

ADAPTING YOUR PRACTICE

*Treatment & Recommendations
for the Care of Homeless Patients
with HIV/AIDS*

HIV/AIDS



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for Homeless Patients
with HIV/AIDS*

Health Care for the Homeless
Clinicians' Network
2008 *Second Edition*

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DISCLAIMER

The information and opinions expressed in this document are those of the Advisory Committee on Adapting Clinical Guidelines for Homeless Patients with HIV/AIDS, not necessarily the views of the U.S. Department of Health and Human Services, the Health Resources and Services Administration, or the National Health Care for the Homeless Council, Inc.

PREFACE TO THE SECOND EDITION

Clinicians with extensive experience caring for individuals who are homeless routinely adapt their medical practice to foster better outcomes for these patients. Standard clinical practice guidelines often fail to take into consideration the unique challenges faced by homeless patients that may limit their ability to adhere to a plan of care. Recognizing the gap between standard clinical guidelines and clinical practices used by health care providers experienced in the care of individuals who are homeless, the Health Care for the Homeless (HCH) Clinicians' Network has made the adaptation of clinical practice guidelines for homeless patients one of its top priorities.

In 2002–2003, 11 health and social service providers experienced in the care of homeless individuals with HIV/AIDS developed the original edition of these adapted clinical guidelines, drawing from their own experience and from that of 28 other practitioners working with HIV-infected homeless persons across the United States.¹ In 2008, an advisory committee, including some of the original authors, reviewed and revised these recommended clinical practice adaptations to assure their consistency with updated U.S. Public Health Service guidelines for the diagnosis and management of HIV/AIDS and with best practices in homeless health care.

The primary source documents for these adaptations are: the U.S. Department of Health and Human Service (DHHS) *Guidelines for the Use of Antiretroviral Agents in HIV-1- Infected Adults and Adolescents*, January 29, 2008, and the DHHS *Public Health Service Task Force Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission in the United States*, July 8, 2008 (<http://aidsinfo.nih.gov/guidelines/>). Recommendations found in these guidelines are not restated in this document except to clarify a particular adaptation.

We offer this second edition of *Adapting Your Practice: Treatment and Recommendations for Homeless Patients with HIV/AIDS* to promote continuing improvement in the quality of HIV care provided to individuals whose lack of financial and social resources complicate the treatment and self-management of their chronic disease.

Patricia A. Post, MPA
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HIV/AIDS Care for Homeless Patients: Summary of Recommended Practice Adaptations

MODEL OF CARE

Service Delivery Design

- **Flexible service system** – Allow walk-in appointments, provide outreach services; identify and resolve system barriers that impede access to care.
- **Integrated, interdisciplinary model of care** – Coordinate medical and psychosocial services across multiple disciplines and delivery systems, including provision of healthful food, clothing, hygiene items, housing, and transportation to service sites.
- **Access to mainstream health care system** – Network with community service providers to facilitate specialty referrals; assist with transportation; accompany patients to appointments.

Engagement

- **Outreach** – Use outreach workers, lay educators, and peer advocates to help locate hard-to-reach individuals and encourage them to obtain medical care. Offer diagnostic testing and treatment at outreach sites.
- **Clinical team** – Include professionals and paraprofessionals with strong engagement skills; listen to patients in nonjudgmental way; address psychosocial barriers to health as well as medical issues; employ intensive case management model.
- **Therapeutic relationship** – Build mutual trust with patient. Recognize that engagement of homeless patients often takes a long time. Promote provider retention and continuity of patient care.

DIAGNOSIS & EVALUATION

History

- **Review of systems** – Identify symptoms requiring immediate intervention; assess for chronic symptomatology.
- **Current living situation** – Ask where the patient sleeps and spends time during day; document patient contact information and specify how to contact clinical team. Ask about access to food, shelter, restrooms, place to store medications, options for stable housing.
- **History of homelessness** – Ask if this is first time without a home; determine whether lack of stable living situation is chronic or episodic. Explore circumstances that precipitated homelessness and available housing options acceptable to the patient.
- **Social history** – Ask about family, extended family, current social supports who might make decisions in the event of serious illness requiring hospitalization. Build trust before initiating discussions about advance directives, end-of-life care.
- **Regular activities** – Ask if the patient has a schedule or daily routine; assess whether a medical regimen can be integrated into regular activities. Explore ways to improve quality of life, motivation, and capacity for self-care.

- **Medical history** – Ask if ever hospitalized; if so, why. Ask if ever diagnosed with HIV; if so, when and how infected. Inquire about initial, lowest, most recent CD4 counts, last viral load, history of OIs. Ask if ever treated for HIV; if so, which medications were taken and for how long. Inquire about side effects, any medication changes/ discontinuations.
- **Previous providers** – Ask why the patient is changing services/ providers and what his/ her expectations are. Contact prior provider(s) to discuss transfer of care, specific issues.
- **Behavioral health history** – Ask if ever treated or hospitalized for a mental health or substance use problem, whether currently taking any medications. Evaluate mood, cognitive function, and general outlook. Ask about major stressors and coping mechanisms. Seek insight into the patient's emotional status and priorities.
- **History of abuse/ current risk** – Ask if ever physically hurt, afraid of being hurt, or forced to engage in sexual acts. Routinely assess for violence, abusive relationships, and patient safety.
- **Alcohol/ drug use** – Ask about current and previous use of alcohol and drugs, including nicotine and inhalants. Inquire about drug(s) of choice, frequency and pattern of use, IDU, injection practices, and access to clean needles. Ask how periods of sobriety were achieved.
- **Sexual history/ current practices** – Ask about specific sexual practices that may increase risk for HIV infection, and whether the patient has had sex with men and/or women. Ask about condom use and history of any sexually transmitted diseases.
- **Reproductive history** – Ask female patients about past/ current pregnancies, complications, whether any children were HIV-infected and if so, how treated.
- **Work history** – Ask what types of work the patient has done and longest time held a job. Ask about work-related illness, injuries, and toxic exposure (asbestos, silica, coal). Inquire about military service.
- **History of detention/ incarceration** – Ask if ever detained by police or incarcerated, about medical treatment during incarceration. Work with health care providers at local jails to promote continuity of care. Address risk of drug overdose after release with patients with history of detention/ incarceration who are using drugs (especially heroin).
- **Literacy** – Evaluate ability to read instructions in English or primary language in a non-threatening way.
- **Nutrition/ hydration** – Look for signs/ symptoms of malnutrition, dehydration. Ask about diet and eating habits; evaluate knowledge of proper diet, food resources, cooking skills, availability of cooking facilities. If the patient is not eating well, determine why. Inquire about access to water and other liquids.
- **Community** – Elicit information about cultural/ religious heritage and affiliations. Ask about attitudes of family, friends, community, cultural group toward HIV risk behaviors and persons who contract the virus.

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Physical examination

- **Comprehensive vs. serial, focused examinations** – Do focused physical exams in outreach settings; reserve comprehensive exams for clinic; defer genital exam until the patient feels comfortable.
Homeless women – Offer option of being examined by provider of same sex. Assess for cervical dysplasia, HPV, vaginal candidiasis, pregnancy, evidence of physical/ sexual abuse.
Sexual minorities – Provide appropriate exam/ screening for biological male taking estrogen, female taking testosterone, patient who has had sexual reassignment surgery or silicon or other implant. Listen nonjudgmentally to concerns; provide compassionate care.
- **Touch therapy** – Express empathy with appropriate physical contact (hand shake, shoulder touch); but recognize that some patients may find physical contact threatening (pay attention to nonverbal signals).
- **Signs & symptoms of HIV complications** – Realize higher risks associated with homelessness for TB, bartonellosis, weight loss, dehydration, and change in mental status due to comorbidities. Examine for oral candidiasis and voral leukoplakia (especially new patients with limited access to health care/ no history of HIV test).
- **Dermatological exam** – Look for skin growths, rashes, and fungal infections in mouth, groin, feet. Pay special attention to genital and rectal warts, skin problems associated with IDU, and foot care. Be aware of medications that precipitate sensitivity to sun exposure.
- **Neurological/ psychiatric evaluation** – Assess for mental illness including PTSD, substance abuse, and cognitive impairment; explore possibility of underlying psychiatric condition(s) in patients with substance dependence.
- **Dental/ retinal exams** – Include dentist and optometrist/ ophthalmologist on clinical team; use portable equipment in outreach sites.

Diagnostic tests

- **HIV testing/ screening** – Use rapid testing in outreach settings and for homeless/ runaway youth. Provide direct linkage to health care providers and assertive case management to assure access to HIV care. Offer testing to partners and children of HIV+ persons, if not already tested (provide incentives).
- **Pre-test counseling** – Give patient the option to decline HIV test; invite questions, offer information about what the test means.
- **Confirmatory test** – If initial screening test (oral mucosal, rapid test or standard blood test) is positive, do confirmatory test (Western blot/ immunofluorescence assay).
- **Post-test counseling** – Be sure the patient is engaged in care when a positive test result is communicated. Be personally available, listen, maintain contact. Use peer counselors (HIV-infected homeless/ formerly homeless individuals who have done well) to provide social support.
- **Laboratory tests – Baseline labs:** CBC, electrolytes, glucose, BUN, creatinine, liver function tests, lipid studies, urinalysis, toxoplasmosis gondii IgG antibody, RPR or VDRL, hepatitis A antibody total (Hep A, Total), hepatitis B surface antibody (HBsAb), hepatitis B surface antigen (HBsAg), and hepatitis C antibody (Hep C Ab). Pay more attention to liver function tests in homeless patients, whose risk for liver damage (secondary to hepatitis, alcoholic cirrhosis) is high. Regularly monitor liver function in patients on ART, hormones, HBV/ HCV treatment.
- **HIV Viral load** – Perform HIV viral load test (e.g., HIV-1 RNA quantitative assay or branched chain DNA assay (bDNA)) at baseline exam and every 3-4 months if the patient is stable on therapy. Also check HIV viral load when acute retroviral syndrome is suspected. Avoid HIV RNA assay following single positive rapid antibody test unless the patient reports prior positive HIV test.
- **HIV-1 Resistance testing** – Baseline genotypic resistance testing is recommended for all patients prior to initiation of ART and for treatment failure with HIV-1 RNA levels > 500-1000 copies/ml while taking failing regimen. Resistance testing is important even for treatment-naïve patients, 6-16% of whom have at least one major resistance mutation in their wildtype virus prior to starting ART.
- **HLA*B-5701 testing** – Test all patients for HLA*B-57 prior to initiating regimen containing abacavir (if assay available). Abacavir is contraindicated for any patient testing positive for HLA*B-57 (50% chance of severe hypersensitivity reaction).
- **Tuberculin test** – Test HIV+ patient for latent TB using TST/ PPD or blood assay test (QFT-g). Re-check homeless patients with negative result every 6 months; for those testing positive, do baseline chest X-ray and symptom screen every 6 months regardless of CD4 count. Collaborate with local health department for TB surveillance, screening and referrals to help decrease barriers to care. Provide written record of TB test results on wallet-sized card.
- **Hepatitis testing** – Test every HIV+ patient for HCV and screen annually. Test for immune response (anti-HBs) after HBV vaccination; consider double dose of vaccine if no immune titers; consider HBV DNA testing of patients with unexplained increased liver enzymes. Test for immunity (see Baseline labs) and vaccinate for hepatitis A accordingly.
- **Cancer/ STI screening** – Pap smear (for cancer, HPV) for all HIV+ women every 6 months until 2 normal PAPs, then once per year. GC/ chlamydia and RPR or VDRL testing at baseline, then annually. Consider anal Pap smear and tests for rectal *N. gonorrhoeae* and *C. trachomatis* infection at baseline and annually in MSM and any patient with history of anogenital condylomata.
- **Pregnancy test** – Offer UCG urine test to sexually active female patients of childbearing age.

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PLAN & MANAGEMENT

Plan of Care

- **Next steps** – Develop plan of care with the patient’s active involvement. Specify next steps to expect; reassure the patient they need not be done right away.
- **Interdisciplinary team** – Include addiction/ mental health counselors, medical care manager, and treatment advocate on the clinical team. Every member of the team should engage in care planning/ coordination and patient education.
- **Basic needs** – Develop strategies with the patient to meet basic needs (food, clothing, housing, mental health issues) as part of individualized plan of care.
- **Patient priorities & goals** – Assess the patient’s priorities in meeting immediate and long-term needs. Address immediate medical needs first (patient’s reason for the visit) rather than underlying causes.
- **Governmental assistance** – Assist with applications for programs that facilitate access to health and social services (Ryan White, HOPWA, SSI/ SSDI, Medicaid, Food Stamps).
- **Communication** – Do not criticize the patient; speak in a straightforward, nonjudgmental manner. Elicit feedback regarding the patient’s understanding of the plan of care. Use an interpreter or lay educator to facilitate communication and assure culturally competent care for patients with limited English proficiency.

Education, Self-Management

- **Basic education about HIV** – Teach HIV-infected patients how to know if they are sick, how to tell if illness is serious, how to care for self when sick, when to seek urgent/emergent care. Specify where to get medicine and where to go to recuperate when ill.
- **HIV transmission** – Review safer sexual practices; facilitate access to condoms. Teach IV drug users risk reduction strategies: self-administered injections, avoid sharing drug paraphernalia, use of needle exchange program. Stress antiretroviral prophylaxis to reduce perinatal transmission of infection. Help HIV-infected mothers who are homeless determine most appropriate infant feeding option, depending on individual circumstances (exclusively formula feed or breastfeed; don’t alternate between the two).
- **Prevention** – Discuss ways to reduce HIV risks for the patient and others. Promote behavioral change through individual, small group, and community interventions based on investigation of actual patient behaviors and structural barriers to desired change. Use motivational interviewing, risk reduction techniques, and social skills training. Reinforce information with interactive activities involving repetition, positive feedback, and acting out new skills.
- **Addiction management** – Realize that a history of drug abuse does not preclude successful treatment for HIV. Tailor HIV care to needs of the patient; look for evidence of a stable routine to evaluate readiness for ART. Use outreach and intensive case

management to facilitate engagement in care. For patients able to integrate medical regimen into daily routine, use peer educators and counselors to facilitate adherence. For those not ready for ART, promote harm reduction, treat comorbidities, and prescribe OI prophylaxis. Educate the patient about potential interactions between drugs of abuse and antiretroviral medications.

- **HIV therapy** – Assure HIV-infected homeless patients that they can manage treatment successfully. Explore their understanding of HIV therapy. Explain what CD4 counts and viral loads are and how these measurements are used.
- **Written instructions/ reminders** – Specify when to take medications each day; confirm understanding of medical regimen. If trouble reading, refer to member of clinical team who can spend more time explaining instructions; offer referral to literacy/ ESL program. Specify any dietary restrictions associated with medications. Ask shelter staff to remind the patient to take medications.
- **Drug resistance** – Explain risk of developing resistance to HIV medications if not taken consistently or appropriately, but stress importance of ART.
- **Treatment advocates** – Use social workers, nurses, or case managers as liaisons between the patient and providers to promote successful treatment adherence.
- **Directly observed therapy** – Use DOT for patients with co-occurring TB, substance use disorders, and/or mental illness; provide transportation assistance to bring them to the clinic once daily to take medications.
- **Side effects management** – Be candid about possible side effects of ART (e.g., diarrhea). Ask what side effects the patient has noticed; if no medical alternative with fewer/ less severe side effects is available, explore strategies to minimize/ accommodate them. Provide snacks.
- **Urgent medical problems** – Explain symptoms of hypersensitivity to all prescribed medications. Stress need for prompt evaluation of: fever, new rash, difficulty breathing, abdominal/ back pain, vomiting, headache, vision changes. Tell the patient to go to a drop-in clinic or ER if feeling ill.
- **Supportive relationships** – Encourage supportive relationship with a provider, social worker, or friend. Link the patient with a sponsor in a community-based program. Offer social support groups in addition to groups for therapy or counseling. Help patients adapt to living in transitional housing.
- **Nutrition counseling** – Educate the patient about nutrition, diet, dietary supplements. Include a nutritionist/ dietician on the clinical team. Prescribe multivitamins, nutritional supplements with less familiar brand names/ lower resale value to reduce risk of theft.
- **Medical home** – Explain what primary care is, how to use a regular source of care, and how a relationship with provider(s) can help the patient avoid becoming acutely ill.

HIV/AIDS Care for Homeless Patients: Summary of Recommended Practice Adaptations

- **Education of service providers** – Educate all service providers about HIV and the need for nonjudgmental, compassionate care. Explain to medical providers how treatment adherence and successful outcomes are possible even for homeless individuals with behavioral health problems. Educate primary care providers about management of chronic pain and addictions. Understand your own feelings about substance use, sex work, mental illness, homelessness; seek insight from more experienced providers.

Medications

- **Medical priorities** – Weigh benefits and risks of ART; if ART is not of clear benefit (i.e. if CD4 cell count >350 cells/ml). Address other medical priorities first: psychotropic therapy, management of substance abuse and uncontrolled chronic diseases such as hypertension, diabetes, seizures (which can interfere with HIV treatment).
- **OI Prophylaxis** – Explain importance of prophylaxis for opportunistic infections (OIs) at every visit if the patient is not initially interested in preventive treatment. Recognize that taking medications for OI prophylaxis regularly can be an indication of readiness for ART.
- **Immunizations** – Homeless patients should receive: influenza vaccine (annually), hepatitis A & B vaccine, Tdap (if no prior vaccination and 11-64 years of age; 1 booster dose if last immunization >10 years ago), and pneumococcal polysaccharide vaccine (PPV) every 5 years.
- **HIV treatment readiness** – Build therapeutic relationship and assure regular source of care before initiating ART. Encourage more frequent visits to prepare for treatment. Evaluate readiness for treatment and ability to adhere to plan of care: understand lifestyle, how basic needs are met; look for evidence of a daily routine. Address issues that may complicate adherence (e.g., mental illness, substance use). Involve the patient in making decision to begin ART.
- **“Practice” medications** – Consider use of placebos or vitamins as “practice medications” to demonstrate readiness/ lack of readiness for ART. (The patient must be aware that these tablets are not ART.) Not recommended for patients with CD4 <200 for whom ART is urgent.
- **Antiretroviral medications** – Be knowledgeable about HIV treatment alternatives. Individualize initiation of ART and continually reassess treatment adherence and effectiveness. Ensure access to medications that can be taken once or twice daily.
- **HIV specialist** – Partner with an HIV specialist through consultation or referral; if > 5 patients are HIV+, consider developing expertise in treatment of HIV/AIDS yourself. Optimally, HIV specialist should be part of the clinical team.
- **Simple regimen** – Prescribe the simplest, most effective ART regimen possible; once daily dosing is optimal, if clinically indicated. If prescribing TMP-SMX DS for PCP, one dose per day is preferable, but 3 times per week is acceptable. Don’t undertreat HIV or OI just because the patient is homeless.
- **Dietary restrictions** – Inquire about access to regular meals. If possible, prescribe medications without dietary restrictions.
- **Side effects** – Be more aggressive with homeless patients in treating side effects or changing medication, if an equally effective alternative is available.
- **Drug toxicities** – Be aware of serious toxicities associated with ART. Screen for HLA-B5701 before prescribing abacavir. Review symptoms of hypersensitivity with the patient.
- **Drug interactions/ contraindications** – Monitor all patients on ART for development of glucose intolerance, diabetes, lipid abnormalities, lipodystrophy.
Methadone – Be aware that NNRTIs and certain protease inhibitors can reduce methadone efficacy by as much as 50%. If protease inhibitor is indicated, use ritonavir boosting or work directly with methadone maintenance treatment program to adjust dosage upward. Recognize that successful adherence to methadone therapy for persons addicted to heroin can increase adherence to ART.
Other analgesics – Be aware that some HIV medications can decrease/ increase efficacy of pain medications, including narcotics. Work with the patient to understand underlying cause of pain; prescribe appropriate pain medication and document why you prescribed it. To avoid contributing to drug-seeking behavior, make a contract with the patient specifying the plan of care and designating a single provider for pain prescription refills.
- **HIV treatment & substance use** – Prescribe medications compatible with substances used. If ART is desired and there is evidence the patient can adhere to the medical regimen despite substance use, suggest taking HIV medications before using other drugs.
- **Drug resistance** – Use genotype or phenotype testing to inform choice of therapy. Individualize therapy; balance possible side effects with simplicity and low resistance barrier with tolerability. Select initial treatment regimen to which the patient can adhere, preferring medications with a low pill burden where possible.
- **Adherence monitoring** – At every visit, ask how many doses of each medication were missed over the last week/ month. Explore and address barriers to adherence. Problem solve with the patient; if forgetting doses is a problem, use pill boxes/ watch alarms/ other methods to help patient remember medications. Address adherence routinely so problems are identified before the patient develops resistance and fails regimen. (N.B.: CD4 decrease or viral load rebound is sign of treatment failure, very late stage marker of adherence.)
- **Medication storage** – Allow homeless patients to store medications at clinic and come there daily for treatment. If the patient does not have access to refrigeration, avoid prescribing medications that require it (e.g., ritonavir). Urge shelter staff to make stored medications easily available to residents.
- **Access to medications** – Assure continuous access to medications before initiating treatment. Provide transportation to pick up medications or arrange for delivery to a reliable location acceptable to the patient.

HIV/AIDS Care for Homeless Patients: Summary of Recommended Practice Adaptations

Associated problems, complications

- **Medication side effects** – Recognize that medications which interfere with survival on the streets by making people feel sicker or more fatigued will not be acceptable to homeless patients. Be more aggressive in treating side effects or changing medication for homeless patients if an equally effective alternative is available.
- **Severe drug toxicities** – Be aware of life-threatening complications of ART and how to manage adverse effects (e.g., medication hypersensitivity reaction, hepatic necrosis, Stevens Johnson Syndrome, pancreatitis, lactic acidosis).
- **More acute illness** – Homeless people with HIV/AIDS often present with more advanced disease, exacerbated by OIs and other comorbidities. Provide/ refer to medical respite facility where homeless patients can convalesce following hospitalization or when ill, or receive end-of-life care.
- **Co-occurring mental illness & substance dependence** – Treat co-occurring disorders simultaneously within the same program. Involve a psychiatrist knowledgeable about cumulative side effects of polypharmacy who is interested in assessment and management of HIV-infected homeless patients with behavioral health disorders.
- **Cognitive impairment** – If the patient has difficulty remembering appointments, don't assume nonadherence; assess cognition. Explore etiology of cognitive problems (e.g., mental illness, chronic substance abuse, AIDS-related dementia, OIs); seek accurate diagnosis with specialty consult if necessary.
- **Hepatitis** – Treat HCV/ HBV in patients with co-occurring HIV. Consult a specialist. Be aware of association between antiretroviral drugs and hepatotoxicity; carefully monitor liver enzymes during ART. Seek psychiatric consult prior to initiating HCV therapy. For co-occurring alcoholism, use behavioral contract or other strategies concurrently with HCV treatment to promote sobriety and reduce risk of liver damage. When initiating ART in patient with HIV/ HBV coinfection, consider including lamivudine and tenofovir as part of a fully suppressive antiretroviral regimen. Immunize against HBV (especially IDUs). Immunize seronegative patients against HAV. For better treatment outcomes, facilitate access to supportive housing and behavioral health care.
- **Tuberculosis** – Do more frequent TB screening of HIV-infected homeless persons. If tuberculin test is positive, initiate isoniazid prophylaxis. Use directly observed TB/ HIV therapy to promote treatment adherence and reduce risk of drug resistant organisms.
- **Abuse** – Work with all service providers in clinics and shelters to protect homeless patients from physical assault and verbal abuse.
- **Pregnancy** – Ensure access to contraception to prevent unwanted pregnancies: medroxyprogesterone acetate q3 mo/ patch/ pill as well as male condoms or alternative barrier methods (female condom, diaphragm if desired). Develop good consulting relationships with obstetricians to help pregnant homeless patients with HIV. Facilitate Medicaid enrollment of infants born to HIV-infected mothers to expedite zidovudine therapy postnatally.
- **Lack of transportation** – Provide transportation assistance/ carfare to facilitate appropriate follow-up care.
- **Lack of stable housing** – Strongly advocate for low-barrier subsidized housing in your community for people living on the streets or in shelters, with no pre-requisite to achieve sobriety or attain a level of stability before housing is offered.
- **Financial barriers to HIV care** – Facilitate applications for SSI/ Medicaid or SSDI/ Medicare. Seed Ryan White services for patients with no/ limited health insurance coverage. Keep detailed records of functional impairments; secure representative to help patients apply for SSI/SSDI; develop working relationship with Disability Determination Services; ensure that consultative examinations are conducted by physicians with significant experience treating homeless patients. Advocate for all patients to obtain needed health care, regardless of insurance status.
- **Stigmatization** – Provide nonjudgmental, compassionate care and offer social support to homeless individuals, especially those with HIV/AIDS. Educate shelter staff about HIV/AIDS.
- **Incarceration** – Develop collaborative relationships with correctional facilities to assure appropriate discharge planning and continuity of care following release.
- **Special populations:**
 - **Homeless women** – Offer social support and counseling to HIV-infected homeless women, many of whom have a history of abuse, can be harder to reach than men, and may require more intensive services.
 - **Homeless youth** – When discussing behavioral change with runaway/ homeless youth, focus on immediate concerns rather than possible future consequences.
 - **Sexual minorities** – Create a safe and nondiscriminatory clinical environment for HIV-infected GLBT patients; build trust and rapport; facilitate access to comprehensive health care and housing. Educate patients using injected hormones about clean needle exchange.
 - **Immigrants** – Assure access to health care for individuals with infectious diseases, regardless of immigration status. Provide linguistically appropriate and culturally competent health services.

HIV/AIDS Care for Homeless Patients: Summary of Recommended Practice Adaptations

Follow-up

- **Contact information** – At every visit, seek contact information (telephone/ cell phone numbers, mailing/ email addresses) for the patient, a family member/ friend with a stable address, shelter where the patient is currently staying, or other location where s/he might be found.
- **More frequent follow-up** – Try to see homeless patients every 1-2 weeks, especially early in the course of treatment. Reinforce the patient's understanding of the plan of care repeatedly. Be mindful that relationship-building is as important as primary care interventions.
- **Drop-in system** – Encourage routine follow-up for established patients supplemented by an open-door policy for drop-ins (more effective than appointments for people whose lives are chaotic).
- **Help with appointments** – Help patients make and keep clinical appointments and routinely remind them of appointments. Find out what their regular commitments are and at what time of day they can come to the clinic.
- **Incentives** – Provide a client advocate to accompany the patient to appointments for MRI, colposcopy, or ambulatory surgery. Provide incentives for every kept appointment or group meeting attended (e.g., carfare plus meal voucher).
- **Transportation** – Provide transportation to and from specialty referrals. Arrange to pick up new patients and those unable to come to the primary care clinic on their own.
- **Outreach & intensive case management** – Provide medical outreach to unstably housed HIV-infected individuals on the streets, in shelters, drop-in centers or transitional/ long-term housing for homeless people living with AIDS. Visit inpatients daily to reinforce engagement, facilitate discharge planning, and promote better follow-up care.
- **Peer support** – Offer group activities to create positive peer support for patients having difficulty with ART. Create opportunities for group leisure or quality of life activities to develop or deepen support networks and promote a sense of self-worth.

INTRODUCTION

The prevalence of HIV/AIDS in the United States is 3 to 9 times higher among people who are homeless or marginally housed than among those with stable housing (Kidder, 2007; Aidala, 2006; Culhane, 2001). Prevalence rates of the human immunodeficiency virus (HIV) infection that causes AIDS have been found to be at least three times higher in surveyed homeless populations (3%–10% of random samples), compared to the general population (0.47% in 2008) (CDC, 2008; Robertson, 2004; Allen, 1994; Culhane, 2001; Lopez-Zetina, 2001; Zolopa, 1992). Higher prevalence rates (6%–62%) have been reported in various homeless subpopulations, including adults with severe mental illness (Robertson, 2004; D'Amore J, 2001; Lopez-Zetina, 2001; Paris, 1996; Fournier, 1996; Susser, 1993; Zolopa, 1991; Torres, 1990). Estimates of HIV prevalence among homeless people vary, depending on the geographic area, sampling frame, and sampling strategy (Robertson, 2004).

Homelessness and HIV/AIDS are widespread and intersecting problems that occur in both urban and rural populations throughout the United States. Although the prevalence of HIV is likely to be highest in large metropolitan areas, there is evidence that the AIDS case rate is increasing more in non-metropolitan areas. Even among persons known to be at highest risk for HIV infection—including individuals who engage in intravenous drug use without sterile syringes and/or unprotected sex with infected partners—those without stable housing are more likely to be HIV-positive, wherever they may live. Lack of stable housing is associated with higher rates of alcohol/ other drug use and sexual behaviors which contribute to increased risk for contracting and spreading HIV infection. (Kidder, 2007; Henny, 2007; Forney, 2007; Aidala, 2006; Waldrop-Valverde, 2005; UCSF, 2005; Robertson, 2004; Lopez-Zetina, 2001; Song, 1999)

Homeless persons who are ill face several logistical problems. Shelters commonly require overnight residents to leave early each morning, with the doors opening again in the late afternoon. Waits in long queues are required to enter the shelter, obtain a bed ticket, and secure a meal. Tuberculosis, hepatitis, and other communicable diseases are common in the crowded, poorly ventilated, dormitory-style shelters often found in larger cities. While they wander in search of refuge during the days, homeless people are exposed to the extremes of weather and temperature. Fatigue and weakness are common constitutional symptoms that are magnified during the struggle to survive on the streets, especially for those who must carry all their worldly possessions during the daily journey. Inanition and malnutrition render homeless persons with AIDS prey to all manner of violence, especially on the first and third days of the month, when entitlement and Social Security checks arrive. (O'Connell and Lebow, 1992)

Despite their disproportionately high risk for HIV infection and transmission, homeless people have limited access to medical and social services, which delays the identification of HIV and comorbidities, impedes the resolution of behavioral disorders that interfere with HIV risk reduction and treatment, and accelerates the onset of AIDS. Many homeless people living with HIV/AIDS do not receive the quality of care that is optimal for managing this chronic disease. Restricted health care access is a contributing factor in the higher prevalence of opportunistic infections and other medical conditions, including tuberculosis, among HIV-infected people who are homeless. (Kidder, 2007; Barker, 2006; Song, 1999) Hepatitis C (HCV) coinfection is a major contributor to morbidity and mortality among people living with HIV/AIDS

in the United States (DHHS, Apr 2008; Tsui, 2007; Backus, 2005; Goulet, 2005; Thompson, 2005). Morbidity and mortality risks for homeless people with HIV are amplified by their limited access to HCV diagnostic testing and treatment.

Adherence to complex HIV treatment regimens presents special challenges for poor and homeless patients and their caregivers (Kidder, 2007; Bangsburg, 2000; Bamberger, 2000; O'Connell & Lebow, 1992). Many homeless people lack regular access to food, water, and other resources needed to facilitate adherence. Mental illness and substance abuse/dependence present special challenges to developing and adhering to a plan of care. Although newer antiretroviral medications afford less complex treatment regimens, side effects remain significant barriers to adherence. Antiretroviral medications frequently have debilitating side effects, such as recurrent and often explosive diarrhea, yet public bathrooms accessible to homeless people are scarce. Some medications require refrigeration, which is unavailable to most homeless individuals. Many of these drugs have a high value on the black market in some areas, and are frequently stolen or sold. All of these factors contribute to lower medical adherence rates among homeless than housed persons living with HIV/AIDS.

Nevertheless, there is promising evidence that treatment adherence and health status can be improved and transmission of HIV infection and mortality reduced through access to stable housing and appropriate health and social services including outreach and intensive case management (Kidder, 2007; Tomasello, 2006; Aidala, 2006; Kushel, 2006; Cunningham, 2005; Moss, 2004; Mitty, 2003; Lewis, 2000). While it is important to prescribe HIV therapy for homeless patients desiring treatment who have demonstrated regularity in their daily routines, it is just as important to assure the most effective alternative care (i.e., prophylaxis and treatment of comorbidities) for all HIV-infected patients, including those with more chaotic lives, for whom antiretroviral treatment is not yet appropriate. Social support is an essential component of HIV care for all patients who are homeless, many of whom lack family or friends to help them cope with the added stress of serious illness.

Clinical practice guidelines for people with HIV/AIDS who are homeless are fundamentally the same as for those who are stably housed. Nevertheless, primary care providers who routinely serve homeless patients recognize an increased need to take their living situations and co-occurring disorders into consideration when working with their patients to develop a plan of care. The recommendations in this guide were developed to assist clinicians who provide HIV care for homeless adults and adolescents. It is our expectation that these simple adaptations of established clinical guidelines will maximize opportunities for these individuals to receive the optimum standard of care.

CASE STUDY: HOMELESS MAN WITH HIV

E.W. is a 50-year-old African American man who had been living on the streets of Boston, occasionally sleeping at a night drop-in center where a nurse practitioner (NP) from the Health Care for the Homeless program began to interact with him. Shy, reticent, and withdrawn, he gradually became more comfortable with the NP and complained of pain in his teeth when eating. He agreed to see the dentist at the HCH clinic, who noted oral thrush in addition to marked periodontal disease.

Over the next several months, the NP convinced this gentleman to come to the primary care clinic for HIV testing. When he was found to be HIV positive with a low CD4 count, he was admitted to the medical respite facility. The staff there worked with his primary care clinician to initiate HIV medications.

His response was excellent. He is now housed, volunteers at local AIDS agencies, and continues to have an undetectable viral load.

Carole Hohl PA, Denise Petrella NP & James O'Connell, MD, Boston, Massachusetts

HIV/AIDS

Homeless Adults & Adolescents

Model of Care

SERVICE DELIVERY DESIGN

- **Flexible service system** Access to care for initial evaluation or ongoing treatment depends on the existence of a flexible service system that homeless individuals can use on a walk-in basis or through outreach workers. “One-size-fits-all” systems of care are inadequate to meet the complex needs of homeless people. *Help to identify and resolve system barriers that impede access to care, recognizing that some barriers are not within the patient’s capacity to control.* Don’t focus on what the *patient* is not doing (e.g., on “noncompliance” with a plan of care); instead, focus on what *service providers* can offer to enable homeless patients to obtain effective treatment, such as assuring service flexibility and providing appropriate medical and psychosocial assistance to anyone who walks into the clinic. Be creative; enlist the patient’s assistance; and with his or her permission, utilize everyone in the community with whom he or she has contact to facilitate delivery of care.
- **Integrated, interdisciplinary model of care** Successful initiation and maintenance of HIV therapy requires a holistic approach to care provided by an interdisciplinary clinical team, including social workers/case managers, medical providers, mental health professionals, peer advocates, and substance abuse counselors who share care planning and coordination. The patient is an essential member of this team. Optimally, medical and psychosocial services should be easily accessible at the same location; fragmented service systems do not work for homeless people. Those with multiple and complex health problems need integrated services that are accessible from multiple points of service, outreach and engagement, and stabilization in short- and long-term housing. *Coordinate medical and psychosocial services across multiple disciplines and delivery systems, including the provision of food, clothing, hygiene items, housing, and transportation to service sites.*
- **Access to mainstream health care system** Ensure that all people with HIV infection have access to the mainstream health care system. HIV care involves multiple medical specialties, including infectious diseases, cardiology, hematology, nephrology, obstetrics/gynecology, psychiatry, neurology, dermatology, and pulmonary medicine. Full collaboration between primary care providers and specialists is the only effective treatment and management strategy. *Network with community service providers who are sensitive to the needs of homeless patients to facilitate specialty referrals; assist with transportation and accompany patients to appointments.* Problems that distinguish homeless HIV patients from others are primarily system and provider access problems, rather than client problems or differences in intent or desire to adhere to a plan of care. Treatment readiness is a function of the degree to which the mainstream health care system is accessible and welcoming to these patients.

ENGAGEMENT

- **Outreach** Use outreach workers, lay educators (*promotoras*), and peer advocates to locate hard-to-reach individuals and encourage them to obtain medical care. View each patient contact as an opportunity for medical and psychosocial evaluation. Offer diagnostic testing and treatment at outreach sites whenever possible. Remember that unmet basic needs may prevent a person from seeking health care. Promote engagement by including nutritious snacks and personal care items as part of outreach. Offer to bring patients to the grocery store or food bank, and use this as an opportunity to learn about their needs and do a psychosocial history. Homeless HIV-positive youth may be especially reluctant to seek care; use a “roving case manager” to help them connect with available health and social services. Work with religious leaders and faith communities (“health ministries”) to encourage their participation in outreach activities.

Maintain a consistent presence in places where homeless people congregate and become a trustworthy member of their community; fulfill any agreements negotiated with homeless persons. Be mindful that when you approach a homeless person you are essentially entering his/her home. Find creative ways to seek permission to enter that home and respect the person’s right to decline your request. Many patients are “referred” to outreach workers by another patient who has found the outreach worker to be respectful, reliable, and trustworthy.

- **Clinical team** *Nonjudgmental and supportive patient interactions with all members of the clinical team are essential to successful engagement.* The team should include professionals and paraprofessionals with strong engagement skills who make themselves available to listen to patients and help them address obstacles to care. This is especially important for homeless people who experience extreme social isolation and may have no one else to listen to their concerns. A team member with strong engagement skills should see the patient first. Often that team member will need to “lend” his or her relationship with the patient to other team members via joint visits. *Specifically address psychosocial barriers to health as well as medical issues, employing an intensive case management model.*
- **Therapeutic relationship** Successful HIV care requires effective engagement skills to meet medical as well as psychosocial needs. Engagement involves building mutual trust with people who are alienated from traditional health care systems. Recognize that *caring for homeless patients is as much about building relationships as about clinical expertise.* Spend time getting to know your patients; listen to their concerns and engage with their interests. Both the quality and frequency of encounters are important in building a therapeutic relationship with homeless people. Realize that *seeing the same provider over time facilitates engagement.*

Be aware that *engagement of homeless patients often takes a long time.* Small, brief conversations may be all a person can tolerate at first, but the length of an encounter will grow as the patient’s comfort level increases. Often clinicians presume that a person isn’t interested after they fail to get very far in one or two contacts. Be patient and persistent; listen well. Measure success in very small increments. For weeks a patient may only accept a sandwich from the provider; one day s/he may allow a blood pressure check while getting a sandwich. This is success.

Take good care of professional staff to promote provider retention and continuity of patient care. It is stressful for dedicated providers when they feel an urgency to address a patient's medical needs but are unable to do so because the therapeutic relationship has not matured sufficiently from the patient's perspective. Provide consistent and meaningful supervision and ongoing training for new *and* seasoned providers. Encourage debriefing and other wellness activities. Develop creative ways to recognize and celebrate small successes along the way. Well tended staff will stay with your program and will have the inner resources to engage the most difficult of patients.

CASE STUDY: HOMELESS ADOLESCENT WITH HIV

When E. presented to our program, she was a 16-year old Puerto Rican female with a history of running away from home and sexual activity since around age 11. E. had been tested for HIV in a Staten Island clinic because she thought she was pregnant (she was not). Although newly diagnosed with HIV, her CD4 count was 132 and her viral load was over 100,000. She denied sexual abuse. Her father subsequently died from advanced HIV. Her mother has tested negative for HIV. E. was in touch with her family, but was a most elusive young woman who lived transiently with various boyfriends, her father, her mother, and on the street. She was the tenth of 11 children and had an open ACS (Child Protective Services) case.

Although there were clear medical indications for ART, because of E.'s elusiveness and transience, we decided not to prescribe antiretroviral medications at that time. She understood the need for medications, but was unable to maintain consistency with anything in her life. She could not even safely adhere to PCP prophylaxis. Our goal was to engage her in our program and provide her with a place to go that was safe and supportive. My goal as her primary care provider was to keep her out of the emergency care system by teaching her to identify symptoms of illness and access medical care early in the course of illness rather than waiting until her health condition had deteriorated.

Initially, E. required our assistance in applying for health insurance. This was difficult because she was an unsupervised minor with no income or stable residence. We also worked on disclosure of her illness to her family and attempted to engage E.'s mother in her daughter's care. We accomplished this in collaboration with her ACS workers. E. was eventually able to obtain housing through the Division of AIDS Services, but not until after her 18th birthday. She was unable to keep this housing, however, because of her violent relationship with a male partner and her inability to pay bills and maintain herself independently in the community.

Through extensive outreach, we maintained contact with E. over several years. At age 20, she became pregnant. She now lives in a rooming house above one of her sisters. She started ART during her pregnancy and claims to be adhering to the treatment regimen. Her viral load was undetectable for a period, but then rebounded. It is unclear whether E. takes her medications consistently or not. Her baby, born by C-section, is HIV negative. E. has learned to come to clinic appointments on time and is able to identify symptoms of her illness. She calls me frequently and seems to be taking adequate care of her baby. This patient is one of many transient, runaway teens we have seen in our clinic with HIV infection possibly secondary to early sexual abuse, low CD4 counts, and high risk for perinatal transmission.

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Diagnosis and Evaluation

HISTORY

- **Review of systems** *Identify symptoms that suggest the presence of opportunistic infections requiring immediate intervention. Assess for chronic symptomatology (diarrhea, weight loss, increasing fatigue, fevers/night sweats, etc.); ask if a work-up has ever been done to determine what is causing reported symptoms.*
- **Current living situation** *Lack of stable housing complicates health care and adherence to HIV treatment. At every visit, document the patient's housing status, living conditions, and contact information. Assess residential stability by inquiring, "What is your current living situation? How long you think you can stay where you are staying?" If living on the streets, ask for how long. "Where did you stay last night and where do you think you will stay tonight?" "Do you have access to shelters?" "What is your experience with shelters?" (Some patients feel safer camping outside than staying in crowded shelters; others don't want to separate from partners, as most shelters require.) Ask where the patient spends time during the day and how s/he can be contacted. Inform him/her how to contact the clinical team. Ask explicitly how basic needs are met (food, shelter, restrooms) and where medications can be stored.*
- **History of homelessness** *If staying in a shelter, a vehicle, on the street or in any other unstable living situation, ask if this is the first time the patient has been without a home. Recognize that living with a series of friends or family members ("couch surfing") or in overcrowded situations with multiple families may also indicate residential instability, which is fundamental to homelessness.² If there were previous episodes of homelessness, try to determine whether lack of a stable living situation is chronic or episodic. (Individuals who have been homeless for a long time tend to have established routines in seeking to meet basic needs, whereas those who are recently homeless may present as less organized and may not be aware of available resources.) Assess the patient's resourcefulness by asking what changes enabled him/her to obtain housing or shelter. If currently homeless, try to understand the circumstances that precipitated homelessness (e.g., unemployment, bad luck, poverty, abuse, alcohol or drug problems, mental illness) and inquire about options for stable housing that might be acceptable to the patient.*
- **Social history** *Lack of social supports, stable housing, and other unmet basic needs can present serious impediments to maintaining reliable communications with caregivers. Obtain a detailed social history; ask about the patient's family, extended family, and current social supports (living parents and siblings, marital history or partners, ongoing relationships) to determine the patient's degree of isolation. Many homeless persons with HIV aren't in touch with family members or friends. Ask who might make*

² "A homeless person is an individual without stable or permanent housing, who may live on the streets or stay in a shelter, mission, single-room occupancy facility, abandoned building, vehicle, or 'doubled up' with a series of friends and extended family members. Individuals who are to be released from a prison or hospital may be considered homeless if they do not have a stable housing situation to which they can return. Recognition of the instability of an individual's living arrangement is critical to the definition of homelessness." (Principles of Practice: A Clinical Resource Guide for Health Care for the Homeless Programs, Bureau of Primary Health Care, HRSA, DHHS, March 1999; PAL 99-12)

decisions in the event of serious illness requiring hospitalization. When trust is established, begin to lay the groundwork for a discussion of advance directives and end-of-life care.

- **Regular activities** Awareness of how the patient spends time each day will help service providers identify and address potential barriers to care. *Ask if the patient has any sort of schedule or daily routine. (“How many times do you eat each day? How many meals did you eat yesterday? Do you get up at a certain time? Go to the same places or engage in particular activities every day?”)* Explore evidence of consistency in the patient’s life to assess whether a medical regimen can be integrated into his/her regular schedule of activities. Ask what activities the patient most enjoys and which of these activities are possible under current circumstances. Improving quality of life can help to increase motivation and capacity for self-care. Many homeless people spend much of their time in lines for food, shelters, or appointments.
- **Medical history** *Ask if the patient has ever been hospitalized and if so, why.* Request medical records from hospitals and other clinicians to gather information about prior diagnoses and treatments. Obtaining complete medical records may be difficult for migrant and highly mobile patients. *If a diagnosis of HIV infection has already been made, ask when the initial diagnosis was made and how s/he became infected.* Knowing the likely route of infection may facilitate harm reduction. *Inquire about the patient’s initial, lowest, and most recent CD4 counts, last viral load, and history of opportunistic infections (OIs).* *Ask if s/he has ever taken medications for HIV, which ones, and for how long. Ask if the patient is currently receiving antiretroviral therapy and/or OI prophylaxis; inquire about side effects and reasons for any changes in medication or discontinuations.* If medical records and patient recollection are insufficient to identify specific medications taken, ask if the patient can show you old prescriptions or medicine bottles. If the patient has been off medications for a while due to interruption of previous health services, try to contact the pharmacy that last supplied medications. *Ask if the patient had a positive tuberculin test, received treatment for latent or active tuberculosis, when and where.* Contact the treating facility to confirm that treatment was completed. *Ask about a history of/exposure to hepatitis and sexually transmitted diseases (syphilis, GC/chlamydia, herpes).* Ask about vaccinations, including the hepatitis A and B series, pneumonia and tetanus. Ask female patients *when the last Pap smear was performed* and obtain a history of any previous Pap smear results as well as treatment.
- **Previous providers** Homeless patients may see a series of providers in different programs. *Ask why the patient is changing services and/or providers and what his/her expectations are. Contact the prior medical provider to discuss the transfer of care and specific issues, and to avoid duplication of services.*
- **Behavioral health history** *Ask whether the patient has ever been treated or hospitalized for a mental health or substance use problem and whether s/he is currently taking psychotropic medications.* Assess for depression and bipolar disorder; *evaluate mood, cognitive function, and general outlook.* Ask about major stressors and coping mechanisms. If a resource is available, ask if s/he is interested in psychotherapy. Encouraging a person to talk about his or her life may provide insight into emotional status and priorities, allowing the clinician to understand the patient better.

- **History of abuse/ current risk** Many homeless people have experienced physical and/or sexual abuse (Henny, 2007). Some have been “self-medicating” with alcohol or drugs for most of their lives to alleviate the residual effects of trauma (post-traumatic stress disorder). These activities may increase their risk for HIV infection. Assess for a history of emotional, physical or sexual abuse and exploitation; *ask all patients if they have ever been physically hurt, afraid of being hurt, or forced to engage in sexual acts*. Sexual victimization is not limited to women, although high percentages of poor and homeless women have been victims of physical or sexual abuse (Lee & Schreck, 2005; Wenzel, Leake & Gelberg, 2001; Browne & Bassuk, 1997). *Routinely assess for violence, abusive relationships, and patient safety* (whether knowledge of HIV infection may precipitate abuse against the patient or a partner).
- **Alcohol/ drug use** *Ask about current and previous use of alcohol and drugs, including nicotine*. Inquire about *drug(s) of choice, including inhalants*, recognizing that many users have tried several psychoactive substances. Ask about *frequency and pattern of use*. (Some patients tend to engage in binge drinking or drug use while others are daily users.) If engaging in intravenous/injection drug use (IDU), ask about *injection practices and access to clean needles*. Ask whether the patient has ever experienced blackouts or had seizures. Asking questions in a natural, nonjudgmental manner establishes rapport and makes it easier for patients to talk about substance use – e.g., “When was the last time you used/got high? On what? How do you get high (injected, smoked or snorted)? Have you ever been in a drug treatment or smoking cessation program? If so, what was the outcome? What is the longest period you have been clean and sober?” *Ask how periods of sobriety were achieved*, and use this information to help guide subsequent interventions and treatment planning.
- **Sexual history/ current practices** *Ask about specific sexual practices that may place the patient or sex partner(s) at risk for HIV infection. Ask whether the patient has sex with men, women or both*. Ask the same questions of both males and females in a nonjudgmental way. Recognize that some sexual activities are not regarded by all persons as “sex.” Ask whether the patient has been forced to have sex. Ask whether he or she is currently using contraception. *Ask about condom use* (other forms of contraception do not confer protection against HIV transmission). *Inquire about sex work* and how the individual negotiates condom use.
- **Reproductive history** Ask female patients about past and/or current pregnancies (number of pregnancies, live births and stillbirths) and any complications, such as preterm birth or eclampsia. *Ask HIV-infected women if any of their children were HIV-infected, whether they received drugs during pregnancy to prevent perinatal transmission of HIV (antiretroviral prophylaxis), and if so, which ones*. Ask about birth control practices and desire for family planning.
- **Work history** Ask what *types of work the patient has done* and the *longest time s/he held a job*, to identify abilities and interests, assess stability, and determine risk for comorbidities associated with *toxic exposure* (e.g., to asbestos, silica, coal). Inquire about *work-related illness or injuries* and *military service*.

- **History of detention/incarceration** *Ask whether the patient has been detained by police or incarcerated, and if so, whether s/he ever received medical treatment while incarcerated.* Housing options may be closed to previously incarcerated people. A history of incarceration is associated with increased risk for HIV and hepatitis (Weinbaum, 2005). Admission to/discharge from criminal justice facilities may interrupt continuity of care, access to medications, and treatment adherence. In many communities, when homeless persons are arrested, even for a public nuisance offense such as loitering or public urination, any medications they have with them may be confiscated and not returned. *Establish a working relationship with health care providers at local jails to promote continuity of care. Address the risk of drug overdose after release with patients using drugs (especially heroin) who have a history of detention or incarceration.*

- **Literacy** A number of homeless people have trouble reading. They may be illiterate or have a low literacy level in their primary language and/or in English, if it is not their native tongue. (A patient may speak but not read English while being literate in Spanish, for example.) Assuming erroneously that the patient can read directions on medicine bottles or an appointment card can lead to serious complications and loss to follow-up. Patients who cannot read may not volunteer this information out of embarrassment or shame. *Use the intake form as a non-threatening way to evaluate the patient's ability to read instructions in English or their primary language. Ask, "Do you want help filling this out?" "Are you comfortable reading?" or "Do you have trouble reading?" This allows patients to save face, since "trouble reading" can indicate either vision or literacy problems.*

- **Nutrition/ hydration** Poor nutrition and inadequate hydration are endemic among indigent and homeless people. Even those who are overweight are at high risk for malnourishment because of diets high in fat, salt and carbohydrates and low in vitamins and minerals. All patients should have an initial nutritional assessment. Special attention to nutritional status and intake is especially important for pregnant patients. *Look for signs and symptoms of malnutrition and dehydration. Ask about diet and eating habits. Evaluate the patient's knowledge of proper diet and food resources (pantries, soup kitchens, delivered meals, and nutritional supplements including vitamins), as well as cooking skills and availability of cooking facilities. If the patient is not eating well, determine the reasons why—e.g., limited access to nourishing food, poor dentition, use of financial resources to purchase illicit drugs/ prescribed medications or shelter instead of food. Inquire about access to water and other liquids, especially in summer months; adequate hydration is necessary to avoid some medication side effects.*

- **Community** *Elicit information about the patient's cultural heritage and religious or spiritual history and affiliation.* This information can help the clinical team develop an approach to care that is responsive to the patient's belief and value system. Some patients who are difficult to follow can be contacted through faith communities. *Ask about attitudes of the patient's family, friends, community, and cultural group toward HIV risk behaviors and persons who contract the virus.* Stigmatization of HIV-positive persons is more severe in some cultures than others. For example, in some communities it is more shameful for Latino males than for other homeless men to admit certain behaviors that increase their risk for HIV. Consequently, they may not seek screening as readily as other clients.

PHYSICAL EXAMINATION

- Comprehensive versus focused examination(s)** Patients with a history of sexual abuse or negative experiences with the medical system may take more time to engage in a therapeutic relationship. *For such patients, focused physical examinations may be necessary initially, especially in outreach settings; reserve comprehensive examinations for the clinic with appropriate privacy and space.* To enhance patients' comfort level, some medical providers promote informality by dressing casually and inviting patients to call them by their first name. If the patient prefers not to disrobe at the first visit, conduct serial, focused examinations (e.g., examine the patient's feet, listen to his or her chest) and defer the genital examination until the patient's comfort level allows, especially for a young adolescent or if a history of sexual abuse is suspected. Sensitivity to the patient's needs will promote trust and make her or him more at ease at subsequent visits.

Homeless women Women with HIV infection have higher rates of cervical dysplasia, human papilloma virus, and vaginal candidiasis than do women without HIV infection. Homeless women with a long history of physical/sexual abuse often resist routine pelvic and breast exams, exacerbating their risk for negative outcomes (O'Connell and Lebow, 1992). *Whenever possible, offer female patients the option of being examined by a health care provider of the same sex. To decrease anxiety, explain the importance of a vaginal examination and discuss the procedure before examining. Never uncover or touch the patient without asking permission first.* Some patients are more comfortable entering the examination room if a friend or case manager accompanies them. Close evaluation to detect cervical dysplasia and carcinoma *in situ* is critical to avoid progression to cancer. This should be accompanied by careful examination of the vulva, vagina and rectum. *Include routine assessment for evidence of physical or sexual abuse.* Women of child-bearing age should also be examined to determine if they are pregnant. If so, try to determine the gestational age of the fetus and assess for possible complications of pregnancy; refer to obstetricians with HIV expertise. Women over age 50 should receive mammograms.

Sexual minorities Homeless people with a non-traditional sexual orientation or gender identity (gay, lesbian, bisexual or transgender) experience even greater obstacles to health care than do other homeless people, and may not have seen a primary care provider for years. Many clinicians are uncomfortable examining individuals whose gender expression diverges from cultural norms and are insensitive to their specific health care needs (Herbst, 2008). *Be aware that: a biological male taking estrogen needs to have mammograms; a female taking testosterone still requires a Pap smear, breast exam, and mammograms; patients who have had sexual reassignment surgery require genital examination as part of regular health care maintenance; and any patient with a silicon or other implant, regardless of gender or sexual orientation, should receive both physical and radiological examinations.* As with all patients, *listen to concerns nonjudgmentally.* Treat each client as a unique individual and *provide respectful, compassionate care.*

- Touch therapy** Many homeless persons with HIV have not been touched for a long time and may be shunned or physically/emotionally abused by others if their HIV status is disclosed. Shake hands to ameliorate the patient's sense of being an "untouchable" because he or she is dirty or has HIV. *Do not hesitate to express empathy with appropriate physical contact (hand shake, shoulder touch); but pay attention to*

nonverbal signals and recognize that some patients, particularly those experiencing paranoia, may find physical contact threatening, even outside the examining room.

- **Signs & symptoms of HIV** Recognize the signs and symptoms of HIV complications and a failing immune system, including *oral candidiasis (thrush), oral leukoplakia, shingles, dermatitis, weight loss, cough, chronic diarrhea, dementia, vision loss or changes, and recurrent fevers.* Realize that *HIV-infected persons who are homeless are at higher risk for some of these conditions (e.g., tuberculosis and bartonellosis)* than are those with stable housing. Weight loss and dehydration can be hastened or exacerbated by homelessness, and HIV symptoms may be difficult to differentiate from comorbidities in multiply diagnosed patients. Change in mental status may be secondary to chronic mental illness/substance abuse, opportunistic infection, and/or neurological changes associated with AIDS. *Always obtain full vital signs, including weight and pulse oxygenation.*

- **Dermatological exam** Thoroughly examine the patient's skin and oral mucosa on a regular basis. *Look for skin growths, rashes, and fungal infections in the mouth, groin, and feet.* Due to heavy sun exposure experienced by many homeless persons, *routine screening for signs of skin cancer* is also necessary. *Be aware of medications that precipitate sensitivity to sun exposure (i.e. sulfas drugs) and encourage sun block use, as possible.* Dirty skin may complicate the assessment, as many homeless people have no place to bathe. Due to poorly fitting shoes and minimal access to clean socks and water for bathing, foot problems (*tinea pedis, fungal infections, "trench foot"*) are commonly seen in homeless patients. Rule out HIV disease in any patient with oral candidiasis ("thrush"), which is usually a sign of immune compromise (not secondary to homelessness). Eosinophilic folliculitis (EF) is the most common skin disease seen in HIV-infected persons. Many skin diseases such as seborrheic dermatitis are exacerbated by HIV. Skin infestations like scabies and "bed bugs" are extremely common (HCH Clinicians' Network, Dec 2006). Peripheral vascular disease and venous stasis are more difficult to manage if the patient is homeless. Corns, blisters, and skin ulcers are other common problems. *Pay special attention to genital and rectal warts, skin problems associated with injection drug use, and foot care.*

- **Neurological/psychiatric evaluation** Perform a thorough neurological examination and mental health evaluation as the patient's comfort level allows. Recognize that depressive symptoms are associated with discontinuation of ART (Kim et al., 2007; Moss et al., 2004). It is often necessary to explore only briefly at the first encounter and continue the evaluation at subsequent visits. *Ask whether the patient has had any "mental health issues" rather than "mental illness."* If emotional problems are suspected, ask if the patient would like an appointment with someone (preferably a mental health professional on the clinical team) to discuss his or her concerns further. *Assess for mental illness, substance abuse, and evidence of cognitive impairment. Screen for domestic violence and post-traumatic stress disorder.* Effects of HIV on the central nervous system may be confused with those of substance use, psychiatric disorders, or medication side effects. HIV infection and treatment can also trigger and exacerbate underlying mental illness. Be aware that the first signs and symptoms of serious mental illness can be secondary to AIDS dementia, CSN infection, or lymphoma. People with underlying psychiatric disorders, especially PTSD, may be self-medicating with alcohol or street drugs; it is important to explore this during the mental health evaluation.

- **Dental/retinal exams** Dental problems secondary to HIV are difficult to distinguish from bad dentition in homeless individuals, whose access to oral health care and vision care is often limited. *Make every effort to include a dentist on the clinical team, as well as an optometrist or ophthalmologist to do retinal exams.* Portable equipment allows for dental outreach in homeless service sites.

DIAGNOSTIC TESTS

- **HIV testing/ screening** Standard clinical guidelines currently recommend HIV screening in all health care settings without requiring written consent (CDC, 2006). Two forms of rapid testing have been shown to increase patient willingness to be tested: the *oral swab rapid test* and a *finger-stick whole blood assay*; both demonstrate comparable specificity and sensitivity with proper use. *Rapid testing is especially useful in outreach settings and strongly recommended for homeless/runaway youth.* Persons at high risk for HIV infection should be tested annually. *Offer testing to partner(s) of HIV-positive patients; provide an incentive (e.g., grocery store voucher) to those who bring partners for testing. Offer testing to children of HIV-infected persons, if not already tested, regardless of age.*

Offer HIV testing only in settings where facilities, expertise, and support are available to provide or assure immediate access to HIV care. Facilities that provide only outreach and HIV testing must provide direct linkage to care providers and assertive case management to assure that homeless individuals will have access to care. Mobile units can be an effective means of outreach to persons who otherwise would not seek testing or care, including those who are homeless. Optimally, outreach staff should include a medical provider to initiate contact and establish rapport with new patients. Mobile testing programs should provide immediate referrals to an HIV clinic for patients who test positive. *Engagement in clinical care, prevention counseling, and supportive services is essential for persons with positive HIV test results, even if the patient is not ready for HIV therapy—to provide emotional support, reduce HIV transmission, and initiate prophylaxis, if needed.*

- **Pre-test counseling** Prevention counseling should not be required as part of HIV testing programs in health-care settings, but is strongly encouraged for high-risk persons in settings where HIV risk behaviors are assessed routinely, such as STI clinics (CDC, 2006). *Give patients the option to decline an HIV test (opt-out screening), but invite them to ask questions and receive information about what the test means.*
- **Confirmatory test** A negative HIV screening test does not require further testing (although retesting is recommended for persons with known or possible exposure to HIV within the last 3 months), but a positive test should be confirmed before the individual is told that he or she is infected. *If an initial screening test (oral mucosal, rapid test or standard blood test) is positive, do a confirmatory test (Western blot or immunofluorescence assay).* (CDC, 2006)
- **Post-test counseling** *Be sure the patient is engaged in care when a positive test result is communicated.* For some patients, having HIV test results immediately is clinically necessary. Receiving an HIV diagnosis is as devastating to someone who is homeless as to someone who is not. *Be personally available when the patient returns for test results, and maintain contact with him or her.* If the test result is positive, *listen to the*

patient and be sure that contact with medical and social care is made. Use peer counselors (HIV-infected homeless or formerly homeless individuals who have done well) to talk to the patient and provide social support.

- **Laboratory tests** Perform baseline laboratory tests as specified in standard clinical guidelines (DHHS, Jan 2008), including a CBC, electrolytes, glucose, BUN and creatinine, liver function tests, lipid studies, urinalysis, toxoplasmosis gondii IgG antibody, RPR or VDRL, hepatitis A antibody total (Hep A, Total), hepatitis B surface antibody (HBsAb), hepatitis B surface antigen (HBsAg), and hepatitis C antibody (Hep C Ab). Perform diagnostic tests at the first visit and review lab results at the next encounter. *Pay more attention to liver function tests in a homeless patient, whose risk for liver damage (secondary to hepatitis, alcoholic cirrhosis) is high. Patients on hormones should also have regular monitoring of liver functions.*
- **HIV Viral load** Perform HIV viral load test (e.g., HIV-1 RNA quantitative assay or branched chain DNA assay (bDNA)) at baseline exam and every 3–4 months if the patient is stable on therapy. Also, check HIV viral load when acute retroviral syndrome is suspected. Avoid HIV RNA assay following single positive rapid antibody test unless the patient reports a prior positive HIV test.
- **HIV-1 Resistance testing** Baseline genotypic resistance testing is recommended for all patients prior to initiation of ART and for treatment failure with HIV-1 RNA levels of more than 500–1000 copies/ml while patient is taking failing regimen (DHHS, Jan 2008; IAS–US, 2008). Phenotypic assays are used in combination with genotypic assays for patients with multidrug resistance. Many homeless patients are treatment-naïve due to limited access to health care and may therefore have more therapeutic options because of less resistance due to past treatment failure. Nevertheless, since 6–16% of the population naïve to treatment has at least one major resistance mutation in their wildtype virus, resistance testing is still an important component of initial evaluation when planning to start ART.
- **HLA*B-5701 testing** Test all patients for HLA*B-57 prior to initiating an abacavir containing regimen (if assay is available). Any patients testing positive for HLA*B-57 should not be prescribed abacavir as they have a 50% chance of having severe hypersensitivity reaction to the medication.
- **Tuberculin test** Test HIV- infected persons for latent or active tuberculosis (TB) as soon as their HIV status becomes known using a Tuberculin Skin Test (TST/PPD) or blood assay test (QFT-g). A blood assay test can be used in all circumstances in which the TST is used but does not require the patient to come back for a reading. Its limitations are similar to those of the TST (DHHS, Dec 2005). Although standard practice guidelines recommend annual repeat testing of high-risk patients who have negative tuberculin tests on initial evaluation (DHHS, 2005), a number of HCH practitioners recommend testing homeless patients more frequently because of their higher risk for contact with active TB and unpredictable follow-up. For high-risk patients with a negative test result, re-check every six months; for patients who test positive, do a baseline chest X-ray and symptom screen every six months. TB specialists recommend regular tuberculin testing even for patients with CD4 counts < 200, who may not be as reactive to the test due to immunosuppression. For persons with TB symptoms or a history of exposure to tuberculosis, a chest X-ray is recommended, regardless of the skin test reaction. Realize that a negative chest X-ray does not rule out active tuberculosis, including non-pulmonary TB, in an HIV-positive patient.

Tuberculosis surveillance techniques may vary according to TB prevalence in the community.

Collaborate with your local health department for TB surveillance, screening and referrals, to help decrease barriers to care for homeless patients. Various agencies (including shelters) require proof of TB testing. It is not unusual for a homeless person to have been tested multiple times for TB by different providers. Help the patient maintain a “medical home” where documentation of services is retained. Provide a written record of TB testing results on a wallet-sized card that patients can carry with them.

- **Hepatitis testing** Testing for hepatitis C (HCV) is especially recommended for injection drug users and their partners, and *should be part of initial screening for every HIV-infected person. In patients with risk factors, screen annually to detect new seroconversion.* Hepatitis C negatively affects the course of HIV disease, and vice versa (See Backus et al., 2005; Thompson et al., 2005; Nyamanthi et al., 2002). Many HIV-positive patients have a low response to hepatitis B vaccine (Ramirez, 1990). *Test for immune response (HBsAb, HBsAg) after vaccination; consider double dose of vaccine if there are no immune titers.* A minority of patients may have occult hepatitis B (where anti-HBc is positive and HBsAg is negative). *Consider HBV DNA testing of patients with unexplained increased liver enzymes* (Highleyman, 2007). Test for immunity and vaccinate for hepatitis A accordingly.
- **Cancer/ STI screening** HIV-positive women should have a complete gynecologic evaluation including a *cervical Papanicolaou (Pap) smear*, which also tests for *Human papillomavirus (HPV)*. Gynecologic examination should occur as part of the initial HIV evaluation and upon entry to prenatal care. A repeat Pap smear should be performed 6 months later. If both smears are negative, annual screening is recommended thereafter in asymptomatic women. Screening every 6 months is recommended for women with symptomatic HIV infection, prior abnormal Pap smears, or evidence of HPV infection. HPV vaccination should be offered to all females between the ages of 9 and 26 (CDC, Aug. 4, 2006). In addition, *GC/chlamydia and RPR/VDRL screening* should be done annually in all HIV-infected persons. Although there are currently no national recommendations of routine screening for anal cancer,³ some specialists recommend anal cytologic screening for HIV-seropositive men and women due to their higher risk for cancer. *Consider anal Pap tests along with tests for rectal N. gonorrhoeae and C. trachomatis infection at baseline and annually in the following populations: men who have sex with men and any patient with a history of anogenital condylomata.*
- **Pregnancy test** Offer pregnancy testing (*UCG urine test*) to sexually active female patients of childbearing age.

³ The 2008 DHHS Guidelines for the Prevention of Opportunistic Infections Among HIV-Infected Persons note that “anal cytology screening of HIV-seropositive MSM and of women may be useful preventive measures. However, studies of screening and treatment programs for AIN 2 or 3 [high-grade anal intraepithelial neoplasia] need to be implemented before definitive recommendations for anal cytology screening can be made. There are no national recommendations for routine screening for anal cancer. However, some specialists currently recommend anal cytologic screening for HIV-seropositive men and women.”(p. 107). The authors of a 2006 review of the literature on anal Pap smears concluded that a heightened awareness of anal cancer among HIV infected individuals is warranted, but since there were no published studies evaluating the efficacy of anal Pap smear screening for preventing cancer in HIV-infected persons, “further research is needed to identify improved methods for preventing, detecting, and treating anal dysplasia” (Chiao, 2006).

CASE STUDY: HOMELESS WOMAN WITH HIV

A.B. is a 41-year-old Hispanic female who reported being diagnosed with HIV. Her viral load was 90,538 and her CD4 count was 644, one year following initial diagnosis. This client reports a significant history (25+ years) of polysubstance abuse, a history of childhood sexual abuse, recent adult sexual assault, and psychiatric instability. Assisting this client with treatment adherence involved educating her primary social supports (her daughter, sister and partner) about her HIV and mental health issues.

A.B. was diagnosed with high-grade cervical dysplasia while incarcerated. Coordination of her medical visits with the correctional facility during incarceration was necessary to maintain continuity of HIV care. She did not receive treatment for cancer of the cervix until 16 months following her cancer diagnosis because of failure to keep medical appointments during a period of relapse in addiction recovery. Although the client's whereabouts were unknown during this period, she was able to maintain contact with our medical and mental health team by paging her social worker.

Our primary objective was meeting the client's basic needs while homeless, so that she could continue to address her medical issues. Coordination of care was provided by the Dade County Homeless Assistance Center. The client is currently awaiting transfer to a dual diagnosis residential facility. She has been provided with bus tokens and food vouchers to facilitate her return to the clinic for medical care. To further support treatment adherence, an initial mental health assessment was conducted; recommendations included a psychiatric evaluation and psychotropic medications. Our multidisciplinary team has coordinated care provided to this client during medical visits, in group therapy, and in HIV educational groups.

Due to her significant instability over the last 17 months, the client did not begin antiretroviral therapy until nearly three and one-half years after first being diagnosed with HIV.

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Plan and Management

PLAN OF CARE

- **Next steps** Explain the need to *develop an agreed-upon plan of care with the patient's active involvement. Emphasize next steps the patient should expect, while reassuring him/her that everything need not be done right away.*
- **Interdisciplinary team** Establish an interdisciplinary clinical team to work with the patient, including *addiction/mental health counselors, a medical care manager, and a treatment advocate. Every member of the clinical team should engage in care planning and coordination and patient education about HIV. A team approach increases the likelihood that the patient will develop strong rapport with at least one caregiver.*
- **Basic needs** Understand that HIV usually will not be the most important problem for a homeless patient unless s/he is acutely ill; food, clothing, housing and mental health issues may be perceived as more important. *Develop an individualized plan of care with the patient that incorporates strategies to meet basic needs.* This will strengthen the therapeutic relationship, increase patient stability, and promote successful treatment.
- **Patient priorities & goals** *Carefully assess the patient's immediate and long-term needs and what the patient identifies as priorities. Ask what s/he would like you to do. Address immediate medical needs first (the patient's reason for the visit) rather than underlying causes.* (For example, provide cough medicine, pain relief, or hormones, where indicated, even if you don't think they are medical priorities.) The patient will be more receptive to discussion of underlying causes if immediate needs are met. Encourage the patient to specify his/her own goals and prioritize issues to be addressed. Meeting small, manageable objectives and keeping follow-up appointments are evidence of the patient's willingness and capacity to adhere to treatment.
- **Governmental assistance** Help the patient apply for Ryan White CARE services including the state AIDS Drug Assistance Program (ADAP), Housing Opportunities for Persons with AIDS (HOPWA), disability assistance (SSI/SSDI), Medicaid, Food Stamps, and any other programs that facilitate access to health and social services.
- **Communication** *Frequent discussion, explanation in simple language, and feedback regarding the patient's understanding of the plan of care are critical to adherence. Recognize that patient forgetfulness may be a symptom of cognitive impairment secondary to HIV, medication side effects, or comorbidities. Do not criticize the patient; speak in a straightforward and nonjudgmental manner. Avoid medical jargon and euphemisms, which can be confusing and perceived as "talking down" to the patient (with an adolescent, talk about "having sex," not "intercourse"). Use an interpreter and/or lay educator (promotoras) to facilitate communication and assure culturally competent care for patients with limited English proficiency.*

EDUCATION, SELF-MANAGEMENT

- **Basic education about HIV** Learning about HIV and how to control it can help homeless patients regain a sense of control over their lives and provide an impetus for change and incentive to work on other issues (e.g., begin drug treatment, reunite with family). Begin at the first visit and provide ongoing education, support, and reinforcement at each subsequent visit. Provide answers to basic questions about HIV: What is the virus? What is it doing to your body? Why do you need medication? Educate patients about the natural course of the disease. Provide printed information in language they can understand. *Teach patients how to know if they are sick, how to tell if the illness is more serious than a cold, how to care for themselves when sick, and when to seek urgent or emergent care.* Educate them about warning signs of HIV complications (fevers, coughs that won't go away, exhaustion) and what you can do to help alleviate these symptoms. *Tell patients where they can go to get medicine and where they can go to recuperate when ill.* Explain that the more advanced their disease is, the more preventive medications will be required to keep them from getting sicker.
- **HIV transmission** Explain that the HIV virus can be passed through injection drug use (IDU), sexually, perinatally, and via breast milk from an HIV-positive mother to her baby. *Review safe sexual practices*, including limiting the numbers of sexual partners; *facilitate access to condoms* (other contraceptive methods do not prevent HIV transmission). Stress the need for protection even after beginning ART. Counsel HIV-infected pregnant women about how to reduce the risk of transmitting HIV infection to their babies. *Stress the importance of antiretroviral prophylaxis to reduce perinatal transmission of infection.* Refer them to high risk obstetric care, where HIV expertise and support are available. Refer for expert postnatal care for the child. Breastfeeding is not recommended for HIV-positive mothers if there is a safe and feasible alternative—that is, if infant formula is available, if there is access to clean water to prepare formula milk and cleanse bottles and nipples, if refrigeration is available to store prepared formula, and if the mother can manage formula feeding with appropriate hygiene (DHHS, Jul 2008; WHO, 2007; Heymann, 2003). *Mothers should either formula feed or exclusively breastfeed; HIV transmission rates are higher in those who alternate between the two (WHO, 2007).⁴*
- **Prevention** Discuss ways to reduce HIV risks for the patient and others. For injection drug users, *stress the importance of self-administered injections; urge users to cease sharing drug paraphernalia and to participate in a needle exchange program. Promote behavioral change through individual, small group, and community interventions based on careful investigation of actual patient behaviors* (how they spend their time, what activities interest them) *and potential structural barriers to desired change.*

⁴ According to the latest recommendations of the World Health Organization, “Exclusive breastfeeding is recommended for HIV-infected women for the first six months of life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe for them and their infants before that time...” “The most appropriate infant feeding option for an HIV-infected mother should ... depend on her individual circumstances, including her health status and the local situation, but should take greater consideration of the health services available and the counseling and support she is likely to receive.” (WHO, 2007). The DHHS guidelines (Jul 2008) presume formula feeding to be a safe alternative for babies born in the United States. Nevertheless, experienced HCH providers attest that for homeless families without access to refrigeration, appropriate hygiene, and/or Women Infant Child (WIC) services, use of breast milk substitutes may not be a feasible or safe alternative, even in the U.S.

Use *motivational interviewing*,⁵ *risk reduction techniques*, and *social skills training*. Reinforce information about risk reduction with interactive activities that involve *repetition*, *positive feedback*, and *acting out new skills*, such as proper condom use and role playing (how to talk to a partner). (HCH Clinicians' Network, 2000; Susser, 1998)

- **Addiction management** For HIV-infected persons with a history of drug use, tailored HIV care, including ART, is often highly successful. Some drug users have stable routines and can integrate treatment into their daily life; others may need intense case management, harm reduction techniques and/or outreach strategies to facilitate engagement in care. The most effective programs offering ART to injection drug users have strong links to community-based organizations and utilize peer educators and counselors. *Identify the patient's need; treat comorbidities, and prescribe OI prophylaxis if the patient is not ready for ART. Recognize that there are significant interactions between drugs of abuse and antiretroviral medications.* (For a current list of drug interactions, see Urbina, 2008.)
- **HIV therapy** *Inquire about the patient's understanding of HIV therapy.* Some patients refuse treatment because they don't understand it, have lost hope, and/or don't think treatment will matter. Emphasize the positive; *assure HIV-infected homeless patients that they are candidates for treatment and can manage it successfully.* Antiretroviral therapy (ART) can be as effective for highly motivated persons who are homeless as for those who are housed, as confirmed by comparative measurement of viral loads following treatment.⁶ *Explain what CD4 counts and viral loads are and how these measurements are used to help determine how advanced the patient's disease is, predict risk of complications, and monitor treatment adherence. Explain that HIV-infected persons can live well for many years if treatment regimens are followed with regular medical monitoring.*
- **Written instructions/ reminders** After assessing for literacy, *write down instructions about when to take medications each day* (at what times). *Use graphic illustrations* and color coding to clarify and reinforce verbal instructions; then *make sure that instructions are understood.* Ask the patient, "What medications are you going to take this morning and how?" Instruct the patient to "keep written instructions with you." If a patient discloses that s/he has trouble reading, designate someone on the clinical team who can spend extra time to help him/her understand instructions, and *offer referral to a literacy program or instruction in English as a second language (ESL).* *Specify any dietary restrictions* associated with antiretroviral therapy or other treatment (whether medications must be taken with food or on an empty stomach). It is sometimes possible to *enlist the help of shelter staff in reminding patients to take medications.*

⁵ Motivational interviewing is a goal-directed, client-centered counseling style for eliciting behavioral change by helping clients explore and resolve ambivalence (Miller and Rollnick, 2002 www.motivationalinterview.org).

⁶ The percentage of homeless patients seen at Boston Health Care for the Homeless Program (BHCHP) with successful treatment outcomes (viral loads decreasing to below detectable limits and CD4 counts increasing by more than 50%) is similar to that of housed patients treated at Massachusetts General Hospital. In 2007, 84% of BHCHP homeless patients receiving antiretroviral therapy had undetectable HIV viral load <75 (Hohl, 2008).

- **Drug resistance** *Explain the risk of developing resistance to HIV medications if they are not taken consistently or appropriately. Acknowledge that for all persons taking ART, as for persons receiving treatment for tuberculosis, development and spread of drug-resistant infection is a serious concern; but stress that lack of treatment is no more acceptable an alternative for HIV than it is for TB.*
- **Treatment advocates** *Use social workers, nurses, or case managers as treatment advocates, serving as liaisons between the patient and providers to promote successful adherence to HIV therapy. The patient may feel more comfortable discussing side effects of treatment with social workers or other advocates who have more time to explain than medical providers. Treatment advocates should be part of an integrated clinical team and treated as peers by medical providers. Consider using consumer advocates (formerly homeless persons) to accompany homeless HIV patients to appointments with specialists and attend clinic sessions with the patient and primary caregivers. This can help them overcome communication barriers sometimes experienced in encounters with mainstream health care providers. Use of consumer advocates to explain information conveyed by the medical provider to other consumers is often helpful, but must be done with sensitivity to patient privacy and confidentiality and in compliance with requirements of the Health Insurance Portability and Accountability Act (HIPAA). (For information about HIPAA privacy requirements, see www.hhs.gov/ocr/hipaa/finalreg.html)*
- **Directly observed therapy** *Good results have been reported with directly observed therapy (DOT) when homeless patients come to the clinic once daily to take medications (Mitty, 2003). DOT is recommended for patients with co-occurring tuberculosis, substance use disorders, and/or mental illness, but can present staffing and transportation challenges when patients must take medications 2–3 times per day. Provide transportation assistance to assure feasibility of this treatment option. Some communities are exploring the possibility of directly observed HIV therapy at methadone clinics. Although some patients may benefit from an adherence program that provides medication storage and directly observed therapy, others are quite capable of managing medications on their own (e.g., clients with schizophrenia can adhere well to treatment regimens and other routines.)*
- **Side effects management** *Recognize that medication side effects are one important reason for lack of adherence to ART. Be candid about possible side effects of antiretroviral treatment, such as diarrhea, so the patient knows what to expect and can identify and better describe side effects that do occur. Ask what side effects the patient has noticed; if there is no medical alternative with fewer/less severe side effects, explore strategies to minimize and/or accommodate them within the patient’s lifestyle. Provide snacks (e.g., peanut butter crackers, individual boxes of cereal and milk with extended shelf life, individual containers of juice, granola bars, high energy bars) to help the patient avoid side effects and promote adherence to treatment. Many methadone centers will dose adjust when a client is starting ART and experiences a decrease in methadone efficacy. Address medical comorbidities with the most tolerable regimen. For example, a person with a history of bipolar disorder should not be prescribed a regimen containing efavirenz, which may precipitate worsening of mental health conditions; a patient with a history of irritable bowel syndrome or hyperlipidemia should avoid lopinivir/ritonavir, which may exacerbate these conditions.*

- **Urgent medical problems** Help patients understand the difference between common medication side effects and symptoms of life-threatening toxicities. *Specify symptoms of hypersensitivity to all medications in the suggested plan. Stress the need for prompt evaluation if the following symptoms occur: fever, new rash, difficulty breathing, abdominal or back pain, vomiting, headache, vision changes.* Tell the patient not to wait until the next appointment *if feeling ill; go to a drop-in clinic or the emergency room.*
- **Supportive relationships** Reluctance to inform others about their illness results in lack of supportive feedback for individuals with HIV. *Encourage a supportive relationship with a social worker, provider, or friend – someone in whom the patient can confide fears, questions and concerns, including problems with medication side effects. Advise the patient, “If your health care provider doesn’t have time to listen and discuss your concerns, find someone who does.” Link the patient with a support person or “sponsor” through HIV/substance abuse treatment programs or other community-based programs.* Network with law schools and community groups to provide *pro bono* legal assistance with child custody, drug arrest, or immigration issues as part of substance use treatment programs. Create a support group where patients experiencing extreme stigmatization or isolation can share concerns and learn how others are coping with their disease. Members of ethnic/sexual minorities and migrant workers may experience more marginalization and isolation than other homeless individuals with HIV. Help such patients find each other for mutual support. *Offer social support groups in addition to groups for therapy or counseling. Help patients moving into transitional housing learn how to live successfully in a community setting (e.g., respect personal boundaries).*
- **Nutrition counseling** *Educate patients about nutritional health, diet, and dietary supplements.* If possible, *include a nutritionist/dietician familiar with the issues of homelessness on the interdisciplinary health team to do screening and frequent consultation. Consider the use of bioelectrical impedance analysis (BIA), which can detect improved body cell mass in patients with AIDS wasting syndrome, to educate patients about their nutritional status and promote early detection and management of HIV-associated nutritional changes (Klauke et al., 2005; Swanson, 1998). Prescribe multivitamins with minerals. Assure that pregnant patients receive appropriate vitamin supplements (with folate). Prescribe nutritional supplements with less familiar brand names and lower resale value to reduce risk of theft.*
- **Medical home** *Discuss benefits of forming relationships with care providers who can help the patient avoid becoming acutely ill. Explain what primary care is and how to use a regular source of care (“medical home”).* Many homeless people have never had a regular medical provider and only receive medical care episodically from hospital emergency room staff. Present regular primary care as an opportunity to be in charge of one’s own health. Many medical problems, including those related to HIV, are preventable.

- **Education of service providers** *Educate all homeless service providers about HIV, including prevention measures and the need for nonjudgmental, compassionate care.* Provide basic education about the natural history of the disease, what to expect if the patient is or is not treated, transmissibility of infection, and standard precautions. Educate medical providers about the special needs of homeless patients. *Explain how treatment adherence and successful outcomes are possible even for homeless individuals with mental health/substance use problems.* Stress the importance of developing a nonjudgmental, therapeutic relationship based on unconditional acceptance of the patient and harm reduction. Help specialists understand that homeless people may not be able to follow the treatment plan they prescribe and how to modify the plan of care so homeless patients can better adhere. *Educate primary care providers about chronic pain management and addiction medicine. Understand your own feelings about substance use, sex work, and mental illness.* Take time in a safe setting to *explore your feelings about people who are homeless. Talk about your experience, biases, and stereotypes with other providers who are more experienced in caring for homeless patients.* Help pastors learn how to talk about HIV with members of their faith community. Work with food services at shelters and soup kitchens to provide appropriate meals.

CASE STUDY: ANTIRETROVIRAL THERAPY FOR A HOMELESS MAN

Samuel is a 32-year-old Caucasian man who entered our therapeutic community for alcohol abuse treatment. He had tested positive for HIV two years previously. He was begun on ART and instructed to take medications on a full stomach.

We saw Samuel two weeks later and, among other things, reminded him to take nelfinavir after a full meal. He told us he was doing so, with the exception of Saturday and Sunday mornings. The shelter in which the therapeutic community was located served three meals on weekdays, but on weekends served only two meals a day – brunch (at noon) and dinner (in the evening). So on Saturdays and Sundays, Samuel took his morning nelfinavir on an empty stomach.

The problem was solved when I spoke to the shelter staff and explained the need for the morning meal, which was subsequently provided on Saturday and Sunday mornings, in addition to brunch and dinner.

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MEDICATIONS

- **Medical priorities** With all HIV-infected patients, *weigh benefits against potential risks of early antiretroviral treatment. If acute retroviral syndrome is not suspected or if ART is not of clear benefit (i.e. CD4 cell count >350 cells/ml), address other medical priorities first: psychotropic therapy for severe mental illness, substance abuse treatment/therapy (methadone for heroin addiction), prophylaxis for opportunistic infections and tuberculosis (if tuberculin test is positive), treatment and management of uncontrolled hypertension, diabetes, and seizures—any of which can undermine a patient’s ability to adhere to HIV treatment.*
- **Prophylaxis** Start prophylaxis for opportunistic infections (OIs) as soon as indicated by standard clinical guidelines (DHHS, Jan. 2008). *Explain the importance of OI prophylaxis at each visit if the patient is not initially interested or willing to accept preventive treatment. Taking medication regularly for OI prophylaxis can be an indicator of readiness for ART.*
- **Immunizations** Lacking reliable food and shelter, most homeless people welcome immunizations as a way to prevent illness. Given their high risk for exposure to respiratory infections in congregate living situations, all homeless patients should receive *influenza* vaccine annually and be immunized against *pneumococcus* according to standard clinical guidelines. Also provide *hepatitis A and B* vaccines. Offer *Tetanus, Diphtheria, Pertussis (Tdap)* vaccine to patients aged 19–64 if the last immunization was more than 10 years ago and to all patients under age 65 who have not been vaccinated before. Provide *pneumococcal polysaccharide vaccine (PPV)* to all HIV-infected persons as close to HIV diagnosis as possible and every 5 years thereafter. (Quick Reference Vaccines Chart: www.cdc.gov/vaccines/vpd-vac/vaccines-list.htm)
- **HIV treatment readiness** Never rush to antiretroviral treatment; *build a therapeutic relationship first. Encourage more frequent visits to prepare homeless or formerly homeless patients for treatment. Evaluate readiness for treatment and ability to adhere to a plan of care by first attempting to understand the patient’s current behavior in light of his or her life story. Elicit this information in a nonjudgmental way; understand the patient’s lifestyle and how basic needs are met. If s/he desires treatment, look for evidence of a daily routine to discover how to prescribe medications that can fit into that routine. Outreach provides an opportunity to observe patients in their own environment and assess stability, evidence of regularity, and capacity to follow a schedule (sleep pattern, access to food/water/clock, daily activities, regular appointments, etc.), in order to evaluate their readiness for ART.*

A patient who must leave the shelter at 5:00 a.m. may not be able to take medications at that time. Ask what s/he does after leaving the shelter (e.g., go to a drop-in center or the library? have breakfast?) Ask if there a “private time” when s/he can take medications. Privacy is frequently an issue for homeless individuals, who worry about taking medications that have street value or which might reveal their diagnosis. (If others discover they have HIV, they may be shunned or at increased risk for abuse.) Ask the patient, “Who can help you take your medicines and keep track of them?” *For best outcomes, engage patients and assure that they have a comfortable “medical home” before beginning treatment. Address*

issues that may complicate treatment adherence, including mental illness and substance use. The patient should be part of the team that helps to decide when to begin treatment.

- **“Practice” medications** For a patient desiring HIV therapy whose ability to adhere to treatment is questionable, *consider using placebos or vitamins as “practice medications” for a week or two. Put medications of the same size and number to be prescribed for HIV in a pillbox; follow up in a week. Ask the patient how many pills were taken, how many missed. This may convince the patient that s/he is not yet ready for HIV therapy (e.g., needs to work on substance abuse issues first). Use of this technique is not recommended for patients with advanced disease (i.e., CD4 <200 or OI) as it may unnecessarily delay urgently needed treatment. While use of “practice” medications may be appropriate for some patients, it should not be routinely used. Many studies of HIV-infected homeless people, including active substance abusers, demonstrate that most are able to adhere well to ART. Moreover, the use of practice medications is perceived as patronizing by many patients.*
- **Antiretroviral medications** *Be knowledgeable about HIV treatment regimens and when guidelines recommend initiation of treatment, as well as recommendations for managing treatment failure.⁷ Working on prophylaxis, immunizations, obtaining housing, and access to other health and social services before initiating HIV therapy can strengthen the therapeutic relationship, help the provider decide on the best medical regimen, and result in more successful treatment. If the patient has advanced disease and a very low CD4 count, however, delaying ART can increase risk of mortality. Although housing can improve adherence to treatment, it is important to realize that Section 8 housing can take 6–12 months or longer to obtain. A person with advanced disease could easily die of an OI in that period of time. Individualize initiation of HIV therapy and continually reassess treatment adherence and effectiveness. Ensure access to medications that can be taken once or twice daily.*
- **HIV specialist** HIV is a primary care disease that requires special knowledge to treat. *Partner with an HIV specialist (a certified clinician who follows at least 26–50 HIV-infected patients every six months and pursues continuing education) in prescribing treatment through consultation or referral; or consider becoming a HIV specialist yourself.* The team approach to care for homeless individuals is optimal; an HIV specialist, primary care provider, case manager, nutritionist, mental health professional, and outreach worker should all be part of the team. A primary care provider serving a community with a fairly high incidence/prevalence of HIV should develop HIV treatment skills. In the clinic setting with five or fewer patients known to be living with HIV infection, a referral source should be established for specialty treatment. In the clinic setting with more than five patients living with HIV, the provider(s) should consider participating in continuing education specifically directed toward developing expertise in the treatment of HIV/AIDS. Consult with an infectious disease specialist and other specialists in planning medications for patients with comorbidities. Consultation is a two-way street; specialists may consult primary care providers with expertise in serving homeless patients.

⁷ For information about the safety and efficacy of particular ART medications during pregnancy, see current HIV treatment guidelines, including perinatal guidelines at www.aidsinfo.nih.gov. Information about recent research findings is available at www.hopkins-hivguide.org/.

- **Simple regimen** *Prescribe the simplest, most effective medical regimen possible. Don't undertreat HIV or opportunistic infections just because a patient is homeless. Pill count, frequency, and dosing are extremely important for homeless patients; once-a-day dosing is preferable if clinically indicated, especially for those who may be unable to adhere to a more complex regimen.*

ART: Several antiretroviral drugs are available in formulations that permit once daily dosing (see DHHS, Jan. 2008, 66–69). Dispensing medications a day or a week at a time will help some patients, if transportation to and from the clinic is available and affordable. (If possible, provide transportation or carfare for homeless patients.) Overcome the common perception that antiretroviral medications are too complicated.

OI prophylaxis: If prescribing trimethoprim/sulfamethoxazole double-strength (TMP/SMX DS) for pneumocystis prophylaxis (PCP), one dose per day is best and probably easiest for most homeless patients, but 3 times per week is acceptable. (Alternatively, use once weekly dosing with dapsone/pyramethamine/leukovorin for PCP, and with azithromycin for mycobacterium avium complex (MAC) if CD4 < 100). For some patients, remembering to take the medication every morning is easier than remembering to take it weekly or 3 times per week. *It's better to take some medication for OIs than none. The opposite is true for ART: it's better not to take antiretroviral medications at all than to take them only some of the time.*
- **Dietary restrictions** Find out if the prescribed regimen has any dietary restrictions. *Inquire about the patient's access to regular meals. Some HIV medications must be taken with food; other medications must be taken on an empty stomach. If possible, prescribe medications without dietary restrictions.*
- **Side effects** Prescribe medications with fewer/less severe GI and other side effects. (Some NNRTIs and protease inhibitors have fewer GI side effects.) The severity of side effects experienced by the patient may not be apparent to the provider. Diarrhea creates an added burden for a homeless person with limited access to toilets and bathing facilities. Address the likelihood of diarrhea with certain protease inhibitors and provide anti-diarrhea medication for patients with symptoms. Nausea, which often results from taking medications on an empty stomach, may also be incapacitating; providing nutritious snacks can prevent this side effect. *Be more aggressive with homeless patients in treating side effects or changing medication, if an equally effective alternative is available.*
- **Drug toxicities** *Be aware of serious toxicities associated with ART. Screen for HLA-B5701 before prescribing abacavir; although rare, a negative result does not absolutely rule out the possibility of hypersensitivity. Review symptoms of hypersensitivity with the patient.*
- **Drug interactions/ contraindications** Chronic illness may complicate HIV treatment because of the potential for drug-drug interactions. Awareness of drug interactions is important when prescribing HIV medications. Some medications may be contraindicated if the patient has a history of pancreatitis or alcoholism, or should be used with caution and more frequent monitoring with co-occurring mental illness, hepatitis C, high cholesterol, or diabetes. Some HIV medications and HIV itself may cause metabolic changes, which can include diabetes, hyperlipidemia, and changes in body fat distribution, in addition to osteoporosis, and lactic acidosis. Antiretroviral therapy can also exacerbate

pre-existing diabetes. *Carefully monitor all patients on ART for the development of glucose intolerance and diabetes, as well as for lipid abnormalities and lipodystrophy; treat according to accepted standards of care (DHHS, Jan. 2008).*

Methadone Evaluate use of methadone by patients on ART. *Be aware that non-nucleoside reverse transcriptase inhibitors (NNRTIs) and certain protease inhibitors can reduce the efficacy of methadone by as much as 50%. If a protease inhibitor is indicated, use ritonavir boosting. If this is not feasible for a patient on methadone, it is essential to work directly with the patient's methadone maintenance treatment program to adjust the dosage upward. (Many practitioners begin with a 20% increase in methadone dosage when ART is initiated). Recognize that successful adherence to methadone therapy for persons addicted to heroin can increase adherence to ART (Clarke, 2003). Some patients won't begin HIV treatment or may stop taking medications because of the misconception that all prescription drugs are incompatible with alcohol or other drug use.*

Other analgesics Recognize that HIV and hepatitis C are painful diseases, and that other comorbidities commonly seen in homeless patients, including traumatic injuries, can result in chronic pain. *Recognize that some HIV medications can decrease or increase the efficacy of pain medications, including methadone and other narcotics. Work with the patient to understand the underlying cause of pain; prescribe appropriate pain medication and document why you prescribe it. Understand chronic pain management; if you don't, the patient may seek relief from practitioners known to provide pain medications indiscriminately, without understanding HIV care or monitoring for possible misuse. If necessary, refer to a pain management specialist; maintain open communications with the patient and other providers. To avoid overmedicating or contributing to drug-seeking behavior, encourage cooperation with a contract that specifies the plan of care and designates a single provider for pain prescription refills.*

- **HIV treatment & substance use** Recognize that alcohol and drug use is common among homeless people and *prescribe medications that are compatible with substances used.* Most antiretroviral medications are chemically compatible with commonly used street drugs, although use of psychoactive substances, including prescribed psychotropic medications, can interfere with remembering to take medications. Address these issues candidly with the patient in order to promote adherence. An automatic assumption that people with substance use disorders cannot adhere to HIV treatment is inappropriate. The primary challenge is determining when to initiate therapy. Homeless individuals with substance use disorders can learn how to organize their lives so they can keep appointments and take medications while actively using psychoactive substances. Indicators of readiness include keeping regularly scheduled appointments with medical and ancillary staff. *If HIV therapy is desired and there is evidence that the patient can adhere to a regular schedule despite substance use, advise taking HIV medications before using other drugs.*

If appointments are missed, seek the patient out and explore in a nonjudgmental manner what has changed in his or her life to motivate a change in behavior (common triggers of relapse: contact with/rejection by a family member, anniversary of a painful event). Look for indications of new stresses and difficulty coping; help the patient find ways to cope. Most important, maintain communication with the patient. Many actively using, chronically homeless people have successful treatment outcomes. Knowing that medications can

prolong life can give them hope and motivate lifestyle changes to promote health. Successful HIV treatment is not only possible, but extremely desirable for homeless people with chemical dependencies.

- **Drug resistance** Resistant virus in antiretroviral-naïve HIV-infected patients can be as high as 16%, depending on the geographical area. Drug resistant mutations may be below the sensitivity level of the HIV test and become evident only in response to specific medications. *Use genotype testing to increase the possibility of choosing a successful therapy. Individualize therapy. Balance possible side effects with simplicity and low resistance barrier with tolerability. If the patient requests HIV therapy, is willing to begin treatment and is medically appropriate for treatment, select an initial regimen to which s/he can adhere, preferring medications with a low pill burden where possible.* Homeless individuals should have the same access to HIV medications as others.

- **Adherence monitoring** *At every visit, ask how many doses of each medication the patient missed over the last week or month. Explore and address any barriers to adherence. Problem solve with the patient. If forgetting doses is the problem, use pill boxes, watch alarms, or other methods to help him or her remember to take medications. Address adherence routinely so that problems are identified before the patient develops resistance and fails the treatment regimen. (CD4 decrease or viral load rebound is sign of treatment failure and a very late stage marker of adherence.) Measure CD4 counts and viral load every 3 months; if the patient’s viral load increases and the CD4 count decreases, find out why and address the reasons. (Reduced treatment adherence is often triggered by depression or a relapse in recovery.) To facilitate adherence, use a harm reduction approach, outreach, intensive case management, directly observed therapy, and medication monitoring. Provide incentives and don’t require clients to be drug and alcohol free to receive them. Aggressive outreach and case management will contribute to successful outcomes for active substance users. Some patients with advanced disease and/or multi-drug resistance will benefit from treatment and a reduced risk of transmission even if viral loads are not entirely suppressed.*

Pill packs Consider providing “blister packs” for all medications, labeled for each day of the week, each meal per day. Some pharmacies provide pre-packaged pill boxes with handles or “easy packs” (a cellophane roll with perforated sections that enable patients to tear off morning and evening doses and carry them in a pocket or bag). This helps patients with memory loss keep track of their medications and makes resale more difficult. Some people prefer using their own system to remember what pills to take when.

Reminders: Consider the use of electronic reminder devices such as beepers, pagers, cell phones, wristwatch alarms, and pillbox alarms programmed to prompt patients to self-administer their medications as prescribed. Homelessness does not preclude HIV/AIDS patients from having access to electronic devices, which can prove useful in promoting treatment adherence and clinical follow-up, with the added advantage of being mobile, discrete, and easily integrated into their daily routines (Wise & Operario, 2008; Hsu, 2008; Bamberger et al., 2000).

- **Medication storage** *Allow homeless patients to store medications at the clinic and come there daily for treatment.* This protects against having medications stolen or confiscated by police if arrested for public nuisance offenses, and assures that they are taken as prescribed. *If medications are not stored in the clinic and the patient does not have access to refrigeration, avoid prescribing medications that require it (e.g., ritonavir).* Shelter residents may be required to turn in all medications to shelter staff that sometimes lose/misplace them or fail to return medications to the patient when needed. Lack of privacy/confidentiality is a major problem for shelter residents, who may be reluctant to complain to shelter staff for fear of disclosing their diagnosis and too embarrassed to tell the provider if medications are lost repeatedly. *Urge shelter staff to make stored medications easily available to patients; explain that medications are costly and necessary for the patients' health.*
- **Access to medications** The availability of free or low-cost HIV medications may be limited, particularly in smaller communities and rural areas. For homeless patients, even a small co-payment can be excessive, and for those without health insurance or access to programs that provide free medications, the cost of antiretroviral therapy may be prohibitive. *Assure continuous access to medications before initiating treatment.* In some cities, homeless patients are referred to one clinic or pharmacy to prevent misuse of medications. Lack of transportation to the pharmacy can present barriers to getting prescriptions filled. Since homeless people do not have regular access to telephones, coordinating delivery of medications to these patients can be difficult. *Provide transportation to pick up medications or arrange for delivery of medications to a location where the patient can obtain them reliably and wants to receive them (e.g., a friend's home, social work center or clinic).* Delivery of medications to a clinic for pick up and distribution can provide another opportunity for hands-on education about treatment adherence.

ASSOCIATED PROBLEMS, COMPLICATIONS

- **Medication side effects** Side effects of antiretroviral therapy are a primary reason for nonadherence. *Recognize that medications which interfere with survival on the streets by making people feel sicker or more fatigued will not be acceptable to homeless patients.* Common side effects of ART include diarrhea (particularly from some protease inhibitors), nausea (if taken on an empty stomach), peripheral neuropathy (numbness/tingling in extremities, exacerbated by poor nutrition and constant walking), and nightmares. Living in a shelter or on the streets is especially difficult for patients with these symptoms, which are exacerbated by chronic sleep deprivation and depression. *If alternative medications with fewer negative side effects are not medically indicated, treat side effects symptomatically.* Some clinicians recommend the medical use of marijuana to help control pain and nausea, and to reduce alcohol or other drug use. Some medications increase sensitivity to sun exposure (e.g., TMP-SMX DS, commonly prescribed for PCP prophylaxis). Advise homeless patients who spend most of their time outdoors to wear long sleeves and sunscreen to avoid sunburn. *Be more aggressive in treating side effects or changing medication for homeless patients, if an equally effective alternative is available.*
- **Severe drug toxicities** Some adverse effects of antiretroviral agents can be fatal if the drugs associated with them are continued. Medication hypersensitivity reaction, hepatic necrosis, Stevens Johnson Syndrome, pancreatitis, and lactic acidosis are among the drug reactions that should be considered medical emergencies. *Be aware of life-threatening complications of ART and how to manage adverse effects (see DHHS, Jan 2008, Table 18: 78–83).*
- **More acute illness** Because homeless people with HIV may not seek care until their disease is advanced and symptomatic, they often present with more acute illness. Even in areas with free access to exceptional HIV care, new patients with advanced AIDS are not unusual, and many of them are homeless. Patients with advanced disease require complicated treatment regimens. Opportunistic infections and diseases unrelated to HIV may increase the severity of illness. Major complications of HIV include late-stage OIs such as *Pneumocystis carinii* pneumonia (PCP), invasive candidal infection, toxoplasmosis, cryptococcal meningitis, and CMV retinitis (which can lead to blindness if untreated). *Provide or refer homeless patients to a respite care facility where they can convalesce when ill/ following hospitalization or receive end-of-life care.* Develop close linkages with inpatient service providers and facilities.
- **Co-occurring mental illness & substance abuse** Mental illness, substance use and HIV are frequently linked. Many people with mental illness use psychoactive substances that result in loss of inhibition and can result in unsafe behaviors which increase their risk of exposure to HIV, tuberculosis, and hepatitis. Mental illness (both Axis I and Axis II disorders) and drug-induced psychosis can interfere with treatment adherence. Optimally, *treat co-occurring mental illness and substance abuse/ dependence simultaneously within the same program.* Underlying mental illness is often the issue that keeps homeless patients out of care; or if in care, may be their most pronounced disorder (Weiser, 2006). *Involve a psychiatrist who is interested in the co-occurrence of these disorders with HIV in the assessment and management of homeless patients.* A key issue is pharmacodynamics (the cumulative side effects of polypharmacy). In practice, overlapping side effects are more problematic than drug-drug interactions. Some mental

health problems can be treated by a primary care provider. *Refer more complicated cases to a dedicated mental health program while maintaining good coordination of mental health and primary care. Use caution in prescribing a regimen containing efavirenz for patients with serious depression, bipolar disorder, or schizophrenia.*

- **Cognitive impairment** *If patients have difficulty remembering appointments, don't automatically assume nonadherence; question their cognition.* Cognitive impairment may be associated with mental illness, chronic substance abuse, AIDS-related dementia, and/or opportunistic infections. Accurate diagnosis may require specialty evaluation.
- **Hepatitis** HIV and hepatitis B or C (HBV, HCV) are chronic, potentially fatal diseases that can be symbiotic. Treatment of these liver diseases in patients with co-occurring HIV is important. Persons engaging in IDU are at increased risk for HCV and HBV. Morbidity and mortality risks for HIV-infected homeless people are amplified by limited access to HCV diagnostic testing and restrictive eligibility criteria for treatment. *Be aware of the association between antiretroviral drugs and hepatotoxicity; carefully monitor liver enzymes during ART.* Abrupt cessation of antiretroviral medications that also treat hepatitis B can cause a flare in liver enzymes. Although referral of HIV-infected patients with hepatitis to a hepatologist is the standard of care, lack of access to specialists experienced in the treatment of comorbid HIV and hepatitis has prompted some HIV clinics to provide hepatitis B and C treatment. If access to a specialist is a problem, initial evaluation should include: hepatitis C viral load (RNA quantitative assay), hepatitis C genotype to identify subtype and likelihood of response to treatment, Alfafetoprotein (AFP), and liver tests including GGT, CBC, metabolic panel, and RUQ U/S to evaluate for hepatoma/HCC/cirrhosis. Nursing and psychosocial support are essential in order to assess each patient's response to treatment (Clanon, 2005). *For better treatment outcomes, facilitate access to supportive housing and behavioral health care.*

To reduce risks of treatment-related depression, *seek a psychiatric consultation prior to initiating HCV therapy, especially for patients with a known history of suicidal ideation or attempt. For patients with co-occurring alcoholism, use behavioral contracts or other strategies concurrently with HCV treatment to promote sobriety and reduce risk of liver damage. When initiating ART in a patient with HIV/HBV coinfection, consider including lamivudine and tenofovir – two antiretroviral agents that are active against HBV – as part of a fully suppressive antiretroviral regimen.* In general, treatment of these patients requires careful follow-up and consultation with a specialist, as they may be more likely to develop drug-related liver complications. *Ensure that all patients are immunized against HBV, especially injection drug users; and immunize seronegative patients against hepatitis A (HAV).* Recognize that the cost of HBV/HAV vaccines and HCV/HBV treatment may be prohibitive for uninsured patients.

- **Tuberculosis** The association between TB, HIV infection, and homelessness is well documented (DHHS, Oct 2007; McElroy, 2003; Moss, 2000; Zolopa, 1994). Growing numbers of HIV-infected persons have contributed to the resurgence of tuberculosis in the United States, and homeless shelters are among the most likely sites of TB transmission. HIV coinfection increases the risk of progression from latent TB infection to active tuberculosis. Recommended control measures include *more frequent screening of HIV-infected homeless persons for TB infection, initiation of isoniazid prophylaxis for any HIV-*

infected person with a positive tuberculin skin test, and directly observed TB/HIV therapy to promote treatment adherence and reduce the risk of drug resistant organisms (Moss et al, 2000).

- **Abuse** Homeless individuals with HIV may be at risk for various kinds of abuse from other homeless people and shelter staff who find out they are infected. A significant number of these patients also have a history of physical or sexual abuse that may have precipitated homelessness. *Work with all service providers in clinics and shelters to protect homeless patients from physical assault and verbal abuse.*
- **Pregnancy** *Ensure access to contraception to prevent unwanted pregnancies.* Provide hormonal contraception (medroxyprogesterone acetate q3 mo, patch, or pill) as well as condoms and alternative barrier methods (i.e. female condom, diaphragm if desired). HIV-positive pregnant women should receive ART for themselves and to prevent transmission of infection to the fetus. Many are highly motivated to protect their baby, but women with other children may not agree to treatment that includes residential care. (Family-based treatment centers that permit substance-using mothers to bring one or more children to live with them in a therapeutic residential drug treatment community are disappearing for lack of funding.) *Develop good consulting relationships with obstetricians, including academic departments of obstetrics, to help pregnant homeless patients with HIV.* Be knowledgeable about national guidelines for the treatment of HIV-infected pregnant women (DHHS, Nov 2007). *Work with case managers to facilitate Medicaid enrollment of infants born to HIV-infected mothers so there will be no delay in obtaining zidovudine postnatally.*
- **Lack of transportation** Many poor and homeless people cannot access health services because they lack transportation for trips to and from medical appointments. This can present serious barriers to HIV testing and care. *Become familiar with transportation resources in your community; provide transportation assistance/carfare to facilitate appropriate follow-up care.* All state Medicaid programs are required to provide non-emergency medical transportation (NEMT) to approved health services. Each state is responsible for designing and operating its own NEMT; programs differ from state to state. (For a list of medical transportation contacts in each state, see: <http://web1.ctaa.org/webmodules/webarticles/anviewer.asp?a=104&z=5>)
- **Lack of stable housing** HIV treatment is extremely difficult for individuals without stable housing. Meeting needs for food and shelter leaves little time for medical appointments. Lack of privacy, risk of abuse, theft of medications with street value, and no place to lie down during the day compound discomforts associated with HIV and ART. Homeless persons need a stable residence and routine in order to begin the process of recovery. Stable housing has the potential to reduce HIV risk behaviors, morbidity and mortality (Kidder, 2007; Aidala, 2006). Unfortunately, in many communities, housing is simply not available for homeless persons with HIV; in other places, the only way homeless adults unaccompanied by children can get housing is if they are HIV positive. Sometimes the partner of an HIV-infected person who is HIV-negative or untested desperately tries to get infected in order to qualify for housing and other benefits. Individuals with HIV choose to sleep outside to be with a partner, at risk to their own health.

Strongly advocate for low-barrier subsidized housing in your community for people living on the streets or in shelters, with no pre-requisite to achieve sobriety or attain a level of stability before housing is offered.

Despite some availability of transitional housing for HIV-infected individuals in larger metropolitan areas, insufficient housing stock, long waiting lists, and policies that exclude active substance users or ex-inmates limit access for homeless people in many communities. Most housing, rehabilitation, or transitional programs available to homeless persons with HIV infection require sobriety for admission or continued residence. Such supports become attainable only when homeless individuals with co-occurring addiction disorders become too ill to support a habit, often at a time far advanced in the course of HIV infection (O'Connell and Lebow, 1992). The federal Fair Housing Act prevents discrimination based on health history, including mental illness and addiction. Nevertheless, some local communities and permanent housing programs, continue to use "housing readiness" as a subjective measure of appropriateness for housing.

- **Financial barriers to HIV care** Efforts to deliver quality health care to homeless individuals with HIV/AIDS are also hampered by barriers to obtaining public benefits, including health insurance coverage and disability assistance.

Excessive documentation requirements Many states and localities require extensive documentation, including photo identification, birth certificates, Social Security cards, pay stubs, etc., to verify eligibility for entitlement programs such as Medicaid and Supplemental Security Income (SSI), which is linked to Medicaid eligibility in most states. Proof of identity, residence and income is difficult to come by for someone without a home, a car or continuous employment. Obtaining required documentation is often costly, time-consuming, and intimidating. Homeless people may have trouble obtaining transportation to various agencies where required documents are available, or cannot get there during working hours without losing their jobs, or are unable to pay fees required for copies. Even if they are able to get required documentation, homeless individuals may not have a safe place to keep it. Personal papers are often stolen or lost in moving from place to place on foot. *Lack of required documentation to confirm eligibility is the most frequently cited obstacle to Medicaid enrollment for homeless people* (Post, 2001).

Eligibility exclusions It is important to realize that most homeless people (particularly adults unaccompanied by children) do not qualify for public health insurance under current policy; over 70% of clients served by the HRSA Health Care for the Homeless program are uninsured.⁸ Few state Medicaid programs cover nondisabled adults, and those that do may not cover needed services. For many homeless people, SSI is the only door to Medicaid. SSI regulations still exclude persons with asymptomatic HIV or those with disabling addictions who lack sufficient evidence of co-occurring impairments that meet Federal disability criteria. Only CDC's AIDS-defining diagnoses (DHHS, 1993) are considered sufficient evidence of permanent disability, despite the fact that many persons with chronic fatigue and other constitutional symptoms are too incapacitated to engage in gainful

⁸ Health Resources and Services Administration, U.S. Department of Health and Human Services. (2006). Uniform Data System (UDS) Data for The Health Center Program, Healthcare for the Homeless, National Summary for 2006 (184 grantees). <http://www.bphc.hrsa.gov/uds/2006data/National/homeless/NationalTable4ho.htm>

employment. Moreover, homeless disability claimants are denied benefits at significantly higher rates than other claimants, often for failure to negotiate the arduous application process and inadequate documentation of impairments by medical providers, rather than for lack of severe medical impairments that meet the Social Security Administration's (SSA) disability criteria. (O'Connell, 2007; Post, 2001).

Facilitate applications for disability assistance and SSI-related Medicaid: Keep detailed records of all patients' functional impairments: Develop a working relationship with your local SSA Disability Determination Services office. Secure a representative for homeless patients to help them apply for Federal disability benefits (SSI/SSDI). Ensure that consultative examinations are conducted by physicians with significant experience in treating homeless patients. Advocate for all patients to obtain needed health care, regardless of their insurance status. (For guidance in appropriate documentation of impairments to expedite disability benefits, see O'Connell, 2007.)

Seek Ryan White CARE services for patients with no source of coverage or limited coverage for HIV care: The Ryan White HIV/AIDS program⁹ is the third largest source of federal funding for HIV/AIDS care in the U.S. after Medicare and Medicaid. Most Ryan White funding is provided to states (55% in FY 2008), followed by cities (29%), with the remainder provided directly to organizations (Kaiser Family Foundation, 2008). Some states and localities supplement federal Ryan White funds. Ryan White funding can be used to provide outpatient and ambulatory health services, medications, pharmaceutical assistance, oral health care, early intervention services, health insurance premium and cost sharing assistance for low-income individuals, home health care, medical nutrition therapy, hospice services, home and community based health services, mental health services, substance abuse outpatient care, and medical case management, including treatment adherence services. However, Ryan White is not an entitlement program, and covered services are not guaranteed to all eligible persons; jurisdictions and organizations that receive funding and the level of funding received are determined by HRSA and annual Congressional appropriations.

- **Stigmatization** Strong stigmas against HIV and homelessness, particularly in smaller communities and rural areas, result in extreme marginalization of HIV-positive homeless individuals and reduced self-esteem, often exacerbating self-destructive behaviors (e.g., substance abuse, sex work). Sexual minorities and immigrants with limited English proficiency are especially vulnerable to stigmatization and low self-esteem. Fear of abuse and eviction from shelter motivates many HIV-infected homeless patients to conceal their diagnosis. *Educate shelter staff about HIV/AIDS and explore any concerns they may have. Provide nonjudgmental, compassionate care and offer social support to homeless individuals, especially those with HIV/AIDS.*

⁹ The Ryan White HIV/AIDS program, first enacted in 1990, was most recently reauthorized through 2009 by the Ryan White HIV/AIDS Treatment Modernization Act of 2006. The program is administered by the Health Resources and Services Administration, DHHS. More information about Ryan White is available at <http://hab.hrsa.gov/about/>

- **Incarceration** Many homeless people are frequently arrested or incarcerated for loitering, sleeping, urinating or drinking in public places—activities that are permissible in the privacy of a home. A number of them contract HIV and hepatitis while in prison. Periods of detention or incarceration can also interrupt continuity of care for pre-existing conditions. *Develop collaborative relationships with correctional facilities to assure appropriate discharge planning and continuity of care following release.*

- **Special populations:**

Homeless women The overwhelming majority of homeless patients in most clinic settings are male, which can be intimidating for homeless women, many of whom have a history of physical/sexual abuse. Increasing heterosexual transmission of HIV associated with sexual abuse, sex work, and IV drug use warrants programs specifically targeted to homeless women, who can be harder to reach than men and may require more intensive services. *Offer social support and counseling through a weekly women's group. If high-risk sexual behavior is perceived as necessary to meet basic survival needs, try to engage the patient in services and find another way to meet basic needs.* If high-risk behavior is associated with obtaining a drug on which the patient is dependent, continually offer detoxification/substance abuse treatment as an alternative. Medical and HIV prevention issues specific to adolescent and older HIV-infected women should be addressed by knowledgeable providers experienced with these populations (see DHHS (HAB), 2005; Weinreb, 1999).

Homeless youth There is a high prevalence of HIV infection among runaway and homeless adolescents; HIV seropositivity is associated with intravenous drug use, male homosexual/bisexual activity, prostitution, and history of another sexually transmitted disease (Strico, 1991). Most homeless adolescents and youth (ages 14–24) have been abused or neglected. HIV infection, usually identified in 18–20 year olds (ages when most are willing to be tested), is often seen as an asset by homeless youth because it may increase their access to services (substance abuse treatment, medical services, and shelter). Adolescents and youth tend to be more recently infected than older adults, who are likely to be more acutely ill when identified. Younger patients have more time to address psychosocial problems; treatment is not as urgent. Homeless adolescents and youth are often developmentally less advanced than peers of the same chronological age; concrete thinking predominates over abstract reasoning skills, according to providers who are experienced with this population. *When discussing behavioral change with these patients, focus on immediate concerns rather than possible future consequences.* (Ammerman, 2004)

Sexual minorities Homeless sexual minorities (gay, lesbian, bisexual, transgender (GLBT) persons) need special support to counteract extreme marginalization, victimization, and frequent exclusion from mainstream health care systems. A significant number of homeless adolescents and youth are sexual minorities who have been rejected by their families and communities. Victimization, psychopathology, use of addictive substances, and multiple sexual partners increase these individuals' risk for HIV infection (Ammerman, 2004; Cochran, 2002). *Create a safe and nondiscriminatory clinical environment for all HIV-infected GLBT patients; build trust and rapport with these patients, and assure their access to comprehensive health care and facilitate access to housing.*

Transgender adults and adolescents (male-to-females and female-to-males) comprise a significant proportion of the homeless population in some areas. Injection of hormones or other drugs with nonsterile needles and unprotected sex with infected partners place some of these individuals at especially high risk for HIV (Herbst, 2008; Lombardi, 2001; Clements, 2000). Among sexual minorities, persons with gender variance are least likely to receive appropriate medical care; many have been denied screening and treatment for life-threatening diseases such as cervical cancer and HIV infection. Give these patients the information they need to make informed choices. For many transgender patients the only way to become engaged in care is by offering hormonal treatment. Underground selling of hormones and silicone implants are growing markets nationwide. Educate yourself about gender reassignment hormonal treatment (see Tom Waddell Health Center, 2006). *Educate patients using injected hormones about clean needle exchange.* Prescribe the syringes along with the hormone and *explain gender-related health risks*—e.g., a male taking estrogen may have increased risk for thromboembolism and cervical cancer; a female taking testosterone still requires screening for breast and cervical cancer, and runs the risk of hair loss and early cardiac disease. This information should be conveyed to promote informed choices, not to frighten or dissuade.

Immigrants Although homeless immigrants from certain areas may be at high risk for HIV (e.g., Africa) and tuberculosis (Mexico, the Philippines, and Southeast Asia), their access to prophylaxis and treatment may be limited. Undocumented immigrants may be reluctant to seek care for fear of being deported. Language and cultural barriers often compound financial barriers to health care. *Provide linguistically appropriate and culturally competent health services* (see National Health Care for the Homeless Council, 2006). Although immigrants who have been granted asylum may qualify for Medicaid as refugees, many immigrants, undocumented or not, are explicitly barred from the Medicaid program by Federal law (see Post, 2001, 16–17). *Assure access to health care for individuals with infectious diseases, regardless of their immigration status.*

CASE STUDY: HOMELESS TRANSGENDER ADULT WITH HIV

RL is a 29 year-old male-to-female transgender patient who was referred to the clinic for primary care from the Tuberculosis Center at the General Hospital in 2006. She was on DOT (directly observed therapy) for active tuberculosis with bone, pulmonary and psoas muscle involvement.

The patient emigrated from Mexico in 2005 where she had been victimized due to her gender identity. On arrival to the US, she confronted discrimination and homelessness. Both her limited English language proficiency and the lack of legal documentation made it difficult for her to find a regular job, and she resorted to doing sex work for income. When she presented to the San Francisco General hospital with weight loss and adenopathy, her HIV test was negative, and she was found to have disseminated tuberculosis.

While being treated for TB, she was able to receive housing from the TB program and had friends who would visit and help her with food. After she completed the tuberculosis treatment, she moved in with a friend and resumed doing sex work. When I met her she was underweight and had symptoms of depression. She complained of weakness and lack of appetite. To endure nights on the streets and to increase her appetite and energy, she learned to smoke methamphetamine. RL was knowledgeable about safe sex practices and understood her risk for sexually transmitted infections, including HIV. She tested negative for HIV in October 2006.

A social worker referred the patient for legal advice to determine whether she could qualify for asylum as a refugee, which becomes less likely after the individual has lived in this country for over one year. I prescribed hormones for her so she would not have to procure them on the street as she had previously done. I also prescribed an antidepressant and reviewed healthy practices with the patient.

A second HIV test performed in March 2007 was also negative; but in June 2007 the patient presented with fever and malaise (symptoms of acute retroviral syndrome) and tested positive for HIV. She admitted to the lack of condom use recently. Her medical history was complicated by acute cardiomyopathy and renal failure for which mechanical ventilation and hemodialysis were required. After spending months in the hospital, she was transferred to a long-term care facility for rehabilitation.

The patient was discharged from the care facility in June 2008, looking healthy and in good spirits. Because of her residual cardiac and renal insufficiency and the resistance pattern of the virus, she was started on a combination of atazanvir, ritonavir, lamivudine and stavudine. She is tolerating this regimen well. Her last CD4 count was 429 with an undetectable viral load.

RL presently lives with a transgender friend who is doing sex work and pays for food and rent for both of them. I am concerned that she may expose herself again to infection due to risky behavior in response to her economic situation. The patient does not reside legally in the United States, and her job and educational opportunities are minimal. I am also concerned because she is depressed, still has a renal stent in place, and has cardiac problems.

It is always frustrating for professionals and organizations that work with people at high risk for HIV/AIDS when patients become HIV positive despite their efforts to prevent seroconversion. Nevertheless, RL is adherent to therapy, enjoys walking around, has the support of her friends, and is very grateful for her improved quality of life after her long recovery from acute illness.

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FOLLOW-UP

- **Contact information** *At every visit, seek contact information (telephone/cell phone numbers, mailing/email addresses) for the patient, a family member or friend with a stable address, the shelter where the patient is currently staying or other location where s/he might be found, and for the patient's case manager and health care providers. A clinician should be available to the patient via beeper or other means, 24 hours a day.*
- **More frequent follow-up** *Try to see homeless patients more frequently, especially early in the course of treatment. Most HIV patients are told to return monthly; homeless patients should return within 1–2 weeks. Follow-up intervals also depend on comorbidities. Contact the patient a few days after starting medications and schedule a return visit within a week. Review adherence; give the patient a pillbox, if desired. At the beginning of a therapeutic relationship, reinforce the patient's understanding of the plan of care repeatedly. Ask if medications were missed and if so, why they were missed and what happened (e.g., stolen, forgot to take them while binging). Frequent contact encourages patient bonding and willingness to return to the clinic on a drop-in basis. Let homeless clients come back as frequently as is comfortable for them. Be mindful that relationship-building is as important as primary care interventions and may be more time-consuming initially.*
- **Drop-in system** *Create a routine drop-in time at primary care clinics (avoid Monday holidays), with no appointment required for new patients. Encourage routine follow-up for established patients, supplemented by an open-door policy for drop-ins. A drop-in system is far more effective than appointments for people who are disorganized or whose lives are chaotic.*
- **Help with appointments** *Help patients make and keep clinical appointments and routinely remind them of their appointments. Find out what their regular commitments are (e.g., when and where they receive wages or disability checks) and at what time(s) of day they can come to the clinic. Recognize that a homeless patient may be forced to miss a meal at a soup kitchen if the clinic appointment runs past serving hours. In communities where the number of homeless individuals far exceeds available shelter beds, competition for such beds can be significant, requiring individuals to line up in the late afternoon to secure a bed. Consequently, afternoon primary care appointments can be problematic, forcing patients to choose between their provider and having a safe place to sleep that evening.*
- **Incentives** *Provide personal hygiene items, meal vouchers, and/or cash incentives for use of services at least once weekly. Provide incentives for every kept appointment or group meeting attended—e.g., carfare plus a meal voucher (“carefare”). Escort each patient to the first clinic appointment; explain how to obtain carfare for the next visit and demonstrate how to use the meal voucher. Provide a client advocate to accompany the patient to appointments for MRI, colposcopy, or ambulatory surgery. Be the family member or friend most people call on if they have to do something frightening or unpleasant.*
- **Transportation** *Provide transportation to and from specialty referrals. Arrange to pick up new patients and those unable to come to the primary care clinic on their own.*

- **Outreach & intensive case management** *Provide medical outreach to unstably housed HIV-infected individuals—on the streets, in shelters, in drop-in centers or transitional/ long-term housing for homeless people living with AIDS.* Outreach services that include case management, nutrition supplementation, harm-reduction education, needle exchange, and provision of personal hygiene items and/or cash incentives for use of services at least once weekly have been demonstrated to result in improved access to regular health care and higher utilization of PCP prophylaxis and antiretroviral medications (Kushel, 2006; Cunningham, 2005; Bamberger, 2000). Use a clinical team to support the patient and promote continuity of care, which is essential for good HIV care.

Visit inpatients daily to reinforce engagement, facilitate discharge planning, and promote better follow-up care (e.g., call the library, help patients get methadone/nicotine patches, talk with patients about where to go after they leave the hospital). Encourage discharge to a nursing/recuperative care facility, if available. Establish and maintain contact with other service providers who know your patient (make phone calls and have lunch from time to time). Ask the patient to sign a release, in compliance with HIPAA requirements, so that you can share health information with other clinicians and service providers when s/he leaves your care. Information sharing is important, particularly during transition from homelessness to transitional or permanent housing, to identify any variations in the patient's behavior that may indicate a change in health status or problems with adherence. Be compassionate and caring.

- **Peer support** *Offer group activities to create positive peer support for patients having difficulty with ART—e.g., start a “breakfast club”; provide food and encourage members to take medications together; include staff to work with clients on medical and social issues in a social setting. This helps patients establish a regular wake-up time, begin the day with food and medications, share resources and coping strategies, and receive both medical and social support. Create opportunities for group leisure or quality of life activities to develop or deepen support networks and promote a sense of self-worth.*

PRIMARY SOURCES

U.S. Public Health Services guidance documents for the medical management of HIV infection and other issues surrounding HIV infection:

U.S. Department of Health and Human Services (DHHS), Panel on Antiretroviral Guidelines for Adults and Adolescents. (January 29, 2008). *Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents*. 128 p. www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf Retrieved 9/9/08

DHHS, Perinatal HIV Guidelines Working Group. (July 8, 2008). *Public Health Service Task Force Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1-infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission in the United States*. Rockville (MD). 98 p. <http://aidsinfo.nih.gov/contentfiles/PerinatalGL.pdf> Retrieved 9/9/08

OTHER REFERENCES

Adler N, Herman D, Susser E., NY State Psychiatric Inst., Columbia University Mailman School of Public Health (Sep 2005). What are homeless persons' HIV prevention needs? Center for AIDS Prevention Studies, UCSF AIDS Research Institute. www.caps.ucsf.edu/pubs/FS/revhomelessFS.php Retrieved 9/9/08

Aidala, A. (2006). Inequality and HIV: The role of housing. *Psychology and AIDS*. Exchange, American Psychological Association, Office on AIDS, 34: 3-5. www.apa.org/pi/aids/psych_aids_exchange_spring_06.pdf Retrieved 9/9/08

Aidala A, Cross JE, Stall R, Harre D, et al. (2005). Housing status and HIV risk behaviors: Implications for prevention and policy. *AIDS and Behavior*; 9(3) :1-15.

AIDS Action Foundation and the HIV/AIDS Bureau/HRSA. (2006). *Connecting to Care: Addressing Unmet Need in HIV; Workbook II, Rural & Formerly/Currently Incarcerated*. www.connectingtocare.net/part2/pdf/ctc_complete.pdf Retrieved 9/9/08

Allen DM, Lehman JS, Green TA, Lindegren ML, Onorato IM, Forrester W. HIV infection among homeless adults and runaway youth, United States, 1989-1992. *AIDS*, 8: 1593-1598, 1994.

Ammerman SD, Ensign J, Kirzner R, Meininger ET, Tornabene M, Warf CW, Zerger S, Post P. (2004). *Homeless Young Adults Ages 18-24: Examining Service Delivery Adaptations*. 50 p. National Health Care for the Homeless Council, Inc. www.nhchc.org/Publications/101905YoungHomelessAdults.pdf Retrieved 9/9/08

Backus LI, Boothroyd D, Deyton LR. (Oct 2005). HIV, hepatitis C and HIV/hepatitis C virus coinfection in vulnerable populations. *AIDS*; 19(suppl 3): 513-9.

Bamberger JD, Unick J, Klein P, Fraser M, Chesney M, Katz MH. (May 2000). Field action report: Helping the urban poor stay with antiretroviral HIV drug therapy. *American Journal of Public Health* 90(5):699-701. www.ajph.org/cgi/reprint/90/5/699.pdf Retrieved 9/9/08

- Bangsberg DR, Hecht FM, Charlebois ED, Zolopa AR, Holodniy M, Sheiner L, Bamberger JD, Chesney MA, Moss A. (2000). Adherence to protease inhibitors, HIV-1 viral load, and development of drug resistance in an indigent population. *AIDS*, 14: 357–366.
- Barker A, Alvaran M, Caughlan J, Post P. (Mar 2006). Case Report: Comorbid TB and HIV in a chronically homeless male: Social isolation compounds stress of medical confinement. Health Care for the Homeless Clinicians' Network. www.nhchc.org/CaseReports/CA08CaseReportTBHIV.pdf Retrieved 9/9/08
- Bassuk EL et al. The characteristics and needs of sheltered homeless and low-income housed mothers. *JAMA*, 276(8): 640–6, 1996.
- Browne A & Bassuk SS. Intimate violence in the lives of homeless and poor housed women: prevalence and patterns in an ethnically diverse sample. *Am J Orthopsychiatry*, 67(2): 261–78, 1997.
- Buchanan D, Doblin B, Sai T, Garcia P. (2006). The effects of respite care for homeless patients: A cohort study. *American Journal of Public Health*, 96, 1278–1281.
- Buchér JB, Thomas KM, Guzman D, Riley E, Dela Cruz N, Bangsberg DR. (Apr 2007). Community-based rapid HIV testing in homeless and marginally housed adults in San Francisco. *HIV Med.* 8(1):28–31. www.medscape.com/viewarticle/554783_print Retrieved 9/9/08
- Clanon K A, Mueller JJ, Harank M. (2005). Integrating treatment for hepatitis C virus infection into an HIV clinic. *Clinical Infectious Diseases*, 40(Supplement 5): S362–S366.
- Chiao EY, Giordano TP, Palefsky JM, Tying S, El Serag H. (2006). Screening HIV-infected individuals for anal cancer precursor lesions: A systematic review. *Clin Infect Dis* 43: 223–233. www.journals.uchicago.edu/doi/pdf/10.1086/505219 Retrieved 9/9/08
- Clarke S, Delamere S, McCullough L, Hopkins S, Bergin C, Mulcahy F. (Jan 2003). Assessing limiting factors to the acceptance of antiretroviral therapy in a large cohort of injecting drug users. *HIV Medicine*, 4(1): 33–7. http://www.ndc.hrb.ie/attached/1693-1600_Assessing_limiting_factors.pdf Retrieved 9/9/08
- Clements-Nolle K, Marx R, Guzman R, and Katz M. (2001). HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: Implications for public health intervention. *Am J Public Health*; 91(6): 915–921. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1446468> Retrieved 1/12/09
- Cochran BN, Stewart AJ, Ginzler JA, Cauce AM. (May 2002). Challenges faced by homeless sexual minorities: Comparison of gay, lesbian, bisexual, and transgender homeless adolescents with their heterosexual counterparts, *American Journal of Public Health*; 92(5): 773–7.
- Culhane DP et al. (Jul 2001). The co-occurrence of AIDS and homelessness: Results from the integration of administrative databases for AIDS surveillance and public shelter utilization in Philadelphia. *Jrnl of Epidemiology and Community Health*; 55(7): 515–20. http://works.bepress.com/cgi/viewcontent.cgi?article=1031&context=dennis_culhane Retrieved 9/9/08

- Cunningham, Shapiro, Berg, Sacajiu, Paccione, Goulet. (2005). An evaluation of a medical outreach program targeting unstably housed HIV-infected individuals. *Journal of Health Care for the Poor and Underserved* 16: 127-138.
http://muse.jhu.edu/journals/journal_of_health_care_for_the_poor_and_underserved/v016/16.1cunningham.pdf Retrieved 9/9/08
- D'Amore J, Hung O, Chiang W, Goldfrank L. (Nov 2001). The epidemiology of the homeless population and its impact on an urban emergency department. *Academic Emergency Medicine*; 8(11): 1051-5.
- Desai MM & Rosenheck RA. (2004). HIV testing and receipt of test results among homeless persons with severe mental illness. *American Journal of Psychiatry*; 161: 2287-2294.
- Dhanireddy S, Tulsy JP. (Mar. 2007). *HIV Web Study: A Case-Based Clinical Curriculum*. Case 5: Homelessness & HIV. <http://depts.washington.edu/hivaids/spop/case5/index.html> Retrieved 9/9/08
- DHHS, Working Group on Antiretroviral Therapy and Medical Management of HIV-Infected Children. (Jul 29, 2008). *Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection*. Bethesda (MD). 134 p. <http://aidsinfo.nih.gov/contentfiles/PediatricGuidelines.pdf> Retrieved 9/9/08
- DHHS (NIH, CDC) and the HIV Medicine Association of the Infectious Diseases Society of America. (Jun. 18, 2008). *Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-infected Adults and Adolescents*. http://aidsinfo.nih.gov/contentfiles/Adult_OI.pdf Retrieved 9/9/08
- DHHS (CDC). (Sep. 22, 2006). *Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings*. *MMWR*; 55(RR14): 1-17.
www.cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm Retrieved 9/9/08
- DHHS (CDC). (Aug. 4, 2006). *Sexually Transmitted Diseases Treatment Guidelines*. *MMWR*; 55(RR-11): 9.
www.cdc.gov/std/treatment/2006/rr5511.pdf Retrieved 9/9/08
- DHHS (HAB, HRSA). (Apr 2006). *Care and Treatment for Hepatitis C and HIV Co-infection: Expanding Access through the Ryan White CARE Act*. Tracy Swan, Treatment Action Group.
<http://hab.hrsa.gov/tools/coinfection/index.html> Retrieved 9/9/08
- DHHS (CDC). (Dec. 2005). *Guidelines for Using the QuantiFERON-TB Gold Test for Detecting Mycobacterium tuberculosis Infection, United States*. *MMWR*; 54 (RR15): 49-55.
www.cdc.gov/mmwr/preview/mmwrhtml/rr5415a4.htm Retrieved 9/9/08
- DHHS (CDC). (2005). *Guide for Primary Health Care Providers: Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection*. www.cdc.gov/tb/pubs/LTBI/pdf/TargetedLTBI05.pdf Retrieved 9/9/08
- DHHS (CDC). (Nov. 4, 2005). *Controlling Tuberculosis in the United States: Recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America*. *MMWR*; November 4, 2005 / 54(RR12); 1-81. Retrieved 1/9/09
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5412a1.htm>

- DHHS (HAB, HRSA). (2005). *A Guide to the Clinical Care of Women with HIV/AIDS*.
<http://hab.hrsa.gov/publications/womencare05/> Retrieved 9/9/08
- DHHS (CDC). (Oct. 28, 1994). *Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-care Facilities*. MMWR; 43(RR-13): 1-141. www.cdc.gov/mmwr/PDF/RR/RR4313.pdf
Retrieved 9/9/08
- DHHS (CDC). (Dec 18, 1992). *1993 Revised Classification System for HIV Infection and Expanded Surveillance Case Definition for AIDS among Adolescents and Adults*. MMWR; 41(RR-17): 1-19.
www.cdc.gov/mmwr/preview/mmwrhtml/00018871.htm Retrieved 9/9/08
- DHHS (CDC). (Apr 17, 1992). *Prevention and Control of Tuberculosis among Homeless Persons: Recommendations of the Advisory Council for the Elimination of Tuberculosis*. MMWR; 41(RR-5): 1-10.
<http://www.cdc.gov/mmwr/preview/mmwrhtml/00019922.htm> Retrieved 9/9/08
- Forney JC, Lombardo S, Toro PA. (2007). Diagnostic and other correlates of HIV risk behaviors in a probability sample of homeless adults. *Psychiatric Services*, 58, 92-99.
- Goldfinger S, Susser E, Roche B, Berkman A. (1998). *Homelessness and Serious Mental Illness: Implications for Policy and Practice*. National Resource Center on Homelessness and Mental Illness.
www.endlongtermhomelessness.org/downloads/news/HIV_and_Homelessness.pdf Retrieved 9/9/08
- Gordon AJ, McGinnis KA, Conigliaro J, et al. (Aug. 2006). Associations between alcohol use and homelessness with healthcare utilization among human immunodeficiency virus infected veterans. *Medical Care*, 44(8): S37-S43.
- Goulet JL, Fultz SL, McGinnis KA, Justice AC. (Oct. 2005). Relative prevalence of comorbidities and treatment contraindications in HIV-mono-infected and HIV/HCV-co-infected veterans. *AIDS*; 19(suppl 3): S99-105.
- Hahn JA, Bangsberg DR, McFarland W, Charlebois ED, Clark RA, Moss AR. (Dec. 2004). HIV seroconversion among the homeless and marginally housed in San Francisco: A Ten-Year Study. *J Acquir Immune Defic Syndr*; 37(5): 1616-1619.
- HCH Clinicians' Network. (2006). Homeless people at higher risk for CA-MRSA, HIV and TB, *Healing Hands* 10(5): 1-6. www.nhchc.org/Network/HealingHands/2006/Dec2006HealingHands.pdf
Retrieved 9/9/08
- HCH Clinicians' Network (Jun. 2000). Eliciting behavioral change: Tools for HCH clinicians; Preventing sexual transmission of HIV, *Healing Hands* 4(3): 1-4.
www.nhchc.org/Network/HealingHands/2000/hh.06_00.pdf Retrieved 9/9/08
- Henny KD, Kidder DP, Stall R, Wolitski RJ. (2007). Physical and sexual abuse among homeless and unstably housed adults living with HIV: Prevalence and associated risks. *AIDS Behav*; 11(6): 842-53.
- Herbst JH, Jacobs ED, Finlayson TJ, McKleroy VS, Neumann MS, Crepaz N. (2008). Estimating HIV prevalence and risk behaviors of transgender persons in the United States: A systematic review. *AIDS Behav*; 12(1):1-17. www.medscape.com/viewarticle/571708 Retrieved 9/9/08

- Highleyman L. (Mar 2007). Standard screening tests may not detect hidden hepatitis B virus in HIV/HBV-coinfected patients. *Aidsmap News*. www.aidsmap.com/en/news/95E6F8E7-AF9A-48F0-A4CB-DFA55030289B.asp Retrieved 9/9/08
- Hohl C. (Jun 2008). Homelessness and HIV: The Boston Health Care for the Homeless Perspective. Presentation, 2008 HCH Conference. [www.nhchc.org/2008conference/workshops/10docs/Homelessness and HIV 2008for uploading.ppt](http://www.nhchc.org/2008conference/workshops/10docs/Homelessness%20and%20HIV%202008for%20uploading.ppt) Retrieved 9/9/08
- Hsu J. (Apr 2008). Adherence. In: HIV Guide, Johns Hopkins Point-of-Care Information Technology Center: www.hopkins-hivguide.org/management/antiretroviral_therapy/adherence.html Retrieved 9/9/08
- International AIDS Society-USA (IAS-US). (Aug 2008). Antiretroviral treatment of adult HIV infection: Recommendations of the International AIDS Society-USA panel. *JAMA* 300(5): 555-70.
- Kaiser Family Foundation. (Jun 2008). HIV/AIDS Policy Fact Sheet. www.kff.org/hiv/aids/upload/7582_04.pdf Retrieved 9/9/08
- Kidder DP, Wolitski RJ, Royal S, Aidala A, Courtenay-Quirk C, Holtgrave DR, Harre D, Sumartojo E, Stall R. (2007). Access to housing as a structural intervention for homeless and unstably housed people living with HIV: Rationale, methods, and implementation of the Housing and Health Study. *AIDS Behav.*; 11(6 Suppl): 149-61.
- Kidder DP, Wolitski RJ, Campsmith ML, Nakamura GV. (2007). Health status, health care use, medication use, and medication adherence among homeless and housed people living with HIV/AIDS. *Am J Public Health*; 97(12): 2238-45.
- Kilbourne AM, Herndon B, Andersen RM, Wenzel SL, Gelberg L. (Feb 2002). Psychiatric symptoms, health services, and HIV risk factors among homeless women. *Jrnl of Health Care for the Poor and Underserved*, 13(1): 49-65.
- Kim TW, Palepu A, Cheng DM, Libman H, Saitz R, Samet JH. (Sep 2007). Factors associated with discontinuation of antiretroviral therapy in HIV-infected patients with alcohol problems. *AIDS Care*;19(8): 1039-47.
- Klauke S, Fischer H, Rieger A, et al. (2005). Use of bioelectrical impedance analysis to determine body composition changes in HIV-associated wasting. *Int J STD AIDS*;16: 307-313.
- Koniak-Griffin D, Nyamathi A, Tallen L, Gonzalez-Figueroa E, Dominick E. (2007). Breaking the silence: What homeless 18- to 24-year-olds say about HIV vaccine trials. *J Health Care Poor Underserved*; 18(3): 687-98.
- Kraybill K. (2002). *Outreach to People Experiencing Homelessness: A Curriculum for Training Health Care for the Homeless Outreach Workers*. National Health Care for the Homeless Council. <http://www.nhchc.org/Curriculum/> Retrieved 9/9/08
- Kuhn L, Aldrovandi GM, Sinkala M, Kankasa C, Semrau K, Mwiya M, Kasonde P, Scott N, Vwalika C, Walter J, Bulterys M, Tsai WY, Thea DM. (Jun 4, 2008). Effects of early, abrupt weaning for HIV-free survival of children in Zambia. *N Engl J Med*; 359(2): 130-141. <http://content.nejm.org/cgi/content/full/359/2/130> Retrieved 9/9/08

- Kushel MB, Colfax G, Ragland K, et al. (Jul. 2006). Case management is associated with improved antiretroviral adherence and CD4 cell counts in homeless and marginally housed individuals with HIV infection. *HIV/AIDS* 43: 234-242.
- Lee BA & Schreck C J. (2005). Danger on the streets: Marginality and victimization among homeless people. *American Behavioral Scientist*, 48(8): 1055-81.
- Lee D, Ross M, Mizwa M, Scott DP. (Aug 2000). HIV risks in a homeless population. *Int J STD AIDS*; 11(8): 509-15.
- Lewis JR, Boyle DP, Lewis LS, Evans M. (Jan 2000). Reducing AIDS and substance abuse risk factors among homeless, HIV-infected, drug-using persons. *Research on Social Work Practice*; 10(1): 15-33.
- Linn J G. (Aug. 2004). HIV prevention for homeless mentally ill men. Presentation, annual meeting of the American Sociological Association, San Francisco, CA.
- Lombardi E. (Jun. 2001). Enhancing transgender health care. *American Journal of Public Health*; 91(6): 869-872.
- Lopez-Zetina J, Kerndt P, Wesley F, Woerhle T, Weber M. (Apr 2001). Prevalence of HIV and hepatitis B and self-reported injection risk behavior during detention among street-recruited injection drug users in Los Angeles County, 1994-1996. *Addiction*, 96(4): 589-95.
- McElroy PD et al. (2003). Outbreak of tuberculosis among homeless persons coinfecting with human immunodeficiency virus. *Clin Infect Dis*; 36(10): 1305-12.
- McMurray-Avila M. (2001). *Organizing Health Services for Homeless People*, 2nd Edition. ISBN: 0971165092. Nashville: National Health Care for the Homeless Council, Inc. Table of contents: www.nhchc.org/Publications/Pagesfrom2ndedition-101901.pdf; ordering information: www.nhchc.org/Publications/ Retrieved 9/9/08
- Melchior LA et al. (2001). Unmet needs in groups of traditionally underserved individuals with HIV/AIDS: Empirical models. *Home Health Care Services Quarterly*, 19(1-2): 29-51.
- Melnick SM and Bassuk EL. (2000). *Identifying and Responding to Domestic Violence Among Poor & Homeless Women*. The Better Homes Fund. <http://www.nhchc.org/Publications/domesticviolence.html> Retrieved 9/9/08
- Miller WR and Rollnick S. (2002). *Motivational Interviewing: Preparing People to Change Addictive Behavior*, 2nd Edition. ISBN: 1572305630. New York: Guildford Press.
- Mitty JA et al. (2003). Directly observed therapy (DOT) for individuals with HIV: Successes and challenges. *Medscape General Medicine* [TM]. www.medscape.com/viewarticle/448428 Retrieved 9/9/08
- Moss AR, Hahn JA, Perry S, et al. (2004). Adherence to highly active antiretroviral therapy in the homeless population in San Francisco: A prospective study. *Clin Infect Dis*. 39(8):1190-8.
- Moss AR, Hahn JA, Tulsy JP, Daley CL, Small PM, and Hopewell PC. (Aug 2000). Tuberculosis in the homeless: A prospective study. *Am. J. Respir. Crit. Care Med*. 162(2 Pt 1): 460-4.

- National AIDS Housing Coalition (NAHC). (2006). Housing is HIV Prevention and Health Care: Findings from the National Housing and HIV/AIDS Research Summit Series. www.nhchc.org/AIDS Housing Summit Findings.pdf Retrieved 9/9/08
- National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. (2007 Mar). Street smart: Reducing HIV risk among runaway and homeless youths. Prevention Program fact sheet. www.cdc.gov/hiv/topics/prev_prog/rep/packages/streetsmart.htm Retrieved 9/9/08
- National Health Care for the Homeless Council. (2006). *Addressing Cultural and Linguistic Competence in the HCH Setting: A Brief Guide*. www.nhchc.org/CulturalCompetence0406.pdf Retrieved 9/9/08
- National Health Care for the Homeless Council. (2005). *Health Care for the Homeless: Introduction & Outreach*. DVD. To order: www.nhchc.org/Publications/
- New York State Department of Health AIDS Institute. (2008). Medical care for menopausal and older women with HIV infection. www.hivguidelines.org/GuideLine.aspx?guideLineID=134 Retrieved 9/9/08
- New York State Department of Health AIDS Institute. (2007). Care for the HIV-infected female adolescent. www.hivguidelines.org/GuideLine.aspx?guideLineID=93 Retrieved 9/9/08
- Nyamathi AM et al. (2002). Risk factors for hepatitis C virus infection among homeless adults. *J Gen Intern Med*; 17: 134-43.
- Nyamathi AM et al. (Oct 2001). Evaluating the impact of peer, nurse case-managed, and standard HIV risk-reduction programs on psychosocial and health-promoting behavioral outcomes among homeless women. *Research in Nursing and Health*; 24(5): 410-22.
- Nyamathi AM et al. (Apr 2000). Personal, cognitive, behavioral, and demographic predictors of HIV testing and STDs in homeless women. *Journal of Behavioral Medicine*; 23(2): 123-47.
- O'Connell J, Zevin B, Quick P, Post P (Ed.). (2007). *Documenting Disability: Simple Strategies for Medical Providers*. HCH Clinicians' Network. www.nhchc.org/DocumentingDisability2007.pdf Retrieved 9/9/08
- O'Connell J & Lebow J. (1992). AIDS and the homeless of Boston. *New England Journal of Public Policy*, 8(1): 541-556.
- Paris NM et al. (1996). HIV seroprevalence among Atlanta's homeless. *J of Health Care for the Poor and Underserved*; 7: 83-93.
- Post PA. (2001). *Casualties of Complexity: Why Eligible Homeless People Are Not Enrolled in Medicaid*. Nashville: National Health Care for the Homeless Council. www.nhchc.org/Publications/CasualtiesofComplexity.pdf Retrieved 9/9/08
- Raba JM et al. (1990). Homelessness and AIDS, in Brickner PW et al. (Eds.) *Under the Safety Net: The Health and Social Welfare of the Homeless in the United States*, New York: W.W. Norton, 215-233.
- Ramirez V, Garcia S, Romero J, Jover J. (Juns 1990). Response to hepatitis B vaccination in HIV seropositive patients. *Int Conf AIDS*; 6: 334.

- Rebacka CJ, Kamien JB, Amass L. (Mars 2007). Characteristics and HIV risk behaviors of homeless, substance-using men who have sex with men. *Addictive Behaviors*; 32(3): 647-654.
- Robertson MJ, Clark RA, Charlebois ED, Tulsy J, Long HL, Bangsberg DR, Moss AR. (2004). Seroprevalence among homeless and marginally housed adults in San Francisco. *Am J Public Health*; 94:1207-1217. www.ajph.org/cgi/reprint/94/7/1207.pdf Retrieved 9/8/08
- Sivakumar C, Wilderson D, Adams S. (2006). Rapid testing: A key component in HIV prevention for homeless youth. (Nov. 2006). Programs and abstracts of the American Public Health Association 134th Annual Meeting and Exposition; Boston, Massachusetts. Recorded presentation. http://apha.confex.com/apha/134am/techprogram/paper_136233.htm Retrieved 9/9/08
- Slesnick N & Kang MJ. (2008). The impact of an integrated treatment on HIV risk behavior among homeless youth: a randomized controlled trial. *J Behav Med*; 31(1): 45-59.
- Smith BD, DeWeaver KL, Reece M. (2006). A comparison study of homeless and non-homeless HIV-positive persons enrolled in mental health care. *Journal of HIV/AIDS & Social Services*; 5(1): 1538-1501.
- Song JY. (1999). *HIV/AIDS & Homelessness: Recommendations for Clinical Practice & Public Policy*. HCH Clinicians' Network. www.nhchc.org/Publications/HIV&Homelessness0200.pdf Retrieved 9/9/08
- Stricof RL, Kennedy JT, Nattell TC, Weisfuse IB and Novick LF. (1991). HIV seroprevalence in a facility for runaway and homeless adolescents, *American Journal of Public Health* 815: 50-53. www.ajph.org/cgi/reprint/81/Suppl/50.pdf Retrieved 9/9/08
- Susser E, Valencia E, Berkman A, et al. (Mar. 1998). Human immunodeficiency virus sexual risk reduction in homeless men with mental illness, *Arch Gen Psychiatry*, 55(3): 266-72.
- Susser E et al. (1993). Prevalence of HIV infection among psychiatric patients in a New York City men's shelter. *American Journal of Public Health*; 83: 568-570.
- Swanson B & Keithley J. (1998). Bioelectrical impedance analysis (BIA) in HIV infection: Principles and clinical applications. *Journal of the Association of Nurses in AIDS Care*; 9(1): 49.
- Thompson VV, Ragland KE, Hall CS, Morgan M, Bangsberg DR. (Oct. 2005). Provider assessment of eligibility for hepatitis C treatment in HIV-infected homeless and marginally housed persons. *AIDS*;19 (Suppl 3): S208-14.
- Tommasello AC, Gillis LM, Lawler JT, Bujak GJ. (2006). Characteristics of homeless HIV-positive outreach responders in urban US and their success in primary care treatment. *AIDS Care*; 18(8): 911-7.
- Tom Waddell Health Center, San Francisco Dept. of Public Health. (2006). *Protocols for Hormonal Reassignment of Gender*. www.sfdph.org/dph/comupg/oservices/medSvs/hlthCtrs/TransGendprotocols122006.pdf Retrieved 9/9/08
- Torres RA et al. Human immunodeficiency virus infection among homeless men in a New York City shelter. *Archives of Internal Medicine*, 150: 2030-36, 1990.

- Tsui JI, Bangsberg DR, Ragland K, Hall CS, Riley ED. (2007). The impact of chronic hepatitis C on health-related quality of life in homeless and marginally housed individuals with HIV. *AIDS Behav*; 11(4): 603-10.
- Urbina A, Faragon J, Kubin C, Castillo A. (2008). *Recreational Drugs and HIV Antiretrovirals – A Guide to Interactions for Clinicians*. New York/New Jersey AIDS Education Training Center, 1-12.
www.aidsetc.org/aidsetc?page=etres-display&resource=etres-281 Retrieved 9/9/08
- Waldrop-Valverde D, Valverde E. (May 2005). Homelessness and psychological distress as contributors to antiretroviral nonadherence in HIV-positive injecting drug users. *AIDS Patient Care and STDs*, 19(5): 326-334.
- Weinbaum CM, Sabin KM, Santibanez SS. (Oct. 2005). Hepatitis B, hepatitis C, and HIV in correctional populations: A review of epidemiology and prevention. *AIDS*, 19 (Suppl 3 [Section I: Vulnerable populations]): S41-S46.
www.aidsonline.com/pt/re/aids/fulltext.00002030-200510003-00008.htm Retrieved 9/9/08
- Weinreb L, Goldberg R, Lessard D, Perloff J, Bassuk E. (1999, Nov). HIV-risk practices among homeless and low-income housed mothers. *J Fam Pract*; 48: 859-867.
http://findarticles.com/p/articles/mi_m0689/is_11_48/ai_59407958 Retrieved 9/9/08
- Weiser SD, Riley ED, Ragland K, Hammer G, Clark R, Bangsberg DR. (Jan. 2006). Brief Report: Factors associated with depression among homeless and marginally housed HIV-infected men in San Francisco. *J Gen Intern Med.*; 21(1): 61-64.
www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1484614 Retrieved 9/9/08
- Wenzel, S. L., Leake, B. D., & Gelberg, L. (2001). Risk factors for major violence among homeless women. *Journal of Interpersonal Violence*, 16(8): 739-52.
- Wise J and Operario D. (Jun. 2008). Use of electronic reminder devices to improve adherence to antiretroviral therapy: A systematic review. *AIDS Patient Care and STDs*; 22(6): 495-504.
- Woods ER, Samples CL, Melchiono MW, Keenan PM, Fox DJ, Harris SK; Boston HAPPENS Program Collaborators. (Oct 2002). Initiation of services in the Boston HAPPENS program: Human immunodeficiency virus-positive, homeless, and at-risk youth can access services. *AIDS Patient Care and STD's*, 16(10): 497-510.
- World Health Organization (WHO). (2007). HIV and infant feeding: New evidence and programmatic experience: report of a technical consultation held on behalf of the Inter-agency Task Team (IATT) on Prevention of HIV Infections in Pregnant Women, Mothers and their Infants, Geneva, Switzerland, 25-27 October 2006.
http://whqlibdoc.who.int/publications/2007/9789241595971_eng.pdf Retrieved 9/9/08
- WHO. (2006). Antiretroviral therapy for HIV infection in adults and adolescents: Recommendations for a public health approach. Considerations for injecting drug users, p.61.
www.who.int/hiv/pub/guidelines/artadultguidelines.pdf Retrieved 9/9/08
- Zolopa AR, Hahn JA, Gorter R, Miranda J, Włodarczyk D, Peterson J, Pilote L, Moss AR. (1994). HIV and tuberculosis infection in San Francisco's homeless adults: Prevalence and risk factors in a representative sample. *JAMA*; 272(6): 455-61.

Zolopa A, Gorter R, Meakin R, Keffelew A, Wolfe H, Moss AR. (1991). Homelessness and HIV infection: A population-based study. *Int Conf AIDS*, 16-21.

WEBSITES

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| AIDS Information, US government | www.aids.gov/index.html |
| AIDS Education & Training Centers National Resource Center , HRSA | www.aids-ed.org/ |
| HIV/AIDS and Drug Abuse, NIDA | www.drugabuse.gov/DrugPages/HIV.html |
| HIV/AIDS clinical guidelines, NIH | www.aidsinfo.nih.gov/Guidelines/ |
| HIV/AIDS information, CDC | www.cdc.gov/hiv/ |
| Housing Opportunities for Persons With AIDS (HOPWA) | www.hud.gov/offices/cpd/aidshousing/index.cfm |
| Ryan White HIV/AIDS Program | http://hab.hrsa.gov/about/ |
| Henry J. Kaiser Family Foundation HIV Policy Program | www.kff.org/about/hivpolicy.cfm |
| International AIDS Society | www.iasociety.org/ |
| National AIDS Housing Coalition | http://nationalaidshousing.org/ |
| National Health Care for the Homeless Council HIV/AIDS Resources | www.nhchc.org/HIVresources.html |
| World Health Organization HIV/AIDS site | www.who.int/hiv/en/ |

ABOUT THE HCH CLINICIANS' NETWORK

Founded in 1994, the Health Care for the Homeless Clinicians' Network is a national membership association that unites care providers from many disciplines who are committed to improving the health and quality of life of homeless people. The Network is engaged in a broad range of activities including publications, training, research and peer support. The Network is operated by the National Health Care for the Homeless Council, and our efforts are supported by the Health Resources and Services Administration, the Substance Abuse and Mental Health Services Administration, and member dues. The Network is governed by a Steering Committee representing diverse community and professional interests.

To become a member or order Network materials, call 615 226-2292 or write to network@nhchc.org. Please visit our Web site at www.nhchc.org.