WORLD HEALTH ORGANIZATION
EUROPE

5 HIV/AIDS Treatment and Care for Injecting Drug Users

Clinical Protocol for the WHO European Region

Contents

I. Policy and principles

Substance dependence is a complex condition, with profound consequences for the health of drug users, for public health and for health care systems, particularly when the substances are injected. The World Health Organization (WHO) and others have committed to scaling up access to highly active antiretroviral treatment (HAART and have confirmed that injecting drug users IDUs) should have equitable and universal access to HIV/AIDS prevention, treatment and care, including HAART *(1)*. While this protocol has been produced specifically for countries in the WHO European Region, it should be equally useful for countries in other regions where injecting drug users require HIV/AIDS treatment and care.

Although the overwhelming majority of HIV cases in eastern Europe are IDUs, they are the least likely to receive HAART *(2–4)*. Drug users have suboptimal access to and utilization of HAART and initiate it at more advanced stages of infection *(5)*. Patients with a history of injecting drug use have lower rates of access to HAART, even in developed countries with relatively good access for the general population *(6–9)*. Many studies show that clinicians are reluctant to prescribe antiretrovirals (ARVs) to HIV-infected IDUs, due to the common belief that they may have lower levels of adherence that may in turn lead to elevated rates of ARV resistance, whereas studies show that resistance levels are similar among IDUs and non-IDUs *(10)*. Where comprehensive HIV care has been provided to IDUs in an accessible and non-judgemental way, large proportions of them have been attracted to, and retained in, effective treatment. Combining HIV/AIDS care with substance dependence treatment services (including harm reduction, detoxification and substitution therapy) and psychosocial services has been particularly successful *(1, 4, 11–13)*.

WHO has a long tradition of working in HIV/AIDS prevention, treatment and care for IDUs and prisoners, guided by a broad range of WHO and United Nations resolutions, commitments, policies, position papers and technical documents. The work is now solidly evidence-based on the concept of harm reduction. The 1974 report of the *WHO Expert Committee on Drug Dependence* statement that programmes should be more concerned about preventing and reducing problems related to drug use rather than preventing drug use itself, predates HIV/AIDS and provides the rationale for WHO's public health approach to addressing drug-related problems within a harm-reduction framework *(14)*.

The term "harm reduction" is sometimes used to refer to all drug-related harm, but in the context of HIV/AIDS, WHO also uses the term to describe a comprehensive package of evidence-based interventions that reduce HIV transmission and the HIV/AIDS impact associated with drug use, particularly drug injecting. However, a harm-reduction approach is also effective against other bloodborne infections (notably hepatitis C), overdosing and other individual and public harms. A comprehensive strategy for the prevention of drug-use-related HIV epidemics must include programmes aimed at the primary prevention of drug use. Yet the comparative advantage of the WHO approach rests with interventions delivered through the health sector,[1] particularly those targeting current users and, increasingly, prisoners. WHO recognizes that HIV/AIDS prevention, treatment and care for drug users and prisoners requires a comprehensive approach with a range of interventions.

[1] "The health sector is wide-ranging and encompasses organized public and private health services (including those for health promotion, disease prevention, diagnosis, treatment and care), health ministries, nongovernmental organizations, community groups and professional associations, as well as institutions which directly input into the health care system (e.g. the pharmaceutical industry, and teaching institutions)." *The Global Health Sector Strategy for HIV/AIDS 2003–2007 (15).*

In May 2003 the 56th World Health Assembly endorsed the *WHO Global Health Sector Strategy (GHSS) for HIV/AIDS 2003–2007*, which lists the core components of a comprehensive health sector response to HIV/AIDS, including "promoting harm reduction among injecting drug users, such as wide access to sterile injecting equipment, and drug dependence treatment and outreach services to help reduce frequency of injecting drug use" *(15)*.

WHO has recently renewed its commitment to providing universal access to HIV/AIDS prevention, care and treatment for all who need it, in which harm reduction is a priority intervention guided by a number of technical papers and policy briefs *(1, 14–23)*.

The WHO Regional Office for Europe has been at the forefront of harm-reduction efforts. In 1998, the Regional Office, in cooperation with UNAIDS and the Council of Europe, published its basic principles for effective prevention of HIV infection among IDUs. It was among the first United Nations publications to set out basic principles for effective prevention among IDUs, explicitly mentioning provision of sterile injecting equipment and opioid substitution therapy (OST). The current mandate for the Regional Office work on harm reduction in Europe is provided in the 2002 resolution of the WHO Regional Committee for Europe (EUR/RC52/R9), *Scaling up the response to HIV/AIDS in the European Region of WHO*, which urges Member States:

> … to promote, enable and strengthen widespread introduction and expansion of evidence-based targeted interventions for vulnerable/high-risk groups, such as prevention, treatment and harm reduction programmes (e.g. expanded needle and syringe programmes, bleach and condom distribution, voluntary HIV counselling and testing, substitution drug therapy, [sexually transmitted infection] STI diagnosis and treatment) in all affected communities, including prisons, in line with national policies.

In February 2004, the Regional Office also helped draft the landmark Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia, in which all European Region Member States committed to:

> Scale up access for injecting drug users to prevention, drug dependence treatment and harm reduction services through promoting, enabling and strengthening the widespread introduction of prevention, drug dependence treatment and harm reduction programmes[2] (e.g. needle and syringe programmes, bleach and condom distribution, voluntary HIV counselling and testing, substitution drug therapy, STI diagnosis and treatment) in line with national policies… *(17)*.

The following principles should be applied to IDUs living with HIV.

- HAART is as effective for HIV-positive IDUs as it is for other people with HIV/AIDS.
- Given appropriate support, former and active IDUs can adhere just as well as others and should have equal access to HAART.
- Current or past drug use should not be a criterion for deciding who should receive antiretroviral treatment (ART).
- Special attention should be paid to the particular needs of former and active IDUs when administering HAART, including those related to substance dependence, comorbidities and coinfections.
- A public health policy that addresses the need to treat both substance dependence and HIV/AIDS improves patient well-being, reduces stigmatization and promotes delivery of comprehensive, ethical medical care.

[2] WHO recommends that at least 60% of IDUs have access to drug dependence treatment and harm-reduction programmes in order to have an impact on the epidemic among this group.

- The most effective response consists of a combination of prevention, treatment, care and support within a harm-reduction framework.
- Harm reduction is highly effective for IDUs in supporting prevention, treatment and care.
- Provision of good quality OST is an essential component of HIV/AIDS treatment and is highly effective in addressing opioid dependence.
- A supportive environment that upholds the human rights and dignity of IDUs and helps expand and improve access to drug dependence treatment should be ensured.
- Countries with HIV epidemics fuelled by injecting drug use should respond immediately to the needs of IDUs with preventive and treatment services, including harm reduction, opioid substitution therapy and equitable access to HAART.

II. Background and general considerations

1. HIV and injecting drug use epidemiology

Estimates suggest that by the end of 2003 there were approximately 13.2 million IDUs worldwide, the majority, 10.3 million (78%), in developing and transitional countries. The number of IDUs in western Europe has been estimated at 1.2 million, with 3.2 million in eastern Europe and central Asia *(24)*. HIV epidemics in many parts of the world are driven by injecting drug use and sexual contact with IDUs. Estimates indicate that at least 10% of all new HIV infections in the world – 30% if Africa is excluded – can be attributed to injecting drug use, and that approximately 3 million past and current IDUs are living with HIV *(25, 26)*.

In eastern Europe, HIV epidemics have been driven almost entirely by injecting drug use. Estonia, the Russian Federation and Ukraine have the largest and most widespread epidemics *(27, 28)*. HIV prevalence rates among IDUs differ widely in western Europe, with the highest rates in Spain, Italy and Portugal *(24)*. The countries most affected are those where access to prevention, treatment and care is limited, where needle and syringe programmes and drug substitution therapy are not widely available or illegal, and where law enforcement is the dominant approach to drug use *(29, 30)*.

Explosive growth is characteristic of drug-driven HIV epidemics. In some cases, HIV prevalence among IDUs has risen from around 1% to as much as 70% in a few years *(31, 32)*. Rapid increases of injecting drug use also often coincide with the most rapid increases in HIV/AIDS. Drug use-driven HIV epidemics typically start with IDUs who are young, male and sexually active, and are then followed by sexual transmission to male and female partners as well as to children through mother-to-child transmission (MTCT). Commercial sex work can act as a bridge between populations through the exchange of sex for drugs or through sex work to support drug use *(33)*.

These explosive epidemics can be explained by the lack of access to prevention and treatment (notably harm reduction), together with the efficacy of bloodborne transmission through sharing needles, syringes and other drug paraphernalia. An additional factor is the elevated level of viraemia characteristic of the first weeks and months after seroconversion, which may contribute to the high HIV-transmission rates typical of these epidemics *(4)*. Social and environmental factors also contribute to IDU/HIV epidemics *(34)*.

2. Health and social consequences of injecting drug use

Substance dependence is a complex condition that has both physical and psychosocial components and is associated with severe morbidity and a high risk of death. Substance dependence (particularly opioid dependence) is a chronic relapsing condition, which is difficult to control due to compulsive drug use and craving, leading to repetitive use, even in the face of negative health and social consequences *(35)*. There are a number of medical, psychiatric and social problems common among substance-dependent people that are important considerations in designing and delivering HIV/AIDS care.

2.1. Health problems

In addition to HIV, IDUs usully have a wide range of coinfections, coinfections, comorbidities and injecting related health issues.

The most common health problems among IDUs are:

- infection with bloodborne viruses, including hepatitis B, C and D (delta) leading to liver diseases
- bacterial infections: *(36)*
    - tuberculosis

  - bacterial pneumonia
  - endocarditis
  - septicaemia
- overdoses
- alcohol dependence and alcohol-related liver disease
- polysubstance dependence
- psychiatric comorbidity, including depression.

Some IDUs have a long history of mental illness without proper diagnosis or treatment. There are some mental conditions that may result from, or be exacerbated by, the use of substances such as alcohol, cocaine and opioids. These substances may also be used by individuals as a form of self-medication for symptoms of mental illness and substitute for effective treatment. A substantial increase in the frequency of major depression and suicide in HIV-positive IDUs is apparent, even above the elevated rates associated with advanced HIV infection and AIDS *(37–39)*.

Other frequent injecting related prolems include:
- deep venous thrombosis (DVT) or pulmonary embolism (PE)
- local soft tissue and vascular injuries, including skin abscesses and thrombophlebitis
- increased risk of respiratory and smoking-related illnesses and chronic diseases.

2.2. Social problems

Common perceptions that drug users do not adhere to HAART may overlook the confounding effects of social instability, poverty, psychiatric morbidity, human rights violations and poor patient–physician relationships that characterize many drug users' lives.

IDUs' most prevalent social problems include:
- stigmatization, discrimination and social marginalization
- poverty
- homelessness
- unemployment
- family and social dysfunction
- criminal behaviour and imprisonment.

2.2.1. Stigmatization, discrimination and social marginalization

Drug use is a prevailing source of stigmatization and discrimination beyond that associated with positive HIV status.
- The stigma attached to drug use is often reinforced because it is typically an illegal and covert activity, with no legal protection available to people who use drugs.
- Drug users are often reluctant to attend medical facilities because of stigmatization and discrimination. Fear of discrimination may discourage HIV-infected drug users from revealing their drug use to HIV/AIDS care specialists, leading to a greater risk of misdiagnosis, or of pharmacological interactions between the HIV treatment regimens and the substances used *(4)*.
- Many IDUs live on the economic and social fringes, and may be rejected by their families.
- People who are most vulnerable to the impact of poverty, racial discrimination, poor health, lack of education and employment are also those most vulnerable to drug use.
- Social problems, including the stigma and discrimination associated with drug use and being HIV-positive, in turn exacerbate drug use.

2.2.2. Prison

The economic pressure of supporting drug dependence and the crime that results mean that in most countries, a large proportion of drug users are periodically incarcerated. Many countries have some form of compulsory detoxification or abstinence-based treatment in closed settings as the predominant type of treatment for drug use. There is no evidence that such approaches are effective as forms

of drug dependence treatment; furthermore, they bring a range of problems with them. Health problems associated with incarceration include:

- unsafe drug use with the risk of disease infection and transmission for other communicable diseases, including hepatitis;
- tuberculosis (TB) (particularly multidrug-resistant TB);
- unprotected sex between prisoners, with risk of transmitting HIV and other STIs;
- increased risk of overdose after release;
- physical and sexual assault;
- depression and anxiety; and
- suicide.

Explosive HIV epidemics within prisons have been reported in a number of countries, and can trigger or significantly affect broader HIV epidemics.

3. Opioid substitution therapy practice

The global number of opioid dependants receiving prescribed methadone is estimated to be over half a million – including nearly 400 000 in the European Region *(19, 40)* – and it is increasing in practically all regions. Originally implemented in Australia, the United States and western Europe, methadone maintenance treatment is expanding eastwards to central and eastern Europe, to the eastern Mediterranean region and Asia. Methadone covers up to 80% of estimated treatment needs in some European countries, in others much less. In the European Region, 76% of substitution treatment programmes use methadone *(41)*. In the United States, 179 329 patients were enrolled in methadone maintenance treatment programmes at the end of 1998; more recent estimates range from 200 000 to 300 000. Methadone is also being used in Argentina, Australia, Canada, China, Indonesia, the Islamic Republic of Iran, New Zealand and Thailand, among other countries. It is estimated that a million opioid dependants will be in methadone treatment within the next five years.

The global number of opioid dependants receiving prescribed buprenorphine is estimated to be close to 200 000 and increasing in practically all regions. The greatest level of experience with buprenorphine has been in France, where it has been widely available through general practitioners since 1995. In 1998, approximately 65 000 patients there per year were in buprenorphine treatment. By 2001, 74 000 were in buprenorphine treatment while 9600 were treated with methadone *(42)*. In Australia, buprenorphine was registered for the treatment of opioid dependence in 2001, and there were 8641 patients receiving it by June 2003. In 2005 it was available in countries including Australia, Austria, Belgium, China (Hong Kong Special Administrative Region), the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, India, Indonesia, Israel, Italy, Lithuania, Luxembourg, Malaysia, the Netherlands, Norway, Portugal, Singapore, Slovakia, Slovenia, South Africa, Sweden, Switzerland, Ukraine, the United Kingdom and the United States.

III. Organization and management considerations

1. Services

The organization of HIV prevention, treatment and care services and their linkage are important determinants of successful treatment of IDUs. HIV treatment programmes should be linked to harm-reduction services to facilitate enrolment and retention of IDUs, and to ensure that those in treatment can readily access risk reduction advice, counselling and relevant commodities (clean needles and syringes, condoms, etc). Harm-reduction strategies, including drug substitution therapy, can limit medical and psychosocial complications of drug use and can facilitate HIV care by stabilizing IDU behaviour.

Four types of linked services are crucial in the treatment of substance dependence and HIV/AIDS:
- general medical care and/or clinical infectious disease care
- harm reduction
- drug dependence treatment
- psychosocial support.

Outreach strategies can form strong links with community-based organizations representing affected groups, and utilize peer educators and counsellors drawn from these groups.

1.1. General medical care services

1.1.1. Principles

Successful programmes delivering medical care, including HAART, to active IDUs have identified important principles of medical care:
- accessibility
- free-of-charge
- user-friendly with non-judgmental and unbiased staff
- tailoring to individual needs
- continuity of care through referral systems among health services, community organizations, injecting drug use networks and families.

1.1.2. Multidisciplinary approach

WHO favours a multidisciplinary approach for the provision of treatment and care for people living with HIV (PLHIV). The care team should have experience with drug-dependency issues and should meet on a regular basis to review the status of IDUs under treatment and provide case management. The formation of a care team typically includes:
- a clinician (a physician, infection disease specialist or other medical practitioner)
- a medical nurse
- a social worker
- a counsellor
- a substance dependence specialist.[3]

Psychiatrists and psychiatric services are not necessarily the most appropriate to provide substance dependence treatment. Many of the complications that need treatment are those best managed by physicians. There is the risk of additional stigmatization of drug users because of their association with psychiatric services, particularly if they do not have psychiatric comorbidity.

[3] This may be an addiction specialist, a psychiatrist or psychologist and/or (in eastern Europe) a narcologist.

1.1.3. Components

A major challenge in delivering care to IDUs is their need for concurrent services addressing both biomedical and psychosocial issues.

Medical care should be comprehensive and should provide:
- HIV/AIDS treatment
- substance dependence treatment, inclcuding opioid substitution therapy
- diagnosis and treatment of other comorbidities and injecting related health issues (see section II.2.1)
- prophylaxis/suppression for specific HIV opportunistic infections[4]
- vaccination for hepatitis B virus (HBV)[5]
- palliative care for patients with advanced disease.[6]

While providing medical care to IDUs it is essential in medical settings to also address:
- treatment adherence;
- reduction of drug use and sexual risk behaviours;
- information on injecting techniques to decrease the complications of injection;
- support for sexual partners;
- support social matters (through social services);
- reducing and avoiding stigmatization and discrimination through:
  - ensuring the human rights of IDUs are respected, and that they receive quality services addressing their health needs, including HAART;
  - ensuring that health care workers are aware of their own feelings and prejudices and of the effect these may have on their patients, their professional performance and the successful outcome of drug-dependence treatment and HAART;
  - guarantee confidentiality.

The ready availability of such services will enhance a programme's credibility, while their absence will signal a lack of concern for the immediate needs of IDUs *(43)*.

1.2. Harm reduction

Harm-reduction interventions reduce the adverse health, social and economic consequences of psychoactive substance use for individual drug users, their families and their communities, without necessarily reducing or eliminating drug use. Appropriate support, provided by accessible and non-judgemental health care teams and delivered through community-based programmes and outreach strategies, has proven highly effective. Comprehensive harm-reduction programmes reduce new HIV infections among IDUs *(16, 44–46)*.

The key components of an effective harm reduction package targeting drug users include:
- community outreach, with a focus on peer approaches;
- behavioural change communication, including risk-reduction information;
- needle and syringe access and disposal;
- drug dependence treatment, particularly OST;
- HIV testing and counselling;
- condoms and STI prevention and treatment;
- primary health care, including hepatitis B vaccination, vein and abscess/ulcer care, overdose management; and
- a supportive policy and legislative environment.

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[4] For example, *Pneumocystis jirovecii* pneumonia (PCP), candidiasis, cryptococcosis, toxoplasmosis, *Mycobacterium avium* complex and cytomegalovirus. Interactions between antifugals commonly used in the treatment of candidiasis and cryptococcosis and methadone should be considered.

[5] Please refer to Protocol 8, *Prevention of hepatitis A, B and C and other hepatotoxic factors in people living with HIV,* and Protocol 12, *Immunization of people living with HIV and people at risk for HIV infection.*

[6] Please refer to Protocol 3, *Palliative care for people living with HIV.*

Harm-reduction services should be involved in:
- HIV/AIDS treatment delivery where feasible, including the provision of direct ART services;
- ART adherence support, including maintaining follow-up of IDUs who drop out of care;
- providing low-threshold (easy to access) entry points for both HIV/AIDS and drug-dependence treatment;
- providing information on:
  - safer drug use and HIV prevention
  - potential interactions between psychoactive drug use and HIV/AIDS treatment
  - ARV treatment, including how to manage side-effects;
- referrals to other harm-reduction services, including drug-dependence treatment programmes, community support services and other health care services;
- planning HIV treatment for IDUs; and
- conducting outreach to IDUs for HIV testing, counselling, treatment and care.

1.3. Drug-dependence treatment and OST

Management of drug-dependent individuals should also involve a multidisciplinary team, including physicians, nurses, counsellors, outreach workers, social workers and pharmacists *(47)*. Government agencies, nongovernmental organizations (NGOs) and community groups should assist in the delivery of services. Treatment of drug dependence, including drug substitution therapy, provides many benefits in the prevention and treatment of HIV/AIDS, by:
- improving access to HIV treatment and care and general health care
- retaining active drug users in treatment
- reducing the transmission of HIV, viral hepatitis and bacterial infections
- decreasing the need for hospitalization
- improving and facilitating adherence to and follow-up of HAART *(1, 3, 11, 45, 48–51)*.

It also assists in:
- reducing illicit opioid use
- reducing criminal activity
- decreasing deaths due to overdose
- cutting down on high risk behaviours for HIV transmission
- improving social integration.

The benefits of substitution therapy programmes can be maximized by:
- prescribing higher rather than lower doses of methadone or buprenorphine;
- orienting programmes towards maintenance rather than abstinence;
- offering assessment and treatment of psychiatric comorbidity and social problems;
- using contracts between patient and clinician or contingency management and counselling to reduce the use of additional drugs;
- ensuring ready access to services, e.g. by making location, opening hours and cost convenient; and
- providing a user-friendly environment *(52–54)*.

Where substitution therapy is available, consideration should be given to offering HIV/AIDS medical care and providing HAART at the same site from which drug substitution therapy is provided. This approach can:
- achieve maximal levels of treatment supervision
- enhance efficacy
- reduce the risk of developing ARV drug resistance
- facilitate the management of interactions between methadone and HIV/AIDS medications.

Other benefits of prescribing HAART in OST clinics include:
- the possibility of concurrent long-term treatment for drug dependence and HIV/AIDS;
- the opportunity to use directly observed treatment (DOT) in dispensing ART to patients who already visit the clinics daily to receive methadone;[7] and
- experience in treating medical conditions related to substance use *(1, 51)*.

There is evidence that DOT is an effective strategy in the provision of HAART with treatment for substance dependence. Using DOT to provide HAART in conjunction with methadone maintenance is recommended because it:
- results in significant numbers of patients achieving maximum viral suppression *(11)*;
- achieves higher levels of viral suppression than either standard care or treatment adherence support *(48)*; and
- minimizes the impact of HAART on the IDU's daily routine.

1.4. Psychosocial support

Services that can address both the biomedical needs and the psychosocial issues of IDUs concurrently are essential. There is a wide range of psychosocial support services that should be available in accordance with the patient needs of IDUs, including:
- support services for adherence to ART;
- psychological support, such as group therapy for IDUs and family members;
- peer support groups;
- educational programmes;
- psychiatric/psychological services for assessment and management of mental health disorders; and
- social services to deal with problems related to housing, employment, finances, legal matters, discrimination and other issues.

Former IDUs often have been uniquely successful in educating and motivating current IDUs to:
- access effective prevention, treatment and care services
- prepare for treatment, e.g. through advice on possible side-effects associated with ARVs
- adhere to HAART and other treatments.

2. Models of comprehensive HIV/AIDS care for IDUs

HIV/AIDS treatment and care, including HAART, should be delivered as part of a comprehensive care model. Combining or integrating HIV/AIDS and substance dependence services provides opportunities for HIV prevention, enhances adherence to both HIV/AIDS and substance dependence treatment and provides better overall care. A comprehensive service develops expertise in effectively treating substance dependence and providing HIV care. There are several models for effectively combining HIV prevention, treatment and care with substance dependence treatment, including:
- a single site for both HIV/AIDS care and substance dependence treatment:
  - on-site HIV/AIDS medical care in substance dependence treatment facilities or
  - substance dependence treatment in HIV/AIDS services;[8]
- separate HIV/AIDS and substance dependence treatment services in close proximity with good coordination and liaising, including referrals to other services; and
- primary care services for both drug dependence management and HIV/AIDS care through general practitioners or office-based practice.

[7] A second "take-home" dose of ARV drugs is also likely needed.
[8] A variation on the one-site model is a mobile health care service linked, for example, to a HIV/AIDS medical care centre, a substance dependence treatment facility or a harm-reduction service. Mobile services can provide HIV and STI screening, HIV/AIDS treatment, referrals for substance dependence treatment and mental health and other services.

The effectiveness of the models will depend on the infrastructure and organization of the health care system. Where specialized departments (for example, drug treatment centres and departments of internal medicine) exist, liaising and case management should be common practice.

3. Prisons

Reaching IDUs in prisons and other closed settings is crucial because prisons exacerbate the risks of both HIV infection and drug dependence. Incarcerated IDUs should receive the same package of services as those who are not incarcerated, including HAART. Treatment for HIV/AIDS and/or substance dependence may have begun prior to imprisonment, and HAART should continue in prison *(55)*.

Providing prevention, treatment and harm-reduction interventions to IDUs in prison benefits individual inmates as well as the community at large *(22, 56, 57)*. Comprehensive programmes in prisons should include:

- information, education and communications on HIV/AIDS
- voluntary testing and counselling
- condoms
- bleach or other disinfectants
- needle and syringe exchange
- substitution therapy
- clinical management of drug-dependent prisoners that meets local community standards
- HIV/AIDS services (including ART), as well as hepatitis and TB services
- follow-up care with links to community services
- treatment of other substance dependency problems.

Upon release, prisoners need to be guaranteed continuity of care *(58)*. There is a need to forge strong links between communities and drug dependence treatment centres, prisons, labour camps and other centres of detention, as many drug-dependent people move back and forth between the community and such closed settings. Closed settings should be seen as opportunities for HIV prevention, treatment and care and should be monitored and evaluated for a range of indicators that cover drug use, HIV and social issues.

Guidance on HIV prevention and treatment in prisons and other closed settings is available from WHO *(59, 60)*.

IV. Clinical management of HIV-infected IDUs

1. Initial evaluation

Care for HIV-positive IDUs must address substance use and substance dependence, psychological and social issues, and medical complications associated with injecting drug use and HIV/AIDS.

1.1. Evaluation of substance use and dependence

Standardized assessment tools should be used for screening and initially evaluating substance use and dependence. Preferred screening and assessment instruments are suggested below and in the annexes. In Europe, the preferred assessment instrument is the European version of the Addiction Severity Index (EuropASI; see Annex 1). Any screening or assessment must be voluntary and fully informed, with explanation of why the service needs to understand the individual's substance use and associated problems. Under-reporting use of illicit substances is common, so all patients should be screened for substance use and dependence (see Annex 2 for alcohol and drug listing).

Patients who admit to substance use should be examined further, as should those who do not but present the clinical signs or symptoms of drug use, including injections. It is crucial to assess drug dependency, as it has implications for patient management strategy. A simple and rapid initial assessment of drug dependence can be provided by non-specialized staff, based on 10 questions adapted from the "Symptom checklist for mental disorders" in the *International statistical classification of diseases and related health problems*, 10th revision (Annex 3).

Typically a substance use and dependence assessment includes a complete history of substance use and treatment and a physical examination. A substance use and treatment history will include:

- substances used, including alcohol and combinations of drugs, and age at first use
- modes of drug administration
- lifetime, recent and current use
- changes in drug effects over time
- history of tolerance, overdose and withdrawal
- periods of abstinence and attempts to quit
- complications of substance use (hepatitis, abscesses, etc.)
- current problems, including severity of dependence
- types and outcomes of previous treatment for drug dependence.

A physical examination may indicate substance dependence and/or complications associated with substance use. A checklist of physical symptoms such as the examination findings suggestive of addiction or its complications (see Annex 4) is useful. The physical complications of opioid or other drug dependence should be identified and addressed as part of the overall treatment plan.

Further evaluation of drug dependence severity and appropriate treatment strategy should be done by, or in close collaboration with, substance dependency treatment experts or other trained staff. In addition, risk-taking behaviour associated with bloodborne diseases can be documented using a standardized instrument such as the Bloodborne Virus Transmission Risk Assessment Questionnaire (see Annex 5).

1.2. Initial evaluation of HIV/AIDS status

Initial evaluation of IDUs' HIV/AIDS status is no different from that of non-users. Offering HIV testing, counselling and information should be routine procedure in health care settings dealing with IDUs. Health care providers should explain the reasons for offering the test and its importance for correct clinical management. However, a patient has the right to refuse the test. Initial assessment of HIV status should include the following:

- pretest HIV counselling and information;
- a serological test for HIV antibodies (typically ELISA and/or rapid tests), followed by a western blot confirmatory test; and
- post-test counselling, including information on reducing risk behaviours, whether the results are positive or negative.

1.3. Further clinical evaluation

Further evaluation is required for developing a strategy of clinical management of HIV-infected IDUs, including:

- presenting symptoms
- physical examination[9]
- mental health and social assessment[10]
- preparedness for treatment
- routine laboratory assessments
- CD4 lymphocyte count to determine the severity of immunodeficiency
- viral load testing, if available
- history of contraception use and pregnancy test if indicated
- assessment for hepatitis B and C[11]
- screening for TB[12]
- testing for STIs
- assessment for psychiatric disorders
- weight
- other tests based on the patient's condition.

For more detailed information refer to the Protocol 1, *Patient evaluation and antiretroviral treatment for adults and adolescents*.

Since many IDUs present for care at an advanced stage of HIV infection, it is important to thoroughly evaluate new patients for active opportunistic infections. The initial history and physical examination will usually identify common complications, including:

- oral candidiasis and difficulty swallowing, suggesting oesophageal candidiasis
- non-healing genital or anal ulcers, indicating herpes simplex
- fever with cough and/or shortness of breath, suggesting bacterial pneumonia, TB or PCP.

These conditions should not be interpreted as exclusion criteria for HAART, but as cases requiring clinical judgement. Initial evaluation should be followed by treatment of opportunistic infections and other conditions as indicated. For further details, please refer to Protocol 2, *Management of opportunistic infections and general symptoms of HIV/AIDS.*

1.4. Psychosocial assessment

Mental health comorbidities are common among IDUs with HIV. Some estimates suggest that between 25% and 50% of drug users also have a comorbid mental health problem.

A thorough psychosocial assessment should be undertaken at initial evaluation, focusing on:

- any source of instability that might undermine adherence to treatment
- depression and other mood disorders[13]
- other psychiatric problems.

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[9] Particular attention should be given to possible indications of substance dependence and its complications (see the previous section, IV.1.2).
[10] See the next section, IV.1.4.
[11] For more details see Protocol 6, *Management of hepatitis C and HIV coinfection*, and Protocol 8, *Management of hepatitis B and HIV coinfection.*
[12] For more details see Protocol 4, on *Management of tuberculosis and HIV coinfection.*
[13] Adherence to HAART has been found to be higher for depressed patients who adhere to antidepressant treatment than for those who do not adhere to it or are not given it *(61)*.

The use of a standardized screening instrument, such as the Brief Psychiatric Rating Scale (BPRS) *(62)* for psychotic illnesses or the Montgomery Asberg Depression Rating Scale (MADRS) *(63)*, may be of benefit and improve detection of psychological illness. The latter scale may be particularly useful for physically ill individuals. Referral for a full mental health evaluation and/or formal psychiatric diagnosis might be indicated.

The severity of HIV-related medical problems must be considered throughout psychosocial assessment. Social factors to be assessed include:
- social stability, family and community support
- homelessness
- major life events and crises
- financial security
- nutrition.

2. Management of opioid dependence

The management of substance dependence is critical in the care of HIV-positive IDUs as HIV infection and drug dependence in the same person are not isolated problems; each influences the progression of the other. There are a variety of treatment modalities for drug dependence, ranging from drug-free residential to pharmacologically assisted outpatient treatment, including maintenance and detoxification regimens. Given the often chronic nature of substance dependence, detoxification alone is seldom effective in producing long-term and sustained change. Most treatment options focus on opioid dependence and much less on on other kinds of substance dependence. Although in Europe, HIV/AIDS most commonly occurs among people who inject opioids, effective treatment for dependence on cocaine and amphetamine-type stimulants (ATS) should also be provided.

A range of interventions for IDUs has evolved from total abstinence to the provision of safe injectable heroin *(64)*. Staff in substance-dependence services have to have regular ongoing contact with IDUs, whether or not they are on OST.

One of the most significant predictors of outcome in the management of drug dependence is retention in treatment. OST programmes retain patients in treatment, making it an ideal modality for the delivery of HAART to HIV-positive IDUs. All drug services should strive toward establishing methadone or buprenorphine maintenance in order to improve treatment outcomes. IDUs are three times as likely not to receive HAART if they are not enrolled in such a programme *(65)*.

2.1. Opioid substitution therapies

There are two main modalities for treatment of opioid dependence: pharmacotherapy and psychological therapy. Pharmacotherapies include:
- agonist maintenance with oral methadone and levo-alpha-acetyl-methadol (LAAM);
- partial-agonist maintenance with sublingual buprenorphine or combination sublingual buprenorphine and naloxone;
- antagonist maintenance with oral naltrexone; and
- anti-withdrawal/detoxification agents (methadone, buprenorphine and/or clonidine) for brief periods to facilitate entry into drug-free or antagonist treatment approaches.

The two main opioid substitution therapies available in Europe are methadone and buprenorphine. Both high-dose methadone (>60 mg) and buprenorphine substantially reduce the level of illicit opioid use in comparison with low-dose methadone *(66)*.

It is important to keep in mind that:
- Stabilization of opioid-dependent IDUs through OST is a key component to successful HIV/AIDS treatment, including HAART.

- OST is not universally available, and many HIV-positive IDUs presenting for treatment with ART may still be actively using heroin and other drugs.
- Lack of access to OST should not preclude drug users from having HAART.
- Active drug use should not preclude HAART.

2.1.1. Methadone

Methadone is one of the most effective and most frequently used types of pharmacological OST. Clinical trials have demonstrated the effectiveness of methadone maintenance for the treatment of opioid dependence and prevention of HIV. Such evidence is summarized in key WHO documents *(19, 67)*.

Dosages of methadone in different programmes range from 20 to 120 mg per day and sometimes higher. Doses above 60–80 mg per day are better at achieving retention in treatment and reducing illicit drug use.

As methadone is metabolized by the cytochrome P450 enzyme system, other medications that interact with this enzyme system should be used with caution (see also section IV.4.4.).

Patients on methadone treatment may increase alchohol use in place of illicit opioids. IDUs are at an increased risk of liver toxicity and impairment of the metabolism of certain ARV drugs.

2.1.2. Buprenorphine

The benefits of buprenorphine maintenance are similar to methadone maintenance and therefore for HIV-infected IDUs on buprenorphine the success of HAART will be increased. In France, where buprenorphine is widely used, studies have reported that for patients on HAART and buprenorphine, the CD4 count rises and the viral load decreases as expected *(68)*.

More recently buprenorphine, a partial opioid agonist, has been used for both detoxification and maintenance. A number of clinical trials have demonstrated the effectiveness of buprenorphine maintenance for the treatment of opioid dependence. Again, key WHO documents summarize the evidence *(19, 69)*.

The dosage used in maintenance can range between 12 mg and 34 mg, with an average dose of approximately 16 mg.

Due to its pharmacological functioning and partially antagonistic effect, buprenorphine may be safer in overdose than methadone; in addition, it appears to offer a slightly smoother withdrawal during detoxification. It is a sublingual preparation, so care must be taken during dispensing, as there have been reports of crushing and injecting the tablets *(70)*, which could lead to sharing of injecting equipment *(71)*.

2.2. Detoxification programmes (medically supervised withdrawal)

Detoxification from opioids is an initial component of some treatment programmes but should never in itself be considered a treatment for opioid dependence. It provides supervision to reduce the severity of symptoms and the medical complications of withdrawal, and it should be tailored to the patient. There are several important points to consider about detoxification.

- Detoxification programmes can provide entry points for HAART delivery.
- Reduction in methadone and buprenorphine doses should be negotiated with the drug user depending on the emergence of withdrawal symptoms.
- Access to psychological support should be available throughout the treatment.
- Detoxification for opioid dependants can be carried out using tapering doses of different medications including:

- methadone (stabilize on 40–60 mg once daily (OD) and reduce by 5 mg per week over 8–10 weeks);
- buprenorphine (stabilize on 8–10 mg OD and reduce over 5-6 weeks);
- clonidine;[14] and
- lofexidine (stabilize on 1.2–2.0 mg in divided doses (e.g. four times daily (QID)) and reduce over 2 to 3 weeks).

When used appropriately, the medications above can produce safe and less uncomfortable withdrawal, but the majority of patients will relapse into opioid use after withdrawal, regardless of the method or substance used. Relapse rates following detoxification can be reduced by offering after-care support with antagonist therapy, such as naltrexone at 50 mg per day, or 100 mg on day 1, 100 mg on day 3 and 150 mg on day 5. Given that one of the principal problems of naltrexone is compliance *(72)*, some services supervise ingestion in the after-care period.

2.3. Other treatment options

In addition to OST, treatment and management options include:

- self-help groups
- therapeutic communities[15]
- residential rehabilitation[16]
- psychological interventions such as:
  - cognitive behavioural therapy (CBT)[17]
  - motivational interviewing[18]
  - contingency management[19]
  - matrix model[20]
  - relapse prevention strategies, medical or psychological
- peer support programmes
- social skills training
- vocational training
- heroin replacement treatment (heroin, morphine).

Heroin-assisted treatment was recently shown to be of more benefit to long-time opiate injectors with unsuccessful abstinence-oriented and perhaps OST treatment histories who may have serious continuing medical problems *(77)*. However, heroin prescribing programmes remain highly controversial. Such an intervention might be considered when all other treatment services have been saturated, for example, where there is universal access to methadone and buprenorphine treatment.

2.4. Management of non-opioid dependence (including cocaine and ATS)

While it is estimated that there are now over 13 million injecting drug users worldwide, not all substance dependence is on opioids. It is also associated with sedatives, cocaine and ATS. It is vital that services respond to the needs of non-opioid users. HIV risk is also associated with non-opioid drugs, particularly where these drugs are injected. There are limited data on association between

[14] An alpha-adrenergic agonist that suppresses withdrawal signs and symptoms. The patient may require admission, given the associated risk of significant hypotension; consequently lofexidine may be preferable.
[15] Residential drug-free rehabilitation programmes of 3–15 months duration. Group or individual psychotherapy and vocational training may be available.
[16] Short-term residential programmes (6–8 weeks), often based on the 12-step Minnesota model.
[17] A time-limited, structured, goal-oriented psychological intervention focusing on the problems of the drug user entering treatment. The therapy identifies the determinants or high-risks of drug use and allows the user to relearn appropriate coping skills, leading to a healthier lifestyle; can be brief or extended *(73)*.
[18] Stimulates and enhances an individual's resolve to change behaviour.
[19] An intervention that reinforces or rewards appropriate behaviour. The reward may be in the form of vouchers for samples that test negative for drugs *(74, 75)*.
[20] Designed to integrate interventions into a comprehensive approach. Elements include: individual counselling, CBT, motivational interviewing, family education groups, urine testing and participation in 12-step programmes *(76)*.

ATS use and high-risk sexual behaviour. At present there is no proven effective substitution therapy for non-opioid drugs, although dexamphetamine has been prescribed for amphetamine users in Australia and the United Kingdom *(78)*. Bupropion and sustained-release methylphenidate are among a number of promising pharmacotherapies for the treatment of methamphetamine dependence.

With the exception of detoxification for opioids and heroin prescribing, the range of treatment options is similar to those shown above for services treating opioid IDUs not on OST. There are however, some further considerations in relation to medical management and psychological interventions:

- Acute medical detoxification from cocaine and ATS focuses on relief of psychiatric withdrawal symptoms.
- Acute withdrawal problems are typically dealt with in the first three to five days post-cessation; however, they can last up to two weeks, particularly in individuals with comorbid medical or psychiatric problems.
- Detoxification should only form one part of a broader drug-dependence treatment.
- ATS use in general (and methamphetamine use in particular) has been associated with poor treatment engagement and high rates of drop-out and relapse.

2.4.1. Symptoms and medications

- Agitation and acute depression often follow cessation of cocaine or ATS and may require a minor tranquillizer such as diazepam for a short period.
- Psychotic symptoms, such as paranoia, may require antipsychotic medication.
- Palpitations and restlessness may benefit from the use of propranalol (a beta blocker), which has been shown to improve treatment retention and decrease cocaine use among those with severe withdrawal symptoms *(79)*.
- Drugs that stimulate the dopamine system in the brain can help manage depressive symptoms and severe craving in heavy cocaine users. Amantadine, a Parkinson disease medication, may prove beneficial *(80)*, while desipramine, a tricyclic antidepressant, can increase the availability of dopamine *(81)*. Desipramine has been associated with cardiac rhythm disturbances and should be used cautiously in patients also using methadone.

2.4.2. Relapse prevention

Following detoxification, medications useful for relapse prevention include those that reduce euphoria and limit craving, such as topiramate, an anticonvulsant *(82)*, or that make the high less pleasant and produce anxiety, such as disulfiram *(83)*. Close monitoring of signs for possible drug interactions should be taken when prescribing these medications in conjunction with ARVs.

- Topiramate is cleared through renal elimination; therefore, caution should be exercised in cases of renal or hepatic insufficiency.
- Although there are no reports of significant interactions with ARVs, topiramate is susceptible to clinically relevant drug interactions due to induction of its metabolism *(84)*.
- Interactions can occur between disulfiram and compounds that utilize the cytochrome p450 enzyme system *(85)*.
- There are reported interactions between disulfiram and the liquid form (but not the capsule form) of lopinavir/ritonavir, which contains ethanol and thus precipitates a reaction *(86)*. The capsule form is thus the preferred option.

2.4.3. Other interventions

Although there is no proven substitution therapy available for stimulant injectors, drug dependency services have ongoing contact with these patients, which provide opportunities for adherence support, often through psychological interventions, and in some desipramine cases the possibility of dispensing medication. The psychological interventions mentioned above (section IV.2.3) also have proven benefits in the treatment of cocaine and ATS dependence. CBT, the community reinforcement approach, contingency management and 12-step programmes have all demonstrated efficacy in treatment of cocaine and ATS dependence.

3. Management of HAART in IDUs with HIV/AIDS

- Initiation of ART is rarely an emergency.
- Patients should be well informed and motivated, while potential barriers to adherence should be addressed.
- Health care providers should give written information (in appropriate language and consistent with literacy levels) about ART to all patients and their families prior to initiation of treatment.
- Preparations for receiving ART should include:
  - substance dependence treatment
  - stabilization of living conditions
  - treatment of psychiatric disorders
  - stabilization of serious medical conditions.

Initiation of ART for HIV-infected IDUs should follow the current recommendations for initiation of ART in other HIV-infected patients; see Table 1. (For further details, please refer to Protocol 1, *Patient evaluation and antiretroviral treatment for adults and adolescents.*)

Table 1. Recommendations for initiating ART in PLHIV

WHO clinical stage	CD4 cell count	Recommendation
1	<200/mm^3	Treat
	200–350/mm^3	Consider treatment
2	<200/mm^3	Treat
	200–350/mm^3	Consider treatment
3	<350/mm^3	Treat
4	Regardless of CD4 count	Treat

While most clinicians regard CD4 counts as the more important indicator for initiation of treatment, viral load monitoring is useful, though not necessary, with >100 000 ribonucleic acid (RNA) copies/ml being the threshold level for ART.

A fundamental part of initiating treatment is ensuring that the patient is an active and a responsible participant in the plan. The key to effective HAART and treatment of any comorbidities is a careful assessment and education of the patient, leading to the development of an individualized treatment plan to maximize adherence. It is crucial that treatment plans be designed collaboratively by staff, patient and (where appropriate) family. All predictable potential barriers to successful treatment adherence should be addressed with this plan. The active participation of patients in their own treatment encourages closer cooperation with health care workers and better feedback on the effects of treatment.

3.1. Choice of HAART regimen

Selection of ARV drug regimens should include individual patient variables, such as comorbidities and other co-conditions. For IDUs, there are specific issues that should be identified during patient evaluation.

- IDUs may continue to actively use illicit drugs and may not be in OST.
- Comorbidities are very common, in particular mental health problems such as depression and alcohol dependence.
- Coinfections such as hepatitis C virus (HCV), HBV and TB are common.
- Drug interactions are more complex, for example, ARV interactions with illicit drugs or substitution treatments.
- IDUs may be homeless or otherwise difficult to contact.

- Adherence can be a more difficult issue with IDUs, particularly if they are receiving treatment for HCV or TB.

The above considerations have implications for the choice of treatment regimen. Issues of HAART for IDUs include the following *(4)*:

- Women who wish to become pregnant should not be prescribed efavirenz (EFV).
- Active hepatitis may be exacerbated more by nevirapine (NVP) than other drugs.
- Hepatoxicity may be due to direct drug toxicity or as a consequence of immune reconstitution syndrome (IRS) in patients with hepatotrophic viruses.
- For IDUs with hepatitis B coinfection, lamivudine (3TC) and tenofovir (TDF) are active against both infections.
- In alcohol users, the potential for pancreatitis is increased with didanosine (ddI).
- In alcohol users, the potential for peripheral neuropathy is increased with stavudine (d4T).
- In the presence of TB, EFV is preferable (abacavir (ABC) can be an option).
- Rifampacin for TB treatment should not be administered to patients receiving protease inhibitors (PI) (due to possible drug-induced hepatitis); however, rifabutin can be used (refer to Protocol 4, *Management of tuberculosis and HIV coinfection*).
- Intolerance of non-nucleoside reverse transcriptase inhibitor (NNRTIs) due to liver disease (HCV, HBV) or psychiatric disorders may require the use of a PI or ABC in first-line regimens.
- All possible drug interactions with other medications should be addressed.

3.2. Recommended HAART regimens for IDUs

Recommended regimens for IDUs are summarized in Table 2.

Table 2. HAART regimens for HIV-infected IDUs in different clinical situations

Treatment situation	First-line preferential	First-line alternatives[a]	Second-line preferred	Second-line alternatives
Injecting drug use without other significant clinical comorbidities or co-treatments, but needs ART	ZDV[b] + 3TC (or FTC)[c] + EFV[d]	TDF or d4T can replace ZDV. ABC or NVP or TDF can replace EFV.	ABC + ddI+ LPV/r[e] (or SQV/r)	NFV can replace LPV/r or SQV/r. ZDV or d4T can replace ABC if none were used in first line. EFV or NVP can replace ABC or ddI if none of either was used in first line.
Injecting drug use with HBV/HIV, with indications for treating HBV and using ART	ZDV+3TC (or FTC) + EFV	TDF or d4T can replace ZDV. ABC, NVP[f] or TDF can replace EFV.	ABC + ddI+ LPV/r (or SQV/r) and maintenance of 3TC and/or TDF	NFV can replace LPV/r or SQV/r. ZDV or d4T can replace ABC if they were not used in first line. EFV or NVP[f] can replace ABC or ddI if they were not used in first line.
Injecting drug use with TB/HIV using TB regimens with rifampicin (RMP) and needs ART	ZDV+3TC (or FTC) + EFV	TDF or d4T can replace ZDV. ABC or NVP[f] or TDF can replace EFV.	ABC + ddI+ LPV/r + RTV[g] (or SQV + RTV)	Maintain the PIs and substitute rifampicin for rifabituin in TB regimen, with adjustments in ARV dose if needed.
Injecting drug use with HCV/HIV using concomitant anti-HCV treatment and ART	ZDV+3TC (or FTC) + ABC[h, i]	d4T or TDF can replace ZDV. TDF can replace ABC.	Consult with a specialist with experience in the management of both diseases.	–

[a] Boosted PIs can be used as part of the first line ART in combination with two nucleoside or nucleotide reverse transcriptase inhibitors (NRTIs) when EFV is contraindicated.
[b] Methadone can significantly increase zidovudine (ZDV or AZT) concentrations. While the clinical significance is unclear, adverse events should be monitored.
[c] FTC (emtricitabine) is interchangeable with 3TC.
[d] EFV can significantly decrease methadone concentrations (60%) and methadone withdrawal is common. Significant methadone dose increase (e.g. 50%) is usually required.
[e] LPV/r (lopinavir/ritonavir) has been reported to cause methadone withdrawal and increased methadone dosage may be required.
[f] NVP can substitute for EFV in this situation, if no other options are available, but should be carefully monitored.
[g] LPV/r with extra dose of RTV (LPV/r + RTV). Refer to Protocol 4, *Management of tuberculosis and HIV coinfection.*
[h] ABC can mildly decrease methadone levels. Although risk of opioid withdrawal is low and dosage adjustments unlikely, some patients might require a methadone dose increase.
[i] Simplification strategy (start triple NRTIs and HCV therapy after the improvement of immunologic and virologic parameters with an induction phase with a NNRTI-based regimen). Refer to the Protocol 6, *Management of hepatitis C and HIV coinfection.*

Switching to second-line HAART should be done in case of treatment failure, which is measured clinically and immunologically. (Please refer to Protocol 1, *Patient evaluation and antiretroviral treatment for adults and adolescents*.) Treatment failure (occurrence of a new opportunistic infec-

tion or malignancy, recurrence of a previous opportunistic infection and the onset of WHO Stage III conditions) should be differentiated from immune reconstitution inflammatory syndrome (IRIS), which can occur in the first three months after initiation of HAART. The latter is an inflammatory response to previously subclinical opportunistic infections in advanced immunodeficiency. The opportunistic infection in IRIS should be treated as usual.

3.3. Hepatotoxicity of ARVs

- NRTI hepatotoxicity is not a frequent adverse effect but has been reported with ZDV, ddI and d4T in the form of liver enlargement, liver enzyme abnormalities and/or lactic acidosis. ABC and 3TC have also been implicated but to a lesser degree. Regimens containing ZDV/ddI and d4T/ddI combinations should be avoided.
- NNRTI hepatotoxicity has been associated mainly with NVP but has also been reported with EFV. NVP should be avoided if possible. Women and patients with high CD4 counts are at higher risk of these hepatic events (including NVP deaths).
- PI hepatotoxicity is often mild. However, high dose ritonavir (>1000 mg/day) appears more potentially hepatotoxic than other PIs. Unlike the hepatotoxicity associated with NNRTIs, which occurs in the first weeks of treatment, that associated with PIs can appear at any time during treatment. PI dosing is difficult in patients with decompensated liver disease and drug level monitoring may be helpful.
- Despite the common association of hepatotoxicity with HAART, almost 90% of HIV-infected patients, regardless of whether they are coinfected with hepatic viruses, will tolerate HAART without severe liver toxicity *(87)*.

3.4. Considerations for IDU patients with hepatitis C/HIV coinfection

All IDUs with hepatitis C should be considered for treatment with pegylated interferon and ribavarin. The sustained response rate for this treatment has been reported as 11–29% for genotype 1 and 43–73% for other genotypes *(88–90)*. Factors influencing response include CD4 count, HIV viral load and the presence of cirrhosis. Treatment is best provided at a high CD4 count before the need for HAART arises. If HAART intervention is required, the patient should be stabilized on therapy with a CD4 count of >200cells/mm^3 before anti-HCV treatment is initiated. (For further information please refer to Protocol 6 on *Management of hepatitis C and HIV coninfection*.)

The side-effects of hepatitis treatment have the potential to destabilize a successful HAART response. Consideration should be given to anti-HCV treatment at a substance dependency centre or HIV/AIDS centre where OST and HAART may be directly administered. A further advantage of this approach is that the patient can be monitored clinically, by the psychiatric/psychological support staff in the drug dependence service, especially since depression is one of the more serious side-effects of interferon *(91)*.

3.5. Considerations for IDU patients with TB/HIV coinfection

The treatment of TB and HIV coinfection in IDUs is complex; however, it can still be managed effectively *(92)*. Data supporting specific treatment recommendations are incomplete and research is urgently needed in this area. Please refer to Tables 2 (section IV.3.2. above) and 5 (see section IV.4.4.4.) for specific issues in HAART for IDUs with active TB.

Methadone dosage needs to be considered in the TB treatment of IDUs. As rifampicin is a potent inducer of cytochrome P450, it can lead to a reduction in circulating methadone levels, possibly requiring a substantially increased dosage. As buprenorphine is also metabolized by the cytochrome P450 pathway, it is suspected that rifampicin has a similar major impact on the buprenorphine level. Rifampacin also accelerates the metabolism of PIs. There are no reported interactions between methadone and rifabutin, so rifabutin may be an alternative in combination with PIs *(93)*. (See Table 5 in section IV.4.4.4.)

3.6. Adherence

Adherence is an important determinant of a successful response to HAART, since incomplete adherence has been associated with early emergence of ART resistance *(94, 95)*, virological failure and subsequent immunological and clinical failures *(96)*. Adherence rates over 95% are required to achieve optimal viral suppression *(97)*. If drug resistance develops, drug resistant viruses can be transmitted, necessitating revised treatment regimens *(96, 98)*.

The relationship between non-adherence and plasma HIV RNA levels is clear, but not proportionate: a small amount of non-adherence yields large losses of viral control. One study showed that a 10% decrease in adherence was associated with a doubling of the HIV RNA level *(99)*. In addition, CD4 count can decrease with adherence under 90% *(100)*.

The need for more than 95% compliance to treatment has allowed an incorrect view to develop that IDUs are poor candidates for HAART. IDUs are disproportionately and wrongly excluded from HIV/AIDS treatment, particularly HAART. Studies indicate that:

- the proportion of non-adherent individuals is similar in non-IDUs and IDUs on OST *(101, 102);* and
- rates of ARV resistance are no higher in IDUs than non-IDUs.

IDUs receiving stable care from experienced staff with adequate support can adhere to HAART and have clinical outcomes equivalent to those of HIV patients who do not use drugs *(9, 10, 94)*. In particular, consistent participation in methadone maintenance programmes has been shown to be associated with a higher probability of HAART use and better adherence to it *(1, 3, 11, 24, 44, 48–50, 103)*.

3.6.1. Factors influencing adherence

Adherence to HAART can be influenced by many types of factors.

Medical factors are:

- toxicity and side-effects of ARVs or interactions with other medications or substances
- hepatotoxicity, which is much higher among IDUs than non-IDUs[21]
- severe opportunistic infections
- comorbid psychiatric disorders, including depression *(39, 104)*.[22]

Personal factors are:

- continuing or relapsed drug use *(68)*
- concurrent problematic alcohol use or multiple drug dependence
- lack of prospects and motivation
- major life events and crises
- side-effects of ARVs or perception of same *(108, 109)*
- expectations of treatment success (by patients and providers).

Health-care-service-related factors are:

- stigmatization and discrimination in health care settings *(110)*
- perception of unfriendly and poor-quality health services *(102)*
- availability and accessibility of treatment services for drug dependence *(51, 111)*
- poor or non-existent links between services
- lack of continuity of care
- providers' belief that IDUs are unable to adhere to HAART *(110)*.

[21] Please see Protocols 6 and 7, *Management of hepatitis C and HIV coinfection* and *Management of hepatitis B and HIV coinfection*.

[22] Depression is also a determinant of clinical progression independent of adherence *(39, 105–107)*.

Social factors are:
- homelessness and lack of family or community support
- unemployment
- stigmatization and discrimination
- restrictive legislative and policies.

4. Monitoring of IDUs under treatment

4.1. Monitoring of substance dependence treatment

Monitoring the effectiveness of substance dependence treatment can be achieved through a number of means.
- Care planning is particularly informative; regular review by the case manager or physician is instrumental in achieving better outcomes.
- Care plans can set out short-, medium- and long-term goals; monitoring them indicates the degree of progress.
- Patient records are an essential element for documenting good practice and for informing evaluation and cover information on:
  - assessment results
  - treatment plans
  - daily dosages
  - side-effects of prescribed medicines
  - regimens used (including take-home doses)
  - medical care
  - psychological and psychiatric care
  - social care
  - laboratory findings
  - clinical observations
  - programme compliance observations
  - circumstances of leaving/terminating treatment
  - an agreement to terminate treatment
  - arrangements for after-care.
- The use of standardized instruments, such as the ASI (see Annex 1), allows progress to be monitored more formally.
- Screening for illicit drug use using urine, breath, saliva, blood or hair analysis can indicate the degree of response to the treatment.
- Drug screening is not a prerequisite; it should be undertaken with informed consent and should not be used to terminate treatment.

4.2. Monitoring of laboratory indicators with regards to HIV/AIDS

IDUs with HIV infection should be carefully monitored during the course of HIV infection to ensure continuum of care. Laboratory indicators, such as CD4 cell count and viral load should be monitored regularly whether or not a patient has started ART. For further information on patient monitoring please refer to Protocol 1 *Patient evaluation and antiretroviral treatment of adults and adolescents*.

4.3. Mangement of ARV toxicity and side-effects

Clinical side-effects of ARVs are relatively common, reported in nearly 50% of patients *(112)*, and are a leading cause of poor adherence to drug regimens *(113)*.

Management of possible side-effects is most effective when all staff are aware of the risk of side-effects in order to intervene early, and the patient understands the cause and nature of ARVs side-effects, and the importance of reporting them early in order to:

- organize adherence support
- adjust treatment regimens so they are safe, effective and acceptable
- minimize the risk of drug resistance because of poor adherence.

Early in the course of HAART, mild side-effects such as headache, nausea, diarrhoea and fatigue are common. They may often be managed simply with support, reassurance and symptomatic treatment such as analgesics or anti-diarrhoeal agents. These interventions are very useful in helping individuals to cope with side-effects without stopping or changing their HAART regimens.

Side-effects can vary from mild to very serious and can affect many organ systems. Major side-effects of ARVs by drug class and organ system *(114)* are shown in Protocol 1, *Patient evaluation and antiretroviral treatment for adults and adolescents*. Careful clinical assessment is required to exclude other possible causes of signs and symptoms that might be mistaken as ARV side-effects, for example opioid withdrawal syndrome is characterized by headaches, anxiety, diarrhoea and headaches.

In cases where the symptomatic measures are not sufficient or the toxicity is too severe it may be necessary to replace a side-effect-causing ARV drug with another ARV drug within the existing HAART regimen (please see Table 2 above). Please also see Protocol 1, *Patient evaluation and antiretroviral treatment for adults and adolescents*.

4.4 Drug-drug interactions in IDUs

Health care providers should counsel every patient on all possible interactions of ARVs with other drugs administered, including substitution therapy drugs (see Table 3), illicit/recreational drugs and medications for TB, HCV, HBV and other opportunistic infections. Awareness of interactions and reporting and management of symptoms is critical for the patient's well-being, treatment adherence and effectiveness, and management of drug interactions.

4.4.1. Methadone and ARVs

- Methadone is metabolized in the liver by several cytochrome P450 (CYP) enzymes (especially CYP3A4). Its level may drop when used in conjunction with drugs that induce cytochrome enzymes, and an increased dosage may be required. When used in conjunction with drugs that inhibit cytochrome enzymes, its level may increase and a dose reduction may be needed.
- Methadone itself inhibits the metabolism of ZDV, thus possibly elevating ZDV levels by as much as 43%; although no empiric dose reduction is currently recommended, signs of toxicity should be closely monitored *(115)*.
- Methadone can decrease ddI levels by up to 60%, leading to ddI underexposure, incomplete viral suppression and development of resistance.
- Nevirapine, efavirenz and ritonavir decrease methadone concentrations *(116, 117)* and produce withdrawal symptoms.
- NNRTIs are significantly more likely to interact with methadone than PIs, therefore IDUs on OST require careful monitoring.
- The PI LPV/r has also been shown to produce an increase of methadone metabolism necessitating dosage increases in some cases *(118)*.

Table 3. Interactions between ARV drugs and methadone[a]

Antiretroviral agent	Agent's effect on methadone	Methadone's effect on ARV agent	Comments
NRTIs			
Abacavir (ABC)	Methadone levels mildly decreased. Risk of opiate withdrawal low. Dosage adjustments unlikely but some patients might require methadone dose increase.	Peak concentration reduced (34%). Time to peak increased.	Data sparse – although one study showed an increase of 22% in oral methadone clearance. Risk of opiate withdrawal low. Methadone dose adjustment might be needed.
Didanosine (ddI) Buffered tablet Enteric coated capsule	None reported. No dosage adjustments necessary.	Concentrations decreased (60%) in buffered tablet but not in enteric coated (EC) capsule.	Only studied with twice-daily administration of buffered tablets. Hypothesized due to reduced bioavailability of didanosine in the setting of slower transit through the acidic environment of the stomach in patients taking methadone. Great inter-individual variability in didanosine pharmacokinetic data. No effect on enteric coated (EC) capsule Enteric coated (EC) capsule therefore preferred.
Empricintamin (FTC)	Not studied	Not studied	No known interactions
Lamivudine (3TC)	None reported	None reported	No known interactions
Stavudine (d4T)	None reported. No dosage adjustments necessary.	Concentrations decreased (18–27%). Clinical significance unclear.	Clinical significance of effect unclear.
Tenofovir (TDF)	None reported	None reported	No known interactions
Zidovudine (ZDV)	None reported No dosage adjustments necessary.	Concentrations significantly increased (43%). Clinical significance unclear. Adverse events possible.	Monitor for ZDV adverse events. Watch for anaemia, nausea, myalgia, vomiting, asthenia, headache and bone marrow suppression in recipients. If methadone trough levels are normal, suspect that problem is ZDV toxicity.
NNRTIs			
Efavirenz (EFV)	Methadone concentrations significantly decreased (60%). Methadone withdrawal common. Significant methadone dose increase (50%) usually required.	Unknown	Observe closely for signs of methadone withdrawal and increase dosage as necessary. Symptoms of withdrawal may be delayed for up to 2 or 3 weeks.

Antiretroviral agent	Agent's effect on methadone	Methadone's effect on ARV agent	Comments
Nevirapine (NVP)	Methadone concentrations significantly decreased (46%). Methadone withdrawal common. Methadone dose increase (16%) necessary in most patients.	None reported	In a case series of chronic methadone recipients initiating nevirapine, there was a need for 50% to 100% increases in the daily methadone doses to treat opioid withdrawal. Withdrawal symptoms generally occur between 4 and 8 days after starting nevirapine, although they may be delayed for up to 2 or 3 weeks.
PIs			
Lopinavir/ritonavir boost (LPV/r)	Methadone levels decreased (26–53%). Withdrawal might occur, requiring dosage increase. Side-effects may mimic withdrawal.	None reported	Methadone withdrawal reported. May require increased methadone dose.
Nelfinavir (NFV)	May decrease methadone levels (29–47%). Clinical withdrawal rarely reported. Methadone dosage may need to be increased.	Levels may be reduced but clinical significance unclear.	Clinical withdrawal was not reported in studies where decreased methadone concentrations were reported.
Ritonavir (RTV)	May decrease methadone levels (37%). Methadone dosage may need to be increased.	None reported	Studies limited Observe closely for signs of methadone withdrawal and increase dosage as necessary.
Ritonavir/tipranavir	May decrease methadone levels (50%). Methadone dosage may need to be increased.	None reported	
Saquinavir (SQV)	None reported	None reported	Studies limited, but no reported interactions.
Saquinavir 1600 mg, ritonavir 100 mg (SQV/r) Saquinavir 1400 mg, ritonavir 400 mg (SQV + RTV)	Methadone levels slightly reduced (SQV/r 1600/100 by 0–12%, SQV + RTV 1400/400 by 20%). No reported withdrawal. Methadone dosage adjustments may be necessary.	Unknown	Methadone dose adjustments may be necessary; requires ongoing monitoring.

[a] The methadone levels are based on trough levels measured in plasma 24 hours after ingestion of the last dose. For a useful evaluation of the methadone level, patients should have been on their doses for at least five days before testing.
Source: adapted from WHO. Leavitt et al. *(4,104).*

Opioid metabolization can be inhibited or induced by concomitant PIs, so patients should be monitored for signs of toxicity. The withdrawal symptoms generally occur within 4 to 10 days of ARV initiation. Withdrawal symptoms should be monitored clinically and dosage increases of 10 mg increments from days 8–10 should allow this problem to be managed. The required increase in methadone is not as great as expected from pharmacokinetic data.

Clinically, some of the potential interactions indicated above do not require a change in dose or medication. Practically, the use of NNRTIs does require an often significant dosage adjustment of methadone.

4.4.2. Methadone and other medications

Interactions between some medications used to treat comorbidities such as psychiatric disorders or TB associated with HIV in IDUs, and methadone or ARVs have also been reported and are indicated in Table 4. An up-to-date drug interaction database would doubtless prove useful to prescribing clinicians.

Table 4. Interactions among methadone, ARVs and other medications

Psychotropic medication	Use	Interaction with methadone	Interaction with ARV medications
Alprazolam (benzodiazepine)	Sedative	May result in an unpredictable interaction. Additive CNS depression and possible excessive sedation.	Alprazolam clearance decreased by 41%. Concurrent use of certain benzodiazepines (alprazolam, midazolam and triazolam) should be avoided with all PIs and EFV.
Desipramine	Tricyclic antidepressant	May result in unpredictable interaction. Possible increased TCA toxicity. Associated with cardiac rhythm disturbances and should be used cautiously with methadone.	Desipramine clearance decreased by 59%.
Fluoxetine (SSRI)	Treatment of depression and compulsive disorders	Decreased methadone levels in preclinical studies. Associated with cardiac rhythm disturbances and should be used cautiously with methadone	Ritonavir increased by 19%.
Fluvoxamine (SSRI)	Treatment of depression and compulsive disorders	Increased methadone levels reported.	No effect reported in preclinical study.
Sertraline (SSRI)	Treatment of depression and compulsive disorders	Increased methadone levels by 26%, without increase in side-effects. Associated with cardiac rhythm disturbances, caution should be used with methadone.	Not studied or reported.
St John's wort (*Hypericum perforatum*)	Antidepressant	Significant decrease in methadone levels reported.	Indinavir decreased by 57%. May lead to decreased response and resistance to NFV. Saquinavir (SQV) levels may be decreased.
Valproic acid	Anticonvulsant	None reported	ZDV increased in preclinical studies.
Other medications	**Use**	**Interaction with methadone**	**Interaction with ARV medications**
Carbamazepine	Anticonvulsant	Decreased methadone levels. May cause opioid withdrawal. A methadone dosage increase may be required. Consider using valporic acid as an alternative	Some interactions (refer to Protocol 1, *Patient evaluation and antiretroviral treatment in adults and adolescents*). Monitor for toxicities and dose adjustments.

Other medications	Use	Interaction with methadone	Interaction with ARV medications
Fluconazole	Antifungal	Increased methadone levels (35%). Clinical significance unknown, although cases requiring dose reduction reported. No signs of methadone toxicity reported. Other azole antifungal antibiotics may potentially influence opioid toxicity. e.g. itraconzale, ketoconazole, voriconazole.	Potential for bi-directional inhibition between some azole antifungal antibiotics and PIs. Monitor for toxicities and dose adjustments. Toxicity and anti-fugal outcomes observed with NNRTIs. Refer to Protocol 1, *Patient evaluation and antiretroviral treatment in adults and adolescents.*
Interferon-α + ribavirin	Anti hepatitis C treatment	Side-effects can mimic opioid withdrawal symptoms and methadone dose is often increased. In a study of HCV patients concomitantly receiving methadone and peginterferon-alfa 2a methadone levels increased 10-15%. Clinical significance unknown. Patients should be monitored for signs and symptoms for methadone toxicity.	Hepatitis C infection can aggravate the hepatotoxicity of several ARV regimens. (Refer to Protocol 6, *Management of hepatitis C and HIV coinfection*.)
Phenobarbital (barbiturate)	Anticonvulsant, sedative	Decreases methadone levels, often sharply. May cause withdrawal. A methadone dosage increase may be required.	Barbiturates such as phenobarbital are potent inducers of CYP3A4. Clinicians should consider avoiding concurrent administration of other potent inducers (e.g. EFV and NVP) in patients misusing barbiturates. May decrease NFV concentrations.
Phenytoin	Anticonvulsant	Decreases methadone levels, often sharply. May cause withdrawal. A methadone dosage increase may be required.	Some interactions (refer to Protocol 1, *Patient evaluation and antiretroviral treatment in adults and adolescents.*) Monitor for toxicities and dose adjustments.
Rifabutin	Anti-mycobacterial treatment of pulmonary TB	No change in methadone levels. Mild narcotic withdrawal symptoms.	Some interactions (refer to Protocol 1, *Patient evaluation and antiretroviral treatment in adults and adolescents*) but rifabutin may be a preferred option for the treatment of pulmonary TB as an alternative to rifampicin. Monitor for toxicities and dose adjustments.

Other medications	Use	Interaction with methadone	Interaction with ARV medications
Rifampicin (Rifampin) Rifampin/isoniazid	Treatment of pulmonary TB	Possibly severe decrease in methadone levels (33–68%). May induce methadone withdrawal. A methadone dose increase may be required.	PIs contraindicated. Rifampin should not be co-administered with LPV, NFV, SQV. Rifabutin may be a potential alternative, but not in combination with SQV.
Sildenafil	Erectile dysfunction agent	Not reported	No effect of sildenafil on PIs. Ritonavir increases sildenafil 10-fold. Saquinavir increases sildenafil 3-fold. Use cautiously and monitor for adverse effects.

Source: Leavitt et al., McCance-Katz et al. *(104,111)*.

4.4.3. Buprenorphine and ARVs

Buprenorphine and ARV interactions are less well researched than methadone interactions.

Morphine derivatives and opioid antagonists such as naltrexone should not be used with buprenorphine due to its partial antagonist effects. Elevations in liver enzymes (AST and ALT) have been reported in individuals receiving buprenorphine. There appears to be a mild elevation in liver enzymes in patients with hepatitis who receive buprenorphine long-term. As buprenorphine is metabolized by the cytochrome P450 3A4 enzyme system, other medications that interact with this system should be used with caution.

While in vitro evidence suggests that buprenorphine is metabolized by the cytochrome P450 enzyme (3A4 isomer) and would be affected in a similar way to methadone by enzyme inducers such as NVP, EFV and RTV, the evidence is not available from clinical trials to support this. To date, limited data exists on interactions between buprenorphine and ARVs; however, in examining both EFV and ZDV, the following observations have been made:

- Administering EFV with buprenorphine lowers buprenorphine levels but does not seem to produce clinical withdrawals *(119)*.
- ZDV with buprenorphine does not precipitate withdrawals, and ZDV levels do not decrease as they have been seen to do with methadone *(120)*.

Other potential interactions include those with:

- cytochrome P450 3A4 inhibitors such as fluconazole and macrolide antibiotics
- inducers such as phenobarbital, carbamazepine, phenytoin and rifampicin
- sedatives such as benzodiazepines.

Supervision of buprenorphine medication permits DOT with HAART, although in some cases, patients may only require buprenorphine doses every second or third day. Clinicians should remain aware of the potential for the sublingual buprenorphine to be crushed and injected, as this method has been linked with some cases of hepatitis in IDUs *(83)*.

4.4.4. Illicit/recreational drugs and ARVs

Interactions between ARVs and psychoactive substances used for non-medical purposes are possible and may have serious clinical consequences in terms of HAART efficacy or drug toxicity *(121)*. PIs and NNRTIs can inhibit or induce the cytochrome P450 system in the liver, which is responsible for the metabolism of benzodiazepines, amphetamines and opioids.

4.4.4.1 Benzodiazepines

- Benzodiazepines that are primarily dependent on CYP3A4 for metabolism – midazolam, triazolam, alprazolam and flunitrazepam – are likely to be affected by PIs and those ARVs that cause inhibition of CYP3A4, causing drowsiness, confusion and paradoxical aggression.
- NVP, which can induce CYP3A4, may lead to withdrawal symptoms and encourage dose escalation in benzodiazepines.
- The benzodiazepines where CYP3A4 metabolism plays a minor role include lorazepam, oxazepam, temazepam and diazepam, for which no interactions have been reported.

4.4.4.2 Cocaine

Cocaine may be used either by itself or in combination with other recreational drugs. Understanding the impact of cocaine use on HAART is important for successful treatment *(122)*.

- The metabolism of cocaine to norcocaine (an active hepatotoxic metabolite) occurs at CYP3A4.
- PIs and other drugs that inhibit CYP3A4 activity can lead to a fatal cocaine overdose.
- NVP, which induces this enzyme, can cause a build-up of a potentially hepatotoxic metabolite.

4.4.4.3 Amphetamine, methamphetamine and 3, 4 methylenedioxymethamphetamine (MDMA)

- These have similar metabolism mainly through the CYP2D6 pathway.
- Certain PIs, especially ritonavir may cause inhibition of CYP2D6 and therefore toxicity. A fatal MDMA/ritonavir interaction has been reported *(123)*.

4.4.4.4 Opioid-based drugs, such as heroin, codeine, morphine and other analgesics

Interactions with ARVs are similar to those described for methadone. Thus, NNRTIs and some PIs may result in opioid withdrawal and loss of analgesia.

4.4.4.5 Tetrahydrocannabinol (THC) (main active component of cannabis products)

- Information on potential interactions with ARVs is limited.
- A study looking at the effects of THC on HAART medication showed no clinically significant changes in the plasma levels of indiavir (IDV) or NFV *(124)*.
- Administration of potent CYP3A4 inhibitors (for example, PIs and EFV) might result in greater effect and longer duration of THC.

4.4.4.6 Other psychoactive drugs that may be used non-medically

- Gamma-hydroxybutyrate (GBH, liquid X) toxicity has been reported in conjunction with RTV and SQV *(125)*.
- Ketamine might inhibit CYP3A4 and increase side-effects of antiretroviral treatment.
- Phencyclidine[23] might be metabolized primarily by CYP3A4 and therefore PIs may increase the risk for phencyclidine toxicity.

Table 5 briefly summarizes available and postulated data on drug and ARV interactions. It also gives an indication of the primary site of metabolism within the liver; however, it must be recognized that there are significant numbers of other enzyme systems involved with each drug.

The lack of research in this area means that some of the interactions or effects are postulated on the basis of knowledge of enzyme substrates involved in metabolism of various drugs.

[23] Phencyclidine is commonly known as "PCP" or "angel dust", as the same acronym is also known as *Pneumocystis jirovecii* pneumonia and used in this and other protocols, in order to avoid confusion, phencyclidine is written out in this protocol.

Table 5. Interactions of illicit drugs and ARVs

Drug	Primary metabolism site	Interaction	Recommendation
Amphetamines	CYP2D6	RTV ↑ levels ⇒ toxicity.	Do not prescribe RTV or lopinavir/ritonavir even in low doses if patients report amphetamine use.
Barbiturates	CYP3A4	Barbiturates such as phenobarbital are potent inducers of CYP3A4.	Consider avoiding concurrent administration of other potent inducers (e.g. EFV and NVP) in patients misusing barbiturates.
Benzodiazepines	CYP3A4 involved with midazolam, triazolam, alprazolam & flunitrazepam	PIs ⇒ over-sedation. NVP ⇒ withdrawals.	Avoid concurrent use of alprazolam, midazolam and triazolam with all PIs and EFV.
Cocaine	CYP3A4	PIs and EFV ↑ levels ⇒ overdose. NVP⇒hepatotoxic metabolite.	Monitor for increased hepatotoxicity.
Codeine	UGT 2B7	PIs ↑ or ↓ metabolism ⇒ possible overdose ⇒ loss of analgesia.	Interactions with ARVs are similar to those described for methadone. Thus, NNRTIs and some PIs may result in opioid withdrawal and loss of analgesia. Should be monitored.
Heroin	Plasma	NFV, RTV ⇒ withdrawal.	No clinically significant interactions reported however interactions with ARVs are similar to those described for methadone. Thus, NNRTIs and some PIs may result in opioid withdrawal and loss of analgesia and clinicians should monitor.
MDMA (ecstasy) GHB (gamma-hydroxybutyrate)	CYP2D6	RTV ↑ levels ⇒ toxicity.	Do not prescribe PIs even in low doses if patients report MDMA or GHB use. MDMA–ritonavir interactions can be fatal.
Morphine	UGT 2B7	NFV, RTV ⇒ withdrawals, loss of analgesia.	Interactions with ARVs are similar to those described for methadone. Thus, NNRTIs and some PIs may result in opioid withdrawal and loss of analgesia. Clinicians should monitor.
Phencyclidine	CYP3A4	PIs, EFV ⇒ toxicity.	Monitor for phencyclidine toxicity.
THC	CYP3A4	PIs may ↑ concentration. NNRTIs may ↓ concentration.	No clinically significant interactions reported.

4.5. Adherence support and monitoring

Adherence support and monitoring should be part of the routine clinical care provided by all health professionals dealing with HIV-infected patients. Optimizing adherence in the first four to six months of treatment is crucial to ensure long-term immunovirological success *(110)*. Moderate deviations from high adherence (88–99%) during follow-up (the maintenance phase, after six months) have less severe impact. Several interventions for enhancing adherence are possible, but priority should be given to those aimed at the early months of HAART *(126–130)*.

When giving adherence counselling, health care providers have to make sure that every patient:
- has emotional and practical life support
- fits his/her drug regimen into a daily routine
- understands non-adherence leads to resistance and treatment failure
- recognizes that all doses must be taken
- feels comfortable taking drugs in front of others
- keeps clinical appointments
- understands the side-effects of ARVs and their interactions with OST and illicit drugs
- knows alarm signs and when to see a doctor about them *(51)*.

Other tactics for supporting adherence include:
- treating depression to enhance adherence *(61);*
- managing drug interactions and adjusting dosages;
- dispensing medication in small amounts[24] at frequent intervals to:
  - detect adherence problems before they lead to drug resistance;
  - limit treatment disruptions or misuse;
- directly observing ARV treatment, particularly when linked to drug dependence treatment.

4.6. Management of acute and chronic pain (including people on OST)

Pain management in opioid dependants is unnecessarily controversial. Clinicians are reluctant to prescribe adequate pain relief drugs because of:
- suspicion that patients are simply drug-seeking and are exaggerating the severity of their pain;
- misconceptions that methadone at its maintenance dosage is an adequate analgesic in itself for those IDUs stabilized on it;
- concern that prescribing a codeine-based drug will interfere with the drug testing carried out in methadone treatment clinics;
- complex interactions with ARVs, resulting in under-prescribing of analgesia; and
- inadequate access to appropriate analgesics in clinics.

Reluctance by clinicians can lead to the pain not being addressed adequately and patients sourcing their own drugs, perhaps illicitly.

4.6.1. Pain management in patients receiving methadone

Patients do not obtain adequate pain relief from their usual daily dose of methadone, to which they have become tolerant, from which several conclusions may be drawn.
- Additional analgesics should be prescribed to treat acute or chronic pain in HIV-infected IDUs who are on methadone maintenance treatment, starting with mild analgesia and progressing based on response.[25]
- Pethidine and piroxicam should not be administered with ritonavir or LPV/r.
- Alternative options (acupuncture, massage, etc.) for pain relief should be considered, particularly for chronic pain.

[24] Once-daily options, low pill burden and the use of fixed-dose combinations (FDCs) may be of benefit in the early stage of treatment. Please refer to Protocol 1, *Patient evaluation and antiretroviral treatment for adults and adolescents.*

[25] Note that, as with methadone, NNRTIs and PIs will alter the metabolism of opioid based analgesics. Patients on long-term pain medication may require more of their opioid-based pain relief, just as they would require an increase of methadone.

- Careful monitoring of IDUs on ARVs and continuing pain medication is required, as dose adjustments or a change of timing may be necessary.
- Clinicians should treat IDUs on methadone for pain the same way they do non-methadone patients.[26]

4.6.2. Pain management in patients receiving buprenorphine

Further clinical studies are needed of patients treated for pain while on buprenorphine. Like methadone, buprenorphine has strong analgesic properties; however, the once-daily dosage for treatment of substance use is not sufficient to sustain pain relief. Therefore:

- Patients on buprenorphine needing pain relief should first be treated with a non-opioid analgesic when appropriate; a temporary increase in buprenorphine dosage may be sufficient.
- If acute pain is not relieved by non-opioid medications or an increase of buprenorphine, more aggressive pain management should be undertaken, including short-acting opioid pain relievers.
- When patients on buprenorphine require other opioid treatment for pain, the following should be borne in mind:
  - Morphine should not be prescribed.
  - Buprenorphine should be discontinued while other opioid pain medication is being taken.
  - Higher doses of short-acting opioid pain medication may be needed to achieve analgesia until the buprenorphine clears the body, when they should be decreased.
  - Buprenorphine should not be restarted until an appropriate period after the last dose of the opioid analgesic, given its half-life.
  - Non-combination opioid analgesics are preferable to avoid toxicity and other side-effects, and for easier dosage.
  - Patients with chronic pain who do not respond to increased buprenorphine and continually require additional analgesia may need to be transferred to methadone treatment *(131, 132).*

For further information on pain management, refer to Protocol 3, *Palliative care for people living with HIV*.

[26] For example, a woman on methadone who is in labour will require pain relief in exactly the same way as any other pregnant woman.

V. Suggested minimum data to be collected at the clinical level

The suggested minimum data to be collected is important in the development of key indicators on access of IDUs to treatment and its success. Such indicators assist managers in decision making on ways to strengthen and expand these services to all those in need.

The following data should be collected at each clinical facility on a regular basis (e.g. monthly, quarterly or semi-annually):

- number of HIV patients ("seen for care" – this will be the denominator for the data below);
- number of IDUs among all HIV patients:
  - number of HIV-infected active IDUs (having injected in the past four weeks);
  - number of HIV-infected former IDUs (not having injected in past the four weeks);
- number of IDUs eligible for ART (CD4 <350 cells/mm^3):
  - number of active IDUs eligible for ART (having injected in the past 4 weeks);
  - number of former IDUs (not having injected in the past four weeks) eligible for ART;
- number of HIV-infected IDUs receiving HAART:
  - number of active IDUs receiving HAART;
  - number of former IDUs (not having injected in the past four weeks) receiving HAART;
- number of HIV-infected IDUs on OST:
  - number on methadone;
  - number on buprenorphine;
- number of IDUs on OST and HAART; and
- number of HIV-infected IDUs who have died including cause of death (e.g. HIV/AIDS related mortality or non-HIV/AIDS related mortality such as accident, overdose or suicide).

In addition, it may be useful to collect data on access of IDUs to other treatment (hepatitis C, hepatitis B and TB coinfections) for IDUs. Please refer to the following protocols for information on what data should be collected on these coinfections: Protocol 4 *Management of tuberculosis and HIV coinfection*, Protocol 6 *Management of hepatitis C and HIV coinfection*, and Protocol 7 *Management of hepatitis B and HIV coinfection*.

Annex 1. Addiction Severity Index (ASI), European version 6 (EuropASI6)[27]

A General Information - ***This is a standard interview that asks questions about several life areas – your health, employment, alcohol and drug use, etc. Some of the questions ask about the past 30 days or the past six months, while others are about your entire lifetime. All the information you give is confidential*** **(explain specifics)** ***and will be used to*** **(explain purpose).** ***Please answer the questions with your best estimates. If there are questions that you don't understand or prefer not to answer, please let me know. The interview will take about an hour to complete. Do you have any questions before we begin? First we'll start with some general background information.***

Patient Name: _____

A1. Patient ID: ☐☐☐☐

Interviewer Name:_____

A2. Interviewer ID: ☐☐☐

or

A3. Observer ID: ☐☐☐

A4. Date of Interview: ☐☐ / ☐☐ / ☐☐☐☐

A5. Date of Admission: ☐☐ / ☐☐ / ☐☐☐☐

A6. Time Frame of Interview: ☐
1 – Prior to Interview Date
2 – Prior to Admission Date
3 – Prior to Other Date: ☐☐ / ☐☐ / ☐☐☐☐

A7. Time Begun: ☐☐ : ☐☐

A8. Gender (1 – Male, 2 – Female): ☐

A9. Date of Birth: ☐☐ / ☐☐ / ☐☐☐☐
(Age:_____)

A10. Country of birth
a. Respondent ☐☐☐
b. Father ☐☐☐
c. Mother ☐☐☐

A11. Nationality ☐
1- National of this country 3-National of other country
2- EU national
Specify _____

A12. What is your current marital status? ☐
1 – Now married 4 – Divorced
2 – Living as married 5 – Separated 6 → A14
3 – Widowed 6 – Never Married

A13. How long have you been (A12 response)? ☐☐ Years ☐☐ Months

A14. How were you referred to treatment? ☐
-i.e. referred to this specific Tx program
1 – Self, family or friend
2 – Alcohol or drug use provider or agency
3 – Other healthcare provider or agency
4 – School
5 – Work or employee assistance program
6 – Community agency (unemployment office, shelter, church, etc.)
7 – Court or legal system

B Housing – ***The following questions ask whether you have lived in any kind of restricted or supervised setting during the past 6 months since _____ and the past 30 days since_____.***

[**NOTE:** 6 months = 180 days, inform client if necessary.]

B1. In the past **6 months**, about how many nights have you stayed in a hospital, inpatient alcohol, drug, or psychiatric unit, jail or prison, recovery or half-way house, or group home?

A. Past 6 months ☐☐☐ (000 → B8) **B.** 30 Days ☐☐

Of those nights, how many were in a(n):

	A. ☐☐☐	**B.** ☐☐
B2. inpatient unit for drug or alcohol treatment?		
B3. medical hospital?		
B4. psychiatric hospital?		
B5. jail or prison?		
B6. recovery / half-way house, or group home?		
B7. other kind of restricted or supervised living situation? What type of place? _____		

B8. How many nights have you spent in a homeless shelter? **A.** Past 6 months ☐☐☐ (000 → B9) **B.** 30 Days ☐☐

B9. How many nights have you lived on the street, or in places such as abandoned buildings, cars, or parks because you had nowhere else to stay? **A.** Past 6 months ☐☐☐ (000 → NOTE) **B.** 30 Days ☐☐

[**NOTE**: If B8A or B9A > 0 (i.e. if any time in a shelter or on the street in the past 6 months), skip to next NOTE.]

B10. Have you ever stayed in a homeless shelter or lived on the street (in places such as abandoned buildings, cars, or parks) because you had nowhere else to stay? ☐ 1-Yes, 0-No

[**NOTE**: If B1B + B8B = 30 (i.e. if all of the past 30 days were in a restricted living arrangement or shelter), skip to Medical.]

B11. In the past 30 days (when you were NOT in a restricted / supervised living situation or shelter), who have you lived with (. . . anyone else)? [Check all that apply]
___1. Alone
___2. Spouse/Partner
___3. Child(ren) < age 18
___4. Parents
___5. Other adult relatives
___6. Other adult non-relatives
___7. Not Answered

B12. In the past 30 days (when you were NOT in a restricted / supervised living situation or shelter), have you lived with anyone who has a current alcohol problem or uses drugs? ☐ 1-Yes, 0-No

[27] ***Source:*** adapted from Alterman AI et al. *(133)*. A manual will be available on the WHO website, http://www.euro.who.int/aids

C Medical - ***The following questions are about your physical health.***

C1. What kinds of health insurance do you have?
[Check all that apply]
___1. None
___2. Private insurance, private health plan
___3. Military health care
___4. Public health insurance (generally for senior citizens)
___5. Public health insurance (generally for the needy)
___6. Other (specify:_____)
___7. Not answered

[**NOTE:** If male, skip C2.]

C2. Are you currently pregnant? ☐
1-Yes, 0-No
2-Not Sure

Have you ever been told by a doctor or healthcare provider that you had any of the following physical or medical conditions?

	1-Yes, 0-No
C3. High Blood Pressure	☐
C4. Diabetes	☐
C5. Heart Disease	☐
C6. Stroke	☐
C7. Epilepsy or seizures	☐
C8. Cancer	☐
C9. HIV/AIDS	☐
C10. Tuberculosis or a positive test for TB (e.g. +PPD)	☐
C11. Hepatitis	☐
C12. Cirrhosis or other chronic liver disease	☐
C13. Chronic kidney disease	☐
C14. Chronic respiratory or breathing problem e.g. asthma, emphysema, COPD	☐
C15. Other chronic physical or medical conditions e.g. arthritis, chronic back pain, digestive probs (colitis, etc.) -if "Yes," specify:_____	☐
C16. Any type of physical disability that seriously impairs your vision, hearing, or movements? -if "Yes," specify:_____	☐

[**NOTE**: If C3 - C16 are all 0-No, Skip C17.]

C17. Have you ever been prescribed medication for any of these conditions? ☐
0 – No
1 – Yes, and still taking all necessary medications as prescribed
2 – Yes, and should be taking medications but am not
3 – Yes, but was told (by a Dr.) medication was no longer necessary

C18. Do you receive any kind of pension (or check) for a physical condition or disability? ☐
-Exclude psychiatric disability 1-Yes, 0-No

C19. In the past 30 days, would you say your physical health has been? ☐
0 - Excellent
1 - Very Good
2 - Good
3 - Fair
4 - Poor

(C20 – C23) ***In the past 30 days:***

[**NOTE**: Do NOT include problems that are completely due to being high, intoxicated, or in withdrawal from alcohol or drugs.]

C20. How many days have you had any physical or medical symptoms or problems? ☐☐ Days
e.g. illness, injury, pain, discomfort, disability
-include dental problems

C21. How many days have you been unable to carry out normal activities because of physical or medical symptoms or problems? ☐☐ Days

[**NOTE**: Introduce the Client Rating Scale.]

C22. How much have you experienced physical pain or discomfort? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

C23. How worried or concerned have you been about your physical health or any medical problems? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

C24. How important to you now is (ongoing or additional) treatment for any current physical or medical problems or conditions?
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

C25. How many times in your life have you been hospitalized (at least overnight) for physical or medical problems? ☐☐ Times
-Do not include alcohol/drug treatment, psychiatric hospitalizations, or non-complicated childbirth

	A. Past 6 months	**B.** 30 Days
C26. How many times have you used emergency room services for any type of problem?	☐☐☐ 000 → C27	☐☐
C27. How many days have you taken prescribed medication for a physical illness or condition? -Do not include medications for alcohol/drug/psych problems.	**A.** ☐☐☐ 000 → C28	**B.** ☐☐
C28. How many outpatient visits have you had with a doctor or healthcare provider? e.g. physical examination of any kind, or any other monitoring/care for a medical problem or condition. -Do not include alcohol/drug, or psych treatment.	**A.** ☐☐☐ 000 → **E/S**	**B.** ☐☐

D Employment/Support – ***The following questions are about your education, employment, and finances.***

D1. What is the highest educational degree that you received? ☐
1 – GED
2 – High School Diploma
3 – Associate's Degree
4 – Bachelor's Degree
5 – Master's Degree (or higher)
6 – None

D2. Do you have any other degrees, licenses, or certificates from a formal training program? ☐ 1-Yes, 0-No
(Specify)_____

D3. What is the last grade or year (Years) that you completed in school? ☐☐
(Specify)_____

D4. Have you ever served in the military? ☐ 1-Yes, 0-No

D5. Are you currently in a vocational training, or educational program? ☐
e.g. GED classes, skills training, college, etc.
0 - No, 1 - Part-time, 2 - Full-time

D6. Do you have a current and valid driver's license? ☐ 1-Yes, 0-No

D7. Do you own or have a car? ☐ 1-Yes, 0-No

D8. At this time, is it difficult to attend treatment, get to work/school, or find work because of transportation? ☐ 1-Yes, 0-No

[**NOTE:** Code D9. Ask question only if unable to code based on previous information.]

D9. Do you read/write (English) well enough to fill out a job application? ☐ 1-Yes, 0-No

---

D10. What is your current employment situation? [Check one]
___1. Full-time (35+ hrs/wk), → D12
___2. Part-time (< 35 hrs/wk), → D12
___3. Unemployed and actively looking for work (or on temporary lay-off), → D14
___4. Not in the labor force
-not working and not actively looking for work

D11. [If not in the labor force] What best describes your current situation?
[Check one, → D14]
___1. Homemaker
___2. Student
___3. Disabled
___4. Retired
___5. Not looking for work
___6. In an institution
___7. Other _____

D12. What kind of work do you do (primary job)? ☐☐
(Specify)_____

[**NOTE:** Code one category in D12 boxes.]
1 – Unskilled labour
2 – Skilled labour
3 – Low/level employees
4 – Small entreprenours
5 – Mid-level employees
6 – Professionals
7 – Other

D13. Is this job under the table ("off the books") work? ☐ 1-Yes, 0-No

D14. How long was your longest full-time job? ☐☐☐ Months
- With one employer/continuously self-employed
000 → D17

D15. How long ago did it end? ☐☐☐ Months
[**NOTE:** Enter 000 only if current FT job is longest.]

D16. What was your job/occupation then? ☐☐
(Specify)_____

[**NOTE:** Code one category from D12 NOTE.]

D17. In the past 6 months (since _____), how many weeks have you worked for pay? ☐☐ Weeks, Max = 26
-Include paid time off, sick days, vacation time, days self-employed, and under the table work
00 → D22

D18. In the past 6 months, how much money was your pay before taxes? € ☐☐☐☐☐

(D19 – D22) In the past 30 days:

D19. How many days have you worked for pay? ☐☐ Days
-Include paid time off, sick days, vacation time, days self-employed, and under the table work
00 → D22

D20. How much money was your pay before taxes?
€ ☐☐☐☐☐

D21. How many days have you had any work-related problems? ☐☐ Days
-e.g. Poor performance, arguments, being disciplined, missing time, etc.

D22. Have you applied for any jobs? ☐ 1-Yes, 0-No
e.g. submitted a resume, completed a job application, talked with a potential employer

---

D23. How important to you now is any kind of assistance (such as counseling, training, or education) to help you prepare for or find a job, or deal with work-related problems? ☐
--ongoing or additional assistance
0 - Not At all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

☐☐

The next series of questions* (D24 – D32) *ask about your sources of financial support and income.

D24.Do you live in government-subsidized housing or receive housing assistance? ☐ 1-Yes, 0-N

In the past 30 days, how much money have you received from:

D25.pension, social security, worker's or unemployment compensation? €☐☐☐☐☐

D25b. …*past 6 months?* €☐☐☐☐☐

D26.public assistance? €☐☐☐☐☐
e.g. welfare or TANF

D26b. …*past 6 months?* €☐☐☐☐☐

D27.other government assistance? €☐☐☐☐☐
e.g. food stamps, $ for heating/energy bills

D27b. …*past 6 months?* €☐☐☐☐☐

D28.child support or alimony payments? €☐☐☐☐☐
-from the child's parent, or an ex-spouse

D28b. …*past 6 months?* €☐☐☐☐☐

D29.illegal activities?
e.g. dealing/running drugs, prostitution, illegal gambling, selling stolen goods €☐☐☐☐☐

D29b. …*past 6 months?* €☐☐☐☐☐

D30.any other sources? €☐☐☐☐☐
e.g. borrowed/received $ from family or others, windfall income (inheritance, taxes, lottery, etc.)

D30b. …*past 6 months?* €☐☐☐☐☐

D31.What are your current sources of financial support for housing, food, and other living expenses?
[Check all that apply.]

___1. Employment
___2. Retirement
-e.g. pension, social security (SSI)
___3. Disability
-e.g. pension, social security (SSDI), worker's comp
___4. Unemployment compensation
___5. Government or public assistance
-e.g. welfare, TANF, food stamps, subsidized housing
___6. Child support or alimony
___7. Family, friends, or associates
___8. Illegal income
___9. Institution or supervised living situation
-e.g. hospital, rehab, half-way house, shelter, etc.
___10. Other, e.g. savings, etc:
Specify:_____
___11. None

D32.Have you ever legally declared bankruptcy? ☐ 1-Yes, 0-No

D33.Have you ever defaulted on a government loan? ☐ 1-Yes, 0-No
e.g. a federal education loan

D34.Are you more than a month behind in your payments for anything? ☐ 1-Yes, 0-No
e.g. housing, utilities, credit cards, child support, other loans/debt (medical bills, court costs, personal loans)

D35.How many people (not including yourself) currently depend on you for regular financial support? ☐☐
e.g. for housing, food, spending money, child support
-Include people the client supports as well as those he/she is obligated to support

D36.Do you have enough income to pay for necessities such as housing, food and clothing for yourself and your dependents? ☐ 1-Yes, 0-No
-Exclude money from illegal activity

E Drug / Alcohol - ***The following questions are about your alcohol and drug use, and any substance abuse treatment you may have received.***

Treatment History

E1. How many different times have you been treated for your alcohol or drug use? [ ][ ]
-Include in-person evaluations even if not followed by additional treatment. 00 → E6

E2. How many of these treatments were for Detox only? [ ][ ]
-Detox not followed by any additional treatment

E3. How old were you the first time you entered alcohol or drug abuse treatment? [ ][ ]

How many days have you:

	A. Past 6 months	**B.** 30 Days
E4. attended an outpatient program or office visits (for alcohol or drug treatment)?	[ ][ ][ ] 000 → E5	[ ][ ]
E5. taken medication prescribed to treat your alcohol or drug use? e.g. methadone, naltrexone, Revia, detox meds, etc. -Exclude Rx for nicotine dependence	[ ][ ][ ] 000 →E6	[ ][ ]
E6. attended self-help meetings like AA, NA, or CA?	[ ][ ][ ] 000 → E7	[ ][ ]

E7. What is the longest continuous period of time that you attended self help meetings at least 2 days a week?
[ ][ ] Years [ ][ ] Months

Alcohol Use

E8. How many years in your life have you drank alcohol on a regular basis, 3+ days per week? [ ][ ]
- Exclude clean time 00 → E10

E9. How many years in your life have you drank at least (5-men, 4-women) drinks per day on a regular basis, 3+ days per week? [ ][ ] >0 → E11

E10. Have you drank at least (5-men, 4-women) drinks in a day 50 or more days in your life? [ ] 1-Yes, 0-No

E11. How old were you when you first drank and felt the effects of alcohol? [if never, code 99] [ ][ ]

E12. In the past 6 months, during the month when you were drinking the most, how often were you drinking? [ ]
0 - No Use (→ E20)
1 - 1-3 times per month
2 - 1-2 times per week
3 - 3-6 times per week
4 - Daily

E13. In the past 30 days, how many days did you drink any alcohol? [ ][ ] 00 → E20

E14. When was your last drink? [ ][ ]
[00 if today, 01 if yesterday, 02 if 2 days ago, etc.]

E15. In the past 30 days, how many days did you have at least (5-men, 4-women) drinks in a day? [ ][ ]

E16. In the past 30 days, how much money have you spent on alcohol for yourself? € [ ][ ][ ][ ]

Alcohol Symptoms

In the past 30 days:

E17. Have you had any withdrawal sickness shortly after you cut down or quit drinking? [ ] 1-Yes, 0-No

E18. Have you had any trouble controlling, cutting back, or quitting drinking; or spent much of the day drinking? [ ] 1-Yes, 0-No

E19. Because of your drinking - have you had any medical or psychological problems; or messed up at work (school) or home, or got in arguments; or had trouble with the law? [ ] 1-Yes, 0-No

E20. Have you been bothered by cravings or urges to drink? [ ] 1-Yes, 0-No

E21. How many days did you have these or any other difficulties due to alcohol use? [ ][ ] 00 → E23

E22. In the past 30 days, how troubled or bothered have you been by these alcohol problems? [ ]
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

E23. How important to you now is (ongoing or additional) treatment for your alcohol use? [ ]
0 - Not at all
1 - Slightly
2 – Moderately
3 - Considerably
4 - Extremely

E24. How important to you is it to achieve/maintain total abstinence from alcohol (i.e., not drink at all)? [ ]
0 - Not at all
1 - Slightly
2 – Moderately
3 – Considerably
4 - Extremely

Drug Use Grid – Individual Substances

NOTE: Hand the client the Drug List, and then say: ***I'll be asking you about each group of drugs listed. We've already talked about alcohol. Let's start with Marijuana:***

Pre-A. Have you ever tried or taken any _____(even if it was only once or was prescribed)?
A. How old were you when you first tried _____?
B. How many years in your life have you used _____ 3 or more days per week? -Exclude clean time
C. Have you used _____ on 50 or more days in your life?
D. In the past 30 days, how many days did you use any _____?
E. In the past 30 days, did you use _____ ([0]-only as prescribed [Rx], or [1]-illegally or more than as prescribed [not as Rx])?

NOTE: If the client reports:
1. Never trying a specific drug (e.g. E25-A), **code "99" and skip to the next substance (E26-A)**.
2. Using 3 or more days per week for a year or more (e.g. E25-B), **skip the following item (E25-C), and continue**.
3. No usage in the past 30 days (e.g. E25-D = 00), **skip to the next substance (E26-A)**.

	A. Age of 1st Use? **[99 → next A]**	**B.** Yrs Regular Use (Lifetime)? **[>00 → D]**	**C.** Used 50+ Days (Lifetime)? **[1-Yes, 0-No]**	**D.** Past 30 Days Use? **[00 → next A]**	**E.** Used As Rx (Past 30 Days)? **[0-as Rx, 1-Not as Rx]**
E25. Marijuana	☐☐	☐☐	☐	☐☐	☐
E26. Sedatives	☐☐	☐☐	☐	☐☐	☐
E27. Cocaine	☐☐	☐☐	☐	☐☐	■
E28. Stimulants	☐☐	☐☐	☐	☐☐	☐
E29. Hallucinogens	☐☐	☐☐	☐	☐☐	■
E30. Heroin	☐☐	☐☐	☐	☐☐	■
E31. Methadone	☐☐	☐☐	☐	☐☐	☐
E32. Other Opiates	☐☐	☐☐	☐	☐☐	☐
E33. Inhalants	☐☐	☐☐	☐	☐☐	☐

Substance use – Problem Categories

01 – Alcohol	07 – Heroin
02 – Marijuana	08 – Methadone
03 – Sedatives	09 – Other Opiates
04 – Cocaine / Crack	10 – Inhalants
05 – Stimulants	11 – Other Substances
06 – Hallucinogens	12 – None

		Route(s) of Administration *In what ways have you used _____?*	
Primary Problem	**A.** Category	**B.** Lifetime [check all that apply]	**C.** Past 30 Days [check all that apply]
E34. Which substance listed (01-12) is causing you the **most** difficulty and may have led to your entering treatment?	☐☐ 12 → E37	__1. Swallowed __4. Injected __2. Snorted __5. Other __3. Smoked	__1. Swallowed __4. Injected __2. Snorted __5. Other __3. Smoked __6. No use
Indicate specific substance within the coded category:			
Secondary Problem	**A.** Category	**B.** Lifetime [check all that apply]	**C.** Past 30 Days [check all that apply]
E35. Which substance listed (01-12) is causing you the **2nd most** difficulty and may have led to your entering treatment?	☐☐ 12 → E37	__1. Swallowed __4. Injected __2. Snorted __5. Other __3. Smoked	__1. Swallowed __4. Injected __2. Snorted __5. Other __3. Smoked __6. No use
Indicate specific substance within the coded category:			
Tertiary Problem	**A.** Category	**B.** Lifetime [check all that apply]	**C.** Past 30 Days [check all that apply]
E36. Which substance listed (01-12) is causing you the **3rd most** difficulty and may have led to your entering treatment?	☐☐ 12 → E37	__1. Swallowed __4. Injected __2. Snorted __5. Other __3. Smoked	__1. Swallowed __4. Injected __2. Snorted __5. Other __3. Smoked __6. No use
Indicate specific substance within the coded category:			

[**NOTE**: 4. Injected = IV and non-IV injection; e.g. intramuscular, skin-popping, etc.]

Drug Use – Overall

E37. How many years in your life have you used any illegal or street drugs (excluding alcohol), or abused any prescription medication at least 3 or more days per week? ☐☐

E38. In the past 6 months, during the month when you were using illegal or street drugs (and/or abusing prescribed medications) the most, how often were you using any drugs? ☐
0 - No Use (→ E45)
1 - 1-3 times per month
2 - 1-2 times per week
3 - 3-6 times per week
4 - Daily

E39. In the past 30 days, on how many days did you use any drugs or abuse prescribed medications? ☐☐ 0 → E45

E40. When did you last use any drugs, or abuse any prescribed medications? ☐☐
-00 if today, 01 if yesterday, 02 if 2 days ago, etc.

E41. In the past 30 days, how much money did you spend on drugs? $☐☐☐☐
-Exclude money for medications that are part of drug treatment (e.g. methadone, detox meds, etc.)

Drug Symptoms

In the past 30 days:

E42. Have you had any withdrawal sickness shortly after you cut down or quit any drug? ☐ 1-Yes, 0-No

E43. Have you had any trouble controlling, cutting back, or quitting drugs; or spent much of the day using, being high, coming down from, or just trying to get drugs? ☐ 1-Yes, 0-No

E44. Because of your drug use - have you had any medical or psychological problems; or messed up at work (school) or home, got in arguments; or trouble with the law? ☐ 1-Yes, 0-No

E45. Have you been bothered by cravings or urges to use? ☐ 1-Yes, 0-No

E46. How many days did you have these or any other difficulties due to drug use? ☐☐ 00 → E48

E47. In the past 30 days, how troubled or bothered have you been by these drug problems? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

E48. How important to you now is (ongoing or additional) treatment for your drug use? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

E49. How important to you is it to achieve/maintain total abstinence from drugs (i.e., not drink at all)? ☐
0 - Not at all
1 - Slightly
2 – Moderately
3 – Considerably
4 - Extremely

E50. Since you started using, have you ever been completely abstinent (clean) from **drugs and alcohol** for at least 1 year? ☐ 1-Yes, 0-No 0 → E52
-Exclude prescribed and appropriately taken medications (i.e. methadone, psych meds)

E51. How long ago did this clean period end? ☐☐ Years ☐☐ Months
[If currently abstinent 1 year or more, code 00 00. Code most recent clean period of at least 1 year.]

Health Risks

[**NOTE**: If not already known, ask E52. Otherwise, fill in based on previous information.]

E52. Have you ever injected any drug? ☐ 1-Yes, 0-No 00 → E54
[Injected = IV and non-IV injection]

E53. When was the last time you shared syringes or injection equipment? ☐☐ Years ☐☐ Months Ago
-If never, code NN NN
-If within the past month, code 00 00

E54. In the past 6 months, with how many different people have you had sex, either oral, anal, or vaginal? ☐☐

E55. When was the last time you were tested for HIV/AIDS? ☐☐ Years ☐☐ Months Ago
-If never, code NN NN
-If within the past month, code 00 00

Tobacco – Cigarettes, etc.

E56. How old were you when you first smoked cigarettes or used tobacco in other forms? ☐☐ 99 → E59
e.g. chewed tobacco, cigars, pipes
-If never tried, code 99

E57. How many years in your life have you smoked cigarettes (or used tobacco in other forms) on a daily basis? ☐☐

E58. In the past 30 days, how many days did you smoke cigarettes (or use tobacco in other forms)? ☐☐

Gambling

E59. In your life, have you ever experienced any financial stress because of gambling? ☐ 1-Yes, 0-No

E60. In the past 30 days, how many days did you participate in any form of gambling, like the lottery, races/OTB, or casinos, or illegal gambling of any sort? ☐☐

F Legal – *The following questions are about your involvement with the criminal justice system and/or illegal activities.*

F1. In your entire life, have you ever been in jail or lock-up (even for a few hours)? ☐ 1-Yes, 0-No

F2. In your entire life, have you ever been arrested? ☐ 1-Yes, 0-No
0 → F18

F3. How old were you the first time? ☐☐
>17 → (F7-14)

F4. Before the age of 18, were you ever arrested for? [Check all that apply]
___1. Violent crimes or crimes against people
e.g. robbery, assault, rape
___2. Drug offenses
e.g. possession, dealing, manufacturing
___3. Crimes for profit or property crimes
e.g. shoplifting, burglary, auto theft, vandalism, arson
___4. Offenses that apply only to juveniles
e.g. running away, underage drinking, curfew violations, truancy
___5. Other offenses (Specify:_____)

F5. How many times were you convicted of a crime committed before the age of 18? ☐☐ Times

F6. Before the age of 18, how much total time had you spent in lock-up, a detention center, jail/prison, or a reform school? ☐☐ Months

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(F7 – F14) *Since the age of 18:*

Pre-A. Have you been arrested for _____?
[**NOTE:** If No, code 00 for **A.** and skip to next item]
A. How many times total?
B. How many times were in the **past 6 months**?

	A. Total	**B.** 6 months
F7. Possession of drugs? -or drug equipment (paraphernalia)	☐☐	☐☐
F8. Selling or manufacturing drugs? -selling includes dealing / distributing	☐☐	☐☐
F9. Robbery? -stealing with force, or threat of force	☐☐	☐☐
F10. Other crimes for profit? -shoplifting, theft, -fraud, selling stolen goods, vandalism, arson	☐☐	☐☐
F11. Violent crime? -assault, domestic violence, rape, murder	☐☐	☐☐
F12. Weapons, prostitution*, or gambling? -*include pimping, $ for sex, porn offenses	☐☐	☐☐
F13. Driving under the influence (DUI)? -of either alcohol or drugs	☐☐	☐☐
F14. Any other criminal offenses? -probation/parole violations, disorderly conduct, trespassing, violating a restraining order, neglect or desertion, non-support, etc.	☐☐	☐☐

F15. How long ago was the last time you were arrested for anything? [Code 00 if within the past month (30 days)] ☐☐ Years ☐☐ Months

F16. How many times have you been convicted of a crime committed since the age of 18? -e.g. probation, jail time, fines ☐☐ Times

F17. Since age 18, how much total time have you spent in jail or prison? ☐☐ Years ☐☐ Months

F18. Was your admission to treatment ordered by the legal system? -e.g. a judge required it ☐ 1-Yes, 0-No

Are you currently involved with the criminal justice system in any of the following ways? 1-Yes, 0-No

F19. On Probation? ☐
F20. On Parole? ☐
F21. Awaiting trial or charges? ☐
F22. Awaiting sentencing? ☐
F23. Involved in a drug court program or diversion program? ☐
F24. Other? -e.g. outstanding bench warrant, under restraining order, house arrest, electronic monitoring, pre-trial supervision ☐

F25. How serious do you feel your present problems are with the criminal justice system? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

(F26 – F30) *In the past 6 months:*

Pre-A. Have you _____?
[**NOTE:** If No, code 000 for **A.** and skip to next item]
A. # of days, past 6 months
B. # of days, past 30 days

	A. Past 6 Months	**B.** 30 Days
F26. sold or manufactured drugs? -dealt or distributed to make money, get sex, or profit in any other way	☐☐☐	☐☐
F27. robbed anyone?	☐☐☐	☐☐
F28. stolen anything, sold stolen goods, forged prescriptions or checks, destroyed property, or set fires (arson)?	☐☐☐	☐☐
F28c. …shoplifting	☐☐☐	
F28d. …burglary/B&E	☐☐☐	
F28e. …motor vehicle theft	☐☐☐	
F28f. …forgery	☐☐☐	
F28g. …fraud	☐☐☐	
F28h. …vandalism	☐☐☐	
F28i. …arson	☐☐☐	
F28j. …other theft/property offense	☐☐☐	
F29. threatened or assaulted anyone? -with or without a weapon; include domestic violence, rape, and murder -exclude robbery	☐☐☐	☐☐
F29c. … threaten without physical assault	☐☐☐	
F29d. …assault with a weapon	☐☐☐	
F29e. … assault without a weapon	☐☐☐	
F29f. … sexual assault	☐☐☐	
F29g. … murder	☐☐☐	
F29h. … other	☐☐☐	

F30. done anything else illegal? ☐☐☐ ☐☐
-carried unlicensed weapon, been involved with prostitution/pimping or illegal gambling, etc. [exclude personal drug use or possession, DUI]

F30c. …carry an unlicensed weapon ☐☐☐

F30d. …prostitution/pimping ☐☐☐

F30e. …illegal gambling ☐☐☐

F31. Overall in the past 30 days, how many days have you done any of the above activities / things? ☐☐

F32. How many days total have you driven under the influence of drugs or alcohol? **A.** Past 6 Months ☐☐☐ **B.** 30 Days ☐☐

G Family/Social: ***The following questions are about your family and social relationships.***

G1. Have you been in a relationship with a romantic or sexual partner during the past month? ☐ 1-Yes, 0-No
[**NOTE:** If No, skip G3A-G9A.]

G2. How many close friends do you have? ☐☐
-Exclude sexual partner/spouse, and any other adult family relatives
[**NOTE:** If 00, skip G3C-G9C.]

NOTE: For G3 – G9:
A. Refers to a wife/husband or partner
B. Refers to any other adult family members or relatives
e.g. parents, grandparents, siblings, grown children, aunts/uncles, cousins
C. Refers to any close friends

In the past 30 days, have you:

(1 – Yes, 0 – No)	A. Partner(s)	B. Adult Relatives	C. Close Friends
G3. spent time (in person) with (your / any):	☐	☐	☐
G4. had any contact such as phone calls, letters, or e-mail with (other): -If G3+G4 = 0, Skip to G9	☐	☐	☐
G5. talked to (A/B/C) about feelings or problems?	☐	☐	☐
G6. had trouble getting along with:	☐	☐	☐
G7. had any arguments with:	☐	☐	☐
G8. Do/does your (A/B/C) have a current problem with alcohol or use drugs? -Include only those people you have spent time or been in contact with in the past 30 days	☐	☐	☐
G9. If you need help, can you count on:	☐	☐	☐

G10. Do you currently have a restraining order against someone? ☐ 1-Yes, 0-No

G11. In the past 30 days, did any interactions with your partner, adult relatives or close friends result in pushing/hitting, or throwing things? ☐ 1-Yes, 0-No

G12. Aside from your partner, other adult relatives and close friends; are there any other people you keep in touch with that you can count on if you really need help? ☐ 1-Yes, 0-No
-e.g., minister, doctor, sponsor, counselor, lawyer

G13. Overall in the past 30 days, how satisfied have you been with your adult relationships? ☐
e.g. # of relationships, amount of contact, how well you communicate, get along, help each other out, etc.
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

G14. In the past 30 days, how troubled or bothered have you been by any problems with your adult relationships? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

G15. How important to you now is (ongoing or additional) treatment or counseling for any problems regarding adult relationships? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

G16. Do you find it hard to talk about your feelings or problems even with people you are close to? ☐ 1-Yes, 0-No

G17. Do you feel nervous or uncomfortable when you are with other people? ☐ 1-Yes, 0-No

G18. Is it important to you to have close relationships with anyone? ☐ 1-Yes, 0-No

---

In the past 30 days (G19-G22):

G19. Have you attended religious services or activities sponsored by your house of worship? ☐ 1-Yes, 0-No
-Exclude self-help/AA meetings

G20. Have you done any volunteer work? ☐ 1-Yes, 0-No

G21. Have you often been bored or had difficulty just trying to pass the time? ☐ 1-Yes, 0-No

G22. How satisfied have you been with how you spent your free time? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

The following questions are about any abuse or trauma you may have suffered throughout your life.

G23. Have you ever been physically assulted/abused by someone you knew? ☐ 0 → G26
-Exclude sex abuse & code in G26

G24. How old were you when this first happened? ☐☐

G25. When did this last happen? ☐☐ Years Ago ☐☐ Months Ago
-If within past 30 days, code '00 00'

G26. Have you ever been sexually assaulted/abused by someone you knew? ☐ 0 → G29

G27. How old were you when this first happened? ☐☐

G28. When did this last happen? ☐☐ Years Ago ☐☐ Months Ago
-If within past 30 days, code '00 00'

G29. Have you ever been the victim of a violent crime like being mugged, assaulted? ☐ 0 → G32
-Exclude abuse as noted above, and combat experience

G30. How old were you when this first happened? ☐☐

G31. When did this last happen? ☐☐ Years Ago ☐☐ Months Ago
-If within past 30 days, code '00 00'

G32. Have you ever been in any other life-threatening situation? ☐ 0 → G35
-e.g. major disaster, serious accident/fire, military combat
-Exclude abuse, violent crimes as noted above

G33. How old were you when this first happened? ☐☐

G34. When did this last happen? ☐☐ Years Ago ☐☐ Months Ago
-If within past 30 days, code '00 00'

G35. Have you ever been in a situation where you saw someone being killed, mugged/assaulted, or badly injured? ☐ 0 → NOTE
-Exclude major disasters, serious accident/fire, and military combat as noted above

G36. How old were you when this first happened? ☐☐

G37. When did this last happen? ☐☐ Years Ago ☐☐ Months Ago
-If within past 30 days, code '00 00'

[**NOTE:** If no history of abuse or trauma (i.e., G23, G26, G29, G32, and G35 are all 0-No), skip to G40.]

G38. In the past 30 days, how troubled or bothered have you been by any feelings, thoughts, or other reactions related to these events? ☐
-Include nightmares/dreams, "flashbacks," etc.
0 - Not at all 3 - Considerably
1 - Slightly 4 - Extremely
2 - Moderately

G39. How important to you now is (ongoing or additional) treatment or counseling for any feelings, thoughts or other reactions related to these events? ☐
0 - Not at all 3 - Considerably
1 - Slightly 4 - Extremely
2 – Moderately

The following questions ask about your children or any other children living with you.

G40. How many children have you fathered / given birth to, or adopted? ☐☐ 00 → G45

G41. What are the ages of your living children, beginning with the oldest?

Child 1 ☐☐ Child 6 ☐☐
Child 2 ☐☐ Child 7 ☐☐
Child 3 ☐☐ Child 8 ☐☐
Child 4 ☐☐ Child 9 ☐☐
Child 5 ☐☐ Child 10 ☐☐

[**NOTE:** If all children are 18 or older, → G45]

G42. Is there an open custody case with the mother, father, or any other relative? ☐ 1-Yes, 0-No

G43. How many of your children are currently in court-ordered foster care? ☐☐ Children
-also include court-ordered foster care w/ relatives

G44. In the past 30 days, how many of your children (under the age of 18) have lived with you at least some of the time? ☐☐ Children

G45. In the past 30 days, have any other children (step/grandchildren, nieces, nephews, etc.) under age 18 lived with you at least some of the time? ☐ 1-Yes, 0-No
-Code children staying overnight with regularity, or who have stayed for extended periods

[**NOTE:** If G44 & G45 are 0, i.e. no children past 30 days, skip to G51]

G46. How many of the children (who have lived with you) have a serious medical, behavioral or learning problem requiring skilled care, treatment or services? ☐☐ Children

G47. At this time, how necessary are additional services to treat their problems? ☐
0 - Not at all 3 - Considerably
1 - Slightly 4 - Extremely
2 – Moderately

G48. In the past 30 days, how much trouble have you had getting along with those children (< 18) who have lived with you for at least some time? ☐
0 - Not at all 3 - Considerably
1 - Slightly 4 - Extremely
2 – Moderately

G49. How important to you now is counseling (e.g. parenting classes) to help you get along with those children (< 18) who have lived with you? ☐
- ongoing or addition to counseling
0 - Not at all 3 - Considerably
1 - Slightly 4 - Extremely
2 – Moderately

G50. At this time, do you need additional childcare services to attend treatment, go to work/school, or to find work? ☐ 1-Yes, 0-No

G51. Have you ever been investigated or under supervision by child protective services (CPS)? ☐ 1-Yes, 0-No 0 → Psych

G52. Have you ever had a child removed from the home by CPS? ☐ 1-Yes, 0-No

G53. Have you ever had parental rights terminated? ☐ 1-Yes, 0-No
-Permanently had your rights to be a parent ended by a court hearing

G54. Are you currently involved in a protective custody case or being investigated or supervised by child protective services? ☐ 1-Yes, 0-No

H Psychiatric: ***The following questions are about any treatment or evaluations you may have received for emotional or psychological problems.***

H1. In your life, how many times have you been inpatient for emotional/psychological problems? ☐☐ Times
e.g. in a hospital or residential unit

H2. In your life, have you ever been prescribed medication to treat emotional/psychological problems? ☐ 1-Yes, 0-No
0 → H4

H3. How many days have you taken medication to treat emotional or psychological problems? **A.** Past 6 months ☐☐☐ **B.** 30 Days ☐☐
000 → H4

H4. In your life, how many outpatient sessions have you had for emotional/psychological problems? ☐ 0 → NOTE
-Include in-person evaluations even if not followed through by additional treatment
-Also include OP units = primary/family Dr. for psych problems, and medication monitoring for psych problems
0 - None
1 - 1-5 sessions
2 - 6-25 sessions
3 - 26-50 sessions
4 - more than 50 sessions

H5. How many outpatient sessions have you had? **A.** Past 6 months ☐☐☐ **B.** 30 Days ☐☐
000 → NOTE

[**NOTE:** If H1, H2, H4 are all 0-No, i.e. no history of psych treatment, skip to H7]

H6. How old were you the first time you ever had treatment or an evaluation for emotional or psychological problems? ☐☐ Age

H7. Do you currently receive a pension (or check) for a psychological disability? ☐ 1-Yes, 0-No

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The following questions are about different ways you may have felt or acted. Some questions ask whether you ever felt or behaved in a certain way at any time in your life, and others focus on just the past 30 days.

Coding for A/B:
0 – No
1 – Yes
2 – Yes, but only when high or in withdrawal.

[NOTE: If client acknowleges a symptom, i.e., "Yes" ask: "Was this ONLY when high or in withdrawl?" and code 1 or 2 as appropriate.]

(H8 - H17):
A. ***In your lifetime***
B. ***During any of the past 30 days***
C. ***How many days ago did you last _____?***

Have you (ever):	A. Lifetime	B. 30 Days	C. Days Ago
H8. had trouble falling asleep, staying asleep*, or waking up too early? -*sleeping through the night	■	☐	■☐
H9. felt depressed or down most of the day (nearly every day for at least 2 weeks in a row)? -for past 30 days, code any days	☐	☐	■■
H10. felt anxious, nervous or worried most of the day (nearly every day for at least 2 weeks in a row)? -for past 30 days, code any days	☐	☐	■■
H11. had hallucinations? -heard or saw things that other people couldn't see or hear	☐ 0→H12	☐ 0→H12	☐☐
H12. had trouble thinking/concentrating, understanding, or remembering to the extent that it caused problems?	☐ 0→H13	☐	■■
H13. (since age 18) had difficulty controlling your temper, or urges to hit or harm someone?	☐ 0→H14	☐ 0→H14	☐☐
H14. (since age 18) pushed, hit, thrown things at, or used a weapon against someone?	☐ 0→H15	☐ 0→H15	☐☐
H15. had serious thoughts of suicide or killing yourself?	☐ 0→H16	☐ 0→H16	☐☐
H16. attempted suicide or tried to kill yourself?	☐ 0→H17	☐ 0→H17	☐☐
H17. experienced any other emotional or psychological problems not mentioned already? -e.g. eating disorder, mania, etc. Specify:_____	■	☐	■■

[**NOTE:** If all H9 – H17 are 0-No, i.e. no psychiatric symptoms or problems in the past 30 days, skip to H21]

(H18 – H20) ***In the past 30 days:***
-Exclude H8 (sleep problems) for H18 – H21

H18. How many days have you experienced these emotional or psychological problems? ☐☐ Days

H19. How many days have you been unable to carry out normal activities because of emotional / psychological symptoms or problems? ☐☐ Days

H20. How much have you been troubled or bothered by these emotional or psychological problems? ☐
0 - Not at all
1 - Slightly
2 - Moderately
3 - Considerably
4 - Extremely

H21. How important to you now is (ongoing or additional) treatment for psychological problems? ☐
0 - Not at all
1 - Slightly
2 – Moderately
3 - Considerably
4 - Extremely

A15. Time Ended: ☐☐:☐☐

Global Interviewer Confidence/Validity Rating:

Take into account the respondent's apparent ability and willingness to understand the questions, provide thoughtful, accurate estimates, and respond honestly. Overall, the respondent provided information that is:

1-Poor, 2-Fair, 3-Good ☐

Poor: Many items are likely grossly inaccurate, were refused, and/or the profile is contradictory or nonsensical.

Fair: Numerous apparent inaccuracies, refusals, and or inconsistencies but the overall profile seems reasonable with the exception of 1–2 problem areas.

Good: Some/few apparent inaccuracies, refusals, and or inconsistencies, but the general profile seems to be a good reflection of the respondent.

Annex 2. Alcohol and Drug Listing[28]

Alcohol – beer, wine, spirits; traditional or local brews, etc.

Cannabis – marijuana, hashish, etc.

Sedatives and hypnotics – benzodiazepines, barbiturates etc. (a separate category for *benzodiazepines* (tranquilisers) might be appropriate in those countries where their use is prevalent)

Cocaine – free-base cocaine etc. (a separate category for *"crack" cocaine* might be appropriate in those countries where this form of cocaine is prevalent)

Amphetamine-type stimulants (ATS) – amphetamine, methamphetamine, other amphetamine-type stimulants etc. (a separate category for *MDMA ("Ecstasy")* might be appropriate in those countries where this form of ATS is prevalent)

Hallucinogens – LSD, phencyclidine (PCP, ketamine), psilocybin, mushrooms etc.

Heroin

Methadone

Buprenorphine

Other opiate/opioid type drugs – morphine, opium, codeine, locally produced poppy straw, etc.

Inhalants – glues, butane, nitrous oxide (laughing gas), amyl nitrate, solvents, petrol, paint thinner, etc.

Other drugs – steroids, unknown, etc.

[28] There will be much local variation in the types of drugs used and in the local/colloquial (street/slang) names for the drugs. The main types of drugs used; local names, etc. should be established to construct a list of drugs appropriate to the local context. Certain drugs are also used in the treatment of drug related problems (most commonly methadone, buprenorphine and tranquilisers, but also other opioids and other drugs) and, where these drugs are commonly used in this way, should be dealt with separately. Prescribed drugs (such as methadone) should be defined in an understandable way; for example, "Methadone given (sold) to you by a doctor as part of your treatment". Some drugs are commonly used in combination with others. These combinations should be included (e.g. heroin and cocaine together).

Annex 3. ICD-10 symptom checklist for mental disorders: psychoactive substance use syndromes module[29]

The following questions ask about symptoms associated with your heroin or other opioid use, for which you are currently being treated. The questions apply to the time period immediately before you started your current treatment.

[For the following items, substitute the name of the opioid used for 'substance', where applicable]

1.[a]	Did you have a strong desire or sense of compulsion to use *substance*? ('craving')	*Yes*	*No*
2.	Did you find it difficult or impossible to control your use of *substance*?	*Yes*	*No*
3.	Did you experience withdrawal symptoms after going without *substance* for a while?	*Yes*	*No*
4.	Did you use substance to relieve or avoid withdrawal symptoms?	*Yes*	*No*
5.	Did you notice that you required more *substance* to achieve the same physical or mental effects? ('tolerance')	*Yes*	*No*
6.	Over time, did you tend not to vary your pattern of use of *substance*?	*Yes*	*No*
7.	Did you increasingly neglect other pleasures or interests in favour of using *substance*?	*Yes*	*No*
8.	Did you experience psychological or physical harm because of your *substance* use?	*Yes*	*No*
9.	Did you persist with using *substance*, despite clear evidence of harmful consequences?	*Yes*	*No*

10.	How long did you experience this pattern of problem drug use?		
	a. in years		
	b. in months		

Dependence indicated if **3 or more** of the symptoms 1, 2, 3, 5, 7 and 9 are present.

11.	**a. Record whether opioid dependence syndrome (F11.2) is present**	*Yes*	*No*
	b. If "Yes", record specific opioid: _____		

[29] ***Source:*** WHO (*134*).

Annex 4. Examination findings suggestive of addiction or its complications[30]

- General
  Odour of alcohol on breath
  Odour of marijuana on clothing
  Odour of nicotine or smoke on breath or clothing
  Poor nutritional status
  Poor personal hygiene

- Behaviour
  Intoxicated behaviour during exam
  Slurred speech
  Staggering gait
  Scratching

- Skin
  Signs of physical injury
  Bruises
  Lacerations
  Scratches
  Burns
  Needle marks
  Skin abscesses
  Cellulitis
  Jaundice
  Palmar erythema
  Hair loss
  Diaphoresis
  Rash
  Puffy hands

- Head, eyes, ears, nose, throat (HEENT)
  Conjunctival irritation or injection
  Inflamed nasal mucosa
  Perforated nasal septum
  Blanched nasal septum
  Sinus tenderness
  Gum disease, gingivitis
  Gingival ulceration
  Rhinitis
  Sinusitis
  Pale mucosae
  Burns in oral cavity

- Gastrointestinal
  Hepatomegaly
  Liver tenderness
  Positive stool hemoccult

- Immune
  Lymphadenopathy

[30] ***Source:*** adapted from Center for Substance Abuse Treatment *(135)*.

- Cardiovascular
  Hypertension
  Tachycardia
  Cardiac arrhythmia
  Heart murmurs, clicks
  Edema
  Swelling

- Pulmonary
  Wheezing, rales, rhonchi
  Cough
  Respiratory depression

- Female reproductive/endocrine
  Pelvic tenderness
  Vaginal discharge

- Male reproductive/endocrine
  Testicular atrophy
  Penile discharge
  Gynecomastia

- Neurologic
  Sensory impairment
  Memory impairment
  Motor impairment
  Ophthalmoplegia
  Myopathy
  Neuropathy
  Tremor
  Cognitive deficits
  Ataxia
  Pupillary dilation or constriction

Annex 5. Bloodborne Virus Transmission Risk Assessment Questionnaire (BBV-TRAQ)[31]

Instructions

- Please consider the following questions carefully and answer each one as accurately and truthfully as you can. All questions refer to your behaviour in the past MONTH / 4 week period (ie. **The month before current treatment commenced**).
- Try and remember that the only correct answer is an accurate and honest answer.
- Remember that the information you provide will remain completely confidential.

Part 1: INJECTING PRACTICES

Record your responses to each of the following questions by circling the answer option that you think is most relevant to you.

1.1 In the last month, how many times have you handled another person's used needle/syringe (eg. to dispose, to break-off needle) at a time when you had cuts, sores or lesions on your fingers and hands?

No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.2 In the last month, how many times have you sucked or licked left-over drugs from a spoon or other mixing container which had been used by another person?

No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.3 In the last month, how many times have you sucked or licked a filter which had been used by another person?

No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.4 In the last month, how many times have you sucked or licked a plunger after using it in a mix which has been used by another person?

No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.5 In the last month, how many times have you injected a drug that was filtered through another person's filter?

No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.6a In the last month, how many times have you injected a drug that was prepared in another person's used spoon or mixing container?

No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

↓

(Go to Question 1.7)

1.6b On those occasions how often did you clean the spoon or mixing container before using it?

Never Rarely Sometimes Often Every time

1.7 In the last month, how many times have you injected a drug prepared with water which had been used by another person?

No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.8 In the last month, how many times have you injected a drug which had come into contact with another person's used needle/syringe?

No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.9a In the last month, how many times have you injected a drug that you prepared immediately after 'assisting' another person with their injection (eg. injecting them, holding their arm, handling their

[31] ***Source:*** Fry et al. *(136).*

used needle/syringe; touching their injection site to feel for a vein, to wipe away blood, or to stop bleeding)?

No times *Once* *Twice* *3 - 5 times* *6 - 10 times* *More than 10 times*

↓

(Go to Question 1.10a)

1.9b ***On those occasions, how often did you wash your hands before preparing your mix?***

Never *Rarely* *Sometimes* *Often* *Every time*

1.10a ***In the last month, how many times have you injected a drug that was prepared by another person who had already injected or assisted in someone else's injection?***

No times *Once* *Twice* *3 - 5 times* *6 - 10 times* *More than 10 times*

↓

(Go to Question 1.11a)

1.10b ***On those occasions, how often did the person preparing the mix wash their hands before preparing the mix?***

Never *Rarely* *Sometimes* *Often* *Every time*

1.11a ***In the last month, how many times have you been injected by another person who had already injected or assisted in someone else's injection?***

No times *Once* *Twice* *3 - 5 times* *6 - 10 times* *More than 10 times*

↓

(Go to Question 1.12a)

1.11b ***On those occasions, how often did the person injecting you wash their hands before injecting you?***

Never *Rarely* *Sometimes* *Often* *Every time*

1.12a ***In the last month, how many times have you injected with a needle/syringe which had been handled or touched by another person who had already injected?***

No times *Once Twice* *3 - 5 times* *6 - 10 times* *More than 10 times*

↓

(Go to Question 1.13a)

1.12b ***On those occasions, how often did they wash their hands prior to handling the needle/syringe that you used?***

Never *Rarely* *Sometimes* *Often* *Every time*

1.13a ***In the last month, how many times have you injected with another person's used needle/syringe?***

No times *Once* *Twice* *3 - 5 times* *6 - 10 times* *More than 10 times*

↓

(Go to Question 1.14)

1.13b ***On those occasions, how often did you rinse it with a combination of full-strength bleach and water (ie. the '2x2x2' method) before you used it?***

Never *Rarely* *Sometimes* *Often* *Every time*

1.14 ***In the last month, how many times have you injected with a needle/syringe after another person has already injected some of its contents?***

No times *Once* *Twice* *3 - 5 times* *6 - 10 times* *More than 10 times*

1.15a ***In the last month, how many times have you touched your own injection site (eg. to feel for a vein, to wipe away blood, or to stop bleeding) soon after 'assisting' another person with their injection (eg. injecting them, holding their arm, handling their used needle/syringe; touching their injection site to feel for a vein, to wipe away blood, or to stop bleeding)?***

No times *Once* *Twice* *3 - 5 times* *6 - 10 times* *More than 10 times*

↓
(Go to Question 1.16a)

1.15b On those occasions, how often did you wash your hands before touching your own injection site?
Never Rarely Sometimes Often Every time

1.16a In the last month, how many times has another person touched your injection site (eg. to feel for a vein, to wipe away blood, or to stop bleeding)?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times
↓
(Go to Question 1.17)

1.16b On those occasions, how often did the person wash their hands before they touched your injection site?
Never Rarely Sometimes Often Every time

1.17 In the last month, how many times have you wiped your own injection site with an object (eg. swab, tissue, hanky, towel, etc) which had been used by another person
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.18 In the last month, how many times have you used a tourniquet (eg. medical tourniquet, belt, rope, tie, cord, etc) which had been used by another person?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.19 In the last month, how many times have you received an accidental needle-stick/prick from another person's used needle/syringe?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

1.20a In the last month, how many times have you re-used a needle/syringe taken out of a shared disposal/sharps container?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times
↓
(Go to PART 2)

1.20b On those occasions, how often did you rinse it with full-strength bleach before you re-used it?
Never Rarely Sometimes Often Every time

Part 2: SEXUAL PRACTICES

Record your responses to each of the following questions by circling the answer option that you think is most relevant to you. Please remember that "in the last month" refers to the month before you commenced current drug treatment.

2.1 In the last month, how many times have you engaged in unprotected vaginal sex with another person (ie. penetration of the vagina with the penis)?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

2.2 In the last month, how many times have you engaged in unprotected vaginal sex with another person (ie. penetration of the vagina with the penis) during menstruation?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

2.3 In the last month, how many times have you engaged in unprotected vaginal sex with another person (ie. penetration of the vagina with the penis) without lubrication?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

2.4 In the last month, how many times have you engaged in unprotected anal sex with another person (ie. penetration of the anus with the penis)?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

2.5 In the last month, how many times have you engaged in unprotected oral sex with another person (ie. lips and tongue come into contact with the vagina, penis and/or anus)?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

2.6 In the last month, how many times have you engaged in unprotected manual sex with another person (ie. fingers and hands come into contact with the vagina, penis and/or anus) during menstruation?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

2.7 In the last month, how many times have you engaged in unprotected manual sex with another person (ie. fingers and hands come into contact with the vagina, penis and/or anus) after injecting?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

2.8 In the last month, how many times have you engaged in unprotected manual sex with another person (ie. fingers and hands come into contact with the vagina, penis and / or anus) without lubrication?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

Part 3: OTHER SKIN PENETRATION PRACTICES

Record your responses to each of the following questions by circling the answer option that you think is most relevant to you. Please remember that "in the last month" refers to the month before you commenced current drug treatment.

3.1 In the last month, how many times have you come into contact with another person's blood (eg. through fights, slash-ups, self-mutilation, accidents, blood-sports, occupational, pimples, blood nose, etc)?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

3.2 In the last month, how many times have you been tattooed by someone who was not a professional tattooist?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

3.3 In the last month, how many times have you been pierced (eg. ear or body) by someone who was not a professional piercer?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

3.4 In the last month, how many times have you used another person's used razor (eg. disposable razors, razor-blades)?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

3.5 In the last month, how many times have you used another person's toothbrush?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

3.6 In the last month, how many times have you used another person's personal hygiene equipment (eg. nail file, nail scissors, nail clippers, tweezers, comb, brush)?
No times Once Twice 3 - 5 times 6 - 10 times More than 10 times

Please make sure that you have answered all relevant questions correctly.

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