

Article

The Health Silk Road: A Double-Edged Sword? Assessing the Implications of China's Health Diplomacy

Shaoyu Yuan 

Division of Global Affairs, Rutgers, The State University of New Jersey, 195 University Ave,
Newark, NJ 07102, USA; shaoyu.yuan@rutgers.edu

Abstract: The Health Silk Road (HSR) of the Belt and Road Initiative (BRI) of China aims to enhance public health and foster international cooperation in the healthcare sector. HSR objectives include strengthening healthcare infrastructure, expanding China's global health leadership, and enhancing international health cooperation. The aim of this study was to examine the HSR and its implications for global health and international relations by using expert opinion analysis on known major HSR initiatives. We analyzed the objectives of HSR, including improving healthcare infrastructure, enhancing global health cooperation, and expanding China's global health leadership. Additionally, as a case study, an in-depth analysis of the China-Pakistan collaboration on healthcare under the China-Pakistan Economic Corridor (CPEC) was conducted. This research posits that the HSR has a mix of positive and negative implications. Positive impacts of HSR include improved healthcare services, infrastructure, and capacity-building in participating countries. The main challenges include the quality and sustainability of the infrastructure and services provided, debt sustainability, transparency of projects, and China's geopolitical influence. This research identified five motives behind China's HSR: economic interests, diplomatic influence, reputation building, regional stability, and health security. The summary centers on CPEC and the WHO/Global collaboration. This research contributes to a nuanced understanding of the HSR's multifaceted impacts and underscores the importance of open dialogue, cooperation, and the sharing of best practices among stakeholders. By assessing the motives, implications, and concerns of the HSR, this study offers valuable insights for policymakers, global health practitioners, and scholars, highlighting the significance of international collaboration.

Keywords: COVID-19; Health Silk Road; case study; global health



Citation: Yuan, S. The Health Silk Road: A Double-Edged Sword? Assessing the Implications of China's Health Diplomacy. *World* **2023**, *4*, 333–346. <https://doi.org/10.3390/world4020021>

Academic Editors: Katri Jalava and Manfred Max Bergman

Received: 18 March 2023

Revised: 17 May 2023

Accepted: 30 May 2023

Published: 1 June 2023



Copyright: © 2023 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The Health Silk Road (HSR) has emerged as a key component of China's ambitious Belt and Road Initiative (BRI), attracting attention from scholars, policymakers, and global health practitioners across the world. The phrase "Health Silk Road" initially emerged in an October 2015 report published by China's National Health and Family Planning Commission, which has since been replaced by the National Health Commission. The report was created to fulfill the central government's mandate to contribute to the execution of the BRI. In 2016, President Xi Jinping formally introduced the HSR concept during a trip to Uzbekistan. A year later, Beijing entered into a memorandum of understanding with the World Health Organization, pledging to back the HSR initiative and enhance health outcomes in BRI nations [1]. This groundbreaking strategy seeks not only to redefine international healthcare cooperation but also to reshape China's role in global health, bringing to light an intricate interplay of economic, political, and diplomatic factors. As the HSR continues to unfold, it is imperative to delve deeper into the underlying motives, potential outcomes, and pressing challenges associated with this seemingly benign health diplomacy initiative.

By examining the case of the China–Pakistan collaboration on healthcare under the China-Pakistan Economic Corridor (CPEC), this article reveals the multifaceted impacts of

the HSR, demonstrating that its implications cannot be easily categorized as simply good or bad. Instead, this paper argues that the HSR presents a delicate balancing act as it provides much-needed healthcare assistance to participating countries while simultaneously raising concerns about debt sustainability, transparency, and geopolitical influence. Furthermore, this article seeks to shed light on the broader implications of the HSR for global health governance, the potential consequences of China's growing influence in the healthcare sector, and the challenges that participating countries may face in navigating the complex terrain of the HSR.

The significance of studying China's Health Silk Road lies in understanding the potential implications for global health governance, international relations, and development [2]. The primary objective of this study is to consolidate a comprehensive, expert perspective on HSR initiatives, leveraging the diverse range of available data and information. This investigation was motivated by the pressing need to understand the nuances, implications, and global impact of China's HSR in a comprehensive manner. By scrutinizing the various aspects of HSR, including its objectives, strategies, successes, and challenges, it aims to offer a balanced and rigorous analysis. As China expands its influence in the health sector, it has the potential to reshape health norms, practices, and institutions. The HSR could contribute to improved healthcare infrastructure and outcomes in participating countries, but it may also create dependencies and alter power dynamics. Furthermore, this analysis can help uncover the motivations behind China's health diplomacy efforts and assess the effectiveness of its public diplomacy strategies. We should care about this topic because the growing influence of China in the global health sector has implications for the balance of power and the future of international cooperation. This analysis can also contribute to the development of more effective health diplomacy strategies, promoting greater collaboration and resilience in the face of future global health challenges. This offers a rich case study for examining how health diplomacy can serve both humanitarian and strategic objectives, with implications for global health governance and development.

2. Objectives of the Health Silk Road

While the BRI encompasses a wide range of sectors, the Health Silk Road specifically targets public health and international cooperation in healthcare. In this section, we will delve into the objectives, strategies, and implications of the Health Silk Road. It is important to note that the objectives of HSR are not the same as the motives of HSR. The objectives are public, obvious, and can be a common goal of both China and the participating countries. This paper selects examples from both government and private sector projects to better analyze HSR's global partnership and impact. The HSR spans across multiple continents, and health needs, political landscapes, and economic conditions vary widely among these regions. Therefore, examples from different parts of the world are selected. The selected examples also reflect the range of activities undertaken under the HSR. This includes direct aid such as medical supplies or equipment, infrastructure projects such as hospitals or research centers, and cooperative initiatives such as training programs or research collaborations. The chosen examples illustrate both successful projects and those that have faced challenges, as they can provide valuable insights into the strengths and weaknesses of the HSR. The selected examples are based on the availability of reliable and verifiable data to ensure the accuracy and credibility of the analysis; however, it is worth noting that the lack of transparency in China's overseas development activities, including the HSR, can sometimes make this a challenging task.

2.1. Improving Healthcare Infrastructure

By enhancing healthcare infrastructure in participating countries, the HSR seeks to improve the quality, accessibility, and sustainability of healthcare services, ultimately contributing to better health outcomes and overall development. Investments in healthcare infrastructure projects under the HSR take several forms, including the construction of new facilities, the upgrading and modernization of existing infrastructure, and the provision of

medical equipment and resources. These investments often involve collaborations between Chinese companies, local partners, and governments, with financial support from Chinese policy banks, multilateral development banks, or other international financing institutions [3]. Some key areas of healthcare infrastructure development under the HSR include hospitals, medical labs, telemedicine, public health surveillance, and training schools.

A major focus of the HSR is the establishment and renovation of hospitals and clinics in partner countries. For instance, China has financed and built the China–Pakistan Friendship Hospital in Gwadar, Pakistan, as part of the CPEC [4], a flagship project of the BRI. Similarly, China has constructed the China–Laos Friendship Hospital in Vientiane, Laos, and the China–Cambodia Friendship Hospital in Phnom Penh, Cambodia, to enhance the capacity of these countries' healthcare systems [5]. The HSR also emphasizes the development of medical research facilities and laboratories to foster innovation and collaboration in areas such as infectious disease control, vaccine development, and digital health solutions. For example, the China-built African Centre of Excellence for Genomics of Infectious Diseases (ACEGID) in Nigeria aims to advance the study of genomics and contribute to the control of infectious diseases in the region [6]. Digital health solutions are increasingly important in enhancing healthcare accessibility and efficiency, particularly in remote or underserved areas. Under the HSR, China has been collaborating with partner countries to develop telemedicine and e-health infrastructure. In 2018, the Chinese company Huawei signed an agreement with the Government of Papua New Guinea to build a telemedicine system that would facilitate remote medical consultations and improve healthcare delivery in rural areas [7]. Improving public health infrastructure is crucial for preventing and controlling the spread of infectious diseases. China has been investing in public health and disease surveillance systems in partner countries under the HSR, such as the China-aided Malaria Control Project in Cameroon, which includes the construction of a national malaria control center, laboratories, and training facilities [8]. Building human resources for health is an integral part of strengthening the healthcare infrastructure. The HSR supports the establishment and enhancement of training centers and medical schools to develop the capacity of healthcare professionals in partner countries. For instance, China has funded the construction of the China–Zimbabwe Friendship Hospital School of Nursing in Zimbabwe to bolster the training of local nursing professionals.

2.2. *Enhancing Global Health Cooperation*

Enhancing international health cooperation is a central objective of the Health Silk Road, which seeks to foster collaboration between China and participating countries across various health-related domains, including disease prevention and control, public health policy, medical research, and the development of healthcare technologies. By facilitating knowledge exchange, capacity building, and joint initiatives, the HSR has the potential to contribute to improved global health outcomes and address shared health challenges more effectively.

The HSR facilitates cooperation between China and partner countries in addressing infectious diseases and other public health threats. For instance, the China–Central and Eastern European (CEE) Initiative on Infectious Diseases, launched in 2015, aims to strengthen collaboration between China and 17 CEE countries in areas such as epidemiological surveillance, laboratory testing, and capacity building [9]. Similarly, the China–Africa Public Health Cooperation Plan, established in 2018, focuses on joint initiatives in areas such as malaria and HIV/AIDS prevention and control. The HSR promotes dialogue and cooperation on public health policy, enabling participating countries to share best practices and lessons learned. In 2017, China and the World Health Organization (WHO) signed a Memorandum of Understanding to establish a Health Policy and Technology Cooperation Center, which aims to facilitate policy dialogue and technical exchange in areas such as health system strengthening, health financing, and health workforce development [10]. Joint medical research projects are another essential component of international health cooperation under the HSR. For example, the China–UK Global Health Support Program (GHSP), launched in

2012, is a collaborative research initiative that focuses on non-communicable diseases, mental health, and health systems research in low- and middle-income countries [11]. Similarly, the China–Brazil Center for Disease Control and Prevention (CDC), established in 2018, aims to foster cooperation in epidemiological research, surveillance, and laboratory testing. The HSR also encourages the sharing of healthcare technologies and innovations between China and partner countries. For instance, the China–Arab States Technology Transfer Center, established in 2016, seeks to facilitate the transfer of Chinese medical technologies and innovations to Arab countries, with a focus on areas such as telemedicine, medical imaging, and traditional Chinese medicine [12]. China actively participates in and hosts various multilateral health forums and conferences to enhance international health cooperation under the HSR. For example, the annual China–Africa Health Ministers’ Conference provides a platform for health ministers from China and African countries to discuss public health policy, share best practices, and explore opportunities for collaboration in areas such as disease prevention and control, health system strengthening, and medical research [13].

2.3. Expanding China’s Global Health Leadership

The Health Silk Road serves as a vehicle for expanding China’s global health leadership by engaging in various health-related initiatives, providing financial contributions, technical assistance, and capacity-building support, participating in global health forums, and forging strategic partnerships. These efforts demonstrate China’s growing commitment to international health cooperation and its ambition to position itself as a proactive and responsible global health actor.

When China first utilized its HSR strategy during the Ebola 2014–2016 outbreak, its response was prompt and substantial, outpacing many Organization for Economic Cooperation and Development (OECD) countries. In April and August 2014, China dispatched two aid packages exceeding \$5.5 million in value to Guinea-Bissau and the three countries most affected by Ebola. In contrast, substantial support in terms of personnel and funding from other countries did not arrive until the later months of August and September [14]. China has also increased its funding to multilateral health organizations, such as the World Health Organization (WHO), Gavi, the Vaccine Alliance, and the Global Fund to Fight AIDS, Tuberculosis, and Malaria. These contributions demonstrate China’s commitment to international health cooperation and its willingness to contribute to global health financing [15]. China provides technical assistance and capacity-building support to low- and middle-income countries to address various health challenges. For instance, China has dispatched medical teams to African countries since the 1960s, providing medical services and training local healthcare professionals. The HSR has expanded this initiative, with thousands of Chinese medical personnel working in over 50 countries worldwide. China has been actively involved in providing emergency response and humanitarian assistance in the face of global health crises. During the Ebola outbreak in West Africa (2014–2016), China deployed medical teams, provided supplies, and built treatment centers [16]. China’s response to the COVID-19 pandemic is another example, where it provided medical supplies, expertise, and financial assistance to affected countries, illustrating its expanding role in global health leadership [17]. China has emerged as a major player in the development and distribution of vaccines for various diseases, including COVID-19. Through initiatives such as the China–World Health Organization COVID-19 Vaccine Implementation Plan, China has committed to providing COVID-19 vaccines to low- and middle-income countries, ensuring equitable access to immunization. China is increasingly active in global health forums and initiatives, such as the World Health Assembly, the G20 Health Ministers’ Meetings, and the Global Health Security Agenda. By engaging in these platforms, China contributes to shaping global health policies and strengthening its leadership in health diplomacy [3]. China also actively pursues partnerships and collaborations with international organizations, governments, and private sector entities to address global health challenges. For instance, in 2017, China signed a Memorandum of Understanding with the Bill and Melinda Gates Foundation to cooperate on global health and development

issues, including infectious diseases, vaccine development, and healthcare innovation. The collaboration continued following COVID-19, marking a strong US-China collaboration on health and medicine [18]. In 2020, Russia became the first country to register a COVID-19 vaccine, named Sputnik V. Despite early skepticism, the vaccine has been recognized for its efficacy and safety by reputable international bodies such as The Lancet. China, with its robust manufacturing capabilities, stepped in to bolster the production of Sputnik V. Under the HSR, the Russian Direct Investment Fund (RDIF) and Chinese biopharmaceutical company Hualan Biological Bacterin made an agreement to produce over 100 million doses of the Sputnik V vaccine [19], which underscores the HSR's capacity for fostering health collaborations that transcend national boundaries. See the Table 1 for an overview of the primary objectives of China's HSR and the associated strategies to achieve these goals.

Table 1. Objectives and Strategies of China's Health Silk Road.

Objectives of HSR	Cooperation Strategies
1. Strengthening healthcare infrastructure	1.1. Investing in the construction and modernization of hospitals, laboratories, and other healthcare facilities. 1.2. Providing equipment and technology for healthcare institutions.
2. Enhancing international health cooperation	2.1. Promoting the exchange of knowledge and expertise in areas such as disease prevention and control, public health policy, and medical research. 2.2. Facilitating joint research and development initiatives in healthcare technologies. 2.3. Strengthening multilateral cooperation platforms in health.
3. Expanding China's global health leadership	3.1. Engaging in global health governance and contributing to international health standards and norms. 3.2. Showcasing China's capabilities in healthcare technology and innovation. 3.3. Promoting China's model of health development as an alternative to Western models.

Since the commencement of the HSR initiative, China's role in global health has been on an upward trajectory. Initially, China's efforts in global health were relatively modest. However, by 2020, China's role had expanded significantly. President Xi Jinping announced a commitment of USD 2 billion over five years in 2015, targeting support for developing countries in their post-2015 development agenda, a substantial portion of which was directed toward health-related projects [20]. This commitment was further bolstered in 2018 when China declared an additional USD 60 billion in financing for Africa, with dedicated funds for health initiatives [21]. It is important to note that China's humanitarian aid to Africa was just about USD 47 million in 2014 when the HSR initiatives just started [14]. Notably, China has made considerable investments in health infrastructure in various countries. This observable trend of increased health diplomacy underscores China's strategic intent to fortify its influence in global health governance.

3. Implications and Results of HSR

Studying the implications, results, and concerns of the HSR is crucial for several reasons, including its potential to influence global health outcomes and healthcare systems in participating countries. Understanding the HSR's impact helps policymakers, researchers, and healthcare professionals identify its strengths and weaknesses, which can inform the design and implementation of future global health initiatives and policies. Furthermore, evaluating the HSR's effectiveness allows stakeholders to identify areas for improvement, leading to better-targeted investments, more efficient use of resources, and enhanced collaboration between China and partner countries. Assessing potential negative impacts and concerns enables risk mitigation, ensuring the HSR contributes to sustainable global health development. Additionally, studying the HSR allows for a deeper understanding of China's motivations, ambitions, and strategies in the global health arena, as well as the potential impact on international relations and global health governance. By examining the HSR, researchers, and policymakers can identify best practices and lessons learned, which can be applied to other global health projects and collaborations, ultimately leading to

more effective, efficient, and sustainable initiatives. Finally, studying the HSR can promote dialogue and cooperation between China and other countries, as well as among global health stakeholders, fostering partnerships that contribute to global health development.

3.1. Positive Implications and Results

3.1.1. Enhanced Healthcare Infrastructure

The HSR's investment in healthcare infrastructure and focus on international health cooperation have contributed to the improvement of health outcomes in partner countries [22]. By providing better healthcare facilities and advanced medical equipment and enhancing disease prevention and control measures, the HSR has played a significant role in reducing the burden of disease, lowering mortality rates, and improving overall public health [12]. For example, the construction of hospitals, clinics, and medical research facilities in partner countries has increased access to quality medical care, which has the potential to improve health indicators such as life expectancy and maternal and child health.

3.1.2. Promotion of Health Cooperation

Through investments in healthcare infrastructure, capacity-building initiatives, and knowledge exchange, the HSR has contributed to the strengthening of healthcare systems in participating countries. By upgrading medical facilities, training healthcare professionals, and promoting the adoption of advanced healthcare technologies, the HSR has enhanced the efficiency, resilience, and accessibility of healthcare services in partner countries [17]. For instance, the HSR has supported the construction and modernization of healthcare facilities, provided training and technical assistance to local healthcare workers, and facilitated the implementation of e-health and telemedicine solutions to improve access to healthcare services in remote and underserved areas.

3.1.3. Global Health Leadership

The HSR has fostered greater collaboration between China and participating countries in areas such as disease prevention and control, public health policy, medical research, and healthcare technology development. Through joint initiatives, technical assistance, and knowledge exchange, the HSR has enabled countries to address shared health challenges more effectively, promote best practices, and learn from each other's experiences [22]. For example, the HSR has facilitated cooperation on infectious disease surveillance and response, joint medical research projects, and the development and transfer of healthcare technologies, contributing to the global effort to tackle pressing health issues such as infectious diseases, non-communicable diseases, and antimicrobial resistance.

The HSR has positioned China as a proactive and responsible global health actor by demonstrating its commitment to international health cooperation and the development of global health policies and practices [22]. Through financial contributions to multilateral health organizations, technical assistance and capacity-building support to partner countries, and active participation in global health forums and initiatives, China has expanded its influence and leadership in global health governance. This increased global health engagement has enabled China to shape health policies, promote its development model, and enhance its soft power on the international stage.

3.2. Negative Implications and Potential Concerns

3.2.1. Debt Trap Diplomacy

Healthcare infrastructure investments under the HSR often rely on loans from Chinese policy banks, multilateral development banks, or other international financing institutions. This financing approach raises concerns about the debt sustainability of participating countries, particularly those with high debt levels or limited capacity to service their debt [23]. Unsustainable debt levels may lead to economic instability, fiscal constraints, and reduced policy space for partner countries, potentially undermining the long-term benefits of the HSR projects. It is crucial for stakeholders to carefully assess and manage

the debt risks associated with HSR investments to ensure the financial sustainability of these projects. In Sri Lanka, China financed the construction of the Hambantota port, which eventually led to debt problems for the country. Unable to service the debt, Sri Lanka had to lease the port to a Chinese state-owned company for 99 years. While not directly related to HSR, this example highlights the potential risks of debt sustainability associated with large-scale infrastructure projects financed by China [24].

3.2.2. Lack of Transparency and Governance Issues

There are concerns about the quality, sustainability, and safety of the infrastructure and services provided under the HSR. Ensuring that the investments lead to long-term improvements in healthcare systems requires adherence to high standards of construction, management, and maintenance. Issues such as substandard construction, inadequate maintenance, or insufficient training of healthcare professionals may compromise the safety, effectiveness, and sustainability of the HSR projects, limiting their potential impact on public health. Addressing these concerns requires robust quality assurance mechanisms and ongoing monitoring and evaluation of HSR projects. For example, a hospital newly built by China in Angola faced structural issues, including cracks in the walls, shortly after construction was completed. This raised concerns about the quality of infrastructure built under China-funded projects, including those under the HSR. Ensuring high construction standards, proper maintenance, and adequate training for healthcare professionals is crucial to guaranteeing the long-term impact of HSR projects on public health [25].

3.2.3. Geopolitical Implications and Security Concerns

The HSR has faced criticism over the lack of transparency in project selection, financing, and implementation. This opacity can contribute to corruption, mismanagement, and negative environmental and social impacts. Ensuring good governance and transparency in the HSR projects is essential to maximizing their potential benefits and minimizing their potential risks. Improving transparency and accountability in the HSR can also help build trust between China and partner countries, as well as among various stakeholders involved in global health initiatives. For instance, in early 2021, China donated a significant number of Sinopharm COVID-19 vaccines to Zimbabwe. While the donations were welcomed as a way to combat the pandemic, questions were raised regarding the selection process for the donation, the pricing, and the procurement terms. Critics argue that China's vaccine diplomacy lacks transparency and may be driven by political motivations rather than addressing the most pressing public health needs [26]. Some suggest that China's vaccine distribution is strategically targeted towards countries where it has economic or political interests, such as those involved in the Belt and Road Initiative or those with abundant natural resources. Despite the positive impact of vaccine donations in combating the pandemic, the lack of transparency in the selection process and potential political motivations behind China's vaccine diplomacy raise concerns about the true intentions of the HSR, which brought us the most important notion of the HSR: its motives.

4. Motives behind China's HSR

Studying the motives behind the Health Silk Road (HSR) is essential, as it provides valuable insights into China's intentions, strategies, and potential impacts on global health and international relations. Understanding China's intentions through the analysis of HSR motives helps to clarify the initiative's aims and potential consequences, both positive and negative, for participating countries and the global community. This knowledge assists policymakers, healthcare professionals, and researchers in designing and implementing more effective global health initiatives and policies, allowing partner countries to negotiate better terms for HSR projects that align with their national priorities and contribute to sustainable development. Additionally, it is important to note that the motives behind HSR are not the same as the objectives of HSR. This research identifies five motives behind China's

HSR: economic interests, diplomatic influence, reputation building, regional stability, and health security.

The first motive behind the HSR is to create new economic opportunities for China by promoting its medical industry, pharmaceutical products, and medical equipment. By investing in healthcare infrastructure and services in participating countries, China aims to expand its export markets and establish itself as a leading provider of medical goods and services. Additionally, HSR projects can generate contracts for Chinese construction companies and create employment opportunities for Chinese workers abroad. In 2016, China's National Health and Family Planning Commission announced its plan to boost the export of Chinese medical products and services under the HSR. For instance, the HSR has facilitated the export of Chinese pharmaceuticals and medical equipment to Africa, such as Sinopharm's vaccines, which were provided to African countries during the COVID-19 pandemic. This has allowed China to capture a larger share of the global medical market and support its domestic medical industry [27].

The HSR also serves as a platform for China to enhance its diplomatic ties and strengthen its bilateral relationships with participating countries. By providing medical aid, technical assistance, and healthcare infrastructure development, China seeks to foster goodwill and nurture long-term partnerships with these countries. These strengthened relationships can translate into increased political support for China in international forums and facilitate collaboration on other strategic initiatives. China's provision of medical aid and assistance during the COVID-19 pandemic, including donations of masks, ventilators, and testing kits, has helped strengthen its diplomatic ties with several countries. For example, Chinese medical teams were sent to Italy to help combat the pandemic in March 2020, which was appreciated by the Italian government and the public, enhancing bilateral relations between the two countries. This goodwill can contribute to increased political support for China and collaboration on other strategic initiatives [28]. As Italy found itself woefully unprepared and in dire need of medical supplies to combat COVID-19, China stepped in as the first nation to provide aid during the crisis. In a conversation between Italian Foreign Minister Di Maio and his Chinese counterpart, Wang Yi, Italy secured China's prompt assistance. This act of support was widely covered by Italian media outlets.

China has been striving to enhance its global image as a responsible power and a leader in international development. The HSR offers an opportunity for China to showcase its commitment to global health and sustainable development, as well as its expertise in healthcare technology and innovation. Through the HSR, China can counter criticisms related to its environmental and labor practices and present itself as a constructive player in addressing global challenges. China has used the HSR to demonstrate its commitment to global health and sustainable development. One notable example is China's role in the international response to the Ebola outbreak in West Africa in 2014. China provided medical personnel, equipment, and financial aid to affected countries, highlighting its capacity to contribute constructively to global health challenges [29]. This involvement helped counter criticism and improve China's global image as a responsible power.

By investing in healthcare infrastructure and services in its neighboring countries, China aims to promote regional stability and security. A healthier population contributes to social and economic development, reducing the likelihood of conflict, migration, and other issues that can undermine regional stability. This, in turn, creates a more secure environment for China's own domestic development and international interests. China has invested in healthcare projects in neighboring countries. In 2018, China funded the construction of the Cambodia–China Friendship Preah Kossamak Hospital in Phnom Penh. The hospital aims to improve access to healthcare for Cambodian citizens, particularly those living in the capital city. The new facility is equipped with advanced medical equipment and offers a variety of specialized services, such as cardiology, oncology, and orthopedics [30]. This investment in Cambodia's healthcare infrastructure not only benefits the local population by providing much-needed medical services but also helps to strengthen

China's political and economic ties with Cambodia. By enhancing its presence and influence in the region, China contributes to fostering regional stability and security. A healthier population in neighboring countries can contribute to social and economic development, reducing the likelihood of conflict, migration, and other issues that can undermine regional stability and China's own interests.

The HSR also seeks to enhance China's health security by improving disease surveillance, prevention, and control in participating countries. Given the interconnected nature of global health and the increasing risk of infectious diseases, the HSR can contribute to China's own health security by reducing the risk of cross-border transmission of diseases and strengthening regional and international capacity to respond to public health emergencies. The HSR has facilitated collaboration on disease surveillance, prevention, and control. For example, China has worked with the Association of Southeast Asian Nations (ASEAN) to establish a regional public health emergency coordination mechanism [31]. This mechanism aims to strengthen regional and international capacity to respond to public health emergencies, such as the COVID-19 pandemic, and protect China's own health security by reducing the risk of cross-border transmission of diseases.

The role of international institutions, such as the G20 and the United Nations Security Council (UNSC), can significantly influence China's HSR policies. These bodies can shape, directly or indirectly, the strategies and implementation of the HSR, given their influence on global governance and international norms. The G20, which includes the world's major economies, plays a crucial role in shaping global health priorities and economic policies. China, as a member of the G20, often uses the forum to promote its HSR and other global health initiatives, seeking endorsement and collaboration from other member countries. For instance, in the context of the COVID-19 pandemic, the G20 has emphasized the importance of international cooperation in combating global health crises, a message that aligns with the cooperative and multilateral spirit of the HSR. However, the G20 can also introduce policy challenges for China if other member countries raise concerns about issues such as transparency, debt sustainability, or other geopolitical considerations related to the HSR. Similarly, the UNSC, as the primary organ of the United Nations responsible for maintaining international peace and security, can also impact China's HSR policies. China, one of the five permanent members of the UNSC, often leverages this platform to garner international support for its initiatives, including the HSR. However, the UNSC can also spotlight potential security implications of the HSR, such as the geopolitical implications of China's growing influence in global health or potential security risks associated with health infrastructure projects in conflict-prone regions. Therefore, while the G20 and UNSC can provide avenues for China to advance the HSR, they can also present diplomatic and policy challenges that China needs to navigate carefully in implementing this initiative.

5. The Challenges in Implementing the Health Silk Road

As China continues to expand the HSR, it faces several significant challenges that could impact the initiative's effectiveness and its long-term sustainability. Understanding these challenges is essential to assessing the potential trajectory and impact of the HSR. One of the most significant challenges lies in the allocation and management of resources. Funding, in particular, is a major concern. The large-scale investment required for the HSR might strain China's economic resources, especially in the wake of the economic slowdown caused by the COVID-19 pandemic. Moreover, effectively managing these investments to ensure they are used efficiently and transparently can be complex and challenging. While detailed financial data for HSR-specific projects is not readily available, these projects are undoubtedly a significant economic commitment. Managing such vast resources effectively is a significant challenge, particularly in ensuring that funds are directed to projects with the most significant impact and that they are not lost to corruption or inefficiency.

The lack of transparency, as mentioned above in the negative implications, is another challenge faced by the HSR projects. The HSR has faced criticism over the lack of transparency in project selection, funding, and implementation. This lack of transparency can

lead to suspicions and concerns among participating countries and international observers, potentially undermining the initiative's credibility and effectiveness. Specific to the HSR, concerns have been raised about the selection and approval process for health projects. For example, it has been reported that some projects appear to have been selected based on their potential to advance China's strategic interests rather than purely health needs [32].

Political and economic stability in participating countries is another challenge. Many of the countries along the HSR are developing nations with unstable political climates and fragile economies. These conditions can pose significant risks to the successful implementation and sustainability of HSR projects. For instance, the constant outbreaks of violence in Sudan had a serious impact on the Chinese-funded projects, and hundreds of Chinese citizens were trapped and needed protection from the Chinese government [33]. Similarly, in countries such as Pakistan, a key partner in the HSR, ongoing political instability and economic challenges could affect the implementation and sustainability of health projects.

6. The China-Pakistan Collaboration

Pakistan represents a unique and significant case study for examining China's HSR due to a confluence of factors. Pakistan's strategic geographical position at the intersection of South Asia, Central Asia, and the Middle East earmarks it as a crucial node in China's broader Belt and Road Initiative. This strategic significance is manifest in the ambitious China-Pakistan Economic Corridor (CPEC), a multi-billion dollar venture that includes a growing portfolio of health-related initiatives. The CPEC serves as a microcosm of the HSR, demonstrating its potential benefits and challenges. Moreover, the longstanding "all-weather strategic cooperative partnership" between China and Pakistan provides a conducive environment for health cooperation. This relationship becomes even more critical considering Pakistan's public health challenges, including a high disease burden and a struggling healthcare system, where China's HSR initiatives could potentially make a substantial difference. Lastly, the implementation of CPEC and related health projects, despite their potential benefits, has not been without controversy, offering valuable lessons on the criticisms and challenges that the HSR might face. Consequently, Pakistan's case provides a rich and multifaceted context for understanding the implications of China's Health Silk Road. See Table 2 for an overview of the goals, strategies, and implications of the China-Pakistan case.

The China-Pakistan collaboration on healthcare under CPEC serves as an informative case study to examine how China uses the HSR to achieve its goals. As a flagship project of China's Belt and Road Initiative (BRI), CPEC aims to enhance economic cooperation and connectivity between China and Pakistan, bolstering regional integration and development [4]. Within this context, healthcare has emerged as a significant area of collaboration, focusing on various aspects such as the construction of hospitals and healthcare facilities, capacity-building initiatives, and the provision of medical equipment and training. Notable healthcare projects include the Gwadar Port Authority Hospital, the China-Pakistan Gwadar Faqeer Colony Middle School and Vocational Training Center's medical center, the Lady Reading Hospital in Peshawar, and the China-Pakistan joint laboratory for the Prevention and control of infectious diseases at the National Institute of Health in Islamabad [34]. Additionally, China has donated medical equipment, such as personal protective equipment, ventilators, testing kits, and COVID-19 vaccines, to Pakistan. The two countries have also organized training programs for healthcare professionals, exchanges of medical experts, and seminars to share knowledge and expertise. This collaboration not only contributes to improving healthcare services in Pakistan but also serves China's broader economic, diplomatic, reputational, regional stability, and health security objectives.

Healthcare projects under CPEC create opportunities for Chinese companies to expand their exports of medical equipment, pharmaceuticals, and related services. For example, the Chinese firm Jiangsu Provincial Construction Group built the Gwadar Port Authority Hospital in Pakistan, securing a contract worth millions of dollars [35]. These projects not only generate contracts for Chinese construction companies but also create employment

opportunities for Chinese workers, thereby supporting China's domestic economy. The collaboration on healthcare strengthens the bilateral relationship between China and Pakistan, fostering goodwill and nurturing a long-term partnership. As a testament to this close relationship, Pakistan was one of the first countries to receive COVID-19 vaccine donations from China, with a total of 1.2 million doses of the Sinopharm vaccine donated in February 2021 [36]. This provision of medical aid and healthcare infrastructure development can translate into increased political support for China in international forums and facilitate collaboration on other strategic initiatives.

Table 2. Objectives, Strategies, and Implications of the China-Pakistan Collaboration.

China-Pakistan Collaboration under HSR	Description
Objectives	
1. Strengthening healthcare infrastructure	China has been investing in Pakistani healthcare facilities, such as the upgrade of Lady Reading Hospital in Peshawar.
2. Enhancing international health cooperation	China has been cooperating with Pakistan in medical research, and disease prevention, including the MOU signed between China CDC and NIH Pakistan.
3. Expanding China's global health leadership	The China-Pakistan collaboration is seen as a key component of China's broader strategy to enhance its international health influence.
Strategies	
1. Investment in health infrastructure	For example, the establishment of a 500-bed hospital in Gwadar.
2. Provision of medical supplies and personnel	Donations of face masks, N-95 masks, and the proposal to convert a university campus into a field hospital in Lahore
3. Promotion of health-related research and development	Through the MOU between China CDC and NIH Pakistan focusing on several healthcare fields.
Positive Implications	
1. Improved healthcare systems	Pakistan's healthcare infrastructure and services are improving due to these initiatives.
2. Greater health security	Enhanced health cooperation with China is supporting better disease prevention and control in Pakistan.
3. Promotion of sustainable development	Investments in health are contributing to social and economic development in Pakistan.
Negative Implications and Potential Concerns	
1. Debt sustainability	Large-scale health infrastructure projects could exacerbate Pakistan's debt situation.
2. Transparency issues	There are concerns about the transparency of project selection and contract award processes.
3. Geopolitical implications	The potential use of HSR as a tool for advancing China's geopolitical interests in Pakistan could be a concern.

By investing in healthcare infrastructure and services in Pakistan, China demonstrates its commitment to global health and sustainable development. For instance, the provincial government of Sindh obtained 500,000 face masks, including 50,000 N-95 masks, as a donation from China. Additionally, China's Kunming University of Science and Technology will collaborate with Pakistani medical professionals to transform a university campus in Lahore, Punjab, into a field hospital with a capacity of 1000 beds, enhancing its reputation as a reliable partner in healthcare [37]. These efforts showcase China's expertise in healthcare technology and innovation, helping improve China's global image as a responsible power and a leader in international development.

Healthcare projects under CPEC contribute to social and economic development in Pakistan, which in turn promotes regional stability and security. For example, in Gwadar, the China Overseas Ports Holding Company has founded a girls' primary school and is

currently working on setting up a vocational training institute and a hospital with 500 beds, including a medical center. All of these projects are being funded through grants from the Chinese government [38]. A healthier population can reduce the likelihood of conflict, migration, and other issues that can undermine regional stability, creating a more secure environment for China's own domestic development and international interests. The collaboration on healthcare projects enhances China's health security by improving disease surveillance, prevention, and control in Pakistan. In February 2021, the China CDC and NIH Pakistan entered into a Memorandum of Understanding [39]. This collaborative partnership concentrates on areas such as communicable disease prevention and control, laboratory quality and bio-safety, and training in molecular diagnostic techniques, among others. This cooperation helps reduce the risk of cross-border transmission of diseases and strengthens the regional capacity to respond to public health emergencies, ultimately benefiting China's own health security.

The symbiosis between the HSR strategic objectives and their implementation in Pakistan is a testament to the initiative's operational mechanisms. The partnership between China and Pakistan has translated HSR's cornerstone goal of bolstering healthcare infrastructure into tangible outcomes. The medical donations from China and the establishment of a 1000-bed field hospital in Lahore epitomize these efforts. Additionally, the signed Memorandum of Understanding between China's CDC and NIH Pakistan further actualizes the HSR's core strategy of enhancing international health cooperation. It encompasses various domains, including communicable disease control and prevention, laboratory quality, and bio-safety, fostering a robust knowledge exchange mechanism. Through these initiatives, China's burgeoning influence and leadership in global health are evident, demonstrating HSR's vision of positioning China as a responsible global actor.

The collaborative framework of HSR in Pakistan encapsulates both the initiative's positive potential and the concomitant concerns it raises. The projects have decidedly amplified the efficacy of Pakistan's healthcare system, with infrastructure and equipment upgrades enhancing the provision of health services. This cooperation has been instrumental in mitigating some of Pakistan's acute health challenges while nurturing capacity building within its health sector.

However, the implementation of HSR in Pakistan has also been subject to scrutiny, highlighting the initiative's negative implications. There are concerns related to transparency and inclusiveness in project selection and implementation. The establishment of certain health projects, such as the large-scale field hospital in Lahore, has stirred questions about the decision-making process. Additionally, the financial aspects of the collaboration, characterized by significant investments and loans, have elicited apprehension about Pakistan's long-term debt sustainability. This echoes the broader critique labeled "debt-trap diplomacy", often associated with China's Belt and Road Initiative. Therefore, while the Pakistan case offers valuable insights into the HSR's interplay of goals, strategies, and implications, it also underscores the need for careful navigation of the challenges for sustainable and equitable outcomes.

By examining the China-Pakistan collaboration on healthcare under CPEC, we can observe how the HSR serves China's economic, diplomatic, reputational, regional stability, and health security objectives. This case study provides valuable insights and evidence, offering lessons for other countries and regions considering partnerships with China under the HSR framework.

7. Conclusions

In conclusion, the HSR is a crucial aspect of China's BRI, focusing on enhancing public health and fostering international cooperation in the healthcare sector. The HSR's objectives include strengthening healthcare infrastructure, expanding China's global health leadership, enhancing international health cooperation, promoting traditional Chinese medicine, and improving health security. By examining the China-Pakistan collaboration on healthcare under the China-Pakistan Economic Corridor (CPEC), we can observe how

the HSR serves China's economic, diplomatic, reputational, regional stability, and health security objectives.

Studying the motives behind the HSR is essential, as it provides valuable insights into China's intentions, strategies, and potential impacts on global health and international relations. Understanding these motives helps to clarify the initiative's aims and potential consequences, both positive and negative, for participating countries and the global community. Examining the HSR's motives enables stakeholders to identify potential risks and concerns, such as debt sustainability and transparency, facilitating more effective risk assessment and mitigation. Moreover, a deeper understanding of the HSR's motives fosters cooperation and dialogue between China and other countries, as well as among global health stakeholders, leading to more effective partnerships and collaborative efforts that address shared health challenges and promote sustainable development.

Determining whether the HSR is inherently good or bad is a complex endeavor, as it encompasses a diverse array of projects and objectives that yield a mix of positive and negative implications. While it is crucial to acknowledge that China's political agenda may underlie some of the HSR's motives, it is equally important to consider the tangible benefits that have arisen from the cooperation and assistance provided by the initiative. For many participating countries, the HSR has led to improved healthcare infrastructure, increased access to healthcare services, and strengthened capacity in health systems. However, the HSR has also raised concerns for the global community, particularly regarding China's potential geopolitical influence, debt sustainability, and transparency issues. It is essential to adopt a nuanced approach when evaluating the HSR, taking into account the specific projects and contexts as well as the measures implemented by China and its partners to address potential risks and concerns. By fostering open dialogue and collaboration among stakeholders, the international community can work towards ensuring that the HSR primarily serves the greater good while minimizing potential negative consequences.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data sharing not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Huang, Y. The health silk road: How China adapts the belt and road initiative to the covid-19 pandemic. *Am. J. Public Health* **2022**, *112*, 567–569. [CrossRef] [PubMed]
- Lancaster, K.; Rubin, M.; Rapp-Hooper, M. *Mapping China's Health Silk Road*; Council on Foreign Relations: New York, NY, USA, 2020.
- Huang, Y. *China's Mask Diplomacy*; The Diplomat: Washington, DC, USA, 2020.
- Khan, S.; Liu, G. The China–Pakistan economic corridor (CPEC): Challenges and prospects. *Area Dev. Policy* **2019**, *4*, 466–473. [CrossRef]
- Rowedder, S. Railroading land-linked Laos: China's regional profits, Laos' domestic costs? *Eurasian Geogr. Econ.* **2020**, *61*, 152–161. [CrossRef]
- Lin, S.; Gao, L.; Reyes, M.; Cheng, F.; Kaufman, J.; El-Sadr, W.M. China's health assistance to Africa: Opportunism or altruism? *Glob. Health* **2016**, *12*, 83. [CrossRef]
- O'Dowd, S. Bridging the Belt and Road Initiative in Papua New Guinea. *China Altern.* **2021**, *13*, 397–425.
- Killeen, O.J.; Davis, A.; Tucker, J.D.; Mason Meier, B. Chinese Global Health Diplomacy in Africa: Opportunities and Challenges. *Glob. Health Gov. Sch. J. New Health Secur. Paradig.* **2018**, *12*, 4–29.
- Jing, L. Post-pandemic cooperation between China and Central and Eastern Europe. *China Q. Int. Strateg. Stud.* **2020**, *6*, 165–180. [CrossRef]
- An, B. WHO, China Sign Pact Establishing 'Health Silk Road'. *ChinaDaily*. 2017. Available online: https://www.chinadaily.com.cn/business/2017wef/2017-01/19/content_27993857.htm (accessed on 9 March 2023).
- Wang, X.; Liu, P.; Xu, T.; Chen, Y.; Yu, Y.; Chen, X.; Chen, J.; Zhang, Z. China-UK partnership for global health: Practices and implications of the Global Health Support Programme 2012–2019. *Glob. Health Res. Policy* **2020**, *5*, 13. [CrossRef] [PubMed]
- Calabrese, J. *China's Health Silk Road and the BRI Agenda in the Middle East*; The Middle East Institute: Washington, DC, USA, 2022.

13. Tambo, E.; Ugwu, C.E.; Guan, Y.; Wei, D.; Xiao-Nong, Z. China-Africa health development initiatives: Benefits and implications for shaping innovative and evidence-informed National health policies and programs in sub-Saharan African countries. *Int. J. MCH AIDS* **2016**, *5*, 119. [CrossRef]
14. Huang, Y. China's response to the 2014 Ebola outbreak in West Africa. *Glob. Chall.* **2017**, *1*, 1600001. [CrossRef]
15. Clinton, C.; Sridhar, D. Who pays for cooperation in global health? A comparative analysis of WHO, the World Bank, the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria, and Gavi, the Vaccine Alliance. *Lancet* **2017**, *390*, 324–332. [CrossRef] [PubMed]
16. Zhang, Y.; Matingwina, S. A new representation of Africa? The use of constructive journalism in the narration of Ebola by China Daily and the BBC. *Afr. J. Stud.* **2016**, *37*, 19–40.
17. Zoubir, Y.H.; Tran, E. China's 'Health Silk Road' diplomacy in the MENA. *Med. Dialogue Ser.* **2020**, *27*, 1–14.
18. Li, L.; Wang, K.; Chen, Z.; Koplan, J.P. US–China health exchange and collaboration following COVID-19. *Lancet* **2021**, *397*, 2304–2308. [CrossRef]
19. Wu, H.; Litvinova, D. Russia turns to China to make Sputnik shots to meet demand. *Apnews*, 3 May 2021.
20. Xinhua. *Full Text of Xi Jinping's Speech at the UN Sustainable Development Summit*; Xinhua News Agency: Beijing, China, 2015.
21. Xinhua. *China, Africa Embark on New Journey for High-Quality Cooperation*; Xinhua News Agency: Beijing, China, 2018.
22. Tillman, H.; Ye, Y.; Jian, Y. *Health Silk Road 2020: A Bridge to the Future of Health for All*; China Investment Research: Shanghai, China, 2020.
23. Brautigam, D. A critical look at Chinese 'debt-trap diplomacy': The rise of a meme. *Area Dev. Policy* **2020**, *5*, 1–14. [CrossRef]
24. Sautman, B.; Hairong, Y. The "Chinese Debt Trap" and its Sri Lanka Example. *HKUST IEMS Thought Leadersh. Briefs* **2019**, *29*, 1–4.
25. de Moraes, R.M. The new imperialism: China in Angola. *World Aff.* **2011**, *173*, 67–74.
26. Maketo, J.P.; Mutizwa, B. Dynamics and trends in vaccine procurement and distribution in Zimbabwe. *Int. J. Humanit. Manag. Soc. Sci.* **2021**, *4*, 74–87. [CrossRef]
27. Habibi, N.; Zhu, H.Y. *The Health Silk Road as a New Direction in China's Belt and Road Strategy in Africa*; Center for Global Development and Sustainability, Brandeis University: Waltham, MA, USA, 2021.
28. Chen, W.A. COVID-19 and China's changing soft power in Italy. *Chin. Political Sci. Rev.* **2021**, 1–21. [CrossRef]
29. Tang, K.; Li, Z.; Li, W.; Chen, L. China's silk road and global health. *Lancet* **2017**, *390*, 2595–2601. [CrossRef]
30. Xinhua. *China-Aided Hospitals Key to Strengthening Cambodia's Health System*; The State Council Information Office of the People's Republic of China: Beijing, China, 2022.
31. Li, M.; Yang, Z. China-ASEAN Public Health Cooperation: Progress and Prospect. In Proceedings of the 4th NACAI International Symposium 21 November 2020 University of Yangon (Centennial), Yangon, Myanmar, 21 November 2020; p. 40.
32. Grépin, K.A.; Fan, V.Y.; Shen, G.C.; Chen, L. China's role as a global health donor in Africa: What can we learn from studying under reported resource flows? *Glob. Health* **2014**, *10*, 84. [CrossRef] [PubMed]
33. Muon, M.; Wong, B. *Can China Broker Peace in Sudan?* The Diplomat: Washington, DC, USA, 2023.
34. Ullah, A.; Pinglu, C.; Ullah, S.; Elahi, M.A. A pre post-COVID-19 pandemic review of regional connectivity and socio-economic development reforms: What can be learned by Central and Eastern European countries from the China-Pakistan economic corridor. *Repozytorium* **2021**, *24*, 23–43. [CrossRef]
35. Khalil, S. CPEC: Mutually beneficial growth opportunities for China and Pakistan. *Pak. J. Appl. Econ.* **2017**, *27*, 139–144.
36. Albert, E. *China Gifts Pakistan 1.2 Million COVID-19 Vaccine Doses*; The Diplomat: Washington, DC, USA, 2021.
37. Boni, F. Sino-Pakistani Relations in the Time of COVID-19. *South Asia@LSE*. 2020. Available online: <https://blogs.lse.ac.uk/southasia/2020/04/08/sino-pakistani-relations-in-the-time-of-covid-19/> (accessed on 9 March 2023).
38. Hyder Sayed, M. *The China–Pakistan Economic Corridor: A Case Study*; Institute of Development Studies: Falmer, UK, 2019.
39. Chinese Center for Disease Control and Prevention. National Institute of Health, Pakistan. 2022. Available online: https://en.chinaccdc.cn/intl_cooperation/partners/202203/t20220301_257242.html (accessed on 9 March 2023).

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.