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**Research Report**

## Chinese Medical Teams: Knowledge Transfer in Ethiopia and Malawi

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## POLICY POINTS

**English language proficiency**

needs to become a central pillar in both the training and selection process of CMT participants.

**CMT time commitment**

should return to a two-year commitment or retain the current system while offering the option for CMTs to lengthen their stay to two years, with a corresponding incentive scheme.

**Program stakeholders** need

to build a comprehensive, annual review process, including a needs assessment component.

## Chinese Medical Teams: Knowledge Transfer in Ethiopia and Malawi

Allison Grande *with* Sara Fischer and James Sayre

THE CHINESE MEDICAL TEAM HEALTH AID MODEL HAS UNIQUE potential to significantly improve health care provision, patient outcomes, and health systems throughout Africa. The addition of approximately 16 Chinese specialists per team provides additional human resources to understaffed hospitals, as well as opportunities for knowledge transfer to African medical staff. Chinese medical teams (CMTs) are the cornerstone of Chinese health aid in Africa, deployed in over 50 countries on the continent and in all African countries that maintain official diplomatic ties with China. While CMTs serve primarily as medical practitioners, for decades Chinese government rhetoric has also cited capacity building and knowledge transfer as CMTs' core functions. This rhetoric is reflected in the official Chinese Medical Team Memoranda of Understanding, where teaching, mentoring, and training are listed as core program components. While capacity building methods and outcomes are consistently evaluated, modified, and applied in western forms of health aid, little research has been conducted on CMTs efficacy as a capacity building mechanism for healthcare systems in developing countries. The research conducted in the working paper associated with this brief explores the presence and extent of knowledge transfer and skill diffusion between CMTs and local medical staff in Ethiopia and Malawi.

### FINDINGS: KNOWLEDGE TRANSFER PRESENT WITH LIMITED IMPACT AND EFFECTIVENESS

ENGLISH LANGUAGE SKILLS, WHICH ARE REPORTEDLY a preliminary requirement for participation in the program, were essential to effective knowledge transfer. CMTs receive English language training for six months prior to deployment and must pass an English language exam as a condition for participation. Despite this requirement, very few Chinese physicians encountered in Ethiopia and Malawi were able to communicate in English beyond an elementary level. Those physicians with advanced English skills did provide informal, on-the-job training during their daily interactions with local staff. Two instances of formal, didactic teaching were reported, where physicians taught medical students and interns on each of their respective areas of expertise. These instances demonstrate that knowledge transfer was sporadic and unsystematic, as it occurred most often in isolated cases, with its success driven primarily by a given Chinese physician's ability and desire to teach.

Though the majority of CMTs were unable to effectively communicate verbally, those with skills-based specializations such as surgery were able to transfer knowledge

through the demonstration of their practice. This form of knowledge transfer was more prevalent, as five to six Chinese physicians on each team conducted procedures that could be observed by host-country medical staff. In both countries, students, interns, and trainees were the recipients of knowledge transfer rather than practicing medical staff. CMTs were utilized as human resources to provide medical care to patients rather than academic faculty and teachers, therefore there were few opportunities for collaboration between two practicing physicians.

Separately, another type of knowledge transfer present in Ethiopia involved the practice of traditional Chinese medicine, specifically acupuncture. Not only were Ethiopian patients introduced to this new form of treatment, which has grown extremely popular, but Ethiopian nurses were also introduced to this practice. Nurses work alongside Chinese specialists each day, where they are able to observe and practice this form of treatment. Additionally, some nurses were also provided the opportunity to travel to China to participate in short-term acupuncture trainings.

## PROGRAM CHALLENGES

KNOWLEDGE TRANSFER IS OCCURRING in both Ethiopia and Malawi but only on a limited scale and it is clearly an auxiliary rather than primary function of the CMT program. Hospital administrators in Ethiopia and Malawi, medical staff, government officials, and CMTs themselves reported that the primary role of a CMT is to provide additional, highly skilled human resources for host-hospitals that are consistently understaffed. In addition to service provision, CMTs are valued by host countries for their provision of Chinese donated equipment and medication. Education and training were viewed by recipients as ancillary functions, which is also a reflection of the instructions provided to CMTs prior to deployment. CMTs were not instructed during training or during their service in-country to train local medical staff. Instead, they were simply told to help where they could. This lack of direction does not reflect government policy documents nor Chinese party leadership speeches that emphasize sustainability, claiming the program is designed to strengthen the local healthcare workforce so that it may function independent of CMT-support in the future. The absence of supporting program management infrastructure limited the ability of CMT physicians to provide consistent and effective education and training.

Though the CMT program does provide valuable human resources, many physicians were unable to treat patients independently in the countries where they served. For specialties that require verbal communication with a patient such as internal medicine, radiology, and pediatrics, rather than procedure-based specialties, CMTs must be able to communicate effectively in English. Therefore, many CMTs practicing in these areas without the necessary language skills were ineffective and did not increase the human resources at their host institution. Due to the language barrier, certain CMTs worked only as consultants on difficult cases rather than full-time staff in Ethiopia. This was especially problematic in Ethiopia because CMT members are counted as full-time medical staff by the Ministry of Health in Ethiopia's workforce planning. In Malawi, the language barrier drove CMTs to sequester themselves in their offices during working hours and return to their residence in the afternoons rather than spending those additional hours working with host country staff. Those with low-English skills described how their host-country colleagues interpreted the language barrier as a lack of CMT knowledge and skill, thus limiting their desire to work with or learn from CMTs.

The role of CMTs as diplomats was more significant than expected. Previous research conducted on Chinese health aid has labelled CMTs as a form of strategic diplomacy, thus it was expected that they would not only treat patients and transfer knowledge, but also spread Chinese culture, history, and goodwill in developing countries with diplomatic relations with China. Yet, in addition to this soft diplomacy, many members of the CMT in Malawi spent a significant amount of time working at the Chinese embassy. While both countries reported that CMTs were the liaison between local hospitals and the Chinese government, some Chinese physicians in Malawi spent more time at the Chinese embassy than the hospital. Further, the CMT in Malawi also spent more time traveling within Africa to visit Chinese officials than the team in Ethiopia. Many local stakeholders in Malawi perceived the team to be a diplomatic showpiece to promote relations with China, rather than a program designed to improve the hospital's capacity.

The absence of equipment and technology prevented surgeons from performing specific procedures, subsequently preventing CMTs from introducing new techniques that would elevate the level of patient care in Africa. In both countries, open surgery is conducted far more frequently than other procedures that require additional equipment. Due to lack of training and perceived risks, Chinese surgeons often chose not to participate

in procedures for which they would normally utilize modern medical technologies. This also removes an opportunity for knowledge transfer from the host country physicians to their Chinese counterparts. Even in cases where specialized equipment is available in neighboring hospitals, CMTs are often prohibited from practicing outside of their host institution.

The CMT program lacks program management structure at the host country level. CMT leaders, local hospital administrations, and appropriate government officials assume ownership of day-to-day operations but lack the bandwidth to conduct strategic planning that would identify challenges and corresponding solutions. The CMT operating model has remained largely unchanged since its inception in 1963 and has not undergone an internal or external review since its inception.<sup>1</sup> For instance, problems caused by language barriers have been consistently cited in multiple countries since as early as 2011, yet there has not been any programmatic change to address this issue.<sup>2</sup> Likewise, China continues to send physicians of varying specialties without consulting recipient countries to understand their needs. Although this strategy may have been effective in the first few decades of the program when the healthcare workforce in Africa was limited and medical technology in China was less developed, in recent years this dynamic has resulted in wasted resources.

The program also lacks monitoring and evaluation mechanisms that would measure program quality and assess whether teams are meeting targets as specified in signed agreements. All stakeholders, including CMTs, described the absence of adequate feedback mechanisms for program participants. Without formalized communication channels, systemic challenges remain unresolved and breed frustrations among stakeholders. For example, hospital administration and medical staff in both Ethiopia and Malawi stressed that they would like to be a part of CMT program planning, and to have opportunities to provide input on the type of CMT-specialists recruited. Local administrators at Tirunesh Beijing lamented that CMTs have not coordinated with the hospital or Ministry of Health to provide the types of specialists that would address their human resource gaps.

## POLICY RECOMMENDATIONS

### 1. ENGLISH LANGUAGE PROFICIENCY

*The language barrier between CMTs and local medical staff is a major hurdle hindering knowledge transfer: it is recommended that*

*English language skills be central to both the selection process for this program and pre-service training.* English language proficiency, at least at a beginner level, should be required for participation in the program. Language training should be conducted by a native English speaker rather than a native Chinese speaker. The pre-service English language test, mentioned by several CMTs, should be more strictly enforced for specialists who practice internal medicine or other more hands-off, communication-based specialties. Specialties that require direct verbal communication should be at a beginner to intermediate proficiency level. Low-performing CMTs should either be disqualified from service or accompanied by translators. Only those medical specialties mentioned above, that can conduct hands-on procedures, should serve abroad through this program, unless the CMT has a high level of English language. Lastly, translators that accompany CMTs abroad should not only assist with daily living activities, but also accompany CMTs that practice internal medicine while working in the hospital.

### 2. LENGTH OF CMT COMMITMENT

*The CMT program should return to a two-year commitment or retain the current system while offering the option for CMTs to lengthen their stay to two years, with a corresponding incentive scheme.* In most cases, host country medical staff drew a direct correlation between the length of time spent by a CMT in the host country and their effectiveness as both trainers and practitioners. When the CMT program transitioned from a two-year to a one-year commitment, host country medical staff and administration witnessed a drop-off in CMT effectiveness. Language, hospital guidelines and administration, and culture are just a few factors which CMTs must adjust to after arriving in a host country. Though it varies by individual, this process takes a significant amount of time for CMTs, many of whom have never worked abroad. On average, it takes 3-6 months for Chinese physicians to acclimate to the new environment and practice autonomously, leaving only 6-9 months of highly productive work and training time. This annual transition also places additional burdens on the host hospital, who must orient new physicians every 6 months.

Conversely, CMT members were explicit in describing the personal sacrifice a two-year commitment required. In addition to leaving behind their families and routines in China, CMTs also felt as though they lacked opportunities to improve their skills while abroad. These two sides of the issue create a clear tension between local medical staff, who prefer longer-term

commitments, and CMT members, who prefer shorter-term commitments. This challenge must be addressed to enhance the effectiveness of the program.

### 3. PROGRAM MANAGEMENT, MONITORING AND EVALUATION

*It is imperative that stakeholders involved in the program (i.e. CMTs, host country hospital leadership, Ministry of Health staff, and Chinese Embassy officials) build a comprehensive, annual review process. These reviews should include a needs assessment component, such that host country staff and administrators would be able to request specialties and equipment that correspond with host country needs. Many of the issues stemming from inadequate project management could be overcome by putting in place appropriate monitoring and evaluation (M&E) practices. As of now, there are no formalized mechanisms through which host country physicians or Ministries of Health can provide feedback to improve the program. This practice would help China avoid sending either human or physical resources that would ultimately be underutilized. Creating a formal M&E process would also allow all stakeholders to better understand the strengths and weaknesses of the program and use this information to make improvements for its future iterations.*

The program also lacks reporting mechanisms to ensure that all parties meet their obligations as outlined in the MOU. Missing feedback loops also affect the impact of CMT medical equipment donations. While it is generally helpful when CMTs bring equipment to their hospitals, local medical staff input on planning would help ensure those resources were not wasted.

In these cases, hospital administrators expressed a desire to be included in the planning process with the MOH, and local medical staff similarly expressed a desire to be included in conversations with hospital administration. Better communication would ensure that the equipment provided fit local needs and would also afford CMTs opportunities to introduce and train host-country staff in the use of new technologies. ★

### ENDNOTES

1. Shu Chen, *et al.*, “Chinese medical teams in Africa: a flagship program facing formidable challenges,” *Journal of Global Health* 9, no. 1, (June 2019): 010311.
2. Deborah Brautigam, “U.S. and Chinese Efforts in Africa in Global Health and Foreign Aid: Objectives, Impact, and Potential Conflicts of Interest,” A Report of the CSIS Freeman Chair in China Studies and The CSIS Global Health Policy Center, China’s Emerging Global Health and Foreign Aid in Engagement in Africa, Center for Strategic and International Studies, November, 2011: 7-8.

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