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BRIDGING BELT AND ROAD COUNTRIES

China's Belt and Road Initiative: Incorporating public health measures toward global economic growth and shared prosperity



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ABSTRACT

The unprecedented globalization of trade, travel, climate change, protectionism, and geopolitical populism, as well as pandemic health threats are no longer issues for a single nation. In the field of public health, China's Belt and Road Initiative (BRI) offers immense opportunities for partnership and collective actions involving multiple countries to combat globalization-linked infectious and/or chronic diseases, emerging pandemics, and outbreaks of potential threats to both laboratory information management systems and health information management. The national and global health challenges have increasingly proved that economic prosperity cannot be achieved when huge knowledge and capacity gaps exist in health systems. There is thus a need for public health initiatives aimed at strengthening the health systems beyond sovereign borders to influence global geo-economics. We highlight situational insights that offer approaches and strategies for increasing public health investment and capacity development in the countries along the Belt and Road, enhancing public and global health cooperation alongside participation in disease control and elimination, promoting public health governance and data sharing for pandemic threats, and building shared values and benefits in public health through Sino-African cooperation and the BRI. Our approach also examines the values of the China's BRI in relation to public health, projections and initiatives for increasing new investment and development capacity in public health systems, and enhanced public and global health cooperation and participation toward the BRI's framework and scope.

1. Background

Through the Belt and Road Initiative (BRI), also known as the One Belt One Road (OBOR) or the Silk Road Economic Belt and 21st-century Maritime Silk Road, China has confirmed its intention to re-invigorate the Silk Road that existed between 1453 BCE and 130 BCE.¹ The earlier undertaking of 1453–130 BCE was mainly a series of trade routes that intertwined through Europe, Central Asia, and Persia to China to facilitate trade, commerce, cultural exchanges, and knowledge in the ancient world.¹ In October 2013's announcement by the Chinese government, China sought to encompass and incorporate many countries in Asia, Europe, and Africa in

its path to a more globally integrated world characterized by higher growth prospects and sustainable economic development. The 65-plus integrated countries account for approximately 40% of global gross domestic product (GDP).^{1–4} With this aim in mind, China has already injected 40 billion USD worth of initial funds, with private investors setting up funds with an initial capital sum of 30 billion CNY in March 2017 to support the consortia of projects under this initiative.¹

The initiative held significant commercial, trading, and health potential—for the country and the involved partners in particular—in sustainable infrastructure, geo-economic influence and integration of bilateral and multi-lateral trade, health and education empowerment of the modern world, skills transfer, and innovation uptake and development.^{1,3,5} The China–Africa health development initiative signed in December 2015 in Cape Town, South Africa, was one of the most important aspects of public health

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governance policy and a key marker of national success, placing health development at the center of government implementation.^{6,7} It also posed new challenges for public health preparedness and vigilance due to the weakness and lack of contextual health methodologies and practices for measuring positive health and wellness progress amid evolving dynamism and challenges.⁷ In the face of lapses in and disenchantment with democracy and trade war-induced populism, public health issues could be tackled by developing a health strategy that recognizes the social, economic, and behavioral determinants of health and the need for a coordinated response across government and communities.^{1,2,5,6} China's rapidly growing involvement in global affairs and potential role in global health was due to the increasing incidence of epidemics, pandemics, and disasters, as well as the mounting complexity of their management, of local and global threat preparedness, and of response capabilities.⁵⁻⁷ China's engagement in global health, mainly in Africa and Asia-Pacific, has so far drawn on its unique strengths to deliver assistance through hospital construction, malaria and neglected tropical diseases control, education and training of health workers, drug donation, and cross-border infectious disease control (based on its experience with severe acute respiratory syndrome).^{2,5,6,8} It was apparent that China should now take the step to ensure that the OBOR, with its emphasis on development via infrastructure, did not conflict with the admirable aims set out in its own *Healthy China 2030* blueprint.^{1,3} Rather, it should ensure that the two complement each other for China's internal good and for its foreign policy in relation to developing countries that are highly caught up in the Silk Road's momentum in terms of health, trade, and economic opportunities to achieve their sustainable development goals (SDGs).

This perspective examines the value of the OBOR public health initiatives for increasing new investment and capacity development, promoting public health and pandemic threat data sharing and governance, and enhancing public and global health cooperation and participation toward sustainability and the BRI's public health benefits.

2. Increasing new investment and capacity development

The BRI is creating enormous trade and investment prospects via greater connectivity in sea and land links. While expecting additional economic growth, China is challenging the existing global architecture as it implements the *13th Five-Year Plan on National Economic and Social Development (2016–2020)*.^{1,6} One might ask how China's efforts will affect the shape of global health and influence behavior in an international setting in line with its growing profile produced by the BRI. The BRI aimed to connect the Asian-Pacific Economic Area with the European Economic Area by building two maritime routes focused on cooperation and investments and based on collective responsibility to give basic services to the people along its corridor in order to improve their livelihoods and exploit new opportunities. At the same time, it aimed to enhance existing systems and infrastructure so that their beneficiaries can cope better with moving into the future while broadening the experience and engagement of Chinese experts, policymakers, and researchers in the international way of working and thinking about development cooperation and health investments worldwide, albeit mainly in Africa.^{1,5}

China's multilateral approach to international diplomacy and foreign policy is growing.^{3,5} Having long sought to maintain a low profile on the global stage, it has in recent years begun to advocate a greater role for itself in the international order and the implications of global health.^{1-3,5} Chinese companies were also leaving the comfort of their home-based market and going overseas in pursuit of new markets and new machineries.^{1,5} At the same time, increasing Sino-African relations have been the subject of scholarly debate, with supporters taking an optimistic and win-win partnership.^{1,3,5,7} According to China's Ministry of Commerce, Chinese companies have built 75 zones for economic and trade cooperation in 24 countries along Belt and Road routes, contributing more than 2.21 billion USD in tax revenue and creating almost 209,000 local jobs.^{5,7,9} Chinese enterprises made a non-financial direct investment of 14.36 billion USD in 59 countries along the Belt and Road in 2017. Moreover, 7,217 overseas

projects were agreed by Chinese enterprises within 61 countries along the Belt and Road, the value of the newly signed contracts amounting to 144.32 billion USD in cooperative deals in various fields, including infrastructure construction, financial collaboration, and cultural exchange projects,^{1,3,5,7,9} aiming for win-win cooperation, common development, and shared prosperity.

China's capacity for strengthening the implementation of the 2005 International Health Regulations through global community assistance is vital to ensuring the continuation of essential health care services to vulnerable populations caught in the midst of ongoing emergencies or humanitarian crises. Increasing China's contributions to multilateral humanitarian assistance have been an important part of bridging substantial health gaps and inequities.^{7,9} The establishment of new and strategic Chinese leadership and think tanks for the creation and guidance of investment capital (money, infrastructure, and human) and exchange capacity building has been scaled up. For example, China launched an unprecedented public health emergency response to the Ebola outbreak in west Africa, dispatching 1,200 workers, infrastructure, and aid commodities to the affected populations in Sierra Leone, Liberia, and Guinea.^{2,3,7,9} China's development of health assistance and new investment funds are complementary and reinforcing; by developing infrastructure and providing medical supplies to Africa and Asia, China shapes a unique global engagement and strongly influences the contours of global health development.^{7,9} In 2013, China proposed its BRI to promote health and infrastructure, trade and commercial transactions, the connectivity of infrastructure, and policies, regulations, and economically viable high standards beneficial to the world and China, across the 100 partner countries in Asia, Africa, and Europe.³ In affirming this course, exemplary initiatives, such as the 1,860 km Tanzania-Zambia Railway and other numerous mega-infrastructure projects in Africa, have symbolized China's presence in Africa since the 1970s.^{1,3,8,10}

3. Enhancing China's multifaceted global cooperation and participation

BRI demonstrates the real transformative outcomes and China's growing influence and positive energy in bringing greater prosperity to other countries and building a community with a shared future for humanity. It encompasses a range of issues, including e-commerce, the establishment of small and medium enterprises, sanitation, working conditions, hygiene, health screening, immunization, personal lifestyles. More recently, it includes community and institutional development, early warning systems, surveillance and detection—such as developing platforms that would make operational and epidemiological information publicly available to decision-makers in the event of an outbreak or potential health emergency—and investment in strengthening countries' biosecurity and pandemic preparedness through a focus on national-scale immunization programs.^{1,2,6,7,9} Establishing national public health laboratory systems and emergency operation centers is necessary to ensure capacity building and the training of a local and global health security workforce, as well as cooperation to counter the rise in antimicrobial resistance epidemics, e.g., tuberculosis (TB) resistance.^{2,7,9} A strategy with a definition of health that goes beyond the absence of disease, involving partnership and community participation and that requires governments, organizations, communities, and individuals to work together to improve healthcare quality delivery would be most effective.^{1,2,6,7,9} Although we have learned much about what does and does not work since the publication of *Health for All*, there is still an ongoing need to capture evidence of good health practices that can inform future programs such as *Leave No One Behind*. It is crucial to promote greater cooperation and good practice among practitioners, policymakers, and researchers to ensure that quality evidence is translated into real and practical action, health education, and development implementation. The BRI could help to support global economic growth and development across Africa, the Middle East, and Asia while seeking mutual benefits and sustainable cooperation.^{1,5} The BRI would also gain China more recognition globally and champion China's multifaceted global

cooperation role by, for instance, setting up committees to coordinate approaches across different business activities, such as the 515 million USD financing of a power plant in Zambia, a 200 million USD loan for a Bangladesh electricity plant, and a 42 million USD export credit facility for a gas terminal in Sri Lanka,^{1,2,6,7,9,11} among other recent bilateral initiatives that have been commissioned.⁸

Critically examining a range of public health challenges and needs is crucial to evaluating actionable evidence-based policy decisions, to designing improved public health programs, and to formulating effective strategies to detect, prevent, and control health problems. This was necessary in order to promote health and to frame the knowledge of public health within a development context in law and governance, global health, nutrition and public health, and prenatal and maternal health.^{1–3,7} It is also necessary to leverage the unique cross-disciplinary approach to understand the principles underlying research, policy, and practice in global health; to foster critical thinking; and to build transferable skills from a range of academic and professional backgrounds in the process of tackling local and global health issues and challenges. Nurturing continuous, progressive improvement of the health status of individuals and groups in a population is something that reflects the range of challenges we face at the start of the new century. Perhaps the overriding challenge, however, is to ensure that we do not forget the lessons of the past when developing new strategies and tactics or when strengthening health systems and universal health coverage under the conditions of a rising China–Africa cooperation investment momentum and multi-sectorial diversification.

4. Promoting public health and pandemic threat data sharing and governance

Evidence showed that effective health development interventions share common characteristics. They were based on a proper assessment of needs and are clearly focused^{3,5}; they were multifaceted; and they were developed in conjunction with target communities. Successful interventions also tend to be sustained and delivered by well-trained and well-supported workers. Success can be further increased if interventions take place within a supportive local/national strategic framework in which effective cross-sectorial and multidisciplinary collaboration is necessary to appreciate and analyze the state of public health and socio-economic indicators and drivers in low- and middle-income countries, and to design and evaluate evidence-based policies and action plans to address public health concerns.^{1,2,5–7} Moreover, substantial experience of planning or implementing public health programs, of teaching or public health-related research, and of critical professional skills development is needed to tackle the rising chronic disease epidemics, rapid aging, and the resurgence on infectious diseases. These are achievable through improvements in global health policy, global health research, program management, and policy advice and advocacy at national and international levels with a new range of approaches to global health horizons.^{3,5,7} These dimensions seem to be well articulated under the framework of OBOR public health initiatives.

5. The value and benefits of BRI public health cooperation

Many of the countries along the Belt and Road, especially African countries, suffer from underinvestment, domestic economic struggles, and poor health systems. They also rank low on the United Nations (UN) Human Development Index. A much-needed boost in the ability to combat deadly outbreaks and infectious diseases has been provided by increased Sino-African leadership and China's ambitious OBOR foreign development plans aimed at becoming a leader in global health commitment and investment opportunities, as it rolls out its 900 billion USD in investments.^{2,11,12} This also provides a consistent mechanism for negotiation, adoption of collective action, and the monitoring of normative rules. It provides an opportunity for global South-South networking and cooperation as well as a common platform of economic security, which aligns with many of the objectives of the UN's SDGs.^{2,12}

China has agreed to increase regional cooperation in science and technology by the establishment of joint laboratories or research centers, international technology transfer, and knowledge translation to improve trans-regional health cooperation, economic and social transformation, and economic prosperity.^{1,5} The BRI brings into play a common platform to improve the capability of handling regional public health emergencies through epidemic information sharing, exchange of preventive and interventional methods, the training of health professionals, empowerment, and community-based resilience projects.^{5,13,14} The Chinese government realizes that the economy and health are interlinked. It has therefore committed to increasing its medical assistance and emergency medical aid to the partner countries along the Belt and Road, and to carry out regional cooperation and coordination in maternal and child health, mental health, chronic disease-related disability, non-communicable diseases (hypertension, diabetes, stroke, cardiometabolic diseases, cancers, etc.), and infectious diseases (malaria, schistosomiasis, HIV/AIDS, TB, Ebola, etc.).^{7,9,15,16}

6. Incorporating BRI public health measures into global economic growth and shared prosperity

The BRI pledges a massive 1 trillion USD investment through the “China model” of foreign assistance, which stresses infrastructure (for example, health, energy, transportation, and information technology) and trade.^{4,17,18} Importantly, the BRI's leadership and intersectoral coordination mechanism for timely evidence and information sharing is crucial for improving regular risk assessment and operational platforms to increase surveillance, monitoring, and evaluation locally and for cross-border screening—with isolation/quarantine measures and management facilities and access to quality diagnostics and medicines—to enhance vulnerable populations' health and wellbeing. It is also important for mutual support in the early detection of biothreats and adversities, for rapid response capacity development, for strengthening social mobilization and risk communication strategies for public awareness and empowerment, for reinforcing infection prevention and control/precautions, and for access to personal protection equipment in healthcare settings across Sino-African countries. Furthermore, between 2015 and 2018, China issued a series of policy directions and/or commitments that cut across economic gains and global health endeavors while aligning such plans with global commitments, such as the SDGs (among other World Health Organization [WHO] and UN areas of priority), with the aim of advancing global health in the context of Sino-Africa. Such commitments complementing the BRI entail:

- a. Advancing the Second Ministerial Forum of the China–Africa Health Development agreement on China-African health cooperation with Chinese commitments to co-sponsor public health programs and agendas in the African continent, including the African Center of Diseases Control and Prevention (African CDC).
- b. Inclusion of health under the BRI strategy from 2015, thus linking health to major geo-strategic initiatives while promoting peace, good governance, human rights, and transparency.
- c. In 2016, the WHO Global Health Promotion Conference was held in Shanghai. This was notable as a key milestone in increasing confidence in China's international role in global health, reinforcing conscious efforts by China to prioritize and advance the global health agenda.
- d. A Memorandum of Understanding (MoU) with the WHO signed in 2017 paved the way to support China's BRI, one of the first outward-looking MoUs signed with the WHO in the quest to re-engineer public health at such a magnitude as the BRI and with its growing benefits.

The elements and proposed strategies constituting or reinforcing the BRI have drawn extensive attention from academics, policymakers, and political elites. The array of opinion has varied, from ardent supporters who see it as part of a benevolent development project led by the People's Republic of China to doom-laden geopolitical representations that portray the project as another step toward an inevitable confrontation between the west and China over dominion in the Asia-Pacific Region and global economic development, occurring alongside Africa's industrialization and

growing economic freedom.¹⁹ The proponents and opponents seem to converge on an array of observations on China that sharply divide them according to conflicting lines of thought. These observations are as follows:

- a. China's development assistance is heavily bilateral, often poorly coordinated with the WHO and UN agencies, among other global channels.
- b. China provides direct bilateral assistance to African governments, among others, in striking contrast to higher-income countries in the west, which often use other channels, such as the funding of civil society organizations, the UN, or the WHO.
- c. China's model of foreign assistance often uses financial instruments instead of grants, while the aid is heavily tilted toward construction projects and information technology instead of public goods such as health care, education, and the environment. Thus, the incorporation of the global health component in the BRI will be watched and monitored closely by both foes and friends of the China development model as well as the partners involved, hence the need to manage trust and perception carefully.

Importantly, the 2018 Beijing Summit of the Forum on China–Africa Cooperation (FOCAC) gathered 53 African countries who were all keen to advance the ambitious BRI in cooperation with China.⁸ A deeper evaluation of the *FOCAC Beijing Action Plan (2019–2021)* reveals that the power of cooperation will be better harnessed and enhanced—for the benefit of the majority of citizens from both ends—by ensuring that the action points “social development cooperation” and “cultural and people-to-people exchanges” are given core priority.⁸ These two pillars in the action plan emphasize the core bedrocks of social and cultural integration alongside the exchange of knowledge, experiential learning, and intellectual competency, which have a huge bearing on the impact and extent of academic-business collaboration capacity as well as public-private partnership projects.^{20,21}

We contextualize this interplay with the view that they would comprise a reasonable basis for ensuring that any strategic plans and policy directions taken in the context of incorporating public health measures toward shared global economic prosperity do not derail public participation, goodwill, and the shared aspirations of people-to-people exchanges while advancing the BRI and win-win cooperation.

7. Conclusion and outlook

Overall, the BRI, also referred to as OBOR and estimated to exceed 1 trillion USD in budget, with the potential to involve more than 65 countries and connecting China and other countries across Asia, Southeast Asia, the Middle East, Africa, and Europe, has direct and indirect developmental effects of a global reach that can be separated into four categories:

- a. Health, technology, and information harnessing: This entails invigorating innovation through ideas, information, and technology sharing among countries, which translates to sustained economic development at a localized level. Public health vigilance, health service provision, and sustained research capacity act as core pillars of the anticipated project, with the potential to tap into over 65 countries—cumulatively accounting for approximately 40% of the world's GDP—and enhanced free trade operations.
- b. Facilitated trade and commerce: As the BRI takes center role in interconnecting markets along the proposed routes, and as inland infrastructure (in terms of roads) and sea routes through ports are opened up and spread, higher volumes of trade in terms of goods and services will be boosted, with quality providing a competitive edge.
- c. Increased energy resource security through a reduction in manufacturing and production costs, as well as efficiency through rigorous movement of fuel sources such as gas and oil.
- d. Progress toward planetary health-driven development: achieved through an enhanced one-health concept based on the wide economic

scope of the BRI coupled with the effective coexistence of humans and their accompanying ecosystems. This would lead to a promising perspective in the project's objective of broader economic connectivity and empowerment, contributing to the budding and nurturing of cultural and knowledge exchange in agribusiness; effective health service delivery, management, and advancement; transfer of cutting-edge and digital technology innovation skills; implementation of early warning alert and emergency response channels; and sustainable gains in Sino-African cooperation synergy.

Author's contributions

ET and CKW conceived the idea and prepared the primary draft. ET and CKW provided additional insights. GWM, YNL, ST, and XNZ added further revisions and information. ET critically revised the manuscript. All authors read and approved the final version of the manuscript.

Competing interests

The authors have no competing interests.

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