic [8]. The country's ability to mobilize resources and implement large-scale public health measures has been crucial in managing outbreaks. In contrast, the US has faced challenges in coordinating a national response to public health crises, often resulting in fragmented efforts across different states. This disparity highlights the different strengths and weaknesses of each country's healthcare system in addressing public health on a national scale.

China has several weaknesses in its healthcare system compared to that of the US. Moreover, despite the efforts to control prices, the overall cost of healthcare continues to rise, placing a burden on patients. In addition, the quality and safety of TCM can be inconsistent due to inadequate regulation. In recent years, China has implemented several healthcare reforms, including anti-corruption measures and the inclusion of expensive drugs in the national insurance scheme. To further

improve its system, China could enhance the transparency in medical fees and drug pricing to reduce costs and build public trust, and expanding social welfare programs and subsidies can ease the financial burden on patients, particularly in rural areas. China can also encourage the research and development of new drugs in order to boost innovation and improve the overall quality of healthcare services. Moreover, China can set policies to more evenly distribute medical resources between urban and rural areas which can lead to the enhancement of healthcare accessibility and equity. By addressing these areas, China can continue to develop its healthcare system, ultimately improving the quality of life for its citizens.

5. Conclusion

The medical systems of China and the United States stand out as distinct models. This paper examines the differences and similarities between these systems, with a focus on healthcare expenditure, drug pricing, public health initiatives, and their respective strengths and weaknesses. The analysis is set against the backdrop of China's rapidly evolving healthcare landscape and the US' established yet challenged system, celebrated for its medical innovation but criticized for its high costs and unequal access.

China's medical industry is marked by a dual approach, blending TCM with Western medicine, with a focus on holistic treatment and prevention. Despite that, it struggles with uneven distribution of medical resources and escalating costs. The government's intervention in drug pricing, through centralized procurement and regulatory oversight by the NHTA and the NMDA, has been crucial in managing costs and sustaining medical insurance funds. Yet, challenges such as high prices for imported drugs and the inconsistent quality of TCM remain. To tackle these issues, this paper recommends increasing transparency in medical fees and drug pricing, broadening social welfare programs, fostering innovation in drug development, and improving the allocation of medical resources to enhance healthcare accessibility and equity.

Conversely, the US medical industry is a global leader in pharmaceutical research, development, manufacturing, and distribution. However, it faces significant challenges including high drug prices, stringent regulations, and international competition. The US system, predominantly driven by private insurance with supplementary coverage from government, has the persistent issue of high prescription drug costs which fuels ongoing debates and calls for reform. This comparative analysis underscores the stark difference in healthcare spending, with the US dedicating a significantly higher portion of its GDP to healthcare than China.

The findings of this paper highlight the urgent need for both nations to improve their medical system to face their challenges. For China, further reforms should prioritize enhancing TCM regulation, increasing transparency, and achieving a more equitable distribution of medical resources. For the US, potential reforms could focus on controlling drug prices and expanding access to healthcare for all citizens.

While this analysis is thorough, it acknowledges its limitations. The data may not fully reflect the evolving nature of healthcare systems, and the emphasis on drug pricing might neglect other aspects such as the distribution of healthcare workers and patient satisfaction. Future research should insight into these areas, assessing the impact of healthcare policies on patient outcomes, the role of technology in healthcare delivery, and the possibilities for cross-national learning and collaboration to elevate global healthcare standards. Such studies could offer a more comprehensive view of healthcare systems and assist policymakers in developing more effective and equitable healthcare policies.

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