



EVIDENCE FOR ACTION TECHNICAL PAPERS

# INTERVENTIONS TO ADDRESS HIV IN PRISONS HIV CARE, TREATMENT AND SUPPORT



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World Health Organization, UNODC, UNAIDS / Geneva, 2007

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# PREFACE

The global environment for the HIV response has shifted substantially towards a massive scaling up of prevention, treatment and care interventions. In particular, Governments made an unprecedented commitment during the United Nations Special Session on HIV/AIDS in 2001 to halting and reversing the epidemic by 2015. More recently, at the 2005 World Summit and at the 2006 High Level Meeting on AIDS, Governments committed to pursue all necessary efforts towards the goal of universal access to comprehensive prevention programmes, treatment, care and support by 2010. In support of this, substantial additional resources to fund an expanded response have become available, including through the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Governments face the challenge of translating these commitments into practical programmes, which includes implementing a comprehensive range of interventions to address HIV transmission related to injecting drug use, including in their prison systems. This publication is part of a series of Evidence for Action Technical Papers, which aim to make the evidence for the effectiveness of interventions to manage HIV in prisons accessible to policy-makers and programmers. The series consists of:

1. Four papers that consider the effectiveness of a number of key interventions in managing HIV in

prisons, including:

- needle and syringe programmes and decontamination strategies;
- prevention of sexual transmission;
- drug dependence treatments; and
- HIV care, treatment and support.

2. A comprehensive paper on *Effectiveness of Interventions to Address HIV in Prisons* which (1) provides much more detailed information about the interventions covered in the four above mentioned papers; and (2) reviews the evidence regarding HIV prevalence, risk behaviours and transmission in prisons, as well as other interventions that are part of a comprehensive approach to managing HIV in prisons, including HIV education, testing and counselling, and other programmes. This paper is available, in electronic format only, at <http://www.who.int/hiv/idu/>.

WHO, UNODC and UNAIDS recognize the importance of this review in supporting the implementation and scale up of evidence-based interventions in prison settings aimed at HIV prevention, treatment and care.

## A NOTE ON TERMINOLOGY

In some jurisdictions different terms are used to denote places of detention, which hold people who are awaiting trial, who have been convicted or who are subject to other conditions of security. Similarly, different words are being used for various groups of people who are detained.

In this paper, the term '**prison**' has been used for all places of detention and the term '**prisoner**' has been used to describe all who are held in such places, including adult and juvenile males and females detained in criminal justice and prison facilities during the investigation of a crime; while **awaiting trial**; after conviction and before sentencing; and after sentencing. Although the term does not formally cover persons detained for reasons relating to **immigration or refugee status**, those **detained without charge**, and those sentenced to **compulsory treatment and rehabilitation centres** as they exist in some countries, nonetheless most of the considerations in this paper apply to them as well.

# EXECUTIVE SUMMARY

HIV hit prisons early and hit them hard. The rates of HIV infection among prisoners in many countries are significantly higher than those in the general population. HCV seroprevalence rates are even higher. While most of the prisoners living with HIV in prison contract their infection outside the institutions before imprisonment, the risk of being infected in prison, in particular through sharing of contaminated injecting equipment and unprotected sex, is great. Outbreaks of HIV infection have occurred in a number of prison systems, demonstrating how rapidly HIV can spread in prison unless effective action is taken to prevent transmission.

The importance of implementing HIV interventions in prisons was recognized early in the epidemic. After holding a first consultation on prevention and control of HIV in prisons in 1987, WHO responded to growing evidence of HIV infection in prisons worldwide by issuing guidelines on HIV infection and AIDS in prisons in 1993. With regard to health care and prevention of HIV, they emphasized that “all prisoners have the right to receive health care, including preventive measures, equivalent to that available in the community without discrimination, in particular with respect to their legal status or nationality”. This was re-affirmed in the 2006 framework for an effective national response to HIV/AIDS in prisons, jointly published by the United Nations Office on Drugs and Crime (UNODC), WHO, and UNAIDS.

Since the early 1990s, various countries have introduced HIV programmes in prisons. However, many of them are small in scale, restricted to a few prisons, or exclude necessary interventions for which evidence of effectiveness exists. There is an urgent need to introduce comprehensive programmes (*including information and education, particularly through peers; needle and syringe programmes; drug dependence treatment, in particular opioid substitution therapy, provision of condoms, voluntary HIV testing and counselling, and diagnosis and treatment of STIs*) and to scale them up rapidly. As part of these programmes, prison systems should provide *HIV care equivalent to that available in the community, including antiretroviral treatment.*

## Provision of HIV care, treatment and support

The advent of combination antiretroviral therapy (ART) has significantly decreased mortality due to HIV and AIDS in countries where ART has become accessible. There has been a parallel decrease in the mortality rate among incarcerated individuals in prison systems

in those countries. Providing access to ART for those in need in the context of prisons is a challenge, but it is necessary and feasible. Studies have documented that, when provided with care and access to medications, prisoners respond well to ART. Adherence rates in prisons can be as high or higher than among patients in the community, but the gains in health status made during the term of incarceration may be lost unless careful discharge planning and linkage to community care are undertaken.

As ART is increasingly becoming available in developing countries and countries in transition, it will be critical to ensure that it also becomes available in the countries' prison systems. Ensuring continuity of care from the community to the prison and back to the community, as well as continuity of care within the prison system, is a fundamental component of successful treatment scale-up efforts.

Making opioid substitution therapy (OST) available in prisons to people dependent on opioids is strongly recommended. In addition to its role in the treatment of opioid dependence and the prevention of HIV transmission, OST has proven effective in facilitating delivery of and adherence to ART among people dependent on opioids. Many injecting drug users with HIV will spend time in prison, and they need to be able to access both OST and ART without interruption, including when transferring from the community to the prison and vice versa.

In the context of efforts to increase access to HIV care and treatment, including ART, it will be important to also increase access to HIV testing and counselling in prisons. In contrast, **policies of mandatory testing and segregation are counterproductive and can have negative health consequences for segregated prisoners.**

Finally, other measures could also have a positive impact on HIV care, treatment and support in prison. These include ensuring that prison health care be appropriately and sufficiently funded and evolve from the “sick call” model employed in many prison systems into a proactive system that emphasizes early disease detection and treatment, health promotion, and disease prevention. In the medium and longer-term, transferring control of prison health to public health authorities could also have a positive impact. Health care in prisons can be delivered more effectively by public health authorities than by prison management, if sufficient resources are provided and freedom of action of the new prison health authorities is guaranteed.

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## It is therefore recommended that:

1. Prison authorities should ensure that prisoners receive care, support and treatment equivalent to that available to people living with HIV in the community, including ART.
2. As ART is increasingly becoming available in developing countries and countries in transition, actors at the international, national, regional, and local levels should ensure that it also becomes available in the countries' prison systems.
3. Particular efforts should be undertaken by prison authorities, working with the other components of the criminal justice system and with external health authorities and NGOs, to ensure continuity of care, including ART, from the community to the prison and back to the community, as well as within the prison system.
4. Where OST is available in the community, it should also be available in prisons, so that people on OST and ART are able to access both without interruption.
5. In the context of efforts to increase access to ART, prison systems should provide easy access to HIV testing and counselling. In particular, voluntary HIV testing and counselling should be:
  - ▶ made easily accessible to prisoners upon entry and during imprisonment
  - ▶ confidential, and everyone being tested should give informed consent and receive pre-and post test counselling
  - ▶ closely linked to access to care, treatment, and support for those testing positive, and be part of a comprehensive HIV programme that includes access to prevention measures.

In addition, countries need to appropriately and sufficiently fund prison health care and may want to consider transferring control of prison health to public health authorities.

# METHODOLOGY

A comprehensive search of the published literature was carried out. Electronic library and HIV/AIDS databases, and websites of various government and non-governmental bodies, relevant conferences, and prison health and health news sites were searched. Key search terms used included "prison(s)", "jail(s)", "detention centre(s)", "correctional facility(ies)", "prisoner(s)", inmate(s), "HIV", "human immunodeficiency virus", "hepatitis C", and "HCV". These search terms were combined with specific interventions (such as "condom(s)", "bleach", "needle exchange", antiretroviral therapies, HIV testing and counselling, etc) and, where useful, with specific countries or regions. Studies and other materials reported in English, French, German, Italian, Portuguese and Spanish were reviewed. Attempts were made to access information from developing countries and to access the 'grey' literature through professional contacts, and direct contact with known researchers and research centres. Nevertheless, the review had limitations: not all papers could be obtained and publications in languages other than those mentioned are not included.

Generally, the review examines whether interventions to manage HIV in prisons have been demonstrated scientifically to reduce the spread of HIV among prisoners or to have other positive health effects. The evidence has been evaluated according to the criteria originally proposed by Bradford Hill

(1965) to allow a causal relationship to be inferred from observed associations, and by using additional criteria including:

- ▶ **Absence of negative consequences:** The presence of unintended negative consequences can have a major impact on the adoption or expansion of interventions.
- ▶ **Feasibility of implementation and expansion:** Is it feasible to implement programmes in prisons in diverse settings, including resource-poor settings, and in prisons of various types and security classifications, including in prisons for women?
- ▶ **Acceptability to the target of the intervention:** Do prisoners and staff accept the programmes and what conditions facilitate acceptance?
- ▶ **Unanticipated benefits:** Does the introduction of such programmes lead to other unintended and welcome benefits?

Very few randomized clinical trials to evaluate HIV interventions in prisons have been undertaken. While the reliability of research conclusions under such conditions is often questioned, the difficulty of conducting such trials to evaluate public health interventions should not be underestimated (e.g. Drucker et al, 1998).

# 1. HIV CARE, TREATMENT AND SUPPORT IN PRISON: BACKGROUND

In many countries, the rates of HIV infection among prisoners are much higher than in the general population (Dolan et al., 2007), and HCV rates are even higher (Macalino et al., 2004).

Coincident with the emergence of HIV, many countries have experienced a significant increase in the prison population, resulting in prisons becoming an important source of health care for socially disadvantaged people, many of whom cycle in and out of prison. For example, in 1997, 20% to 26% of all HIV-positive people in the United States passed through a correctional facility (Hammett, Harmon, Rhodes, 2002). Out of the estimated 1600 people living with HIV in Ireland, 300 to 500 had been through the prison system (UNAIDS, 1997).

Having up to a quarter of the HIV-positive population of a country pass through prisons represents enormous challenges, but also opportunities for providing care, treatment, and support, including antiretroviral therapy (ART). Prisons are key points of contact with millions of individuals living with or at high risk of HIV infection who are largely out of reach of the medical system in the community (Glaser & Griefinger, 1993).

WHO's *Guidelines on HIV Infection and AIDS in Prisons* (1993) highlight that, as a general principle, prisoners have the right to receive health care "equivalent to that available in the community without discrimination." The guidelines contain the following specific recommendations related to care and support of HIV-positive prisoners (WHO, 1993, paragraphs 34 to 40):

34. At each stage of HIV-related illness, prisoners should receive appropriate medical and psychosocial treatment equivalent to that given to other members of the community. Involvement of all prisoners in peer support programmes should be encouraged. Collaboration with health care providers in the community should be promoted to facilitate the provision of medical care.
  35. Medical follow-up and counselling for asymptomatic HIV-infected prisoners should be available and accessible during detention.
  36. Prisoners should have access to information on treatment options and the same right to refuse treatment as exists in the community.
  37. Treatment for HIV infection, and the prophylaxis and treatment of related illnesses, should be provided by prison medical services, applying the same clinical and accessibility criteria as in the community.
  38. Prisoners should have the same access as people living in the community to clinical trials of treatments for all HIV/AIDS-related diseases. Prisoners should not be placed under pressure to participate in clinical trials, taking into account the principle that individuals deprived of their liberty may not be the subjects of medical research unless they freely consent to it and it is expected to produce direct and significant benefit to their health.
  39. The decision to hospitalize a prisoner with AIDS or other HIV-related diseases must be made on medical grounds by health personnel. Access to adequately equipped specialist services, on the same level available in the community, must be assured.
  40. Prison medical services should collaborate with community health services to ensure medical and psychological follow-up of HIV-infected prisoners after their release if they so consent. Prisoners should be encouraged to use these services.
- In 2006, the United Nations Office of Drugs and Crime (UNODC), together with WHO and UNAIDS, published a framework for an effective national response to HIV in prisons, reasserting that "[p]risoners are entitled, without discrimination, to a standard of health care equivalent to that available in the outside community" (UNODC, WHO, UNAIDS, 2006). "Recommended actions" 67 to 76 in the framework provide more detail about what governments should do:
67. Provide at no cost access to appropriate and professional HIV/AIDS care, treatment and support equivalent to that available in the outside community, including access to diagnostics, antiretroviral treatment, proper diet, health promotion options, and adequate pain management medications.
  68. Ensure that access to clinical trials, investigational therapies, non-conventional therapies, and alternative therapies is the same for prisoners as for people living outside of prisons. Such participation should only take place with expressed and informed consent, and prisoners should not be

placed under pressure or intimidation to participate, nor be allowed to participate without their knowledge.

69. Ensure that prevention and treatment of STIs, TB, and hepatitis and other opportunistic infections are provided as key components of comprehensive HIV/AIDS care.
70. Ensure that prisoners are provided with information on HIV/AIDS treatments and therapies sufficient to enable them to make an informed choice about their treatment options, and that they are able to refuse treatment if they so choose.
71. Provide appropriate reproductive health and gynaecological care services for all women.
72. Provide quality obstetrical care for HIV positive pregnant women in prison, including antiretroviral therapy on a continuous basis, and prophylaxis for the infant during and post-delivery to ensure that vertical transmission of the infection is interrupted.
73. For infants kept in detention with their mother, provide paediatric care for those infants found to be HIV positive.
74. Encourage the participation of non-governmental organizations and other professionals from outside the prison system in providing care, treatment, and support services.
75. Provide access to effective, appropriate, and compassionate palliative care that meets standards available in the wider community.
76. Provide options for the early release for prisoners in advanced stages of HIV-related illness.

In recent years, provision of care and treatment for people living with HIV has become a global priority, and it is considered to be a basic human right. This includes the provision of ART in the context of comprehensive HIV care, including in prisons.

Provision of ART in prisons requires that national or international policies and guidelines for the use of antiretrovirals be followed (WHO, 2006; Department of Health and Human Services, 2006). Because provision of health care is a basic right for prisoners, no other special guidelines can be justified in this context (Pontali, 2005).

# 2. EVIDENCE REGARDING PROVISION OF ANTIRETROVIRAL THERAPY IN PRISONS

## 2.1 Evidence from community settings

Combination ART has proven to be effective in obtaining maximal and durable suppression of HIV viral load, restoration and preservation of immunologic function, improvement of quality of life, and reduction of HIV-related morbidity and mortality (Pontali, 2005; Hogg et al., 1998; Palella et al., 1998; Hogg et al., 1999; Florida et al., 2000; Lavalle et al., 2000). ART has changed HIV into a treatable, chronic condition. Left untreated, most HIV-positive people will eventually develop HIV-related illnesses and die. If they receive ART, however, they can live in relatively good health for many years. Such results have been observed even in “hard to reach” HIV-positive populations such as people who inject drugs (Open Society Institute, 2004; WHO, 2005b), and in challenging contexts such as resource-poor countries (Coetzee et al., 2004; Palombi et al., 2004).

## 2.2 Evidence from prison settings

In developed countries, where ART is relatively accessible, it has been provided to many HIV-positive prisoners for the last ten years. Often, treatment is initiated in prison. For example, in Connecticut (United States), up to 67% of HIV-positive prisoners first received ART while in prison (Altice & Friedland, 1998; Altice, Mostashari, & Friedland, 2001). As a consequence, AIDS-related deaths in prisons in countries in which ART is available in prisons have decreased dramatically (Centers for Disease Control and Prevention, 1999; Mackenzie et al., 1999; Maruschak, 2001; Babudieri et al., 2005).

A number of studies undertaken mainly in prisons in the United States and a few other prison systems in developed countries have shown that, when provided with care and access to medications, prisoners respond well to ART (see, e.g., Springer et al., 2004). More recently, many resource-poor countries have also started making ART available in their prison systems, demonstrating that it is feasible to provide ART in these settings and to achieve satisfactory outcomes (Srisuphanthavorn et al., 2006; Winarso et al., 2006). However, to date these programmes are often small in scale (Simooya & Sanjobo, 2006; Hassim, 2006) and most of them have not been comprehensively evaluated.

### 2.2.1 Adherence

A key aspect to obtaining the greatest benefits from ART is full adherence to the therapy regimen. Due to the rapid multiplication and mutation rate of HIV and the relatively low potency and short half-life of most antiretrovirals, very high levels of adherence to antiretroviral schedules are necessary to avoid viral resistance (Paterson et al., 2000; Cheever, 2004). In comparison with patients who are adherent to ART, non-adherent people have higher mortality rates (Wood et al., 2003b); lower increases in CD4 cell count (Paterson et al., 2000); and spend more days in hospital (Paterson et al., 2000).

Studies in developed countries have shown that levels of adherence among prisoners can be as high as, or higher than (Soto Blanco, Perez, March, 2005), those found among HIV-positive persons enrolled in primary care services linked to municipal hospitals (Edwards et al., 2001), methadone maintenance programmes, or research cohorts of injecting drug users (Pontali, 2005). In some of the studies, self-reported adherence rates exceeded 90% (Kirkland et al., 2002; Edwards et al., 2001). Only in one study, a large percentage of prisoners (54.8%) were considered to be nonadherent to ART. However, in that study only those prisoners who followed the prescribed dosage and procedure 100% correctly were considered to be adherent, which may explain why the reported rate of nonadherence was much higher than in other studies (Soto Blanco et al., 2005).

Data about adherence from prisons in developing countries remain limited, but recently Srisuphanthavorn et al. (2006) reported that “good adherence” levels have been achieved at a prison in Thailand.

The environment in the prison system can offer small and large obstacles to adherence, but also some advantages (Pontali, 2005). Studies have provided information about factors influencing acceptance of and adherence to ART in prisons (see the chapter on “HIV care, treatment and support” in the comprehensive paper on *Effectiveness of Interventions to Address HIV in Prisons* for more details).

- ▀ *Acceptance of ART* was significantly associated with trust in physician and in the health care system, trust in HIV medications, and interpersonal relationships with physicians and peers (Altice, Mostashari, Friedland, 2001; Mostashari et al., 1998).

- ▶ Side effects, social isolation and other psychosocial factors such as suffering anxiety or depression, and complexity of the antiretroviral regimen were associated with decreased *adherence* (Altice, Mostashari, Friedland, 2001; Soto Blanco, Perez, March, 2005; Soto Blanco et al., 2005; Springer et al., 2004).
- ▶ In some of the studies, prisoners also reported a number of *institutional barriers to adherence*. Some of the most frequent were that medicine was not available, the patient was not allowed to attend the medicine call, the patient did not want to go to the medication line, the patient was in “lockdown”, or the patient was moved to another cell (Kirkland et al., 2002). Other reasons included travel to court, hospital, or another prison (Edwards et al., 2001). One study found that prisoners who stated that the prison authorities were willing to open their cell if they missed their medication were less likely to be nonadherent (Soto Blanco et al., 2005).

### 2.2.2 Modalities of administration of treatment

The modality of ART administration can profoundly affect adherence to treatment. Some correctional health services administer antiretrovirals under direct observation, while others use modified directly observed therapy (DOT) i.e. patients receive their daily ART and swallow the morning dose in front of the staff and self-administer the others; or ‘keep on person’ (KOP) or self-administered therapy, which allows the patient to keep their medications in their cells and take them independently; or self-administer ART (Spaulding et al., 2002; Pontali, 2005). Any one of these strategies can be chosen, and they are sometimes used contemporaneously in the same prison, with different patients. The advantages and disadvantages of each modality have been described by Pontali (2005).

Studies to date have provided mixed evidence about which modality is preferable. An Italian study comparing DOT with modified DOT showed that the DOT group had significantly better virological and immunological results (Babudieri et al., 2000). Fischl et al. (2000; 2001) also presented data supporting the effectiveness of DOT. However, it is unclear whether the findings were DOT-related or whether people in prison have better adherence to ART for other reasons i.e. they are receiving treatment for mental health disorders and their illegal drug use is decreased (Spaulding et al., 2002). In a number of other studies, there was no significant difference in

adherence between self-medication and DOT (Altice et al., 2001; Wohl et al., 2000; Wohl et al., 2003).

Studies have shown that successful implementation of DOT in prisons faces several challenges. The conspicuousness and inconvenience of waiting in line as well as inflexible medication dispensing hours can discourage rather than facilitate receipt of ART via direct observation. In one study, a significant number of prisoners (16%) reported that they miss their medications because they do not want to stand in the medication line (White et al., 2006). Prisoners may fear being labelled as HIV-positive if they are seen standing in line for medications several times a day (Spaulding et al., 2002). Many prisoners report keeping their HIV status hidden from the other prisoners (Altice et al., 2001; White et al., 2006), and Wohl et al. (2003). White et al. (2006) found that two thirds would prefer to take medication on their own rather than through DOT. If medication is provided through DOT, almost all would prefer to receive DOT from a correctional nurse rather than a correctional officer (White et al., 2006).

### 2.2.3 Continuity of care

Wood et al. (2003), Palepu (2003; 2004) and Stephenson et al. (2005) all found that transition between prison and the community is often associated with interruptions in care and treatment, with negative effects on virological and immunological outcomes. Springer et al. (2004) documented the effectiveness of ART among HIV-positive prisoners, but found that individuals who were reincarcerated had a log increase in viral load and a mean decrease in CD4 lymphocyte counts. The gains in health status made during the term of incarceration were lost among reincarcerated persons, because of relapse to drug use, discontinuation of therapy and, possibly, uncontrolled mental illness. This underscores the need for linkage to aftercare services for prisoners with HIV infection upon their release (Spaulding et al., 2002).

As most prisoners will eventually be released, careful prison discharge planning is essential for preserving the health care advances made in prison, and it requires a comprehensive approach (Spaulding et al., 2002; Springer & Altice, 2005). Attention to issues such as job placement; treatment of drug use; mental illness triage and referral; appointments for HIV care and other medical care; referral for assistance with housing, nutrition, entitlements and other services; transportation, and child care enhances the likelihood that medical discharge planning will be effective (Kim et al., 1997). Discharge planning and linkage to community aftercare also facilitates ongoing secondary prevention efforts (Vigilante et al., 1999).

Model linkage programmes providing good discharge planning, initiated well before prison release can reduce the rate of recidivism (Flanigan et al., 1996; Skolnick, 1998). It has been speculated that these results could also apply to HIV care follow-up and regular continuation of ART (Pontali, 2005). Experiences show that this link between prison and community is feasible and is essential to obtain continuity of HIV care (Altice et al., 1996; Wohl et al., 2004; Howard & Campbell, 2004; Kennedy et al., 2004). For example, Babudieri et al. (2005) found that an intensive counselling programme that aims to create a relationship between the prisoner and a medical team committed to patient clinical follow-up outside of prison may improve adherence both in prison and in the community after release.

In the United States, preliminary results of a randomized control trial of a case management model designed to bridge incarceration and release (versus standard discharge planning conducted prior to release only), indicated that a case management intervention for HIV-positive prisoners spanning the periods prior to and after prison release is successful in increasing access to and utilization of HIV medical care, reducing emergency room utilization and early recidivism (Wohl et al., 2006). Interviews with participants in the study six months after release showed that for HIV-positive prisoners, release is a time associated with great emotion and anxiety, particularly with respect to drug use and family relationships. This confirms that more intensive release preparation programmes spanning the continuum of both pre- and post release are needed, and that these programmes should not only provide HIV-related care and support services, but a broader spectrum of support including drug use prevention and treatment, community supports (Haley et al., 2006), and, if required, treatment of tuberculosis.

Equally important is ensuring the continuity of care within the prison system. Transfers from one prison to another or court dates may result in problems coordinating medical care and supplying medications in a timely fashion (Pontali, 2005), highlighting the importance of good prison pharmaceutical services to guarantee proper and regular access to antiretroviral drugs (Pontali et al., 2004).

## 2.2.4 Co-morbidities

A critical issue for treated prisoners is the presence of co-morbidities, such as chronic viral hepatitis, tuberculosis, and mental illness that often accompany HIV infection in this setting (Pontali, 2005). Such concomitant clinical manifestations can make

the choice of antiretroviral combinations difficult, because of possible drug interactions, reduced adherence to ART because of mental illness, and high pill load (Pontali, 2005).

Co-infection with hepatitis C (HCV) is common in HIV-positive prisoners (Macalino et al., 2004), particularly those with a history of injecting drug use. This may increase the risk of liver toxicity and impair the metabolism of some antiretroviral drugs. Despite the common association between hepatotoxicity and antiretroviral drugs, about 90% of people living with HIV, regardless of hepatitis co-infection, will tolerate ART without severe liver toxicity (Sulkowski et al., 2000), though it is important to be aware of potential drug interactions, particularly when treating HCV.

Recent studies have demonstrated that HCV treatment is feasible, promises to be effective in prison populations (Allen et al., 2003; Farley et al., 2005), and prisoners are interested in hepatitis C testing and, if indicated, treatment (Vallabhaneni S et al., 2006). Recommendations for the diagnosis and treatment of HCV in prisons have been developed (Saiz de la Hoya-Zamacola et al., 2006; Spaulding et al., 2006; Centers for Disease Control and Prevention, 2003; Federal Bureau of Prisons, 2005). With good adherence to treatment regimens, rates of sustained virological response for prisoners treated with combination therapy are comparable to those observed in patients outside prison at similar stages of disease. However, therapy in prisons can be frequently interrupted (Spaulding et al., 2006).

Management of Tuberculosis (TB) is generally similar in people living with HIV as in HIV-negative people and management guidelines are available (American Thoracic Society 2003; World Health Organization & International Committee of the Red Cross, 2000; World Health Organization, 2007). Important considerations include interactions between some TB and antiretroviral drugs, interactions between some TB drugs and methadone, and possibly buprenorphine; and the timing of initiating ART in people with active TB (WHO, 2005; WHO, 2006).

## 2.2.5 The link with opioid substitution therapy

Based on the data available from an increasing number of studies in various countries, and extrapolating from the vast literature on community-based programs, adequate prison-based opioid substitution therapy (OST) programmes appear to be effective in reducing injecting drug use and associated

needle sharing (WHO, UNODC, UNAIDS, 2007). In addition, adequate prison-based OST programmes have other worthwhile benefits, both for the health of prisoners participating in the programmes, and for prison systems and the community. In particular, studies have found that:

- ▶ retention in OST is associated with reduced mortality;
- ▶ OST in prison significantly facilitates entry and retention in post-release treatment compared to prisoners enrolled in detoxification programmes;
- ▶ re-incarceration is less likely among those prisoners who receive adequate OST while incarcerated;
- ▶ OST has a positive effect on institutional behaviour by reducing drug-seeking behaviour and improving prison safety;
- ▶ although prison administrations often initially raise concerns about security, violent behaviour and diversion of methadone, these problems have not emerged when OST programmes have been implemented, and
- ▶ both prisoners and correctional staff report about the positive impact OST has on prison life.

Therefore, it has been recommended that, in any country in which OST programmes are available in the community, prison authorities introduce such programmes urgently and expand implementation to scale as soon as possible. (For a more detailed analysis of the evidence regarding OST in prisons, see WHO, UNODC, UNAIDS, 2007).

However, there is an additional factor that increases the need to make OST available in prisons. OST offers opportunities for improving the delivery of ART to HIV-positive opioid users. OST enables opioid dependent drug users to stabilize their lives, and avoid or manage many of the complications of injecting drug use, and is therefore seen as an essential component in strategies for retaining active injecting drug users in antiretroviral therapy programmes (Mattick et al. 2002). OST also provides additional entry points for scaling up ART, improves drug adherence and increases access to care (Clarke et al., 2002; Moscatello et al., 2003; Lucas, 2004; Farrell et al., 2005; WHO, 2006b).

## 2.2.6 The link with HIV testing and counselling

Knowledge of HIV status is a prerequisite to receiving appropriate care, treatment and support. In many prison systems, particularly in resource-poor countries, access to voluntary HIV testing and counselling currently is limited, and scaling up access to treatment, including ART, will also require scaling up access to voluntary HIV testing and counselling.

As part of a major effort to scale up access to HIV testing and counselling globally, in the context of efforts to achieve universal access to prevention, treatment and care, WHO and UNAIDS have recently released guidance on provider-initiated testing and counselling in health care facilities (WHO, UNAIDS, 2007); and have undertaken other efforts to increase access to HIV testing and counselling outside the health-care context (UNAIDS, WHO, 2004).

The 2006 “framework for an effective national response” to HIV in prisons states that prison systems should (UNODC, WHO, UNAIDS, 2006, recommended actions 62-66):

62. Provide access to voluntary, confidential HIV testing with counselling for prisoners where such testing is available in the outside community. This should include access to anonymous HIV testing in jurisdictions where such testing is available outside of prisons.
63. Ensure prisoners are provided with sufficient information to enable them to make an informed choice about whether to undertake test or to refuse testing if they so choose.
64. Ensure well-informed pre- and post-test counselling as a mandatory component of HIV testing protocols and practice, and ensure effective support is available to prisoners when receiving test results and in the period following.
65. Ensure the confidentiality of HIV test results of prisoners.
66. Ensure that informed consent and pre- and post-test counselling are mandatory for all HIV testing practices in prisons – including diagnostic testing, the use of rapid test kits, and testing as part of post-exposure prophylaxis protocols.

Two studies in which programs that offer HIV testing and counselling to all prisoners on entry to prison resulted in a large number of prisoners accepting HIV testing and counselling (Ramratnam, 1997; Liddicoat et al., 2006), showing that many prisoners will accept an offer of voluntary testing, particularly if HIV testing

and counselling is part of a comprehensive care and treatment programme for HIV-positive prisoners and if HIV test results are kept confidential and those voluntarily disclosing their HIV-positive status do not face discrimination or abuse (Boutwell & Rich, 2004).

In contrast, policies of mandatory testing and segregation are counterproductive (Hoxie et al., 1990; Jacobs, 1995). HIV is not transmissible via casual contact (as is active tuberculosis, for example), and therefore mandatory testing and segregation of people living with HIV in prisons is not necessary for public health purposes. In addition, mandatory testing and segregation can have negative health consequences for segregated prisoners. In a prison in South Carolina, United States, segregating HIV-positive prisoners contributed to a tuberculosis outbreak in which 71% of prisoners residing in the same housing area either had new tuberculosis skin-test conversion or developed tuberculosis disease. Thirty-one prisoners, and one medical student in the community's hospital, subsequently developed active tuberculosis (Patterson et al., 2000). (For a more detailed analysis of the evidence regarding HIV testing and counselling programmes in prisons, see the chapter on "HIV counselling and testing" in the comprehensive paper on *Effectiveness of Interventions to Address HIV in Prisons*).

### 2.2.7 Funding and the place of prison health

Studies have found that prisoners tend to have consistently poorer health status when compared with the general population, regardless of the indicator chosen (Correctional Service Canada, 2004; Bobrik; 2005). While there is evidence that providing good care, treatment and support, including ART, is feasible in prisons and that prisoners respond well to ART, the challenges are great. Overcrowding, poor conditions, and inadequate medical services exacerbate negative health impacts and complicate the provision of care by prison health staff (UNODC, WHO, UNAIDS, 2006). In many countries, the biggest challenge is the lack of resources, financial and otherwise, devoted to health care in prison. Other challenges relate to the place of prison health care within the correctional system whose priorities and values may often conflict with those of medical care. Put simply, "corrections is a public safety or law enforcement activity rather than a public health activity" (Brewer, 1991).

A joint position paper by the American College of Physicians, National Commission on Correctional Health Care, and American Correctional Health

Services Association (1992), spoke of a "crisis in correctional health care", pointing out how in many countries incarceration of large numbers of people who use drugs, many of them living with HIV, has exacerbated existing problems in health-care provision in prisons. The paper made several recommendations about how this crisis could be overcome, including:

- drug policies, with their emphasis on incarceration, should be reconsidered
- correctional health-care budgets should be increased to reflect the growing needs of the prison population
- correctional health care should be recognized as an integral part of the public health sector; and
- correctional care should evolve from its present reactive "sick call" model into a proactive system that emphasizes early disease detection and treatment, health promotion, and disease prevention.

These recommendations are consistent with those of a study of health-care services in federal prisons in Canada (Correctional Service Canada, 2004) which pointed out that health services in prisons have traditionally been "individual care-based and therefore reactive," and that a "much greater population health focus is required." The study acknowledged that there is a need for a public health infrastructure to fulfil the core functions of public health services within prisons – ie, to assess the health status of prisoners; have an effective surveillance system for infectious and chronic diseases; undertake health promotion efforts; have coordinated actions to prevent diseases and injuries; protect the health of prisoners; and evaluate the effectiveness, accessibility, and quality of health services. It emphasized that a functioning prison public health system is required to ensure the appropriate management and control of infectious diseases and concluded that addressing prisoners' health needs "will contribute to the inmate's rehabilitation and successful reintegration into the community."

In the long run, transferring control of prison health to public health could have a positive impact on HIV care, treatment, and support in prison. Some countries have already introduced such a change in prison health administration. Norway was one of the first. In France, where prison health was transferred to the Ministry of Health in 1994, each prison is twinned with a public hospital (UNAIDS 1997). In Italy, there has been integration between prison health authorities and centers for HIV care of the national public health

system after a common decree of the responsible ministries in 1998 (Pontali 2005). In England and Wales, the Department of Health assumed responsibility from Her Majesty's Prison Service for health policymaking in 2000, and full budgetary and health care administration control were transferred by April 2006. Experience in these prison systems has shown that health care in prisons can be delivered more effectively by public health authorities than by prison management, strengthening the link between health in the community and health in prisons (Pontali 2005; UNAIDS 1997; Editorial 1991). As a result of the reorganization, funding has improved and services now relate more to assessed health need. There is early but limited evidence that some standards of care and patient outcomes have also improved (Hayton & Boyington, 2006).

# 3. CONCLUSIONS AND RECOMMENDATIONS

## **Prison systems should ensure that HIV-positive prisoners receive care, treatment and support equivalent to that available to people living with HIV in the community, including ART.**

The advent of combination ART has significantly decreased HIV-related mortality in both the community and in prisons in countries where ART has become available. Providing access to ART in prisons is a challenge, but it is both necessary and feasible. Studies have documented that, when provided with appropriate care and access to ART, prisoners respond well. Adherence rates among prisoners can be as high as or higher than among HIV-positive people in the community. However, health gains made during incarceration may be lost unless careful discharge planning and linkages to community care, treatment and support services are made.

## **As ART becomes increasingly available in developing countries and countries in transition, actors at the international, national, and regional and local levels should ensure that it also becomes available in prisons.**

To date, very little information exists about what is being done to ensure that prison systems are an integral part of scale-up efforts and there are no published studies or even guidelines on this. Sustainable HIV treatment programmes, integrated into countries' general HIV treatment programmes or at least linked to them, are needed.

At the *international level*, access to treatment initiatives should include a prison-specific component and ensure that

- ▶ prison systems are included in technical assistance missions
- ▶ data about treatment access and coverage in prisons is collected and published
- ▶ best practice models are developed and disseminated
- ▶ the public health and human rights implications of inadequate treatment access in prisons are brought to the attention of policy makers.

At the *country level*:

- ▶ prison departments should have a place within the national HIV coordinating committees
- ▶ prison issues should be part of the agreed HIV action framework and monitoring and evaluation system

- ▶ prison departments should be involved in all aspects of treatment scale-up, from funding applications (to ensure that funds are specifically earmarked for prisons), to development, implementation, and monitoring and evaluation of treatment roll-out plans; and
- ▶ the ministry responsible for health and the ministry responsible for the prison system should collaborate closely, recognizing that prison health is public health; alternatively, governments could assign responsibility for health care in prisons to the same ministries, departments and agencies that provide health care to people in the community.

Finally, at the *regional and local level*, prisons should

- ▶ form partnerships with health clinics, hospitals, universities and NGOs, including people living with HIV organizations, to provide health care and other services for prisoners; and
- ▶ develop integrated rather than parallel care and treatment programmes.

## **Efforts need to be undertaken by prison authorities, working with the other components of the criminal justice system and with external health authorities and NGOs, to ensure continuity of care, in particular, ART, from the community to the prison and back to the community, as well as within the prison system.**

Successful HIV therapy requires that there be no interruption in antiretroviral medications. A large number of prisoners move in and out of the prison system as well as within the system, and it is essential to provide continuity of care from the community to the prison and back to the community, as well as within the prison system.

Treatment discontinuation for short or long periods of time may happen upon arrest and detention in police cells, within the prison system when prisoners are transferred to other facilities or have to appear in court, and upon release. Each of these situations should be addressed and mechanisms established to ensure uninterrupted ART (see, e.g., Pontali, 2005; National Commission on Correctional Health Care, 2005). Police and correctional officers need to be educated about the importance of continuity of treatment. Particular attention should be devoted to discharge planning and linkage to community aftercare.

**Where OST is available in the community, it should also be available in prisons, so that people on OST and ART are able to access both without interruption.**

Making OST available in prisons to people dependent on opioids is strongly recommended. In addition to its role in the treatment of opioid dependence and the prevention of HIV transmission, OST has proven effective in facilitating delivery of and adherence to ART among people dependent on opioids. Many IDUs with HIV will spend time in prison, and they need to be able to access both OST and ART without interruption, including when transferring from the community to the prison and vice versa.

**In the context of efforts to increase access to care and treatment, including ART, prison systems should provide easy access to voluntary HIV testing and counselling.**

In particular, voluntary HIV testing and counselling:

- ▶ should be easily **accessible to all prisoners upon entry and during imprisonment**
- ▶ should always be **confidential**, and everyone being tested should give informed **consent** and receive both pre- and posttest **counselling**
- ▶ should be closely **linked to access to care, treatment, and support** for those testing positive, and be part of a comprehensive HIV programme that includes access to prevention measures.

Knowledge of HIV status is a prerequisite to receiving appropriate care, treatment and support. In many prison systems access to HIV testing and counselling currently is limited, and scaling up access to treatment, including ART, will also require scaling up access to voluntary HIV testing and counselling.

In contrast, **policies of mandatory testing and segregation are counterproductive and can have negative health consequences for segregated prisoners.**

In addition, other measures could have a positive impact on HIV care, treatment and support in prison. These include ensuring that prison health care be appropriately and sufficiently funded, and moving from the current “sick call” model used in most prison systems into a proactive system that emphasizes early disease detection and treatment, health promotion, and disease prevention. Finally, experience in a range of prison systems has shown that health care in prisons can be delivered more effectively by public health authorities than by prison management. When control of prison health is transferred

to public health authorities, this strengthens the links between health in the community and health in prisons. Therefore, countries may want to consider transferring control of prison health to public health authorities. If control of prison health is transferred to public health authorities, proper resources should be provided and freedom of action of the new prison health authorities guaranteed

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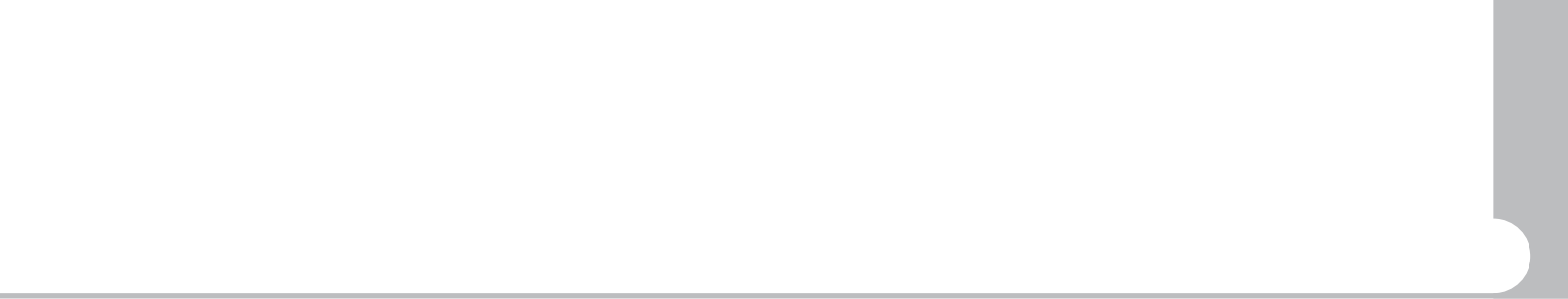
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