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Evidence and Best Practices for HIV Prevention with Injection Drug Users (IDUs)

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Interventions with Most at Risk Populations
in PEPFAR Countries
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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention

Reasons for this Presentation

- There is a need for comprehensive programs to address HIV and drug use prevention among IDUs
  - Most programs for IDUs focus on reducing use of contaminated drug injection equipment, sexual reduction via condom promotion, with some programs supporting syringe exchange and medication-assisted therapy (MAT)
  - Most programs for IDUs are pilot studies or small scale
  - Need to develop a minimum standard package of services which are targeted, complementary and integrated
  - Need to identify and scale-up effective models

Outline of the Presentation

- Background
- Fundamentals of implementing programs for IDUs
  - Core components of interventions for IDUs
  - Structural interventions for IDUs
  - Scaling up outreach, access to sterile syringes, medication-assisted therapy (MAT) and supportive services

Global Estimates of IDUs

- 16 million world wide (range 11-21 million)
- 3 million estimated to be HIV+ (range 1-7 million)
  - High prevalence among subpopulations in many parts of world (southeast Asia, eastern Europe, and Latin America)
- Little known about IDUs in sub-Saharan Africa
  - Injecting drug use well established in Kenya, Mauritius, Nigeria, South Africa and Tanzania
- Data is challenging to obtain:
  - Criminalized and clandestine nature of IDU
  - Inconsistent definitions of injecting drug use
  - No verifiable information available in many countries

Mathers et al, 2008

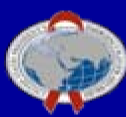
Global Estimates of HIV Prevalence among Injection Drug Users

- Asia
  - China: 43.2% (2005)
  - Vietnam: 50-60% (2005)
- Eastern Europe
  - Russia: 87% (2005)
- Africa
  - Kenya: 4.8% (2005)
  - Nigeria: <10% (2005)

Center for Strategic & International Studies, 2008

Intersecting Risks for HIV (1)

- Drug-related HIV risk
  - Most commonly involves injection of heroin but may include other opioids, cocaine, methamphetamine or other stimulants
  - Sharing of contaminated drug injection equipment: needles, syringes, cookers
  - Injection-related (blood-borne) transmission is efficient
  - Increased risk of Hepatitis B and C



Intersecting Risks for HIV (2)

- Sex-related HIV risk
  - Drug use (injection and non-injection) can impair judgment
  - Increased high risk sexual behavior
    - Multiple partners
    - Unprotected sex
    - Exchange sex for money or drugs
- Overlapping risk networks
  - Sexual networks
  - Drug-using networks

Health Risks and IDUs

- IDUs are at higher risk for adverse health outcomes
  - HIV/AIDS
  - Sexually Transmitted Infections (STIs)
  - Drug addiction[1]
  - Tuberculosis (TB)
  - Hepatitis B and C
  - Other substance abuse (e.g., alcohol)
  - Psycho-social issues
  - Physical and sexual violence and abuse

[1] Drug addiction is a chronic relapsing medical disorder. A person who is addicted requires ever larger amounts of the drug to experience the same effect and will experience physical withdrawal when drug use stops.

Core Components of a Comprehensive HIV Prevention Program with IDUs

Core Components of a Comprehensive HIV Prevention Package with IDUs

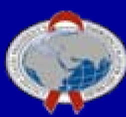
- Community-based outreach and education
- Sterile syringe access and safe disposal
- Condoms
- STI screening and treatment
- Voluntary HIV counseling and testing
- Drug treatment
- HIV care and treatment for HIV-positive IDUs
  - Including access to PMTCT and TB screening and treatment
- Access to health/social services (e.g., case management, family planning, hepatitis, income generation)

HIV Prevention Programs for IDUs

- No "perfect" program exists
- Basic principles are
  - Offer a minimum "package" of services
  - Provide cross linkage via referral, co-location or integrated delivery
  - Target multiple risks: drug use, injection-related practices, high-risk sexual behavior, risk networks
  - Incorporate input from IDUs and their community
  - "Do no harm"— support human rights
  - Implement policies and procedures to address stigma and discrimination

Community-based Outreach & Education

- Strategy to deliver information and skills to reduce HIV risks to drug users in their community
  - Provided by outreach workers, peer educators, indigenous leaders and/or through mobile clinics and locations frequented by IDUs
  - Provide repeated contact over time to establish rapport and trust
  - Conduct individual HIV risk assessment
  - Transfer and reinforce risk reduction skills and behavior change
  - Provide linkage and referral to syringe access, drug treatment, VCT, STI, and other services



Valentine & Wright-De Aguero, 1996

Community-based Outreach: Evidence

- Decreased HIV risk behaviors
  - Frequency of self-reported drug use,
  - Injection and sharing needles and other injection equipment
- Increased protective behaviors
  - Needle disinfection
  - Condom use
  - Entry into drug treatment programs
- Decreased STI prevalence

Needle et al, 2005; WHO 2004; Medley et al. 2008

Sterile Syringe Access and Disposal (1)

- Delivered through drop-in centers, pharmacies, vending machines, and mobile centers
- Sterile equipment is either exchanged for free or bought
    - One-to-one exchange of 'dirty' needles/syringes
    - Secondary exchange where IDUs distribute clean needles to other IDUs
  - Distribution of bleach kits and other risk reduction supplies (i.e., condoms)
  - Skills building and reinforcement in disinfection techniques, risk reducing behaviors and disposal
  - Provide referrals to drug treatment, VCT, etc.
  - Provide hierarchal risk reduction messages

Sterile Syringe Access and Disposal (2)

Hierarchy of HIV Risk Reduction Messages

STOP USING DRUGS

STOP INJECTING DRUGS

DO NOT SHARE DRUG INJECTION EQUIPMENT

RE-USE ONLY HIS/HER OWN EQUIPMENT

CLEAN INJECTION EQUIPMENT THOROUGHLY

SAFELY DISPOSE OF INJECTION EQUIPMENT AFTER USE

Sterile Syringe Access and Disposal (3)

- Mechanism of change
  - Remove contaminated needles from circulation
  - Reduce circulation time of needles → reduced probability of infection
  - Provision of sterile needles in exchange for used ones → reduced sharing
  - Reduced sharing → reduced number of transmission events

Access to Sterile Syringes and Disposal: Evidence

- Strong evidence of reduction in HIV transmission
- No evidence of
  - Persons initiating drug use
  - More frequent injection among established users
  - Expanded networks of high-risk users
  - Increases in discarded syringes in the community

IOM, 2006; Wodak & Cooney, 2005

Condoms

- Condom interventions
  - Drug users engage in sexual activity at rates comparable to non-drug users.
  - Interventions need to:
    - Provide access to good-quality condoms and lubricants
    - Develop condom distribution outlets
    - Provide training on correct and consistent use of male and female condoms
    - Increase skills in condom negotiation

Des Jarlais et al, 2005; Semaan et al, 1998

Condoms and Sexual Risk: Evidence

- Interventions can have positive impact on sexual risk
  - Increased condom use but effect size is modest (Semann et al, 2002)
  - Drug-related outcomes (e.g., entry to treatment, frequency of injection) sustained; sexual risk outcomes decayed over time (Copenhaver et al, 2006)
- Need to more intensively target sex risk, provide booster sessions

Semaan et al, 2002; Copehnaver et al, 2006

STI Screening and Treatment

- Drug users and their partners are at risk for sexually transmitted HIV and other STIs
- Components of STI services include:
  - Screening and treatment for STIs
  - Provision of risk reduction counseling, supplies (condoms, etc), and negotiation skills and training
  - Education on identification of signs and symptoms of STIs
  - Emphasis on importance of treating sexual partners
  - Provide referrals to drug abuse and HIV care and treatment
  - Feasibility of Hepatitis B and C screening and treatment, and Hepatitis B vaccination?????

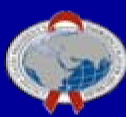
WHO, 2007

Voluntary HIV Counseling and Testing

- Coordinate and/or integrate with community-based outreach and drug treatment
- Use innovative models to reach IDUs (rapid testing, satellite, mobile clinics)
- Include risk reduction counseling to address drug and sexual risk behaviors
- Include referrals to other HIV prevention services, drug treatment and HIV care and treatment/social services
- VCT counselors should be trained to avoid stigmatization and discrimination of IDUs

Drug Treatment for IDUs

- Enables IDUs to reduce and stop drug use to minimize psychological, physical, social and behavioral harms
- Drug Abuse Treatment Modalities
  - Pharmacotherapy Programs (medication-assisted therapy - MAT): medically supervised prescription drugs (methadone, buprenorphine) are administered to mimic or block the effects of the drug (IOM, 2006)
  - Behavioral Interventions: include counseling, behavioral therapy, self-help programs, residential/therapeutic community programs; include activities to support lifestyle adjustments such as enhancing skills to reduce relapse (Farrell, 2005)
  - Abstinence-based Therapy: focus on underlying causes of drug use and risk behaviors in a drug-free environment; support development of skills to adapt to a drug-free lifestyle (WHO 2004)



Drug Treatment: Evidence (1)

- Decreases HIV risk behavior including:
  - Frequency of injection
  - Sharing of injection equipment
  - Number of sex partners
  - Number of partners in exchange of sex for money or drugs
- Improves HIV and TB treatment adherence

Farrell et al, 2005; WHO, 2005; Palepu et al, 2006, Sylvestre & Clements, 2007; Burman et al 1997

Drug Treatment: Evidence (2)

- Efficacy of methadone treatment closely tied to dosage: higher doses are more efficacious than moderate and lower doses (Faggiano et al, 2003; Strain et al, 1999)
- Continuous MAT is associated with longer treatment retention, reduction in opioid use and relapse to dependence (IOM, 2006)
- Some evidence (limited studies) that combined MAT and psychosocial counseling is more effective with respect to drug-related outcomes (IOM, 2006; CSIS, 2008)

HIV Care and Treatment

- Care and treatment for drug users includes addressing drug abuse, HIV/AIDS, and other underlying medical conditions.
- Care and treatment needs to be addressed systematically by:
  - Conducting an initial medical, psychosocial and drug use history
    - Psychosocial assessment is needed to evaluate any sources of instability that may affect adherence and MAT
  - Providing appropriate diagnosis of drug use disorder
  - Evaluating the HIV/AIDS situation -- physical examination, CD4 count, assessment for co-infections (e.g. hepatitis B and C, STIs) and screening for opportunistic infections (e.g. TB);
  - Providing a treatment plan for drug abuse, HIV/AIDS, and other underlying medical conditions

WHO, 2006

HIV Care & Treatment for IDUs: Evidence

- ART is as effective in drug users as in other populations
- Adherence to ART among drug users is possible and probable
- Adherence is facilitated by
  - Ease of access to care and treatment (e.g., extended hours, mobile clinics)
  - Co-location of MAT and sterile syringe access at treatment site

Lert & Kazatchkine, 2007; WHO, 2006)

Structural Interventions for IDUs

Structural Interventions for IDUs

- Structural interventions target the physical, political, and social environment such as
  - Social Norms
  - Material and human resources
  - Policies and legislation
- Structural interventions facilitate or constrain individual HIV prevention behavior

Kerrigan et al, 2006; Blankenship et al, 2000

Structural Interventions for IDUs

- Factors
  - Buy-in of local and national leadership
  - Coordination of health, law enforcement, and regulating officials
  - Criminalization, confinement, and registration of IDUs
  - Availability of drugs for MAT and of sterile syringes
  - Restrictions on eligibility

Conclusions

- Effective interventions exist to reduce drug and sexual risk behaviors
- Interventions should be targeted/adapted based on local drug-use patterns, context, policy environment, etc.
- Effective programs are a combination of risk reduction, condom promotion, access to sterile syringes and disposal, drug treatment and clinical and social services
- Interventions should incorporate input from IDUs
- Caution should be exercised to avoid further disenfranchisement, stigmatization, and criminalization of IDUs
- Measure the outcomes of your program!!

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