

# 1.4 TUBERCULOSIS

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# 1. Overview

**The 2019 World Health Organization (WHO) Global TB Report found an estimated 10 million people fell ill with tuberculosis (TB) in 2018.<sup>[1]</sup> People who use drugs have higher rates of TB and latent TB infection regardless of their HIV status.<sup>[2]</sup> The risk of developing active TB disease is estimated to be between 20 to 30 times more likely in people living with HIV.<sup>[3,4]</sup> People living with HIV who inject drugs are two to six times more likely to develop TB disease,<sup>[5-7]</sup> and TB is the leading cause of mortality among people who inject drugs and who are living with HIV.<sup>[8]</sup> Current evidence mainly relates to people who inject drugs, but it is now known that people who use drugs have increased rates of TB, even if they do not inject. Drug practices such as inhaling crack cocaine and other inhalants, and exhaling directly into another person's mouth, increase the risk of developing TB disease. Environmental factors such as cramped and poorly ventilated spaces can also contribute to the transmission of TB.<sup>[5]</sup>**

The stigmatisation and criminalisation of people who use drugs also contribute to higher rates of TB, for example by creating challenges in accessing sterile injecting equipment. In prisons and other custodial settings, the risk of TB is 23-50 times that of the general population.<sup>[9]</sup> People in prison have a higher prevalence of HIV, viral hepatitis, and TB compared with the general population. A systematic review found the global prevalence of infection among people in prison was 4.8% for hepatitis B virus, 15.1% for hepatitis C virus, 3.8% for HIV, and 2.8% for active TB.<sup>[10]</sup> Continuity of care for those released from prisons also poses challenges within the prison system and the community. Higher TB rates in prisons are linked to higher rates of TB and drug-resistant TB in the community. Studies show that one in 11 TB cases in the general population in high-income countries, and one in 16 cases in low- and middle-income countries, are estimated to be attributable to TB within the prison system.<sup>[11]</sup> Data also shows that there is a twofold increased risk of multidrug resistance among people in prison compared with the general population.<sup>[9]</sup> These concentrated rates of TB infection among people in prison must be met with interventions that prevent and treat those at risk.

Among people with TB who also use drugs, at least one in three have HIV, and two in three will have hepatitis C antibodies.<sup>[12]</sup> Low access to testing and treatment services, outdated treatment approaches that are not person-centered,<sup>[13]</sup> lack of follow-through on medical examinations and referrals, and insufficient treatment adherence are

some of the issues with regard to TB services.<sup>[12]</sup> TB services rarely include harm reduction interventions such as opioid agonist therapy (OAT). Further, a lack of integration of TB, HIV and harm reduction services adds to the health disparities that the community faces.

## ASIA

TB remains one of the leading causes of morbidity and mortality in the region, which accounts for more than half of the cases and deaths worldwide.<sup>[1]</sup> In India, TB kills over 400,000 people every year, underscoring the magnitude of the illness. Eleven countries in the region are on the WHO list of 30 high TB burden countries: Bangladesh, Cambodia, China, India, Indonesia, Myanmar, North Korea, Pakistan, the Philippines, Thailand and Vietnam, and WHO cites drug resistance (i.e. drug-resistant TB) as compounding efforts to eradicate the disease in the region.<sup>[1]</sup>

Studies that directly explore the relationships between TB and drug use are limited, but some key points can nonetheless be inferred from existing data, recognising TB, HIV, and drug use as a “syndemic.”<sup>[14]</sup> For instance, China, India, Indonesia, Myanmar and Thailand are among the world's high HIV/TB burden countries. They also have HIV prevalence of more than 15% among people who inject drugs (with the exception of China), which suggests that the TB burden impacts many people who use drugs in the aforementioned countries.<sup>[1]</sup> People incarcerated for drug-related offences are particularly vulnerable, given the high rates of TB in prisons and jails.<sup>[15]</sup> In the Philippines, two out of three people awaiting their sentences in jails are charged with drug-related offences.<sup>[16]</sup> Over 5,000 people died in one prison alone, with a hospital director citing an inability to contain TB outbreaks as a major factor.<sup>[17]</sup>

Notwithstanding this dire situation, there has been a lack of inclusion of drug use in country-level TB programmes in the region. In India, despite public health officials' experiential knowledge about the high proportion of TB among people who use drugs, and the particular barriers they face such as stigma, there is no differentiated service delivery strategy for how to diagnose and treat people who inject drugs.<sup>[18]</sup>

## EURASIA

About 83% of the estimated TB cases in the WHO Europe region occur in 18 countries, 17 of which are in Eurasia (Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia,

Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Romania, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan). Together, these 18 countries accounted for over 87% of TB mortality in the WHO Europe region with the highest in Turkmenistan (10.4 deaths per 100,000), followed by Azerbaijan (10.1) and Ukraine (8.4). In addition, an estimated 20% to 25% of TB cases in Eurasia go undetected.<sup>[19]</sup>

The largest proportion of new and relapse cases (78,258, or 34.4%) come from Russia. The countries with the absolute highest number of TB cases over 10,000 are Russia (78,258), Ukraine (36,000), Uzbekistan (23,000), Romania (13,000) and Kazakhstan (12,000). There were an estimated 30,000 HIV-positive TB cases, with Russia (53%) and Ukraine (27%) contributing to the highest burden of coinfection. The TB notification rate exceeds 1,000 cases per 100,000 prison detainees in Azerbaijan, Kazakhstan, Kyrgyzstan, Moldova, Russia and Ukraine. The highest TB-related risks in prison are calculated to be in Slovakia (40.7), followed by Czechia (24.9), Ukraine (23.8), Russia (23.5) and Azerbaijan (22.1). Russia accounted for almost half of the deaths in the WHO EU Region in absolute numbers. Although few countries report TB in people who inject drugs, higher rates of notification (new cases) among this group supports evidence that people who use drugs are at higher risk of TB.<sup>[20]</sup>

OAT and drug treatment, even if available in the country, are largely unavailable in TB treatment facilities (for example Kazakhstan, Russia, Ukraine) and facilities are often restricted from prescribing controlled substances.<sup>[21]</sup> Consequently, people who use drugs often come into contact with the health system at late stages of the disease and are forced to interrupt treatment which, in turn, leads to high prevalence of multidrug-resistant TB.<sup>[11]</sup> A study conducted in Ukraine showed that only 57% of people who use drugs expressed willingness to immediately seek medical care upon finding symptoms of TB.<sup>[22]</sup> There are treatment initiation lists with new less harmful drugs, however, due to the high cost of these, treatment priority is given to patients not living with drug dependence.

A programme to actively find people with TB among at risk groups, such as people who use drugs in Ukraine, has been implemented since 2014 in 27 regions of the country by the Alliance for Public Health with support from the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund). Programme implementation coverage of at risk groups

with screening interviews increased six to seven times in the last five years, which increased the TB detection rate by 46% compared to 2014. Out of those detected, 93% initiated treatment.<sup>[23]</sup> These successes are at risk, however, as countries that transition out of the Global Fund tend to focus on maintaining drug procurement instead of programme continuation.

### LATIN AMERICA AND THE CARIBBEAN

TB incidence in Latin America is generally high, with a rate of 46.2 per 100,000 inhabitants and 25.9 in Central America and Mexico. Data from 2018 shows that Brazil, Mexico and Peru have the largest number of TB cases in the region.<sup>[24]</sup> Although data on TB rates among key populations is lacking, research suggests higher prevalence among people who inject drugs, people in prison, and people experiencing homelessness than in the general population.<sup>[1,25,26]</sup> In the Caribbean, TB cases fell by 45% from 2010 to 2017. The greatest reduction was in Haiti, where cases fell by more than 50%. However, over the same period, cases increased in Cuba and the Dominican Republic.<sup>[27]</sup> Dominica also saw an unexplained spike in cases in early 2020.<sup>[28]</sup>

TB testing and treatment is generally available across the region. In Argentina, Brazil, Bolivia, Colombia, Mexico, Peru and Uruguay, it is offered free of charge or on state insurance.<sup>[29-35]</sup> In response to the high concentration of TB in large cities in Latin America, the Pan-American Health Organization and World Health Organization Global Tuberculosis Program launched the Large Cities Tuberculosis Control Initiative in 2016. The initiative supports countries to strengthen TB control programmes and address social determinants of health through collaboration with sectors other than health.<sup>[36]</sup> However, there are geographical, economic and social barriers to accessing these TB services. Targeted TB services for people who use drugs are generally lacking, and diagnosis and treatment is not integrated into HIV or harm reduction programmes in the region.<sup>[29,31,35]</sup>

As with viral hepatitis, cocaine paste and crack cocaine use is associated with higher TB prevalence. The Casa Masantonio project in Buenos Aires, Argentina, and some services in Brazil integrate TB in their work with people who use cocaine paste.<sup>[37,38]</sup>

The number of TB cases occurring each year in Latin America can be reduced by providing preventive treatment

to people with latent TB infection, and taking multi-sectoral action on broader determinants of TB infection and disease such as poverty, malnutrition, housing quality and lack of safer water in vulnerable communities.<sup>[1]</sup>

### MIDDLE EAST AND NORTH AFRICA

The estimated incidence of TB in the Eastern Mediterranean region is 704,000 cases with a rate of 115 cases per 10,000 population compared to the global average of 132 cases per 100,000 population.<sup>[1]</sup> Although the region is considered a low or intermediate incidence rate, there are multiple factors hindering progress towards the elimination of TB, namely a high level of refugee movement, unstable political environment, wars, and high numbers of foreign national workers.<sup>[39]</sup> Data remains unavailable for incidence of TB among people who inject drugs. People living with HIV are considered at high risk of developing active TB disease. Many countries in the region have thus mainstreamed TB responses within national HIV or harm reduction plans. Other countries have a specific programme for TB within their ministry of public health. The majority of countries in the region declared having easily accessible TB services, non-mandatory and free of charge to all TB patients, including people who inject drugs.<sup>[40-57]</sup>

### NORTH AMERICA

More than 70% of cases of TB in North America occur among foreign-born populations.<sup>[58,59]</sup> Tuberculosis incidence in the United States was at the lowest level on record in 2019, with 2.7 cases per 100,000 people.<sup>[60]</sup> An estimated 4.9% of people diagnosed with tuberculosis were also living with HIV.<sup>[60]</sup> In 2018, 6.8% of cases were among people who reported non-injected drug use and 1.3% of cases were among people who reported injected drug use.<sup>[58]</sup> This is disproportionate to the population of people who use drugs in the country.

According to the latest available data in Canada, cases of active tuberculosis increased by 2.6% from 2016 to 2017. TB incidence was highest among Indigenous people at 21.5 cases per 100,000, and alarmingly high among those identifying as Inuit at 205.8 cases per 100,000.<sup>[58]</sup> No data is available on prevalence among people who use or inject drugs.

### OCEANIA

TB prevalence and incidence is very low in most of the countries in the region, with the exception of Papua New Guinea which is classified as a high TB burden country.<sup>[1]</sup> According to the latest estimates, the TB incidence rate is very low in the region when compared to the global incidence of 132 per 100,000 population; Australia (6.6), Fiji (54), New Zealand (7.3), Samoa (6.4), Tonga (10) and Vanuatu (46).<sup>[1]</sup> The Oceania region has achieved TB treatment coverage levels above 75%.<sup>[1]</sup> Although data availability has increased in the region (Kiribati, Micronesia, Tonga and Tuvalu had quality-approved surveillance data for anti-TB drug resistance for the first time, and Timor-Leste implemented its first nationwide TB survey in 2018-2019),<sup>[1]</sup> data for TB incidence or prevalence among people who inject drugs is unavailable. Though treatment and diagnostics are available in Australia and New Zealand, TB is not a significant problem in these countries.<sup>[61,62]</sup>

### SUB-SAHARAN AFRICA

According to latest available data, 34% of people living with HIV in Africa in 2016 were infected with TB. Sub-Saharan Africa bears the brunt of the dual TB and HIV epidemics, accounting for approximately 84% of all deaths from HIV-associated TB in 2018. TB prevalence is reported to be higher among people who inject drugs and people in prison than the general population, and is particularly acute among those who inject drugs in prison.<sup>[6]</sup>

Across the region, it is reported that TB testing and treatment services are available. However, there is evidence of limited accessibility for people who use drugs. The region adopted the preventive TB guidelines for all people living with HIV but treatment success rates are reported to be very poor. Currently, Burkina Faso, Côte d'Ivoire, Kenya, Mali, Mauritania, Niger, Senegal, Sierra Leone, South Africa and Tanzania offer TB treatment which is accessible to people who inject drugs. TB testing and treatment is integrated within the harm reduction package offered to people who inject drugs in Senegal and Sierra Leone.<sup>[63-69]</sup> In Uganda, people who inject drugs have not yet been reached with TB outreach services.

In 2016, WHO provided technical support to help countries adapt and implement the End TB Strategy while promoting the Sustainable Development Goals on TB and Universal Health Coverage. WHO collaborated on the Implementation

through Partnership project of the Global Fund, supporting countries in 11 French-speaking countries of West and Central Africa (Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, the Democratic Republic of the Congo, Guinea, Mali, Niger, Senegal and Togo).<sup>[70]</sup> The project supports countries encountering problems implementing grants.

### WESTERN EUROPE

The WHO Europe region saw the fastest decline of TB prevalence among all WHO regions in recent years, but this is still not enough to achieve the WHO End TB Strategy targets.<sup>[71]</sup> The incidence of TB in Western Europe is generally low, ranging from 4.5 cases per 100,000 in Iceland and Greece to 17 per 100,000 in Turkey and 20 per 100,000 in Portugal.<sup>[71]</sup> TB diagnosis and treatment is generally available for people who inject drugs, but there are barriers to accessing services, including the fear of stigmatisation and discrimination, and the lack of health insurance, which disproportionately affects refugees and migrants.<sup>[72,73]</sup> The level of integration of TB into harm reduction and HIV programmes varies, with good integration reported in Belgium, Iceland, the Netherlands and the United Kingdom, to little integration in Germany.<sup>[72,74-77]</sup> Though TB diagnosis is accessible for people who inject drugs in Portugal, and there are partnerships between harm reduction services and TB diagnostic centres, further integration is needed.<sup>[78]</sup>



*People who use drugs represent a disproportionate number of tuberculosis (TB) cases and are at greater risk of the infection progressing to more serious TB disease. The Global Plan to End TB 2016-2020 calls for 90% of all people who have TB to be reached and treated including 90% of key and vulnerable populations, which includes people who use drugs. If we are to achieve these targets, TB testing and treatment must be available without restriction to people who use drugs.*



## 1.4 Tuberculosis (TB)



**1 IN 3**

PEOPLE WITH TB WHO ALSO USE DRUGS HAVE HIV.

THE RISK OF DEVELOPING ACTIVE TB DISEASE IS ESTIMATED TO BE BETWEEN



**20 TO 30 TIMES**

MORE LIKELY IN PEOPLE LIVING WITH HIV.



*TB is the leading cause of mortality among people who inject drugs and who are living with HIV.*

## Recommendations

**TB DIAGNOSIS AND TREATMENT MUST BE MADE WIDELY AVAILABLE AND ACCESSIBLE TO ALL PEOPLE WITH SPECIFIC INTERVENTIONS.**

TB must be integrated into harm reduction services and vice versa. Mechanisms for integrated delivery of services for people who use drugs will help reduce the burden of TB on them. This includes providing TB services in prisons through harmonisation of interventions found outside prisons and linkages to services in the community for people released from prison.<sup>[79]</sup>

**PROGRAMMES AND REGIONAL AND INTERNATIONAL ORGANISATIONS MUST COLLECT ROBUST DATA ON TB AMONG PEOPLE WHO USE DRUGS.**

People who use drugs face high risks of acquiring latent TB and TB disease. Accurate data will help to develop effective programmes and mitigate this burden. The data will also provide an accurate picture of the level of investment that is required to prevent unnecessary TB morbidity and mortality in people who use drugs.

**PROGRAMMES MUST IMPLEMENT ACTIONS THAT ACTIVELY SEEK TO PREVENT, DIAGNOSE AND TREAT TB AMONG PEOPLE WHO USE DRUGS.**

Active intensified TB case finding, together with appropriate diagnosis and treatment, has the potential to significantly reduce TB incidence.<sup>[80]</sup> Active case finding includes going outside the health facility and into communities to provide services where people are located. Due to criminalisation, and high rates of stigma and discrimination, community outreach for people who use drugs must be central to any TB prevention and treatment programme.

## Conclusion

One of the biggest gaps in understanding the issues affecting people who use drugs and have TB found in this report is the lack of data at global, regional and national levels. This has resulted in harm reduction programmes not including TB in services and the absence of specific outreach and activities for people who use drugs in TB programmes. International agencies such as the WHO Global TB Programme, for example, do not collect this data from countries leaving wide gaps in programme implementation and investment. Without data, there is no clear picture of the scale of need of people who use drugs who are at risk of or have TB, and minimal investment in providing TB services for people who use drugs will continue.

People who use drugs represent a disproportionate number of TB cases and are at greater risk of the infection progressing to more serious TB disease.<sup>[81]</sup> The Global Plan to End TB 2016-2020 calls for 90% of all people who have TB to be reached and treated including 90% of key and vulnerable populations, which includes people who use drugs.<sup>[82]</sup> If we are to achieve these targets, TB testing and treatment must be available without restriction to people who use drugs.

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