Integrating collaborative TB and HIV services within a comprehensive package of care for people who inject drugs

Consolidated Guidelines

Geneva, 2016

THE END TB STRATEGY

World Health Organization

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Contents

I. Acronyms

AIDS	acquired immunodeficiency syndrome
APRI	aminotransferase/platelet ratio index
ART	antiretroviral therapy
ASSIST	Alcohol, Smoking and Substance Involvement Screening Test
CHB	chronic hepatitis B
CI	confidence interval
CPT	co-trimoxazole preventive therapy
DAA	direct-acting antiviral (drug)
DIH	drug-induced hepatotoxicity
DNA	deoxyribonucleic acid
FIB-4	Fibrosis-4 score
GRC	Guideline Review Committee
HBV	hepatitis B virus
HBsAg	hepatitis B surface antigen
HBeAg	hepatitis B e antigen
HCV	hepatitis C virus
HIV	human immunodeficiency virus
HTS	HIV testing service
IGRA	interferon-gamma release assay
IPT	isoniazid preventive therapy
LTBI	latent TB infection
MDR-TB	multidrug resistant tuberculosis
mh-GAP	mental health Gap Action Programme
NAT	nucleic acid testing
NGO	nongovernmental organization
NSP	needle and syringe programme
OST	opioid substitution therapy
PEP	post-exposure prophylaxis
PEPFAR	President's Emergency Plan for AIDS Relief
PrEP	pre-exposure prophylaxis
PWID	people who inject drugs
PWUD	people who use drugs
RCT	randomized controlled trial
RNA	ribonucleic acid
STI	sexually transmitted infection
TB	tuberculosis
TST	tuberculin skin test
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization

II. Definition of key terms

People who inject drugs (PWID) refers to people who inject psychotropic (or psychoactive) substances for non-medical purposes. These drugs include opioids, amphetamine-type stimulants, cocaine, hypnotics/sedatives and hallucinogens. Injection may be through intravenous, intramuscular or subcutaneous routes. The definition does not include people who self-inject medicines for medical purposes, or individuals who self-inject non-psychotropic substances (e.g. steroids or other hormones) for body shaping or to improve athletic performance.

People who use drugs (PWUD) includes people who use psychotropic substances through any route of administration, including injection, oral, inhalation, transmucosal (sublingual, rectal or intranasal) or transdermal. For the purposes of this document, the definition does not include the use of such widely used substances as tobacco, or beverages and foods that contain alcohol or caffeine.

Prisons and closed settings. For the purposes of this document, the term "prisons and closed settings" refers to all places of detention within a country. The terms "prisoners" and "detainees" refer to all those detained in criminal justice and prison facilities (including adult and juvenile males and females), during the investigation of a crime, while awaiting trial, after conviction, before sentencing and after sentencing. These terms also include those detained without charge, or those sentenced to compulsory treatment and to rehabilitation centres.

Harm reduction, for the purposes of this document, refers to an evidence-based approach to reducing the harms associated with drug use. WHO, in collaboration with the United Nations (UN) Office on Drugs and Crime and the Joint UN Programme on HIV/AIDS has defined a package of nine evidence-based interventions, referred to as the "comprehensive package" (*1*). This package comprises two drug-use specific interventions – needle and syringe programmes, and opioid substitution therapy and other evidence-based drug dependence treatment – plus HIV testing services; antiretroviral therapy; prevention and treatment of sexually transmitted infections; condom programmes; targeted information, education and communication; prevention, vaccination, diagnosis and treatment of viral hepatitis; and prevention, diagnosis and treatment of tuberculosis. In 2014, naloxone for the management of opioid overdose was added. Although the comprehensive package focuses primarily on injecting drug use, it also recognizes the importance of harm reduction interventions for PWUD but who do not inject and are in need of the services.

III. Acknowledgements

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IV. Executive summary

People who inject drugs (PWID) are at increased risk of tuberculosis (TB). HIV further increases the risk of developing TB, with TB being a leading cause of mortality among PWID who live with HIV. Much of the evidence relates to TB among PWID; however, people who use drugs (PWUD) who do not inject have also been found to have increased rates of TB. Although less than 1% of the world's population is estimated to inject drugs, PWID account for a disproportionate 5–10% of all people living with HIV. PWID have the highest risk of hepatitis C infection, with an estimated global prevalence of 67%; there is also an overall prevalence of hepatitis B in PWID of about 8%.

The prevention, diagnosis and treatment of TB, and HIV-associated TB are key elements of the internationally endorsed comprehensive package of harm reduction for PWID. In addition the package comprises the essential and prioritized drug-use specific interventions; needle and syringe programmes (NSPs), and evidence-based, human-rights-compliant drug dependence treatment services, including opioid substitution therapy for those who are opioid dependent. It also includes HIV testing services; antiretroviral therapy (ART); prevention and treatment of transmitted infections; condom programmes; targeted information, education and communication; and prevention, vaccination, diagnosis and treatment of viral hepatitis. The package has proven to be efficacious and cost effective in preventing the harms associated with injecting drug use. Nevertheless, access to these life-saving interventions remains suboptimal.

These guidelines aim to reduce morbidity and mortality related to TB and HIV-associated TB among PWID through the integrated delivery of a comprehensive and holistic package of care. The guidelines provide an update of the 2008 *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach*. They consolidate the latest recommendations relating to the management of TB, HIV-associated TB, HIV, viral hepatitis B and hepatitis C, and drug dependence, as well as of alcohol dependence, malnutrition, mental illness and psychosocial needs.

Although the main focus of this guidance is to benefit PWID, many of the recommendations are also relevant for those who use drugs and do not currently inject, but are in need of the respective services. The guidelines are intended primarily for policy-makers and decision-makers in the field of health, in both the civilian and penitentiary systems. These include managers of TB, HIV, and viral hepatitis programmes or their equivalents as well as drug dependence treatment services, and other essential WHO-recommended core services for PWID (e.g. NSPs) in the governmental or nongovernmental sectors. The guidelines are also intended for donors, development agencies, PWID networks and their advocates.

This guidance was developed on a basis of human rights principles, as reflected in international agreements and resolutions. Thus, programmes should work collaboratively with PWID and civil society networks to ensure a favourable legislative and policy environment that allows equitable, acceptable, person-centred care for PWID. This should include decriminalization of drug use and protection from stigma, discrimination and police harassment. In order to achieve this multisectoral collaboration, community empowerment, and the involvement of PWID in policy design, and delivery and evaluation of services is essential.

The guidelines are based around a framework that structures the activities under the following three objectives:

- establish and strengthen mechanisms for the integrated delivery of services for PWID;
- reduce the joint burden of TB, HIV, viral hepatitis and other comorbidities among PWID through the integrated delivery of comprehensive services; and
- ensure a standard of health care in prisons equivalent to that found outside prisons through harmonization of interventions and linkage to services in the community.

1. Background and process

1.1 Introduction

People who inject drugs (PWID) are at increased risk of tuberculosis (TB), irrespective of their HIV status, and TB is a leading cause of HIV-related mortality among PWID (*2, 3*). PWID are also disproportionately affected by HIV, hepatitis B and hepatitis C.

The prevention, diagnosis and treatment of TB, HIV and viral hepatitis are key elements of the internationally endorsed comprehensive package of harm reduction measures for PWID (*1*). The package has proven to be efficacious and cost effective in reducing the harms associated with injecting drug use. It was proposed by WHO, the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the United Nations Office on Drugs and Crime (UNODC). The package was subsequently endorsed at the highest political levels by the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund), the United States (US) President's Emergency Plan for AIDS Relief (PEPFAR), the UNAIDS Programme Coordinating Board, the United Nations (UN) Commission on Narcotic Drugs, the UN General Assembly, and the UN Economic and Social Council. However, for PWID, access to this recommended package of services remains inadequate (*4*). The nine evidence-based interventions that make up the package of measures are shown in Box 1.1.

Box 1.1
The comprehensive package of harm reduction for PWID

The comprehensive package (*1, 5*) includes the following:

- needle and syringe programmes
- opioid substitution therapy, other evidence-based drug dependence treatment, and naloxone for opioid overdose
- HIV testing services
- antiretroviral therapy
- prevention and treatment of sexually transmitted infections
- condom programmes for PWID and their sexual partners
- targeted information, education and communication for PWID and their sexual partners
- prevention, vaccination, diagnosis and treatment for viral hepatitis
- prevention, diagnosis and treatment of TB.

In 2008, WHO, UNODC and UNAIDS together published *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*). The aim was to provide a strategic approach for reducing morbidity and mortality related to TB and HIV among at-risk people who use drugs (PWUD) and their communities. Since the release of those guidelines, WHO has published a number of policies and guidelines recommending life-saving interventions to address TB, HIV-associated TB, HIV, and hepatitis B and C, as well as guidelines for the treatment of drug dependence (*1, 5, 7-28*). This document provides an update of the 2008 policy guidelines to include the latest recommendations and evidence, and to further emphasize the importance of integrated delivery of comprehensive health-care services for PWID.

1.2 Epidemiology and burden

Common interrelated risk factors and social and structural determinants of TB include HIV, poverty, homelessness, poor nutrition, drug use, smoking and excessive use of alcohol. The prevalence of latent infection with *Mycobacterium tuberculosis* and of active TB disease is higher in PWID than in the general population, irrespective of HIV infection (*29-31*). Studies measuring latent TB infection (LTBI) using the tuberculin skin test (TST) report

prevalence among PWID of 10% to 59% (*29*). Similarly, studies recording prevalence of active TB disease among PWID report levels from 0.5% to 66% (*32*). Evidence linking TB and drug use primarily relates to injecting drug use; however, an increased risk of TB has also been linked to the smoking of crack cocaine and opium (*29, 33, 34*). In Europe, TB is the leading AIDS-defining illness among PWID (*35*). In a study in Spain, PWID were more than twice as likely to develop TB as an AIDS-defining illness than were men who have sex with men (*36*). TB is a leading cause of mortality among PWID living with HIV; evidence from the Russian Federation, Spain and the United States of America (USA) found that TB-associated HIV mortality rates were several times higher among PWID than among the general population *(2, 29, 37, 38*). There is a growing body of evidence that suggests an association between HIV, injecting drug use and multidrug resistant TB (MDR-TB), particularly in eastern Europe, and this association warrants further monitoring (*39-41*). Two of the key contributors to the development of MDR-TB include incarceration and interrupted TB treatment, both of which are more likely to be experienced by PWID (*32, 40, 42, 43*). Patients with MDR-TB, in particular those with HIV-associated MDR-TB, have poor treatment outcomes and resultant high mortality rates (*32, 40, 44-46*).

Although less than 1% of the world's population has been estimated to inject drugs, PWID account for about 5–10% of all people living with HIV and almost a third of all new HIV infections outside sub-Saharan Africa (*47-50*). In countries with concentrated HIV epidemics, in particular those in eastern Europe and south-east Asia, an HIV prevalence of more than 40% has been reported among populations of PWID (*48, 51*). Transmission of HIV through shared injecting equipment, as well as through sexual transmission, is also a growing concern in Africa (*51-53*). Furthermore, PWID have the highest risk of infection with hepatitis C, with an estimated global prevalence of 67% in this group (*54*). The global prevalence of hepatitis B (hepatitis B surface antigen [HBsAG] positive) among PWID has been estimated at 8.4% (*54*). Up to 25% of PWID infected with hepatitis C may be coinfected with hepatitis B virus (*13*).

The syndemic of TB, HIV and viral hepatitis among PWID has become a major health concern. Coinfection rates for hepatitis C approaching 100% have been reported in a number of countries among PWID living with HIV (*55*). In high TB burden countries, comorbidity with hepatitis B as well as hepatitis C has been found to be common among both HIV-positive and HIV-negative TB patients who inject drugs (*56, 57*). In these countries, coinfection with TB and hepatitis C among PWID is estimated to be higher than the levels of HIV-associated TB; at least two thirds of PWID who develop TB are estimated to have hepatitis C virus antibodies, compared with one third of PWID who develop TB and who live with HIV (*3*).

Prisons help to drive TB, HIV, and hepatitis B and C infection rates among PWID. Prisoners are constantly moving within the prison system, as well as in and out of it; hence, incarceration can pose a particular challenge for health services in providing continuity of care. This can result in the development of MDR-TB and continued transmission both within the prison system and the community. Increased TB rates in prisons are associated with increased rates of both TB and MDR-TB in the surrounding community. In high-income countries, one in 11 TB cases that occur in the general population are estimated to be attributable to TB within the prison system; in low- to middle-income countries, the proportion is one in 16 (*58, 59*). TB prevalence in prisons can be 50 times higher than among the general population and, in Europe, studies found a twofold increased risk of multidrug resistance among prisoners compared with the general population (*60, 61*). PWID experience high incarceration rates, exposing them in prisons to higher infection rates and higher TB transmission rates than are found in the general population (*3*). Rates of HIV and hepatitis B and C infections in prisons are also considerably higher than in the general community. This is due in part to the fact that populations most vulnerable to HIV and viral hepatitis are more at risk of criminalization and incarceration. The rapid spread of these diseases is also fuelled by factors such as overcrowding and poor nutrition, and lack of access to harm reduction interventions and adequate infection control, which in turn results in sharing of injecting equipment, nonsterile tattooing practices, and unprotected sex (*3*).

1.3 Scope of the policy

The purpose of this guidance is to reduce morbidity and mortality related to TB and HIV-associated TB among PWID. It does this by promoting the integrated delivery of a comprehensive package of services for PWID, including for TB, HIV, viral hepatitis while addressing other issues such as alcohol dependence, malnutrition, mental illness and psychosocial needs. The guidance also addresses the challenge of disease control and access in prisons and other closed settings to the appropriate services. The document is intended to be complementary to established

core activities of TB, HIV and viral hepatitis prevention, screening, diagnosis, treatment and care programmes, as well as those of harm reduction. It is closely aligned to WHO's global End TB Strategy (*62*) and the Framework Towards Tuberculosis Elimination (*63*). Similarly, the provision of a comprehensive package of care for PWID is firmly embedded within the proposed global health sector strategies on HIV and viral hepatitis 2016–2021 (*64, 65*), and within the UNAIDS 2016-2021 Strategy on the Fast-Track to end AIDS (*66*).

This guidance promotes strengthened collaboration between national TB-control programmes, HIV programmes, drug dependence treatment services, NSPs and other services for PWID, including the establishment or expansion of care and treatment services for those with hepatitis C and B. Nevertheless, defining effective and pragmatic mechanisms to jointly manage such programmes should depend on the national epidemiology of TB, HIV and viral hepatitis among PWID. Also, the context and evidence specific to the particular country need to be taken into account.

This policy will be reviewed and updated within 5 years (i.e. by 2021).

1.4 Target audience

This guidance is intended for:

- policy-makers and decision-makers in the field of health, including those in the penitentiary system;
- managers of national TB programmes, HIV programmes, viral hepatitis services or their equivalents, drug dependence treatment services, NSPs and other services for PWID working at all levels in the community and in prisons, in the governmental or nongovernmental sectors; and
- donors, development agencies, PWID networks and their advocates.

Beyond the ministries of health and those responsible for prisons, the recommendations contained within these guidelines have important implications for the strategic directions and activities of other line ministries, such as those responsible for justice, drug control and finance.

1.5 Target population

The target population for this guidance is people who inject psychotropic (or psychoactive) substances for non-medical purposes, as per the definition given above in Section II. Although the main aim of this guidance is to benefit PWID, non-injecting drug use also carries increased health-related harms. Thus, many of the recommendations given here are also relevant for PWUD who do not currently inject but are in need of such services.

1.6 Guiding principles of the guidelines

The overall framework for the development of these guidelines is based on human rights principles. These principles are reinforced by the International standards for tuberculosis care (*67*), the *International guidelines on HIV/AIDS and human rights* (68) and The patients' charter for tuberculosis care (*69*), which emphasize the right to treatment without stigma, prejudice or discrimination by health providers and authorities.

Fundamental to ensuring equitable access to health care is the protection of human rights for PWID. Programmes should work with other sectors and should promote critical enablers to ensure a favourable environment for the integrated delivery of comprehensive care for PWID. Legislators and other government authorities should establish and enforce antidiscrimination and protective laws derived from international human rights standards, in order to (*68*):

- eliminate stigma, discrimination and violence, police harassment, arbitrary arrest and detention faced by PWID (see Box 1.2);
- ensure access to justice for PWID; and
- reduce the vulnerability of PWID to TB, HIV, viral hepatitis and other infections.

Box 1.2
Compulsory drug detention and rehabilitation centres

In some contexts, people who use or inject drugs are detained in compulsory drug detention centres or rehabilitation centres where they are typically supervised by custodial staff and have limited access to health services. Detainees can be subject to physical punishment and treatment that is neither evidence-based nor compliant with human rights principles. Relapse rates upon release from such centres tend to be high (*1, 70*). UN entities do not support these forms of detention; they call on Member States to close compulsory drug detention and rehabilitation centres and to implement voluntary, evidence-informed and rights-based health and social services for PWID in the community (*71*).

1.6.1 Access to quality health care

Access to health care is a universal and basic human right. It includes the right of individuals who use drugs to have access to appropriate, quality health care without discrimination. Health-care providers and institutions should serve PWID on the principles of medical ethics and the right to health (*72*). PWID should not be denied treatment for TB, HIV, viral hepatitis and drug dependence, or access to NSPs. Also, PWID should be able to access health services without police harassment, arbitrary arrest, stigma or discrimination, or being subject to other exclusionary practices, policies or eligibility criteria. The recommendations in this guidance can be effective only when services are designed for maximal access by PWID, and are acceptable, of high quality and widely implemented. Poor-quality services and restricted access to services will seriously limit the individual benefit and public health impact of the recommendations.

1.6.2 Access to justice

Access to justice is a major priority for PWID, given their high rates of contact with law enforcement services due to the illegality of drugs and of drug use in many countries. Access to justice includes freedom from arbitrary police harassment, arrest and detention; the right to a fair trial; freedom from torture and cruel, inhuman and degrading treatment; the right to police protection when PWID are victims of crime; and the right (including in prisons and other closed settings) to the highest attainable standard of health (*73*).

Drug use has legal implications in many jurisdictions. Hence, the incarceration rates of PWID are high in many countries. For those not incarcerated, regular contact with law enforcement agencies is common. The protection of human rights for PWID, including the rights to self-organize and to employment, housing and health care, requires collaboration between health-care, social welfare and criminal justice agencies, including those that manage prisons and closed settings. Detainment in closed settings should not impede the right to maintain dignity and health (*72*).

1.6.3 Acceptability of services

Acceptability of services to PWID is a key aspect of effectiveness. Interventions to reduce the burden of TB, HIV and viral hepatitis among PWID must be respectful, acceptable, appropriate and affordable to recipients. This will help to enlist PWID's participation, ensure their retention in care, and ensure that services meet required standards for equitable access to health care. In some cases, services for PWID employ appropriate models of service delivery but lack expertise in TB, HIV or viral hepatitis. Conversely, certain specialized TB, HIV or viral hepatitis services may not be acceptable to or appropriate for PWID. Thus, there is a need to build service capacity on all fronts to ensure a people-centred approach. An effective way to work towards this goal would be for health services, PWID networks and peer workers to consult on and share training in service design, delivery and evaluation. (*13*). Mechanisms for regular and ongoing feedback from service users to service providers will help to inform and improve the acceptability of services to key populations. It is vital that any data and medical records identifying people as users of drugs are shared only to monitor the burden of disease and improve the quality of services; they should not be shared with law enforcement agencies.

1.6.4 Health literacy

Some PWID may have inadequate health and treatment literacy, while others may be concerned about treatment side-effects (*74*). When combined with social and structural barriers, these issues may hinder decision-making on

reducing disease risk, seeking health care and initiating treatment. Therefore, health services should regularly and routinely provide accurate, comprehensible, evidence-based and non-judgemental information to PWID about the prevention care for and treatment of TB, HIV and viral hepatitis. Health information can also be disseminated through community networks and peer workers. This information should address PWID's concerns surrounding comorbidities and treatment side-effects, as well as social and structural barriers such as fears of stigma, discrimination and criminalization. Correspondingly, knowledge of PWID's health and social care needs can also be lacking among providers and, in prison settings, among guards and prison management. Health services in the community and in prisons should provide training for staff to improve understanding of PWID's health and social care needs, which in turn will increase capacity to prevent and to treat HIV, TB and viral hepatitis among PWID (*13*).

1.6.5 Integrated service provision

PWID commonly experience multiple comorbidities, often in a context of marginalization and deprivation. Rates of TB, HIV, viral hepatitis and other infectious diseases are high among PWID, as are mental health conditions. Integration of services greatly increases access to collaborative TB/HIV activities for the general population (*75*). Similarly, integrated services provide the opportunity for people-centred prevention, care and treatment for PWID, who have complex health and social care needs. Such services also facilitate better communication and multidisciplinary care, and are likely to increase efficiency and cost–effectiveness (*76*). Thus, wherever feasible, programmes should work towards the delivery of integrated services for PWID in ways that are informed by PWID and that foster trust in service delivery settings and providers. When this is not possible, strong links among health and social services working with PWID should be established and maintained (*2, 6, 77*).

1.7 Process of updating

The process of updating the WHO 2008 policy guidelines (*6*) followed that recommended by the WHO Guidelines Review Committee (GRC) (*78*). All relevant recommendations and guidance within this document derive from existing WHO guidance and were developed according to GRC processes. The original source guidance documents referenced in these guidelines (listed in Box 1.3) describe how the respective recommendations were developed, and how the evidence was interpreted and graded.

A Joint Steering Group was formed, comprising focal points from WHO, UNAIDS and UNODC. Also, an External Guideline Group was established to oversee the process of guideline consolidation. The group comprised policy-makers; experts in TB, HIV, viral hepatitis and drug-use services; donor agencies; and representatives from PWID networks. All members of the External Guideline Group submitted declarations of interest; these were reviewed by the WHO Secretariat, which found that none posed any conflict.

The Joint Steering Group prepared a draft framework of the document, together with a list of recommendations to be incorporated, followed by a draft of the updated policy guidance. These materials were circulated to the External Guideline Group and feedback was elicited via email. Revisions were incorporated, and the policy was then circulated to internal and external peer reviewers. Comments from the peer reviewers were discussed among the Joint Steering Group, and the document was finalized by the coordinators of the process.

Box 1.3
Source documents for the recommendations

- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *Guidelines for the programmatic management of drug-resistant tuberculosis – emergency update 2008* (*7*).
- *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence* (*8*).
- *WHO policy on TB infection control in health-care facilities, congregate settings and households* (*9*).
- *Guidelines for intensified tuberculosis case-finding and isoniazid preventive therapy for people living with HIV in resource-constrained settings* (*10*).
- *mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings* (*11*).
- *WHO guidelines for the programmatic management of drug-resistant tuberculosis; 2011 update* (*12*).
- *Guidance on prevention of viral hepatitis B and C among people who inject* (*13*).
- *Recommendations for investigating contacts of persons with infectious tuberculosis in low- and middle-income countries* (*14*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).
- *WHO, UNODC, UNAIDS technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users* (*1*).
- *Policy brief on HIV prevention, treatment and care in prisons and other closed settings: a comprehensive package of interventions* (*16*).
- *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection* (*17*).
- *Policy update – Automated real-time nucleic acid amplification technology for rapid and simultaneous detection of tuberculosis and rifampicin resistance: Xpert MTB/RIF system for the diagnosis of pulmonary and extrapulmonary TB in adults and children* (*18*).
- *Nutritional care and support for patients with tuberculosis: guideline* (*19*).
- *Systematic screening for active tuberculosis: principles and recommendations* (*20*).
- *Guidelines for the screening care and treatment of persons with hepatitis C* (*21*).
- *Guidelines for the identification and management of substance use disorders in pregnancy* (*22*).
- *Community management of opioid overdose* (*23*).
- *Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations* (*5*).
- *Guidelines on post-exposure prophylaxis for HIV and the use of co-trimoxazole prophylaxis for HIV-related infections among adults, adolescents and children: recommendations for a public health approach* (*24*).
- *Guidelines on the management of latent tuberculosis infection* (*25*).
- *Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection* (*26*).
- *Consolidated guidelines on HIV testing services* (*27*).
- *Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV* (*28*).

2. Goal, objectives and structure

2.1 Goal

The goal of integrating collaborative TB and HIV services within the comprehensive package of harm reduction is to reduce morbidity and mortality from TB and HIV-associated TB among PWID, in addition to reducing other comorbidities associated with drug use.

2.2 Objectives

The objectives are as follows:

A. Establish and strengthen mechanisms for the integrated delivery of services for PWID:

A1 Set up and strengthen a coordinating body for integrated delivery of services for PWID, with representation from key stakeholders.

A2 Determine the burden of TB, HIV and viral hepatitis among PWID.

A3 Carry out joint planning for the integrated delivery of services for PWID.

A4 Monitor and evaluate integrated services for PWID.

B. Reduce the joint burden of TB, HIV, viral hepatitis and other comorbidities among PWID through the integrated delivery of comprehensive services:

B1 Establish people-centred models of integrated service delivery for PWID, including TB, HIV, viral hepatitis, drug dependence, NSP and other services.

B2 Increase access to collaborative TB and HIV services for PWID.

B3 Ensure access to OST and other drug dependence treatment services.

B4 Prevent, screen and treat viral hepatitis B and C among PWID.

B5 Manage and treat alcohol dependence.

B6 Address mental illness and psychosocial support needs.

B7 Ensure access to nutritional care.

C. Ensure a standard of health care in prisons equivalent to that found outside prisons, through the harmonization of interventions and linkage to services in the community

2.3 Structure

Sections A to C of this document are structured around the objectives listed above. Under each of the objectives the guidelines give one or more of the following:

- recommendations drawn from the various source documents relevant to the objective;
- background information on the recommendations; and
- further reading related to the recommendations and background information.

A. Establish and strengthen mechanisms for the integrated delivery of services for PWID

A1. Set up and strengthen a coordinating body for the integrated delivery of services for PWID, with representation from key stakeholders.

Recommendations

1. The ministry of health should create and strengthen a joint national multisectoral coordinating body of key governmental and nongovernmental stakeholders, including PWID networks and their advocates.
2. This body should function at regional, district, local and facility levels, and be responsible for the governance, planning, coordination, implementation, monitoring and resource mobilization for the integrated management of TB, HIV and viral hepatitis among PWID (*6, 15*).

Many countries have separate planning and implementation mechanisms that address substance use and the prevention, diagnosis and treatment of common comorbidities such as TB, HIV and viral hepatitis. Coordination is needed at all levels of the system, and across multiple sectors, to ensure strong and effective collaboration between stakeholders supporting PWID. Where countries already have TB/HIV coordinating bodies (e.g. country coordinating mechanisms for the Global Fund), it may be necessary to strengthen the role of such bodies through revised terms of reference, and expansion based on performance and achievements, in order to deliver integrated services for PWID.

There should be equal or reasonable representation from key stakeholders, including national programmes or their equivalents and nongovernmental organizations (NGOs) responsible for TB, HIV, viral hepatitis, drug dependence treatment, NSPs, social care and psychological services, drug control, prisons, and the criminal justice system. Meaningful representation and involvement of PWID groups and networks, and low-threshold services for PWID are essential to ensure effective and acceptable implementation of integrated services as well as programme success.

The national coordinating body should have official status, with clear terms of reference. The important areas of responsibility are:

- governance and coordination at national and subnational levels;
- creating and maintaining a favourable legislative and policy environment for maximizing access to safe, effective and acceptable, human rights-based services for PWID, free from stigma or discrimination;
- resource mobilization;
- provision of general policy and programme direction for the management of activities;
- human resource development and capacity-building, including training and ongoing joint, supportive supervision;
- ensuring coherence of communications and health information about TB, HIV, viral hepatitis, drug use and psychosocial aspects;
- community empowerment and ensuring the meaningful involvement of civil society organizations, NGOs and community organizations, including PWID, networks and individuals; and
- ensuring joint accountability and programme monitoring and evaluation.

Drawing on experience of the scale-up of collaborative TB/HIV activities, operational research and descriptive studies have shown that effective coordinating bodies that operate at all levels and include the participation of key stakeholders – from respective disease programmes or their equivalents, civil society organizations, patients and communities – are feasible, and ensure broad commitment and ownership (*15*). A national coordinating body should also address governance issues, including the division of labour and resources, and responsibilities for financing and implementing joint plans.

Box A1
Critical enablers for equitable access to care for PWID (*5*)

The coordinating body should aim to create a favourable environment for the integrated delivery of comprehensive care for PWID – including for more vulnerable groups such as female and adolescent PWID, and prisoners – by promoting the following critical enablers, which are essential for supporting the provision of safe, effective and acceptable services:

- **Laws, policies and practices should be reviewed** and, where necessary, revised by policy-makers and government leaders, with meaningful engagement of PWID, to allow for and support the implementation and scale-up of integrated and evidence-based health-care services for PWID.
- **Countries should work towards decriminalizing drug use and injecting, implementing PWID support services such as NSPs, and implementing and enforcing antidiscrimination and protective laws** derived from internationally recognized human rights standards, to eliminate stigma, discrimination and violence against PWID and to ensure their access to justice.
- **Health services should be made available, accessible and acceptable to PWID,** based on the principles of medical ethics, avoidance of stigma, non-discrimination and the right to health.
- Programmes should work towards implementing a package of interventions for **enhancing community empowerment among PWID.**
- **Violence and other crimes against PWID should be prevented and addressed** in partnership with PWID-led organizations and networks. All violence against PWID should be monitored and reported, and redress mechanisms should be established to provide justice.

To facilitate equitable access to integrated and people-centred services for PWID, the coordinating body should promote the implementation of critical enablers that overcome barriers to access (see Box A1). This requires participation of actors from both within and outside the health sector. Policy-makers, parliamentarians and other public health leaders should work together with civil society organizations in their efforts to monitor stigma, confront discrimination against PWID, and change punitive legal and social norms (*1, 5, 71, 79*).

Further reading for Objective A1:

- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).

A2. Determine the burden of TB, HIV and viral hepatitis among PWID

Given the overlap of the HIV, viral hepatitis and TB epidemics, particularly among PWID, and the shared risk behaviours for HIV, sexually transmitted infections (STIs) and viral hepatitis infections, countries are encouraged to integrate surveillance activities wherever possible. This integration can expand both epidemic monitoring and response, enhance efficiency and maximize the return on investment (*27*). Surveillance activities should not place a new burden on PWID, and must undergo appropriate ethical review (*80, 81*). Congregate settings such as prisons should be part of the country surveillance activities, and should also be included in facility assessment for infection control of TB, HIV and viral hepatitis.

Newly detected cases during surveillance should be referred to or provided with the required care, treatment and prevention services based on national guidelines. They should also be referred to existing drug dependence treatment services, NSPs, mental health and psychosocial care and drug user groups. This also relates to prisoners in relation to prison health services and post-release support. Specific guidance has been developed to ensure that HIV surveillance adequately covers key populations, including PWID (*1, 80, 82, 83*).

The *WHO policy on collaborative TB/HIV activities* (*15*) recommends that surveillance of HIV should be conducted among TB patients, and that surveillance of active TB disease should be conducted among all people living with HIV in all countries, irrespective of national adult HIV and TB prevalence rates. The aim is to inform programme planning and implementation, and improve integration of care. There are three key methods for surveillance of HIV among TB patients (*15*):

- periodic surveys (cross-sectional HIV seroprevalence surveys among a small representative group of TB patients within a country);
- sentinel surveys (using TB patients as a sentinel group within the general HIV sentinel surveillance system); and
- data from the routine HIV testing and counselling of patients with presumptive or diagnosed TB.

HIV testing should also be an integral part of TB prevalence surveys and anti-TB drug resistance surveillance.

Where possible, surveillance among PWID should incorporate data on (*80*):

- indicators of population size and growth;
- sociodemographic features and risk groups (including history, or start, duration and reason for incarceration);
- types of drugs used, and duration and patterns of drug use;
- disease burden (TB, HIV, hepatitis B and C, STIs, mental health and other conditions);
- risk behaviours; and
- access to HIV testing services (HTS), ART, HIV prevention activities, treatment and drug-related harm reduction services (e.g. NSPs and OST), and prevention, diagnosis and treatment of TB and hepatitis B and C.

Assessment of access should take into account quality of linkages along the cascade of care; that is, from prevention to diagnosis, treatment and viral suppression in the case of HIV.

Any surveillance – be it through surveys or routine data collection, in prisons or in the community – must follow nationally recommended guidelines. Also, the information-gathering processes and the information itself should serve to protect, and not put at risk, the safety and privacy of PWID. The status or history of drug use should not be shared with law enforcement agencies. The information gained from surveillance should be used only for improving access, without prejudice, to the required health and social services, and for shaping the overall national response to the corresponding health issues. Ethical principles must be observed at all times, and the human rights of people from key populations protected. In some circumstances, determining population size or mapping PWID populations can unintentionally endanger community members or subject them to stigma by identifying these populations and where they are located. Such information could also lead to arrest or imprisonment of people from key populations whose behaviour is criminalized. When gathering information, it is important to obtain full informed consent, and to strictly maintain privacy, client confidentiality and the security of the information collected. If the safety and the human rights of the PWID cannot be protected, collection of certain data (e.g. mapping where PWID congregate) is best avoided. Inclusion of local PWID communities in surveillance activities is critical for expanding the reach and for ensuring the acceptability and safety of the process (*27*).

Further reading for Objective A2:

- *Consolidated guidelines on HIV testing services* (*27*).
- *Consolidated strategic information guidelines for HIV in the health sector* (*83*).
- *Guidelines on surveillance among populations most at risk of HIV* (*80*).
- *Guiding principles on ethical issues in HIV surveillance* (*81*).
- *Tool to set and monitor targets for HIV prevention, diagnosis, treatment and care for key populations* (*82*).
- *Tuberculosis prevalence surveys: handbook* (*84*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).

A3. Carry out joint planning for the integrated delivery of services for PWID

Recommendations

1. National strategic plans or other equivalent official documents for TB, HIV, viral hepatitis and drug dependence should clearly define the roles and responsibilities of all those delivering services for PWID, and should ensure the monitoring and evaluation of integrated activities at all levels (*6*).
2. Human resource planning should ensure that there are adequate numbers of personnel. Also, that education and training programmes aim to build sustainable effective teams so that all personnel who have contact with PWID have the appropriate level of skills to manage TB, HIV, viral hepatitis, drug dependence and other comorbidities experienced by PWID (*6*).
3. National programmes should develop specific strategies to enhance the involvement of PWID, NGOs and other civil society organizations, and low-threshold services in developing and implementing policy and programmes, advocacy, and the monitoring and evaluation of integrated activities at all levels (*15*).
4. All stakeholders should support and encourage operational research to develop the evidence base for efficient, effective and acceptable delivery of integrated services for PWID (*15*).

A3.1 Joint planning

Medium- and long-term joint strategic planning should be developed to successfully and systematically scale up integrated services, delivered preferably at the same time and location, giving due consideration to infection control to prevent nosocomial transmission. Joint planning might entail developing a joint TB, HIV and viral hepatitis plan specifically for PWID that also addresses the human rights and legal environment, the provision of treatment for drug and alcohol dependence, NSPs, mental illness and psychosocial needs such as housing. It might also entail the mainstreaming of TB, HIV, viral hepatitis and drug dependence support activities into each of the respective national plans for drug dependence, TB, HIV, viral hepatitis, prison health care, human rights and legal frameworks. The roles and responsibilities of the stakeholders, as listed in Section A1, must be clearly defined at the national and district levels.

A3.2 Resource mobilization and capacity-building

Integrated services that build on well-resourced strategies may not require much additional financial input. Streamlined integration can prove more cost–effective, in addition to reducing time and costs incurred by the client, and reducing excess mortality and morbidity (*75, 85, 86*). If any or all of the programmes are under-resourced in funds or human capacity, additional resources should be mobilized to strengthen each programme. Ideally, joint proposals to solicit resources for implementing integrated services (e.g. to the Global Fund, PEPFAR or other appropriate funding streams) should be prepared within the framework of the coordinating body, building on the comparative strengths of each programme and the specific needs of the country, in collaboration with NGOs and civil society members.

The provision of integrated services for PWID requires adequate numbers of personnel and appropriate cross-discipline training. Human resource development and training plans should be formulated between the different programmes to provide pre-service and in-service training, and continuing competency-based education in each area for all categories of health-care workers in the different programmes and the different sectors, including prisons. Job descriptions of health workers, including health staff in prisons, should be developed or adapted to reflect the level of integration required. Consideration should be given to appointing staff with specific responsibilities for integration or, where this is not viable, assigning integration responsibilities to existing staff.

Training should involve personnel providing TB, HIV, hepatitis, drug dependence treatment services and NSPs. It should include personnel in low-threshold services, such as peer workers, and in other health and social services in frequent contact with PWID (e.g. emergency services and primary health care).

Training should include:

- the policies and principles of harm reduction;
- patterns of drug use in the country;
- how and why drug use increases the risk of TB, HIV, viral hepatitis and other comorbidities;

- non-discriminatory and non-stigmatizing identification of PWID, drugs used and modes of administration;
- how to communicate with PWID in neutral, non-discriminatory and non-stigmatizing ways, conforming to internationally accepted standards of medical confidentiality and care;
- how to identify and ensure appropriate provision and linkage, if necessary, of services for prevention, diagnosis, treatment and care of TB, HIV, viral hepatitis, drug dependence and other comorbidities among PWID, taking into account the key barriers for PWID in accessing health care;
- understanding of drug–drug interactions and side-effects when several treatments are given concurrently; and
- identification of the legal and psychosocial needs of PWID, with referral to the appropriate services as necessary.

A3.3 Engagement of PWID networks, civil society and NGOs

Fear of criminalization and discrimination by health services are often key barriers for PWID in accessing health care. The nongovernmental sector and low-threshold outreach teams providing support for PWID play a critical role in increasing access to health and social services. It is therefore vital to expand the delivery of integrated health services for PWID beyond the formal health sectors. This should be done through the meaningful involvement of PWID networks, peer workers, civil society organizations and other nongovernmental stakeholders that provide NSPs and drug dependence treatment and care services in the planning, design, implementation, and monitoring and evaluation of services for PWID. The aim is to improve communication and ensure that services are accessible and relevant to the requirements of the users.

PWID networks working on advocacy, treatment literacy and community mobilization can encourage uptake and engagement in integrated services at all levels of care. They can also provide support in effective linkage, treatment and prevention. Recognition and support of such networks is therefore critical. WHO's ENGAGE-TB approach provides guidance on the integration of TB services into existing community-based work of NGOs and other civil society organizations (*87*).

Equally important is the monitoring and evaluation of the services that are provided by nongovernmental partners. Advocacy targeted at influencing policy and sustaining political commitment, programme implementation and resource mobilization is key to accelerating the integrated management of care for PWID.

A3.4 Operational research

All stakeholders should support and encourage operational research to develop the evidence base for efficient, effective and acceptable delivery of integrated services that are best suited to the given context, and to the legal and policy environment. Operational research is needed to define how best to provide high-quality integration of interventions at facility and community levels, in order to inform global and national policy and strategy development (*88*). A number of priority research questions have been identified that can guide the research agenda relating to PWID. These include questions relating to burden in different regions and epidemic settings, optimal models of delivery and co-management of comorbidities. (*6, 89*)

Researchers should engage meaningfully with PWID and with other stakeholders to overcome any legal, ethical and regulatory challenges that prevent the participation by PWID in any clinical or operational research, and to ensure that the research is relevant to PWID's concerns and needs (*90*). Research conduct that is ethical is informed by the latest scientific evidence on proven strategies, and ensures that participants' human rights, safety and welfare are protected. To ensure the ethical and scientific quality and outcomes of proposed research, its relevance to the affected community, and its acceptance by the affected community, researchers should consult communities through a transparent and meaningful participatory process. This process should involve communities in an early and sustained manner in research design, development, implementation, monitoring, analysis and dissemination of results (*90*).

Further reading for Objective A3:

- *Implementation manual. ENGAGE-TB: integrating community-based tuberculosis activities into the work of nongovernmental and civil society organizations"* (*87*)
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *Priority research questions for TB/HIV in HIV-prevalent and resource-limited settings* (*89*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).

A4. Monitor and evaluate integrated services for PWID

Recommendations

1. Countries should set their own specific process and impact targets for scaling up integrated services for PWID in order to achieve the Sustainable Development Goals and targets set out within the related global disease strategies (*62, 64-66*).
2. A standardized country-specific monitoring and evaluation system should be developed and implemented, based on the latest global guidance (*1, 82, 83, 91*).
3. Programmes should establish harmonized indicators and standard reporting and recording formats to collect data for monitoring and evaluation of integrated services for PWID (*1, 15*).
4. Governmental organizations and NGOs providing integrated care for PWID should use harmonized indicators, and establish a reporting mechanism to ensure that their data are captured by the country's national monitoring and evaluation system (*15*).

Nationwide scale-up of comprehensive services for PWID will be needed to achieve the targets set out in the End TB Strategy (*62*), the UNAIDS 2016-2021 Strategy on the Fast-Track to end AIDS (*66*), as well as the global health sector strategies for HIV (*65*) and viral hepatitis (*64*). To support this, it is important for countries to set targets relevant to their own epidemic and context.

Monitoring and evaluation is essential for:

- measuring progress towards meeting the targets;
- assessing the burden of disease, coverage, quality and effectiveness of services for PWID; and
- identifying areas of weakness in the care cascade.

Monitoring and evaluation involves collaboration between vertical programmes and the general health system, development of referral linkages between different services and organizations, and joint supervision. It is important that data remain confidential, and that data and medical records identifying people as users of drugs are not shared with law enforcement agencies, particularly in countries where drug use is criminalized.

The monitoring of services for PWID should be integrated into existing systems where feasible, using standardized indicators. It is important to assess not only the delivery of integrated activities, but also linkage between services, treatment adherence and outcome data among PWID; the latter might involve more detailed analysis and special studies.

Crucial to ensuring better access to health care for PWID is the monitoring and evaluation of structural indicators measuring change in legislation and policy, numbers of PWID-led organizations, legal support services, and training of law enforcement officers and service populations in relation to the needs of PWID (*82*). These are all factors that affect the well-being of PWID and their access to care (*1*). Programmes should also engage with PWID networks to explore and understand their experiences in seeking care and receiving treatment, and the barriers they face in so doing, to improve the success of monitoring and evaluation.

Further reading for Objective A4:

- *A guide to monitoring and evaluation for collaborative TB/HIV activities, 2015 revision* (*91*).
- *Consolidated strategic information guidelines for HIV in the health sector* (*83*).
- *Tool to set and monitor targets for HIV prevention, diagnosis, treatment and care for key populations* (*82*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders.*(*15*).
- *WHO, UNODC, UNAIDS technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users* (*1*).

B. Reduce the joint burden of TB, HIV, viral hepatitis and other comorbidities among PWID through the integrated delivery of comprehensive services

B1. Establish people-centred models of integrated service delivery for PWID, including TB, HIV, viral hepatitis, drug dependence, NSP and other services

Recommendations

1. All governmental and nongovernmental services providing treatment, care and support to PWID should collaborate to ensure universal access to the comprehensive package of harm reduction, and to maximize access and adherence within one setting, where possible (*6*).
2. TB, HIV, viral hepatitis, NSPs and drug dependence treatment programmes or their equivalents should define models to deliver comprehensive, people-centred services at facility and community levels, compatible with national and local contexts (*15*).

Stakeholders should work together to facilitate provision of and access to integrated services, preferably at the same time and in the same location. They should also work to ensure a seamless continuum of care between the relevant services, within the prison system, and between prisons, other centres of detention and the community. When it is not feasible to provide all services in a single location, systems should be established and strengthened for proactive and supportive linkage.

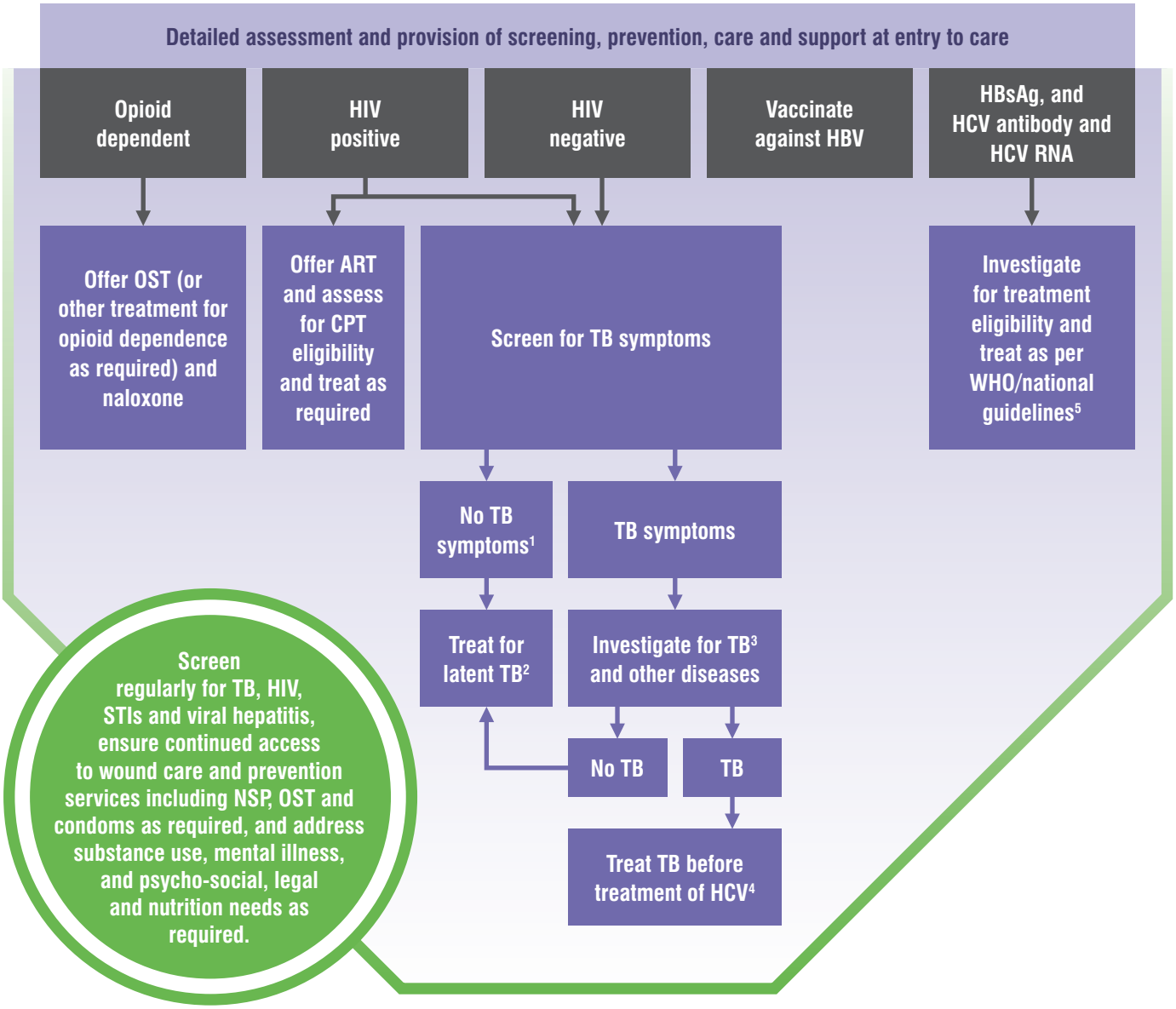
The range of needs at one time for PWID might include:

- support for mental illness and social assistance such as accessing housing and welfare support; and
- re-settlement and continuity of care after release from prison.

Many of the services addressing these needs are organized quite separately, and are not as coordinated or integrated as they could be. However, for PWID, the need to attend multiple services in different locations and at different times acts as a barrier to prevention, diagnosis, treatment and care. Furthermore, not addressing one disease might undermine the treatment outcome of another. Because of the intertwined nature of these conditions, and their overlapping social and structural determinants, the service delivery response needs to be flexible and as integrated as possible; also, it needs to incorporate both social and health care. Modelling has shown that separate approaches to HIV, TB and harm reduction services specific to drug use (e.g. OST and NSPs) exacerbate the disease burden (*86*). It has also shown that improved coordination is vital for reducing preventable mortality and for stemming the emerging joint epidemic of HIV and MDR-TB (*86*).

Services providing care for PWID, at whatever care entry point, should work to ensure a detailed assessment is carried out that includes identification of the nature and extent of substance use (alcohol and poly-drug use), medical and psychiatric history, psycho-social and nutrition needs, occupational situation, living conditions, and legal issues. In addition, individuals should be offered basic health care, such as wound care, as well as screening and prevention for key co-morbidities including HIV, TB, viral hepatitis and STIs, as per Fig. B1.

FIG. B1
Algorithm of comprehensive services for people who inject drugs



1 In high income or upper-middle income settings chest radiography and TST or IGRA may be included in the algorithm to rule out active TB and ascertain latent TB infection.

2 All people living with HIV with no TB symptoms should be considered for IPT. In high income or upper-middle income settings, in the absence of active TB disease, HIV-negative PWID may also be tested and treated for latent TB infection.

3 For all people living with HIV or those with suspected MDR-TB, Xpert MTB/RIF should be used as the first TB diagnostic test.

4 When patients require treatment for HIV, TB, viral hepatitis and/or opioid dependence, adapt treatment regimens as required and ensure enhanced clinical monitoring of treatment.

5 Refer to Guidelines for the screening, care and treatment of hepatitis C infection and to Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection.

ART, antiretroviral therapy; CPT, co-trimoxazole preventive therapy; HBV, hepatitis B virus; HBSAG, hepatitis B surface antigen; HBeAG, hepatitis B e antigen; HTS, HIV testing services; HCV, hepatitis C virus; HIV, human immunodeficiency virus; IGRA, interferon-gamma release assay; IPT, isoniazid preventive therapy; MDR, multidrug resistant; NSP, needle and syringe programme; OST, opioid substitution therapy; PWID, people who inject drugs; RNA, ribonucleic acid; TB, tuberculosis; TST, tuberculin skin test

Service integration facilitates access for the individual and improves both health outcomes and health-related quality of life (*92, 93*). National HIV, TB and viral hepatitis programmes, NSPs, drug dependence treatment services and other services that may be required by PWID should define, in close collaboration with PWID networks, the best and most sustainable model for delivering integrated services. The model should enable the provision of quality-assured comprehensive services that are most acceptable to the PWID. The selection of such models should consider and reflect local and national health system issues.

There have been several reviews of the evidence for models of integrated TB and HIV service delivery, as well as integrated care specifically for PWID, that include TB, HIV, viral hepatitis, drug dependence treatment, NSPs and other PWID services (*2, 15, 32, 77, 92*). Suggested models are outlined below. These are not exhaustive or prescriptive, but describe the range of options from linkage and close collaboration to fully colocated integration.

Partial colocation, with cross referral to other services as necessary

In this model, the different programmes and stakeholders provide a limited number of services, with onward referral to other respective programmes for more specialist interventions as necessary.

NSPs and street-based outreach provide vital and effective platforms for detection and prevention activities. Such activities range from HIV counselling and testing, HIV treatment adherence support, screening for TB and viral hepatitis, and hepatitis B vaccination to the provision of isoniazid preventive therapy (IPT), and psychosocial support (*1, 32, 94, 95*).

- Drug dependence treatment programmes provide convenient venues where opioid-dependent PWID can receive psychosocial support, treatment for latent or active TB, ART and screening for viral hepatitis, plus OST and linkage to other services where necessary (*2, 32, 96-98*).
- HIV testing and treatment services provide a range of additional activities, ranging from screening of substance use and STIs, screening and vaccination for viral hepatitis, and screening for TB to treatment of latent or active TB, with linkage to other services where necessary (*2, 15, 32, 77*).
- TB services provide HTS, prevention and treatment of HIV, or screening and prevention of viral hepatitis, or screening and treatment for drug use (*2, 15, 76, 77*).

In all cases, proactive referral to the respective specialist services is crucial. Referral has been shown to be more successful when facilitated with monetary incentives, or when PWID are provided with support for appointment scheduling and transport costs, or are accompanied by a community health worker or case manager (*99-101*). The integration of OST and ART services within TB services is discussed in Box B1.

Box B1
Integration of OST and ART services within TB services

For contexts where TB treatment is restricted to specialist TB services (e.g. eastern Europe and central Asia), it is critical to assure timely access to other PWID health services such as ART, OST, and management and treatment of viral hepatitis. OST can and should be made available to opioid-dependent PWID in both inpatient and outpatient care.

The integrated provision of OST during TB treatment can significantly improve adherence and retention among PWID, compared to outcomes with no OST (*102*). Among opioid-dependent PWID, poor access to OST is associated with high rates of loss to follow-up during treatment of both active and latent TB (*29, 32*).

In Portugal, collaboration with drug dependence treatment services and outreach teams allows the colocation of TB treatment, ART and OST at both TB inpatient and outpatient facilities (*76*). In Belarus, TB clinics deliver ART, and some clinics have created positions for drug dependence treatment specialists, to allow for the simultaneous provision of OST (*103*). TB staff and OST providers need to be trained on potential drug–drug interactions (e.g. methadone with both efavirenz and rifampicin) and optimal dosing (*17, 104-106*). Also vital is close liaison and referral between the TB services and the relevant parties providing continued access to NSPs, drug dependence treatment and HIV services upon completion of TB treatment (*8*).

Facility-based integrated services

In this model, a team of infectious-disease specialists, psychiatrists, psychologists, social workers, case workers and nurses work together under combined care protocols. This enables fully integrated care, including ART and OST, and TB and hepatitis C virus (HCV) services as necessary in one designated clinic, in addition to providing psychosocial support. Examples of this model have been documented in both Portugal and Ukraine (*76, 107*).

Integrated outreach services

All providers, including NGO outreach teams, work together to achieve integrated drug dependence treatment, and TB, HIV and viral hepatitis services, delivered at one location that is agreed to and convenient for the patient (*76*). This approach, again documented in Portugal but also used in other countries, relies on informal referral networks and outreach teams to act as mediators for coordinating the multiple services. Collaboration between the outreach teams, health-care providers, services for sheltered housing organizations, and clients allows delivery of individually tailored treatment in one setting, be it in a clinic, community setting or the client's home.

Further reading for Objective B1:

- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders, 2012* (*15*).

B2. Increase access to collaborative TB and HIV services for PWID

B2.1 Intensify TB case-finding and ensure high-quality TB treatment

Recommendations

1. In settings where the TB prevalence in the general population is 100/100 000 population or higher, systematic screening for active TB should be considered among people who are seeking health care or who are in health care and who inject drugs (*20*).
2. Adults and adolescents living with HIV should be screened for TB with a clinical algorithm; those who report any one of the symptoms of current cough, fever, weight loss or night sweats may have active TB and should be evaluated for TB and other diseases (*15*).
3. Xpert MTB/RIF[1] (rather than conventional microscopy, culture and drug susceptibility testing) should be used as the initial diagnostic test in adults presumed to have MDR-TB or HIV-associated TB (*18*).
4. Xpert MTB/RIF may be used as a replacement test for usual practice (including conventional microscopy, culture or histopathology) for testing of specific non-respiratory specimens (lymph nodes and other tissues) from patients presumed to have extrapulmonary TB (*18*).
5. Contact investigation should be conducted for household and close contacts when any of the following characteristics apply to the index case: (a) has sputum smear–positive (or Xpert MTB/RIF) pulmonary TB, (b) has MDR-TB, (c) is a person living with HIV, or (d) is a child aged <5 years (*14*).
6. TB patients with known positive HIV status and TB patients living in HIV-prevalent settings should receive at least 6 months of rifampicin (or rifabutin) based treatment regimen. The optimal dosing frequency is daily during the intensive and continuation phases (*15*).
7. Comorbidity, including viral hepatitis infection (e.g. hepatitis B and C), should not contraindicate HIV or TB treatment for PWID. Alcohol dependence, active drug use and mental health problems should not be used as reasons to withhold treatment (*6*).
8. For patients with TB, viral hepatitis, or HIV and opioid dependence, opioid agonists should be administered in conjunction with medical treatment; there is no need to wait for abstinence from opioids to commence either anti-TB medication, treatment for hepatitis or antiretroviral medication (*8*).

1 Xpert MTB/RIF is a WHO-recommended, automated, cartridge-based real-time DNA-based test that can detect both TB and rifampicin resistance in under 2 hours.

Intensified case-finding

TB is the most common AIDS-defining illness in PWID. The recognition of TB symptoms is sometimes the first clue that a person is living with HIV. Intensified TB case-finding that results in timely access to TB treatment and ART reduces mortality and interrupts TB transmission.

All PWID living with HIV should be screened regularly for TB using a clinical symptom-based screening tool (which screens for a current cough, fever, weight loss or night sweats) at the time of initial presentation for HIV care and at every encounter with a health worker or outreach worker. PWID living with HIV who report any one of the four symptoms may have active TB, and should be further evaluated for TB and other diseases. Diagnostic workup for TB should be carried out in accordance with national guidelines and principles of sound clinical practice to identify either active TB or make an alternative diagnosis (as discussed below in the section on TB diagnosis). Regular screening for TB is extremely important, regardless of whether the person has received or is receiving IPT or ART.

In settings where the TB prevalence in the general population is 100/100 000 population or higher, WHO recommends that systematic screening for active TB according to national guidelines should be considered among select risk groups, including PWID, regardless of HIV status (*20*).

All governmental and nongovernmental actors providing services for PWID can play a vital role in the early identification of TB and in timely treatment or prevention as necessary. Earlier identification increases the likelihood of the individual surviving, and ensures reduced transmission of TB to others attending or working in the related facility (e.g. OST clinic or drop-in centre). This is discussed further in the section on infection control, below.

TB diagnosis

WHO strongly recommends the use of Xpert MTB/RIF as a primary diagnostic test for all those:

- suspected of MDR-TB;
- living with HIV who have signs and symptoms of TB; or
- with unknown HIV status presenting with strong clinical evidence of HIV infection.

Xpert MTB/RIF is more sensitive than microscopy for detecting TB among people living with HIV. It also rapidly detects rifampicin resistance, thus greatly reducing the time to diagnosing and treating MDR-TB (*108, 109*). For adults and children presumed to have pulmonary TB but who are not at risk of MDR-TB or HIV-related TB, Xpert MTB/RIF may also be used as the initial diagnostic test, depending on resources (*18*).

Smear-negative pulmonary and extrapulmonary TB are common among people living with HIV and are associated with poor treatment outcomes and excessive early mortality. If extrapulmonary TB is suspected, diagnostic processes should be expedited using all available and appropriate investigations, including clinical assessment, Xpert MTB/RIF as recommended, mycobacterial culture and chest X-ray (*15, 18, 110, 111*). Among seriously ill patients in high HIV-prevalent settings, presumptive anti-TB treatment should be initiated in cases in which investigations are negative and there is no improvement with broad-spectrum parenteral antibiotics (*110*).

Contact investigation

Prompt diagnosis and treatment of TB among adults and children in close contact with those who are diagnosed with TB is crucial for stemming continued TB transmission within the household, community or congregate setting (e.g. prison, clinic, shelter or sex work venue) (*14, 112*). Maintaining confidentiality during contact investigation can be challenging, because of the social connections between and among index cases and their contacts, particularly in shared community settings. As with any other intervention, all persons should be treated with respect, and confidentiality should be maintained, in accordance with programme guidelines on confidentiality and consent.

TB treatment

Early initiation of TB treatment is crucial for saving lives and preventing ongoing transmission to others. There can be reluctance on the part of medical staff to initiate treatment for PWID because of concerns about poor

adherence, medication interactions and adverse effects, especially those linked to treatment of viral hepatitis (*6, 113*). However, PWID who are adequately supported can achieve adherence and clinical outcomes comparable to those of people who do not use drugs (*6, 32, 114*).

Health services for PWID should ensure access to appropriate treatment by using current national clinical guidelines. Also, they should collaborate to ensure that treatment is supervised while also simplifying the delivery of treatment on an ambulatory basis wherever possible (see Box B2). TB treatment should ideally be integrated with HIV care and treatment, with access to sterile injecting equipment, drug dependence treatment and other medications, so that the patient is not required to attend multiple visits at multiple times.

Box B2
Emphasis on Ambulatory TB Care

Ambulatory TB care services should be given preference over hospitalized TB care; the latter should be limited to cases with medical indications. In all cases of hospitalization, the other health-care services required (e.g. OST and ART) must not be disrupted, and must be provided in the place where the individual has been hospitalized (*106*). Hospitalization for the treatment of active TB where OST is not available can result in high rates of loss to follow-up for opioid-dependent PWID (*115*). Furthermore, fear of withdrawal during hospitalization can dissuade PWID from seeking care in the first place (*113*).

PWID living with HIV or those who are HIV-negative and newly diagnosed with drug-sensitive TB should receive the same standard first-line TB regimen. The regimen should comprise 2 months of isoniazid, rifampicin/rifabutin, pyrazinamide and ethambutol, followed by 4 months of rifampicin/rifabutin and isoniazid on a daily schedule. Interactions with methadone and buprenorphine are discussed in Section B3. PWID living with HIV should be started on ART, regardless of CD4 count, as soon as possible within the first 8 weeks of starting anti-TB treatment; further details are given in Section B.2.6 (*116*).

Provided there is no clinical evidence of chronic liver disease, patients with drug-sensitive TB and any of the following conditions can also receive the standard first-line TB regimen: hepatitis virus carriage, a past history of acute hepatitis, and current excessive alcohol consumption. However, hepatotoxic reactions to anti-TB drugs may be more common among these patients, and should therefore be anticipated. In patients with unstable or advanced liver disease, liver function should be tested at the start of treatment, if possible (*116*).

PWID who have a history of TB treatment interruption or of incarceration could be at higher risk of MDR-TB. Patients with both HIV and MDR-TB face complex clinical management, limited treatment options and poor treatment outcomes. Further guidance on the management of MDR-TB can be found in the relevant source documents listed below.

Seriously ill patients should be offered palliative care, both chronic and terminal, including access to essential medicines such as opioids for pain management, as needed. This will help to ensure that the patients live out their lives with minimal suffering and loss of dignity, even when all available curative treatments have been exhausted (*117*).

Barriers to adherence to TB treatment vary between settings and individuals; therefore, services should consult with PWID first, to find the most effective ways to overcome the barriers and find the best local solutions. Evidence indicates that adherence improves with directly observed therapy, adherence reminders, peer counselling, contingency management, monetary incentives, and an integrated package of care that includes OST for opioid-dependent PWID and attends to PWIDs' psychosocial and health-care needs (*32*).

Further reading for Objective B2.1:

- *Companion handbook to the WHO guidelines for programmatic management of drug-resistant tuberculosis* (*118*).
- *Guidelines for the programmatic management of drug resistant tuberculosis – emergency update 2008* (*7*).
- *Guidelines for the programmatic management of drug-resistant tuberculosis – 2011 update* (*119*).
- *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence* (*8*).
- *Guidelines for treatment of tuberculosis, 4th edition* (*116*).
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *Policy update – Automated real-time nucleic acid amplification technology for rapid and simultaneous detection of tuberculosis and rifampicin resistance: Xpert MTB/RIF system for the diagnosis of pulmonary and extrapulmonary TB in adults and children* (*18*).
- *Recommendations for investigating contacts of persons with infectious tuberculosis in low- and middle-income countries* (*14*).
- *Systematic screening of active tuberculosis: principles and recommendations* (*20*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).

B2.2 Initiate treatment of latent TB infection

Recommendations

1. Adults and adolescents living with HIV should be screened with a clinical algorithm; those who do not report any one of the symptoms of current cough, fever, weight loss or night sweats are unlikely to have active TB and should be offered IPT (*15*).
2. Adults and adolescents living with HIV who have unknown or positive TST status and are unlikely to have active TB should receive at least 6 months of IPT as part of a comprehensive package of HIV care. IPT should be given to such individuals, irrespective of the degree of immunosuppression, and also to those on ART, those who have previously been treated for TB and pregnant women. Providing IPT to people living with HIV does not increase the risk of developing isoniazid-resistant TB. Therefore, concerns regarding the development of isoniazid resistance should not be a barrier to providing IPT (*15*).
3. TST is not a requirement for initiating IPT in people living with HIV. People living with HIV who have a positive TST benefit more from IPT; where feasible, TST can be used to identify such individuals (*15*).
4. In high-income and upper middle–income countries with estimated TB incidence less than 100 per 100 000 population, systematic testing and treatment of LTBI should be considered for PWID, irrespective of HIV status. Individuals should be asked about symptoms of TB before being tested for LTBI. Chest radiography can be done if the aim is to also identify active TB cases. Individuals with TB symptoms or any radiological abnormality should be investigated further for active TB and other conditions. Either TST or interferon-gamma release assays (IGRA) can be used to test for LTBI in this setting (*25*).
5. People living with HIV who are household or close contacts of people with TB and who, after an appropriate clinical evaluation, are found not to have active TB, should be treated for presumed LTBI as per WHO guidelines (*14*).
6. For patients with TB, hepatitis or HIV and opioid dependence, opioid agonists should be administered in conjunction with medical treatment; there is no need to wait for abstinence from opioids to commence anti-TB medication, treatment for hepatitis or antiretroviral medication (*8*).

The prevalence of latent infection with *Mycobacterium tuberculosis* among PWID is high, and the risk of the latent infection progressing to active disease is higher than among people who do not use drugs (*4, 29, 105*). HIV infection is the major risk factor among PWID for subsequent development of TB disease. Prisoners are 26 times more likely to have LTBI or TST-positive results than the general population, so PWID who are in prison or have a history of incarceration will be more at risk (*3*).

Exclusion of active TB is critical before treatment of LTBI (or TB preventive therapy) is started. The absence of a current cough, night sweats, fever or weight loss can identify a subset of adults and adolescents living with HIV who have a low probability of having TB disease and who can reliably be treated for LTBI. This simple screening tool that can be used in low-threshold settings has a negative predictive value of 97.7% (95% confidence interval [CI]: 97.4–98%) at 5% TB prevalence among people living with HIV, and an even higher predictive value where prevalence is lower. Regular screening for active TB, using these four symptoms, should continue during and after treatment for LTBI in order to ensure early detection and the appropriate treatment of active TB that might have been missed during the initial screening.

A course of isoniazid, lasting at least 6 months, is currently recommended to prevent progression to active disease among individuals living with HIV in resource-constrained settings. For people living with HIV in settings with high TB prevalence and transmission, continuous (at least 36 months) IPT reduces the risk of developing active TB by 38%, compared to the risk with 6 months of IPT. The effect is stronger in those with a positive TST; however, requiring a positive TST test before giving IPT can create barriers to access. Continuous IPT confers significant additional protection to people living with HIV who are on ART (*25*). Isoniazid is also effective among PWID (*120-122*). While it has been established by a number of studies that IPT can be tolerated by PWID coinfected with hepatitis B or C, without causing drug-induced hepatitis (DIH), excessive use of alcohol has been identified as a common cause of DIH, and liver function should be assessed and monitored (*29, 123*).

In countries where resources allow and where the estimated TB incidence is less than 100 per 100 000, either Mantoux TST or IGRA should be used to assess whether LTBI is present in people from risk groups, including people living with HIV and PWID, as well as prisoners and homeless persons. In such settings, in addition to the 6- or 9-month isoniazid regimen, the following alternative shorter regimens are also recommended: 3-month regimen of weekly rifapentine plus isoniazid, or 3–4 months of daily isoniazid plus daily rifampicin, or 3–4 months of rifampicin alone (*25*). Potential drug–drug interactions with OST are discussed in Section B3.

Treatment for LTBI should be provided as a core component of the comprehensive package of health care to be dispensed by HIV services, prison health services, drug dependence treatment services, outreach services and NSPs, where it has already been demonstrated to be feasible (*32, 94, 120, 124*). As with all treatment, adherence should be encouraged by using appropriate support measures such as monetary incentives and simultaneous OST as necessary, delivered at the same place wherever possible.

Further reading for Objective B2.2:

- *Guidelines for intensified tuberculosis case-finding and isoniazid preventive therapy for people living with HIV in resource-constrained settings* (*10*).
- *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence* (*8*).
- *Guidelines on the management of latent tuberculosis infection* (*25*).
- *Recommendations for investigating contacts of persons with infectious tuberculosis in low- and middle-income countries* (*14*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).

B2.3 Ensure infection control to prevent the transmission of TB in health-care facilities and congregate settings

Recommendations

1. HIV programmes and TB programmes should provide managerial direction at national and subnational levels for the implementation of TB infection control in health-care facilities and congregate settings (*15*).
2. Each health-care and congregate setting should have a TB infection-control plan for the facility. If possible, this plan should be included in the general infection-control plan and supported by all stakeholders; it should include administrative, environmental and personal protection measures to reduce transmission of TB in health-care and congregate settings, and surveillance of TB disease among workers (*15*).
3. Health-care workers, community health workers and care providers living with HIV should be provided with ART and IPT if eligible. Furthermore, they should be offered an opportunity for transfer to work in clinical sites that have the least risk of TB transmission (*15*).
4. All personnel working with patients with diagnosed and presumptive TB, with people living with HIV and viral hepatitis, and with PWID should be able to assess risk factors for HIV and viral hepatitis infection and transmission. They should also provide their clients with comprehensive information on prevention of and services for HIV and viral hepatitis in order to minimize those risks. Personnel should also be aware of how to protect themselves from occupational exposure to TB, HIV and viral hepatitis (*6*).

In health-care facilities and congregate settings where people with TB and HIV are frequently crowded together, there is a higher rate of infection with TB. HIV promotes progression to active TB both in people with recently acquired infection or with latent *Mycobacterium tuberculosis* infection. PWID are especially at risk of exposure to TB infection, including MDR-TB, through sharing cramped living conditions and congregate settings and through visiting health facilities with others who have untreated active TB. Congregate settings can include health facilities, sex work venues, drug dependence treatment services, drop-in centres, shelters, bars and facilities in the criminal justice system where the management and staff may not be familiar with basic TB infection-control measures (*9, 125-127*). Studies have shown how the HIV epidemic can exacerbate the increased risk of TB among health-care workers, medical and nursing students with patient contact (*128*), prisoners (*129*) and people in police and military barracks (*130*). Therefore, it is essential to improve access to HIV and TB prevention measures and to treatment care and support services for health-care workers and those providing services to PWID, as well as for workers in congregate settings (*131*).

Implementation of TB infection-control measures requires managerial activities at national, subnational and facility levels. These measures include establishing coordinating bodies at all levels; developing a plan (preferably incorporated into a broader infection-control plan); appropriate design and use of health facilities; surveillance of TB disease among health-care workers; an advocacy and communication strategy; monitoring and evaluation; and operational research (*9*).

At facility level, measures to reduce TB transmission include administrative, environmental and personal protection controls. These controls are aimed at generally reducing exposure to M. tuberculosis of health-care workers, prison staff, police and any other persons living or working in the congregate settings. Administrative controls comprise delivery of care outside congregate settings when possible, triage to identify people with TB symptoms, separation of infectious cases, control of the spread of pathogens (by covering the mouth when coughing or sneezing and observing respiratory hygiene), rapid diagnosis and prompt initiation of TB treatment, and minimal hospitalization. Environmental controls include maximizing ventilation systems (natural or mechanical) and using upper-room ultraviolet germicidal irradiation (if applicable). Personal protective interventions include use of respirators and prevention, treatment and care packages (including HIV prevention interventions) for health-care workers, and ART and IPT for workers who are living with HIV. Health-care workers living with HIV should be provided with ART; however, even with adequate response to treatment, they will remain at higher risk of TB. Transfer of their clinical responsibilities into sites that have the least risk of TB transmission and have regular TB screening should be considered, in order to mitigate this risk. Similarly, health-care workers with active TB should be relocated from HIV care facilities and facilities serving PWID. Patients and their families and close contacts should receive training about TB transmission, infection control and respiratory hygiene, to reduce the risk of TB transmission in health-care facilities and congregate settings.

Prevention of the transmission of HIV and viral hepatitis is also critically important in health-care facilities and congregate settings. The essential primary prevention elements include blood safety; prevention of unsafe injections; emergency and essential surgical care that limit the need for blood transfusion; and standard precautions to minimize the spread of infection associated with health care, and to avoid direct and indirect contact with blood, body fluids, secretions and non-intact skin. These basic infection-control precautions in health care involve hand hygiene; use of personal protective equipment to prevent exposures; safe disposal of sharps and waste; safe cleaning and disinfection of the environment and equipment; identifying, eliminating and controlling exposure to hazards in the workplace; and preventing needle-stick injuries (*5*). Secondary prevention of HIV – that is, post-exposure prophylaxis (PEP) – is applicable in health-care settings when primary prevention has failed or when a health-care worker or patient has been exposed to the risk of HIV transmission (*24*), as discussed in Section B2.7.

Further reading for Objective B2.3:

- *Guidelines on post-exposure prophylaxis for HIV and the use of co-trimoxazole prophylaxis for HIV-related infections among adults, adolescents and children: Recommendations for a public health approach* (*24*)
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).
- *WHO policy on TB infection control in health-care facilities, congregate settings and households* (*9*).

B2.4 Initiate early antiretroviral therapy for TB prevention

Recommendations

1. ART should be initiated among all adults and adolescents living with HIV, regardless of WHO clinical stage and at any CD4 cell count (*28*).
2. As a priority, ART should be initiated in all adults and adolescents with severe or advanced HIV clinical disease (WHO clinical stage 3 or 4) and individuals with CD4 count ≤350 cells/mm^3 (*28*).
3. For patients with TB, hepatitis or HIV and opioid dependence, opioid agonists should be administered in conjunction with medical treatment; there is no need to wait for abstinence from opioids to commence anti-TB medication, treatment for hepatitis or antiretroviral medication (*8*).
5. Comorbidity, including viral hepatitis infection (e.g. hepatitis B and C), should not contraindicate HIV or TB treatment for PWID. Alcohol dependence, active drug use and mental health problems should not be used as reasons to withhold treatment (*6*).
6. ART should be initiated and maintained in eligible people living with HIV at care settings where OST is provided (*17*).

ART is currently the most powerful strategy to reduce TB incidence among people living with HIV, whatever their CD4 cell count; however, access to ART for PWID remains disproportionately low. Concerted efforts are needed to address this inequity (*51, 93*). In 2015, evidence emerged to show that earlier initiation of ART results in better clinical outcomes for people living with HIV compared with outcomes of delayed treatment. This led to a new recommendation that ART should be recommended for all adults (including pregnant and breastfeeding women), adolescents, and children and infants living with HIV, regardless of their CD4 count. Further guidance on the antiretroviral drug regimens, as well as operational and service delivery guidance, will be included in the second edition of the consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection, due to be published in 2016.

WHO recommends an efavirenz-based, fixed-dose combination regimen as the preferred first-line ART regimen; this also applies to adults with TB and hepatitis B virus (HBV) coinfection, and to pregnant women. People

coinfected with HIV and HCV receiving ART and drugs for HCV require close monitoring because of potential drug interactions, and increased risk of drug toxicity between some HCV drugs and antiretroviral (ARV) drugs. Further details on the potential drug interactions can be found in the latest WHO guidelines for the screening, care and treatment of persons with hepatitis C infection (*21*) and the latest consolidated guidelines on the use of ARV drugs for treating and preventing HIV infection (*17*). Potential drug–drug interactions with OST and ARVs are discussed in Section B.3.

As part of efforts to increase access to ART among opioid-dependent PWID, WHO recommends the decentralization of ART initiation and maintenance to settings where OST is provided. The initiation of ART at peripheral health facilities, with maintenance at the community level (outside health facilities in settings such as outreach centres, health posts, home-based services or community-based organizations) between regular clinical visits, is also recommended (*17*). The decentralization of ART should also encourage adherence.

Improving well-being by treating depression and managing drug and alcohol dependence has been shown to improve HIV treatment outcomes, and should be offered alongside the peer support and patient education that are vital components of HIV care. Efforts to support and maximize adherence should begin before ART is initiated. Developing an adherence plan and education are important first steps. Initial patient education should cover basic information about HIV, the ARV drugs themselves, expected adverse effects, preparing for treatment and adherence to ART (*17*).

Further reading for Objective B2.4:

- *Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations* (*5*).
- *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection* (*17*).
- *Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV* (*28*).
- *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence* (*8*).
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection, 2nd Edition (due to be published 2016).*

B2.5 Provide HTS to PWID with presumptive and diagnosed TB

Recommendations

1. Routine HIV testing should be offered to all patients with presumptive and diagnosed TB (*15*).
2. Partners of known HIV-positive TB patients should be offered voluntary HTS with mutual disclosure (*15*).
3. Voluntary HTS should routinely be offered to PWID, both in the community and in clinical settings. Community-based HTS for PWID, linked to prevention, care and treatment services, is recommended, in addition to provider-initiated testing and counselling (*5*).
4. In generalized epidemics, provider-initiated testing and counselling should be recommended to everyone attending all facilities, including medical and surgical services; STI, hepatitis and TB clinics; public and private facilities; inpatient and outpatient settings; mobile or outreach medical services; services for pregnant women; services for PWID; and reproductive health services (*17*).
5. In concentrated and low-level epidemics, provider-initiated testing and counselling should be considered in services for STIs, hepatitis and TB, and in services for PWID (*17*).

The right to know one's HIV status is fundamental to accessing life-saving prevention, care and treatment services. Knowledge of HIV status can influence behaviour, preventing both the acquisition and further transmission of HIV. Early identification of HIV in anyone with diagnosed or presumed TB is particularly important because it should result in fast-track access to ART. HTS should not be restricted to HIV facilities, but should be made available at TB services, NSPs, drug dependence treatment services, prisons and community settings, where feasible (*17*).

Given that TB is the most common AIDS-defining illness among PWID and a major cause of mortality, particularly for those with poor access to ART, there is a need to maximize every opportunity available for HIV counselling and testing. The diagnosis or recognition of the signs and symptoms of TB offers another entry point for PWID and their close contacts to gain access to HIV care. It also creates an opportunity to provide other life-saving services such as OST, NSP, ART and viral hepatitis prevention, management and treatment.

Observational studies show that testing patients with presumptive and diagnosed TB and their contacts for HIV can lead to a high number of new diagnoses of HIV infection, because prevalence of HIV is higher in these groups than among the general adult population (*15*). Voluntary HTS for sexual or needle-sharing partners, with shared disclosure and mutual support, may also improve the uptake of and adherence to ART. This will benefit both the individual with HIV and their partner, regardless of HIV status. WHO recommends that key populations, including PWID, partners of PWID and prisoners be offered HTS at least annually, and more frequently if necessary, depending on risk behaviour (*27*).

Community-based HTS is a critical approach for reaching PWID who are unlikely to go to a facility for HIV testing. Services led by trained lay providers, including peer-based interventions, can also be important in early detection and in facilitating linkage to services for PWID, in particular for adolescent PWID (*27*). To improve access to and uptake of HIV testing, community-based HTS should be made available in settings that are acceptable and convenient to PWID, including adolescents, who should be able to obtain HTS without required parental or guardian consent or presence (*5*).

All HTS should be provided in accordance with the 5Cs: consent, confidentiality, counselling, correct result and connection (i.e. linkage to prevention, care and treatment) (*27*). It is imperative that consent is obtained before performing HIV testing. Client confidentiality should be protected for all key populations, regardless of detention or incarceration status. Confidentiality applies not only to the test results and reports, but also to any personal information such as information concerning sexual behaviour and the use of illegal drugs. Although disclosure to sexual partners, supportive family members and health workers is often beneficial, this must be done only by or with the consent of the person being tested. Health workers and others who provide HTS may need special training and sensitization regarding the confidentiality of medical records. Accurate test results and quality assurance for both testing and counselling are also important.

Further reading for Objective B2.5:

- *Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations* (*5*).
- *Consolidated guidelines on HIV testing services* (*27*).
- *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection* (*17*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).

B2.6 Provide ART and co-trimoxazole to all PWID with HIV-associated TB

Recommendations

1. ART should be started in all TB patients living with HIV, including those with drug-resistant TB, regardless of CD4 count (*17*).
2. Anti-TB treatment should be initiated first, followed by ART as soon as possible within the first 8 weeks of treatment. HIV-positive TB patients with profound immunosuppression (e.g. CD4 counts <50 cells/mm^3) should receive ART within the first 2 weeks of initiating TB treatment (*15*).
3. Comorbidity, including viral hepatitis infection (e.g. hepatitis B and C) should not contraindicate HIV or TB treatment for PWID. Alcohol dependence, active drug use and mental health should not be used as a reason to withhold treatment (*6*).
4. Efavirenz should be used as the preferred non-nucleoside reverse transcriptase inhibitor in patients starting ART while on anti-TB treatment (*15*).
5. ART should be initiated and maintained in eligible people living with HIV at care settings where OST is provided (*17*).
6. Routine co-trimoxazole preventive therapy should be administered to all HIV-infected patients with active TB disease, regardless of CD4 counts (*15*).

ART greatly improves the survival and quality of life of TB patients living with HIV. Observational studies conducted in both resource-limited settings and high-income settings have shown that ART is associated with significant reductions in mortality risk (54–95%) (*132).* Evidence from randomized controlled trials (RCTs) shows that early initiation of ART during anti-TB treatment is associated with reduced mortality rates, especially in patients with profound immunosuppression (e.g. CD4 <50 cells/mm^3) (*133-135*). HIV and TB programmes, and other PWID governmental and nongovernmental health-care providers, should ensure that PWID with TB who are diagnosed with HIV infection are offered ART as early as possible, preferably at the same location where they receive their TB treatment and OST, if applicable. Effective referral is an alternative; however, it relies on proactive follow-up and the patient's ability to afford the time and costs involved in transport and waiting, and the potential loss of income. Programmes and stakeholders should work together to provide ART to all TB patients living with HIV in as decentralized and integrated a manner as possible, as discussed in Section B.1.

Patients should be closely followed up to assess the occurrence of side-effects related to co-treatment of TB, HIV and drug dependence, and of TB-associated immune reconstitution inflammatory syndrome. The latter is common in patients with TB when started on ART but is usually self-limiting.

Preventive therapy with co-trimoxazole (CPT), a broad spectrum antimicrobial agent, prevents a range of secondary bacterial and parasitic infections in eligible adults and children living with HIV. TB patients living with HIV should receive CPT as an integral component of the HIV chronic care package. CPT is a simple, well tolerated and cost–effective intervention for people living with HIV that can be administered concomitantly with ART. Evidence from RCTs, including in areas of high levels of antibiotic resistance, has shown reduced mortality, morbidity and hospitalization, with no significant increase in adverse events among smear-positive TB patients with HIV, regardless of their CD4 counts. Other non-randomized and operational studies have shown that CPT is feasible and safe, and reduces mortality rates in TB patients. Therefore, HIV programmes and TB-control programmes should establish a system to provide CPT to all PWID living with HIV who have active TB (*15*). Further recommendations on CPT for people living with HIV who do not have TB can be found in the relevant guidelines (*24*).

Further reading for Objective B2.6:

- *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection* (*17*).
- *Guidelines on post-exposure prophylaxis for HIV and the use of co-trimoxazole prophylaxis for HIV-related infections among adults, adolescents and children: recommendations for a public health approach* (*24*).
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).

B2.7 Introduce HIV prevention for PWID with presumptive and diagnosed TB

Recommendations

1. HIV and TB programmes, and other governmental and nongovernmental stakeholders providing treatment, care and support for PWID, should ensure access to a continuum of comprehensive and integrated prevention, care and treatment for PWID living with HIV who are receiving or who have completed their anti-TB treatment (*15*).
2. All PWID should have access to sterile injecting equipment through an NSP (*5*).
3. The correct and consistent use of condoms with condom-compatible lubricants is recommended for people from key populations, to prevent sexual transmission of HIV and other STIs (*5*).
4. Periodic screening of people from key populations for asymptomatic STIs is recommended (*5*).
5. All persons working with PWID should be able to assess risk factors for HIV infection and transmission, and should provide comprehensive HIV information and services to their clients to minimize their risks (*15, 16*).
6. PEP should be available to all eligible PWID on a voluntary basis after possible exposure to HIV (*5*).
7. Oral pre-exposure prophylaxis (PrEP) containing tenofovir disoproxil fumarate should be offered as a prevention choice for people at substantial risk of HIV infection, as part of combination HIV prevention approaches (*28*).

ART, as part of treatment and as part of prevention of mother to child transmission, has a significant effect on HIV prevention. However, it should be used in combination with other interventions that reduce HIV risk or the probability of HIV transmission per contact event. Such interventions include NSPs, OST, STI services and male and female condoms, PEP, PrEP, targeted information and education, and voluntary medical male circumcision (in countries with a high prevalence of HIV and a low prevalence of male circumcision).

The HIV prevention needs of PWID will change throughout their lifetime. A combination prevention approach will help PWID to access the types of interventions that best suit their needs at different times. In most circumstances, sharing injecting equipment is the greatest risk factor for PWID becoming infected with or transmitting HIV. Sex is another important route of infection and transmission, and there can be a significant overlap between sex work and drug use (*136-138*). PWID will also include people in serodiscordant relationships, those planning to have children or who are pregnant, and those who have experienced violence and rape, all of which have implications for HIV risk and prevention needs. In many countries, HIV prevention activities have been successfully implemented for TB patients through TB-control programmes or effective referral of patients to HIV programmes (*139, 140*).

A critical aspect of prevention of HIV among PWID is a stable, uninterrupted continuum of care. Thus, for example, when services are not fully integrated, TB programmes should coordinate closely with HIV services and other PWID support services to ensure continued access to HIV prevention. Similarly, HIV and TB programmes should work closely with health services responsible for prisons or other places of detention to prevent interruption of therapy on entry or exit from such facilities. Such linkage can also be facilitated with the help of NGOs and community-led organizations.

Crucial for the success of any disease prevention programme is the inclusion of PWID in the design, implementation, and monitoring and evaluation of the programme.

Needle and syringe programmes

Distributing sterile injecting equipment that is free or low cost, reliable and conveniently available to PWID facilitates the use of clean needles and syringes, and reduces the number of injections with used needles and syringes (*141-143*). All PWID should have access to sterile injecting equipment. The injecting equipment should be appropriate to the local context, taking into account factors such as the type and preparation of drugs that are commonly injected. Equipment distributed should include low dead-space syringes, other types of syringes, and injecting equipment. The latter should include alcohol swabs, vials of sterile water, filters, tourniquets and mixing vessels (e.g. spoons or "cookers") to assist with dissolving the substance to be injected (*13*). There are various models for distribution and service delivery of injecting equipment. Services can operate at fixed sites (e.g. pharmacies, supervised drug consumption or injection facilities, and automatic dispensing machines or vending machines) or through mobile and outreach services (*143-145*). Effective safe disposal reduces the amount of contaminated equipment in the community; this in turn reduces reuse and unintended needle-sticks, and helps to limit negative reactions from the community. NSPs should set up systems for safe disposal of injecting equipment and promote use of such systems. There are various models for safe disposal systems, including distribution of puncture-resistant one-way containers (*5, 17, 146*).

OST with methadone or buprenorphine

OST is the most effective form of pharmacological treatment for opioid dependence. It also effectively reduces HIV and viral hepatitis risk behaviour and transmission by reducing injecting drug use. OST also provides adherence support to people on ART and TB treatment (*8, 32, 147*). To be most effective, OST should be provided in adequate doses and for sufficient duration. Further recommendations on OST are given below in Section B.3.

Prevention, screening and treatment of STIs

Globally, STIs are a major cause of acute illness, infertility, long-term disability and death. Several STIs may facilitate the sexual transmission of HIV infection (*148).* In both men and women, STIs, particularly those resulting in genital ulcers, increase susceptibility to HIV infection. Also, acute STIs are an important marker for unsafe sexual behaviour and risk of HIV transmission (*5*). Health-care providers should therefore be alert to the importance of providing STI control and management for PWID. Screening, diagnosis and treatment of STIs should be offered routinely as part of comprehensive HIV prevention and care for PWID, in keeping with WHO guidance and adapted to the national context (*5, 149*). In the absence of laboratory tests, symptomatic PWID should be managed syndromically, in line with national STI management guidelines (*149*).

Male and female condoms and lubricants

Consistent and correct use of male condoms reduces sexual transmission of HIV and other STIs via both vaginal and anal sex by up to 94% (*5, 150*). Fewer data are available in relation to the efficacy of female condoms, but studies suggest they can have a similar prevention effect (*151*). Condoms also protect against other STIs that can increase the sexual transmission of HIV (*148*). Use of water- or silicone-based lubricants (rather than those that are petroleum based) helps to prevent condoms from breaking and slipping (*5*).

Post-exposure prophylaxis

PEP is currently the only way to reduce the risk of the development of HIV infection in an individual who has been exposed to HIV. Hence, PEP is widely considered to be an integral part of the overall strategy for preventing transmission (*24*). PEP may be prescribed following exposure to HIV through occupational exposure, sexual assault, or exposure from consensual sex or from sharing of injection equipment among PWID (*5*). WHO's latest guidance on PEP recommends a 28-day course of at least two (and preferably three) ARV drugs for HIV PEP following an initial risk assessment. Despite its short duration, reported completion rates for PEP are generally low (56%, 95% CI: 50.9–62.2%); thus, counselling and enhanced adherence support measures are critical. PEP may never be considered 100% effective (*152*). It is therefore imperative that HIV PEP policies reinforce the importance of primary prevention and risk-prevention counselling for both HIV and viral hepatitis (*24*).

Pre-exposure prophylaxis

PrEP should be offered as an option for any person at substantial risk of acquiring HIV, in addition to other HIV prevention options. "Substantial risk" is provisionally defined as HIV incidence greater than 3 per 100 person-years in the absence of PrEP. The current recommendation is based on evidence relating to rectal, vaginal and penile exposure to HIV only. Trials conducted on the effectiveness of oral PrEP among serodiscordant couples, heterosexual men, women, men who have sex with men, PWID and transgender women demonstrate that, where adherence is high, significant levels of efficacy can be achieved. The effectiveness of PrEP on transmission through sharing of injection equipment alone has, to date, not been demonstrated. Specific harm reduction services for drug use, including access to sterile injection equipment and drug dependence treatment, are the mainstay of preventing HIV and other disease among PWID, and should also be made available to PWID choosing to take PrEP (*28*).

Targeted information and education

When combined with other measures (e.g. the provision of sterile injecting equipment, condoms and treatment for drug dependence), targeted information and education can help to increase and sustain positive change in HIV risk behaviours. This includes programmes that use various communication approaches (e.g. peer, community-level and interpersonal counselling) to disseminate behavioural messages designed to encourage people to reduce behaviour that increases the risk of HIV. The programmes should also promote safer drug use, protected sex and knowing your own and your partner's HIV status (*17*).

Voluntary medical male circumcision

Although not identified specifically as a key intervention for PWID, WHO recommends offering voluntary medical male circumcision as an additional efficacious intervention for prevention of heterosexually acquired HIV, particularly in priority countries in eastern and southern Africa with generalized HIV epidemics and low rates of male circumcision. Voluntary medical male circumcision reduces the risk of female-to-male sexual transmission of HIV by about 60% and offers significant lifelong protection (*153*).

Further reading for Objective B2.7:

- *Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations* (*5*).
- *Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV* (*28*).
- *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence* (*8*).
- *Guide to starting and managing needle and syringe programmes* (*146*).
- *WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders* (*15*).
- *WHO, UNODC, UNAIDS technical guide for countries to set targets for universal access to HIV prevention, treatment and care for injecting drug users, 2012 revision* (*1*).

B3. Ensure access to OST and other drug dependence treatment

Recommendations[2]

1. A detailed individual assessment should be conducted that includes history (past treatment experiences, medical and psychiatric history, living conditions, legal issues, occupational situation, and social and cultural factors that may influence substance use), clinical examination (assessment of intoxication or withdrawal, and injection marks) and, if necessary, investigations (e.g. for TB, HIV, hepatitis B and C, urine drug screen and liver function) (*8*).
2. For patients with TB, HIV or hepatitis and opioid dependence, opioid agonists should be administered in conjunction with medical treatment; there is no need to wait for abstinence from opioids to commence either anti-TB medication, treatment for hepatitis or ARV medication (*8*).
3. Psychosocial support should be offered routinely in association with pharmacological treatment for opioid dependence (*8*).
4. Pregnant patients with opioid dependence should be advised to continue or commence opioid maintenance therapy with either methadone or buprenorphine (*22*).
5. To maximize the safety and effectiveness of agonist maintenance treatment programmes for opioid dependence, policies and regulations should encourage flexible dosing structures, with low starting doses and high maintenance doses, and should not place restrictions on dose levels and the duration of treatment (*8*).
6. Take-away doses (of OST) may be provided for opioid dependent patients when the benefits of reduced frequency of attendance are considered to outweigh the risk of diversion, subject to regular review (*8*).
7. ART should be initiated and maintained in eligible people living with HIV at care settings where OST is provided (*17*).
8. People likely to witness an opioid overdose should have access to naloxone and be instructed in its administration to enable them to use it for the emergency management of suspected opioid overdose (*23*).

PWID who are engaged in stable care with experienced personnel or peer workers and adequate support for drug dependence can adhere to long-term treatment and can have clinical outcomes comparable to those of people who do not use drugs (*93*). Evidence-based treatment for drug dependence provides a vital gateway to other health services, and an opportunity for supporting treatment adherence. Where possible, WHO-recommended drug dependence treatment, including OST for opioid dependence, should be provided as part of treatment and prevention services for TB, HIV and viral hepatitis. Should hospitalization be absolutely necessary for patients who are severely ill with TB, HIV or other associated conditions that require close clinical monitoring, drug dependence treatment (including OST for opioid dependence) should be provided simultaneously (*106, 113*).

B3.1 Treatment of opioid dependence

For the treatment of opioid dependence, WHO recommends psychosocial assistance combined with OST using methadone or buprenorphine, which are both on the WHO Model List of Essential Medicines. OST is highly effective in reducing opioid use, in reducing injecting behaviours that put opioid-dependent PWID at risk of HIV, and in improving access to and retention in treatment and care (*17, 102, 141, 143, 154-157*).

OST for opioid-dependent persons should not be limited to those who inject, to those who are HIV infected or to those who have failed on other drug dependence treatment. OST should be particularly encouraged in opioid-dependent pregnant women because opioid withdrawal may induce spontaneous abortion or result in a relapse to heroin use, which can also result in poorer obstetric outcomes (*8, 22, 158*). Commencement of OST in prison reduces the high risk of overdose and death on leaving prison; it also reduces re-incarceration rates (*8*). Opioid-dependent patients should be encouraged to use OST in preference to opioid withdrawal and antagonist therapy with naltrexone. Detoxification or opioid withdrawal (rather than maintenance treatment) results in poor outcomes in the long term. However, patients should be helped to withdraw from opioids if it is their informed choice to do so (*5*).

2 These recommendations were informed by evidence relating specifically to opioid dependence.

A number of drugs (e.g. efavirenz, nevirapine and rifampicin) can independently decrease methadone concentrations which, depending on the individual, may cause withdrawal and increase the risk of relapse to opioid use (*159*). Flexible methadone dosing regulations and policies are therefore particularly important for opioid-dependent PWID living with HIV or TB, or both. Patients receiving methadone together with efavirenz, nevirapine or rifampicin should be monitored closely, and individuals experiencing opioid withdrawal should have their methadone dose adjusted according to their needs. The interaction between buprenorphine and rifampicin may result in opiate withdrawal (*104, 160*). Rifabutin can be used as an alternative to rifampicin; rifabutin has not been documented to significantly affect buprenorphine or methadone levels (*17, 104, 105*). Methadone levels may also decrease in patients treated with pegylated interferon and ribavirin. Although this interaction is usually subclinical, monitoring for symptoms of withdrawal is recommended (*21*). No significant interaction has been documented between buprenorphine and nevirapine (*159*). Although a significant interaction has been reported between buprenorphine and efavirenz, no clinical symptoms of withdrawal have been reported (*159*). In all cases, the patient and the OST prescriber should be advised of potential interactions.

OST should not be denied if the services are unable to provide psychosocial assistance, or if patients refuse psychosocial care. At a minimum, services should attempt to assess the psychosocial needs of patients, provide whatever support they can, and refer to outside agencies for additional support where necessary.

B3.2 Other drug dependence treatment

Because of the chronic relapsing nature of drug dependence and the need to address its social and psychological dimensions, achieving abstinence (if desired) is often a lengthy and difficult process for many people. The provision of "stepping stones" or "stabilizing strategies" in the form of short-term and more achievable goals helps to define and structure progress. It also helps to reduce drug-related harms, including the transmission of bloodborne viruses such as HIV, hepatitis B and hepatitis C. Such interventions are strongly recommended as an alternative treatment option for opioid-dependent PWID who do not wish to receive OST, for addressing the use of non-opioid drugs (e.g. amphetamine-type stimulants, cocaine, sedatives and hypnotics), and where OST remains unavailable.

B3.3 Treatment of overdose

Worldwide, drug overdose is the leading cause of death among PWID, and a common cause of deaths not related to HIV among people with HIV. An estimated 69 000 people die from opioid overdose each year. Opioid overdose is both preventable and, if witnessed, treatable. OST provides the most effective protection against overdose (*5*).

Opioid overdose is treatable by both respiratory support and the short-acting opioid antagonist naloxone. This medication has a long clinical history of successful use for the treatment of opioid overdose. It has no effect if opioids are absent and no potential for abuse. Naloxone is included on the WHO Model List of Essential Medicines.(*5*).

Naloxone has generally been distributed by medical staff and health-care facilities. However, a number of countries in several regions have recently started community-based distribution; that is, allowing distribution and administration by PWID and their peers and family members, as well as by first-responders such as police and emergency services (*161-163*). Greater availability of naloxone through community-based distribution can help to reduce the high rates of opioid overdose, particularly where access to essential health services is limited for PWID.

Further reading for Objectives B3.1, B3.2 and B3.3

- *Community management of opioid overdose* (*23*).
- *Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations* (*5*).
- *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection* (*17*).
- *Guidelines for the identification and management of substance use disorders in pregnancy* (*22*).
- *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence* (*8*).
- *mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings* (*11*).
- *The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): manual for use in primary care* (*164*).

B4. Prevent, screen and treat viral hepatitis B and C among PWID

B4.1 Prevention of viral hepatitis B and C

Recommendations

1. PWID should be offered the rapid hepatitis B vaccination regimen (*13*).
2. PWID should be offered incentives to increase uptake and completion of the hepatitis B vaccine schedule (*13*).
3. NSPs should provide low dead-space syringes for distribution to PWID (*13*).
4. PWID should be offered peer interventions to reduce the incidence of viral hepatitis (*13*).

Given the high coinfection rates of viral hepatitis B and C, HIV and TB among PWID, prevention should be a priority because coinfection can have important implications for both TB and HIV treatment (*29*). A number of the interventions for preventing HIV are also relevant for the prevention of other bloodborne viruses, including HBV and HCV.

Vaccination is the mainstay of HBV prevention. The immediate availability of HBV vaccine in services for PWID can increase awareness of the vaccine and assist in its delivery to PWID. Vaccinations should be provided at a location and time convenient to PWID. Most countries have both targeted and population-wide HBV vaccination programmes that include infant, catch-up and risk-group vaccination. Risk groups include PWID and prisoners. Rapid vaccination schedules may confer an immune response similar to that provided by the standard schedule, with the added benefit of facilitating completion rates (*13, 165*). WHO recommends that a higher dose HBV vaccine should be used with the rapid regimen. When the rapid vaccine regimen is not available, however, the standard regimen should be offered. For both the standard and rapid regimens, delivery of the first dose is the priority (*13*). WHO's 2012 position paper on hepatitis A vaccines also recommends that targeted vaccination for hepatitis A among PWID be considered in settings of low and very low endemicity to provide individual health benefits (*166*). Patients with chronic liver disease are at increased risk for fulminant hepatitis A and should also be vaccinated.

Services that could provide vaccination include drug dependence treatment sites, NSPs and other services that engage regularly with PWID. Meta-analysis from two RCTs found that vaccination completion rates were more than twice as high among PWID receiving monetary incentives than among those who did not receive monetary incentives. Modest financial incentives combined with a convenient location for vaccine administration for PWID (e.g. through an NSP) were more effective in increasing vaccination uptake and completion than were higher monetary incentives alone. The WHO recommendation to provide incentives is conditional upon local acceptability and resource availability.

Pooled analysis from two studies found that the likelihood of being HIV infected or HCV infected was lower by 71% (RR 0.29; 95% CI: 0.18–0.46) and 51% (RR 0.49; 95% CI: 0.44–0.55), respectively, among PWID who had used low dead-space syringes than among PWID who had used high dead-space syringes (*167-169*). However, it is recommended that services distributing syringes for PWID offer all types of syringes according to the local needs and demand, in addition to other injecting paraphernalia such as cookers, cotton and spoons. Also, education should be provided to PWID and programme planners on the advantages of low dead-space syringes.

Further reading for Objective B4.1:

- *Guidance on prevention of viral hepatitis B and C among people who inject drugs* (*13*).
- *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence* (*8*).

B4.2 Screening and treatment of hepatitis B

Recommendations

1. As a priority, all adults, adolescents and children with chronic hepatitis B (CHB) who do not have clinical evidence of compensated or decompensated cirrhosis (or an aspartate aminotransferase-to-platelet ratio index [APRI] score >2) in adults) should be treated, regardless of alanine aminotransferase (ALT) levels, hepatitis B e antigen (HBeAg) status or HBV deoxyribonucleic acid (DNA) levels (*26*).
2. Treatment is recommended for adults with CHB who do not have clinical evidence of cirrhosis (or APRI score ≤2 in adults), but are aged more than 30 years (in particular), and have persistently abnormal ALT levels and evidence of high-level HBV replication (HBV DNA >20 000 IU/mL), regardless of HBeAg status (*26*).
3. Where HBV DNA testing is not available, treatment may be considered based on persistently abnormal ALT levels alone, regardless of HBeAg status (*26*).
4. In all adults, adolescents and children aged 12 years or older in whom antiviral therapy is indicated, the nucleos(t)ide analogues that have a high barrier to drug resistance (tenofovir or entecavir) are recommended (*26*).
5. For HIV/HBV coinfection, ART should be initiated among all adults and adolescents with HIV, regardless of WHO clinical stage and CD4 cell count (*28*).
6. Comorbidity of hepatitis B and C with HIV or TB (or both) should not contraindicate HIV or TB treatment for PWID. Alcohol dependence, active drug use and mental health problems should not be used as reasons to withhold treatment (*6*).

The WHO 2015 *Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection* (*26*) promote the use of simple, non-invasive diagnostic tests to assess the stage of liver disease and eligibility for treatment, and to prioritize treatment for those with the most advanced liver disease and who are at greatest risk of mortality. The first-line and second-line antiviral therapies tenofovir or entecavir, which have a high barrier to drug resistance, are currently recommended to treat CHB in adults and adolescents aged 12 years or older. Lifelong treatment is further recommended in those with cirrhosis, along with regular monitoring for disease progression, toxicity of drugs and early detection of hepatocellular carcinoma (*26*).

WHO now recommends ART for all people living with HIV (including those coinfected with hepatitis B), with priority given to those with severe or advanced HIV clinical disease (WHO clinical stage 3 or 4) and to those with a CD4 count of <350 cells/mm^3 (*28*). When this recommendation is fully implemented, it should supersede the WHO recommendation that ART should be initiated in individuals coinfected with HBV and HIV who have evidence of severe chronic liver disease, regardless of CD4 count, and in all those with a CD4 count ≤500 cells/mm^3, regardless of stage of liver disease (*17*).

Further reading for Objective B4.2:

- *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection* (*17*).
- *Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV* (*28*).
- *Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection* (*26*).
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).

Further WHO guidelines on testing persons for chronic hepatitis B and C infection and on the treatment of hepatitis C are due to be released in 2016.

B4.3 Screening and treatment of hepatitis C

Recommendations

1. HCV serology testing should be offered to individuals who are part of a population with high HCV prevalence or who have a history of HCV risk exposure or behaviour (*21*).
2. It is suggested that HCV nucleic acid testing (NAT) for the detection of HCV ribonucleic acid (RNA) be performed directly following a positive HCV serological test, to establish the diagnosis of chronic HCV infection, in addition to NAT for HCV RNA testing, as part of the assessment for starting treatment for HCV (*21*).
3. An alcohol intake assessment is recommended for all persons with HCV infection, followed by the offer of a behavioural alcohol reduction intervention for persons with moderate to high alcohol intake (*21*).
4. In resource-limited settings, it is suggested that the APRI or Fibrosis-4 (FIB-4) tests be used for the assessment of hepatic fibrosis, rather than other non-invasive tests that require more resources, such as elastography or Fibrotest (*21*).
5. Comorbidity of hepatitis B and C should not contraindicate HIV or TB treatment for PWID. Alcohol dependence, active drug use and mental health problems should not be used as reasons to withhold treatment (*6*).

WHO recommends screening of HCV among PWID because this population has a high prevalence of infection. Repeated screening of HCV is recommended in individuals who are at continued risk of infection; the possibility of repeated screening after spontaneous clearance or successful treatment should also be considered. Those who have been previously infected should be retested using RNA testing because the antibody remains positive after the first infection (*21*).

An initial clinical assessment is essential before commencing any therapy, in order to assess the presence of comorbidities such as TB or HIV. This is necessary because the co-management of such patients needs sound clinical judgement and the provision of appropriate treatment that takes into consideration side-effects and interactions of the respective drugs (*3*). Similarly, although comorbidity of viral hepatitis with HIV or TB should not contraindicate treatment of TB or HIV and will not necessarily increase DIH, liver function needs careful monitoring. Thus, screening for viral hepatitis among PWID before TB or HIV treatment is advised (*6*). Also recommended at this time are a psychological assessment and evaluation of potential drug–drug interactions.

The current WHO guidelines on diagnosis, care and treatment of persons with chronic hepatitis C infection (*21*) are based on drugs that were approved at the time of the guidelines meeting in June 2013. These guidelines recommend a number of regimens for treating HCV with drugs such as pegylated interferon, ribavirin, telaprevir, boceprevir, sofosbuvir and simeprevir (*21*). Updated guidelines that will include the newer direct-acting antiviral drugs (DAAs) that have been approved by regulatory agencies since June 2013 (e.g. ledipasvir, daclatasvir, asunaprevir, and a combination of paritaprevir, ombitasvir and dasabuvir) will be published in 2016. There is also a need for disease education, patient preparedness for symptoms while in receipt of treatment, support and appropriate, informed pre-test and post-test counselling (*21*).

In the case of any comorbidity, consideration must be given to potential drug–drug interactions, for both prescribed and non-prescribed drugs. In the case of HCV and TB coinfection, of the drug interactions studied, boceprevir, daclatasvir, ledipasvir, simeprevir, sofosbuvir and telaprevir are all contraindicated with rifampicin treatment; these drugs also have either interactions or potential interactions with rifabutin. Up-to-date guidance on prescribed and recreational drug interactions is available online.[3]

Further reading for Objective B4.3:

- *Guidelines for the screening, care and treatment of persons with hepatitis C infection* (*21*).
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).

Further WHO guidelines on testing persons for chronic hepatitis B and C infection and on the treatment of hepatitis C are due to be released in 2016.

3 http://www.hep-druginteractions.org

B5. Manage and treat alcohol dependence

Recommendations

1. Screening for hazardous and harmful alcohol use should be conducted, using a validated instrument that can be easily incorporated into routine clinical practice (e.g. AUDIT-3, AUDIT-C or ASSIST). In settings in which screening is not feasible or affordable, practitioners should explore alcohol consumption in their patients when relevant (*11*).
2. Alcohol dependence, active drug use and mental health problems should not be used as reasons to withhold treatment of TB, HIV or viral hepatitis (*6*).
3. In non-specialized settings, patients with hazardous and harmful alcohol use should receive a brief intervention comprising a single session of 5–30 minutes duration, incorporating individualized feedback and advice on reducing or ceasing alcohol consumption, and the offer of follow-up (*11*).
4. Psychosocial support should be routinely offered to alcohol-dependent patients in non-specialist health-care settings (*11*).

There is significant comorbidity with alcohol dependence among PWID, and excessive use of alcohol has been found to be associated with poor adherence and poor treatment outcomes for both HIV and TB (*170, 171*). In addition, alcohol dependence can lead to the acceleration of hepatic fibrosis and a higher risk of drug-induced hepatotoxicity during the treatment of both active and latent TB. It can also accelerate the progression of HCV-related cirrhosis (*21*).

WHO recommends an alcohol intake assessment for all persons with viral hepatitis, followed by the offer of an alcohol reduction intervention for those with hazardous or harmful alcohol use. There is limited evidence on the impact of screening for alcohol use disorder, or of the behavioural or pharmacological management of high alcohol intake on HIV and TB treatment outcomes specifically among PWID. However, a study in Russia, which excluded participants who were currently using opioids or had used opioids within the past month, showed encouraging results for the practical possibilities of integrating alcohol intake screening and alcohol reduction interventions (e.g. naltrexone and monthly counselling) into TB services, with favourable treatment outcomes among motivated TB patients (*172*). Further guidance on the management of alcohol cessation and withdrawal, detoxification and relapse prevention can be found in the WHO mental health Gap Action Programme (mhGAP) intervention guide (*11*), with recommendations in the mhGAP guidelines on interventions for mental, neurological and substance use disorders (*11, 173*).

Further reading for Objective B5:

- *The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): Manual for use in primary care* (*164*).
- *AUDIT – the Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Care, (second edition)* (*174*).
- *Brief Intervention – The ASSIST-linked brief intervention for hazardous and harmful substance use: Manual for use in primary care* (*175*).
- *mhGAP guidelines on interventions for mental, neurological and substance use disorders* (*173*).
- *mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings* (*11*).
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).

B6. Address mental health and psychosocial support needs

Comorbidity of mental illness with problematic drug use and with TB and HIV is quite common and should be a key consideration when tailoring the package of treatment, care and support. Adherence is known to be complicated by mental health comorbidity due to heightened forgetfulness, poor organization and poor comprehension of treatment plans. Similarly, social factors (e.g. living conditions, education and occupational situation) and legal issues may compromise continued access to care. A thorough individual assessment that identifies specific mental illness and psychosocial needs, and motivations of the individual helps to inform the individual treatment plan (*8*). A variety of structured psychosocial interventions should be available according to the needs of the patients. Examples of such interventions are various forms of counselling and psychotherapy, and assistance with social needs such as housing, employment, education, welfare and legal problems (*8*). Algorithms for use in non-specialized health settings on screening and management of mental illness, including depression, psychosis, bipolar disorder and self-harm or suicide are available in the mhGAP intervention guide (*11*). Related recommendations are available in the mhGAP guidelines on interventions for mental, neurological and substance use disorders (*173*).

Interventions should be based on research evidence, the appropriateness of the method for the patient's individual situation, acceptability to the patient, and the availability of trained staff.

Further reading for Objective B6:

- *Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence* (*8*).
- *mhGAP guidelines on interventions for mental, neurological and substance use disorders* (*173*).
- *mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings* (*11*).
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).

B7. Ensure access to nutritional care

Recommendations

1. All individuals with active TB should receive (i) an assessment of their nutritional status and (ii) appropriate counselling based on their nutritional status at diagnosis and throughout treatment. Additional nutritional care and support should be provided according to nutritional status (*19*).
2. Patients with active MDR-TB and moderate undernutrition should be provided with locally available nutrient-rich or fortified supplementary foods, as necessary, to restore normal nutritional status (*19*).

Malnutrition is commonly associated with alcohol and drug dependence (*176*). It is also both an important risk factor for TB and a common consequence of the disease, and is associated with poor treatment outcomes and increased risk of mortality from TB. Similarly, low body mass is an important risk factor for HIV disease progression and mortality (*177, 178*). Undernutrition should therefore be treated as part of the comprehensive approach, together with social support (*19).*

Further reading for Objective B7:

- *Management of severe malnutrition: a manual for physicians and other senior health workers* (*176*).
- *Nutritional care and support for patients with tuberculosis: guideline* (*19*).

WHO is currently developing recommendations for nutritional care and support of adolescents and adults living with HIV.

C. Ensure a standard of health care in prisons equivalent to that found outside prisons through harmonization of interventions and linkage to services in the community

Recommendations

1. Prisoners should obtain health care equivalent to that provided for the civilian population, and care should be continuous on transfer between, and in and out of, places of detention (*6*).
2. Medical examination upon entry and any time thereafter – conforming to internationally accepted standards of medical ethics, confidentiality and care – should be available for all prisoners (*6*).
3. Systematic screening for active TB should be considered in prisons and other penitentiary institutions (*20*).
4. Prison systems should pilot test and evaluate safer tattooing initiatives to assess whether they reduce the sharing and reuse of tattooing equipment and, thereby, reduce infections (*5, 16*).

The principle of equivalence (Principle 9 of the UN's Basic principles for the treatment of prisoners) states that "prisoners shall have access to the health services available in the country without discrimination on the grounds of their legal situation" (*179*). Access to the comprehensive package of harm reduction, including recommendations already outlined in this guidance, should be no exception.

Prison health care should be recognized as an integral part of the public health-care system. Health care should not be limited to medical care, but should emphasize early disease detection and treatment, health promotion and disease prevention. Health-care budgets for prisons must reflect the relatively greater needs of the prison population. A health-in-prisons programme should be an integral part of national efforts to provide access to HIV, viral hepatitis and TB services, as well as to NSPs and evidence-based drug dependence treatment. Prison authorities should establish strong linkages with community-based care and should involve outside service providers in delivering care in prisons. Whenever adequate care cannot be provided in prisons, detainees should be able to access health services in the community (*16*). Particular care should be taken to strengthen referral mechanisms and to ensure that people who are being treated for TB, HIV, viral hepatitis or drug dependence (i.e. OST) before entering prisons or other closed settings can continue without interruption while imprisoned and when transferred between settings, and can be linked with community-based care upon release (*5, 16*).

Systematic screening for TB among all prisoners and prison staff, regardless of HIV status, should be a priority in settings where there is a high prevalence of TB in the general population or in the prison population; where the incarceration rate is high; where there is high prevalence of HIV or MDR-TB; or where living conditions in prisons and other penitentiary institutions are poor (*20*). Screening should be carried out on entry to the facility, with annual screening thereafter if resources permit. Exit screening for people leaving prison should be considered when possible, and when treatment and follow-up can be ensured.

Efforts to improve living conditions, provide supplementary feeding, reduce overcrowding and control infection transmission are particularly important. All places of detention should have an infection-control plan that includes policies for improving ventilation, access to natural light, and screening and separation of prisoners with infectious TB from other prisoners, particularly those living with HIV (*9, 16*). Similarly, those suspected of MDR-TB should be separated from other prisoners, including from those with drug-sensitive TB (*60*).

Access to all prevention, screening, diagnosis and treatment services should be consistent with medical ethics, national standards, guidelines and control mechanisms. Interventions should always be geared towards the best interests of the patient. All services should be voluntary, with the informed consent of the patient, confidential, non-discriminatory and respectful (*16*).

Further reading for Objective C:

- *WHO policy on TB infection control in health-care facilities, congregate settings and households* (*9*).
- *Policy guidelines for collaborative TB and HIV services for injecting and other drug users: an integrated approach* (*6*).
- *Guidelines for the control of tuberculosis in prisons* (*60*).
- *Policy brief on HIV prevention, treatment and care in prisons and other closed settings: a comprehensive package of interventions* (*16*).
- *Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations* (*5*).
- *Systematic screening for active tuberculosis: principles and recommendations* (*20*).

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