China's Comprehensive AIDS Response (China CARES)

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Abstract

To explore effective HIV/AIDS prevention methods and expand coverage of HIV/AIDS prevention and control initiatives, the Chinese Central Government launched the China CARES program in 2003. China CARES was tasked with implementing national HIV/AIDS policy at the local community level but was given the freedom to work within a very flexible framework so that interventions and services could be tailored to meet the unique needs of the communities the China CARES sites served. Due to its success in bringing relevant prevention, testing, treatment, care, and support services to local communities, China CARES underwent three rounds of expansion, from 2003 to 2008, from 2009 to 2013, and then again from 2014 to 2018. Its impact has at the same time been measurable and immeasurable. Its success has been foundational to China's HIV/AIDS response, and it has become a model for China and the world.

25.1 Background

From the first case of HIV reported on the mainland in 1985 (Zeng et al. 1986), to the outbreak identified in 1989 among people who inject drugs (PWID) in Rural South Western Yunnan Province (Ma et al. 1990), to the much larger outbreak discovered in 1995 among poor plasma sellers in rural central China (Wu et al. 1995,

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2001), HIV came to China and spread quickly and stealthily (Wu et al. 2004; Wang 2007). By the time the millennium was coming to a close, these early cases of HIV infection were progressing into clinical AIDS. The very high rate of occurrence of AIDS-related illnesses and AIDS-related deaths in geographically concentrated areas caused panic among local people and caught the attention of the local and international media.

Meanwhile, HIV incidence began to increase among PWID, female sex workers (FSW), and men who have sex with men (MSM), and the proportion of all newly reported HIV cases acquired via sexual contact transmission routes increased from 5.5% in 1997 to 11% in 2002. By the end of June 2003, the cumulative number of HIV case reports had reached 45,092. Among them were 3532 AIDS cases and 1800 individuals who had died from HIV/AIDS-related causes (China Ministry of Health and UN Theme Group on HIV/AIDS in China 2003). Although still concentrated geographically in the southwest, HIV had spread to all 31 provincial-level administrative areas (i.e., provinces, autonomous regions, and municipalities) (see Chap. 1 for more information).

No treatment for HIV infection existed globally until 1996 and in China until 1999. However, when imported antiretroviral (ARV) drugs first came on the market in China, they were in very low supply and extremely expensive. Furthermore, very few Chinese physicians were familiar with how to use them, and hence, antiretroviral therapy (ART) got a very slow start in China. Before 2002, there was no organized ART program, and coverage was almost zero. People living with HIV (PLWH) had to seek out treatment mainly at large communicable disease hospitals in big cities. These patients had to pay full price for their ARV medications since they were not covered by Chinese Government medical benefits—a staggering 8000–10,000 RMB per person per year. Most with HIV infection at this time could not afford to travel much less the treatment (see Chap. 13 for more information).

The Chinese Government created a special fund for the HIV/AIDS response in 1996, with a first installment of 5 million RMB. By 2001, this special fund had increased to 100 million RMB. Then, the China State Council issued the "China's Mid- and Long-Term Plan for HIV/AIDS Prevention and Control (1998–2010)," which required that HIV/AIDS prevention work be led by the government with multi-sector cooperation and participation of the whole of society (State Council 1998). In 2001, the State Council organized related sectors to develop the "China's Action Plan for Containment and Prevention of HIV/AIDS (2001–2005)," which clarified the responsibilities and tasks of the different levels of government and relevant sectors (Office of the State Council 2001). These plans directed HIV/AIDS prevention and control work and provided a policy basis, working objectives, and an outline of prevention measures needed for HIV/AIDS control in China.

In October 2002, China launched a pilot treatment project in Shangcai county, Henan province. Medical personnel involved in the project were given a short but intense training on HIV/AIDS, case management, and use of ARV medications, and ART was provided for free to 100 AIDS patients (Zhang et al. 2005). Based on experience acquired from the pilot, ART was gradually scaled up to the whole country (Zhang et al. 2007). However, the professional capacity among providers

was weak—knowledge and training on HIV/AIDS risk factors, testing, treatment, prevention, and control was insufficient, and service quality suffered. Furthermore, PLWH experienced stigma and discrimination from medical workers who were supposed to be caring for them. This also was rooted in poor awareness and knowledge on the part of providers. Unfortunately, at that time, there were no mature comprehensive treatment and prevention programs in existence internationally that could serve as a model suitable for adaptation to the Chinese setting. Therefore, all aspects of the treatment program had to be created from nothing, and problems had to be explored and understood and solutions implemented and evaluated in real time.

25.2 China CARES

Early in 2003, the Ministry of Health (MOH) issued the "Working Guideline of China CARES." This new policy prioritized areas in central China with serious HIV epidemics primarily driven via unsafe blood collection practices and directed the establishment of China CARES sites for the provision of ART treatment and care combined with health education, behavioral intervention, prevention of mother-to-child transmission (PMTCT) services, and voluntary counseling and testing (VCT) services.

In September 2003, Gao Qiang, the Vice Executive Minister of the MOH, made a commitment to strengthen the development of AIDS care and the provision of free ART to AIDS patients with financial needs. Then, on World AIDS Day, December 1, 2003, Premier Wen Jiabao and Vice Premier Wu Yi visited Beijing Ditan Hospital, talked and shook hands with AIDS patients, and unveiled the new, foundational "Four Free and One Care" policy. This policy marked the start of a new chapter in China's HIV/AIDS response—one in which China much more aggressively addressed its HIV epidemic via pragmatic and evidence-based policy decisions, rapidly increased domestic funding, and very public, official support at the highest levels of government.

25.2.1 The First Round (2003–2008)

25.2.1.1 Sites

Early in 2003, the first 51 China CARES sites were established. Then in 2004, based on experience acquired over roughly 1 year at the 51 sites and according to the "State Council Notice on Strengthening the AIDS Response" (State Council 2004), the MOH selected additional areas with even more severe AIDS epidemics to launch another batch of China CARES sites, a further 76. Thus, the combined 127 China CARES sites established in the first round became the platform upon which the "Four Free and One Care" policy was implemented (Han et al. 2010).

The first 51 sites were established in each of 51 counties spread across 11 provinces—Henan, Hebei, Shandong, Shanxi, Hubei, Anhui, Guizhou, Hunan, Liaoning, Heilongjiang, and Shanxi. The subsequent 76 sites covered a further 76 counties

spread across 24 provinces. In total 127 China CARES sites covered 127 counties in 28 provinces (not including Xinjiang, Beijing, Tianjin, and Shanghai). Sites were selected for their being a relatively high concentration of high-risk populations, focused mainly on areas with greater numbers of paid blood donors, PWID, and commercial sex workers.

From 2003 to 2008, with the support of government at all levels as well as relevant sectors, this first round of China CARES sites actively implemented national AIDS prevention policies, explored working models for suitability to the local situation, and accumulated crucial practical experience.

25.2.1.2 Objectives

The overall aim of the first round of China CARES was to explore effective mechanisms for AIDS prevention and control that would be suitable for the Chinese setting and that would successfully contain HIV from further spread. Furthermore, China CARES sites were meant to establish community-level HIV/AIDS response organizational and management structures and mechanisms that were tailored to the local communities.

Specifically, in this 2003–2008 period, the program's tactical objectives were:

- To establish one to two population surveillance sites and conduct timely epidemiological surveys
- To improve general health and AIDS-related knowledge
- To reach all AIDS patients in the local areas where China CARES sites were established to ensure they can receive free ART and subsidized or free treatment of opportunistic infections
- To enroll 90% of these AIDS patients in care at China CARES sites and ensure 100% of AIDS orphans get life assistance and completely free compulsory education
- To provide free HIV VCT services to high-risk and vulnerable populations
- To promote condom use among PLWH and their partners and among other high-risk populations
- To establish a sexually transmitted infection (STI) diagnosis and treatment network, providing accessible and standardized diagnosis and treatment services
- To establish methadone maintenance treatment (MMT) and/or needle- and syringe-exchange program (NSEP) sites in areas with large numbers of PWID
- To provide 100% coverage of PMTCT services
- To stop HIV transmission through unsafe blood collection and donation practices

25.2.1.3 Implementation Strategy

China CARES sites conducted HIV/AIDS prevention work in 12 specific areas: (1) organization and leadership, (2) capacity building, (3) medical treatment, (4) care and rescue, (5) health education, (6) PMTCT, (7) harm reduction for PWID (i.e., MMT and needle and syringe exchange), (8) elimination of transmission via blood collection/donation, (9) HIV VCT, (10) surveillance, (11) patient management, and (12) prevention of iatrogenic HIV infection.

The types of work performed in these areas included strengthening the capacity of personnel and building of organization structures and reporting annually on program implementation progress and achievement relative to program participant-level targets. Moreover, enormous efforts were made to fully understand and consider local social, cultural, and economic factors affecting the local community as well as epidemiological characteristics of PLWH and those at high risk of acquiring HIV so that services could be appropriately tailored. It was extremely important that comprehensive prevention models were practical, feasible, and suitable for local situation. Considerable work was done to promote participation by different sectors of government and by social organizations. Experience and lessons learned were collected and used to extend the model, starting from key areas and priority districts (townships) and expanding from site to site as the model matured and improved.

Each China CARES site also conducted propaganda campaigns to raise awareness among the local population as well as local officials and leaders. China CARES sites furthermore actively lobbied local-level policymakers in order to not only improve their HIV/AIDS awareness and knowledge but also to ensure their continued support for China CARES sites and the work the program was doing in their communities.

25.2.2 The Second Round (2009–2013)

25.2.2.1 Sites

In 2009, the MOH authorized a second-round expansion of China CARES in order to fully meet the requirements of the "State Council Notice on Further Strengthening the AIDS Response" and the "12th Five-Year Action Plan on HIV/AIDS Containment and Prevention (2011–2015)." China CARES had received recognition for having played an important role in China's response to AIDS—long-term continuous prevention efforts had reduced rates of new HIV infections and HIV-related deaths. Thus, to maintain the progress, the number of China CARES sites was nearly doubled.

The second round of China CARES, during the period from 2009 to 2013, covered an additional 309 areas. It included China CARES sites established by the Central Government and jointly by the Central Government and provincial governments. Central Government-run China CARES sites covered 51 counties in all provincial-level administrative areas except for Beijing, Tianjin, and Shanghai. Jointly established sites covered 258 counties in all provincial-level administrative areas except for Tibet.

All China CARES sites received support from the Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund) or other international aid programs.

25.2.2.2 Objectives and Targets

The objectives of the second round of China CARES were to lead the implementation of national AIDS response policies, explore solutions to problems encountered during AIDS response, reduce new HIV infections, control the prevalence of STIs,

reduce AIDS-related deaths, improve the quality of life of PLWH, and curtail the impact of HIV/AIDS and STIs.

To meet these objectives by 2013, the following China CARES program targets were established:

- HIV/AIDS awareness/knowledge rate—85% among rural residents, 90% among urban residents, 95% among school youth, 80% among youth outside of school, 80% among migrants, and 90% among other high-risk populations
- HIV incidence—less than 1% among MMT clients
- Needle/syringe-sharing rate—3% or less among PWID participating NSEP
- Condom use rate—85% or greater during last sexual contact among FSW, MSM, and PWID
- HIV mother-to-child transmission (MTCT) rate—5% or less
- Proportion of patients retained on ART and alive at 12 months—85% or above
- All-cause mortality rate—less than 3 per 100 person-years among AIDS patients
- Syphilis incidence—less than 10% overall
- Proportion of AIDS orphans receiving free compulsory education—95% or greater

25.2.2.3 Implementation Strategy

During this second round, from 2009 to 2013, China CARES mainly focused on five areas: (1) surveillance and testing, (2) education and policy advocacy, (3) prevention and intervention, (4) treatment management and care for PLWH, and (5) social mobilization.

For surveillance and testing, one of the most important tasks undertaken was the estimation of the sizes of the various high-risk populations (e.g., PWID, FSW, MSM). This work was crucial to ensuring accurate evaluation of the epidemic via surveillance data. China CARES sites supported surveillance efforts themselves as well. HIV screening laboratories were established, and HIV VCT clinics were set up also as a part of the third-round China CARES effort to ensure testing and counseling could be delivered with higher quality and faster services (see Chaps. 2 and 12 for more information).

Education and policy advocacy for education were important components of the second round. Raising awareness of HIV/AIDS, risks and prevention, and testing and treatment have been crucial primary prevention measures throughout China's HIV/AIDS response. Multichannel delivery of HIV/AIDS messaging and educational campaigns targeting the general public as well as high-risk groups (e.g., adolescents, women of childbearing age, PWID, FSW, MSM) is important for reducing risk behavior, promoting prevention and harm reduction measures, driving testing uptake, and combatting stigma and discrimination (see Chap. 11 for more information).

Second-round China CARES implementation work also focused on prevention and intervention among key affected populations to prevent HIV transmission via sharing of drug-injecting equipment, commercial and noncommercial heterosexual and homosexual contact, blood product donation or receipt, and perinatal exposure of infants.

Special focus on HIV treatment and care for PLWH was prioritized for the second-round implementation of China CARES. Individual case management was a

priority area for the China CARES second-round implementation, including, for instance, ensuring all testing important for following patients on ART is conducted in a timely and standardized fashion (see Chap. 13 and 26 for more information).

Social mobilization was an important area of emphasis in the China CARES second-round implementation strategy. Increasingly, China's public health officials were realizing that government agencies, even cooperating well across sectors, could not handle all the work that needed to be performed for a comprehensive HIV/AIDS epidemic response. Civil society needed to be involved and, in some cases, needed to lead. Nongovernmental organizations (NGOs) and community-based organizations (CBOs) were also uniquely positioned for some work (e.g., outreach to hidden, stigmatized, and/or criminalized groups). Even individual citizen volunteers were recruited and welcomed as there was much work to be done (see Chap. 22 for more information).

Similar to the first round, implementation work for the China CARES second round from 2009 to 2013 actively explored methods to solve difficult problems at the local level while maintaining continuity at the national level.

25.2.3 The Third Round (2014–2018)

Feedback on China CARES programming, combined with known needs and gaps, stimulated further action by the MOH to organize a third-round expansion of China CARES from 2014 to 2018.

25.2.3.1 Sites

The third round of China CARES consisted of an additional 241 areas to be covered, including 62 prefecture-level areas and 179 county-level areas. Prefecture-level areas include prefectural cities, sub-provincial cities, and municipalities directly under central government. After three rounds of implementation over 15 years spanning from 2003 to 2018, China CARES covers 472 counties in 31 provinces.

25.2.3.2 Objectives

The primary objective of the China CARES third-round expansion was to further implement national HIV/STI prevention policies and enable the realization of the goals set out in China's 12th Five-Year Action Plan on Containing and Preventing AIDS. The epidemic was evolving, and observational studies had provided important new insight into China's current epidemic. It was important that this third round take new evidence into account when developing and selecting targeted and pragmatic solutions to priority problems and challenging situations that had arisen during the prior first and second rounds of expansion.

25.2.3.3 Implementation Strategy

The third round of China CARES mainly introduced best practices and models learned from the first two rounds of China CARES and through international cooperation programs. In this round, again, there was strong emphasis on ensuring

implementation strategies at each new site were tailored to the needs of the local communities and their sociocultural contexts. To help facilitate this, the third round of China CARES was divided into categories such that different areas were to prioritize prevention efforts based on risk of different HIV transmission routes. For example, prefecture-level areas were to mainly focus on HIV sexual transmission. Thus, these China CARES sites focused more heavily on populations at risk for sexually transmitted HIV infection, including MSM and FSW (particularly low-fee FSW). County-level areas were to focus more broadly on three primary transmission routes: sexual contact (i.e., heterosexual and male-male), sharing drug-injecting equipment, and donation/receipt of blood products. Additionally, as in previous rounds, China CARES implementation work focused on seven areas: (1) organizational security, (2) surveillance and testing, (3) education and policy advocacy, (4) prevention and intervention, (5) follow-up treatment and care, (6) social organization participation, and (7) revising the care model.

25.3 Management Model

25.3.1 The Leadership Structure

China CARES was previously led and coordinated by the MOH and the Office of the State Council Working Committee to Combat AIDS. Today, the national China CARES management office (national program office) is located within the Chinese Center for Disease Control and Prevention (China CDC). It is responsible for routine management, standards and evaluation, provision of need-based technical assistance and training, organization and supervision of program expansion and implementation, annual examination, and coordination of the exchange of experiences, lessons learned, and best practices.

Each provincial-level health administrative department has also set up local China CARES management offices, which are responsible for management and coordination of all China CARES sites in the provincial jurisdiction. This unified management provides resources and overall staffing plans for each provincial-level China CARES management office. Personnel were responsible for organizing the development of provincial working plans, annual plans, and working protocols, summarizing and reporting working information, providing field technical assistance, and conducting monitoring and supervision.

At the individual city level, a coordinator is assigned and responsible for coordinating related sectors to support China CARES at that level, conducting monitoring and supervision of their China CARES site, and performing timely reporting on the progress of their China CARES site to the provincial-level management office. At the individual site level, each China CARES site was headed by a chief local government leader. This person is responsible for providing program leadership and ensuring multi-sector participation such that each sector has accountability for its tasks. Local governance of each China CARES site starts with development of its local AIDS prevention and control plans and annual work plans. As the first two

rounds of China CARES were based on county-level administrative zones, China CARES site management offices were established in their county-level health administrative departments. The third round of China CARES sites set up their management offices in the prefecture- and county-level government offices.

Individual China CARES sites' working offices (mostly county-level program offices) develop work plans each year, which are meant to be pragmatic and tailored to the local situation. These work plans are then submitted for review and approval to higher-level China CARES management offices (i.e., provincial level, national level). Once the individual sites' work plans are approved, then they may be implemented.

25.3.2 Financial Assurance

China CARES was partially funded by the Chinese Central Government. Local governments were required to provide "counterpart funds," which were paid jointly by province, prefecture, and county governments. In the first round of China CARES, counterpart funds paid by the local governments were required to be no less than 50%, with the exception of a few poverty-stricken counties for which the counterpart funds were provided wholly by the provincial governments.

In 2003, the Central Government provided 250,000–300,000 RMB for each of the first 51 China CARES sites. In 2004, central funding increased to 600,000 RMB for each of the first 51 sites and 300,000 RMB for each of the 76 China CARES sites that followed. In 2005, all 127 China CARES sites received 600,000 RMB. The total Central Government expenditure for the first 5 years (2003–2008) of the China CARES program was 2.7 billion RMB.

Starting in 2009, the Central Government provided 200,000–400,000 RMB per site in the second round for a total expenditure of 3.8 billion RMB over the 5-year (2009–2013), second-round China CARES expansion.

The third round of China CARES cost the Central Government nearly 4 billion RMB over 5 years (2014–2018). According to the size of each prefecture, 500,000 to 1.2 million RMB was provided. The counterpart fund for economically developed cities was 100%, while the counterpart fund in less economically developed cities was 50%. County-level China CARES sites received 200,000–300,000 RMB depending on the severity of their HIV epidemics. Again, the counterpart fund was 100% for economically developed counties and 50% for economically less-developed counties.

25.3.3 Monitoring and Evaluation

25.3.3.1 Monitoring

China CARES program monitoring is performed via three methods: routine monitoring, self-examination, and field supervision.

For routine monitoring, a routine work report system was established in the first round of China CARES. It included level-by-level monthly and quarterly working reports on the status of program implementation specific to each individual China CARES site. This laborious, manually written paper report method was abandoned with the second round of China CARES expansion and replaced with use of the national AIDS prevention and control information system, which collected data and information electronically from each China CARES site in order to track the implementation status and progress of the China CARES program.

Each China CARES site also conducts self-examination on the status of tasks outlined in its annual work plan. This audit of the site's implementing status is conducted ideally every quarter, but at least every 6 months. Self-examination reports from each China CARES site are submitted to provincial-level China CARES management offices for review.

Field supervision of China CARES sites is conducted by provincial China CARES management office personnel at least one time each year. Each provincial-level China CARES management office is responsible for annual field supervision of all China CARES sites in their administrative regions. Field supervision reports are submitted to the national management office. Additionally, national-level China CARES management office personnel randomly sample China CARES sites for additional field supervision each year.

25.3.3.2 Evaluation

China CARES sites are evaluated using four systems: the objective responsibility system, the work notification system, the annual ranking system, and the elimination system. The work notification system and annual ranking system were mainly used during the implementation of the second round of China CARES. Today, evaluation is performed via the objective responsibility and elimination systems.

The Offices of the AIDS Working Committee are responsible for evaluating the performance of the China CARES program via the "objective responsibility system." This is a system by which the Central Government dictates strict administrative direction to lower levels of government via a signed performance contract. This contract contains specific, objectively measurable targets for performance that the local government must achieve. In this way, the performance evaluation of the China CARES program was integrated into the routine evaluation of all local government work.

The work notification system of performance evaluation was tied directly to the routine monitoring system in which work reports were generated quarterly, semi-annually, and annually. These reports contributed to this form of evaluation via examination of implementation status indicators. The quarterly work notifications would be issued in two ways—as an internal communication kept within the China CARES program network called the "Quarterly Report of the National AIDS/STI Comprehensive Prevention Data and Information" and as an external communication issued to health administration departments at different levels called the "Bulletin of China CARES." Semi-annual and annual notifications were issued as documents by the national China CARES office.

For the annual ranking system, the national China CARES office developed an annual examination protocol at the beginning of each year. It typically included objective measures of strategy implementation, tactical execution, and performance against other prescribed indicators. Additionally, creativity in response and prevention measures undertaken would be judged through a best practices selection process. At the end of each year, this evaluation was performed, and all China CARES sites would be ranked by their final scores. The ranking result was then announced to provincial-level health administrative departments and China CARES management offices.

China CARES also uses a warning-elimination mechanism. Any China CARES site that has not completed their work requirements and achieved acceptable progress toward performance targets is warned and required to course-correct within a specified time. If performance is still substandard, then their qualification as a China CARES site is eliminated. Any China CARES site that fails to follow acceptable financial management principles, misappropriates funds, or commits fraud is subjected to a one-vote veto action which nullifies its China CARES qualification, and is eliminated.

25.4 Achievements of China CARES

25.4.1 Increased Awareness of HIV/AIDS Prevention and Control

25.4.1.1 Attention and Support from Party and Government Leaders

Premier Wen Jiabao broadly announced the establishment of the China CARES program in priority areas with severe epidemics. This announcement marked a critical turning point in China's HIV/AIDS response and was an important official recognition of China's HIV epidemic. Vice Premier Wu Yi visited China CARES sites and highlighted the good work the program was already doing to implement national AIDS policies. He praised the program for exploring practical solutions to challenging problems encountered during the implementation of the "Four Frees and One Care" policy.

Vice Executive Minister of Health, Gao Qiang, made a special trip to the China CARES site in Bazhou city, Hebei province, just ahead of World AIDS Day 2004. There, he listened to the work report and visited AIDS patients. Premier Wen Jiabao visited the China CARES site in Shangcai county, Henan province, ahead of Spring Festival in 2005 to visit AIDS orphans. In 2010, Dr. Chen Zhu, the Minister of Health, went to Sichuan province to advocate for AIDS response policies. He specifically pointed out the need to strengthen efforts in priority areas and key populations and to take advantage of the results achieved through China CARES.

Over the years, many such public appearances and official endorsements by individuals in high-ranking offices in the Central Government were important for drawing much needed attention to the HIV/AIDS response overall and specifically to the China CARES program. But, it was not just high-level officials. Local-level

government officials were included via their leadership of the individual China CARES sites established in their jurisdictions. Although the data are incomplete, main government leaders had participated in or led public HIV/AIDS-related activities nearly 4000 times up to March 2008. These were not just leaders in the health and public health sectors. During the implementation of the first two rounds of China CARES, many sectors conducted a great deal of work to ensure the China CARES program would be successful. For example, the Ministry of Health, the Public Security Bureau, and the Drug Administration Bureau cooperated in the scale-up of MMT as a harm reduction measure for people who use drugs.

This increased awareness of HIV/AIDS prevention and control among party and government leaders at all levels increased support for China's AIDS response not just among government leaders but also among the people through repeated public endorsement, involvement, and ongoing supportive messaging.

25.4.1.2 Mobilization of Social Organizations

Many NGOs and social organizations were mobilized via China CARES to help with the HIV/AIDS response. For example, the Women's Federation conducted face-to-face education activities in the first two rounds of China CARES. Based on the local situation, Women's Federations at different levels had conducted HIV prevention work in cooperation with China CARES and local CDC sites. In one such initiative, the Women's Federation in Yongding district, Zhangjiajie city, Hunan province, implemented a "ten home visits" intervention. This was composed of ten components: (1) visit homes of migrant women and distribute an education letter, (2) visit homes of newly married couples and distribute AIDS knowledge leaflets, (3) visit homes of returning migrant women and encourage them to receive HIV testing, (4) visit homes of pregnant women and advise them to seek care in maternal and child health (MCH) hospitals, (5) visit homes of postpartum women and distribute calendars containing health information, (6) visit homes of children affected by AIDS and offer care and support, (7) visit homes of PLWH and raise awareness of the "Four Frees and One Care" policy, (8) visit homes of middle-aged and senior women and make them aware and improve their knowledge of HIV/AIDS, (9) visit homes of single women and teach them about disease prevention measures, and (10) visit homes of women with disabilities or other difficulties to provide help and support.

25.4.1.3 Cultivation and Support of Local Community-Based Organizations

China CARES sites provide help and support to local HIV/AIDS CBOs to improve their capacity, mobilize them, and facilitate their autonomous participation in AIDS response activities, such as campaigns to raise awareness and increase knowledge of HIV/AIDS, risk behavior, prevention measures, and testing, treatment, and care. China CARES also helps increase CBO capacity to conduct behavioral intervention work and deliver care and support for PLWH. Local-level CBOs involved in HIV/AIDS activities are becoming stronger and more numerous. By the end of the

second round of China CARES, each China CARES site had cultivated and supported at least one HIV/AIDS-focused CBO in their area.

25.4.2 Leadership of China's HIV/AIDS Response

Through the implementation of the China CARES, national policy was translated to real, meaningful action at the community level. County-level AIDS prevention committees and teams were first established in China via the China CARES program. Together, these groups worked to lead the implementation of comprehensive AIDS response efforts at the local level. They clarified multi-sector responsibilities, set up special funds, and assigned professional teams. They established and improved processes that facilitated government leadership, multi-sector responsibility and accountability, and civil society participation. China CARES explored many different strategies and models for the delivery of HIV/AIDS prevention interventions, working diligently to ensure they were relevant and effective within the Chinese sociocultural context and tailored to the unique needs of individual communities. By taking a leadership role, China CARES set the course for both concurrent and future HIV/AIDS response efforts, built institutional and had human resource capacity, and placed emphasis on coordination, communication, learning, and continuous improvement in all aspects of service delivery for PLWH and their communities.

25.4.3 Strengthened Capacity of HIV/AIDS Prevention Teams

25.4.3.1 Management and Working Teams Assembled

All China CARES working offices have arranged for special staff to be responsible for the routine work of the program. During the implementation period of the second round of China CARES, departments of AIDS prevention and control were also established in all local CDCs in China CARES areas, and these departments were assigned professional technical staff. By the end of 2013, the 309 China CARES sites in the second round had all established HIV screening laboratories and some had also set up HIV confirmatory laboratories. A total of 1546 VCT sites had been opened, 547 ART delivery clinics had been established, and 158 MMT clinics had been launched.

25.4.3.2 Technical Teams Established

The national China CARES office has established pools of experts to support individual China CARES sites in all aspects of their mission. Five working groups of these experts were established during the first round of China CARES to provide technical support to the initial 127 China CARES sites. Technical support services include guiding the development of work plans, records management, treatment delivery, and development and delivery of intervention and care activities. While

providing these technical services, the experts learned about the progress being made at individual China CARES sites, as well as the site's financial status, staff work experience, and current challenges and areas where further technical support would be needed.

In the second round of the China CARES, this practice of assigning technical experts to individual sites was no longer used. Instead, technical assistance was coordinated by the national China CARES management office. Each year, ten experts from the pool would also be selected to participate in examination and approval of annual work plans. Experts would also participate in field supervision, training, and technical support activities, which are organized by the national China CARES office.

25.4.3.3 Communication and Learning Mechanisms Created

The national China CARES office and lower-level offices have conducted technical and management training each year. Training topics have included program management, surveillance and testing, network direct reporting, treatment and care, PMTCT, behavioral intervention, occupational exposure, health education, evaluation indicators, and data handling and statistical analysis. The national China CARES office has held experience-sharing meetings for China CARES leaders and key personnel. The national office has also supported provincial-level offices in holding these types of events. Inter-provincial exchange study tours have been organized, and formal and informal lines of communication between provinces for sharing problems, solutions, and other experiences have been created.

25.4.3.4 Established Effective Project Management

The first two rounds of the China CARES established four tiers of management including the national China CARES office, provincial program offices, prefecture program coordinators, and county China CARES offices. The national China CARES office is responsible for the development of the overall China CARES plan and its implementation and associated M&E, training, experience sharing, and expansion. Provincial health administrative departments are responsible for the coordination of China CARES in their region, establishment of China CARES management offices, and program management. The prefecture-level health administrative departments assign program coordinators who are responsible for coordination with prefecture governments and other sectors. The county-level health administrative departments are responsible for establishment of county program working offices and are chaired by the directors or executive directors of health bureaus or directors of local CDC sites. At least three to five special staff members are assigned responsibility for the organization, management, and monitoring of China CARES. This project management structure made the implementation of national policy at the community level possible.

25.4.3.5 Produced Best Practices

Through the implementation of the first two rounds of China CARES, best practices and optimized service models were created, refined, shared, and propagated from site to site, expanding to cover wider areas. These working models and processes are now playing important roles in China's national HIV/AIDS response in the areas of education and policy advocacy, surveillance and monitoring, prevention intervention, and the management of treatment, care, and comprehensive prevention for PLWH.

25.4.4 Expanded Coverage and Improved Quality

China CARES has played important roles and achieved good results in leading the implementation of the "Four Frees and One Care" policy and other national-level HIV/AIDS policies, helping to realize national AIDS response objectives of reducing HIV incidence and the AIDS death rate.

25.4.4.1 Toward Elimination of Stigma and Discrimination

China CARES sites have consistently placed strong emphasis on the reduction, and eventual elimination, of stigma and discrimination against PLWH and their family members. To help achieve this goal, many China CARES sites implemented a "one-to-one" support system whereby personalized help and support is provided by an assigned, responsible institute and person for every person living with HIV and their family.

For example, in Shangcai county, Henan province, 52 villages in need of help and support were prioritized during the first round of China CARES. Among these, 22 villages with severe AIDS epidemics were directly assigned to provincial leaders, and working teams were sent from related provincial departments; 13 villages with medium AIDS epidemics were assigned to prefecture-level leaders, and working teams were sent from related prefecture departments; and 17 villages with minor epidemics were assigned to county-level leaders, and work teams were sent from related county departments. Hundreds of people have been sent to live and work in these villages, providing ongoing, routine, daily care and support for PLWH and their families over a span of years. In key villages with relatively serious epidemics, these people also helped improve medical care, education, transportation, water, and electricity infrastructure, stimulated the local economy, created jobs, and further supported PLWH and their families. This level of focus on PLWH, their families, and their communities served a dual purpose—to help and support them in their care and treatment and to humanize them and model respectful and inclusive attitudes and behaviors to combat stigma and discrimination.

25.4.4.2 Reducing the Cost of Treatment

China CARES sites developed a series of help and support policies, tailored to the local situation, that were then integrated into existing medical and social welfare

insurances for Chinese citizens. For example, in Zhongjiang county, Sichuan province, the new rural medical cooperation scheme stipulated that PLWH receive special infectious disease subsidy policy coverage, which meant that in addition to routine HIV medication being provided for free, each patient would receive 1200 RMB per year for the treatment of opportunistic infections. As another example, at the beginning of each year in Shangcai county, Henan province, the government uses cards to pay the fees associated with the rural medical cooperation scheme for PLWH. This provides them an exemption not only for the cost of HIV treatment but also for all other basic medical services.

25.4.4.3 Comprehensive Prevention and Control

In order to improve the efficiency of case management, China CARES explored the "three-in-one" management model that is employed by the China CDC—treatment is provided by the designated hospital, and follow-up is conducted in the community either by local community clinics or local CDC sites. Through clarifying the responsibilities of the designated hospital, the clinics, and the CDC site in the local community with a standardized flow chart, it was possible to realize no gaps in case management.

For example, in Xiuzhou district, Jiaxing city, Zhejiang province, the China CARES site clarified the responsibilities of the designated hospital, the community health centers, and the CDC relative to PLWH case management. In response, the designated hospital strengthened comprehensive treatment, and hospital doctors took full responsibility for treatment, treatment-related testing, and timely reporting. Community doctors fully participated in testing, diagnosis, and follow-up of PLWH (including results notification, partner testing, and TB screening), and timely reporting. In addition to routine case management and follow-up of PLWH, CDC staff took responsibility for training doctors from the designated hospital and community health centers on treatment and follow-up, as well as general case management, and providing regular guidance, supervision, and evaluation. This model strengthened the comprehensive case management of PLWH, strengthened the coordination between relevant institutes, and increased treatment adherence and retention.

Meanwhile, the China CARES sites also led multi-sector cooperation efforts focused on community health center delivery of behavioral interventions. For example, the China CARES of Xicheng district, Beijing, led an initiative to decentralize the regular interventions ongoing in entertainment settings to seven community health centers. Intervention teams from community health centers were established and assigned to individual entertainment venues. Trainings were provided by CDC staff on HIV intervention work and skills, and intervention team members who received training were responsible for field work that included, for example, HIV screening test mobilization. This responsibility for outreach and intervention work was integrated into community health centers' annual performance evaluations. CDC staff also conducted field supervision of intervention teams each month, working together with intervention team members and providing assistance in solving problems and overcoming difficulties

encountered during the intervention work. Intervention team leaders from community health centers built relationships with local police responsible for the local areas surrounding the venues to further facilitate their HIV/AIDS outreach and intervention work.

China CARES also set up HIV rapid test sites in community health centers and township hospitals. The scale-up of HIV rapid screening test sites grew quickly because of China CARES, which greatly increased the accessibility of HIV testing.

25.4.4.4 Active Promotion of CBO Participation

China CARES actively mobilized CBOs to participate in interventions targeting different high-risk populations through government contracting services. This effectively enlarged the coverage of intervention and surveillance among high-risk populations and created a service model that was more scalable. For example, the China CARES site in Putuo district, Shanghai, established a community intervention model targeting PWID based upon the work already being done by social workers on drug abuse in that community. A self-improvement service club was established and worked with the local CDC to conduct education, surveillance, and intervention (e.g., counseling, condom use promotion, HIV and syphilis testing, MMT enrollment) among PWID. Similarly, the China CARES site in Pingjiang district, Suzhou city, Jiangsu province, set up a "Rainbow Health House" in a community health center for the purpose of engaging the MSM community in health counseling, peer education, and VCT. Referrals to treatment were also provided. The district CDC provided training and capacity building for Rainbow Health House volunteers and staff. Furthermore, district CDC staff went to the Rainbow Health House twice every month to conduct HIV testing.

China CARES also mobilized volunteers and social organizations through government contracting services for PLWH. For example, the China CARES in Pingxiang, Guangxi, established a comprehensive service system that included enhanced case finding and intensive follow-up. This service was conducted by PLWH volunteers in the community. They were trained and then helped with testing mobilization in the community and counseling of newly diagnosed PLWH and their families to raise awareness, improve HIV/AIDS knowledge, combat stigma and discrimination, promote treatment uptake and retention, and provide support. As another example, in Fengtai district, Beijing, and in Linxiang district, Yunnan province, the CDCs, designated ART hospitals, and HIV/AIDS-focused social organizations worked together to coordinate more effective case management—the social organizations cooperated with designated hospitals to ensure complete patient information was communicated to the CDC and assisted CDCs and designated hospitals in PLWH follow-up.

25.4.4.5 Strengthened Cooperation Between Sectors

China CARES successfully improved both service coverage and service quality for people at risk for HIV as well as for PLWH through improved cooperation between sectors. For example, China CARES increased MMT coverage and compliance through close cooperation between health and public security departments. For

example, in Chengmai county, Hainan province, China CARES worked to facilitate cooperation between public health and public security departments to increase MMT coverage and compliance among drug user clients in the community. China CARES staff coordinated the sharing of information between the local MMT clinic and the community rehabilitation center. The MMT clinics established a mechanism for regularly notifying anti-drug police teams and for anti-drug police teams to notify the MMT clinic regarding the status of drug users in the community to help track and support their follow-up, education, employment, and support.

As another example, the China CARES of Hongta district, Yuxi city, Yunnan province, in cooperation with the Women's Federation and the Public Security Bureau, worked to standardize interventions for migrant populations and FSW. In this area migrant women and low-fee FSW usually lived in locally rented houses, and community residents depended heavily on rental income from their houses. Therefore, China CARES, the Women's Federation, and the Public Security Bureau together worked to mobilize hosts (i.e., landlords) to participate in HIV/AIDS prevention and education interventions and to standardize the management of these rental houses. This support of the migrant women and low-fee FSW communities in Hongta has become standard routine work and continues to successfully reach these vulnerable, high-risk populations.

25.4.4.6 MMT Extension Sites Set-Up and Piloted

To increase the convenience of MMT services, thereby increasing MMT retention and adherence, as well as to expand MMT coverage, China CARES actively explored a three-level (i.e., county-township-village) extension model for MMT service delivery. For example, in Lianghe county, in Yunnan province, China CARES coordinated the establishment of MMT clinics within township hospitals. Doctors are responsible for routine diagnosis and treatment work, pharmacy personnel are responsible for methadone dispensing, and prevention division personnel were responsible for counseling, education, and behavioral intervention. At the village level, MMT sites were established, and the routine work in this village MMT clinic was coordinated by the township hospital, and CDC extension sites were responsible for distributing methadone and providing technical assistance.

25.4.4.7 Intervention for HIV-Serodiscordant Couples Developed

China CARES actively developed different kinds of service models and interventions to legally ensure partner notification and strengthen management of serodiscordant couples. For example, in Yining city, Yili prefecture, Xinjiang, China, CARES worked with the local government to develop and implement a new 100% partner notification policy. It required that all newly diagnosed PLWH notify their partners of their HIV infection status within 10 days. Failure to comply with this policy resulted in township public health workers notifying their partners and providing HIV counseling and testing to the notified partners. Yining city China CARES also established a long-term incentive program for HIV-discordant couples, whereby HIV counseling and testing is provided every 3 months and a 30 RMB prize is awarded to

those HIV-negative partners who remain HIV-negative at 3 months and a 500 RMB prize is awarded to those who remain HIV-negative for a year.

25.4.4.8 Integration of HIV Prevention and Treatment into Routine Health Services

Some China CARES sites have worked to integrate HIV/AIDS prevention and treatment into the provision of routine health services. With the local CDC sites providing technical guidance and support, community health centers and township hospitals, for example, in Longquanyi district, Chengdu city, Sichuan province, took on HIV prevention and control work, which included, for example, intervention work among FSW (e.g., screening, comprehensive health education, and prevention awareness training). Medical staff received training on control and prevention, treatment and follow-up, and monitoring and reporting. China CARES sites conducted evaluations of community health centers and township hospitals twice each year, and the results of these evaluations were integrated into the broader performance evaluation systems for basic health and public health services, which impacts funding as well as rewards and punishment at the institutional and individual level. The intent was that this system would fully mobilize HIV/AIDS prevention workers at grassroots level.

25.4.5 Sharing of Experiences

Experiences and service models developed during the first two rounds of China CARES have been exchanged between China CARES sites and spread over provinces and nationwide via a variety of mechanisms.

The national China CARES management office created the "Work News of China CARES" in 2004, which was later changed to "Bulletin of China CARES" during the second round. This report contains information on work performed and experiences acquired and is distributed to provincial AIDS working offices, health administrative departments, CDCs, China CARES management offices, county governments, county health administrative departments, China CARES working offices, and other relevant institutions and departments. By the end of 2013, 49 issues had been published, and a web page specific to China CARES was created within the website of the National Center for AIDS/STD Control and Prevention (NCAIDS), China CDC. Additionally, provincial- and county-level China CARES offices developed a China CARES newsletter for sharing news and experiences across the China CARES network of sites and with leaders of relevant government departments at different levels.

Several other independent articles were also published. For instance, a special issue on the China CARES program was published in the *Chinese Journal of AIDS & STD* in 2007. Researchers and health and public health workers involved in China CARES have also published more than 100 papers in Chinese and in English in academic journals since 2003.

25.5 Challenges and a Look to the Future

25.5.1 The End of International Cooperation Projects

By the end of 2013, large international cooperation programs such as those funded and led by the Global Fund and the Bill and Melinda Gates Foundation ended. Other international cooperation programs have steadily decreased their funding of HIV/AIDS response work in China. Thus, China's HIV/AIDS response has transformed from being heavily funded by international aid organizations to being nearly 100% domestically funded. Simultaneously, the combined annual funding from international and domestic sources has soared from under 0.5 million RMB prior to 2003 to well over 4 billion RMB today. China CARES represents a major investment by the Chinese Government—it has not only helped to directly benefit China's citizens who are infected or affected by HIV/AIDS but also protect those who are not. It furthermore was instrumental in helping China to transition toward a fully domestically funded HIV/AIDS response.

25.5.2 The Changing Epidemic

Over the course of the 15-year China CARES program (2003 to today), China's HIV/AIDS epidemic has changed dramatically. Originally concentrated among small numbers of PWID in the remote southwest, to tens of thousands of blood plasma sellers in rural central China, the epidemic today is expanding rapidly and almost exclusively through sexual contact (see Chap. 1 for more information).

China's HIV/AIDS response must evolve with it. Priorities need to be iterated, new barriers need to be overcome, and new problems urgently need to be solved. For example, new ways of approaching MSM, older adults, low-tier FSW, migrants, and youth and adolescents need to be developed. New care models that more rapidly move PLWH through diagnosis and treatment initiation to viral suppression are required. New methods for retaining PLWH in care and improving their adherence to treatment regimens are urgently needed. Furthermore, integrated care for those with co-infections (e.g., tuberculosis, STIs, and hepatitis C virus) must be implemented to help improve outcomes for these especially vulnerable groups. Additional work is required in the area of policy development, NGO and CBO engagement, and integration of new technology (e.g., point-of-care testing platforms, HIV self-testing, social networking).

25.5.3 China CARES Must Live On

Evidence from the first two rounds of China CARES showed that the program has promoted and standardized HIV/AIDS prevention work in China and successfully translated national-level policy into community-level action. The local governments covered by China CARES sites have prioritized HIV/AIDS work and helped to

legitimize, fund, and staff these efforts as well as encourage multi-sector cooperation. It is clear that this model works. China CARES must live on and continue to be leveraged in the future to further advance China's goal of eventually eliminating HIV/AIDS.

25.5.4 A Model for China and the World

China CARES is an innovation, and for China, it was a revolution. It has made a measurable and immeasurable impact on China and its citizens and has become a model of how to implement national-level policy in individual communities. China will most certainly use this model if a future epidemic like this one occurs on the mainland again, but China CARES can also be a model for other low- and middle-income countries and for high-income settings as well.

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