



**TECHNICAL BRIEF**

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# Reaching Vulnerable Populations in Afghanistan: Addressing TB among People Who Use Drugs

DDRC in Jalalabad city with health care worker providing education to people who use drugs

## BACKGROUND

Afghanistan accounts for two-thirds of the global area under opium poppy cultivation and produces 70% (3,300 tons) of the world's opiates. This has led to easy availability of opiates and opiate derivatives, such as heroin and methamphetamine, and has resulted in high rates of addiction to these substances. According to reports by the United Nations Office on Drugs and Crime (UNODC) and the Afghanistan Ministry of Counter Narcotics (MCN), there are an estimated 2.5 million people who use drugs in Afghanistan, 75% to 90% of whom use opium or heroin, including intravenously (UNODC 2015, UNODC and MNC 2012). In Afghanistan, the mean age of drug use is 35; ages range from early 20s to late 40s. Cultural norms greatly inhibit women's ability to go to drug hot spots, so they may be undercounted. It is estimated that 83% of people who inject drugs (PWID) in Afghanistan are male (figure 1).

The co-morbidity between TB and drug use results in an increased risk of developing TB and worsens TB treatment outcomes because of poor adherence that increases the risk of continued TB transmission. People who use drugs in Afghanistan are exposed to factors that contribute to their risk of TB transmission, including poor hygiene and sanitation, homelessness, living in crowded and poorly ventilated areas, smoking indoors and sharing smoking devices, and insufficient food intake leading to malnourishment. Individuals who smoke heroin or opium are at the greatest risk. Global studies of TB disease outbreaks suggest that people who use drugs are at great risk of TB (Salomon 2000, Garfein 2008, Hest et al. 2016). In Afghanistan and globally, people who use drugs often lack a permanent home address or phone number, travel from city to city, and are often reluctant to visit health facilities to seek care, leading to treatment interruption and, ultimately, poor treatment outcome for TB.

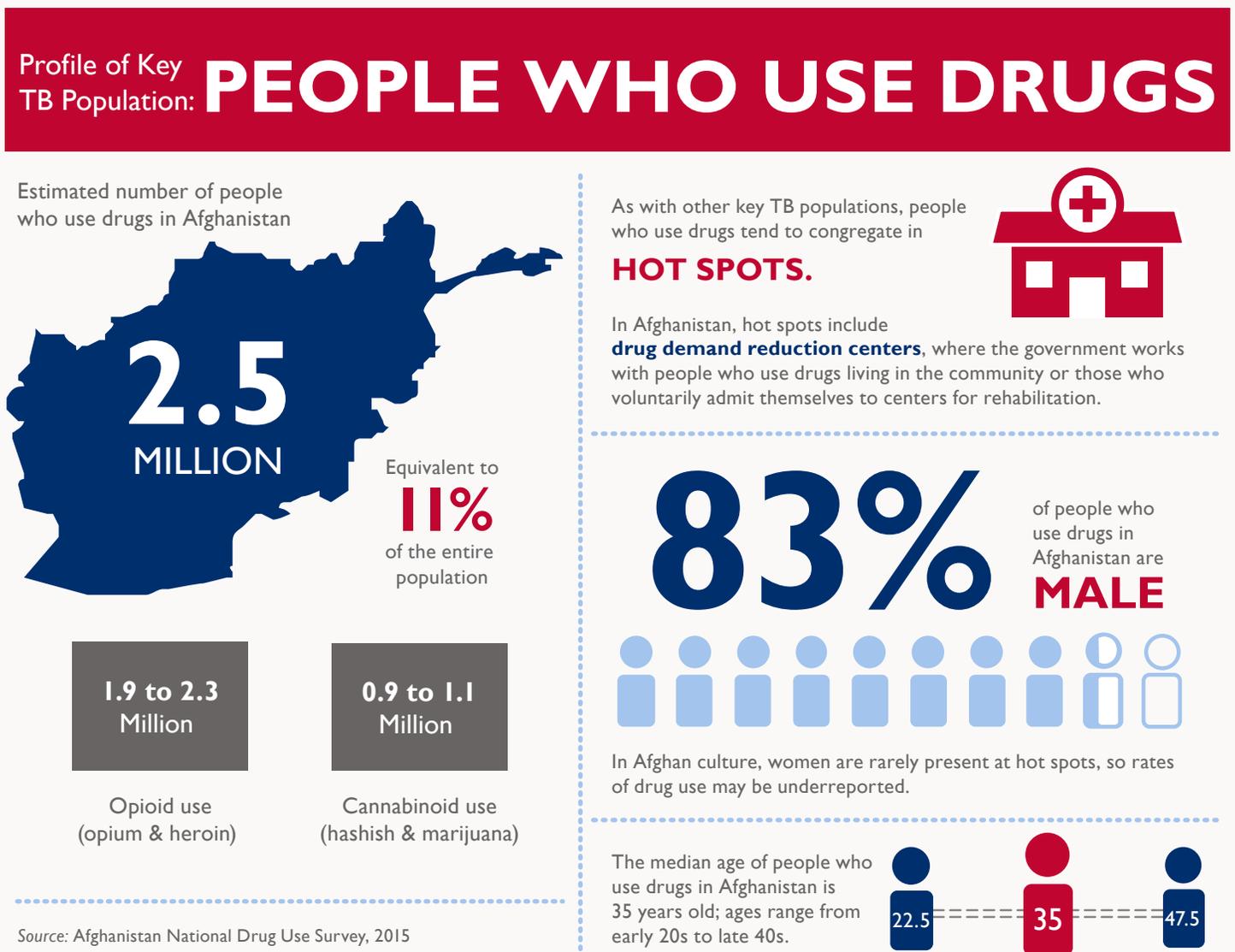
AFGHANISTAN

Learning the true yield of TB among people who use drugs would assist the National TB Control Program (NTP) in rethinking its strategies targeting PWIDs and enhance cooperative and collaborative activities between TB and drug use programs that will result in early case finding and improving treatment outcomes. Despite the high prevalence of drug use, availability of drugs and opioids, and high TB/drug use co-morbidity, no study has been conducted to understand the true prevalence of TB among

PWID in Afghanistan. However, a study from Abidjan, Côte d'Ivoire, demonstrated that the weighted prevalence of TB among people who use drugs is 1.8%, and it is associated with poor living arrangements in the adjusted analysis (Bouscaillou 2016).

The USAID-funded Challenge TB (CTB) Project partnered with the NTP to strengthen health services for people who use drugs and curb the spread of TB among this vulnerable population.

FIGURE I. TB key populations profile for drug use in Afghanistan



## STRATEGIC RESPONSE

In recognition of the widespread use of opiates and the increased risk of TB among people who use drugs, the NTP of Afghanistan identified drug demand reduction centers (DDRCs) as an entry point. The NTP trained staff at DDRC

facilities on standard operating procedures (SOPs) for TB identification, notification, diagnosis, and treatment follow-up. Figure 2 summarizes the strategies undertaken to ensure quality TB care for this vulnerable population.

FIGURE 2. Strategic response to addressing TB among people who use drugs

	<b>COORDINATION AND ADVOCACY</b>	Build consensus across diverse stakeholders, such as NTP and MOPH, about the unique challenges of TB among people who use drugs, including social stigma, policy implications, and other barriers to access faced by this population, including testing for HIV and sexually transmitted infections.
	<b>MAPPING</b>	Map DDRCs and HIV and people who use drugs hot spots in the provinces. Mapping revealed that people who use drugs are often located in “colonies” within urban centers scattered across a city. In Kabul, there are at least three major hot spots where people who use drugs gather to use.
	<b>SYSTEMATIC SCREENING</b>	Execute systematic screening* of people who use drugs attending DDRCs and other hot spots. Field workers conducted verbal screening, notified presumptive TB patients, and collected sputum samples for transport to GeneXpert sites for diagnosis.
	<b>DIAGNOSTIC TOOLS</b>	Use GeneXpert and digital X-ray technologies to ensure high-quality TB diagnosis in line with internationally recognized recommendations.
	<b>FOLLOW-UP AND TREATMENT</b>	Register those diagnosed with TB as patients and initiate treatment. Treatment protocols were followed for treating drug resistance and drug sensitivity among TB patients. In accordance with NTP procedures, local treatment supporters were hired to ensure that patients received uninterrupted medication and follow-up examinations.

\* The CTB Project screened for TB; screening for other infections, such as HIV and hemoglobin constant spring (HbCS), was performed by DDRC staff.

## IMPLEMENTATION

### COORDINATION AND ADVOCACY

**Building consensus:** The challenges of addressing TB among vulnerable populations, especially people who use drugs, was shared with the NTP manager; the general head of research, monitoring and evaluation (M&E); and NTP’s laboratory. CTB, along with the M&E and research department of the NTP, formed a committee and research team with nominated representatives from their respective organizations. The committee and research team consisted of individuals from CTB and NTP who began developing the protocol over a two-week

period. Addressing the unique challenges of TB among people who use drugs was also discussed at the TB task force meeting. The aim of these activities was to create consensus across diverse stakeholders to support these interventions during the implementation period.

### **Meeting with the Ministry of Public Health (MOPH):**

During this period, the team visited and conducted meetings with relevant departments at the MOPH and provincial health offices (PHOs). The study team visited the HIV/AIDS department and DDRCs, in addition to NGOs implementing

DDRC and HIV/AIDS prevention, care, and treatment activities. The meetings provided critical information and data for protocol development and implementation strategies to attract support and perspectives across different stakeholders and to ensure smooth implementation.

**Official letter of introduction:** The protocol was submitted and presented to MOPH's Institutional Review Board (IRB). The IRB reviews new protocols and new approaches to ensure high-quality study design and reviews ethical considerations for human subjects voluntarily participating in the study. Field workers and NTP and PHO teams were then recruited in the provinces. Later, the NTP issued an official letter to the MOPH and PHOs. In the provinces, the team presented the letter from MOPH to PHO and then issued an official letter to DDRC and the HIV/AIDS department. Multiple setbacks were encountered at this stage, including a lengthy IRB approval process.

## MAPPING

Mapping revealed that people who use drugs are often located in "colonies" within urban centers, and these pockets are scattered across the cities. In Kabul, there are at least three major hot spots where people who use drugs gather. Similarly, there are hot spots in districts where addicts come together to acquire and use drugs.

**Data collection for protocol development:** Teams coordinated and communicated to agree on the parameters of this study and its implementation. In addition, the objective of these visits was to collect the required data to identify the DDRCs, HIV/AIDS centers, and drug use collection centers and hot spots. Identifying drug use hot spots was one of the greatest challenges because visiting some areas required additional approval from military authorities. The project was unable to visit one hot spot for HIV/AIDS and people who use drugs due to heavy police presence and the need to obtain additional permission to enter. Despite several attempts, the required authorization was never obtained.

## SYSTEMATIC SCREENING

**Verbal screening:** The field team went to DDRCs, HIV/AIDS hot spots, and hot spots for people who use drugs in cities like Jalalabad, Mazar-e-Sharif, Kandahar, Herat, and some districts in these provinces. The field workers verbally screened all patients visiting the DDRCs and HIV/AIDS hot spots for TB.

Health workers screening a person who uses drugs for TB in the community (Photo Credit: MSH Afghanistan).



**Sputum sample collection and referral:** The field workers collected one sputum sample from each person that was identified as symptomatic during the verbal screening. The samples were transported to GeneXpert sites for testing. Also, presumptive TB patients who could not produce sputum were referred for chest X-rays, which were taken digitally, converted to pdf files, and sent to radiologists for reading.

Multiple challenges were faced during this stage, such as reluctance by patients to get a digital X-ray. In the DDRCs and drug use camps that police usually guarded, there was concern that patients would flee. In most instances, DDRC staff support or, in one instance, a police escort were required to obtain chest X-rays.

## DIAGNOSTIC TOOLS

CTB and NTP used GeneXpert and digital X-ray as diagnostic tools. Two independent radiologists read the digital X-rays. The final diagnosis was based on the GeneXpert test result or on X-ray readings of the two radiologists. In cases of disagreement between the radiologists, they were asked to come together to reconcile and make a final diagnosis.

GeneXpert is highly sensitive and specific for diagnosing pulmonary TB. It has over 98% sensitivity and specificity. GeneXpert is used to ensure high-quality diagnosis with fewer false positives or negatives to avoid human suffering. This technology is internationally recommended to diagnose drug-sensitive and drug-resistant TB. Digital X-ray is used because it can identify chest lesions with higher probability

of diagnosing TB and it is less hazardous to patients, health workers, and the community. The utilization of both of these technologies helped ensure the highest quality of TB diagnosis in line with internationally recognized recommendations.

## FOLLOW-UP AND TREATMENT

All the TB patients diagnosed enrolled in the closest DOTS center. The CTB, NTP, and PHO teams followed up at health facilities to ensure that patients received their complete course of treatment and that they attended health facilities for follow-up examination and resupply of treatment. CTB and NTP jointly followed the protocol for

treating drug resistance and drug sensitivity among TB patients. In accordance with NTP procedures, they hired local individuals from the same village and community, including religious leaders, teachers, and other local leaders, as supporters to provide treatment to patients. Patients diagnosed with drug-resistant TB were referred to MDR-TB wards in the capital Kabul and the provinces where they were given standard treatment regimens. One of the greatest challenges was keeping track of patients released from DDRCs after their 45-day stay. In some instances, co-morbid TB/drug use were lost to follow-up.

## RESULTS AND ACHIEVEMENTS

Collaboration between CTB and local stakeholders in the NTP and MOPH resulted in better access to care among people who use drugs and their families across five provinces, including quality TB diagnostic services, such as GeneXpert and digital X-ray. These joint efforts helped bring data collectors closer to various people who use drugs gathering sites, hot spots, and treatment centers.

Field workers regularly attended these centers and conducted systematic screening of all those attending either in DDRCs or those in the community. For each person who uses drugs, a separate questionnaire was used to identify those with TB symptoms.

The systematic verbal screening of people who use drugs executed in all five cities identified 9,531 drug users (7,911 [83%] male and 1,620 [17%] female). The mean age of participants was 36 with a standard deviation of 12.5 years. The most common substances used were:

- Heroin 5,451 (57%)
- Opium 2,102 (22%)
- Hashish 1,299 (13.6%)
- Mouth sniff 229 (2.4%)
- Oral forms of sleep medicine 81 (0.8%)
- Injectable sleep medicine 17 (0.2%)
- Other forms of drugs 241 (2.5%)
- Missing data 111 (1.2%)

Of those screened verbally for TB, the health workers identified 3,145 (33%) that had at least one symptom suggesting respiratory illness; the remaining study participants (67%) did not have any signs or symptoms of TB. The health workers notified 2,274 (23.9%) people who use drugs that had sputum with cough; 616 (6.5%) study participants had a cough for less than two weeks and did not go through further testing. Also, 181 (1.9%) participants reported they had lost weight, 254 (2.7%) said they had fever, 157 (1.6%) were suffering night sweats, 6 (0.1%) had lymph node swelling, and 6,659 (69.9%) did not have any signs and symptoms (table 1).

TABLE I. Distribution of signs and symptoms for TB

SIGN AND SYMPTOM FOR TB	NUMBER	PROPORTION	CUMULATIVE PERCENTAGE
Cough	2,274	23.9	23.9
Weight loss	181	1.9	25.8
Fever	254	2.7	28.4
Night sweat	157	1.6	30.0
Lymph node swelling	6	.1	30.1
None	6,659	69.9	100.0
Total	9,531	100.0	

The field workers collected and transported 1,116 sputum samples to GeneXpert sites for testing, which resulted in a diagnosis of 79 (7.1%) as bacteriologically confirmed TB. Among them, 22 were diagnosed as having rifampicin-resistant (RR) TB. In addition, chest X-rays for 1,158 presumptive TB patients were taken and read by radiologists, who clinically diagnosed 22 TB cases. In total, 101 TB cases of all forms were diagnosed among people who use drugs in a period of 5 months.

The prevalence of respiratory symptoms among people who use drugs is 11 times higher than the presumptive TB identification rate at outpatient departments at health facilities. Also, the yield of TB among this group is 1,060

in 100,000 people who use drugs; it is 7 times higher than case notification of TB in Afghanistan and 3 times higher than WHO estimates for the general population for Afghanistan. Also, the case notification rate for bacteriologically confirmed TB was 829 and for RR it was 230 in 100,000 people who use drugs (table 2). Further, 96 (95%) of these patients diagnosed were put on treatment in DOTS centers in the relevant provinces.

These collective efforts ensured that vulnerable individuals from marginalized groups would receive care and treatment from health care workers. Overall, over 95% of people who use drugs diagnosed with TB were put on treatment.

TABLE 2. Summary of findings for systematic screening of people who use drugs

INDICATOR	VALUE
Number verbally screened	9,531 (male 83%, female 17%)
Exhibited respiratory signs and symptoms	3,145 (33%)
Identified as presumptive TB	2,274 (23.9%)
Sputum samples collected and tested by GeneXpert	1,116 (49.1%)
MTB detected by GeneXpert	79 (0.8%)
MTB detected and RR detected	22 (0.2%)
Clinically diagnosed TB	22 (0.2%)
All forms TB diagnosed	101 (1.1%)
Number (%) put on treatment	96 (95%)
Yield of bacteriologically confirmed TB in 100,000 population	829
Yield of RR in 100,000 population	230
Yield of all forms TB in 100,000 population	1,060

## LESSONS LEARNED

Addressing vulnerable populations requires intentional and meaningful coordination and cooperation among various stakeholders and at multiple levels within a health system. Collaboration and coordination resulted in gaining increased access to people who use drugs in various centers supported by local partners. Collaboration among TB programs and others partners is critical for systematic screening, early identification of presumptive TB patients, and referral to diagnosis and treatment. Despite increased access, many people who use drugs remain reluctant both in seeking care at treatment centers and engaging in the screening process, requiring problem solving among CTB, MOPH, and the NTP.

Regular supervision and monitoring at treatment centers is critical for a continuum of TB care for people who use drugs. These and other vulnerable populations are highly susceptible to TB disease, and NTP must ensure provision of high-quality care for this group of people. Supportive supervision from these centers helps close missing gaps.

The lost-to-follow-up rate upon leaving treatment centers remains high. People who use drugs are often marginalized and homeless; when they leave the treatment centers, they are reluctant to return and take medicine and they do not have an address so they cannot be followed in the community. Usually, this leads to interruption in treatment and makes them prone to develop drug

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## Authors

This publication was written by Ghulam Qader.

For more information, please contact [lessons@msh.org](mailto:lessons@msh.org).

resistance (MDR-TB). Based on the project's experience, it is recommended that TB patients be kept for 6 months (rather than 45 days) to reduce the risk of developing MDR-TB. Lost to follow-up may result in incomplete diagnosis and missed patients who should be receiving a continuum of care, particularly for daily medicine intake and follow-up examination.

## WAY FORWARD

The project's experience suggests that extending DOTS to all DDRCs will cover the community screening needs of people who use drugs across all of Afghanistan. The CTB Project and partners will bring these experiences to the policy level to ensure quality TB care, including treatment and follow-up. Future efforts must also ensure that health facilities that provide care to TB patients have the appropriate procedures in place to systematically screen their clients. Additionally, the referral links between DDRC and TB programs at the central and provincial levels must be strengthened to ensure that this vulnerable population has access to quality care, including GeneXpert testing and digital X-ray screening.

The NTP and CTB will work together with the MOPH, DDRC, and the counternarcotic department of Afghanistan to keep people who use drugs for at least six months or until they reach the end of their treatment regimen. The extended period of care is an important strategy for ensuring that patients receive their daily pills and to prevent the transformation of drug-sensitive TB to drug-resistant TB.

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