China’s Engagement in Global Health: Research on International Perceptions of Global Health and Chinese Medical Team Program

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I. **ABSTRACT**

China has made the rare transition from aid-recipient to aid-donor, and in doing so has steadily increased its contributions to global health over the past few decades. While much has been written about China’s health aid, little attention has been given to how this aid is perceived by the international community. This report provides an overview of China’s major contributions to global health, outlines China’s emerging participation in global health governance, and examines the effectiveness of China’s health aid as perceived by the international donor community.

A review of the literature conducted to provide information on China’s engagement in global health revealed a limited number of diverse perceptions from the international community on China’s current activities and role in global health. To supplement the literature, in-depth, semi-structured interviews were conducted with global health professionals attending a conference in China. In addition, members of the international community, local Tanzanian doctors, and the CMT leader in Tanzania were interviewed during a one week visit to Dar es Salam.

Responses from these interviews provided valuable insight on China’s place in the international realm of global health and identified future opportunities to strengthen China’s position in the global health arena. These included: continued South-South collaboration to develop strategic health agendas in low and middle-income countries (LMICs); increased support to Chinese universities to enhance their global health research and education activities and to enable them to strengthen the global health research and education capacity of LMIC universities; increased focus on capacity building within the CMT program to strengthen local health systems; enhance global, regional, and in-country collaboration between China and other donor countries to raise China’s visibility in the international community, develop strategic relationships, and accelerate health aid projects; continue engaging Chinese public and private sectors in health aid activities to expand China’s involvement in global health and better meet the needs of communities; and include global health in the development of the Belt and Road Initiative, taking advantage of this new infrastructure and framework to improve the health of populations affected by the initiative.

Better understanding of the international global health landscape and increasing China’s participation in this community will serve to strengthen China’s position in global health governance and improve the effectiveness of its already impressive health aid agenda.
II. INTRODUCTION

China’s extensive involvement in foreign health aid spans well over half a century and has been well documented. In fact, China was one of the governments that called for the establishment of the World Health Organization (WHO) in the late 1940s. In recent decades China has made the significant transformation from aid-recipient to aid-donor and become increasingly engaged in global health governance, placing it in a unique position in the arena of global health. This report presents results from research that assesses current international and local perceptions of China’s engagement in global health, including a review and analysis of the work of the Chinese Medical Teams in Tanzania. Our results seek to contribute to the understanding of China’s current engagement in global health, examine how this engagement is perceived by the international global health community, and provide recommendations related to the further development of the Chinese national global health strategy and to strengthen participation by China in global health affairs.

III. SECTION ONE: INTERNATIONAL PERCEPTIONS AND CHINA’S ENGAGEMENT IN GLOBAL HEALTH

1. Introduction

China’s extensive foreign aid program provides aid in eight categories, including: complete civil projects, goods and materials, technical cooperation, human resource development, medical teams, emergency humanitarian aid, volunteer programs and debt relief. Health aid is a critical piece of this foreign aid and is delivered in the form of Chinese medical teams (CMTs), construction of hospitals, donation of drugs and equipment, training of health personnel, and malaria control, training programs, joint research and academic exchanges, and public health security -aid. China’s health aid began with the first CMT to Algeria in 1963 and has primarily focused in Africa and Asia with some aid going to Latin America; an estimated 46% of all aid is distributed to Africa, 33% to Asia and 13% to Latin America. Health aid is intended to help recipient countries “improve their medical and health services, raise their disease control and prevention ability, and enhance their public health capacity.” Official comprehensive data on China’s global health activities is limited, but a 2014 State Council White Paper reported that between 2010 and 2012 China assisted with the construction of 80 medical facilities, including general hospitals, mobile hospitals, health centers, specialist clinics, and traditional Chinese
medicine centers, provided 120 batches of medical equipment and medicines, dispatched 55 medical teams with 3,600 medical workers to nearly 120 medical centers, trained tens of thousands of local medical staff, and provided 60 batches of antimalarial medicine, H1N1 influenza, and cholera vaccine worth RMB200 million.

Since China embarked on its “Go Global” strategy in 2001, it has made efforts to move away from a position of isolation in the global community to one of integration and cooperation. China has become an active member of the global economic, political, and financial systems and major global health governing bodies including the WHO, United Nations Children’s Fund, United Nations Fund for Population Activities, UNAIDS, and the Global Fund to Fight AIDS, Tuberculosis and Malaria, among others. Closer to home, China created the China-Association of Southeast Asian Nations Public Health Fund to promote regional health cooperation in east Asia and neighboring countries and actively participates in the Asia-Pacific Economic Cooperation. Since 2015, China has hosted a number of high level meetings and conferences concerning international cooperation: the High-Level Round Table on South-South Cooperation in New York, September 2015, where South-South cooperation was recognized as an important avenue for promoting health and China announced a $2 billion investment in development assistance as well as the “six 100s initiative”, to fund 100 programs for poverty reduction, agricultural cooperation, trade promotion, environment protection, schools and vocational training and hospitals and clinics; the 2nd Ministerial Forum on China-Africa Health Cooperation in Cape Town in October 2015, which outlined future collaborations in global health between China and Africa, and the 6th Ministerial Conference on the Forum on China-Africa Cooperation Forum held in Johannesburg in December 2015, where China and Africa made commitments to improving medical care and public health in Africa. This high level of engagement demonstrates China’s increasing role in global health governance.

2. International Perceptions on China’s Engagement in Global Health from the Literature

A search of the English literature was conducted through Google Scholar and Duke Library using the key words “international perceptions of China health aid”, “international perceptions of Chinese health activities”, “international perceptions of China’s engagement in global health” and “China response to Ebola”. While the literature contains articles listing the many activities and programs
that make up China’s health aid, there is limited English scholarly literature capturing how these activities are perceived by the international community. The most relevant papers selected for reference in this research are listed as resources at the end of the report.

Historically, China has garnered respect from the international community for a number of its domestic health policies, some of which have been adopted at a global level. The most notable examples are the Chinese barefoot doctor program which helped inspire the concept of primary health care and China’s tuberculosis treatment regimen, which is now standard WHO protocol.

China’s increasing presence in global health aid and governance has earned international attention causing other donors at times to be apprehensive about the impact China has on global aid provision. The nature of China’s engagement differs greatly from other global donors due in part to the fact that China has no colonial past and did not participate in shaping the post-World War II global order; these differences in history and methods of global engagement may play a role in these international perceptions.

In particular, there is the perception that China’s aid is driven by commercial and political interests rather than philanthropic goals, and that health is used as a diplomatic tool used to secure political allies, natural resources, and expand export markets. While health does still rank relatively low in China’s foreign policy, far below that of political and economic issues, there is insufficient data to support this interpretation. The perception that China’s health aid is driven by political motivations is due to the strategic alliances China has developed over the years within the United Nations in order to build support for its political and economic agenda, African allies and their votes have provided China with support often lacking from Western countries. Another perception is that China’s “no strings attached” aid policy means that China is willing to turn a blind eye to corruption and human rights violations and requires little accountability from the recipient governments. This perception is solidified by China’s assistance to countries considered “rouge states” such as Zimbabwe and Sudan. However, these concerns could be considered exaggerated, as China has recently voiced concerns (all be it quietly) about the Zimbabwean government and played an important role in ending conflict and ensuring United Nations peacekeeping presence in Sudan. In fact, while the “no strings
attached” approach tends to raise eyebrows among donor countries, it is welcomed by many recipient countries who view China’s method of support as respectful of nations’ sovereignty. 21

Two major events stand out in the literature as watershed moments in the formation of international perceptions of China’s engagement in global health. The first is the Severe Acute Respiratory Syndrome (SARS) outbreak, the first global epidemic of the 21st century. China’s slow response to SARS was criticized, although China drew valuable lessons from its embattled experience, and as a result, prioritized global health security in its foreign policy agenda and became more proactively involved in multilateral cooperation in global health.22 The second was the 2014 Ebola epidemic in West Africa where China has spent a combined value of more than $US 120 million by dispatching over 1000 medical workers to the epidemic regions and providing training to 13,000 local medical staff from nine African countries. China’s active response to the outbreak was for the most part well received by the international community, both donor and recipient countries and particularly African countries, although a few criticized China for exaggerating its own role in the response in the media.23

While China has continued to expand its engagement and cooperation in global health governance, its actual health aid activities have remained largely isolated and considered by other donors to be “state centric”, with engagement limited to and controlled by central government and state entities, unlike traditional donors which include civic and private health entities in global health aid.24 This reluctance to yield control over projects to non-government entities or to collaborate more with the international community adds to international donor feelings of apprehension about Chinese foreign aid in global health.

China’s engagement in global health is thus seen in both positive and negative lights, differing according to the type of aid given and the views of various donor and recipient countries. Perceptions can sometimes be influenced by larger political, economic, and social factors and therefore may be prone to both negative and positive bias. This is a situation experienced by most, if not all, donor countries.
3. International Perceptions from Semi-Structured Interviews with International Experts attending the 2nd Annual Chinese Consortium of Universities in Global Health

3.1 Methods

In October, 2016, Duke Kunshan University hosted the 2nd Annual Conference of the Chinese Consortium of Universities for Global Health (CCUGH). The theme for the conference was “Advancing Health Sustainable Development Goals in China and Globally: Working Together to Meet Challenges”. During this conference, one on one semi-structured interviews were conducted with seventeen conference participants from academic institutions and international organizations from China, Ghana, Kenya, New Zealand, Malawi, Nigeria, Tanzania, United States, and Vietnam, all of whom have worked in global health. Interviewees were identified from the list of participants attending the conference and selected based on their knowledge of global health and international health aid. In order to ensure interviewees would speak freely and openly, and to ensure fair and balanced information, and in keeping with academic integrity, the names and organizations of interviewees have been kept anonymous.

3.2 Findings

Several major themes emerged from these interviews which were consistent with those found in the literature reviewed both for Section 1 and Section 2 of this report. The findings from the CCUGH interviews offer a unique international expert perspective on China’s global health engagement and how it could be strengthened. The following is a summary of these findings.

3.2a International Perception of China’s Health Aid and Engagement in Global Health

All interviewees thought that China’s health aid was well received by recipient countries and perceived as well intentioned and much appreciated. China’s efforts around malaria and Ebola were particularly well known and highly regarded. China was one of the first countries to respond to the Ebola crisis, and its actions provided an opportunity for the international community to learn more about China’s abilities in health, and did much to raise China’s international profile. China’s significant contributions to the Ebola response made global news headlines and was the first time many realized China’s full capacity and willingness to participate in the global health arena. However, besides malaria and Ebola, interviewees
admitted that not much is known about specific details of the various aid projects. This lack of knowledge is consistent with findings from Section 2, indicating the low visibility of China’s health aid activities in general.

China’s aid is perceived as having “no strings attached” as compared to aid from other traditional donors, and is not tied to political and social requirements. Interviewees from low-middle-income countries (LMICs) who are recipients of foreign aid saw this untied nature as more positive than interviewees from non-recipient countries, a theme consistent with the literature.

3.2b Impact and Sustainability of China’s Health Aid and Engagement in Global Health

The major findings that emerged from interviewees’ perceptions on the sustainability of China’s aid included the following:

i. Importance of Needs Assessments and Local Engagement

Interviewees commented that the most important pillars of ensuring sustainable investment in global health is assessing the needs of a country, identifying priorities, and directing health aid towards those priorities. One interviewee commented that sometimes projects that are easier to complete, such as building hospitals or other health-related infrastructure, receive investment over those that have higher priority but are more difficult or time consuming to implement such as capacity building. In order to properly assess these needs and priorities, it is vital to have early and consistent engagement of the local recipient government and other local authorities. Equally important for sustainability is to work with local government and other international organizations to integrate different health aid activities into local government health plans and systems.

Finally, interviewees mentioned the importance of monitoring and evaluation to assess whether projects are achieving their desired targets and to determine if strategic changes need to be made in order to ensure the long-term impact and success of China’s health aid.

ii. Capacity Strengthening
Interviewees stressed the importance of China’s ability to strengthen the capacity of recipient countries by training domestic health professionals and transferring knowledge, skills, and technological ability garnered from China’s own domestic experience with successes and challenges in health. They commented on the importance of providing technical support in addition to financial support.

In this regard, the most common theme from the interviewees was the important role universities could play in capacity strengthening. Interviewees acknowledged China’s current academic exchanges and trainings, but appealed for an increase in Chinese university involvement in such activities. This type of South-South academic collaboration is perceived as essential to developing and strengthening the capacity of the next generation of global health leaders, both by providing academic training opportunities for Chinese and recipient country students and essential field experience or future Chinese global health leaders.

Another frequent comment on capacity building was the opportunity it provided for recipient countries to learn from China’s own experiences. Every interviewee mentioned the importance of China exporting its expertise to recipient countries in order to benefit from the lessons China has learned in its own capacity building that allowed it to achieve the Millennium Development Goals, control tropical and infectious diseases, and improve health insurance coverage.

3.2c Lessons for China from Other Donor Countries on Engagement in Global Health

Four additional themes emerged from the interviews as to ways China could learn from other donor countries’ global health aid systems and mechanisms.

i. Collaboration

While China’s has recently made efforts to engage more in international global health platforms, interviewees commented on the differences between the more collaborative multi-lateral nature of other donor countries and China’s bi-lateral approach. This issue of collaboration is a major theme throughout Section 2, which found China often did not participate in international donor collaborations and communication. Many interviewees suggested that understanding the donor
landscape in recipient countries, identifying common priorities, and working together with other donors would allow China to maximize the impact of its health aid.

ii. Integrate Health Aid into Foreign Aid Activities

Interviewees observed that other donor countries have greater integration between health aid and the rest of their foreign diplomacy agendas. For example, interviewees mentioned that many donor countries have health attachés based in their embassies allowing for expert health input in other non-health foreign aid policies and programs.

iii. Engage Multi-Stakeholders Involved in Recipient Countries

The health aid landscape is filled with organizations from multiple public and private sectors. Interviewees remarked that other donor countries engage these sectors on a greater scale than China does. Examples mentioned were the United States Peace Corps and Global Health Corps, the United Kingdom’s International Volunteer Service Organization (VSO), the Bill and Melinda Gates Foundation, and private sector entities. It was felt that including these varied stakeholders in China’s global health activities could result in addressing more comprehensive health challenges. However, it is promising that China is already engaging more private and public enterprises in its health aid activities, although interviewees did not seem to be aware of such partnerships.

iv. Learning from Mistakes of Other Donors

A final theme in the interviews was criticism of other donor countries based from experiences when some donors developed their own global health agendas without input from recipient countries and there was a plea for China not to follow this pattern.

4. Future Opportunities

China is emerging as a major actor in global health, and its political commitment and valuable experience give China the possibility to be a strong leader in the field. Based on international
perceptions of China’s engagement in global health from the literature and direct interviews we suggest the following as opportunities for China to strengthen its leadership role in global health.

4.1 Continue South-South Collaboration

The greatest impact on global health aid is achieved when priorities are developed and managed in close partnership between donor and recipient countries, as outlined by United Nations Office for South-South Cooperation. These guiding principles encourage that South-South collaboration aim to contribute “to the national well-being, national and collective self-reliance and the attainment of internationally agreed development goals” and be guided by “respect for national sovereignty, national ownership and independence, equality and mutual benefit.” In order to maximize the effect of its health aid, China should ensure it is directed to projects based on the needs of recipient countries, resources available in recipient countries, and China’s own expertise and knowledge on common health challenges. It is important to maintain a sense of flexibility and sensitivity to local needs and make adjustments accordingly when those needs change.

4.2 Capacity Strengthening in Global Health Research and Education Using Chinese Universities

China’s investments in global health require the stewardship of educated, experienced global health leaders both in China and in recipient countries. China has already made commitments to global health research and education, and the eighteen universities that comprise the Chinese Consortium of Universities for Global Health have global health expertise and experience. However, despite this progress, Chinese university participation in global health research and education remains limited. Only 60 faculty across China pursue dedicated global health work and, in 2012, only 3% of global health research in peer-reviewed journals worldwide came from China. An increase in academic involvement in global health would provide diverse perspectives from various disciplines and would strengthen the research experience and global visibility of China’s universities. Examples of ways to expand China’s academic contributions to global health could include:

- Developing a capacity building program between Chinese universities and local universities in LMICs that provide mentorship, research opportunities, and collaborations
with students and researchers. The National Institutes for Health (NIH) Fogarty International Center in the United States provides a good model for such an endeavor. Fogarty supports more than 400 training and research projects involving more than 100 United States universities all of them undertaken in collaboration with university colleagues in LMICs.27 A Fogarty style capacity building program with LMIC institutions would allow them to benefit from China’s experience, give Chinese global health researchers and students valuable field and research administrative experience, and expand China’s global health presence in the world.

- Funding research and education grants in certain strategic areas in low and middle income recipient countries. Currently, there is limited government support to Chinese universities for global health research. As a result, faculty interested in global health lack sufficient career development prospects and there are few opportunities for student engagement in global health research. Furthermore, very few Chinese faculty and students have experience working and conducting research in LMICs, experience which is critical for global health research. In order to change this situation and expand China’s presence in global health research, universities and their faculty and students should advocate for an increase in global health research funding, particularly in areas where China has the most capacity and experience. Funding should include research partnerships between Chinese and LMICs universities, allowing Chinese faculty and students more opportunity to work in LMICs, enhance their research capability, and expand career opportunities, while simultaneously building the capacity of partnering universities in LMICs and further enhancing South-South collaboration.

4.3 Shift Focus of Chinese Medical Teams from Direct Delivery to Capacity Building

Many of China’s health aid activities provide valuable direct services to LMICs and underserved populations. The CMT program is a flagship program providing direct services as well as some capacity development. In order to maximize their impact and ensure sustainability, the CMT program could shift their primary focus from direct service delivery to training and capacity building. This would require expanding the CMT program to ensure that CMT members provide uniform and systematic training to local health professionals and medical students rather than the
ad-hoc training that is reportedly provided by CMTs currently. Furthermore the CMTs could provide training and assistance in human resource management to strengthen local health systems. (Please refer to Section 2 for more detailed recommendations on how to strengthen the CMT program in this area).

4.4 Assess Effectiveness of Malaria Prevention and Treatment Centers

The Malaria Prevention and Treatment centers are located in 30 countries across Africa and form an important part of China’s commitment to malaria control. The malaria centers were established to provide expertise and facilities for the diagnosis, treatment, and research on malaria, and to develop prevention strategies. There is little information about the success or challenges of these centers in the literature. Since they have the potential to make a big impact in global health, we suggest a systematic evaluation be undertaken of the malaria centers to assess the impact of their activities and how they can be engaged in capacity building in their host countries.

4.5 Increase Global, Regional, and In-country Coordination with Other Bilateral Donors and International Organizations Working in Host Countries

While China has increased its international presence at the global level in health, it has a relatively low presence in recipient countries. Many bi-lateral and multi-lateral donors share information about their health aid projects and development assistance polices with the international community, particularly when donors are involved in projects in the same host countries. For example, donors involved in health projects in Tanzania have formed the Development Partners Group for Health (DPGH), which meets regularly to discuss their projects and common challenges. DPGH provides an avenue for donors to collaborate strategically with each other on similar projects, share best practices, and ensure donors do not duplicate their efforts. DPGH also works directly with the Ministry of Health in Tanzania, making it easier for the government to work with different donors. Unfortunately, despite China’s strong presence in Tanzania, it is not a member of this group. Joining groups like DPGH and increasing project collaborations with other bilateral donors would provide China with opportunities to expand its health aid projects, accelerate its health aid goals, and foster closer relationships with other donors at local, regional, and global levels.
4.6 Continue to Engage Chinese Public and Private Sectors in Chinese Health Aid Activities

Global health problems stem from social, economic, political as well as medical/health related determinants, therefore the response to global health should be equally multi-faceted. China’s approach to global health for the most part has been under the direction and control of the central government, which provides support directly to governments in LMICs. This state to state approach is not always the most effective and China should engage the health related community and private sectors in China and in LMICs to participate in its health aid activities. In recent years, China has shown signs of shifting towards this latter approach and has begun to engage more and more public and private Chinese enterprises which have large operations in Africa in health aid activities in those countries. This private-public partnership model provides valuable expertise and resources and involvement at the community level, which helps to ensure the needs of the target population are being met and that health aid activities are feasible and effective. In order to help facilitate private and community engagement in global health activities, the Chinese government should initiate projects with the private sector by publishing guidelines on ways for the private sector in China to engage in foreign health programs, develop a reporting mechanism on activities in order to keep track of private engagement, and have the Ministry of Commerce coordinate activities between Chinese private and community organizations and those in LMICs.

4.7 Include Global Health in the Belt and Road Initiative

China’s new Belt and Road Initiative will build and upgrade highways, railways, ports and other infrastructure throughout Asia, Europe, the Pacific, and Africa. This initiative spans a population of 4.4 billion, many of whom live in LMICs. The initiative aims to improve the economic prosperity of these populations through infrastructure and trade development. By reducing poverty, the initiative has the potential to improve the health of these populations, given the close correlation between poverty and health. In particular, the new transport infrastructure could help increase access to healthcare for vulnerable populations, and the political and economic relationships developed between the countries could establish a solid framework to coordinate
and manage health related projects as well as economic ones. As China embarks on this ambitious new project, it should consider avenues for global health, and how this initiative could be harnessed to increase access to health in the regions in its path.

5. Conclusion

China has made impressive and significant achievements in health and has much to share with the rest of the world. The global transition from the Millennium Development Goals (MDGs) to the Sustainable Development Goals (SDGs) provides an excellent opportunity for China to build upon its past successes to contribute to future achievements in global health. Global health is important to global security and diplomacy and requires engagement and collaboration at global, regional, and local levels with the international community. Understanding international perceptions of its actions and activities and how these affect international relationships is important to forging China’s strategic global health agenda. The findings from this research could be used as the basis for a comprehensive Global Health Strategic Plan to enhance China’s role in global health governance.

One of the strengths of this research is that it has provided valuable first-hand perspectives on China’s global health engagement from international experts working in the field of global health, a source that is currently limited in the literature. While this study has a limited sample size of only 17 interviewees and a larger sample size would likely provide more thorough findings, the information gathered was consistent across interviewees and with the published literature, adding validity to the findings.

IV SECTION TWO: EVALUATION OF CHINESE MEDICAL TEAM PROGRAM: A CASE STUDY OF TANZANIA

1. Introduction and Background of Chinese Medical Teams

The CMTs program is one of the oldest and most effective forms of health aid, Chinese Medical teams were first dispatched to Algeria in 1963 and a review of the literature found that the CMTs have won almost universal praise in Africa due to their hard work, commitment, and skillful expertise. The teams are considered to have helped raise the living standards and secured
the human rights of African populations.\textsuperscript{29,30,31,32} The CMTs are also a key component of China’s foreign diplomacy and significantly contribute to enhancing China’s soft power in Africa.\textsuperscript{33,34,35} According to Premier Zhou Enlai, the ultimate goal of the CMT program when it was first established was to “help African doctors become self-reliant” \textsuperscript{36}. The initiation of the current CMTs program was in response to the emergent needs of recipient countries. The program was considered successful in contributing to the improvement of the health status and the health system in Africa, \textsuperscript{37} and as part of China’s diplomacy. However, the CMT program has continued unchanged for decades\textsuperscript{38}, raising questions about whether or not the program is achieving its goal of building self-sufficiency among doctors in recipient countries. Moreover, with the rapid social-economic development seen in recent decades, China has become politically and economically stronger. As the world’s second largest economy and one of the biggest donor countries in Africa, China is expected to play a bigger role in global health. Similarly, recipient countries have gone through significant social and economic transitions. To enhance China’s contribution and maximize its investment in global health, especially in Africa, the old CMT mandates may no longer meet the current needs and very little research has been conducted to see if, and how the CMT program should be adjusted accordingly to address these changes.

Tanzania has been China's largest foreign aid recipient in Africa since formal ties were first established in 1961.\textsuperscript{39,40} It is also among the earliest recipients of Chinese health aid. Using Tanzania as a case study, this report examines the performance of the CMTs in recent years and the international perceptions of the CMT program. This research is meant to contribute to and expand upon the knowledge of CMTs work in Africa and to provide recommendations to strengthen the CMT program and China’s global health policy.

The primary role of the CMTs is to provide medical services to the local population and to the Chinese authorities living in the host countries. CMTs are meant to provide training and administrative assistance to local hospitals to develop their technical and administrative capabilities, train local doctors, and expand the market share of Chinese pharmaceutical companies.\textsuperscript{41,42} CMTs usually consist of clinicians, one leader and one translator, and the overall number of team members vary in range from 12 to 100 people. The average tenure duration of the team is two years.\textsuperscript{43} CMTs are dispatched under a pairing arrangement with Chinese provinces where each province in China is responsible for sending a CMT to one or more
specific countries every two years. For instance, Hubei province is responsible for dispatching medical teams to Algeria and Lesotho. While in the host countries, the medical teams are overseen by the Chinese Embassy’s Economic and Commercial Counsellor’s Offices. David Shinn, a former US Ambassador to Ethiopia and Burkina Faso, once commented “Chinese teams offer an array of medical specialties in addition to traditional medicine. The most recent team of 27 to arrive in Mauritania included specialists in scanning, orthopedics, epidemiology, gynecology, surgery, ophthalmology, water chemistry, bacteriology, and virology. They often serve in rural areas, something that many African doctors do with great reluctance.”

Team members need to meet certain recruitment criteria. According to the latest document released by Ministry of Health in China in 2008, entitled “the Temporary Regulation on Chinese Medical Teams Selection and the Training Prior to Dispatching,” these criteria include English language proficiency, political awareness, professional skills, health status, and age (maximum age is 50 for women and 55 for men). To ensure English proficiency, the team members need to have passed College English Test Band Four (CET-4) or be equipped with equivalent English skills in listening, speaking, reading, and writing; and have a minimum of four months intensive English training and be able to pass an English proficiency test. CMTs are funded through four different financial models, each with various combinations of contribution from China and the host countries. These models are: China’s aid; provision of Chinese loans; joint contribution by China and the recipient countries; and full funding by the recipient countries. The total number of medical personnel sent varies in different reports. According to the most recent data, China has dispatched CMTs consisting of more than 20,000 medical professionals to 51 African countries and they have provided care for approximately 200 million patients by 2013.
2. Background on Tanzania

2.1 Geographic and demographic context

The United Republic of Tanzania, with a total area of 946,658 km² (378,640 sq. mi), is the largest country in the East African region and the 31st largest nation in the world. It consists of mainland Tanzania and the island of Zanzibar. These were merged into the United Republic of Tanzania upon independence from Britain in 1964. The country borders the Indian Ocean and eight countries, including Burundi, Democratic Republic of the Congo, Kenya, Malawi, Mozambique, Rwanda, Uganda, and Zambia. There are two capital cities in the country, Dar es Salaam, the executive capital, and Dodoma, the legislative capital. Mainland Tanzania is divided into 21 administrative regions and has 113 districts with 133 Councils. There are a total of about 10,342 villages in the country.

The overall population in Tanzania has doubled since 1990 and reached 50.76 million in 2014 with a steady annual growth rate of 3%. Much of the population (69%) resides in the rural area. Forty-five percent of the population are under the age of 15 and only 3% of the population is 65 years and older. The primary school enrollment rate in 2013 was 90% with a completion rate of 76%; however, the secondary school enrollment rate was only 33%. The adult literacy rate from 2008-2012 was 67.8%.

Tanzania has been experiencing rapid economic growth in recent years. Its gross domestic product (GDP) in current US$ reached $49.18 billion and the average per capita income in purchasing power parity (PPP) was $2,591 in 2014. The 2012 National Household Survey revealed that the incidence of poverty declined from 34% to 28% in the period from 2007 to 2012, the first significant improvement since the late 1990s. However, Tanzania remains a low-income country by World Bank standards with 43% of its population living under the poverty line of $1.25 a day in 2012.

2.2 Health system and health indicators in Tanzania

2.2a Health system
The Ministry of Health in Tanzania initiated its first health sector reform in 1990, and conducted three 5-year Health Sector Strategic Plans (HSSP) in 1999, 2005, and 2009. These reforms aim to deliver quality health services and improve clients’ satisfaction and to encourage public-private partnerships (PPP) to help Tanzania achieve the United Nations Millennium Development Goals (MDGs). According to the HSSP III, the structure of the Health Care System in Tanzania consists of three tiers. The bottom tier, called Council Health Services, includes dispensaries, health centers, and at least one hospital at the district level, and is responsible for the provision of primary health care services. There are 4,679 dispensaries and 481 health centers throughout the country. Patients are referred to the second tier of the system, such as the national and regional referral hospitals, when needed. The top tier is designed to provide national health support services. The overall distribution of health care in Tanzania is fair, for instance, about 80% of the population has access to health services and over 90% of the population lives within a 5 km radius of a primary health facility.

However, numerous problems exist within the health system. In the HSSP II, it was stated that “although efforts have been made regarding the supply of drugs and training of staff, the quality of health services delivery does not yet meet the minimal standard of quality services.” This situation has not improved much, and Tanzania has a severe human resource crisis in the health care sector, only 35% of positions are filled with qualified health workers. In addition to the critical shortage of trained health staff, other challenges facing the health sector includes poor staff supervision, poor transportation and communication infrastructure, and shortage of drugs and medical equipment.

### 2.2b Health indicators

The overall health status of the Tanzanian population has greatly improved in the recent years. The life expectancy at birth has increased from 50 years in 1990 to 61 years in 2013. The mortality rate of children under five years declined from 165 to 53 per 1,000; and the infant mortality rate declined from 101 to 36 per 1,000 live births. The maternal mortality ratio also reduced dramatically from 910 per 100,000 births in 1990 to 410 per 100,000 births in 2013. The country has high coverage of antenatal care, immunization, and malaria control. Deaths caused by communicable diseases and maternal, prenatal, and nutrition conditions declined from...
72% in 2000 to 58% in 2012. Despite this considerable progress, infectious diseases continue to be a major burden, and maternal, neonatal and child mortality remain a major public health challenge. Tanzania is experiencing a rise in chronic, non-communicable diseases. In 2000, 20% of the deaths were attributed to non-communicable diseases, and this number increased to 33% in 2012. The prevalence of HIV of the population aged 15-49 years has ranged from 4.6%-5.3%.

2.3 The CMTs in Tanzania

In 1967, the Chinese government signed an agreement with the Tanzanian government to dispatch Chinese medical teams to Tanzania and the first team was sent in January 1968. By July 2015, 23 teams, totaling 1,024 Chinese medical officials, have been dispatched to Tanzania since the inception of the program. The funding model of CMTs in Tanzania is a joint contribution model, meaning that Tanzania does not receive medical assistance for free but rather partially shoulders the cost of financing CMTs. Under the twin arrangement policy, Shandong Province in eastern China dispatches teams to Tanzania. The CMT protocol is signed every two years in Dar es Salaam by the Economic and Commercial Representation of the People’s Republic of China in Tanzania and Ministry of Health of Tanzania, on behalf of the Chinese government and the Tanzania government respectively, stipulating mutual rights, duties, and responsibilities of both parties. The largest team consisted of 84 members who worked in 10 medical sites. Since 1982, the size of the teams and the number of medical sites have been reduced, with each team consisting of approximately 25 members. The CMT members serve in four hospitals, including one state level hospital (Muhimbili hospital in Dar es Salaam) and three provincial hospitals (in Dodoma, Tabora, and Musola). The team leader and the translator do not work in any of the hospitals, but are responsible for general management, coordination, reporting, and logistical matters. In 2008, 25 doctors deployed to Tanzania treated more than 60,000 outpatients and 17,000 inpatients. In addition to direct medical service, the CMTs play an important role in enhancing skills of the local medical personnel and in promoting traditional Chinese medicine (TCM). For instance, in order to train local medical staff to learn acupuncture, CMT members in Tanzania allow the local doctors to practice Chinese medicine on them.
2.4 Global Community in Tanzania

Tanzania is one of the largest recipients of aid in Sub-Saharan Africa. In FY2010-2011, approximately 33% of Government spending was financed by foreign aid; the World Bank, the United States of America, the United Kingdom and the European Union were the largest donors.\(^8\) Many of the bilateral and multilateral agencies coordinate activities with each other and the Tanzanian government and are members of the Development Partners Group (DPG). The DPG is the most recognized platform among donor countries working in Tanzania and was established to foster collaboration and increase aid effectiveness. Within the DPG, the donors have formed the Development Partners Group for Health (DPGH), which consists of 18 bi-lateral and multi-lateral agencies supporting the health sector in Tanzania.\(^9\) Additionally, the Technical Working Group in Health (TWGH) was established by the Ministry of Health and Social Welfare, with the purpose addressing various components of the health system in a comprehensive way and includes donor and NGO representation.\(^9\) The Sector-Wide Approach (SWAP) is used in Tanzania to coordinate the activities of the health sector.\(^9\) At the moment, China is not a member of any of these working groups.

3. Literature Review of Chinese Medical Teams

The findings from the literature review were used to create the introduction and background sections of Section 2.

3.1 English Literature Review of Chinese Medical Teams

A literature review of CMTs in Tanzania was conducted in English and in Chinese. The findings of this review have already been described in the preceding Introduction and Background sections. Three search engines were used to retrieve the literature in English, including Google Scholar (http://scholar.google.com), Duke Library (http://library.duke.edu), and PubMed (http://www.ncbi.nlm.nih.gov/pubmed), using the terms “Chinese Medical Teams”, “Chinese Medical Team”, “China Medical Teams” and “China Medical Team” and “Tanzania”. 229 articles were identified. After exclusion of duplicative and irrelevant articles, we selected 24 articles to be included in this study. Twenty-three of them did not contain information specific to Tanzania. None of them reported research on the relationship between CMTs and the global
health community and there was little research on the role of CMTs in China’s global health policy. The literature covers the following topics:

- Composition and history of the CMTs,
- Funding for the CMTs
- Impact of the CMTs in promoting and improving health
- CMTs and the promotion of Traditional Chinese medicine
- Contribution of CMTs to diplomatic policy

The remaining article is a doctoral thesis entitled “a historical re-examination of the Sino-Zanzibari and Sino-Tanzanian bilateral relationships in the 1960s”, which contains one chapter that specifically discusses the Chinese Medical Team in Tanzania. In the paper, the author’s opinion was that the Chinese medical teams in Tanzania’s role in the healthcare sector was on too small a scale to have a major impact on the healthcare system. 89

3.2 Chinese Literature Review of Chinese Medical Teams

In addition to Google Scholar, three major search engines, including CNKI (China National Knowledge Infrastructure, http://www.cnki.net), Wanfang data (http://librarian.wanfangdata.com.cn), and VIP Database (http://www.cqvip.com) were used to retrieve articles in Chinese, and the search strategy was “医疗队” (“medical team” as subject headings) and “坦桑尼亚” (“Tanzania” anywhere in text). After careful selection, 257 articles were identified. Duplicated articles, articles not relevant to CMTs in Tanzania, articles containing individual doctor’s stories in Tanzania and logistical reports on the arrival and departure of teams were excluded. This left only one article, a master thesis entitled Shandong Province Medical Aid to Africa 90 that discussed the overall medical assistance to African countries, including Tanzania.

3.3 News Review of Chinese Medical Teams

We reviewed all the news articles of CMTs in Tanzania that were available online in English and in Chinese (English 2012-2015 and Chinese 2001-2015). Search engine Google News (http://news.google.com) was used to retrieve the news in English, and Google News and Baidu
News (http://news.baidu.com) were used to retrieve the news in Chinese. The same search strategies as those used for literature review were used for English news, using the combination of “Chinese Medical Teams” or “Chinese Medical Team” or “China Medical Teams” or “China Medical Team” and “Tanzania”. For the news in Chinese, we used more specific terms (“中国援外医疗队/中国医疗队” (China medical team dispatched abroad/China medical team) and “坦桑尼亚” (Tanzania)) to ensure relevant findings. The news stories retrieved were reviewed and irrelevant/repetitive ones were excluded using the following criteria: repetitive news articles; news about Chinese medical teams in Africa as a whole rather than Tanzania; news about medical teams dispatched for emergency relief purposes; news about the teams dispatching logistics; news un-related to the research topic. After screening, we identified 79 eligible news articles, with only two in English and 77 in Chinese, covering the following topics:

- Advanced technology and equipment given to recipient hospitals by the CMTs to help improve the professional knowledge and operation skills of the local medical teams. (26 stories)
- The selfless dedication of the CMTs. (25 stories)
- Trust and gratefulness felt by the local people and medical staff for the CMTs. (17 stories)
- Ability of CMT members to overcome difficulties and threats in the recipient countries, such as the poor medical equipment, high risk of getting infected by various diseases, disadvantages of the environment, and being away from home and families. (25 stories)
- Chinese government and leaders’ praise and support of the CMTs. (12 stories)
- Recipient government and leaders’ praise and appreciation for CMTs. (12 stories)
- Foreign media’s praise for CMTs. (2 stories)
- Skills of the CMT and their role in filling the crucial gap in health services. (26 stories)

These results were consistent with a previous study of publications in the People’s Daily to examine the decisions made around dispatching Chinese Medical teams.  

4. In-depth Interviews on Chinese Medical Teams

4.1 Methods
In-depth semi structured interviews were conducted with three groups: 1) nine “international interviewees” who are representatives from international organizations working in Tanzania; 2) two “local interviewees” who are Tanzanian doctors and 3) one “CMT interviewee” who is a member of the Chinese Medical team.

Group 1: International bi-lateral and multi-lateral organizations working on health issues in Tanzania were identified through a Google search and through DGHI contacts with some of these organizations. Stakeholders were asked to participate in this study via email. A total of 7 organizations agreed to participate. Six participated in face-to-face in-depth, semi-structured interviews, which were recorded. One organization, after a brief phone interview, preferred to respond to questions via email. A total of 9 persons were interviewed. All interviews were conducted in English.

Group 2: Two Tanzanian doctors were identified through referrals from DGHI contacts and contacted via email and telephone. Both agreed to face-to-face semi-structured interviews, which were conducted in English and recorded.

Group 3: CMTs were contacted through a local referral and one CMT member agreed to a face to face in-depth semi-structured interview, which was conducted in Mandarin and recorded.

4.2 Findings from In-depth Interviews

4.2a Tanzanian Healthcare needs

Our interviews were consistent with the literature describing both the progress Tanzania has made in health care as well as the challenges it continues to face. When asked what they thought were the major health concerns in Tanzania, international interviewees and local doctors responded with the following categories, health management, human resources shortage, shortage of medical supplies, primary healthcare, nutrition, maternal and child health, HIV/AIDS, communicable diseases and non-communicable diseases. The CMTs help address these needs, in particular the shortage of human resources. As said by the local doctors, there is still a lack of specialists even in the urban areas, and medical teams, especially long-term ones like the CMTs, are still in great need. The CMT interviewee echoed this problem and lamented that “we did train a lot of local doctors, but there are also big outflow of the skilled personnel”,
“...once those doctors received training and are equipped with better medical skills, they left, and they moved to a better hospital in a better area.”

The lack of available practice based training was another challenge discussed during the interviews. One international interviewee explained, “the quality of training right now, across the board, it is quite frustrating, the capacity is low” while another international interviewee added that“... there are not a lot of actual clinical training taking place in Tanzania. We do a lot of pre service and in service training and thus more theoretical and less practice based, there is a little practice based training but not a lot.”

4.2b Composition of the current CMTs

The findings from with the CMT interviewee were consistent with the information found in the literature review on the teams’ composition and working locations. The current team does consist of 25 members, including one team leader and one translator. The remaining 23 CMT doctors are assigned to four hospitals; nine CMT members are assigned to Muhimbili Hospital, six members to Dodoma Hospital, four members to Tabora provincial Hospital, and four members to Musoma provincial hospital. The CMT’s specialties include anesthesia, surgery, gynecology and obstetrics, internal medicine, pediatrics, Traditional Chinese Medicine (TCM), and others.

4.2c CMT recruitment

The information gathered from the interview with the CMT member about recruitment was consistent with the recruitment documents found in the literature review. The CMT interviewee reiterated that doctor’s need to have “high political consciousness, have reach a certain professional level (at least five years of clinical experience), and strong English communication skills” to be eligible for the CMT. However, the CMT interviewee indicated that the recruitment of CMTs has proved challenging, “There are some challenges to recruit team members”. The following are key challenges mentioned by the CMT interviewee based on his own views as well as his understanding of other team members’ views.
i. Misunderstandings about Africa: According to the CMT interviewee, “in the eyes of many Chinese people, Africa is a land with all kinds of diseases, such as malaria, AIDS, and typhoid fever which are raging in this land”, and this negative misconception of Africa deters many doctors from volunteering for the CMT.

ii. Insufficient incentive: While the CMT program does provide some incentives, these are often not substantial enough to attract and motivate more qualified doctors. According to the CMT interviewee, the most common reasons doctors join the program is that “the hospitals we work at [in China] are at a municipal-level so we don’t have many opportunities to go abroad; some of the doctors are facing retirement so they are no longer pursuing professional success; some of them consider this an opportunity to relax from a busy working schedule in China etc. We also feel that African countries are really in need of our help.” The most attractive incentive seems to be that the doctors who join the CMT are offered better terms for professional promotions in the future. However, this does little to incentivize those doctors who already hold high-level positions. There is little monetary incentive as wages remain the same during their tenure abroad. The CMT interviewee said, “…in reality, our team members only receive the average merit income of the whole hospital, which is much less than their previous income in China. The NHFPC, through its financial sector, provides subsidies to fill the gap. But still, the surgeons earn less than their previous income…. the monetary incentive is not considered attractive for us. In the coastal area, such as Shanghai, it is very difficult to enroll team members due to this situation.”

iii. Time commitment: The two-year cycle is a significant period of time and according to the CMT interviewee, many doctors are concerned about the impact their absence has on their family and their career. For instance, during their two-year tenure, the doctors’ families can only visit once for a period of one month, which could weaken the family bond. There is also a lack of opportunity to stay informed about current and emerging medical techniques and to participate in research projects while working in Tanzania.

iv. Personal health concerns: According to the CMT interviewee, the poor medical conditions in Africa concern doctors with existing health problems. Word spreads from previous teams about negative experiences with health problems and local health care facilities and acts as a deterrent to others.
As a result of the difficulties with recruitment, some of the recruitment criteria have been compromised, such as waving the requirement for English language proficiency and attaining certain professional skills. This has caused more challenges for the CMT program as the members are less equipped to perform their required duties. We discuss this in further detail later in the report.

4.2d CMTs’ activities

Our interview with the CMT member confirmed that the activities performed by CMTs are consistent with the activities outlined in the official mandate. According to the “The Protocol of Dispatching Chinese Medical Team to Tanzania between the People's Republic of China and the Republic of Tanzania”, the mandates of the CMT are to work closely with Tanzanian health professionals to carry out medical work (exclusive of work with legal implications), and share experience through medical practices and learn from each other. If needed by Tanzanian doctors, the Chinese doctors will provide training in the corresponding departments and professions so as to increase their capability of medical diagnosis and treatment. According to the CMT interviewee, all the doctors on the team have a good understanding of their mandates, and they provide direct medical services in four formats:

- Firstly, working in the four hospitals providing clinical care for local patients and Chinese compatriots living in Tanzania;
- Secondly, providing health care for the diplomatic staff working in the Embassy of the People’s Republic of China in Tanzania;
- Thirdly, providing mobile health services in rural areas, using a local hospital as a support base to perform health checks and access to some basic diagnostic facilities.
- Lastly, training the local doctors with whom they work closely in the hosting hospitals, mostly through demonstration. One doctor from a previous team once provided formal training by offering lectures to the medical students studying in a local medical school, however, this was a very rare situation.

4.2e Performance and Challenges of CMTs in Tanzania

The Chinese doctors received high praise from the local interviewees who had direct working experience with them. The language used to repeatedly describe their performance was “good,”
“very good,” “perfect” and “hard worker[ing]”. When asked to give the CMT an overall score out of 100, these interviewees gave them a score of 80-90.

As we shall explore further in Section 2, international organizations had very little knowledge of the CMTs and as such were unable to give an assessment of the Chinese doctors. However, one international interviewee who did have direct experience with Chinese doctors was impressed by the skill of Chinese surgeons saying that “the Chinese surgeons are good, they have very good hands, quite skilled”, “…I remember a Chinese surgeon..., he was good, he was like [magic], when he was doing surgery)…”. The CMT interviewee gave the team a good assessment with an overall scoring of 80 out of 100, and commented that, “Chinese doctors in those areas (rural areas) are the backbone (in the hospital). …they really help to solve a lot of medical issues for the local people.” The local interviewees also mentioned that one of the immediate impacts from the current CMT is a great reduction in in-theatre death rate during cardiac surgeries, which used to be as high as 70-80%.

According to the local interviewees, patients in Tanzania have a similar high regard for the CMTs and, and in fact prefer them to the local doctors. According to one local interviewee, “our people here, they like foreigners more, even if they are not Chinese doctors, just a foreign doctor, they will go to them.” The other local interviewee had similar experience with how patients perceive the CMTs “the patients are really excited to see foreigners, so no hesitation”.

4.2f Barriers

i. Language

Despite the high praise for their clinical and technical skills, a major criticism of the CMTs is their poor English language skills. For instance, one local interviewee described the language barrier as being “very big,” and “they (other local doctors) complained about the language barrier (of Chinese doctors), which is REALLY REALLY difficult for them (to work together with the Chinese doctors).” Commenting further, another international interviewee said, “it is really hard for me to provide services and work with clinicians without language” …the idea of the clinician trying to provide direct services and not speak the language and not have a translator, it is very scary to me. I cannot imagine how that would happen.” Despite the English language proficiency requirement in the recruitment policy and an additional intense four-month English
language course team members attend prior to being dispatched, language is clearly a major barrier and an example of how recruitment difficulties are affecting the program.

ii. Flexibility

According to local interviewees, the Chinese doctors were perceived to be less flexible and have less ability to adapt to changes in the work environment. As said by one local interviewee, “they are used to these things, they are going systematic, they do not like any changes,”, and “… those who are used to Theater Five have to change to Theater 11, no, they will not. They want to go to the same operating room, no matter what. To get them to adjust themselves is very difficult.” However, the fact that the Chinese doctors are willing to leave China to practice in foreign hospitals demonstrates a certain flexibility.

4.2g Challenges CMTs encountered in Tanzania

The CMTs receive various forms of official support from the Tanzanian government, as outlined in the dispatching protocol. For example, their housing and electricity are free of charge, they have designated security guards and drivers, and some other benefits. However, despite these conveniences the CMT interviewee indicated that the CMT members encounter many challenges in their daily life and at work.

i. Daily life challenges

CMTs encounter various challenges living in Tanzania, including logistical problems such as delays in payment of the electricity and water. The CMT interviewee said, “… sometimes the payment of electricity and gas is delayed. In order to have the access to these basic needs, we have to apply for financial support from China”. Another challenge mentioned by the CMT interviewee is that the CMT members do not receive any language training support from the local government and the hosting hospitals. A local interviewee confirmed this fact, “I don’t think there is any effort. … until they (the Chinese doctors) come to know some language (by themselves), there are no efforts to train them”. Some of the agreements in the protocol signed by the two countries have not been fulfilled. For example, the CMT members are supposed to have a two-week vacation after their two-year tenure, and one-week sight-seeing trip arranged and paid for by the Tanzanian government; however this does not always happen.
The living conditions provide another challenge for the CMTs. According to the CMT interviewee, at least some local doctors have better living conditions than the CMTs, “we are here as experts to provide help, what will local doctors think about us since our living conditions here are much poorer than theirs”. The CMT interviewee said that these issues along with the separation from their families, and the lack of support from their home hospitals in China are other daily life challenges.

ii. Challenges at work

A major challenge faced by the CMTs is the slower pace of work found in Tanzania compared to China. For example, the CMT interviewee said that despite the fact that the work day is expected to start at 8am, however, “…every morning, they (the local doctors) will have breakfast and chat together until 10 or 11 am before starting operation. In China, we usually get up at 7 am, have a quick breakfast, and then rush to the hospital. The first surgery could start as early as 8 am. Faced with the situation in Africa, we get worried and anxious, as we are not working but waiting.” Another example the CMT interviewee gave of the slow work routine was hospital meetings, “I arrived at 2:30 as I was informed, but when I arrived at the meeting room at 2:30 pm, no one was there and they did not even start to prepare for the meeting. The meeting actually took place at 4pm.” The CMT interviewee said that he and the rest of the CMT find, “these types of working routines are very difficult for us to adjust to.” In contrast to the pressures of hard work found in the Chinese professional environment, the CMT interviewee said that he and the other CMTs perceive African culture to place more emphasis on relaxing and enjoying life rather than on career. This cultural conflict has posed significant challenges to CMTs in Tanzania. Additionally, CMT members perceive that the local doctors sometimes lack a sense of responsibility. The CMT interviewee reported with shock that, “… in the middle of an operation, the anesthetist can just leave because of a phone call.” The CMT interviewee believes that the reasons for these types of behaviors are at least partly related to the application of equalitarianism in the health system. Likening the situation to China’s own history, “it might be just like the situation in China in the 60s’ and 70s’, there was no incentive mechanism and people received the same amount of salary no matter what. This is very common in Tanzania, as it does not matter how much you have done at your work (you receive the same amount of payment).” A similar challenge has been reported by CMTs in Democratic Republic of
Congo. The CMT interviewee commented on his and the team’s perception that some local doctors are more eager to learn from the CMT expertise than others, “There are diligent African doctors, but there are many others who are not willing to learn… there is a local doctor who can only conduct C-section, but not any other simple gynecological operations, such as hysterectomy and cystectomy. However, he does not want to learn but only waiting for Chinese doctors to conduct those surgeries.”

4.2h Strengths and Criticisms of the CMT Program

i. Low visibility

The visibility and awareness of CMTs activities among major international donors in Tanzania is very low. Every international organization that we interviewed replied that they had little to no knowledge of the CMT program. While some were aware of their existence in the country they had no knowledge of their activities, international interviewees repeatedly told us “I never heard of Chinese medical teams, I have no any idea”, “I personally don’t know any of them (Chinese doctors)”, “I do not know much about them (Chinese doctors) and what they are doing or how they operate.” Similarly, according to the CMT interviewee the CMTs are equally unaware of the activities of other international organizations in Tanzania. However, the CMT lack of awareness of international activities could be explained by the fact that they were assigned to work side-by-side with local doctors and to provide health care services on the ground and are not involved with management and coordination at the international level. The different mandates and the limited overlap in responsibility between the CMTs and the international community have resulted in the low visibility of CMTs among international donor groups. All of the international expressed great interest in learning more about the activities of the Chinese medical teams and their work in Tanzania.

ii. Cooperation with international community in Tanzania

As would be expected with such low visibility, there is currently no interaction and cooperation between CMTs and other bi-lateral and multi-lateral organizations. No official interaction or cooperation is established, one of the international interviewees confirmed that, “I have not seen any formal collaboration.” The international interviewees perceived the CMTs to live and work in isolation from the international community, they are perceived as almost “military” in nature.
due to their strong focus on their specific mission. “They come as a military team, sorry to say
that but they come as a military team, their mission is accomplished.” “there is no
interaction, ... I have not seen them (in the bi-lateral meeting), I don’t see them at meetings.”...
“they work in silos”. As mentioned previously there are many health-related working groups
operating in Tanzania, such as the Development Partner Group for Health. However, when asked
if he was aware of these groups, the CMT interviewee responded “Currently we do not have any
contact with any of those organizations.”

Several international interviewees compared China with some major donor countries, such as
Sweden, the Netherlands, the UK, and the US and stated that they all have a clear global health
agenda and share these agendas with other donor organizations, opening up opportunities for
cooperation. However, as said by one of the international interviewees, “I have not seen that with
the Chinese.”

The international interviewees believed that cooperation is important and identified many
benefits of international cooperation.

- Cooperation helps to identify gaps in response to local needs, eliminates redundancies, pools
resources, and therefore makes projects more cost-effective and more efficient. For instance,
international interviewees described how cooperation helps them “reach objectives more
efficiently”, “it eliminates redundancies and identifying the gaps”, and “helps fill resource
gaps in service delivery, improve efficiencies and cost effectiveness through redirecting of
resources where they are needed most”.

- Cooperation among the donor community helps to reduce the efforts and resources the
Tanzanian government has to put into small similar projects operated by different donor
countries/organizations. The international interviewees said, “... it’s more efficient for
government, so instead of having ten individual development partners going to them
constantly, if you have a functioning structure, ideally then you would have one voice and
fewer meetings”, “we can avoid overlapping projects and also decrease some work for the
government”.

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Cooperation provides more solid information to better support policy decision-making, which in turn increases impact and results in better health outcomes. International interviewees explained that “ultimately when cooperation structure works well, you end up with a better outcome”, it is important to “have the most well informed possible policy decisions when you have multiple perspectives contributing to these policy decisions”, “One of the things small donors like, they can put the money in the basket fund, and they can do big things, so you know, rather than doing some individual projects, then have a big impact”, “collaboration on health-related issues and coordination of efforts would definitely add value and increase impact of health outcomes.”

The international interviewees also expressed their willingness and keen interest to explore opportunities for future cooperation with CMTs, and suggested the cooperation could start with information sharing.

However, China and the CMT program might not be set up appropriately to take advantage of opportunities to participate in international cooperation. The CMT interviewee showed great uncertainty in response to the question regarding cooperation. When asked about what they think about joining international health working groups, a CMT member responded “we are not authorized by the Chinese government to do that, or maybe NHFPC wants [us] to participate and have a plan but we are just not aware. And we really don’t know if we are allowed to do this.”

iii. Limited role of CMTs

The international interviewees saw the limited scope of the activities that CMTs provide in Tanzania as a lost opportunity. One international interviewee who had knowledge about CMT activities said that the CMTs do not proactively engage in any work other than providing clinical services “with others, ... they go beyond just the work, they support the facility, ... they give ideas, but for them (CMTs) it’s like they are there to perform a specific role, and once it’s done, it’s done...I don’t see them, ... being involved in, in research, in workshops, ... it’s like they come here, they do that bit of thing..... For example, if you are an ENT surgeon and you have an ENT annual meeting, you rarely find a Chinese ENT surgeon there.” “...rarely do you find them in research meetings, they do their work, and the rest they are not concerned about.” The same international interviewee went on to explain the CMT isolation from the rest of the Tanzanian
community, "they have their own car, their own house, they just come, it's like they are programmed". Another international interviewee said "they are particularly working contrary to the Chinese philosophy of 'give a poor man a fish and it will feed him for a day; give him fishing tools and he will be fed for a lifetime.'" Another international interviewee explained that "...the Chinese doctors, they're coming as clinicians, yes and they come in purely as clinicians and very few of them support training", "...the Chinese doctors will mentor a person not a team.", "...My feeling is that this (provision of training) is an area where the Chinese teams...have not really been involved". Another international interviewee explained "CMTs should expand their role to include capacity development and other sustainable approaches for systems strengthening. For example, adding training of trainers and direct training of service providers to their roles would ensure continuity of the services and increase in health outcomes."

However, participation in training could be difficult for the current teams. Due to the aforementioned difficulties in recruitment of more qualified personnel, most of the recruited doctors in the teams are from public hospitals at the municipal level. Compared with doctors who work at the provincial hospital or in teaching hospitals that are affiliated with a medical college/university, they have had little experience providing formal medical training to others.

iv. Lack of effectiveness and sustainable impact

Effectiveness is defined as the degree to which the program is successful in producing a desired result and meeting its goals. Therefore, if the goal of the program is to provide direct services and nothing else, the program can be considered as effective, given the significant number of patients that the CMTs have served in Tanzania. However, the international interviewees questioned the impact of the program in improving national health indicators. One international interviewee said, "The actual value of their (CMTs program) contributions in financial terms and in terms of impact on health indicators is not fully known. The full extent of the operations of these teams and their products are not fully tracked or openly published and I am not aware of how their performance is measured." Another international interviewee added "I don't believe in service delivery... in terms of sustainable impact".

In terms of Premier Zhou Enlai goal to have the CMT program "help African doctors become self-reliant" the effectiveness of the program seems to be far from optimal, since the program has remained largely unchanged since 1968 and the teams continue to provide the same services
without building capacity in the host country. As one international interviewee said, the “Chinese model (focuses on service delivery)... they have demonstrated by being in it for many years but it doesn’t build capacity and enable them to then get out of the business [of service delivery]” Another international interviewee framed the issue of sustainable impact with the statement, “by providing the health professionals that is short term solution which is very important because in many hospitals there are no health professionals or no doctors but then in addition the question is what is after when they leave? Will there be another maybe Tanzanian doctor taking over or what will be the next step?

5. Future Opportunities

The literature and news review and in-depth interviews describe the current situation of the CMTs in Tanzania. Our results are consistent with previous reports from other countries, that the CMTs have been providing good health care services, and are known for their diligence and sophisticated skills. As such, the CMTs in Tanzania are meeting their current mandate and performing their duties well. However, the CMT program still has multiple challenges including low visibility and lack of cooperation among the international donor community and lack of sustainable impact in Tanzania.

We discuss these challenges below and provide recommendations to address these findings.

5.1 Enhance Global Cooperation

Over the years, China has greatly improved its willingness to cooperate with its international partners and had increased its participation at the United Nations and related agencies. However, despite this progress China continues to have a notable lack of participation in regular donor coordination groups in Africa. For example, Tanzanian President Jakaya Kikwete praised the multi-donor antimalarial program in his country during a meeting in Washington in 2008. However, when asked if China (which is working in Tanzania to combat malaria), is part of the multi-donor coordination effort, Kikwete replied that they had not been involved, but said he would welcome participation by China. Our research revealed similar evidence of lack of participation and perceived isolationist practices of the CMTs, as well as the eagerness of the international community to include China in the conversation. While the political views and the ideology between China and other donor countries may differ, they share the common goal in
providing health aid for the recipient countries and an effort should be made to enhance cooperation to improve the impact of this health aid. Also, as a strategically important type of South-South cooperation, the CMT would be a more powerful diplomatic tool if they had more visibility within the country among both the international and local communities. More importantly, with China’s recent growth, China needs to take the responsibility associated with that of a bigger world power. The Proposal of the CPC Central Committee on Formulating the Thirteenth Five-year Plan for National Economic and Social Development released in 2015 97, states that China will actively shoulder more international responsibilities and obligations, and scale up its foreign aid and improve its approach to foreign aid. In order to enhance China’s ability to fulfill its international contribution to the global health field, we recommend the following:

5.1a China’s health aid programs and activities such as the CMTs should be better represented at the international level. Sending a representative to attend international donor working groups to share information about CMT activities seems like a first and fairly easy step towards building relationships with the donor community. However, this might lead to a human resources challenge. The CMT members being recruited under the current CMT program protocol might lack the necessary skills to sufficiently represent China at these meetings. So, we suggest creating the role of a communications officer within each CMT team, who would be responsible for dealing with the external affairs of CMT. This communication officer should have experience working in the communications field, experience with facilitating meetings, experience working cross-culturally and have strong verbal and written communication skills with the ability to communicate to a wide range of audiences and promote sharing and learning between groups. This position could be responsible for promoting the CMT work within the international community and the general public.

5.1b Another approach to increase the visibility of the CMTs is to better publicize their activities in the host countries. It is significant that our news review resulted in 79 articles, only two of which were in English. The press coverage for the CMT activities is more prevalent in China, if more press coverage was focused in the countries where these activities are actually taking place, it could help increase visibility and help enhance cooperation.
5.2 Revise Goals of the CMTs program

There is no doubt that given Tanzania’s current health care issues, the direct service provided by the CMTs are still in need, additionally the lack of practice based training commented upon by our interviewees would benefit from the CMTs’ mechanism of working side-by-side together with local doctors. While switching goals from service delivery to capacity building has become a trend among international organizations, a program like the CMT that provides direct service is still important to fill the gaps in providing of direct services. However, our discussions indicate the size and scope of the program needs to be expanded to fit the needs of host countries and to enhance China’s role in global health. As discussed earlier, the shortage of skilled health personnel in Tanzania is severe, especially in less developed areas. China has extensive valuable experience with human resource development and methods of how to retain health care workers in rural areas. We recommend several options on how to adjust the CMTs program by shifting its model from one of service delivery to a combination of service delivery and capacity building. Expanding the CMTs to provide capacity building is key to improving the sustainable impact of the program, and should cover at the following aspects.

a. Provide technical training to improve the local capacity in health care delivery

b. Provide assistance in human resource management.

c. Expand recruitment criteria to ensure that the CMTs comprise of members with the necessary skills and experience in training and in the human resources and public health fields. The size of the team will need to increase to accommodate expanding the mandate to provide both capacity building and direct service and we suggest an additional smaller team to provide capacity building services. These additional requirements will make the importance of developing and adhering to the recruitment policies even more important. While this seems like a tall order, providing an opportunity for health care professionals to work in human resource and health administration fields in foreign countries could provide CMT members more opportunity for career growth and will provide greater incentive.

d. The dispatching cycle should be adjusted to serve the different purposes of the program, depending on the needs of the country.
5.3 Improve resources and incentives

The CMT members are crucial to the success of the CMT program, and action should be taken to provide appropriate incentives by the Chinese and local governments to help recruit and maintain qualified CMT members. For instance, the CMTs are required to leave the comfort of their own homes for two years and in return should be provided with a comfortable environment in their host country. We recommend that more people-orientated strategies should be adopted to continue to attract volunteers for the program and ensure its sustainability. These strategies can include the following:

a. Firstly, monetary incentive and good living conditions in the recipient countries should be guaranteed. Actually, most of these strategies have been stated in the governmental document, however the implementation has been insufficient.

b. Secondly, more family reunion opportunities and more support from their home hospital and the health administrative system. To feel respected and valued for their contributions as a member of CMT program rather than feeling that they are being “deported” or obligated to join the program can sometimes be more important than the monetary incentive. With the improved incentives the recruitment criteria can be better implemented and more qualified team members with stronger language and professional and training abilities can be recruited. More advice and assistance from the Tanzanian government is needed to ensure a safe and supportive environment for CMTs while they are living and working in Tanzania.

6. Strengths and Weaknesses of Section Two

One of the strengths of this research is that it includes multiple stakeholders and information from diverse perspectives. To our knowledge, this is the first time international stakeholders have been involved in research on the CMTs in Africa. The face-to-face in-depth interview approach used ensured an ample depth of information collected and provided information that is not in the existing literature.

There are several weaknesses of the study. One is that Tanzania was the only country visited and limited time and availability provided only 9 interviewee participants. However, the findings,
especially those from international interviewees were quickly saturated, mediating to some extent the limitations of the small sample size.

7. **Section Two Conclusion**

While the study only examined one CMT in Tanzania, we believe the knowledge learned from Tanzania to some extent can be applied to other countries in the region. However, we suggest that the Ministry of Health consider providing support for a similar comprehensive evaluation of CMT activities in other African countries to add to this knowledge.

**V. CONCLUSION**

China has developed a wealth of knowledge and resources on health, and has shared these with the world for decades, most notably with its long-standing and successful CMT program. These contributions are much appreciated and fill an important gap in many countries. As China takes on a more prominent position in global health, increasing the capacity building nature of its activities, and improving international collaboration on health activities will ensure China’s aid efforts are more sustainable and effective. Chinese universities can be particularly valuable in these endeavors and in ensuring China’s successful future in global health. Furthermore, understanding international perceptions of China’s position in the international donor and global health landscape will allow China to better effectively navigate its own future in global health.

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**Literature Sources Cited in Section One**

Beijing unveils '100s' initiative aiding developing countries  


Thompson, D. “China's soft power in Africa: From the" Beijing Consensus" to health diplomacy”. 2005.


Xu, D et al “Harnessing China’s Universities for global health”. The Lancet, Volume 388, Issue 10054, 1860-1862

Endnotes


7 Beijing unveils ‘100s’ initiative aiding developing countries http://usa.chinadaily.com.cn/2015xivixitus/2015-09/27/content_21993466.htm (accessed November 6, 2016)


Xu, Dong (Roman) et al “Harnessing China’s Universities for global health”. The Lancet, Volume 388, Issue 10054, 1860-1862.


China-Africa Economic and Trade Cooperation, 2010, 12


http://www.nationsonline.org/oneworld/tanzania.htm

http://www.nationsonline.org/oneworld/tanzania.htm#Map


Public meeting in Washington on August 27, 2008.