



Providing Comprehensive HIV Services to Men who have Sex with Men by Strengthening CDC-Hospital-CBO Collaboration in China



China-Gates Foundation HIV Prevention Cooperation Program

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Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral therapy
BMGF	Bill & Melinda Gates Foundation
CASAPC	Chinese Association of STD/AIDS Prevention and Control
CBO	Community-based organization
CD ₄	Cluster of Differentiation 4 (T-cell count to indicate the stage of HIV/AIDS)
CDC	Center for Disease Control and Prevention
CPMA	Chinese Preventive Medicine Association
FSW	Female Sex Worker
GONGO	Government Organized Non-Governmental Organization
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
MARP	Most-at-risk population
MOH	Ministry of Health
MSM	Men who have Sex with Men
MTCT	Mother-to-child transmission
NGO	Non-Governmental Organization
OI	Opportunistic infection
PITC	Provider Initiated Testing and Counseling
PLHA	People living with HIV and AIDS
SCAWCO	State Council AIDS Working Committee Office
SOP	Standard operating procedure
STD	Sexually transmitted disease
TB	Tuberculosis
NCAIDS	National Center for AIDS/STD Control and Prevention
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary counseling and testing
VL	Viral load
WHO	World Health Organization
WB	Western Blot



Executive Summary

The China-Gates Foundation HIV Prevention Cooperation Program (China-Gates HIV Program) fostered collaboration between local public health departments (also known as Centers for Disease Control and Prevention [CDC]), hospitals, and community-based organizations (CBO) in selected urban areas in China in order to expand testing, treatment, and prevention among Chinese populations most at-risk for HIV infection. To achieve programmatic objectives in HIV service delivery, the program emphasized a “3-in-1” operational structure with synergistic collaboration between three key partners: the government (CDC), hospitals, and CBOs.

Over the course of the US\$50 million five-year (2007-2012) China-Gates HIV Program, participating Chinese cities developed five different paradigms of the basic “3-in-1” partnership model for delivering HIV services to men who have sex with men (MSM) in China. Two versions focused on the collaboration between the Chinese CDC and CBOs; two other versions focused on hospital and CBO collaborations; and one version expanded and developed collaborations across all three partners: the CDC, hospitals, and CBOs. These different paradigms illustrate how new operational partnerships between government, clinicians, and civil society are critically needed to improve HIV service delivery in China, and ultimately, to improve the efficiency and efficacy of Chinese HIV public health efforts.

Using case studies of China-Gates HIV Program sites, this paper seeks to describe the five types of organizational collaboration that evolved to deliver HIV services to the MSM community. Program achievements and challenges are also discussed at the end of the paper.

Background



The China-Gates Foundation HIV Prevention Cooperation Program (China-Gates HIV Program) was a joint initiative by the Chinese Ministry of Health (MOH), the State Council AIDS Working Committee Office (SCAWCO) and the Bill & Melinda Gates Foundation (BMGF) to expand HIV prevention among most-at-risk populations (MARPs) - men who have sex with men (MSM), female sex workers (FSWs), injecting drug users (IDUs) - and among people living with HIV and AIDS (PLHA). The five-year US\$50-million initiative began in 2007, and covered 14 large cities and one province in China (Beijing, Tianjin, Shanghai, Chongqing, Harbin, Shenyang, Qingdao, Xi'an, Nanjing, Wuhan, Hangzhou, Changsha, Kunming, Guangzhou, and Hainan province). To achieve its goals, the program fostered an operational three-party collaboration between the Chinese Center for Disease Control and Prevention (CDC), hospitals, and local community-based organization (CBOs).

Using cases studies of program sites, this paper seeks to describe the types of organizational collaboration that evolved to deliver HIV services to the MSM community. These case studies are based on in-depth interviews in 2011 and 2012 with key stakeholders among CDCs, hospitals, government organized non-governmental organizations (GONGO), and CBOs. This paper is divided into five sections: (1) background on the HIV epidemic in China, the policy environment, and problems with the predominant HIV service model; (2) China-Gates HIV Program's principles, strategies, and service model; (3) local adaptations of the program service model; (4) achievements; and (5) challenges.

1.1 HIV epidemic in China

Although China is a low HIV prevalence country, its number of newly diagnosed HIV cases continues to rise (Figure 1), with the majority of persons with HIV infection unaware of their status. Among the total estimated number of persons with HIV infection in China in 2010, only 28% were aware of their HIV status, and 14% were receiving anti-retroviral therapy (ART) (Figure 2).

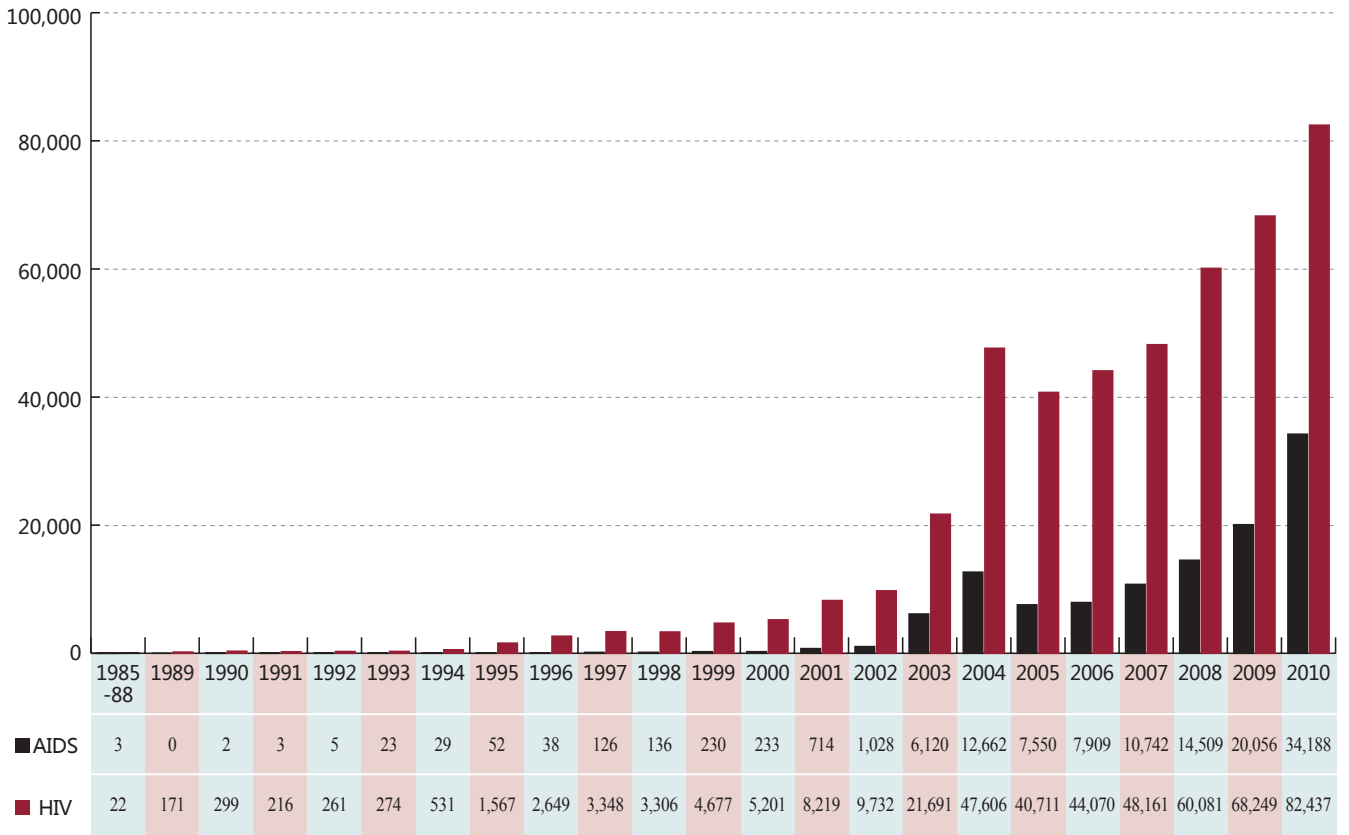


Figure 1 Newly Diagnosed Cases of HIV and AIDS, China, 1985-2010

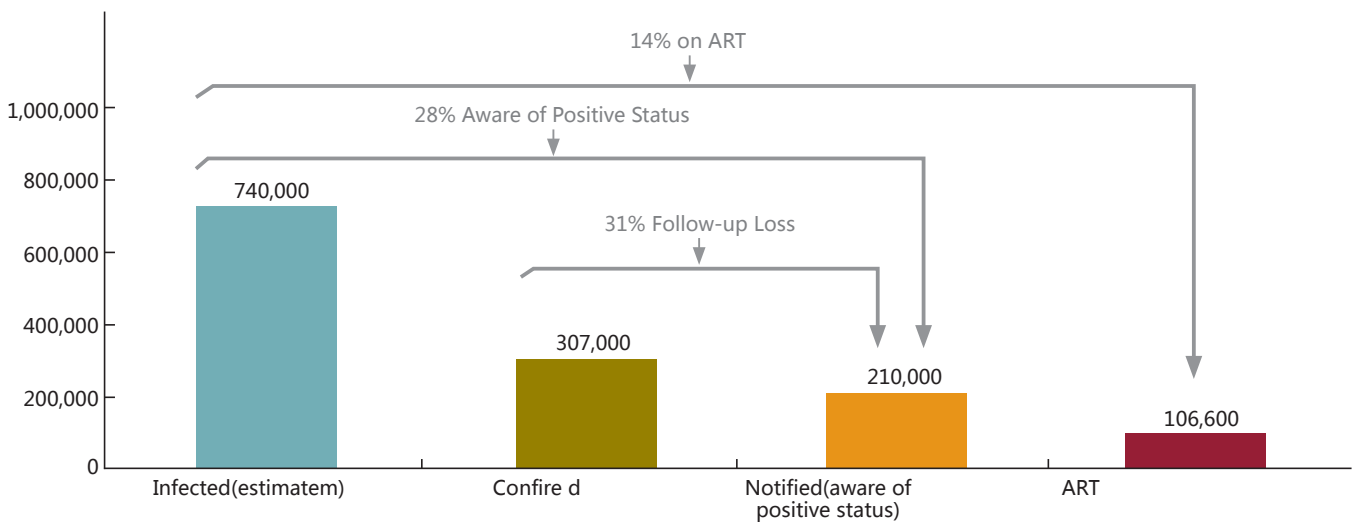


Figure 2 Estimates of HIV Infection, Confirmation, Notification, and Treatment, China, 2010



These statistics suggest a critical need to expand and improve access to HIV testing and treatment services in order to control the HIV epidemic in China.²

In 2006, sexual transmission became the dominant route of HIV transmission among newly diagnosed HIV cases in China, with a rapid rise among MSM (Figure 3). Ongoing sentinel surveillance data revealed that, since 2009, MSM had the highest HIV prevalence rate among MARPs in China (Figure 4).

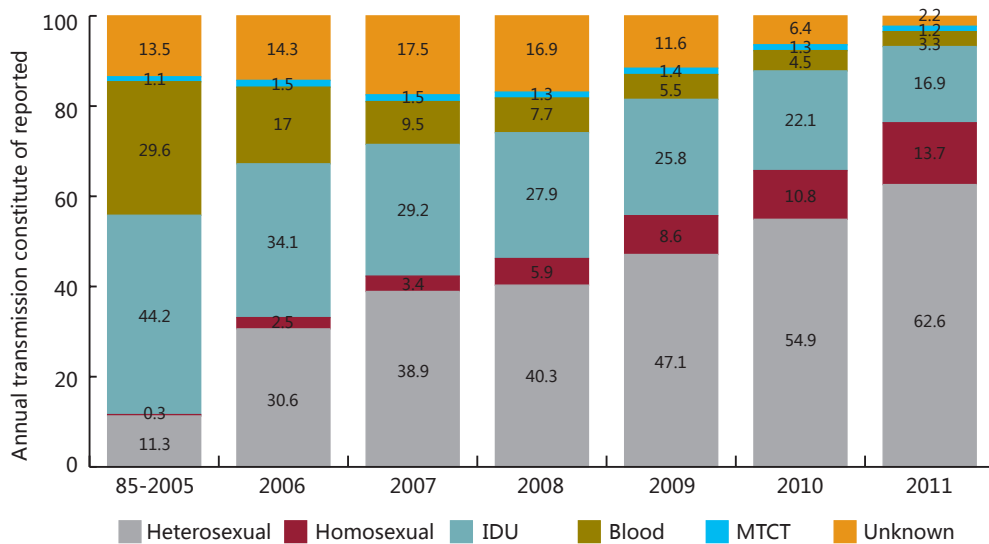


Figure 3 HIV Transmission Routes of Newly Diagnosed Cases, China, 1985-2011

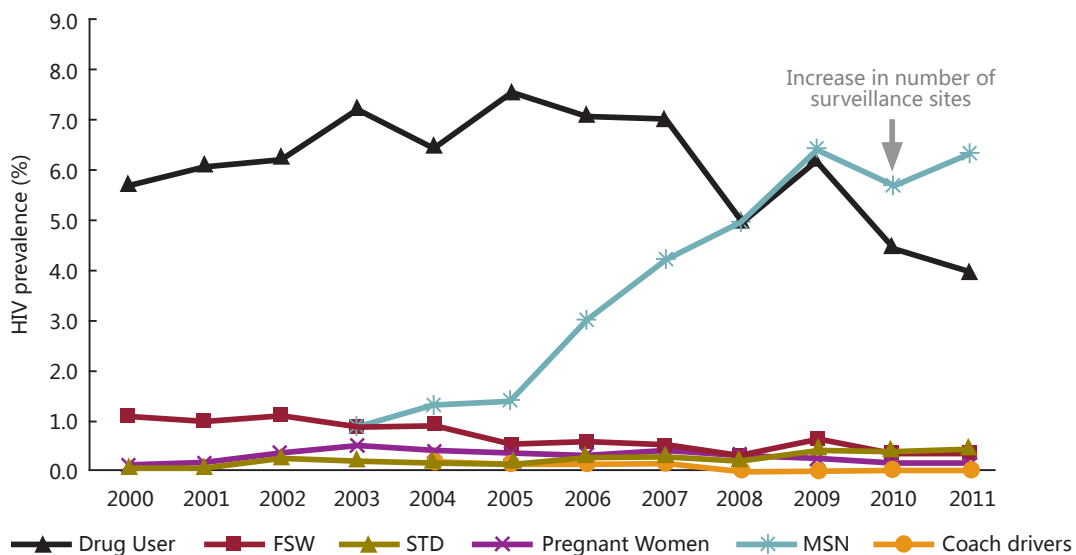


Figure 4 HIV Prevalence Rates among MARPs, China, 2000-2011



1.2 Policy environment

In 2005, the Chinese Ministry of Health recognized the potential risks of a burgeoning HIV epidemic among MSM, and began piloting MSM-focused HIV surveillance and prevention activities. In 2012, China's Second National HIV Strategic Plan (2011-2015) explicitly included MSM as a target population for HIV prevention and control efforts. However, a comprehensive national policy and strategy for HIV prevention and control for MSM were still lacking at the time of the writing of this paper.

1.3 Service fragmentation

In general, China's HIV control efforts have focused narrowly on disease diagnosis and treatment, and the provision of HIV services remains divided and fragmented between different institutions and organizations. The Chinese CDC is responsible for performing HIV screening (outside of hospitals and clinics), confirmatory testing, epidemiological investigations, CD₄ and viral load tests (to determine when ART should begin), and for distribution of ART medication. General hospitals are responsible for large scale HIV screening at the hospitals and affiliated clinics, and for treating opportunistic infections (OIs). Designated hospitals, typically infectious diseases hospitals, are primarily responsible for ART, dealing with side effects, and treating sexually transmitted diseases (STDs). Lastly, CBOs focus on testing mobilization (e.g. bringing MARPs to the CDC for testing), ART adherence support, psychosocial support, care, and spreading prevention messages. Despite having key HIV services in place, China's HIV control efforts suffer from overall service fragmentation and a lack of coordination between different service providers, such as CDCs, designated hospitals, general hospitals, and CBOs. This fragmentation has resulted in poor uptake of HIV testing and ART, despite the services being free under the national "Four Frees, One Care" policy.

Additionally, the narrow focus on disease diagnosis and treatment has neglected the psychosocial aspects of the HIV epidemic, such as widespread stigma and discrimination against PLHA and MSM at hospitals. In the existing system, MSM who screen HIV-positive at a community center or gay venue must go to the local CDC for confirmatory testing. Because most MSM mistrust government services for fear of stigma and discrimination, a significant proportion of MSM who screen HIV-positive would either falsify contact information to CDC staff during the initial HIV screening at gay venues, or would fail to follow-up with the local CDC. Outside of mobilization of MSM for HIV screening, MSM-friendly CBOs are not involved in testing, post-test counseling and support, or referring MSM for confirmatory tests. This lack of coordination between the



CDC and CBOs represents a missed opportunity, as CBOs can be involved in post-screening counseling to ensure that MSM who screen positive receive confirmatory tests by the CDC.

Another missed opportunity stems from the lack of a reliable and structured referral system between local CDCs and hospitals. To receive a diagnosis of HIV-infection at a hospital requires three separate patient-provider encounters (two hospital visits and one follow-up call or visit). If the initial HIV screening test at a hospital is positive, the patient has to be contacted and has to return to the hospital for a second blood sampling. The second blood sample is sent to the centralized laboratory at the local CDC for confirmatory testing with Western Blot (WB). Because blood samples for confirmatory testing are batched for processing at the central city or district public health laboratory, it generally takes at least 10 to 15 days for results to return to the originating hospital. After the hospital informs the patient of his or her HIV diagnosis and confirmatory test results, the patient would have to go to the local CDC for CD₄ testing to determine when ART should begin. CD₄ testing is performed in batches by the central public health laboratory, again usually taking 10 to 15 days to return results. Once CD₄ test results are available, patients must be located again to inform them of their CD₄ test results and evaluate them for ART eligibility. Once the CDC decides the patient should begin ART, the patient would have to visit yet another hospital, a designated specialty hospital, for pre-ART health checks and ART treatment itself. When OIs occur, which is frequently, the patient has to go to yet another service provider, a general hospital, for treatment. This existing system is fragmented and has a high rate of patients dropping out at multiple points along the HIV service chain – not following-up with the general hospital about CDC confirmatory test results, not going to the CDC for CD₄ testing, not going to the designated specialty hospitals for HIV care (designated hospitals are usually located outside the city in areas with poor transport infrastructure), and not receiving evaluation and treatment for OIs at general hospitals for fear of stigma and discrimination. With so many different providers at different institutions, and no available case manager to help the patient coordinate among and navigate through this complicated and fragmented HIV service landscape, patient outcomes are often less than ideal. The China-Gates HIV Program designed its program to demonstrate how this coordination problem can be addressed.

2 The China-Gates HIV Program



2.1 Program design

In 2007, the China-Gates HIV Program embarked on a strategy to reduce HIV transmission in selected urban centers of China by improving and integrating two overarching interventions:

- Prevention for MARPs—to increase the coverage and improve the quality of prevention interventions for IDUs, FSWs and MSM, in order to reduce high-risk behaviors and increase HIV testing.
- Prevention with positives—to expand and improve follow-up, support, and prevention interventions for PLHA to reduce further transmission of HIV infection.

The program was based on the premise that early detection leading to early treatment would decrease HIV transmission within the target populations. The program emphasized a “3-in-1” operational design in the delivery of HIV services, which fostered synergistic collaborations between three key partners—the government (CDC), hospitals, and CBOs—to achieve the programmatic goals.

2.2 Program service model

The China-Gates HIV Program supported an improved coordination of various HIV services among the CDC, hospitals, and CBOs in order to maximize program impact and to improve client follow-up along the sequence of HIV services. The program incentivized general hospitals to identify HIV cases through routine HIV screening and provider-initiated HIV testing of patients



Service	CDCs		Hospitals (Designated & General)		CBOs	
	2012	Program “3-in-1” Ideal	2012	Program “3-in-1” Ideal	2012	Program “3-in-1” Ideal
Case Detection						
Behavioral Change	Ö	Ö			Ö	Ö
Case Screening	Ö	Ö	Ö	Ö		
Confirmatory Test	Ö	Ö	Ö			
Post-test Counseling and Notification	Ö	Ö	Ö	Ö	Ö	Ö
Case Management						
Epidemiological Investigation	Ö	Ö	Ö	Ö		
Medical Follow-up (CD ₄ /VL)	Ö	Ö	Ö	Ö		
Routine Medical Checks			Ö	Ö		
Opportunistic Infections Prevention and Treatment	Ö			Ö	Ö	Ö
Antiretroviral Therapy (ART)			Ö	Ö		
ART Adherence	Ö		Ö	Ö	Ö	Ö
ART Drug Resistance	Ö	Ö				
ART Drug Management	Ö	Ö		Ö		
Care and Support						
Psychosocial Support	Ö	Ö			Ö	Ö
Positive Intervention	Ö	Ö			Ö	Ö
Nutrition	Ö			Ö	Ö	Ö
Reproductive Health	Ö			Ö	Ö	Ö

Figure 5 Program Model - Stakeholder Roles as of 2012 vs. Program “3-in-1” Ideal, the China-Gates HIV Program



visiting medical clinics and hospital wards. At the same time, the program supported CBOs to promote HIV testing among MARPs in the community and to provide care and support to PLHA during ART. The program incentivized both hospitals and CBOs to work with their local CDCs to ensure that persons who screened HIV-positive were referred to the CDC for confirmatory and CD₄ testing, and for ART initiation when appropriate. The program also helped strengthen referral systems between CDCs, CBOs, and hospitals for the prevention and treatment of OIs. Key to this “3-in-1” design is a closer collaboration between CDCs, hospitals, and CBOs (managed by GONGOs) to reduce barriers to testing and the uptake of ART (Figure 5).

Due to the large numbers of CBOs participating in the program across multiple cities, the China-Gates HIV Program utilized GONGOs in the management of service contracts with CBOs. While GONGOs provided managerial and funding support to local CBOs, provincial and municipal CDCs provided technical support and training to CBOs in the delivery of HIV services (HIV knowledge, rapid test, follow-up on cases screened positive, and client privacy and confidentiality).

3

Local adaptations of the program service model

Because local HIV epidemics, capacities, and political wills varied across the 15 program sites, the China-Gates HIV Program encouraged each site to adapt and modify the basic program “3-in-1” service collaboration model to maximize the outcomes and goals of the program. After five years of program implementation and ongoing adaptation, five types of local models for collaboration in HIV service delivery have emerged. Two are related to the collaboration between CDCs and CBOs (community-based testing mobilization, and integrated community-based service). Another two are related to the collaboration between hospitals and CBOs (hospital-based CBOs to provide care and support, and involving PLHA in the work of hospitals and CBOs). The last and the closest to the program's “3-in-1” ideal is full collaboration between CDCs, hospitals, and CBOs (integrated comprehensive hospital-based service). The rest of this section describes each of these five innovative adaptations of the basic “3-in-1” program service model. Cases will be used to illustrate where appropriate.

3.1 CDCs + CBOs

3.1.1 Community-based mobilization and HIV testing

To tackle the difficulties CDCs face in providing HIV screening and confirmatory testing for MSM, three CDC-CBO collaboration approaches emerged from the program sites: (1) venue-based testing mobilization; (2) internet-based testing mobilization; and (3) CDC-based testing mobilization. All three approaches involve new ways of collaborating between local CDCs and CBOs.

(1) Venue-based testing mobilization

Prior to the China-Gates HIV Program, MSM-CBOs had conducted outreach to MSM at bars, saunas, and public parks. Outreach activities generally consisted of distributing HIV information



materials, condoms, and lubricant; there was minimal or no effort to promote HIV testing. Within the China-Gates program, MSM-CBOs were trained and incentivized to work with gay venues and venue owners to actively promote HIV testing at gay venues and to refer MSM clients to local CDCs for testing. Local CDCs would often have agreements with gay-venue owners to set up mobile voluntary counseling and testing (VCT) clinics within or near gay venues at designated times to ensure the CDC would be able to follow-up with MSM who screened positive. Chongqing's MSM-CBO Lanyu successfully trained a group of MSM volunteers to build relationships with venue clients and recruit them for testing at nearby mobile VCT clinics operated by the local CDC. Likewise, the CBO Tongcai in Beijing recruited gay-venue owners to engage their staff to promote HIV testing among their clients. One tactic that proved to be very useful for increasing venue-based testing mobilization was the identification of and recruitment of MSM with multiple sexual partners to help promote and recommend HIV testing to their partners.

(2) Internet-based testing mobilization

The internet remains a popular means for MSM to connect with each other, given its convenience and privacy amidst widespread social stigma and discrimination against homosexuality. In the China-Gates HIV Program, CBOs utilized the internet to reach out to MSM via websites, social media sites, and QQchat; they also linked their online presence to local CDCs to help facilitate HIV testing. Three types of such CBO-CDC internet-based linkages have emerged from program experience: (a) CDC VCT testing information featured on CBO websites; (b) CDC VCT clinic co-located with a CBO promoting anonymous notification of sexual partners; and (c) promotion of testing by the CDC through co-location with the CDC and a database of CBO service contacts.

(a) CDC VCT testing information featured on CBO websites

Four Seas Brothers in Qingdao has been running its website since 2001. Prior to the China-Gates HIV Program, its website functioned purely as a social networking site, primarily used to help MSM connect with one another. Since joining the program, Four Seas Brothers has transformed its website, now staffed by trained volunteers, to provide online counseling to encourage MSM to visit local CDC VCT clinics to get tested. Their website now features:

- Online booking for HIV testing and subsequent contact by CBO staff to confirm the testing time and the specific address of local CDC.
- Incentives such as membership upgrades to encourage and motivate their registered users to participate in HIV testing
- Online interactive live forums with clinicians and MSM to discuss various relevant issues including HIV testing, treatment, and prevention.



(b) CDC VCT clinic co-located with a CBO promoting anonymous notification of sexual partners

Guangzhou's CBO Xiaoqi established an online and mobile platform called Easy Tell for MSM who screened positive in order to anonymously inform their sexual partners of their risk of being infected. This platform was designed to address the low-level of willingness of MSM to disclose their positive status to sexual partners. When notified anonymously about the fact that a sexual partner is infected, the recipient of the message will also be given information on HIV and testing locations. This platform is particularly powerful as the local CDC is co-located with Xiaoqi, which enhances the trust of MSM in using government clinics for HIV testing. To safeguard the highest level of confidentiality and prevent abusive use, the platform also includes malicious message filters and an anti-harassment program.

(c) Promotion of testing by the CDC through co-location with the CDC and a database of CBO service contacts

Shanghai's Jing'an District Youth AIDS Prevention Service Center explicitly links its information database of client service contacts to testing at the local CDC. First, its information database captures all services (hotline, QQ, SMS) that it has provided to a client. The system then analyzes the database regularly to automatically prompt CBO staff to send mobile phone messages reminding clients of upcoming HIV services specific to the clients' profile. For example, the system would prompt HIV screening for those who show a profile of risky sexual behavior, CD₄ tests for ART initiation timing, and routine health checks during ART. Second, Jing'an District Youth AIDS Prevention Service Center is located at the local CDC to provide on-site pre- and post-test counseling to MSM that it recruits via its mobile phone testing reminders. As a result of this database platform and its close collaboration with the CDC, their HIV case-finding rate among MSM jumped from 3.5% in 2010 to 5.1% in 2011.

(3) CDC-based testing mobilization

To better reach MARPs and PLHA, some local CDCs incubated CBOs and provided them with financial and technical support in order to help mobilize the MSM community for testing. Some also providing office space for these CBOs next to CDC's VCT clinic, where the actual tests and blood sampling for confirmatory tests take place. This co-localization facilitated timely pre- and post-test counseling by CBO peer counselors and follow-up services by CDC.

Beijing's CBO Sunshinewas a typical example demonstrating the advantage of having a CBO located next to a CDC VCT clinic. Sunshine peer counselors were respected members of the MSM and PLHA communities, and all have received training by the CDC on HIV, confidentiality, and counseling. They wore work badges issued by the CDC certifying their professional qualification. This political support by the local CDC significantly enhanced the reputation of the



CBO's technical qualifications in the eyes of the MSM community.

Sunshine employed a highly successful testing mobilization strategy, in which it encouraged tested clients to recruit their sexual partners to also receive HIV testing. Sunshine believed that the best mobilization approach was through the clients themselves. The key was to demonstrate that Sunshine's service was of high quality in terms of HIV knowledge and confidentiality, and met the needs of the client such as addressing concerns about CDC services and availability of counseling support in the event of testing positive. Once confidence in Sunshine was established, the CBO encouraged the client to convince their sexual partners to get tested, particularly those with multiple partners. This strategy not only increased the number of people getting tested, but was also highly effective in finding positive cases, with a 13% case-finding rate compared to the 6% overall average of the China-Gates HIV Program.

In summary, the potential benefits of a strong collaboration between CDCs and CBOs in testing mobilization are clear. Combining CDCs' technical expertise with CBOs' knowledge of the best way to link CDC services to the community can improve the testing rates of hard-to-reach populations such as MSM. The three different formats of collaboration between CDCs and CBOs, as described above, illustrate that there are multiple ways to design such collaboration to increase testing among the MSM community. Regardless of mobilization channels (gay venues, internet, CDC VCT clinics), the key to a successful collaboration is CDC's commitment to enable CBOs to find the most effective and efficient ways to reach target populations and to provide the service that meets the needs of the community. Program experience also informed us that regular constructive dialog between CDCs and CBOs was critical from the design to the implementation of the collaboration. However, limiting such collaboration to just testing mobilization does not address the clinical needs of MSM who tested positive. The following section describes another form of CDC-CBO collaboration that integrates testing, treatment, and prevention.

3.1.2 Integrated community-based service

In addition to testing mobilization, many local CDCs and CBOs participating in the China-Gates HIV Program have become aware of the importance of linking ART support to testing. Not only was it important to increase awareness of MSMs' HIV status with testing, it was just as important to get MSM who tested positive to start ART early to minimize further transmission of HIV within the MSM population. To better link testing with treatment services, some CDCs chose to locate its own staff at CBOs in order to create a community-based one-stop service at a CBO that integrated the CDC's technical expertise with the CBO's community work. Tianjin's Deep Blue CBO is a typical example of such collaboration.

Deep Blue had conducted HIV prevention outreach to the MSM community for years prior to



joining the China-Gates HIV Program. After joining the program in 2008, it developed a set of testing and health education initiatives to strengthen its HIV prevention services for MSM. It also developed a case management approach for MSM contacted during outreach to better follow-up and increase their clients' likelihood of receiving HIV testing at local CDC VCT clinics. In 2010, Deep Blue decided to expand its services to HIV treatment support and began lobbying the local CDC for their political and technical support. Deep Blue wanted to provide a community-based integrated HIV service that included testing (blood sampling), counseling, results notification, CD₄ tests, ART drug dispensation, and ART adherence – all provided at its office. The objective was to create a one-stop shop for a broad-spectrum of HIV services tailored to the MSM community, including testing, confirmation, ART drug distribution, referrals to hospitals for ART side effects and sexually transmitted diseases (STDs), ART treatment adherence support, and prevention. Deep Blue wanted to provide access to a continuum of HIV testing and treatment services in one location to minimize the chances of clients dropping out throughout the HIV service chain, which is an objective held in common by the CDC and the MSM community.

After detailed joint-planning by the local CDC and Deep Blue to identify technical support needs of such one-stop service, it was agreed that local CDC public health doctors and nurses would be located at Deep Blue's office to provide on-site blood sampling for tests (HIV screening and confirmation, syphilis, and CD₄) and conduct epidemiological investigations. These CDC staff also trained and empowered Deep Blue peer counselors to inform clients of confirmatory test results and to provide high-quality and timely pre- and post-test counseling. After a case was confirmed positive, onsite CDC staff would notify the CBO peer counselor responsible for the client. The peer counselor would then notify and provide psychosocial support to the client, counseling the client through his concerns such as being publically known to be gay and coping with being HIV-positive. Working side by side at the same office ensured regular communication between CDC staff and CBO peer counselors, which in turn facilitated client case management, ensured better follow-up, and reduced barriers to accessing treatment services. For example, CDC staff and CBO counselors at Deep Blue worked together to identify MSM- and PLHA-friendly clinicians and hospitals to which they could refer clients for OIs or STDs. Additionally, CBO peer counselors provided continued psychosocial support and behavioral change counseling for MSM diagnosed with HIV infection.

The one-stop service with full collaboration between Deep Blue and the local CDC produced very promising results. The number of MSM tested increased from 56 in 2008 to 4,501 in 2011. The number of MSM confirmed HIV-positive also increased from 5 in 2008 to 121 in 2011. More importantly, the number of confirmed HIV-positive cases followed up by the CDC increased from 5 in 2008 to 121 in 2011. These encouraging results could not have been possible without the effective collaboration between the local CDC and Deep Blue and their one-stop service

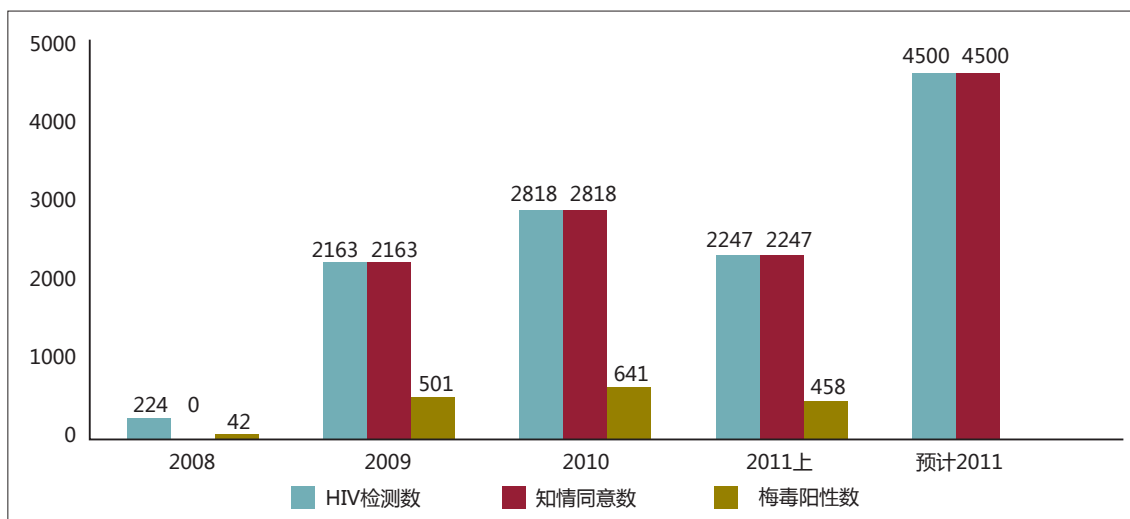


Figure 6 Output of CBO Deep Blue, 2008-2011

The chart below shows HIV tests (blue), informed consents (red), and syphilis tests (green) – not useful enough to demonstrate key output

model, which both addressed community needs and reduced barriers to accessing HIV services. (Figure 6)

Although CDC-CBO collaboration had a positive impact on HIV services for MSM and PLHA, this two-partner collaboration had one key limitation: the lack of hospitals' formal participation in providing clinical HIV management. Neither CDCs nor CBOs had the clinical expertise to evaluate and manage clinical aspects of HIV infection, including ART side effects and OIs. The following section describes how hospitals would be integrated into this collaboration to enhance the government's response to HIV.

3.2 Hospitals + CBOs

3.2.1 Hospital-based CBOs to provide care and support

Routine testing such as routine pre-surgery tests at general hospitals remained a key source of HIV case-finding in China. Hospitalized patients who screened HIV positive would have blood sent to local CDCs for confirmatory testing. If confirmed positive, local CDCs would inform the hospital, which in turn would inform the patient. However, a significant number of newly diagnosed HIV-positive patients were not notified of their HIV status by the hospitals due to



delays between screening and results. In some cases, CDC confirmatory results took one to four weeks to return to the hospital. Results can be slow due to lack of incentives for hospitals to follow-up with and notify patients of their HIV status. Hence, HIV screening at general hospitals left much room for improvement in terms of results notification and linkage to care and treatment, both critical steps in effective HIV control.

In the China-Gates HIV Program, some participating general hospitals enlisted HIV-focused CBOs to help provide results notification, care, and support to PLHA. For example, Kunming No. 3 Hospital, as part of its provider-initiated counseling and testing (PITC) program, designed a program to integrate PLHA-CBOs into its HIV-screening and follow-up process and in ART support. First, Kunming No. 3 Hospital provided office space at the hospital to PLHA-CBOs so they can provide timely support on-demand as positive cases are identified. Second, it designated staff at the in-house HIV laboratory to directly liaise with the PLHA-CBOs. HIV laboratory staff would inform the PLHA-CBO when a patient screened HIV-positive. The CBO would then contact the patient's doctor, who, after informing the patient of his or her screening result, would introduce the patient to the CBO PLHA peer counselor. The peer counselor would further discuss with the patient the basics of HIV infection, the importance of getting confirmatory tests at the local CDC, and the benefits of timely ART initiation. Building a supportive relationship with the patient, the PLHA peer counselor would also often answer psychosocial concerns and offer information on long-term community support resources. This peer-based relationship-building and counseling by PLHA counselors before and after testing was critical to gain the patient's confidence in the services of the peer counselors, hospitals, and the CDC. Once the patient agreed to confirmatory testing, the hospital would draw and send a blood sample to the CDC for testing.

As the waiting time for confirmatory results took one to four weeks on average, the patient often would have been discharged from the hospital by the time confirmatory results returned. In the past, without the support of PLHA-CBOs, the patient would have been lost-to-follow up and would not receive notification of his or her confirmatory test results. But with the hospital-CBO collaboration, the hospital could notify the PLHA-CBO of the patient's confirmatory result; the PLHA-CBO peer educator, who had previously counseled the patient after his or her positive screen, could then contact and inform the patient of his or her confirmatory results, and provide further information on ART and psychosocial support for coping with the diagnosis, family, and social issues. CBO peer counselors ensured that patients received proper HIV services, including CD₄ tests by the CDC, ART, ART adherence, reminders of routine medical checks, psychosocial support, and behavioral change counseling.

PLHA-CBOs provided practical supportive services to patients and their family members, such as reminders for medical checkups, tips for managing ART side effects, ART adherence workshops, guidance on where to seek treatment for OIs, home care for patients without family support,



and workshops for family members of PLHA. Because doctors and nurses typically focus on medical aspects of HIV treatment and lack time to address the psychosocial aspects of HIV infection, PLHA-CBOs served a critical function in providing these necessary counseling and supportive services. Additionally, having PLHA-CBOs based at and integrated with the hospital's HIV services allowed the CBO peer educator to function as a case manager for the patient – the peer educator helped guide the patient through the medical system and ensured that he or she received appropriate clinical services.

After Kunming No. 3 Hospital integrated a PLHA-CBO in its HIV testing program, greater than 80% of cases that initially screened positive at Kunming No. 3 Hospital received follow-up confirmatory testing by Kunming CDC. Furthermore, over 80% of newly diagnosed HIV cases with CD₄ below 350 were started on ART. The positive experience of Kunming No. 3 Hospital has been compiled into its PITC service manual to ensure all doctors and nurses at the hospital understand how to work with its onsite PLHA-CBOs in its HIV-related services. Other infectious diseases hospitals, such as Guangzhou No. 8 Hospital, have begun to adopt this approach, proactively inviting PLHA-CBOs to work with clinicians at their hospitals. Having the political commitment of the hospital administration was key to the success of any hospital-CBO collaboration, as the administration's support was needed to integrate CBOs into the hospital's HIV services, to provide office space at the hospital to PLHA-CBOs, and to schedule regular working meetings between the hospital staff and CBOs staff.

3.2.2 Involving PLHA in the work of hospitals and CBOs

In the China-Gates HIV Program, some participating CBOs utilized direct feedback from PLHA to guide changes and improvements in HIV services offered. An outstanding example is Shanghai's Beautiful Life. Prior to joining the China-Gates HIV Program, Beautiful Life had been

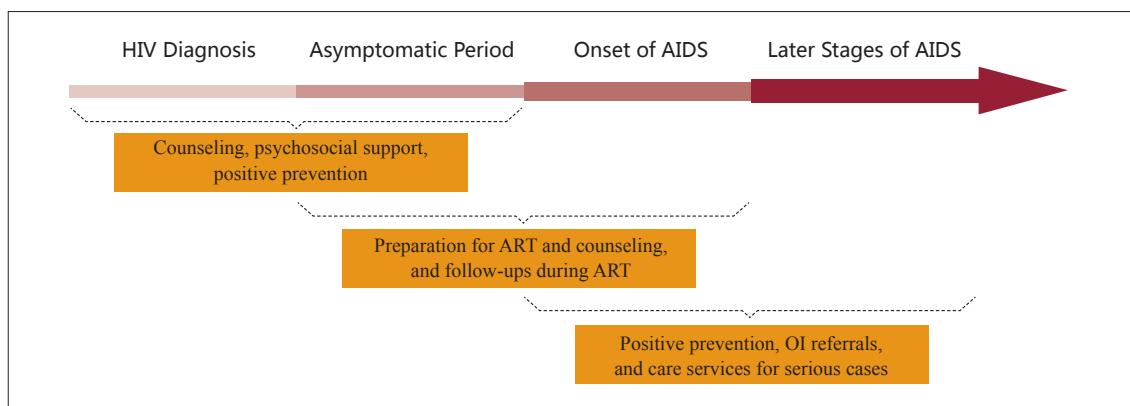


Figure 7 Work Flow of CBO Beautiful Life



Pre-ART	ART Onset		During ART	
Testing and diagnosis	Treatment and follow-up	Additional services	Basic training	Ongoing support
<ul style="list-style-type: none"> • Outreach, counseling, referrals • Registration of newly discovered HIV-positive people • HIV/AIDS basic information salons and training, including available community resources • HIV status self-acceptance counseling 	<ul style="list-style-type: none"> • Follow-up counseling (with CDCs and hospitals) • ART initiation workshops • ART adherence training • Visit patients in intensive care units of hospitals • Set up referral mechanism with hospital in-patient departments • Opportunistic infections treatment referrals • HIV/AIDS database and case management 	<ul style="list-style-type: none"> • Home visits for those with special needs (side effects, collapse of immune system, children) • Coordination with hospitals to handle acute medical conditions • Special activities for women (psychological and physical well being needs) 	<ul style="list-style-type: none"> • Chronic diseases self-management support • Positive prevention • Nutrition management seminars • STD treatment training and referrals 	<ul style="list-style-type: none"> • Routine comprehensive medical checks (ophthalmic, gynecology, gastrointestinal) • Patient needs focus groups • Activity-based support groups (sports, culture) • Regular patient visits • Training for both patients and care providers how to use the Care and Support Manual

Figure 8 Service Detail of CBO Beautiful Life

providing care and support to PLHA in the form of one-off seminars and sporadic information dissemination activities. Upon joining the China-Gates HIV Program in 2009, Beautiful Life, in order to improve the HIV services it delivered, launched a comprehensive consultation with the PLHA community and potential PLHA clients in order to guide the redesign of its projects and activities. Based on feedback from the PLHA community, Beautiful Life developed a comprehensive set of HIV services that helped PLHA navigate through different stages of HIV infection - HIV diagnosis, asymptomatic period, onset of ART to ongoing ART (Figures 7 and 8). Consulting PLHA identified specific issues and concrete suggestions for support needed at different stages of HIV infection, which helped both Beautiful Life and hospitals improve the quality of the HIV services delivered.

The collaboration between hospitals and CBOs at different stages from diagnosis to treatment is detailed below:

- (a) HIV diagnosis – Hospitals refer newly diagnosed HIV cases to Beautiful Life to establish the PLHA’s trust in HIV services provided by hospitals, the CDC, and CBOs.
- (b) Asymptomatic period – Beautiful Life peer counselors remind PLHAs to get regular CD₄ tests at CDC and other health checks at hospitals to ensure timely initiation of ART. Beautiful Life, in collaboration with hospitals and the CDC, organize ART workshops (small groups peer-to-peer support) to prepare PLHA for treatment, and also counsel PLHA engaging in unprotected sex to use condoms and encourage their sexual partners to get tested for HIV.
- (c) Onset of ART – Upon notification from local CDCs and hospitals that a patient should start ART, Beautiful Life peer counselors contact the PLHA to provide treatment support, such as accompanying the PLHA to the designated hospital for pre-ART health checks, providing



ART adherence counseling, providing tips for coping with side effects, and providing information on MSM-PLHA friendly clinicians and hospitals for OI treatment.

- (d) Ongoing ART treatment – Beautiful Life sets up agreements with MSM-PLHA friendly general hospitals and clinicians to provide stigma-free OI/STD treatment. Its peer counselors also provide ongoing psychosocial support as needs arise, particularly for those PLHA experiencing serious illnesses without family support.

Based on feedback from PLHA, the hospital and Beautiful Life also adjusted their previously variable and sporadic hours and location of operation to a consistent schedule and place. With more reliable and regular HIV services by Beautiful Life and collaborating hospitals that addressed the actual needs of PLHA, the uptake of services by Beautiful Life tripled from a caseload of about 50 in 2008 to close to 150 in 2011 (as measured by receipt of the CD₄ test-as-care indicator of the China-Gates HIV Program).

In summary, the China-Gates HIV Program demonstrated how close collaboration between CBOs and general hospitals can improve HIV case finding and treatment support services, and reduce treatment drop out rates. However, this model of collaboration between the CBO and hospitals does not address the delays in follow-up services offered through the local CDC that often result in loss to follow-up and ART. The following section describes a hospital-based service model in which strategic CDC follow-up services are delegated to hospitals and CBOs in order to deliver a comprehensive continuum of HIV services –from testing, to treatment, to prevention– while addressing both social and clinical needs of clients and the public health objectives of the government.

3.3 CDCs + Hospitals + CBOs

3.3.1 Fully-integrated comprehensive hospital-based service

Some sites of the China-Gates HIV Program managed to establish innovative collaboration between local CDCs, hospitals, and CBOs that achieved the program's "3-in-1" ideal of anchoring all HIV services –screening, confirmatory testing, CD₄ testing, treatment, counseling, and prevention – at one site at ART-designated hospitals. Under this approach, the client no longer needed to visit the CDC separately for HIV confirmation and CD₄ tests, which thereby minimized losses to follow-up and ART delays. Furthermore, if designated hospitals did not have the expertise to evaluate and treat OIs, the client would be promptly referred to other general hospitals for OI treatment. In this fully integrated comprehensive hospital-based service model,



local CDCs would delegate some of their case-management responsibilities, such as results notification, epidemiological investigations, and CD₄ testing to clinicians and CBOs at hospitals. The local CDCs could then focus on confirmatory testing, public health data management, and providing technical support to hospitals and CBOs. Beijing's You'an Hospital is an excellent case to illustrate this innovative and comprehensive "3-in-1" collaboration in China.

As one of the two hospitals in Beijing designated to provide ART in Beijing, You'an Hospital treated its first AIDS patient in 1990. In 1998, You'an Hospital established the CBO, Loving Home, one of the first PLHA CBOs in China, which provided psychosocial support to PLHA receiving treatment at the hospital. In 2007, the hospital set up an MSM-specific CBO, Tianyuan, in response to the escalation of the HIV epidemic in order to provide care and support to HIV-infected MSM. Upon joining the China-Gates HIV Program in 2008, You'an Hospital focused on improving and delivering integrated and comprehensive HIV services to MSM. At You'an Hospital, MSM can now receive all HIV services at one site. New roles and responsibilities of different stakeholders in this implementation of the program ideal "3-in-1" included:

- Fengtai District CDC – In addition to conducting confirmatory HIV tests and providing technical support to hospitals and CBOs on informing positive status, client confidentiality, and medical follow-ups, Fengtai CDC began coordinating case information sharing with other district CDCs in Beijing. This information sharing ensured that patients receive their HIV services regardless of which districts they resided in within Beijing, and contributed significantly to the reduction of follow-up losses due to patients moving around within Beijing.
- Clinicians at You'an Hospital – In addition to providing ART as in the past, clinicians were now also responsible for drawing blood for confirmatory testing by the CDC, sending results notifications (along with CBO peer counselors) to patients who were confirmed as HIV-positive, conducting epidemiological investigations, and conducting CD₄ testing. Integrating these services into the work of the clinicians not only created a better experience for patients, but resulted in better follow-up rates for Fengtai CDC. As in the past, clinicians at You'an Hospital work closely with CBOs onsite to ensure that clinical services (side effects and OI prevention and treatment) were complemented with CBO peer counseling to address clients' psychosocial needs.
- CBOs Loving Home and Tianyuan – Under the program, they gained responsibility for mobilizing MSM for testing and treatment support. Peer outreach workers recruit MSM from gay venues and the internet to come to the hospital for HIV-testing. If screened positive during the first visit at the hospital, peer counselors would provide psychosocial support on the spot and would encourage the client to let the hospital draw blood for confirmatory tests by the CDC. If confirmed positive, they would also work with clinicians to inform the client



of their HIV-positive status, and provide counseling to handle clients' concerns. Together with clinicians, they also educated clients on HIV, AIDS, and ART to help prepare the client for ART. They also provided timely reminders to clients to receive their routine CD₄ testing and other health checks at the hospital. During ART, they supported the client in treatment adherence, managing ART side effects, and seeking OI evaluation and treatment.

Thanks to this innovative collaboration between Fengtai CDC, You'an Hospital, and the CBOs Loving Home and Tianyuan, the loss to follow up at You'an Hospital decreased to less than 10%, and MSM clients received a comprehensive continuum of HIV services under one roof. The key to this collaboration's success was the willingness of all three stakeholders to review existing services and to identify ways to remove barriers to services.

3.4 Summary

The China-Gates HIV Program's push for a stronger collaboration between the CDC, hospitals, and CBOs produced five innovative adaptations of the program's "3-in-1" service model for MSM in China. These five innovations reflect the local epidemic and political situations, with two models addressing CDC-CBO collaboration, two addressing hospital-CBO collaboration and one, probably the closest to the program ideal, addressing fully-integrated CDC-hospital-CBO collaboration. These five adaptations were included in this paper to illustrate the range of collaboration that can exist. Each adaptation contributed to improving clients' experiences in HIV services, and increased the public health impact of the joint efforts of the government, clinicians, and civil society.

Additionally, the China-Gates HIV Program contributed to the start of a shift in focus in HIV services – from a simple focus on diagnosis and treatment to a more comprehensive client-centric focus that addresses both clinical and psychosocial issues encountered with HIV infection. Equally important was the evolution of the role of MSM CBOs – from simply distributing HIV information and mobilizing MSM for testing to being pro-active stakeholders supporting HIV services along its entire continuum.

4

Achievements



The closer collaboration between the CDC, hospitals, and CBOs promoted by the China-Gates HIV Program produced some dramatic results:

4.1 Increased uptake of services

Local CDCs' performance and public health impact improved dramatically. First, the number of MSM diagnosed as HIV-positive increased seven-fold within four years, from 646 in 2008 to 4,536 in 2012. The number of PLHA eligible for ART and who were actually on ART increased ten-fold, from 1,284 in 2008 to 12,850 in 2012. The number of pre-ART PLHA tested for CD₄ increased seven-fold, from 3,576 in 2008 to 24,838 in 2012, and the CD₄ test rate increased from 47.4% in 2008 to 84.4% in 2012. The follow-up rate on pre-ART HIV-positive individuals jumped from 42.5% in 2008 to 94.3% in 2012.

4.2 Increased political support

The program service model promoting collaboration between the CDC, hospitals, and CBOs received attention of political leaders from the higher echelon of the local governments beyond health bureaus and CDCs. City governments of Changsha, Nanjing, Shenyang, Tianjin, Wuhan, Xi'an, Hangzhou and Chongqing have promulgated official policies to promote the adoption the China-Gates HIV Program's "3-in-1" collaboration approach to deliver integrated and comprehensive HIV services in their own cities.



4.3 Enhanced CBO service quality

Prior to the China-Gates HIV Program, most MSM-focused CBOs concentrated their efforts on HIV information and condom distribution only. Because of the China-Gates HIV Program's focus to expand HIV testing and treatment services and its corresponding performance-based management system of participating CBOs, MSM-focused CBOs had to innovate and evolve in order to seek the best ways to promote the benefits of testing and treatment to the MSM community. New services offered through MSM-focused CBOs in the China-Gates HIV Program included providing HIV rapid tests, notifying clients of confirmatory test results, and providing prevention counseling for both HIV-negative and HIV-infected MSM clients. These new HIV services required more substantial knowledge of HIV and treatment services, and challenged MSM-focused CBOs to improve the knowledge and counseling skills of their peer workers. While many MSM-focused CBOs did not survive these challenges posed by the China-Gates HIV Program, some emerged much stronger than before. They have strengthened their staff's counseling skills, improved working relationships with local CDCs and hospitals, and delivered on targets - not only meeting their own but also contributing to the CDC's needs (both government and China-Gates HIV Program). Evolving from distributing pamphlets and condoms to providing HIV testing and treatment support pushed the more capable and more community-rooted CBOs to increase their knowledge and skills so they could collaborate as equal partners with local CDCs and hospitals.

5

Challenges



The China-Gates HIV Program demonstrated the feasibility and impact of collaboration between local CDCs, hospitals, and CBOs in the delivery of comprehensive and integrated HIV services to MSM. However, some key challenges still remain for the Chinese government to consider in its future response to HIV, particularly among the MSM community:

5.1 Policy support for greater involvement of general hospitals

This paper documented the important role that general hospitals play in the HIV service chain through case finding, PITC, and OI treatment. However the current health system in China provides little financial incentives for general hospitals to participate in HIV services. While the current national medical reform (including hospitals) would address this issue in the long run, more political support is needed in the short term at both national and local levels to promote the participation of general hospitals in HIV services.

5.2 Policy support for CBO registration

As demonstrated by the China-Gates HIV Program, competent CBOs with strong community roots can not only work with the CDC and hospitals in the delivery of HIV services (testing, treatment, and prevention), they actually have the advantage of better understanding the needs of the community and the ability to bridge government services to these communities, thereby increasing the effectiveness of government services. However, the current lack of registration framework for CBOs limits their potential in contributing to the government's response to HIV. Although the government is now considering procuring services from CBOs, competent and capable CBOs will not be able to receive government funds for their work without being



registered as legal entities. The departure of all major international donors, including the China-Gates HIV Program, from funding HIV programmatic work in China adds to the urgency of CBO registration.

5.3 Peer-based CBO capacity building

Program experience shows CBO capacity building activities should be targeted at only those CBOs with strong commitment to meet the needs of the community they claim to serve, with or without external funds to support its work. As China's CBOs become more developed, the program learned that the most effective and efficient capacity building method was no longer the usual one-off lecture or site visit. CBOs in the program reported that they needed ongoing peer-based sharing and one-on-one support (which can be done online through mediums such as Skype) to deal with practical issues such as programs, human resource and financial management, community-based participatory strategic planning, and accountability.



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