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Strategies & Interventions



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Introduction

PURPOSE The purpose of this chapter is to provide organizations with the tools needed to design and implement HIV prevention programs. The chapter builds on information provided in Chapter 1: Epidemiology, Chapter 2: Community Assessment, and Chapter 3: Priority Setting to give guidance and tools to develop strategies and interventions that will achieve the goal of averting new HIV infections in San Francisco.

This chapter is divided into the following sections, which are directly linked to the prioritized areas that the HIV Prevention Planning Council (HPPC) believes are necessary to meet targets for reducing infections in San Francisco:

- HIV status awareness;
- Syringe Access and Disposal Programs;
- Health Education and Risk Reduction (HERR) activities to address drivers;
- Prevention with Positives; and
- Structural change

Additionally, this chapter describes how to create HIV prevention programs to implement one or more of these prioritized areas. Many of the sections of this chapter deal with strategies and interventions within the area of the same name. While HERR activities aim to focus on drivers of HIV, as well as other behavioral prevention needs of individuals at high risk for HIV, drivers can also be addressed through programs and activities using the other content areas.

Providers are invited to use the tools presented in this chapter creatively—in different combinations as appropriate—to meet the larger goal of establishing integrated, coordinated, and responsive HIV prevention programs for San Francisco’s at-risk populations. In cases where mandates are attached to specific tools, those are indicated (e.g., under many of the strategies and interventions, implementation requirements are listed). Other information is offered as guidance to programs and can be applied as relevant.

The information presented here summarizes key points in the published literature; thus, further research may be required for more detailed information (references are provided where applicable). This chapter does not provide guidance on the content or curricula for interventions. The types of prevention information, messages, and mode of delivery should be dictated by the specific and current prevention needs of the priority population, as identified by a needs assessment (see Chapter 2: Community Assessment for needs assessments with various populations, pp. 62-114) or other scientifically sound methods. Curricula can also be borrowed and adapted from other programs with demonstrated relevance and effectiveness.

This chapter aims to support the development of strategies and interventions regardless of the funding source. That is, these tools are intended to assist providers seeking resources from a broad range of funders beyond the Department of Public Health including the Centers for Disease Control and Prevention (CDC), Health Resources Services Administration (HRSA), private foundations, and others.

HOW TO READ THIS CHAPTER

Because this chapter reflects a new approach to HIV prevention in San Francisco, it is recommended that all readers first read through the entire chapter to understand the overall direction. The sections in this chapter present strategies for developing HIV prevention programs, but these approaches are not mutually exclusive.

Readers who only wish to focus on a specific section may review the Chapter Outline for information about specific topic areas.

TERMS & DEFINITIONS

COMORBIDITY The presence or effect of one or more disorders or diseases in addition to a primary disorder or disease.

DRIVER An underlying condition that is directly linked to a large number of new HIV infections in San Francisco.

HIV INFECTED The term indicates that evidence of HIV has been found via a blood test for RNA. This is also referred to as “acute infection.” It is distinct from HIV-positive as the individual is not positive for HIV antibodies. The person will eventually become HIV-positive, but is in a window period in which antibodies have not yet developed.

HIV-NEGATIVE Refers to the absence of antibodies for HIV in a blood or oral fluid test and is synonymous with seronegative. An HIV-negative person can be infected if he or she is in the window period between HIV exposure and detection of antibodies.

HIV-POSITIVE This term indicates the presence of antibodies for HIV in a blood or oral fluid test and is synonymous with seropositive. HIV-positive is a legal diagnosis.

HIV STATUS AWARENESS An umbrella term for any strategy or service that helps people learn their status.

INTERVENTION The type of service or prevention modality a program provides (e.g., social marketing).

MEDICAL SETTING Sites with a medical provider (e.g., physician, nurse practitioner, physician’s assistant).

NON-MEDICAL SETTING Sites that do not have a medical provider (e.g., physician, nurse practitioner, physician’s assistant) and do not provide medical services.

PREVENTION WITH POSITIVES Any strategy or intervention that addresses the specific needs of persons living with HIV/AIDS (PLWHA).

STRATEGY A prevention approach that can be applied across a spectrum of possible interventions (e.g., peer education).

STRUCTURAL CHANGE New or modified programs, practices or policies that are logically linkable to HIV transmission and acquisition, and can be sustained over time, even when key actors are no longer involved.

SYRINGE ACCESS AND DISPOSAL PROGRAMS Sites that provide a range of sterile equipment and disposal services. Throughout this chapter they are referred to as Syringe Programs.

It is important to remember that this chapter was written to be used by providers to develop programs regardless of funding sources. For the purpose of this chapter, the term “must” indicates that the action is required by policy or law, while “should” refers to a philosophical approach supported by the HPPC. Individuals should review the guidelines set by each funder for additional requirements.

Background

In the past thirty years, the prevention needs in San Francisco have changed, with a relatively stable state of new HIV infections in San Francisco and effective treatment options that are now available for persons living with HIV/AIDS (PLWHA). In addition, new technologies and changes in laws represent progress and help shape new approaches to HIV. While this is a reason for optimism, the HPPC is faced with determining how to further reduce new HIV infections in the community. Given the current state of HIV in San Francisco and what we know about the communities most affected (as outlined in Chapter 2: Community Assessment) we are now charged with developing programs that engage individuals and communities in activities that help achieve the goal of eliminating HIV.

San Francisco's Approach to Program Design and Implementation

The HPPC acknowledges that HIV prevention efforts have been successful at preventing new infections because the rate of new infections has leveled off in recent years, and may have even declined somewhat. Despite these successes, the HPPC recognizes the need to intensify prevention efforts and think about new approaches, because the ultimate goal is to drive the number of new infections down even further. Otherwise, with the current infection rates, HIV will remain entrenched in certain San Francisco communities for generations.

In light of the need for new approaches to HIV prevention, the HPPC has embraced the following prioritized areas for HIV prevention for the 2010 plan: HIV status awareness, syringe programs, addressing drivers of HIV (through HERR activities), prevention with positives, and structural change. Prioritizing these areas represents a renewed vision for HIV prevention in order to reduce new HIV infections. The following core principles describe the rationale for developing these prioritized areas and direction for HIV prevention efforts:

- When people living with HIV (PLWH) know their HIV status, they make healthier and safer decisions for themselves and their partners.
- Access to sterile syringes reduces acquisition and transmission of HIV and other blood-borne pathogens.
- Reducing substance use reduces HIV risk behavior.
- Lower HIV viral loads are associated with lower transmission risk.
- Addressing comorbidities such as viral hepatitis, sexually transmitted diseases, and tuberculosis is important for HIV prevention.
- HIV prevention activities have a greater influence if they take place on not only individual- and community-levels, but also at a system-wide level. This includes modifying laws and policies to achieve a higher level of change that influences the broader context of HIV risk.

The HPPC recommends that organizations select strategies and develop interventions that support the abovementioned prioritized areas. To support these prioritized areas, agencies should address drivers and cofactors of HIV, implement structural changes, and adhere to principles for program design and implementation. More information about how to support the prioritized areas follows.

Addressing the Drivers and Cofactors of HIV

In order to reduce new infections, the HPPC recommends that providers develop HIV prevention programs to address at least one of the drivers of HIV in San Francisco. (Please see p. 115 and p. 166 for more information on drivers). These recommendations do not stand in isola-

tion and should be applied within the context of the overall principles for HIV prevention in San Francisco described above. It is important to note that addressing drivers directly is often necessary but not sufficient to prevent HIV in San Francisco. The HPPC recognizes that programs should also address the larger contextual factors and structural issues that influence how drivers affect individuals. For more information on contextual factors, please see the Chapter 3: Priority Setting, p. 155.

Prevention providers should consider the following principles:

- When addressing a driver with an individual, programs should be prepared to address the whole person. That is, programs should address the context of the person's life (e.g., depression, substance use, lack of access to medical care) and the person's vulnerability to HIV and capacity for engaging in HIV prevention activities.
- It is recommended that HIV prevention programs that aim to serve high-risk Behavioral Risk Populations. Men Who Have Sex With Men (MSM), Injection Drug Users (IDUs), and Transfemales Who Have Sex With Males (TFSM) should address at least one driver, as appropriate.
- Drivers can be addressed by developing a new program at an agency that prioritizes the specific affected population, or services to address drivers may be integrated with other existing programs at the agency (e.g., if methamphetamine use is a driver, an agency may create a peer counseling program to address methamphetamine use among MSM or an agency with an existing program for MSM may build discussions of methamphetamine use into a current workshop or group).
- When addressing drivers with an individual, programs should document all of the drivers and cofactors that are influencing the individual and demonstrate that they are connecting the client to services that appropriately meet their needs.

Structural Changes

San Francisco recognizes the influence of policies and the broader environment on supporting HIV prevention, and the HPPC has identified examples of structural changes that reflect this philosophy (see Section VI of this chapter, pp. 196-197). To promote HIV prevention, system-level changes (e.g., programs, practices, policies) are necessary, as these changes are ultimately those that will make it easier for people to remain healthy in their communities.

Principles for Program Design and Implementation

The principles that underlie the creation of effective programs for San Francisco populations reflect the latest science, as well as San Francisco's core values about community-supported HIV prevention. HIV prevention providers play a role in ensuring that the HIV prevention network of services reflects these principles. Providers should incorporate the following elements into their programs.

Community Focus. There are multiple ways that providers can bring a community focus to HIV prevention, as described below. Provider experience and information from the Community Assessment Chapter (pp. 60-147) are important to ensure a community focus.

- All prevention programs should strive to stimulate community involvement through cultivation of community trust over time (e.g., staff should be nonjudgmental, open, compassionate, trustworthy, responsive).
- Community members should be involved in the development and implementation of programs.
- Both the content and method of delivery of an intervention should be culturally appropriate for the priority population. This requires an understanding of, respect for, and attention to how people from a cultural group communicate and interact, as well as their values and beliefs. Cultural competency can be defined in many ways and is not limited to race/ethnicity and language.

- In some settings, providing items such as food, vouchers, transportation, t-shirts, or condoms, may be useful for recruiting some priority populations to participate in HIV prevention programs and can go a long way toward building community trust. Likewise, attention to recruitment and retention of staff and volunteers is critical for the continuity of programs, which contributes to agency credibility and helps promote trust.

Some priority populations, or subgroups within a population, can be very difficult to access. Groups that often get missed with conventional HIV prevention efforts include people who are socially marginalized, visually or hearing impaired, people with developmental disabilities, people who do not read, people who speak English as a second language, and people who speak non-English languages. Providers should use creative means to reach these groups.

Community-Driven Norms. San Francisco recognizes that HIV prevention activities are often developed by communities and outside of formal health promotion institutions. As a result, the HPPC encourages organizations to provide opportunities for community-driven program design and to work with people to enhance community-created prevention practices with evidence of effectiveness. One example of a community-created response is seroadaptation, which individuals have been practicing for a number of years in an attempt to reduce the risk of contracting and/or transmitting HIV. The HPPC encourages additional research to determine the effectiveness of seroadaptation as an HIV prevention strategy. For more information about seroadaptation, please see Chapter 2: Community Assessment, p. 67.

Cost Effectiveness. An economic analysis of an intervention or program can determine whether it is cost-saving (i.e., the cost of the intervention per HIV infection averted is less than the lifetime cost of caring for a person with HIV) or cost-effective (i.e., the cost per HIV infection averted compares favorably with other preventive services, such as smoking cessation) (CAPS fact sheet 2002). In San Francisco, programs should be as cost-effective as possible. Some studies suggest that certain interventions and strategies are cost-effective, such as syringe programs, and this is indicated throughout the chapter.

Defining Your Priority Population. It is important that our prevention efforts are focused on priority populations at highest risk for HIV. The Community Assessment Chapter (pp. 60-147) presents information on specific populations, and the Priority Setting Chapter (pp. 150-168) highlights priority behavioral risk populations and subpopulations in San Francisco. This information can be used by an organization to identify a priority population for an HIV prevention intervention, as well as factors to address in the intervention.

Documentation. HIV prevention programs in San Francisco should include documentation of their efforts. Collecting, recording and reporting pertinent data is essential to developing sustainable and effective HIV prevention programming. The data and other information collected may then be used for planning services, invoicing, and evaluation of programs. It is important to note that client level data is protected under the California Health and Safety Code 12105(a) (see Appendix 1, p. 275 for information). Program evaluation allows providers to see how well a program is doing and how it could be improved. For more information on evaluation, see Chapter 5, pp. 282-307.

Harm Reduction. The San Francisco Health Commission adopted a Harm Reduction Policy for substance use, sexually transmitted infections (STIs) and HIV prevention and treatment services, and/or programs that serve drug users. For more information about San Francisco's policy, please see <http://www.sfdph.org/dph/comupg/oservices/mentalHlth/SubstanceAbuse/HarmReduction/default.asp>. A harm reduction approach to prevention accepts that harmful behavior exists, and the main goal is to reduce the negative effects of the behavior rather than ignore or pass judgment on the person or the behavior. The term "harm reduction" is used most often in the context of drug use, but the approach can be used with sexual risk behavior as well. A harm reduction approach encourages safer drug use or sexual practices among those engaging in high-risk behaviors and acknowledges the social and environmental factors that affect drug use and high-risk sexual behaviors, such as poverty,

racism, and stigma. Harm reduction also encompasses prevention practices such as seroadaptation. For more information on harm reduction, please see p. 222.

Linkage. HIV prevention in San Francisco is part of a larger system of health and social services. In order for HIV prevention to be effective, each HIV prevention program should have in place a system to actively engage a client in order to enroll them in services provided by the agency or by linking the client to appropriate resources (e.g., HIV status awareness). Linkage goes beyond handing out information or a phone number; the process includes providing support to the individual to access the services he or she is being referred to, as well as tracking referrals and referral follow-up. For more information on linkage, please see p. 242.

Prevention Messages. Prevention messages should be suitable to the priority population, accurate, consistent, and delivered with appropriate frequency for maximum effect. Providers should be aware of the requirements established by each funding source. This is important regardless of intervention, and providers serving similar populations should collaborate with each other to ensure consistency in the messages. Attention to over-saturation is important, because hearing the same message over and over may lead to weakening its effect. Needs assessments and formative research can help determine when it is time to change a prevention message or give it a new look. For example, a community survey or focus groups could solicit participants' opinions about current social marketing campaigns, which could reveal if and how the priority population is responding to a particular message.

Program Collaboration and Service Integration. Program Collaboration and Service Integration (PCSI) is a mechanism of organizing and blending interrelated health issues, separate activities, and services in order to maximize public health impact through new and established linkages between programs to facilitate the delivery of services. Providers should focus on improving collaboration in order to enhance integrated service delivery at the client level, or point of service delivery. The goal of PCSI is to provide prevention services that are holistic, evidence-based, comprehensive, and high quality to appropriate populations at every interaction with the health care system. Additional information can be found at www.cdc.gov/nchhstp/programintegration/Default.htm.

Referrals. For many, HIV is not their main priority; referrals are necessary because if a person's basic health and social service needs are not being met, HIV prevention is less likely to be effective. Providing referrals for services such as HIV testing, STI detection and treatment, mental health, substance use prevention and treatment is important. Referrals are often a necessary step for people to receive needed services, and whoever delivers an intervention should be trained in community resources and referral mechanisms. The development of referral relationships should consider both individual needs (i.e., linking individuals with needed services) and community needs (i.e., creating change at the systems level to link underserved communities with the service system). For more information on referrals, please see p. 188.

Science-based Programs. HIV prevention programs should have a strong scientific foundation. Program designs should be based on a needs assessment (i.e., a process that uses research methods to collect and analyze information to determine the educational and service needs of a population). Needs assessments reports for many priority populations are already provided in this Plan (see Chapter 2: Community Assessment, pp. 62-114). Providers may find it necessary to conduct additional evaluation efforts and/or research with their specific priority populations to assess risk behaviors, identify barriers to accessing services, and explore possible interventions and strategies with evidence of effectiveness. A needs assessment may include primary data (e.g., interviews) and/or secondary data (e.g., literature review). Once a needs assessment is completed, programs should be designed that include the following elements:

- A clearly defined priority population (e.g., defined by behavioral risk population [BRP], subpopulation, race/ethnicity, gender, age);
- Clearly defined overall goals and specific objectives;
- A theoretical foundation that guides practice;

- Defined and measurable effectiveness outcomes, such as the number of new HIV infections diagnosed or a reduction in high-risk sexual behaviors; and
- A realistic timeline for implementing activities and achieving objectives.

Finally, program implementation and program effectiveness should be evaluated using scientific tools, such as a survey. (For more on evaluation, see Chapter 5: Evaluation, pp. 282-307.)

SECTION II HIV Status Awareness

Goal of HIV Status Awareness Programs

- To promote knowledge of HIV status and link all people who have HIV to medical care and support services.

Why HIV Status Awareness is a Priority

HIV status awareness is one of the cornerstones of HIV prevention. When people know their status, it opens up opportunities for appropriate linkages to medical care and support services which, for PLWH, can prolong life expectancy and increase overall quality of life. In addition to this, people with HIV who know their status are more likely to engage in healthy behaviors and are less likely to unknowingly transmit HIV to others.

Definition

HIV status awareness is the umbrella term for multiple strategies or services that help people know their HIV status. These strategies and services usually refer to HIV testing, partner services, and linkage to care, but these three areas can also include HIV health education, risk reduction counseling, public information and public/private partnerships when those activities facilitate HIV status knowledge. HIV status awareness also encompasses HIV RNA (ribonucleic acid) testing, which helps people know their HIV status shortly after exposure and before they develop HIV antibodies.

Introduction

This section describes the tools necessary for providers to develop HIV status awareness programs. HIV status awareness programs have laws and regulations pertaining to HIV testing, and therefore must meet particular requirements. Even so, providers can tailor status awareness programs to their priority populations by supplementing the components required by law with additional

Key Terminology

Acute HIV infection

This term indicates that HIV RNA has been detected in the blood prior to the detection of antibodies. It is distinct from HIV-positive because the individual is not positive for HIV antibodies. The person will eventually become HIV-positive, but is in a window period in which antibodies have not yet developed.

HIV-positive

This term indicates the presence of HIV antibodies in a blood or oral fluid test and is synonymous with seropositive. Currently, testing HIV-antibody positive is required for a diagnosis of HIV.

HIV-negative

Refers to the absence of HIV antibodies in a blood or oral fluid test. Synonymous with seronegative. An HIV-negative person can be infected if he or she is in the window period between HIV exposure and detection of antibodies – the acute infection period.

Source: UNAIDS' Terminology Guidelines (February 2008)

activities that are most appropriate for reaching their intended populations. In this way, providers can develop flexible and creative models. The subsections that follow provide a descriptive background and required and supplemental elements for providers to incorporate to build status awareness programs. The intent of this approach is to foster creativity and promote different options for testing models to reach a variety of individuals, including those who do not perceive themselves to be at risk, late-testers, and substance users. This framework aims to address barriers to people getting tested for HIV in San Francisco.

New terms, technology, and protocols are continuously being developed for HIV testing, which results in new terminology for describing HIV status. Key terminology is presented in the box on the previous page. For information about new HIV prevention technologies, please see Section VII, p. 234.

Background

The overall vision of HIV status awareness is to ensure that all San Franciscans, particularly those who are at high risk for HIV, have accurate knowledge of their status and opportunities to get tested and retested easily and as needed. In addition to helping people learn their status, when individuals are found to have HIV, status awareness programs aim to ensure that clients are linked to medical care and other appropriate support services. Therefore, the San Francisco HPPC recommends HIV testing among high-risk individuals at least every six months.

HPPC's Vision for HIV Status Awareness

- High-risk individuals should test for HIV at least every six months.
- HIV testing should be widely accessible, client-centered, and responsive to the community.

Moreover, the HPPC supports making HIV testing routine and widely accessible and integrating HIV testing with other health services, such as sexually transmitted infections (STIs) testing and viral hepatitis services. The HPPC further supports RNA testing to help people know their status at the acute stage of infection.

Although pre-test counseling has traditionally been paired as a standard requirement with HIV testing and linkages, San Francisco acknowledges that options for a variety of testing models (e.g., with or without counseling) are necessary in order to reach the most people. Providing clients with options for HIV education, as well as offering varying levels of intensity of counseling, are recommended.

Partner services are an additional component of HIV status awareness. The intent of partner services is to reduce HIV transmission by offering an individual who is HIV-infected avenues for informing their sexual and/or syringe-sharing partners of possible exposure to HIV, and by providing HIV status awareness interventions and other services to those partners. (For more information on Partner Services, see p. 193).

Why Focus on HIV Status Awareness?

Helping people know their HIV status is an effective HIV prevention intervention and serves to link people with HIV to medical care and partner services. Getting persons tested as soon as possible after exposure to HIV allows individuals to access life-prolonging treatment and services if they are found to be HIV infected, and reduces the chances that they will unknowingly transmit HIV to others. The HPPC acknowledges that some individuals may not want to test and encourages providers to support these individuals until they are ready for an HIV test.

Status awareness programs are also important to support, as accurately as possible, knowledge of HIV status, as individuals may be practicing seroadaptation to make decisions about sexual risk behaviors. Because an estimated 15-20% of individuals in San Francisco who have HIV do not know that they are infected, promoting accurate knowledge of HIV status is critical to preventing new HIV infections in the city. San Francisco continues to have nearly 1,000 new HIV infections each year, and status awareness programs offer the opportunity to assist these

individuals in learning their status in order to ensure linkage to care and prevent further transmission. In 2006, the CDC released updated guidelines for HIV testing, recommending that HIV testing efforts not only be expanded to include routine screening in health care settings but also that all people between the ages of 13 and 64 should be tested at least once, and that individuals at “high risk” should be tested regularly (Branson et al 2006).

Focusing efforts on status awareness also aims to address the number of individuals who are “late testers”, defined here as receipt of a positive HIV test one year or less before the diagnosis of AIDS. For more information on late testers, please see Chapter 2: Community Assessment, pp. 110-113.

Menu of Elements

REQUIRED ELEMENTS (LISTED IN ORDER OF REQUIRED PROTOCOL)

As described previously, HIV status awareness programs are driven by certain requirements mandated by law. San Francisco supports supplementing these requirements with additional activities to creatively reach priority populations. The table below lists each of the required elements for HIV status awareness programs, as well as supplemental elements. In the table, the required elements are those that status awareness programs must include and are based on California laws and regulations. In order to expand the flexibility of status awareness programs, organizations are encouraged to add supplemental elements to tailor their programs to meet the needs of the populations that they aim to serve. The supplemental elements are not specific only to HIV status awareness, and are applicable to multiple prioritized areas. Please refer to the Guide to Strategies and Interventions (Section VII) for additional information about specific supplemental elements as well as additional strategies and interventions to incorporate when developing programmatic activities.

REQUIRED ELEMENTS	SUPPLEMENTAL ELEMENTS
• Consent	• HIV Prevention Education (p. 182)
• HIV Antibody Testing	• HIV RNA Testing (see p. 182)
• Disclosure of HIV Test Results	• Individual Risk Reduction Counseling (see p. 182)
	• Methods to Increase Access to Testing for Underserved Populations (p. 183)
	• Prevention Case Management (see p. 184)
	• Sexually Transmitted Infections (STI) Testing (see p. 184)
	• Viral Hepatitis Services (see p. 184)

The following sections provide detailed descriptions of each required and supplemental element.

Consent

Consent means that a person has been fully informed and understands the risks and benefits of the test and agrees to take an HIV test. With changes in laws and efforts to expand testing into medical setting, options for consent have changed. Options for obtaining consent include the following:

- **Written Consent** (Health and Safety Code Section 120990) – a separate consent form signed by clients to document that he or she agrees to test for HIV. This process is required for non-medical sites conducting confidential HIV testing.
- **Verbal Consent** (Health and Safety Code Sections 120885-120895) – a verbal confirmation provided by a client to ensure that he or she agrees to test for HIV. This process is required for non-medical sites conducting anonymous HIV testing.
- **Opt-Out Consent** (Health and Safety Code Section 120990) – a process that may be used by medical providers using a general consent to conduct medical services, where they can inform the client that an HIV test is planned and that the client has the right to decline

the test. The information that the test is planned may be given to the client verbally or in writing.

The objective of obtaining consent is to ensure that individuals who test for HIV do so voluntarily and with full knowledge that the test will be conducted and an understanding of what results mean. Providers who conduct HIV testing are required to comply with state laws in ensuring consent. The law requires that a medical care provider document when clients decline the test in their medical records. However, best practice dictates that medical providers document a client's acceptance of an HIV test in the medical record to keep a record of the client's agreement and testing history.

HIV Antibody Testing

HIV antibody testing refers to an FDA-approved test that detects HIV antibodies, which generally develop within six months following HIV infection. Options for antibody testing are subject to change, and are based on testing technology approved by the FDA. At the present time, the following two options are available:

- **Rapid HIV antibody testing** refers to an FDA-approved HIV antibody test (using fingerstick whole blood, oral fluid, or venipuncture whole blood/plasma) that has results in up to 20 minutes. Tests that detect the presence of antibodies to HIV are considered reactive, and these results on a rapid test must be verified by additional testing.
- **Conventional HIV antibody testing** refers to an HIV antibody test using venipuncture blood or oral fluid specimens that are sent to an off-site laboratory for processing. Results usually take one to two weeks.

Providers who conduct HIV testing must adhere to protocols and algorithms defined by SFDPH and the law (Health and Safety Code Section 120917) for both rapid and conventional testing. Agencies should consider community needs and the organization's capacity when selecting testing technology.

Disclosure of HIV Antibody Test Results

Negative HIV Antibody Test Result

In the case of a negative antibody HIV test result, the client is informed that the test result did not indicate the presence of HIV antibodies. Information about the window period is emphasized with the client at the time of result disclosure. Options based on approach are as follows:

- **Face-to-face** - Sites conducting anonymous (Health and Safety Code Sections 120885-120895) and/or confidential testing in non-medical settings must provide results to clients in person.
- **Results sent by phone or mail** - Sites conducting confidential testing in medical settings may provide an HIV negative result over the phone or by mail.

The objective of disclosing negative HIV test results is to ensure individuals testing negative for HIV learn their test results and what they mean. Providers who conduct HIV testing in non-medical settings must provide test results face-to-face, in private, one-on-one sessions. While medical settings are encouraged to provide negative results face-to-face, results may be provided according to the institution's policy for disclosing negative test results. The law (Health and Safety Code Section 120895) prohibits the electronic delivery of clinical laboratory test results or any other related results to the client for HIV antibody tests regardless of authorization.

Positive HIV Antibody Test Result

The CDC, working with national organizations of laboratory professionals, sets the standard algorithms for how HIV is diagnosed in the United States.

With conventional HIV antibody testing, the client is informed that the test is positive for HIV antibodies, if a positive conventional test result is documented by the laboratory running the test.

With a rapid HIV antibody test, the client is informed that the test is reactive if the test detects HIV antibodies. If the result is reactive on a rapid HIV test, further tests must be run to confirm the result and diagnose HIV.

The objective of disclosing positive HIV antibody test results is to ensure individuals testing positive for HIV learn the results and are immediately linked to medical and partner services to reduce morbidity and mortality, and to prevent HIV transmission to others. Providers conducting HIV testing are required to provide all positive test results to clients and to do so with counseling, linkage to medical care, and discussion of partner services (see p. 277 for description and definitions), including partner elicitation for partner notification, when that option is chosen by the client. Verifying and documenting linkage to medical care and partner services discussions may take a number of contact visits or phone calls to complete. All providers funded or working under agreement with HPS are required to follow the HPS Linkage and Partner Services Protocol (please see http://sfhiv.org/testing_coordinator_resources.php). Medical providers should be aware that the law permits, but does not require, a treating physician to inform a person's sexual partner, and/or syringe sharing partner that they may have been exposed to HIV. The medical provider cannot disclose any identifying information about the person who is HIV infected.

The following are required for both rapid and conventional testing approaches:

- **Follow-up** if client tests reactive (on a rapid HIV test) or HIV positive (on a conventional HIV test) and does not return for their result.
- **Disclosure of results** to the client, including counseling as to what the result means and what options and support are available to the client.
- **Linkage to medical care** (e.g., assistance in making a medical appointment, verification of whether the appointment was kept and medical workup completed).
- **Partner services** supporting clients with HIV disclosure to sexual and/or syringe sharing partners to alert them of possible exposure.

Options for partner services include:

- **Self-disclosure and referral.** *A notification strategy in which the client assumes responsibility for informing his or her partner (s) of possible exposure to HIV and referring those partner(s) to appropriate services. During the interview with the client, the health or social services professional works to motivate the client to contact and notify partner(s) and prepares, assists and supports the client to determine when, where and how to notify the partner(s), as well as how to cope with potential reactions.*
- **Dual-disclosure and referral.** *A notification strategy in which a client discloses his/her HIV status to a partner in the presence of a health worker (e.g., counselor, case manager, health department staff). The strategy allows the client to receive support during the notification process and provides the partner with immediate access to counseling, testing, and other resources (e.g., referrals and linkages).*
- **Partner Elicitation.** *A health department or non-health department health or social services professional (e.g., counselor, case manager) gathers (elicits) partner information for confidential notification by health department specialists (see below).*
- **Partner Notification.** *A notification strategy in which health department staff (e.g., disease intervention specialist) or treating physician or surgeon confidentially notifies a partner of possible exposure. The partner information is gathered during the partner elicitation process (see above).*
- **Internet partner notification (IPN).** *The use of the internet for partner notification by health department staff or treating physician or surgeon. Using an email address or Internet screen name/handle, the identified partner(s) is notified of possible exposure to HIV or an STI and asked to contact the health department for follow up dialogue. Initial email contact with the identified partner(s) will not disclose any information about the*

diagnosis. Content will include language that urges the identified partner to contact the sender on an “urgent health matter”. When the client responds, he or she is encouraged to be tested/treated. IPN protocols include sending an email to the partner directly or contacting the partner through a social/sexual website. Clients can also notify partners either confidentially or anonymously using www.inSPOT.org (website specifically for partner notification).

For more information about disclosure and partner services, please see p. 193.

HIV Prevention Education

SUPPLEMENTAL ELEMENTS (LISTED ALPHABETICALLY)

HIV Prevention Education (Health and Safety Code Section 120846), in this context, is education about HIV and HIV prevention provided by the testing agency to individuals seeking testing services. HIV Prevention Education is meant to be brief, informational, and is not intended to be an in-depth, client-centered pre-test counseling session. The objective of HIV Prevention Education is that clients testing for HIV have basic information about HIV and HIV transmission so that they can make informed decisions and reduce their risk of becoming infected.

The education may be provided to individuals (one-on-one), couples, or small groups (a group of 3-10 clients), and methods for offering HIV prevention education may take the following forms:

- **Computer/Handheld devices** - education provided electronically using an approved module.
- **DVD/Video** - education provided by using a video(s) that has been approved through materials review.
- **Staff-led** - education provided by a counselor/educator.
- **Web-based** - education provided through the Internet using an approved web module.

Providers who include this element in their HIV testing program should provide specific evidence-based strategies to meet the needs of their priority population. Providers should be aware that their staff may need to be certified to provide this service, in accordance with the State Office of AIDS requirements for counselor/health educator certification.

HIV RNA Testing

Because this is new technology that is costly, use of HIV ribonucleic acid (RNA) testing must be considered for specific populations at highest risk. HIV RNA testing refers to a blood test that detects the virus by detecting its genetic material, RNA. These tests can detect the virus shortly after infection, the so-called “acute infection” phase. During acute infection, viral load is typically very high, making persons with acute HIV especially likely to transmit HIV if they engage in unprotected sex or syringe-sharing. The goal of RNA testing is to detect persons in the acute phase of infection, link them to care, and provide testing to their partners.

Providers seeking to include RNA testing in their HIV testing program should serve a population at high risk for HIV. Organizations that conduct RNA testing must follow all requirements and laws for HIV testing.

Individual Risk Reduction Counseling

Individual Risk Reduction Counseling (IRRC) refers to a client-centered, interactive risk reduction counseling model conducted with HIV testing. The objective of IRRC is to explore with the client those behaviors that may put them at risk, develop and negotiate steps to help reduce those risks and ultimately help prevent the acquisition and/or transmission of HIV by this client. Traditionally this has been known as pre-test counseling, but new approaches to testing technology have provided an opportunity for the counseling to be conducted before or during testing or as an additional service to the client.

In the context of HIV testing, components of an IRRC session should include:

- Discussing reason(s) for testing;
- Identifying specific sexual/syringe sharing behaviors that put the client at risk for HIV/STIs, including any drivers;
- Exploring, problem solving and negotiating steps the client would be willing to take to reduce those risks;
- Reviewing and exploring the "window period" for antibody/RNA detection;
- Assessing the client's STI/viral hepatitis;
- Determining the client's appropriateness for RNA testing;
- Reviewing information on HIV transmission and ways to prevent infection, including condom use, reducing numbers of partners, and not sharing syringes;
- Exploring injection support (including syringe provision) and discussing safer injection and linkage to syringe programs for IDUs;
- Exploring sexual communication with partners in order to make safer sex decisions including disclosure of client and partner status in order to make safer sex decisions;
- Exploring testing outcomes and their effect on the client; and
- Identifying and providing linkages and referrals.

Providers who include an IRRC session as a part of their HIV testing services must certify counselors in accordance to the State Office of AIDS requirements for counselor certification. For more information about IRRC, please see p. 244.

Methods to Increase Access to Testing for Underserved Populations

This refers to activities conducted outside a more traditional, institutional setting for the purposes of providing direct health education, risk reduction services, referrals, and/or testing services. The objective of these methods is to engage at-risk underserved individuals and link them to HIV status awareness services.

Options include:

- **Mobile Testing** - testing conducted through the use of a mobile vehicle.
- **Outreach** (e.g., Venue-Based Individual Outreach, Recruitment and Linkage, social networks).
- **Venue-Based Testing** - testing conducted in venues outside of the primary testing site.

Providers who include these methods in their HIV testing program should provide specific evidence-based strategies to reach their priority population(s). Methods should be evaluated and demonstrate that they increase testing among underserved populations. Organizations conducting mobile or venue-based testing must follow all requirements and laws for HIV testing.

Please see p. 240 for additional information about Venue-Based Individual Outreach and pp. 242-243 for Recruitment and Linkage.

For more information about social networks, please see the CDC Compendium of Evidence-Based HIV Prevention Interventions (<http://www.cdc.gov/hiv/topics/research/prs/evidence-based-interventions.htm>).

Prevention Case Management

Prevention Case Management (PCM) is a client-centered HIV prevention activity with the fundamental goal of promoting the adoption and maintenance of HIV risk-reduction behaviors by clients with multiple, complex challenges and risk-reduction needs, as well as clients that need additional support in addressing issues of disclosure and linkage to medical care and other support services.

Providers seeking to include PCM in their HIV status awareness program should develop criteria for who should receive PCM. Organizations wishing to add this element should consider providing infected individuals with ongoing assistance with disclosure, partner services and linkages to medical and other support services, while supporting high-risk clients who do not have HIV with access to ongoing support and linkages to additional care. Please refer to p. 245 for additional information about PCM.

Sexually Transmitted Infections (STI) Testing

STI testing refers to testing and treatment for sexually transmitted infections, in addition to on-site dispensation of medications to treat, STI patient education and partner notification and treatment services. The goal of including STI testing is to integrate testing services for individuals who may be at risk for both HIV and other STIs due to sexual activities.

Providers who propose to include STI testing in their HIV testing program should serve populations at high-risk for both HIV and other STIs, and should conduct STI testing in combination with HIV testing. In order to maximize resources, medical sites with alternate billing mechanisms should integrate STI testing into their current medical care services. Non-medical settings requesting resources or support to conduct STI testing should have a manner to ensure onsite treatment and/or a clear linkage to treatment services. For more information on STI testing, please see p. 277.

Viral Hepatitis Services

Hepatitis means liver inflammation. Viral hepatitis (e.g., hepatitis A, B, and C) means that a person has liver inflammation due to a virus. Viral infection of the liver results in swelling and reduced functioning. The goal of providing hepatitis testing and/or vaccination in conjunction with HIV testing is to integrate testing services for individuals who may be at risk for both infections due to sharing injection equipment and/or sexually-associated activity.

Providers seeking to include this element in their HIV testing program should serve populations at high risk for viral hepatitis and should conduct HIV testing in conjunction with hepatitis services. Please note that the law (Health and Safety Code Section 123148) specifically prohibits the electronic delivery of clinical laboratory test results or any other related results to the client for the presence of antigens indicating a hepatitis infection, regardless of authorization. For more information on viral hepatitis services, please see p. 265.

Goal of Syringe Programs

- To ensure access to sterile syringes and injection equipment in order to eliminate the transmission of bloodborne viruses among people who inject drugs and their sexual partners.

Why Syringe Programs are a Priority

The HPPC embraces a harm reduction philosophy for HIV prevention in San Francisco, meaning that people who inject drugs should have access to sterile equipment, safe disposal, and information that will allow them to minimize risks associated with their drug use behavior. The commitment to harm reduction, paired with the evidence that syringe access is an effective HIV prevention strategy and highly cost-effective, make these programs an HIV prevention priority. Because of the evidence supporting the prevention of acquisition and transmission of HIV through access to sterile syringes, as outlined in Section I, syringe programs are an important HIV prevention strategy.

Definition

Syringe programs are fixed-site, venue-based, and/or pedestrian services that provide a range of sterile injection equipment and safer sex supplies and provide education, syringe disposal services, brief interventions and referral services.

Introduction

Similar to HIV status awareness programs, syringe access and disposal programs (referred to as syringe programs, previously called needle exchange) are guided by mandates, but may be developed creatively by supplementing the requirements with additional components to best meet the needs of an identified priority population. San Francisco maintains a strong commitment to syringe access because it reduces HIV and does not increase substance use (De Jarlais et al 1996, Watters et al 1994).

This section of the chapter will focus on information for organizations interested in establishing a syringe program. In order to foster creativity and promote varied approaches for syringe programs, the following subsections provide the community with a framework of required and supplemental elements to develop a syringe program model. This format enables providers to design a program that is tailored to and most appropriate for a particular priority population.

Background

Syringe access and disposal programs are evidence-based public health programs that aim to protect injection drug using communities and the community at large from the spread of infections, including HIV and viral hepatitis. Evaluation research and experience in the field have both demonstrated that adequate syringe access produces positive individual and community-level health outcomes without creating negative societal impacts.

The call for syringe programs has existed in San Francisco nearly from the beginning of the HIV epidemic. These services began as a grassroots effort to respond to community needs for sterile syringes. The City and County of San Francisco formally sanctioned syringe access in 1993, when Mayor Frank Jordan declared a public health state of emergency, a move that gave him the power to legalize syringe programs, and began funding programs as an essential

structural component of HIV prevention services. Progress and advancements in policies for syringe access are evident in the fact that today, California allows for state funds to be used for costs associated with operating a syringe program. On December, 16, 2009, President Obama signed the Consolidated Appropriations Act of 2010, which provided a historic shift in federal policy to lift the 1989 ban on using federal funds for syringe program. Compared to cities that were not early adopters of syringe access, San Francisco has significantly lower rates of HIV infection among IDUs which has minimized transmission to the general heterosexual and lesbian community.

On October 22, 2008, the HPS released the San Francisco Syringe Access and Disposal Program Policy and Guidelines. The Guidelines were developed in collaboration with community partners and were endorsed by the full HPPC on September 11, 2008. The document outlines broad operational guidelines for syringe programs. It is intended as a framework within which organizations funded by SFDPH are required to develop detailed operational guidelines appropriate to their own setting. The Guidelines summarize best practices based on public health strategies and the HPPC strongly recommends that all organizations, including those not funded by SFDPH, adhere to the principles and protocols provided in this document. The Syringe Access and Disposal Program Policy and Guidelines provide detailed information on mandatory practices required by law or by departmental directive, as well as strongly recommended practices. A copy of the guidelines and supporting materials is available at <http://www.sfhiv.org/syringe.php>.

Why Focus on Syringe Programs?

Multiple studies, including a comprehensive review of international evidence on syringe programs indicates compelling evidence of effectiveness, safety, and cost-effectiveness of these programs (Holtgrave et al 1998, Lurie et al 1998, Wodak & Cooney 2006).

In San Francisco, evidence strongly supports that the availability of sterile syringes is responsible for minimizing the number of new HIV infections among IDUs; in fact, evidence suggests that sexually transmitted HIV, rather than syringe-transmitted infections, accounts for the majority of new HIV infections among injectors (Kral et al 2001).

San Francisco syringe programs also reduce drug use and injection drug-related harms. Results from a study of a syringe program in San Francisco demonstrated that from December 1986 through June 1992, injection frequency among IDUs in the community decreased from 1.9 injections per day to 0.7, and the percentage of new initiates into injection drug use decreased from 3% to 1% (Watters et al 1994). Moreover, this same study found that the syringe program did not encourage drug use either by increasing drug use among current IDUs or by recruiting significant numbers of new or young IDUs. Additional studies have also found use of syringe programs to be associated with reduced syringe sharing and other injection-related risk reduction behaviors (Bluthenthal et al 1998, Guydish et al 1993, Hagan et al 1991, UC Berkeley School of Public Health undated report). In addition to this, syringe programs promote safe disposal of syringes, and a recent study found that in San Francisco, the majority of syringes were disposed of at syringe program sites (Wenger et al in press).

Menu of Elements

The following table lists each of the required and supplemental elements for syringe programs. Syringe programs must include each of the required elements, but programs can choose supplemental elements to include in their program design to enhance their services and best meet the needs of their priority population. For example, in addition to all of the required elements, a syringe program may choose to incorporate Health Education and Risk Reduction activities. This, however, is not required in order for the syringe program to remain in operation. In the next section, a detailed description of each element is provided. Please refer to the Guide to Strategies and Interventions (Section VII) for additional information about specific supplemental elements as well as additional strategies and interventions to incorporate when developing programmatic activities.

REQUIRED ELEMENTS (LISTED IN ORDER OF REQUIRED PROTOCOL)

REQUIRED ELEMENTS	SUPPLEMENTAL ELEMENTS
<ul style="list-style-type: none"> • Community Service Modality 	<ul style="list-style-type: none"> • Additional Community Service Modalities (see p. 188)
<ul style="list-style-type: none"> • Sterile Injection Equipment and Disposal Services 	<ul style="list-style-type: none"> • Health Education and Risk Reduction (see pp. 190–191)
<ul style="list-style-type: none"> • Safer Sex Supplies 	<ul style="list-style-type: none"> • HIV Status Awareness (see p. 189)
<ul style="list-style-type: none"> • Education and Health Promotion 	<ul style="list-style-type: none"> • Prevention with Positives (see p. 189)
<ul style="list-style-type: none"> • Referral to Ancillary Services 	<ul style="list-style-type: none"> • Provision of Ancillary Services (see p. 189)

Community Service Modality

A community service modality refers to the method by which syringe program services are provided. Options include the following (please note that sites may select more than one option):

- **Fixed site:** Syringe program services are provided from a building.
- **Venue-based:** Syringe program services are provided through use of a vehicle or structure (e.g., table) and typically provided at a specified location at a specified time.
- **Pedestrian services:** Services are provided by staff members who move from place-to-place or group-to-group in an effort to promote and extend the reach of the service. Access to syringes and syringe disposal takes place as part of this broader promotional and educational activity.

The objective of a community service modality is to ensure a broad range of access to community-based syringe programs. Syringe programs may consist of a mix of outlet types and service delivery modes with the aim of providing comprehensive access to sterile supplies for people in the community. In assessing the level of coverage in the community, programs should be regarded as complementary components of the syringe program network.

Sterile Injection Equipment and Disposal Services

Sterile injection equipment and disposal services refers to injection supplies provided to the community in order to help reduce the transmission of bloodborne pathogens, as well as containers to place used biohazardous injection supplies and the availability to dispose of them in a safe manner. Required supplies include a range of syringes and gauges, syringes, injection supplies (e.g., cookers, water, and cotton balls), biohazard containers, and onsite disposal services. At a syringe program outlet, all participants who require injection equipment must receive a reasonable supply of sterile equipment and an appropriately-sized biohazards or “sharps” container to meet their needs. If capacity permits, all providers must stock a variety of injection equipment items, including a range of syringe brands and sizes, a range of syringe gauges and sizes, and a range of personal use and other disposal containers. All injection equipment, including an appropriate disposal container, must be made available to participants. Promoting safe disposal of used syringes is a key component of syringe programs. Syringe programs are also required to conduct street sweeps of the areas in which they operate to pick up improperly discarded syringes.

Safer Sex Supplies

Safer sex supplies refer to materials provided to the community in order to help reduce the transmission of STIs and HIV. Syringe programs are required to provide, at minimum, condoms and water-based lubricant. At a syringe program outlet, all participants must receive a reasonable supply of safer sex supplies to meet their needs. All providers should stock a variety of items, including condom brands and sizes, a range of water-based lubricants, and other safer sex supplies.

Education and Health Promotion

Education and health promotion refers to resources and brief interventions designed to provide health education to people who inject drugs. This information may be delivered through brochures and/or other written materials, or individual- or group-level fora. The objective of

providing education and health promotion resources and interventions is to increase client knowledge of safer injection strategies and safer sex strategies. Syringe programs must maintain a supply of appropriate written resources designed to provide health education to people who inject drugs. Syringe program staff should also be available to provide health information to individuals or groups. When available, information should be provided in relevant languages.

Referral to Ancillary Services

Syringe programs must provide referrals to appropriate health and community services. Programs that are not co-located with other services must develop relationships with other providers and maintain an updated list of referrals that address clients' needs. Options for types of referrals include the following:

- Behavioral health services;
- Case management (see PCM, p. 245);
- Counseling services (see IRRIC, p. 182);
- HIV prevention services (HIV status awareness (pp. 177-184), health education (pp. 190-191), prevention with positives (p. 192-195);
- Medical Care;
- Overdose prevention education;
- STI testing and treatment (see p. 277);
- Viral hepatitis services (see p. 265); and
- Wound-care.

The objective of client referrals is to connect syringe program participants to health and social services to support their health and well-being. Syringe program staff must have knowledge of appropriate services in their area. Agencies must develop referral systems and establish referral pathways and protocols with key services to assist syringe program participants who wish to access additional services.

Additional Community Service Modalities

SUPPLEMENTAL ELEMENTS (LISTED ALPHABETICALLY)

Syringe programs may select additional community service modalities to provide syringe access and disposal services. Supplemental options for service modality include the following (please note that syringe programs' sites may select more than one option):

- **Community Events:** Services may also be provided at selected community events with the knowledge and support of event organizers. These activities aim to provide a wide range of information, sterile syringes and injection supplies, as well as referral information.
- **Hormone Syringe Access:** Programs that provide access to appropriate equipment and information should be available to people injecting these products to support their safety and the safety of those around them.
- **Satellite Syringe Access:** Individuals who collect used syringes from their peers, dispose of them at syringe programs, and deliver new syringes back to their peers, along with additional prevention materials and information, provide satellite syringe access.

The objective of having additional community service modalities is to ensure a broad range of access to community-based syringe programs. While syringe programs are required to identify their primary modes of community service modalities (e.g., fixed site, venue-based, pedestrian), an organization may select to expand their services modalities in order to broaden their reach to the community. Organizations selecting supplemental community service modalities must follow the standards identified in the San Francisco Syringe Access and Disposal Program Policy and Guidelines.

Health Education and Risk Reduction

Health Education and Risk Reduction (HERR) refers to activities that are part of larger programs that link individuals to HIV status awareness programs, and create community, structural, and policy change. For more information on HERR, please see pp. 190-191.

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HIV Status Awareness Programs

HIV status awareness refers to all strategies and services that help people know their HIV status. Syringe program providers are encouraged to develop their own HIV status awareness programs that complements their syringe program services. Access to such services should always be voluntary, and should not interfere with the capacity of the syringe programs to conduct their core activities. Organizations who conduct HIV status awareness services must follow all requirements and laws for HIV testing. Please see pp. 177-184 for details on HIV status awareness.

Prevention with Positives

Prevention with Positives refers to any intervention that addresses the prevention needs of PLWH. For more information about PWP, please refer to pp. 192-195.

Provision of Ancillary Services

Syringe program providers are encouraged to co-locate their programs with other ancillary services. Syringe programs may choose to offer a wider range of health-related services to people who inject drugs. Options for ancillary services that may be co-located at a syringe program site include the following:

- Behavioral health services;
- Case management (see PCM, p. 245);
- Counseling services (see IRRC, p. 182);
- HIV prevention services (HIV status awareness (pp. 177-184), health education (pp. 190-191), prevention with positives (pp. 192-195));
- Medical Care;
- Overdose prevention education;
- STI testing and treatment (see p. 277);
- Viral hepatitis services (see p. 265); and
- Wound-care.

Providing these ancillary services aims to offer syringe program clients additional health and social services to support their health and well-being. Access to such services should always be voluntary, and should not interfere with the capacity of the syringe programs to conduct their core activities. In general, provision of these ancillary services is not expected to be funded from core syringe program funds unless there is compelling evidence that syringe-supply and prevention-education demands have been adequately met and there is capacity to provide additional services.

Health Education and Risk Reduction

SECTION IV

Overall Goal of Health Education and Risk Reduction

- To address drivers and cofactors of HIV and reduce high-risk behaviors to decrease HIV infections.

Why Health Education and Risk Reduction is a Priority

HERR activities capture the broad array of behavioral interventions for HIV prevention. The diverse HERR interventions are primarily aimed at reducing drivers (for the highest risk populations, BRPs 1-3) and cofactors (for the lower-risk BRPs) of HIV in San Francisco. (Please see Chapter 3: Priority Setting for more information about BRPs). By focusing these behavioral interventions on reducing specific factors (e.g., substance use, STIs, multiple partners) known to be associated with the transmission and acquisition of HIV, the goal is to prevent as many HIV infections as possible in San Francisco.

Definition

HERR refers to HIV prevention activities related to education and behavioral interventions to reduce HIV infections. HERR activities can be conducted with individuals regardless of their HIV status. Additional activities most relevant to PLWH are described in Section V, pp. 192-195.

Introduction

This section provides the background and the approach for developing an HIV prevention program incorporating HERR activities. HERR encompasses the HIV prevention activities that are beyond testing and syringe programs, and includes programs that may be appropriate for persons living with HIV. While HIV status awareness programs and syringe programs can also focus on drivers and cofactors, HERR interventions for both HIV-negative and PLWH should be built to address drivers, while meeting the needs of the population and considering the contextual factors that often place the individual and community at risk for HIV (for a list of drivers and cofactors, see Chapter 3: Priority Setting, pp. 162-163).

There are a range of HIV prevention activities that fall under the umbrella of HERR, and the specific interventions and strategies that may be employed are described in the Guide to Strategies and Interventions (Section VII). Programs are encouraged to use creative approaches to address the drivers and cofactors of HIV that are relevant to priority populations.

Background

San Francisco supports a broad range of health education and risk-reduction activities. HERR activities are applicable to individuals who are known to be HIV-infected, HIV-uninfected, or of unknown status. Interventions can be individual-level (e.g., Individual Risk Reduction Counseling, Prevention Case Management), group-level (e.g., Single Session Groups, Multiple Session Workshops), or community-level (e.g., social marketing, community organizing). These interventions aim to influence risk behavior through modifying knowledge, attitudes, beliefs, and self-efficacy. Among the populations at highest risk for HIV, HERR activities should be used to develop models for addressing the drivers of HIV (e.g., methamphetamine treatment programs, programs that aim to reduce STI risk or programs that reduce unsafe sex with multiple partners, or combinations). Providers are additionally encouraged to explore and

address the contextual factors that place individuals at risk for HIV infection in relation to the drivers (for more information on contextual factors, see p. 155).

The HPPC recognizes that HIV prevention activities are often developed by communities and outside of formal health promotion institutions. As a result, the HPPC encourages providers to explore and determine the effectiveness of community-driven programs. For instance, seroadaptation is a community-created response that individuals have been practicing for a number of years in an attempt to reduce the risk of contracting and/or transmitting HIV. The benefits of seroadaptation remain to be determined. For more information about seroadaptation, please see Chapter 2: Community Assessment, p. 67.

The Guide to Strategies and Interventions (Section VII of this chapter) lists specific interventions for reducing sexual and/or injection-related risk behaviors, as well as the strategies that support these interventions. Strategies range from peer education to harm reduction to Internet-based approaches. From these listings, providers may select an intervention or a set of interventions and strategies to conduct with their priority population.

To maximize their effectiveness, these strategies and interventions should not function in isolation; they should be used in combination, if appropriate. Providers should determine how best to combine the various health education and risk reduction strategies and interventions to create the most appropriate and effective programs for their clients, based on both scientific evidence and their experience.

Why Focus on HERR?

Addressing drivers and cofactors of HIV through behavioral interventions is a critical component of San Francisco's 2010 approach to HIV prevention. Because drivers are associated with the greatest number of new HIV infections in San Francisco, intervening on these factors is likely to reduce HIV transmission and acquisition in the city. As such, HERR activities should focus on high-risk populations and the drivers that affect these individuals. For more information on high-risk populations, please see Chapter 3: Priority Setting, p. 156.

Evidence indicates that HERR activities are effective in reducing high risk behaviors associated with HIV. Findings suggest that behavioral interventions reduce unprotected anal sex among MSM (Herbst et al 2007, Johnson et al 2008, Lyles et al 2007). Research further indicates that behavioral interventions increase condom use, reduce number of sexual partners, reduce drug use, as well as reduce newly acquired STIs (Herbst et al 2007, Lyles et al 2007). Moreover, substance users in treatment and harm-reduction interventions have also been shown to reduce high-risk behaviors, indicating that such modalities are valuable HERR programs (Shoptaw et al 1998, Shoptaw et al 2005, Woody et al 2003). Overall, HERR interventions are diverse and include individual counseling, social and behavioral support (e.g., peer education, assertiveness and relationship support), in addition to group counseling or workshops, interventions in community areas, training of community leaders, and community-building empowerment activities.

Overall Goals of Prevention with Positives

- To reduce the spread of HIV and other STIs.
- To suppress viral load in order to promote positive health outcomes and reduce the opportunities of HIV infection.
- To help people living with HIV achieve and maintain physical, emotional, mental, sexual and reproductive health, economic stability and well-being.

Why Prevention with Positives is a Priority

The HPPC maintains a commitment to support people living with HIV/AIDS (PLWHA) to maintain their health and quality of life through ensuring that they are connected to medical care and support services. When these services are utilized, they can help suppress viral load which contributes to health and well-being. This reduces the chance of transmitting HIV. In addition to this, being connected to medical and support services offers the opportunity to address factors that may contribute to HIV transmission, such as substance use and STIs. Consistent with the previous section on HERR, interventions with PWP should focus on PLWHA affected by drivers to ensure that programs are reaching the persons most at risk for transmitting HIV.

Definition

PWP is defined as any strategy or intervention that addresses the specific prevention needs of people who know they are persons living with HIV. PLWHA should be involved in the planning and implementation of all PWP programs. This definition was developed jointly by the HPPC and the HIV Health Services Planning Council in 2003. The HPPC acknowledges that there may be different terms for PWP, including “positive prevention” and “HIV status-specific programs.” For the purpose of this chapter, we are referring to these interventions and strategies as PWP.

Introduction

Although many of the HIV HERR interventions can be conducted with individuals regardless of their status, this section aims to highlight and describe those activities that are particularly valuable to PLWHA. Prevention with positives interventions focus on the needs of PLWHA, as well as activities that support health and wellness, with the goal of eliminating transmission of HIV.

Background

Since 2003, San Francisco has been committed to ensuring prevention efforts have a focus on PLWHA. These efforts are a critical component of San Francisco’s overall prevention strategy. The HPPC and the HIV Health Services Planning Council have worked together to draw attention to and develop goals for PWP.

In 2004 and 2005, joint committees comprised of Council members from both the HPPC and the HIV Health Services Planning Council worked to develop and articulate guiding principles and recommendations for PWP services in San Francisco. The resulting product of the committees’ work is the document “Thinking Big: Strategies for Delivering Prevention with Positives Programs in San Francisco,” available online at <http://www.sfhiv.org/files/committees/2005/PWP/Thinking%20Big%20-%20Final%20report%20October%202005.doc>

More recently, in 2008, a workgroup of providers, community members and consumers from diverse agencies and backgrounds in San Francisco came together to develop a “Best Practice Guide for Prevention with Positives.” The Best Practice Guide was developed to serve as a “toolkit” of resources and guidelines for providers working with PLWHA to ensure that provid-

ers have the tools to effectively integrate prevention into services for PLWHA. A copy of the Guide is available at SFDPH HIV Prevention Section.

The 2010 approach to prevention with positives builds on the work and forward progress made in San Francisco since the 2004 Plan, and does not stand in isolation. For further information about PWP, please refer to the documents listed above.

Why Focus on Prevention with Positives?

While prevention strategies can be carried out with individuals regardless of their HIV status, the HPPC recognizes that PLWHA have particular prevention needs related to disclosure, stigma, medication adherence, safer sex and safer injecting. PLWHA should be a priority, and this section is dedicated to addressing the unique needs of these individuals.

HIV prevention with PLWHA is particularly important, given that HIV-related stigma remains pervasive. PWP interventions provide the opportunity to address issues related to stigma and the individual's decisions to disclose his/her status and enter into care and receive HIV treatment.

Some research studies of PWP (e.g., INSPIRE, SUMIT) have found no significant effect on use of medical care and adherence to HIV treatment (Purcell et al 2007) or decreasing high-risk behaviors (Wolitski et al 2004) among PLWH. Other studies of prevention with positives interventions have demonstrated effectiveness at increasing harm reduction and health promotion behaviors (Margolin et al 2003) and reducing risk behaviors (Grinstead et al 2001, Rotheram-Borus et al 2001). A recent meta-analysis concluded that interventions for people living with HIV significantly reduced unprotected sex and acquisition of STIs (Crepaz et al 2006). Further studies support the efficacy of Prevention Case Management (PCM), an intervention commonly used with PLWHA (see section on PCM, p. 246).

CENTRAL ACTIVITIES FOR PREVENTION WITH POSITIVES PROGRAMS (LISTED ALPHABETICALLY)

PWP practices should be validating, empowering, sex positive and efficacy-enhancing for PLWHA. People living with HIV should be involved in the planning and implementation of PWP programs and should be included in a way that is respectful of their skills and experiences and is not tokenizing. Just as with any HIV prevention program, services should be linguistically and culturally competent and client-centered. Moreover, HIV prevention programs for PLWHA should be coordinated with other programs and providers serving this population, including mental health, substance use, and housing.

Many HIV prevention interventions are similar when working with high risk individuals, regardless of their HIV status. The HPPC has identified the following activities that are particularly valuable to conducting HIV prevention with PLWHA. These activities support the overall health and wellness of people living with HIV and support reducing HIV transmission.

CENTRAL ACTIVITIES (LISTED ALPHABETICALLY)

- Disclosure and Partner Services
- Engagement in HIV Care
- Linkage to Ancillary Services
- STI, Viral Hepatitis, and TB Screening and Treatment
- Treatment Adherence

Disclosure and Partner Services

The HPPC recognizes the importance of addressing disclosure support in HIV prevention programs for people living with HIV/AIDS. Disclosure in this context goes beyond the initial disclosure and partner services of HIV status awareness and should be ongoing. For people living with HIV, disclosure assistance should offer coaching and support for disclosure in a variety of life situations (e.g., family, friends, workplace, etc.). In addition, disclosure of HIV status may help to address the issue of stigma related to having HIV. HIV disclosure and partner services include the following components:

- Help individuals make informed decisions about disclosing their HIV status.
- Introduce partner notification options, including self-disclosure and referral, dual-disclosure and referral, partner elicitation, partner notification, and internet partner notification (INP).
- Help individuals learn to negotiate safer sex whether or not they choose to disclose their status to their partner(s).
- Provide support and/or referrals to address issues surrounding stigma, shame and fear of disclosure, including fear of violence.

Additionally, as a part of disclosure services, providers may also consider including education about community-driven prevention strategies such as seroadaptation. The HPPC encourages PWP programs to discuss the potential risks and benefits of seroadaptation as a prevention strategy with clients and integrate discussions regarding risk for STIs and viral hepatitis.

For more information on disclosure and partner services, please see p. 193.

Engagement in HIV Care

Engagement in HIV care requires that providers go beyond the initial process of linking individuals who are HIV infected to care by ensuring that they are fully involved in the process of finding and maintaining HIV primary medical care. This strategy involves the use of multiple interventions that address issues such as health literacy, readiness, health status perceptions, fear, stigma, missed appointments, and substance use and mental health issues. Agencies addressing engagement in HIV care should not only ensure that clients are successfully linked to HIV care, but should also support clients with resources and knowledge about the care system and how to use it. In addition, agencies should monitor client appointments and address ongoing attendance issues and collaborate with medical providers to increase the client's engagement in care and appropriate ancillary services.

For more information on engagement in HIV care, please see p. 220.

Linkage to Ancillary Services

HIV prevention programs with PLWHA should also include methods to ensure that clients are linked to appropriate support services in order to facilitate a seamless continuum of care. Providers should be knowledgeable about appropriate community resources to which they may refer individuals who need further assistance (e.g., health and social services, mental health, substance use, etc.).

For more information about linkage, please see p. 242.

Sexually Transmitted Infections (STIs), Viral Hepatitis, and Tuberculosis (TB) Screening and Treatment

There is substantial biological evidence that the presence of STIs increases the likelihood of both transmitting and acquiring HIV. Additionally, viral hepatitis screening and treatment is important as co-infection with viral hepatitis may increase risk for adverse health outcomes for PLWHA (CDC 2008b). Due to the link between HIV, STI, and viral hepatitis transmission/susceptibility, the HPPC recommends that all people living with HIV receive comprehensive STI and viral hepatitis screening and appropriate treatment.

TB is a disease that is spread from person to person through the air. This disease is particularly dangerous for persons infected with HIV because coinfection with HIV and TB can result in possible complications from interactions between the drugs used to treat HIV and the drugs used to treat TB. This high level of risk underscores the need for TB screening and preventive treatment programs for people with HIV and those at greatest risk for HIV infection. The CDC recommends that individuals infected with HIV should be tested for TB. In addition to this, individuals infected with TB should complete preventive therapy as soon as possible to prevent progression to TB disease (CDC 2008a). The HPPC further encourages screening and treatment for sexual partners of PLWHA.

Please see pp. 260-261 for further information on STIs, p. 265 for viral hepatitis, and pp. 262-264 for TB.

Treatment Adherence

Ongoing access to HIV care and treatment should be an integral component of PWP programs. The HPPC supports ensuring that PLWH have access to antiretroviral therapy and remain engaged in care. Treatment adherence assistance is complimentary with engagement in HIV care. Effective HIV treatment aggressively suppresses viral replication and progression of HIV disease. From a biological perspective, data show that when viral load is decreased, individuals are likely to be less infectious to others, although it is important to note that persons with very low viral loads may still transmit HIV (Attia et al 2008, Quinn et al 2000). Socially, treatment can help people feel healthy enough to be sexually active. Increased health and interest in establishing relationships creates an opportunity for interventions to address safer sex behavior. PLWHA should be linked with risk-reduction education to make informed decisions regarding their sexual behavior. Greater access to treatment may provide the opportunity to engage PLWHA in care and treatment and also allow providers to deliver and reinforce HIV prevention messages and interventions. Providers of PWP services should be knowledgeable about factors that may make it difficult for an individual to adhere to an HIV treatment regimen and work with PLWHA to develop strategies to improve adherence. For more information on treatment adherence, please see p. 236.

SECTION VI Structural Change

Goal of Structural Change

- To address the larger social and environmental factors and systems that can support the reduction of HIV acquisition and transmission.

Why Structural Change is a Priority

San Francisco recognizes that policies and the broader environment have a significant influence on the transmission and acquisition of HIV. Structural changes ultimately address the context and environment that place individuals at risk for HIV. In contrast to individual- and community-level interventions, structural changes target the structures and systems in the environment and aim to change resource availability, the physical environment, organizational systems, as well as laws and policies that influence on HIV risk.

Definition

Structural changes are new or modified programs, practices or policies that are logically linkable to HIV transmission and acquisition, and can be sustained over time, even when key actors are no longer involved. This definition was approved by the HPPC in 2006.

Structural changes are different from structural interventions, which represent the specific actions that are taken to realize the change. For more information about structural interventions, please see Section VII, p. 269.

Introduction

This section provides the HPPC's definition of structural change and the philosophy behind San Francisco's support for system-level changes. Examples of potential structural changes that relate to each of the HIV prevention focus areas are also presented. These examples are intended to provide readers with an understanding of structural changes and how they could be implemented, but this is in no way a comprehensive list and should not be viewed as such.

For further information about how to implement structural changes, please see the structural interventions section in Section VII: Guide to Strategies and Interventions (p. 269).

Background

Structural changes aim to address the social, political, and economic systems that affect HIV risk. The HPPC supports structural changes that are in line with community values and recognizes the importance of addressing these systems, as these changes are ultimately those that will make it easier for people to remain healthy in their communities. Providers and community experts are called on to explore ways to influence policies that hinder or support HIV prevention activities. In addition, agencies and providers are encouraged to consider creative ways to approach structural changes.

While most HIV prevention interventions aim at modifying individual behavior, structural changes target the larger contextual elements that may result in more effective and sustainable outcomes. Structural changes work to modify the structural elements such as programs, practices, and policies that place certain communities at an increased risk of HIV infection. The HPPC recognizes that structural changes take time and require adjustments to the way that HIV prevention is approached, but also acknowledges the value in long-term sustainability and the ability to affect large numbers of people through implementation of the structural change.

For example, it is important to address the issue of HIV-related stigma. This stigma is a significant public health issue, as it may create obstacles to obtaining and accessing appropriate information and services related to HIV. At the individual level, accurate knowledge about HIV prevention and transmission may help to reduce stigma. However, stigma does not exist only in an individual context but is often entrenched within broader social and cultural environments. As a result, tackling the issue of stigma related to HIV will require creative approaches across various levels of intervention, with a focus on structural level changes.

Why Focus on Structural Changes?

Structural changes have the potential to reach a broader population, to influence social norms, and to serve as a cost-effective HIV prevention method. A recent study found that HIV prevention structural changes were cost-effective compared to average lifetime treatment costs of HIV (Cohen et al 2006). Some examples of structural changes specific to HIV that have been implemented include syringe programs, closure of bathhouses, and changes in HIV testing laws and policies, including offering HIV tests to all pregnant women and requiring health insurance plans to cover routine HIV testing in California.

Structural changes include, but are not limited to, HIV prevention efforts. Examples of other structural changes that have been implemented include smoking bans and seat belt use laws. Smoking restrictions in workplaces have been found to be associated with higher quit ratios among employees in smoke-free institutions compared to those in non-smoke free (Longo et al 1996). Furthermore, research indicates that mandatory seat belt laws reduce traffic fatalities and serious injuries (Carpenter & Stehr 2007).

Locally, another example of a structural change is the Healthy San Francisco (HSF) program which provides access to health care services for all uninsured residents regardless of immigration status, employment status, or pre-existing medical conditions. By ensuring a usual source of care (i.e., primary medical care home) it is expected that HSF participants will have fewer emergency department and urgent care visits. Each of these examples demonstrates that changing structural factors have the potential to promote health and prevent disease on a broad scale.

Potential Examples of Structural Changes

In order to affect broader systems to promote HIV prevention in San Francisco, examples of possible structural changes are listed below. These structural changes have been identified as logically linkable to HIV and are sustainable over time. The examples presented do not represent a comprehensive list of structural changes; rather, these are intended to serve as a starting point for providers, agencies, and the SFDPH to develop structural changes.

The following are examples of potential structural changes that correspond to the highlighted strategies for HIV prevention.

FOCUS AREA	EXAMPLES OF POTENTIAL STRUCTURAL CHANGES
HIV STATUS AWARENESS	<ul style="list-style-type: none"> • Ensure that HIV and STI screening and referral is a standard of care in medical settings. • Ensure that all individuals testing for HIV, especially those who learn they are HIV infected, are offered partner services and disclosure assistance.
SYRINGE ACCESS AND DISPOSAL PROGRAMS	<ul style="list-style-type: none"> • Provide universal access to drug treatment. • Eliminate drug paraphernalia laws in California. • Establish a legal safer injection facility.
HEALTH EDUCATION AND RISK REDUCTION	<ul style="list-style-type: none"> • Enforce laws in San Francisco requiring signage and warning labels in places where poppers are sold. • Create a city-wide policy to require access to condoms and lube in sites with liquor licenses in San Francisco. • Ensure provision of HIV education and prevention services within the jail system, including trans-specific services.
PREVENTION WITH POSITIVES	<ul style="list-style-type: none"> • Ensure universal health care coverage to provide access to health care for PLWHA. • Abolish pre-existing conditions as exclusion criteria for obtaining insurance (i.e., health insurance, life insurance, etc). • Repeal the federal ban on travel and immigration for people living with HIV.

Structural changes are also emphasized in the recently-completed work of the African American Action Plan Workgroup. In order to address the factors that contribute to high HIV prevalence among African American MSM in San Francisco, this workgroup proposed the following recommendations for structural changes:

- Ensure provision of treatment and care to all African American MSM living with HIV/AIDS in the Tenderloin neighborhood.
- House all homeless and marginally-housed African American MSM Tenderloin residents living with HIV/AIDS and provide wraparound support services.
- Ensure broader provider resource and staff capacity and cultural competency.
- Ensure HIV testing “on demand” with referrals to care and support for issues related to HIV and other factors (e.g., mental health, substance use, homelessness).

Guide to Strategies and Interventions

Tool Boxes

This section of the chapter offers three “tool boxes” to assist providers with designing and implementing HIV prevention programs described throughout Chapter 4: Strategies and Interventions. The “tool boxes” are as follows:

1. **Behavioral Theories,**
2. **Strategies and Interventions, and**
3. **Structural Interventions.**

It also provides two appendices that are designed to supplement the information provided by the tool boxes:

1. **Appendix 1 titled “Summary of California Laws and Regulations for HIV Testing”** provides an overview of the provisions of the California Health and Safety Code that deal with HIV testing and related subjects, such as reporting to local and state authorities, disclosure, partner notification, STIs; and
2. **Appendix 2 titled “New Prevention Approaches in Development”** provides an overview of biomedical developments in HIV prevention in fields ranging from vaccine development and microbicides to pre- and post-exposure prophylaxis.

Providers are invited to use the tool boxes to meet the larger goal of establishing integrated, coordinated, and responsive HIV prevention programs for San Francisco’s priority populations. They are encouraged to use interventions that address the areas prioritized by the HPPC: HIV status awareness, syringe programs, addressing drivers of HIV through HERR programs, PWP, and structural change. Throughout this chapter, requirements are indicated that may be associated with specific tools (e.g., under many of the strategies and interventions, tools and guidance for implementation are listed). Other information is offered as guidance to programs and can be applied if it is relevant.

In considering what prevention interventions to implement, it is important to have an evidence-based perspective; that is, how strong is the evidence that the intervention “*will work to detect or reduce new HIV infections* in your particular context?” Ideally, the interventions chosen have been proven to reduce HIV infections; many studies have examined whether interventions reduce risk behavior or the acquisition of STIs other than HIV. Historically, the strongest evidence for an intervention’s effectiveness is proving that it reduces infections or risk behavior through a randomized controlled trial. Of course, there are many other factors to consider in implementing an intervention, including community experience, the need for and acceptability of the intervention in specific populations, its cost and sustainability, and the capacity to evaluate its effectiveness.

In one example of how to rank interventions by evidence, the CDC uses a “Tiers of Evidence” approach to categorize interventions: using various criteria, interventions are ranked in tiers according to how rigorously they have been evaluated. “Evidence-based interventions” are in the top tier, followed by “theory-based interventions” that do not have sufficient empirical evidence to meet the evidence-based criteria, followed by “under-evaluated interventions.” For more information on this approach, go to <http://www.cdc.gov/hiv/topics/research/prs/tiers-of-evidence.htm>.

The information presented in this guide attempts to summarize key points related to a strategy or intervention. Further research may be required to obtain more detailed information (references are provided where applicable). This section does not provide guidance on the content or curricula for interventions. The types of prevention information, messages, and mode of delivery should be dictated by the evidence supporting their effectiveness and the current prevention needs of the priority population as identified by a needs assessment (see Chapter 2: Community Assessment for needs assessments with various populations, pp. 62-124) or other scientifically sound methods. Curricula can also be borrowed and adapted from other programs with demonstrated relevance and effectiveness.

This section presents four components involved in designing a sound HIV prevention program. They are:

- **Behavioral theories:** Used in HIV prevention because they help describe what factors or relationships are determinants of individual or group behavior. Evidence shows that particular theory-based HIV prevention programs can be effective in reducing the spread of HIV. Understanding theories and their role in predicting behaviors can help providers frame the strategies and interventions used in prevention programs. By basing program design on theory, programs can have evidence-based support even if they have not been evaluated.
- **Strategies:** Prevention approaches that can be applied across a spectrum of possible interventions.
- **Interventions:** The type of prevention service or modality a program provides.
- **Structural interventions:** Structural interventions for HIV prevention are actions that modify the social, economic, and political structures and systems in which we live. These interventions may affect technology, legislation, media, healthcare, and the marketplace. Rather than attempting to change individual behaviors, structural interventions aim to alter the physical environments in which we live, work, play, and/or take risks to help reduce HIV transmission. Structural interventions also include methods to reduce or abolish income inequality, racism, bigotry, phobias and other inequalities and oppressions which create vulnerability to HIV/AIDS.

How Can My Organization use This Guide?

This guide aims to support the development of strategies and interventions regardless of the funding source. That is, these tools are intended to assist providers to develop programs seeking resources from a broad range of funders beyond the SFDPH including the CDC, Health Resource Service Administration (HRSA), private foundations, and others. Once an organization is ready to design an HIV prevention program and has a clear understanding of the needs of the population the program will serve (e.g., it has conducted a needs assessment), this guide can be the first resource. There are several ways an organization can begin designing a program, but all programs should include at least one theory, intervention, and strategy. Designing an effective program does not require following the selection of a theory, a strategy and an intervention in the order presented in this section. In fact, many providers begin building their program with information they have about what works for a particular population and design their program from there. For example, an organization might start by selecting a strategy or intervention and then determine the appropriate theory or theories underpinning it. Based on your organization's knowledge of the population it will serve, you can determine which theories, strategies, and interventions fit it best. Exhibit 1 (p. 200) presents the potential theories, strategies, interventions and from which your organization may choose. After the exhibit, there are two examples of how organizations can design HIV prevention programs (pp. 200-201).

EXHIBIT 1 Menu of Selected Theories, Strategies & Interventions

BEHAVIORAL THEORIES	STRATEGIES	INTERVENTIONS
<ul style="list-style-type: none"> • Diffusion of Innovations • Empowerment Education Theory/ Popular Education • Health Belief Model • Social Cognitive Theory/Social Learning Theory • Social Networks/Social Support/ Peer Support Theories • Stages of Behavior Change Model • Theory of Reasoned Action • AIDS Risk Reduction Model • IMB (Information, Motivation, Behavioral Skills) Model • Stress and Coping Theory 	<ul style="list-style-type: none"> • Addressing Substance Use • Community Organizing • Condom and Lubricant Distribution • Engagement in HIV Care • HIV Prevention in Medical Care Settings • Harm Reduction Options • Opinion Leaders • Partner Services and Disclosure Assistance • Peer Education • Perinatal Transmission Preventions • Technology • Treatment Adherence 	<p>INDIVIDUAL LEVEL INTERVENTIONS</p> <ul style="list-style-type: none"> • Hotline • Venue Based Individual Outreach • Recruitment and Linkage • Individual Risk Reduction Counseling • Prevention Case Management • Post Exposure Prophylaxis <p>GROUP LEVEL INTERVENTIONS</p> <ul style="list-style-type: none"> • Single Session Groups • Multiple Session Workshops <p>COMMUNITY LEVEL INTERVENTIONS</p> <ul style="list-style-type: none"> • Social Marketing • Venue-Based Group Outreach <p>INTERVENTIONS FOR DETECTING AND TREATING COMORBIDITIES</p> <ul style="list-style-type: none"> • Sexually Transmitted Infections • Tuberculosis • Viral Hepatitis

Example #1 Developing a Health Education and Risk Reduction (HERR) Intervention

An organization would like to develop an intervention for gay men and other MSM because they are a priority population in San Francisco (pp. 150-168 Priority Setting Chapter). The organization started by reviewing Section I: San Francisco’s Approach to HIV Prevention (pp. 173-177) and Section IV: Health Education and Risk Reduction (pp. 190-191). After reviewing the options, the organization identified African American men as the priority population. The organization also determined that multiple drivers should be addressed through the intervention, including having multiple sex partners and heavy alcohol use.

The organization then reviewed the resources within websites provided in the guide (p. 212) and selected d-up!, an intervention that is part of the CDC Diffusion of Effective Behavioral Intervention (DEBI) project. d-up! Defend Yourself! (d-up!) is a community-level program that works with African American MSM to encourage condom use and improve men’s self-esteem.

The program managers reviewed the Behavioral Theories section to identify a theoretical framework for the program. After consulting the guide and d up! information, the program manager confirmed that the theories used to develop d-up! are Diffusion of Innovations and Social Networks/Support/Peer Support Theories. Diffusion of Innovations fits with the strategies and interventions selected because it is based on using innovators and early adopters to spread messages regarding HIV prevention, risk reduction, and self-esteem by opinion leaders to their social networks. The Social Networks/Social Support/Peer Support Theories are related to the peer education that will develop between the opinion leader and his peers. This theory is based on the concept that networks of support are useful to changing behavior. In other words, the support offered by peers can help reduce risky behaviors.

The program manager then selected the three Strategies: Opinion Leaders, Peer Education, and Harm Reduction Approaches for the program. These strategies will be used to recruit men who are well respected and trusted by peers in their networks to promote the benefits of consistent condom use and build self-worth among their friends and acquaintances. Through peer education, these opinion leaders will use a harm reduction approach for increasing safer-sex behaviors.

The program manager then reviewed the guide and selected the Interventions that were most relevant. Because the program manager will need to recruit the leaders of key social networks (to act as peer educators and opinion leaders), Recruitment and Linkages (R&L) was selected as an appropriate intervention. R&L is also an appropriate intervention for d-up! since the program will need to enroll opinion leaders and engage them in the in-depth prevention messaging and training.

The program manager will also need to train the leaders using the d-up! curriculum, therefore he selected Multiple Session Workshops (MSW), since the d-up! opinion leaders training is based on a four session training series. Finally, the program manager also selected Venue Based Individual Outreach (VBIO), because each opinion leader will set goals to hold risk reduction conversations with at-risk friends and acquaintances in their own social network between weekly sessions.

By applying the evidence-based Behavioral Theories, Strategies and Interventions from the guide, the program manager has selected the appropriate elements to support the implementation of a d-up! model.

Example #2

Developing a Community Clinic HIV Status Awareness Program

A local community clinic would like to develop an HIV status awareness program that is grounded in evidence. The clinic staff started by reviewing Section I: San Francisco's Approach to HIV Prevention (pp. 177-189) and Section II: HIV Status Awareness (pp. 177-184). After reviewing these sections, the staff also determined that the program should address the use of drugs and unprotected sex with multiple partners. The staff then reviewed the HIV status awareness "menu" and recognized that the clinic will need to comply with the required elements and may add the supplemental elements of interest. In this case, Prevention Case Management (PCM) for individuals who test HIV-positive and viral hepatitis testing are added given the prevalence of hormone and drug injection among the clinic's population.

Based on the setting where the services will take place, the program's key strategies are HIV prevention in medical care settings and partner services and disclosure assistance. By using this guide, clinic staff can determine that recent studies have shown that clinics serving HIV infected individuals and those at risk for HIV infection often miss opportunities to deliver prevention messages, thus confirming that the medical care setting is an appropriate strategy to use. Also, partner notification has been shown to be effective, yet is underutilized in many settings.

Given that the clinic staff selected the interventions PCM and viral hepatitis, the clinic staff used the guide to review the tools and guidance for implementing PCM and viral hepatitis services. PCM will be used by a case manager in the clinic to meet with patients who are HIV infected to follow-up on medical appointments, as well as work with the clients to provide counseling about disclosure options (see p. 180 for more information on disclosure options) and partner services. The clinician will support the patient to implement the option they choose and will provide any needed assistance. If the patient chooses partner notification, the clinician will work with the local health department that provides partner notification, and will refer those who may have been exposed to HIV to an appropriate testing site.

The clinic staff then reviewed the Behavioral Theories section of the guide to build a theoretical framework for the program. The guide offers behavioral theories that are important in the development of sound HIV status awareness programs. After consulting the guide, the clinic staff selected the theory that is most pertinent to the clinic's program: the Stages of Behavioral Change Model.

The Stages of Behavioral Change Model is most appropriate because it serves as the basis for the counseling provided by the staff. The counseling provided will guide the patient through the contemplation, preparation, action and maintenance that lead to behavioral change. The aim is that through this process the patient will become aware of the implications of his/her status and will learn how to disclose their HIV status to past, current and future partners in order to prevent the transmission of HIV.

Tool Box #1

BEHAVIORAL THEORIES

Introduction

Behavioral Theory. A model or framework, developed through multiple observations over time, that depicts and predicts how people behave and that shows how the different factors that influence behavior are linked together.

Behavioral theories are important for HIV prevention because interventions based on sound theoretical models are the most effective at encouraging behavior change (Valdiserri et al 1992).

There are many formal theories which have been tested with many different populations. This guide presents current practices based on formal theories that are published in the HIV prevention literature (see Exhibits 2-10).

The HPPC recognizes that further research may be in development or has not been published. Readers are encouraged to do additional research to supplement this guide. For example, the Implicit Theory Project of the University of California, San Francisco, Center for AIDS Prevention Studies (UCSF CAPS) (Freedman et al 2006) explored the informal theories that HIV prevention providers use as the foundation for their programs. The researchers interviewed several Bay Area providers about (1) what promotes risk behavior among their clients; and (2) how they think behavior change happens. The interviews revealed a diversity of theories underlying various programs, but three themes emerged across programs regarding their understanding of how to change clients' risk behavior:

- **Context.** HIV prevention is usually not people's primary concern. Structural issues, such as racism, homophobia, poverty, and violence often have a greater impact on people's daily lives, so HIV prevention must be integrated into a process in which these larger concerns are addressed (although there are limitations to the extent to which providers are actually able to address these issues).
- **Community.** Building a sense of community and connectedness to others is an essential component of HIV prevention, because it contributes to building self-esteem, which, in turn, helps people to engage in risk-reduction practices.
- **Change.** Once the larger contextual issues have been addressed and a sense of community has been created, providers are able to focus directly on supporting people to reduce their HIV risk behaviors.

These findings reflect San Francisco's approach to HIV prevention — one in which addressing structural issues, maintaining community-driven programs, and focusing on behavior change are three central components. Providers are encouraged to develop programs based on either formal theories or implicit theories that they know work for their priority populations based on their experience.

COMPONENTS	HIV PREVENTION EXAMPLES
<p>DIFFUSION: <i>"The process by which an innovation is communicated through certain channels over time among the members of a social system."</i></p> <p>This can refer to information about how to prevent HIV, or information about available HIV prevention programs or services. When people participate in HIV prevention activities, they tell others about the activity, as well as what they learned.</p>	<p>Outreach or social marketing efforts help get the word out about new developments in HIV prevention, such as new condoms on the market or a new HIV testing site.</p>
<p>INNOVATION: <i>"An idea, practice, or object that is perceived as new by an individual."</i></p>	<p>In HIV prevention, this could be a new program or service, new prevention materials (such as new types of condoms or testing technology available), or a new harm reduction approach to prevention that an agency is trying to promote.</p>
<p>INNOVATORS, EARLY ADOPTERS, EARLY MAJORITY ADOPTERS, LATE MAJORITY ADOPTERS, AND LAGGARDS: The five categories of "adopters" according to how long it takes them to accept a new idea or implement a new behavior.</p>	<p>Whatever the HIV prevention idea, practice, or object that is being promoted, it reaches different people in different ways and at different rates. This ranges from innovators (those who take on the new practice or idea right away) to laggards (who never take on the new practice or idea).</p>
<p>FACTORS THAT INFLUENCE THE SPEED AND EXTENT OF DIFFUSION: Whether the innovation is better than the behavior or condition it will replace, if any; whether it fits with the priority audience's existing values, experiences, and needs; and how great a commitment it takes to adopt the innovation.</p>	<p>To successfully promote an HIV prevention idea, practice, or object, it must be promoted in a way that is appropriate for the population an agency is trying to reach. In effect, the innovation must be "marketed" or "spun" however will make it easiest for the population to accept it.</p>

Empowerment Education Theory/Popular Education

(Freire 1970, Horton 1990)

COMPONENTS	HIV-PREVENTION EXAMPLES
<p>POPULAR EDUCATION: Interventions based on this theory, developed by Brazilian educator Paulo Freire, use a "problem-posing" and participatory methodology of education with a group of individuals from the priority community.</p>	<p>Giving people the chance to participate in a collective effort to address the drivers and/or cofactors that affect HIV risk (e.g., drug use, unprotected sex with multiple sex partners, incarceration) can influence both individuals and communities. In HIV prevention, this method could be used in group interventions (e.g., single session groups [SSGs], multiple session workshops [MSWs]) that focus on addressing a specific issue or range of issues related to HIV prevention that the group defines for itself.</p>
<p>DIALOGUE: In the dialogue process, everyone participates as "co-learners." People discuss and share their experiences in a group.</p>	<p>In SSGs or MSWs, an HIV prevention agency could facilitate a dialogue among participants about their life experiences and how they have affected their risk for HIV.</p>
<p>CRITICAL CONSCIOUSNESS: Dialogue eventually leads to a process of critical reflection in which people begin to see and understand the social context of their personal problems and behaviors.</p>	<p>Through such a discussion, participants might notice common themes and social structures that contribute to HIV risk in their community. For some groups, a theme might be how drug use relates to unsafe sex. For others, a theme might be depression or mental health. Identifying the themes helps the group understand the "bigger picture" of HIV and the multiple issues that play into HIV risk.</p>
<p>PRAXIS: The ultimate goal is praxis, which is the continual interplay of discussion, critical thinking, problem solving, and action to promote individual and community change.</p>	<p>Ongoing discussions like these can lead people to internalize what they have learned and begin to develop a sense of power in their own lives and their communities. Over time, this process might lead to community organizing (see p. 216) or changes in risk behaviors at the community level.</p>

Health Belief Model

(Strecher & Rosenstock 1997)

COMPONENTS	HIV PREVENTION EXAMPLES
<p>PERCEIVED SUSCEPTIBILITY: People are motivated to change behavior when they believe that they are susceptible to the disease.</p>	<p>Someone who sees first-hand the effects of HIV on their social circle or community might have a high perceived susceptibility because HIV is "close to home." Someone who does not know anyone with HIV and who does not engage in high-risk behaviors might have a low perceived susceptibility.</p>
<p>PERCEIVED SEVERITY: People are motivated to change behavior when they believe that the disease generally has serious consequences.</p>	<p>Someone who perceives HIV to be a "manageable chronic illness" might have a lower level of perceived severity compared with someone who views HIV as a "fatal disease."</p>
<p>PERCEIVED BENEFITS: People are motivated to change behavior when they believe that changing the behavior will reduce their risk. They are also able to maintain behavior change over time.</p>	<p>People might be more willing to change their sexual or syringe-sharing behaviors if they believe that it will help them. A belief that condoms protect against HIV could lead to high motivation to use them, while a belief that condoms do not protect against HIV might lead to low motivation to use them.</p>
<p>PERCEIVED BARRIERS: People are not motivated to change if they believe their current behavior has few or no negative consequences (e.g., expensive, dangerous, unpleasant, inconvenient).</p>	<p>A belief that condoms reduce sensation during sex is a perceived barrier to condom use.</p>
<p>CUE TO ACTION: A specific stimulus, such as a prevention intervention, is often required to trigger behavior change.</p>	<p>Participating in an HIV prevention program might be just what a person needs to start a process of behavior change. Interventions such as outreach, individual counseling, or group sessions can act as the "cues to action" and give people the tools and support they need to change their behavior.</p>

COMPONENTS	HIV PREVENTION EXAMPLES
<p>ENVIRONMENT: Factors external to the person may influence behavior.</p>	<p>Social, economic, political, and a variety of other factors can affect a person's ability to engage in behaviors that may prevent HIV. Examples are drivers and cofactors such as poverty, limited access to services, policies that prevent people from receiving treatment on demand for drugs, mental-health issues, and a host of others.</p>
<p>SITUATION: A person's perception of his or her environment influences behavior.</p>	<p>The amount of control someone feels over his or her life situation could influence how he or she approaches HIV risk reduction and whether he or she will engage in safer behaviors.</p>
<p>BEHAVIORAL CAPABILITY: A person's knowledge and skills to perform a behavior influence whether a person engages in that behavior.</p>	<p>The more knowledgeable one is regarding a prevention strategy or the more practice he or she has had, the more effective he or she will be at that behavior. For example, knowing that condoms help protect against HIV, knowing how to put them on, and having the skills to discuss condom use with a partner all represent behavioral capability.</p>
<p>OUTCOME EXPECTATIONS/ EXPECTANCIES: A person expects certain results from engaging in a particular behavior and places a certain value on the results, and these factors affect that person's behavior.</p>	<p>If a person living with HIV believes that using condoms during sex will protect their partner from getting HIV, and it is very important to the person to protect his or her partner, he or she will be more likely to use condoms.</p>
<p>SELF-EFFICACY: A person's confidence in performing a behavior affects whether the person will engage in that behavior.</p>	<p>The more a person feels capable of engaging in a behavior, the better he or she will be at it and the more likely he or she will be able to do it — whether it relates to negotiating condom use, being able to keep sterile syringes for injection on hand, or any other behavior.</p>
<p>OBSERVATIONAL LEARNING: A person acquires new behaviors from watching the actions of others and observing the results.</p>	<p>Using condom demonstrations in a group setting and discussing different ways participants have introduced condom negotiations with their sex partners.</p>
<p>RECIPROCAL DETERMINISM: The interaction of the person, the behavior, and the environment in which the behavior is performed affects the person's behavior.</p>	<p>This overarching theme highlights how the environment can affect behavior and how behavior can affect the environment. A person who uses only sterile syringes to inject drugs can support friends in adopting the same practice. This, in turn, creates a social circle that is supportive of safer injection behaviors, which continues to motivate individuals in that circle and possibly in other circles to maintain this practice.</p>

Social Networks/Social Support/Peer Support Theories

(Wohlfeiler 1997)

COMPONENTS	HIV PREVENTION EXAMPLES
<p>SOCIAL NETWORKS: "Social networks" refer to the density, complexity, size, and other characteristics of a social group and are related to health and well-being.</p>	<p>How social networks are formed and how people relate to each other within those networks can influence individual behavior, ranging from drug and alcohol use, to sexual practices, to injection practices.</p>
<p>SOCIAL SUPPORT: "Social support" refers to the positive emotional and practical products that people derive from their social networks and is related to health and well-being.</p>	<p>For someone trying to stop using drugs or alcohol or reduce their use, because he or she notices that it has negative effects on his or her health, support and encouragement from family and friends can be very helpful.</p>
<p>PEER SUPPORT: "Peer support" refers to the social support received from peers (people with whom a person identifies because of similar age, race/ethnicity, culture, or other aspects of identity) and is related to health and well-being.</p>	<p>Someone trying to reduce or quit using alcohol or drugs would have a harder time if all of their friends and peers use. However, someone with friends who do not use and/or social situations in which alcohol and drugs are not present might be better able to reduce or stop using.</p>

EXHIBIT 7 **Stages of Behavior Change Model** (Prochaska et al 1997)

COMPONENTS	HIV PREVENTION EXAMPLE
<p>PRECONTEMPLATION: A person has no intention of changing a behavior within the near future.</p>	<p>Someone who has never used condoms and has not thought about starting to use them is in the precontemplation stage.</p>
<p>CONTEMPLATION: A person intends to change a behavior within the near future.</p>	<p>A person who has thought about starting to use condoms, but has not done it yet is in the contemplation stage. The person might have been prompted to think about condom use because of something that happened in their life, such as having a friend disclose his or her HIV-positive status.</p>
<p>PREPARATION: A person has begun to take a few steps toward changing a behavior.</p>	<p>Someone in this stage might purchase or find out where to get condoms or begin to discuss condom use with partners.</p>
<p>ACTION: A person has made changes in a behavior.</p>	<p>Someone in the action stage has started to use condoms during sex at least some of the time.</p>
<p>MAINTENANCE: A person is able to continue the new behavior for an extended period of time.</p>	<p>In the maintenance stage, a person has incorporated condom use and discussions about condom use into their sexual encounters and this has gone on for some time.</p>
<p>RELAPSE: A person can make an error and slip into the old practices again. This is considered the relapse phase and when this occurs, the participant will have to start back at the Contemplation Stage and continue the cycle on from there until they reach the desired Maintenance Stage once more.</p>	<p>Someone made a commitment to the lifestyle of using condoms consistently and had a one night stand without a condom because the partner preferred it. This person has relapsed.</p>

EXHIBIT 8 **Theory of Reasoned Action** (Montano et al 1997)

COMPONENTS	HIV PREVENTION EXAMPLE
<p>BEHAVIORAL INTENTION: Whether a person intends to perform a behavior is the most important predictor of actual behavior.</p>	<p>Someone who actually plans ahead of time not to use drugs or alcohol during sex is more likely to succeed than someone who does not intend to abstain or has not made plans.</p>
<p>ATTITUDE: A person's beliefs and values about the behavior determine his or her attitude about the behavior, and attitude affects behavioral intention.</p>	<p>Someone who thinks using drugs or alcohol during sex is fun and exciting will have different behavioral intentions than someone who feels nervous about this behavior because it might lead to unsafe sex.</p>
<p>SUBJECTIVE NORM: A person's perception of whether important individuals (e.g., peers) approve or disapprove of the behavior and whether he or she is motivated to act according to those people's opinions determine his or her subjective norm, and subjective norm affects behavioral intention.</p>	<p>If friends think using drugs or alcohol during sex is fun, a person may be likely to believe that he or she should do the same.</p>

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EXHIBIT 9 **AIDS Risk Reduction Model** (Catania et al 1990)

COMPONENTS	HIV PREVENTION EXAMPLE
<p>LABELING: A person must consciously identify a sexual behavior as high risk for contracting HIV before they will consider any change.</p>	<p>The more someone feels that anal sex can put them at risk for contracting HIV, the more likely they are to consider changing that behavior.</p>
<p>COMMITMENT: A person must commit to reducing high-risk sexual behavior and/or increasing low-risk sexual behavior to make that change.</p>	<p>A person must make a commitment or agreement to not having anal sex as often, or increasing condom use when they have anal sex, in order for the behavior change to occur.</p>
<p>ENACTMENT: Seeking and enacting strategies to achieve the behavior change goals constitute enactment.</p>	<p>If this person purchased condoms or sought out partners willing to engage in other types of sex besides anal sex, this would constitute enactment.</p>

EXHIBIT 10 **IMB (Information, Motivation, Behavioral Skills) Model**
 (Fisher & Fisher 1992)

COMPONENTS	HIV PREVENTION EXAMPLE
<p>INFORMATION: People need information regarding HIV transmission and prevention in order to reduce their risk for HIV.</p>	<p>People need to know that HIV can be transmitted through sexual or blood-to-blood contact and that condom use and the use of sterile injection equipment can prevent transmission.</p>
<p>MOTIVATION: How motivated a person is to change HIV risk behaviors affects whether he or she acts on the information he or she receives.</p>	<p>Someone who wants to start practicing safer sex is more likely to be able to translate the idea that condoms can protect against HIV into actual behavior.</p>
<p>BEHAVIORAL SKILLS: The necessary skills to perform the behavior must be present, along with information and motivation, for behavior change to occur.</p>	<p>Having information and being motivated to change behavior is not enough to result in behavior change unless a person knows how to talk to partners about condom use, how to correctly put on and take off a condom, etc.</p>

Introduction

There are numerous types of strategies and interventions relevant to HIV prevention, and new ones are constantly being developed. The main strategies and interventions used in San Francisco and other urban settings are described in this tool box.

Strategy. A prevention approach that can be applied across a spectrum of possible interventions (e.g., peer education). HIV prevention providers may decide whether to select one strategy or multiple strategies for delivering interventions.

Intervention. The type of service or prevention modality a program provides (e.g., recruitment and linkage, multiple session workshops). All HIV prevention programs must include an intervention or set of interventions.

The strategies and interventions in this tool box are organized as follows:

1. Strategies that Support Interventions

2. Interventions:

B. Individual-Level

C. Group-Level

D. Community-Level

E. Interventions for Detecting and Treating Comorbidities

Although the most obvious priority audiences for the HIV prevention strategies and interventions described here are the populations at risk, providers may also consider developing programs for individuals or groups who serve populations at risk, such as health care providers and other non-HIV prevention service providers. Such programs may include cultural competency training, training on federal, state, or local standards and guidelines (e.g., for HIV status awareness), or training on how to educate and counsel patients about HIV-related issues (e.g., HIV training for medical providers).

Organizations should be mindful that there is a mix of strategies and interventions citywide that complement each other, that they are not duplicative, and that they are regionally coordinated. For example, having five distinct late-night outreach programs for MSM who inject drugs in the Tenderloin may not be necessary. However, if each program is designed to reach a specific subpopulation of MSM injectors, or if each outreach program has a different goal, it may be appropriate to implement all the programs, as long as they are coordinated. Because the HIV Prevention Section is the organization with the most comprehensive perspective on citywide HIV prevention activities, it must be responsible for monitoring this coordination.

For additional information about strategies and interventions, please visit the websites described below:

Center for AIDS Prevention Studies HIV Prevention Fact Sheets

<http://www.caps.ucsf.edu/pubs/FS/>

This site provides HIV prevention fact sheets on a range of topics that are customized based on the audience (e.g., gender, age, race or ethnicity). Each fact sheet is available in both English and Spanish.

California HIV/AIDS Research Program

<http://chrp.ucop.edu/resources/index.html>

This site is a portal to several HIV/AIDS resources and research activities underway in California. The site provides links to statewide resources including a client management system, information on science-based education and prevention activities, a community forum and research clearinghouse, support for dissemination of research findings and resource materials, and

materials designed to help the development of indicators for monitoring and assessing progress toward HIV prevention in California.

California HIV Options (ChoiceHIV)

<http://choicehiv.org/>

The ChoiceHIV website provides easily accessible information to assist prevention providers in planning education and prevention activities based on science. ChoiceHIV contains a comprehensive catalogue of HIV/AIDS prevention interventions. Prevention providers may search for appropriate interventions by choosing criteria that define the priority populations. Extensive resources are available to assist in development of evidence-based prevention programs and activities.

Compendium of HIV Prevention Interventions with Evidence of Effectiveness

http://www.cdc.gov/hiv/topics/prev_prog/rep/resources/initiatives/compendium.htm

This site provides resources on interventions identified by CDC's HIV/AIDS Prevention Research Synthesis Project as having rigorous study methods and demonstrated evidence of effectiveness in reducing sex- and drug-related risk behaviors and/or improving health outcomes.

Diffusion of Effective Behavioral Interventions

<http://www.effectiveinterventions.org/>

This site provides resources on projects that are designed to bring science-based community, group, and individual-level HIV prevention interventions to community-based service providers and state and local health departments. The goal is to enhance the capacity to implement effective interventions at the state and local levels, to reduce the spread of HIV and STIs, and to promote healthy behaviors.

CDC Replicating Effective Programs Plus

http://www.cdc.gov/hiv/topics/prev_prog/rep/

The site provides resources on tested, science-based behavioral interventions with demonstrated evidence of effectiveness in reducing risky behaviors, such as unprotected sex, or in encouraging safer ones, such as using condoms and other methods of practicing safer sex. The interventions are translated into everyday language and put into user-friendly packages of materials.

CDC Recommendations & Guidelines

<http://www.cdc.gov/hiv/resources/guidelines/index.htm>

This site provides resources on an array of guidelines that have been developed to support interventions in different settings.

HRSA HIV/AIDS Program Home

<http://hab.hrsa.gov/provide/>

This site provides research, clinical guidelines, training programs, and information on the Ryan White HIV/AIDS program.

National Registry of Evidence Based Programs and Practice

<http://www.nrepp.samhsa.gov/find.asp>

The site provides resources on interventions supported by the Substance Abuse and Mental Health Services Administration (SAMHSA). The site is a search engine that allows users to search for interventions by subjects such as topics, areas of interest, and study populations.

National Institute of Drug Abuse

<http://www.nida.nih.gov/DrugPages/HIV.html>

This site provides publications, meeting announcements, and other resources on the link between drug use and HIV/AIDS. Information is available for medical and health professionals, researchers, and the general public.

SECTION 1 Strategies

A strategy is a prevention approach that can be applied across a spectrum of possible interventions (e.g., peer education). HIV prevention providers may decide whether to select a strategy or strategies for delivering their interventions.

The following strategies are listed alphabetically and described in this section:

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- Addressing Substance Use
- Community Organizing
- Condom and Lubricant Distribution
- Engagement in HIV Care
- Harm-Reduction Options
- HIV Prevention in Medical Care Settings
- Opinion Leaders
- Partner Services and Disclosure Assistance
- Peer Education
- Perinatal Transmission Prevention
- Technology
- Treatment Adherence

Addressing Substance Use

Literature has shown that addressing substance use is effective in reducing HIV transmission (see Exhibit 11 for more information on addressing substance abuse). An analysis of the data reveals that the use of four substances is driving HIV in San Francisco (see p. 162 for the drivers of HIV), namely, cocaine/crack, alcohol (when used heavily), methamphetamine, and poppers (amyl nitrite).

In San Francisco, one study, Project EXPLORE, conducted a longitudinal analysis of methamphetamine, popper, and cocaine use and high-risk sexual behavior among a cohort of MSM. The study found that the use of methamphetamine, poppers, and sniffed cocaine declined during follow-up for most populations; however, it increased among the younger participants. Participants reported increased high-risk sexual behavior during periods of increased recreational use of these drugs. These findings suggest that, in order to reduce and prevent risks of HIV, any use of these drugs are not considered safe. HIV prevention interventions should focus on MSM who report either light or heavy use of methamphetamine, poppers, and sniffed cocaine (Colfax et al 2005). This data demonstrates that organizations must utilize and integrate effective strategies that address issues of substances use within their HIV prevention interventions.

Heavy alcohol use is another driver of HIV in San Francisco. A survey of heterosexuals in alcohol-treatment programs in San Francisco found HIV infection rates of 3% for men who were not sexually active with men or IDUs and 4% for women who were not IDUs. This was considerably higher than rates of 0.5% for men and 0.2% for women found in a similar population survey (Avin 1994). Another study found that sensation seeking is associated with alcohol use outcome expectations, as well as elevated rates of unprotected sex with casual partners. Alcohol use plays important roles in risks for STIs, particularly among gay male sensation seekers (Kalichman 2003).

Because substance use occurs along a continuum, from occasional use to dependency, organizations must be prepared to address substance use in the context of other behavioral health issues. It is important to address behavioral health issues that may affect both an individual's vulnerability to HIV and their ability to incorporate sexual and/or drug-related harm reduction measures to prevent HIV acquisition or transmission. The co-occurrence of mental health issues with substance use issues should be considered the norm, not the exception. Organizations that do not have comprehensive behavioral health services should create strong linkages to integrated substance use and mental health services for those clients who want and need such services.

The following studies have demonstrated that addressing substance use can support HIV risk reduction:

- Behavioral drug use treatments produced significant reductions in methamphetamine use and sexual risk behaviors, including among MSM (Shoptaw et al 2005). The Matrix Intensive Outpatient Program for the Treatment of Stimulant Abuse and similar interventions adopted for MSM have reduced risk (Rawson et al 2008).
- Contingency management is a behavior modification strategy that uses positive reinforcement (e.g., using vouchers to incentivize behavior change) to improve the clinical outcomes of substance users in treatment, especially sustained abstinence from drug use (Stitzer et al 2008).

<p>DESCRIPTION</p>	<p>This HIV prevention strategy involves addressing substance use and contextual factors that may increase an individual's risk for HIV acquisition and transmission. Organizations can either utilize specific strategies that focus on a priority population that uses substances (e.g., HIV prevention programs may choose to reach gay men who use methamphetamine), or can integrate known HIV prevention interventions and strategies within existing settings (e.g., a substance use program may choose to develop an HIV prevention program for transfemales).</p>
<p>GUIDANCE FOR IMPLEMENTATION</p>	<p>AGENCIES ADDRESSING SUBSTANCE USE SHOULD:</p> <ul style="list-style-type: none"> • Incorporate harm reduction principles in the intervention; • Adapt and tailor the intervention to meet the needs of the priority population; • Address contextual life and environmental factors that facilitate substance use and be prepared to address comprehensive behavioral health issues; and • Be aware of and follow requirements for the particular intervention provided.
<p>RESOURCES</p>	<p>SAMHSA NATIONAL REGISTRY OF EVIDENCE-BASED PROGRAMS AND PRACTICE: http://www.nrepp.samhsa.gov/find.asp</p> <p>CONTINGENCY MANAGEMENT INTERVENTIONS: FROM RESEARCH TO PRACTICE: http://ajp.psychiatryonline.org/cgi/content/full/158/5/694</p> <p>MATRIX INTENSIVE OUTPATIENT PROGRAM FOR THE TREATMENT OF STIMULANT ABUSE: http://www.matrixinstitute.org/</p> <p>NATIONAL INSTITUTE OF DRUG ABUSE: http://www.nida.nih.gov/DrugPages/HIV.html</p>
<p>STRENGTHS</p>	<p>Addressing HIV prevention in the context of individuals' substance use issues maximizes prevention effectiveness and provides people with holistic services that address the intersection of substance use and sexual activity.</p>
<p>LIMITATIONS</p>	<ul style="list-style-type: none"> • While substance use services that address HIV may be paid for with federal and state HIV prevention funding, certain activities (e.g., narcotic replacement therapies and residential treatment) cannot be paid for with federal and state HIV prevention funding. • Programs that address HIV prevention in the context of individuals' substance use issues may require time and resource-intensive programming, in addition to a comprehensive behavioral-health approach, to effectively assist participants with making sustainable behavior changes.

Community Organizing

A number of studies have indicated that community organizing is an effective HIV prevention strategy and can also be cost-effective (Kahn 1995). Literature has shown that involving community stakeholders as partners—particularly when working with minority communities—is critical to preventing the spread of HIV (Eshel et al 2008). Furthermore, community organizing has been identified as an important strategy for HIV prevention among IDUs (Deren 2002). Results from studies of some programs that used this strategy include decreases in unprotected anal sex among gay men (Coates & Greenblatt 1990, Kegeles et al 1996), higher willingness to give HIV prevention advice to drug-using friends and relatives among Latina/os and non-Latino Whites (Marin et al 1992), individual and community-level behavior change among gay and bisexual men (Bueling et al 1995), and increased knowledge and behavior change among Mexican gay men (Zimmerman et al 1997).

Community organizing can also be used to mobilize communities around policy issues, such as advocating for federal funding for syringe access (James 1998). Community empowerment has not been systematically incorporated into theory-based interventions because of a lack of consensus on what it means, how to implement it, and the strategies that should accompany it (Beeker et al 1998). Exhibit 12 describes community organizing and how to implement it.

DESCRIPTION	<p>Community organizing encompasses a wide range of strategies that involve community-wide efforts to create change and promote social justice. Community organizing can follow an action model (e.g., bringing together community members to advocate for a particular issue related to policy or resources), a popular education model (see the section on Empowerment Education Theory/Popular Education, p. 204), or other models. Examples of community organizing for HIV prevention include community-wide action to promote safer sex and drug use practices, to improve city treatment-on-demand policies, and to address the effects of racism on HIV risk.</p>
GUIDANCE FOR IMPLEMENTATION	<p>AGENCIES CONDUCTING COMMUNITY ORGANIZING CAMPAIGNS SHOULD:</p> <ul style="list-style-type: none"> • Allow the community to define the problem, the solution, and the course of action; • Facilitate the process, participate in dialogue regarding HIV information, and secure resources to promote community involvement and assist the community in attaining its goals; • Address multiple needs of communities or collaborate with other agencies that can address those issues; • Acknowledge and consider adopting existing strategies that work in the community; • Implement campaigns that develop and strengthen social norms for health-promoting behaviors; • Include components that increase participants' self advocacy skills and senses of personal control and power; • Seek changes that are sustainable, either within the community or structurally; and • Give consideration to the time needed to achieve success given their goals.
RESOURCES	<p>CDC'S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION ACTIVITIES: http://www.cdc.gov/hiv/resources/guidelines/herrg/index.htm</p>
STRENGTHS	<ul style="list-style-type: none"> • Has a strong theoretical foundation. • Addresses community-level obstacles to HIV risk reduction. • Creates networks that can be used to conduct other interventions and builds stronger bonds between and within communities. • Can contribute to health-promoting social norms. • Suitable for communities that have a strong identification (e.g., geographically or culturally), and groups with multiple issues, although it also has challenges (see below). • Useful for addressing structural change. • Can be made up of several creative and dynamic interventions.
LIMITATIONS	<ul style="list-style-type: none"> • More difficult to implement for isolated populations than those with a strong identity. • May be challenging to organize populations that could be endangered as a result of the organizing (e.g., undocumented immigrants, drug users, or commercial sex workers could face consequences due to their illegal status and/or activities). • Group may not prioritize HIV prevention.

Condom and Lubricant Distribution

A CDC fact sheet on condoms concludes that “*Latex condoms, when used consistently and correctly, are highly effective in preventing the sexual transmission of HIV, the virus that causes AIDS.*” (<http://www.cdc.gov/condomeffectiveness/latex.htm>). Lubricant should also accompany condom distribution, as use of lubricant may lower condom failure rates. Condom and lubricant distribution ensures their availability and accessibility, and condom distribution has also been associated with increased condom use among African American men and women in one community-level, targeted distribution effort (Cohen et al 1999). While several new studies are summarized below, much of the recent literature focuses on condom distribution in developing countries and cannot be clearly applied to San Francisco.

In 2005, the New York City Department of Health and Mental Hygiene made free condoms available to organizations through a web-based ordering system. The system was successful in increasing condom distribution from 5.8 million in 2004 to 17.3 million in 2006. In addition, 80% of patrons who saw the free condoms reported taking them, and 73% reported using them (Renaud et al 2009).

The cost savings to the health care system and society per condom used consistently and correctly is \$27 for high-risk heterosexuals and at least \$530 per condom for MSM (HPPC 2001), making this a highly cost-effective strategy. A study of cost-effectiveness of various interventions also determined condom distribution to be cost-effective for high-risk men and women (Pinkerton et al 2001). Exhibit 13 describes condom and lubricant distribution and how to implement it.

<p>DESCRIPTION</p>	<p>Condoms (female and/or male), lubricant, and other harm reduction materials for reducing sexual risk for HIV are distributed to members of the priority populations.</p>
<p>GUIDANCE FOR IMPLEMENTATION</p>	<p>CONDOM DISTRIBUTION SHOULD:</p> <ul style="list-style-type: none"> • Be used in combination with other strategies or interventions (i.e., it is not an intervention in itself); • Be accompanied by instructions for proper use, either verbal or written; • Be accompanied by information about the risks of nonoxynol-9*, if condoms with nonoxynol-9 are distributed; • Include referrals to appropriate health and social services, including medical care, mental health, substance use, and HIV testing programs, STI testing and treatment, and other HIV prevention services; and • Make available new condoms being marketed and sold, as technology improves. <p><i>*Nonoxynol-9 is no longer recommended by the CDC as an effective means for preventing HIV transmission (http://www.cdc.gov/hiv/pubs/mmwr/mmwr11aug00.htm).</i></p>
<p>RESOURCES</p>	<p>CDC'S CONDOM AND STI FACT SHEET: http://www.cdc.gov/condomeffectiveness/latex.htm</p>
<p>STRENGTHS</p>	<ul style="list-style-type: none"> • May reduce barriers to safer sex for some populations (e.g., for those who cannot afford condoms, those who are uncomfortable buying condoms, such as teens). • May increase ease of access to condoms (e.g., picking up condoms on the way into or out of a bar).
<p>LIMITATIONS</p>	<ul style="list-style-type: none"> • May have limited effectiveness in some populations unless accompanied by other interventions or strategies. • May be controversial or prohibited in some settings (e.g., schools, correctional facilities). • Some individuals may be allergic to latex and lubricants.

Engagement in HIV Care

In the 2004 HIV Prevention Plan, the HPPC established linkage as a priority for San Francisco's HIV prevention services. Linkage was described as going "beyond handing out information or a phone number; the process includes providing support to the individual to access the services he or she is being referred to, as well as tracking referrals and referral follow-up." Engagement in care (as described on page 194 of Section V) goes beyond the initial process of linkage to ensuring that individuals are fully involved in the process of finding and maintaining HIV medical care.

In one article (Mugavero 2008), five factors were identified as important considerations in attempts to improve engagement in care:

- Initial linkage and subsequent retention are distinct processes;
- Engagement in care is vital for HIV treatment success at both the individual and population levels;
- Missed clinic visits can identify patients at high risk for poor health outcomes;
- Engagement in care is lower in groups bearing a disproportionate burden of the domestic HIV epidemic; and
- Ancillary services play a crucial role in improving linkage to and retention in care.

Organizations developing interventions for PLWHA should develop strategies that support long-term engagement in HIV care. (See Exhibit 14 for more information). The following studies have demonstrated strategies to engage clients in HIV care:

- Discharge planning upon release is critical for incarcerated individuals who are living with HIV to ensure continuity of care in the community (Wang et al 2008).
- Training for medical providers that includes effective communication skills, patient involvement, validation and empathy for life situations can increase engagement and retention for underserved PLWHA in timely and appropriate HIV care and services (Mallinson et al 2007).
- The use of case management may be associated with fewer unmet needs and higher use of medications for patients receiving HIV treatment (Katz et al 2001).
- Studies sponsored by HRSA have indicated that retention in care is positively associated with use of ancillary services including case management, transportation, housing, substance use, and mental health services (AIDS Care 2002).
- HRSA-sponsored Special Projects of National Significance initiatives involving peer navigators and other types of patient outreach have also demonstrated effectiveness in promoting retention in care (Tobias AIDS Patient Care STIs 2007).

<p>DESCRIPTION</p>	<p>This HIV prevention strategy involves going beyond the initial process of linking individuals who are HIV infected to care by ensuring that they are fully engaged in HIV primary medical care. It involves the use of multiple interventions that address issues such as health literacy, readiness, health status perceptions, fear, stigma, missed appointments, substance use and mental health needs.</p>
<p>GUIDANCE FOR IMPLEMENTATION</p>	<p>AGENCIES ADDRESSING ENGAGEMENT IN HIV CARE SHOULD:</p> <ul style="list-style-type: none"> • Ensure that clients are successfully linked to HIV care; • Ensure that clients are engaged in care by supporting efforts to provide them with the resources and knowledge of the care system and how to use it; • Monitor client medical appointments and ensure ongoing attendance; • Train and work with medical providers to increase clients' engagement in care; and • Ensure that clients are linked with and provided ancillary services.
<p>RESOURCES</p>	<p>HRSA: http://hab.hrsa.gov/tools/HIVoutreach/HIVoutreach2.htm http://hab.hrsa.gov/special/outreach_index.htm</p>
<p>STRENGTHS</p>	<ul style="list-style-type: none"> • Is vital for HIV treatment success at both the individual and community levels. • Can build the clients' full participation in their medical care. • Can build and/or strengthen collaboration and coordination of services. • Can provide opportunities to link patients with other services on site (e.g., STI testing and treatment, mental health or substance use treatment and counseling). • In San Francisco, access to care is available for people who are living with HIV.
<p>LIMITATIONS</p>	<ul style="list-style-type: none"> • Challenging for populations with other health disparities such as lack of housing and mental health and substance use issues. • May not be effective for individuals who do not feel comfortable going to the doctor or who do not trust the medical system. • May require medical care providers to attend additional training.

Harm Reduction Approaches

A harm reduction approach to prevention accepts that persons engage in harmful behaviors, and the main goal is to reduce as much as reasonably possible the negative effects of the behavior rather than ignore or pass judgment on the persons or their behavior. Several studies establish the effectiveness of harm reduction approaches in regard to high-risk injection and sexual behaviors, particularly when used in combination with counseling and health education (Brette 1991). Examples of harm reduction programs for injection drug use include methadone maintenance and syringe access programs. Studies show that methadone maintenance harm reduction programs are associated with lower levels of risk behavior (Margolin et al 2003) and lower seroconversion rates (Moss et al 1994). Syringe access has been shown to be a highly effective and cost-effective harm reduction approach as well (see Section III on Syringe Access and Disposal Programs, pp. 185-189).

Condom use is an example of a harm reduction approach to sexual behavior and has proved to be an extremely effective intervention. Other harm reduction approaches in relation to sexual behavior include withdrawal before ejaculation and negotiating to engage in oral instead of anal sex. Exhibit 15 describes harm reduction approaches and how to incorporate them into HIV prevention programs.

EXHIBIT 15 Harm Reduction Approaches

DESCRIPTION

A harm reduction approach to prevention accepts that harmful behavior exists, and the main goal is to reduce the negative effects of the behavior rather than ignore or pass judgment on the person or the behavior. The term "harm reduction" is used most often in the context of drug use, but it can be used with sexual risk behavior as well. Harm reduction encourages safer drug use and/or sexual practices among those engaging in high-risk behaviors and acknowledges the social and environmental factors that affect drug use and high-risk sexual behaviors, such as poverty, racism, and stigma.

GUIDANCE FOR IMPLEMENTATION

Agencies must comply with the San Francisco Health Commission's Resolution on Harm Reduction: <http://www.sfdph.org/dph/files/hc/HCRes/Resolutions/2000Res/HCRes10-00.shtml>

AGENCIES UTILIZING HARM REDUCTION APPROACHES SHOULD:

- Attempt to reach clients "where they are" to assist them in making healthy choices;
- Be attentive to the health and well-being of the entire person in considering when to use harm reduction options;
- Should tailor harm reduction options to the needs of the priority populations, taking into consideration the populations' norms and behaviors; and
- Provide referrals to appropriate health and social services, including medical care, mental health, substance use, STI testing and treatment, and other HIV prevention services.

RESOURCES

HARM REDUCTION COALITION:

<http://www.harmreduction.org>

HARM REDUCTION THERAPY CENTER:

<http://www.harmreductiontherapy.org>

INTERNATIONAL HARM REDUCTION ASSOCIATION

<http://www.ihra.net>

STRENGTHS

- Accepts the stage where a person is and promotes skills for decreasing risk.
- Can be used in an institutional (e.g., drug-treatment facility) or community (e.g., outreach) setting.
- Can encourage safer injection practices and sexual risk reduction.
- Can encourage positive attitudes to risk reduction.
- Can provide linkages to drug treatment.
- Encompasses a continuum of behaviors.
- Recognizes the realities of poverty, class, racism, social isolation, past trauma, and discrimination.
- Can be used to reduce harm to both individuals and communities.

LIMITATIONS

- Does not totally eliminate the potential harmful effects of a behavior.
- Is not likely to be as useful for individuals who are not ready to change harmful behaviors as for those who are ready to change them.
- May lead to increased harmful behavior if not individually tailored (e.g., promoting withdrawal before ejaculation to someone who already uses condoms consistently could inadvertently lead to decreased condom use).

HIV Prevention in Medical Care Settings

Integrating HIV prevention into medical care is yet another way to reach both high-risk HIV-negative and -positive individuals, especially those who might not otherwise be reached by HIV prevention messages. Interventions based in medical settings may be an especially effective way to conduct PWP, since approximately 80% of PLWH in San Francisco are already in care. Recent local studies have documented that some HIV-positive individuals are at high risk for transmitting HIV (Fisher et al 2004) and that Ryan White Act-funded clinics are missing critical opportunities to deliver HIV prevention messages to their patients (Morin et al 2004). One study indicated that showing a video in the waiting room of a clinic can be an effective intervention for HIV prevention (Warner et al 2008). Several studies have demonstrated that existing risk-based testing strategies are insufficient in identifying HIV-infected persons. In fact, persons with HIV infection often visit healthcare settings years before receiving an HIV diagnosis but are not tested. Implementation of screening for all patients could help identify HIV-positive persons earlier in the course of their infection (CDC 2008, http://www.cdc.gov/hiv/topics/testing/resources/qa/qa_professional.htm).

HIV prevention in the medical setting can make productive use of several types of interventions, all of which are described elsewhere in this chapter. HIV prevention services that can be offered in medical settings include the following (CDC 2003, <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5212a1.htm>):

- Providing HIV testing (see Section II, pp. 177-184)
- Asking patients about their sexual and drug use risk behaviors, counseling them to help them identify ways to reduce their risk, and reinforcing behavior change (see sections on interventions such as Individual Risk Reduction Counseling, pp. 244-245, Prevention Case Management, pp. 245-247, and Prevention with Positives, pp. 192-195)
- Referring patients to other services such as substance use or mental health treatment (see section on Recruitment and Linkages, p. 242)
- Facilitating partner services and disclosure assistance (see section on HIV Status Awareness, pp. 177-184)
- Identifying and treating STIs (see section on STI Detection and Treatment, pp. 260-262)

When HIV testing services are offered in the medical setting in San Francisco, all of the consent that apply to other test sites must be followed (see the section on HIV Status Awareness, pp. 177-184). This includes the requirement that all HIV tests be accompanied by post-test counseling. Exhibit 16 describes HIV prevention in medical settings.

HIV Prevention in Medical Care Settings

DESCRIPTION	This strategy involves HIV prevention activities done in the context of medical care. Doctors, nurses, health educators and others can conduct the intervention.
GUIDANCE FOR IMPLEMENTATION	See recommendations for the particular intervention being provided.
RESOURCES	MMWR report "Incorporating HIV Prevention into the Medical Care of Persons Living with HIV: Recommendations of CDC, the Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America" (2003): http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5212a1.htm
STRENGTHS	<ul style="list-style-type: none"> • Has the potential to reach individuals who might not otherwise be reached by HIV prevention services. • May be especially effective for conducting prevention with positives. • May support the credibility of prevention messages. • Broadens medical care by personalizing prevention messages through connecting them to health and well-being. • Can be integrated into the medical setting in multiple ways, using various staff as the prevention messengers (e.g., doctors, nurses, physician's assistants, and health educators). • May be effective for individuals who feel comfortable sharing confidential information with their medical providers. • Provides opportunities to link patients with other on-site services (e.g., HIV testing, STI testing and treatment, mental health or substance use treatment and counseling). • Has been shown to be effective in other areas of health promotion, such as smoking cessation.
LIMITATIONS	<ul style="list-style-type: none"> • May be challenging to implement in medical settings, due to restricted time available for clinicians to meet with each patient. • May not be effective for individuals who are uncomfortable going to the doctor or who do not trust the medical system. • Medical providers may be reluctant or uncomfortable discussing sexual and drug use behaviors with patients. • May require additional staffing, especially if routine HIV testing is offered. • May require medical care providers to attend additional training.

Opinion Leaders

Opinion leader strategies have been shown to be effective for various populations. Opinion leaders can be peers of the population a program is trying to reach, celebrities, or others who have the potential to influence a community's opinions and norms. One study of an opinion-leader intervention among gay men showed decreases in the percentage of men engaging in unprotected anal sex, increases in condom use, and decreases in the percentage reporting multiple sex partners (Kelly et al 1991). Use of popular opinion leaders in an intervention for women living in low-income inner-city neighborhoods resulted in increased condom use and reduced unprotected sex (Sikkema et al 2000). This strategy was deemed cost-effective in two studies (Grossberg et al 1993, Kahn 1995). All recent research on the effectiveness of opinion leaders we are aware of has been focused on the developing world. Exhibit 17 describes the opinion leader strategy.

EXHIBIT 17 Opinion Leaders

DESCRIPTION	Key people who are recognized as influential and charismatic members of a community or communities are identified to help influence the opinions and behaviors of a priority population through modeling of those opinions and behavior.
GUIDANCE FOR IMPLEMENTATION	<p>OPINION LEADERS SHOULD:</p> <ul style="list-style-type: none"> • Be identified and determined by the priority population. • Be individuals who have the capacity to truly influence social norms.
RESOURCES	CDC'S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION: http://www.cdc.gov/hiv/resources/guidelines/herrg/activities_ind-group.htm
STRENGTHS	<ul style="list-style-type: none"> • Appropriate for people with a group identification, those who recognize community leaders, those who value media heroes (e.g., youth), those with perceptions of low risk, and for groups in which social stigma exists for homosexuality or injection drug use. • Can affect the behaviors of the opinion leaders, as well as the priority audience. • May be able to easily involve leaders who endorse prevention messages.
LIMITATIONS	<ul style="list-style-type: none"> • May not be as effective for those without a particular community identification. • May increase awareness and knowledge of HIV and AIDS, but may not result in behavior change. • May be ineffective if the opinion leaders do not engage in HIV-preventive behaviors themselves.

Partner Services and Disclosure Assistance

The goal of the strategy is to reduce HIV transmission by offering individuals quality disclosure support and avenues for informing their sexual and/or syringe-sharing partners of possible exposure, and by providing interventions and other services to those partners. It is also important to recognize that co-infection with HIV and one or more other STIs and/or viral hepatitis is common. Persons diagnosed with HIV should be tested for other STIs and viral hepatitis and vice versa. The goal of disclosure and partner services is relevant to addressing viral hepatitis and STIs, such as syphilis, gonorrhea and chlamydia.

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San Francisco recognizes that there can be more than one option for notifying partners of clients who may have been exposed to a communicable disease. Mechanisms for reaching partners of infected persons include the following:

- **Self-disclosure and referral.** A notification strategy in which the client assumes responsibility for informing his or her partner(s) of possible exposure to HIV and referring those partner(s) to appropriate services. During the interview with the client, the health or social services professional works to motivate the client to contact and notify partner(s) and prepares, assists and supports the client to determine when, where and how to notify the partner(s) as well as how to cope with potential reactions.
- **Dual-disclosure and referral.** A notification strategy in which a client discloses his/her HIV status to a partner in the presence of a health worker (e.g., counselor, case manager, health department staff). The strategy allows the client to receive support during the notification process and provides the partner with immediate access to counseling, testing, and other resources (e.g., referrals and linkages).
- **Partner Elicitation.** A health department or non-health department health or social services professional (e.g., counselor, case manager) gathers (elicits) partner information for confidential notification by health department specialists (see below).
- **Partner Notification.** A notification strategy in which health department staff (e.g., disease intervention specialist) or treating physician or surgeon confidentially notifies a partner of possible exposure. The partner information is gathered during the partner elicitation process (see above).
- **Internet partner notification (IPN).** The use of the internet for partner notification by health department staff or treating physician or surgeon. Using an email address or Internet screen name/handle, the identified partner(s) is notified of possible exposure to HIV or an STI and asked to contact the health department for follow up dialogue. Initial email contact with the identified partner(s) will not disclose any information about the diagnosis. Content will include language that urges the identified partner to contact the sender on an urgent health matter. When the client responds, he or she is encouraged to be tested/treated. IPN protocols include sending an email to the partner directly or contacting the partner through a social/sexual website. Clients can also notify partners either confidentially or anonymously using www.inSPOT.org (website specifically for partner notification).

In 2008, the CDC released revised recommendations for disclosure and partner services programs to include greater emphasis on partner notification. Given the persistence of HIV in many of our communities, San Francisco acknowledges disclosure and partner services must be approached in new ways. Among the advancements in knowledge in recent years is the increased data on partner notification that suggests this method may be effective in identifying new HIV infections (Mimiaga et al 2008). In fact, a recent study conducted in San Francisco found that 13% of partners who were notified and tested for HIV were newly identified as HIV infected (Ahrens et al 2006).

HIV disclosure and partner services have been underutilized in San Francisco, despite data indicating that they are effective in reaching large numbers of people. This may be due in part to cultural barriers and stigma, which can lead people to avoid disclosing. This also may be due to a lack of trust between clients and providers. A variety of disclosure and partner services options for clients are important, as no single approach will be acceptable to or effective for all populations. Exhibit 18 discusses partner services and disclosure assistance.

EXHIBIT 18 Partner Services and Disclosure Assistance

DESCRIPTION	Partner services and disclosure assistance include a broad array of services that assist individuals with disclosing their HIV, STI, and/or viral hepatitis status to others and provide opportunities for people who may have been exposed to become informed of their exposure and access services. This strategy should be offered to persons with HIV, STIs, and/or viral hepatitis and their sexual or syringe-sharing partners. By ensuring individuals disclose their status to partners, either in person, internet, or other mechanisms, the health, not only of individuals, but of communities can be improved.
GUIDANCE FOR IMPLEMENTATION	<p>AGENCIES CONDUCTING HIV DISCLOSURE AND PARTNER SERVICES SHOULD:</p> <ul style="list-style-type: none"> • Tailor all steps of the process to the behaviors, circumstances, acuity of the infection, and specific needs of each client; • Maintain client/patient anonymity by not revealing any identifying information to field staff when providing partner information for partner notification. Breaches are punishable by law and can undermine community trust in and access to important public health programs and services; • Ensure participation in the services is voluntary for both infected persons and their partners; they should not be coerced into participation; • Ensure that services are accessible to all infected persons, regardless of where they are tested or receive a diagnosis and whether they are tested confidentially, anonymously, or neither. Because of the chronic nature of HIV infection, HIV disclosure and partner services should not be a one-time event. They should be offered to everyone and especially to HIV-infected persons when they learn their HIV status and should be available throughout their counseling and treatment. HIV-infected persons should be able to access partner services whenever needed; and • Make sure partner services and disclosure assistance are a part of an array of services that are integrated for persons with HIV and viral hepatitis or other STIs and their partners.
RESOURCES	<p>CDC PARTNER SERVICES WEBSITE: http://www.cdc.gov/nchhstp/partners/Partner-Services.html</p> <p>SFDPH TRAINING ON DISCLOSURE AND PARTNER SERVICES: http://www.sfhiv.org/testing_training.php</p>

STRENGTHS

- Partners of persons with HIV infection or other STIs are at high risk for infection. This strategy provides a way for these persons to become aware of their risk and to access appropriate diagnostic, treatment, and prevention services.
- The community benefits from this strategy by helping reduce transmission rates and facilitating earlier identification and treatment of previously undiagnosed STIs, viral hepatitis, and HIV infection among its members.

LIMITATIONS

- Services may not be accepted by clients.
- The potential for emotional or physical abuse by or against the original client as a result of disclosure must be addressed; however available data suggest that the rate of violence attributable to disclosure is low. Data on this issue are limited, and additional study is needed.
- The potential negative effect of disclosure on relationships (e.g., dissolution of a long-standing relationship).

Peer Education

Numerous studies have shown that peer education is an effective approach to HIV prevention and can be cost effective (Pinkerton et al 2001). This strategy may be more effective in many situations than interventions delivered via non-peers (Catania et al 1991, Coates & Greenblatt, 1990, Dorfman et al 1992), especially for adolescents (Lem et al 1994), because peers may be viewed as more credible, more sensitive, and better able to understand the priority population. Studies of interventions that used a peer approach found that they resulted in:

- Reduced injection and sexual risk for HIV-positive and HIV-negative drug users (Latkin et al 2003, Latka et al 2008).
- Increased HIV knowledge and likeliness to engage in safe sex among adolescents (Mahat et al 2008).
- Increased condom use among HIV-positive gay and bisexual men (Wolitski et al 2005).
- Increased consistent condom use among HIV-positive women (Fogarty et al 2001).
- Increased HIV testing among high-risk youth (Johnson et al 2001).
- Cost-effective risk reduction for young gay and bisexual men (The Mpowerment Project, Kahn et al 2001).
- Reduced HIV risk behaviors among homeless and marginally housed women (Nyamathi et al 2001).
- Increased condom use and reduced unprotected sex among women living in low-income inner-city neighborhoods (Sikkema et al 2000).

Peer education can also have an effect on the peer educators themselves, in terms of knowledge, attitudes, and risk reduction (Pearlman et al 2002), which benefits them personally and promotes their credibility as educators.

Peer education is not always the most appropriate approach for every population or situation. For example, if an individual or population has multiple and complex issues (e.g., substance use and mental health), the benefits of an experienced professional social worker or counselor could easily outweigh the benefits of peer-based interventions. Ideally, HIV prevention programs using a peer education approach would seek to involve professionals, who are also peers, in the delivery of interventions. Exhibit 19 describes peer education and how to integrate it into HIV prevention programs and provide appropriate training.

<p>DESCRIPTION</p>	<p>Services are provided to a priority population by individuals recruited from that population, which may be defined by behavior, culture, race, age, ethnicity, gender identification, or other salient factors.</p>
<p>GUIDANCE FOR IMPLEMENTATION</p>	<p>AGENCIES UTILIZING PEER EDUCATION APPROACHES SHOULD:</p> <ul style="list-style-type: none"> • Provide counseling, supervision, safety and support structures, and adequate wages or incentives for their peer educators; • Incorporate feedback and experiences of peer educators into ongoing program development; • Ensure diversity among peer educators and that they are perceived as credible and as true peers by the priority population; • Train peer educators to address behavior change, as well as provide information; and • Provide referrals to appropriate health and social services, including medical care, mental health, substance use, and STI testing and treatment, and other services.
<p>RESOURCES</p>	<p>CDC’S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION: http://www.cdc.gov/hiv/resources/guidelines/herrg/activities_ind-group.htm</p>
<p>STRENGTHS</p>	<ul style="list-style-type: none"> • Has a theoretical foundation in diffusion of innovations theory. • Draws on established social networks to disseminate information. • Can be used with individual, group, and community-level interventions and with all populations. • Can assist in changing the perception of norms regarding HIV and HIV risk behaviors. • Can assist in creating social networks that support and encourage self-protective behaviors. • Especially suited for populations that do not initially perceive themselves to be at risk. • Can lead to behavior change for the peer educators themselves.
<p>LIMITATIONS</p>	<ul style="list-style-type: none"> • May not be appropriate for small or closed communities in which stigma may still be attached to HIV concerns or people desire anonymity. (Some groups may prefer to receive services from people outside their immediate community, so they can talk more freely and not fear disclosure of information.) • May not be as effective as an intervention delivered by a professional if an individual or population has multiple or complex issues (e.g., substance use, mental health). • Could be less effective if peer educators do not themselves adopt the behaviors and norms they are promoting. • Can be challenging to sustain due to educator fatigue or, among youth peers, growing too old to be perceived as a peer.

Perinatal Transmission Prevention

Perinatal transmission is rare in San Francisco. According to the 2008 San Francisco HIV Annual report, all perinatally exposed infants born since 2005 have seroreverted and are now uninfected. The goal is to keep this number at zero through promoting voluntary HIV testing and partner services among four groups, as follows:

- Women seeking prenatal care;
- Women who deliver babies but who have not had any prenatal care;
- Male partners of women seeking prenatal care/delivering babies, and
- High-risk women of child-bearing age who are not currently pregnant.

If pregnant women learn their HIV-positive status before delivery, medications can be administered that greatly reduce the chance of transmission. Women who are not pregnant may also benefit from learning their status, as it can help them make informed decisions about pregnancy. Recent local studies have documented that making HIV testing a routine part of a perinatal test may increase testing rates (Cohan et al 2008b) and that streamlining the pre-test counseling process, while associated with lower HIV knowledge, does not compromise patients decision-making or satisfaction regarding HIV testing (Cohan et al 2008a).

All HIV prevention providers, regardless of the type of intervention or program, must have in place procedures for referring all high-risk individuals, including the above four groups, to HIV testing services. In addition, all public healthcare facilities must implement procedures for ensuring that all pregnant women are provided HIV health education about the importance of HIV testing and that an HIV test is planned, which women may decline. Exhibit 20 describes perinatal transmission prevention.

EXHIBIT 20

Perinatal Transmission Prevention

DESCRIPTION	This strategy requires the planning of HIV testing for all pregnant women during prenatal care.
GUIDANCE FOR IMPLEMENTATION	California law requires medical providers to inform the woman of the intent to perform an HIV test, the routine nature of the test, the purpose of the test, the risks and benefits of the test, the risk of perinatal transmission of HIV, that approved treatments are known to decrease the risk of perinatal transmission of HIV, and that the woman has the right to decline testing. If during the final review of prenatal medical tests, the medical provider engaged in the prenatal care of the woman or attending the woman at the time of labor or delivery finds the woman's medical records do not document an HIV test, the provider shall inform the woman, as noted above, and if not declined, the woman's blood should be tested by a method that will ensure the soonest possible results.
RESOURCES	MMWR report "Revised Recommendations for HIV Screening of Pregnant Women" (2001): http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5019a2.htm

STRENGTHS

- Increases the number of women who know their HIV status and averts perinatal transmission.
- Has the potential to reach all pregnant women and their partners who might not otherwise be reached by HIV prevention services.
- May be especially effective for ensuring that women are linked to HIV health services.
- Can be integrated into the health care setting in multiple ways, using various staff as the prevention messengers (e.g., doctors, nurses, physicians' assistants, and health educators).
- Provides opportunities to link patients with other services on site (e.g., STI testing and treatment, mental health and/or substance use treatment and counseling).

LIMITATIONS

- May be a missed opportunity to provide HIV health education.
- May not be effective for individuals who do not feel comfortable going to the doctor or who do not trust the medical system.
- May require medical care providers to attend additional training.

Technology

The Internet and other technologies, such as cell phones, are vehicles for conducting nearly every intervention described here, including outreach, social marketing (e.g., banner ads), and others. Use of technology to deliver HIV prevention messages and promote behavior change is becoming increasingly popular for at least two reasons: (1) it has the potential to reach large numbers of people, and (2) interventions can be targeted to high-risk groups, such as those seeking sex via websites and chat rooms.

Because this approach is relatively new, its effectiveness has not clearly been established. Results to date suggest that the Internet and cell phones are feasible technologies for delivering HIV prevention messages and interventions (Ybarra & Bull 2007). Evidence in support of its effectiveness, especially for gay men, includes the following:

- In a study conducted in the United Kingdom, most men thought that Internet sites should allow health workers into chat-rooms (75%); would click on a banner to find out about sexual health (78%); and said if they met a health worker in a chat-room they would find out what they had to say (84%) (Bolding et al 2004).
- The Internet plays a central role in many gay men's lives meeting sexual partners, and frequent unprotected anal sex is reported among gay male Internet users (Rebchook et al 2003).
- A community-based organization serving Asian men in Alameda County piloted a chat room-based HIV prevention outreach intervention, which was well-accepted and well-used by over 200 MSM clients over a one-year period (Huang & Hottes, presentation at CAPS conference, 2003).
- Internet outreach to gay men conducted in San Francisco has also been met with a positive community response (Knapper, presentation at CAPS conference, 2003).
- MSM and people with histories of STIs are more likely than others to report a willingness to get HIV prevention information through a website or chat room (Bull et al 2001).

MSM seeking sexual partners online may be at higher risk for HIV than their counterparts who do not seek sexual partners online (see Chapter 2: Community Assessment, pp. 60-147). Research indicates that the perceived anonymity of online chat rooms and the ability of health educators to form relationships with MSM in chat rooms may contribute to the success of online HIV prevention interventions (Rhodes 2004). However, this does not necessarily mean that Internet-based interventions are always sufficient or appropriate for these high-risk men. There may be underlying factors that contribute to increased unsafe sex among this group (e.g., mental health, sexual compulsivity, community norms regarding disclosure of HIV status and condom use), and these are best addressed through in-person interventions. Exhibit 21 describes how to use the Internet as a strategy for HIV prevention.

DESCRIPTION	<p>The Internet is one vehicle for implementing many of the strategies and interventions described in this chapter. Listservs, social networking sites, blogs, banner ads, email newsletters, and websites are some examples of Internet mediums that can be used to deliver HIV prevention messages. Examples of conducting an intervention using the Internet include:</p> <ul style="list-style-type: none"> • Outreach and the provisioning of information; • Risk reduction support provided over email; • IRRC, SSG, or MSW done in a chat room; • Social marketing banner ads promoting healthy behaviors; • Listing of available HIV and STI services on websites; • Creating community on social networking sites; and • Online syphilis testing, in which individuals can print a lab form, take it to a designated provider, have their blood drawn, and access their results on line.
GUIDANCE FOR IMPLEMENTATION	<p>INTERNET-BASED INTERVENTIONS SHOULD:</p> <ul style="list-style-type: none"> • Be tailored to a particular population; • Provide referrals to appropriate health and social services, including primary care, mental health, substance use, HIV, testing programs, STI testing and treatment, and other HIV prevention services; • Be voluntary (e.g., chat room interventions should not coerce people into engaging in conversations they do not wish to have); and • Follow all the rules of each Internet venue (e.g., chat room or website rules of conduct).
RESOURCES	<p>Web outreach information and training manuals are available from the National Alliance of State and Territorial AIDS Directors (NASTAD) website: http://www.nastad.org/Docs/Public/Resource/2009929_NASTAD_Internet_TA_Meeting_Report_final_revised.pdf and http://www.nastad.org/Programs/hivprevention/</p>
STRENGTHS	<ul style="list-style-type: none"> • Can reach large numbers of people over a wide geographic area. • Presents opportunities for prevention using the same channels people use to solicit sex partners (e.g., chat rooms). • May be appealing for populations desiring anonymity.
LIMITATIONS	<ul style="list-style-type: none"> • Will not reach those without Internet access or computer skills, who may be low-income or marginalized groups and at high risk for HIV. • Will not reach those who are high-risk but do not use the Internet to meet sexual partners. • Has the potential to compromise anonymity/confidentiality if identifying information is requested or given over the Internet. • May be interpreted as intrusive if individuals have accessed a website/chat room for another purpose. • Effectiveness is not yet established. • Limited by the rules of the Internet service provider or chat room being used. • Health Insurance Portability and Accountability Act (HIPAA) regulations may limit certain types of electronic correspondence when identifying information is used.

Treatment Adherence

More effective treatment, also known as highly active anti-retroviral therapy or HAART, has had tremendous effects on HIV prevention and care. HAART has dramatically improved the length of survival and the physical well being of persons living with HIV/AIDS. Treatment may also decrease the opportunity for HIV transmission by lowering the amount of virus shed in blood and genital secretions. (see Exhibit 22.)

Treatment adherence is often discussed concurrently with engagement in medical care. While they may use similar interventions and address common social factors that hinder the process and/or outcomes, each strategy has distinct objectives that they aspire to achieve. Adherence refers to how closely a person follows a prescribed treatment regimen. It includes an individual's willingness to start treatment and his or her ability and willingness to take medications as directed.

Adherence affects how well anti-HIV medications decrease a person's viral load. Keeping HIV replication at a minimum is essential for preventing AIDS-related morbidity and mortality. Adherence to HIV treatment also helps prevent drug resistance. When a person skips doses, he or she may develop strains of HIV that are resistant to the medications he or she is taking and even to medications in the same class that he or she has not taken. This may leave a person with fewer treatment options should he or she need to change regimens in the future. Because drug-resistant strains can be transmitted to others, engaging in risky behavior can have especially serious consequences.

Organizations developing interventions for PLWHA should develop strategies that support long-term treatment adherence. The following studies have demonstrated strategies to address adherence:

- Case management may be a successful method to improve adherence to antiretroviral therapy and biological outcomes among HIV-infected homeless and marginally housed adults (Kushel et al 2006).
- Interventions and strategies that go beyond knowledge transfer may be needed to address self-efficacy among patients across all literacy levels to be successful in the management of difficult medication schedules (Wolf et al 2007).

DESCRIPTION	This HIV prevention strategy involves supporting and monitoring how closely a person follows a prescribed treatment regimen. It includes an individual's willingness to start treatment and his or her ability and willingness to take medications exactly as directed. This strategy can involve the use of multiple interventions, and providers should review the interventions section of this guide to select the appropriate activities.
GUIDANCE FOR IMPLEMENTATION	<p>AGENCIES ADDRESSING TREATMENT ADHERENCE SHOULD:</p> <ul style="list-style-type: none"> • Utilize a multidisciplinary team approach; • Establish a trusting relationship with the client; • Identify potential barriers to adherence prior to starting treatment; • Provide resources for the client; • Involve patients in treatment-regimen selection; • Monitor side effects that may interfere with treatment adherence; and • Work with the clients to monitor viral loads and CD4 T-cell counts.
RESOURCES	<p>THE BODY'S REMEMBERING TO TAKE YOUR MEDICATIONS (ADHERENCE):</p> <p>http://www.thebody.com/index/treat/adherence.html</p>
STRENGTHS	<ul style="list-style-type: none"> • Data shows that if one adheres to treatment, one is less infectious. • Improves a person's health. • May reduce transmission.
LIMITATIONS	<ul style="list-style-type: none"> • Social stigma concerning HIV may be an issue. • Requires a medical provider or venue, and loss of access to healthcare may result in treatment loss. • Once treatment is begun, it is a lifelong commitment. • Many medical providers are not adequately trained on adherence counseling.

SECTION 2
Interventions

An intervention is a type of service or prevention modality a program provides (e.g., recruitment and linkage, multiple session workshops). All HIV prevention programs must include an intervention or set of interventions. This section provides information and resources on different approaches to support community efforts to help reduce the acquisition and transmission of HIV. Interventions can be conducted one-on-one, in groups, at the community level, or through helping to reduce or address comorbidities such as STIs and viral hepatitis.

What Are Individual-Level Interventions?

**A.
INDIVIDUAL-LEVEL
INTERVENTIONS**

Individual-level HIV interventions provide relevant information, training, and/or support through personal interaction between a deliverer and a community member. These interventions seek to modify knowledge, attitudes, beliefs, self-efficacy, and emotional well-being. They can involve individualized risk-reduction counseling or motivational interviewing delivered by a trained counselor, educator, peer, or other professional.

The following individual-level interventions are described in this section in order of service intensity. For example, hotlines represent a lower-level of engagement, and post-exposure prophylaxis requires a higher-level of engagement.

- Hotline
- Venue-Based Individual Outreach
- Recruitment and Linkage
- Individual Risk-Reduction Counseling
- Prevention Case Management
- Post-Exposure Prophylaxis

Hotline

Hotlines are an effective method for disseminating accurate information about HIV, a critical component of HIV prevention (Kalichman & Belcher 1997), but it is unclear to what extent they are linked to behavior change. One survey of repeat callers to the Southern California AIDS Hotline found that 50% of callers reported that they had increased their practice of safer sex, and for 72% of all callers the hotline had been their only source of HIV/AIDS information since their last call (AIDS Project Los Angeles 1993). One study looking at reasons people called a hotline indicated that many people called because of fears related to actual risk behaviors they had engaged in, indicating that this may be a good source of prevention information for some individuals (Kalichman & Belcher 1997). Further, hotlines may be a key method for linking people to HIV testing programs, especially those who might not be accessing other services where they would receive a referral to HIV testing. For example, a local hotline was a primary resource that individuals turned to in order to find out where to get an HIV test during a citywide campaign to promote testing (Hocking 2003). Hotlines have also been shown to be effective in providing risk reduction counseling for MSM (Picciano et al 2007). The seminal research for the effectiveness of hotlines was completed in the mid-1990s. Research continues to be done, but focuses on specific subpopulations. Exhibit 23 describes hotlines.

EXHIBIT 23 HOTLINE

PRIORITY POPULATION	Community members seeking knowledge on HIV prevention information and programs, as well as other support services.
GOALS	<ul style="list-style-type: none"> • Deliver consistent prevention messages and make sure the messages are also consistent with those disseminated by other organizations. • Provide referrals to HIV status awareness programs and other appropriate services.

DESCRIPTION	A hotline is a confidential telephone service functioning as an education, referral, and help line for anonymous callers. Hotlines offer up-to-the-minute information on HIV and related issues, crisis intervention and counseling, and direction to other social services, as appropriate to client need.
DURATION	Based on individual callers' needs.
SETTINGS	As a phone-based intervention, a hotline can be implemented wherever a telephone is available.
STAFFING AND MINIMUM QUALIFICATIONS	Trained professionals on HIV and related health matters and crisis intervention.
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>TOOLS:</p> <ul style="list-style-type: none"> • Telephone system. • Up-to-date listings of HIV prevention services and locations. • Up-to-date listings of support services (e.g., substance use, mental health, and health centers/clinics). <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Training on problem-solving and crisis management. • Collect process data to evaluate program outcomes. • Provide counseling, adequate training, supervision, safety and support structures, and adequate wages or incentives to workers.
RESOURCES	<p>CDC'S GUIDELINES FOR PUBLIC INFORMATION: http://www.cdc.gov/hiv/resources/guidelines/herrg/pub-info_hotlines.htm</p>
STRENGTHS	<ul style="list-style-type: none"> • Widely applicable to all groups at risk for HIV and particularly appropriate for people desiring anonymity, people in crisis, people needing basic information and answers, and people whose needs are not addressed by other HIV education efforts. • Targets a wider geographical area than most interventions and thus can reach more diverse and isolated populations. • Often provides a first link to prevention and care services. • Serves preventive as well as de-stigmatizing functions.
LIMITATIONS	<ul style="list-style-type: none"> • May have limited usefulness in directly promoting behavior change. • Can be expensive to operate. • Is not as accessible for people without telephones. • Cannot reach people who do not comfortably speak the language(s) offered.

Venue-Based Individual Outreach

The seminal research for the effectiveness of venue-based individual outreach (VBIO) was completed in the late-1990s and early 2000s. Research continues to be done, but focuses on specific subpopulations and the developing world. VBIO is highly effective for:

- Increasing condom use (Wendell et al 2003);
- Decreasing injection-related risk behavior (Buchanan et al 2003, Coyle et al 1998, Weibel et al 1993, Watters et al 1990);
- Linking hard-to-reach populations living with HIV (e.g., high-risk youth) with care services (Martinez et al 2003);
- Providing access to HIV Counseling, Testing, and Referral (CTR) and increasing HIV testing rates among high-risk youth, especially when the outreach workers are peers and on-the-street CTR is offered (Johnson et al 2001, Gleghorn et al 1997);
- Reaching clients who might not otherwise be reached through traditional means and addressing their multiple needs (Tinsman et al 2001); and
- Decreasing sexual risk behavior (Birkel et al 1993).

Outreach can also be cost-effective, according to one assessment of the cost-effectiveness of various interventions (Pinkerton et al 2001). One article suggested that in order to avert the greatest number of infections among IDUs, funding should be focused on outreach (Wilson & Kahn 2003).

In San Francisco, there is a need for late-night and early-morning outreach for MSM non-IDUs, sex workers, and other populations that HIV prevention services might not otherwise reach (Pendo et al 2003). Outreach at these times could not only help to decrease risk behaviors but would also help link individuals to needed services, such as drug treatment and HIV testing programs. Such outreach should respect the fact that people are out late at night to have fun and should recognize the times when people are most open to intervention (e.g., before they hit the streets and/or when they are coming down from being high). Organizations should consider conducting outreach at the appropriate time to meet the needs of their priority populations. Exhibit 24 describes VBIO and how and when to implement it.

EXHIBIT 24

Venue-Based Individual Outreach

PRIORITY POPULATION	Individuals at high risk for acquisition and/or transmission of HIV.
GOALS	<ul style="list-style-type: none"> • Deliver consistent prevention messages and promote the services of the organization. • Provide referrals to HIV status awareness programs and other appropriate services.
DESCRIPTION	VBIO is a face-to-face interaction between an outreach worker (or a team of outreach workers) and a client or a small group of clients. VBIO may be a one-time intervention or part of a long-term relationship established by the outreach worker with clients in a particular community. It may also be used to recruit individuals into HIV prevention programs, but must always include HIV education and referrals.
DURATION	Can be implemented as a brief encounter or a more extended encounter during which HIV prevention education and referrals are given.
SETTINGS	Street or in venues where the priority population may congregate* at appropriate times of the day, night, week, and year;

STAFFING AND MINIMUM QUALIFICATIONS	Trained peer outreach workers.
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>TOOLS:</p> <ul style="list-style-type: none"> • Printed health education/risk reduction information. • Prevention materials, such as safer sex supplies and sterile injection equipment. • Referrals to appropriate health and social services and HIV prevention, medical care, mental health, substance use, STI testing and treatment, and other support services. <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Develop an outreach plan that will reach high-risk populations at appropriate times, including late-night and early-morning hours, and at appropriate locations. • Develop methods for tracking referrals made to other services to the extent possible. • Collect process data to evaluate program outcomes. • Be consistent and involve client follow-up when possible. • Outreach workers should participate in ongoing trainings.
RESOURCES	<p>CDC'S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION ACTIVITIES: http://www.cdc.gov/hiv/resources/guidelines/herrg/index.htm</p> <p>CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S OFFICE OF AIDS: http://www.cdph.ca.gov/programs/AIDS</p>
STRENGTHS	<ul style="list-style-type: none"> • Can reach large numbers of people with a small number of staff. • Can be used to engage clients in other interventions, such as HIV testing programs, IRRC or PCM, when appropriate. • Can be implemented creatively, in combination with other interventions. • Appropriate for nearly all populations, especially those that are marginalized, difficult to reach, and/or not connected to the service system. • Can be used as a tool for building relationships and reaching people not engaged in services. • Can help establish contact, make referrals, and link individuals to services. • Can be implemented as a longer encounter (up to 20 minutes) or a brief encounter (5 minutes). • Can be used to introduce an agency and materials to a community setting and build community trust of an organization. • Can be helpful for enhancing self-efficacy.
LIMITATIONS	<ul style="list-style-type: none"> • May not be accepted or permitted in certain venues. • May not always meet clients' needs for services, especially if there is a lack of available referral resources. • Limited interaction/engagement. • Need workers who reflect the priority population. • May require teams for safety reasons. • Potential danger of late-night outreach. • Difficult to recruit and retain qualified staff. • Focuses on individual behavior change rather than social conditions. • Difficult to collect data on outreach shifts and evaluate effectiveness.

*Examples of venues are street corners, raves, schools, faith institutions, hospitals, sport leagues, gyms, the general assistance office, single room occupancy hotels (SROs), halfway houses, Internet chat rooms, outdoor cruising spots, bookstores, sex clubs, public housing, laundromats, crack houses, street fairs and other community events, massage parlors, porn theaters, bars, night clubs, community centers, and retail merchants.

Recruitment and Linkage

Recruitment and Linkage interventions use many of the principles of outreach (VBIO) but have a primary goal of actively engaging a participant in order to enroll him or her into the services provided by the organization and/or linking clients to appropriate resources. The intervention goes beyond handing out information or a phone number; it includes providing support to the person to access the services he or she is being referred to, as well as tracking referrals and referral follow-up.

Active recruitment methods can be one-on-one interactions for a specific priority audience, group presentations, telephone screenings, person-to-person “peer” invitations, incentives, in-patient referrals and mandatory enrollments. Recruitment methods may also try to aid the client by being responsible for remembering the information or invitation to participate in an event and placing it on an organization instead. Methods such as requesting a contact number or email address allow the organization to actively follow-up with the individual to enroll him or her in services.

Given that many interventions are multi-session and require that organizations retain clients over a period of time, effective recruitment and retention will also have a major effect on the successful implementation of such interventions. Agencies need to understand how to develop recruitment and retention plans, how to assess whether their current recruitment and retention activities are effective in reaching their priority populations, and explore alternative recruitment and retention strategies as needed.

Studies have shown the following elements may promote successful recruitment efforts:

- Targeting places where participants seek healthcare and educating them about health issues. (Williams JR et al 2008)
- Using a two-phase strategy in which participants are first recruited into discussion groups and then offered enrollment into behavioral interventions. (Kanouse DE et al 2005)

It is also important for organizations to develop strategies and programmatic systems to ensure linkages to services within or outside the agency. Three common linkage strategies are as follows:

- **Participant confirmation:** The organization follows up with the participant to confirm that he or she accessed the referral services.
- **Provider confirmation:** The provider develops a network of referrals with cooperative Memoranda of Understanding, and the participant provides a release of information to confirm the referral.
- **Provider lead:** The organization develops a model whereby it personally accompanies the participant to the referral appointment.

Exhibit 25 describes recruitment and linkage.

EXHIBIT 25 Recruitment and Linkage

PRIORITY POPULATION	Individuals at high risk for acquisition and/or transmission of HIV.
GOAL	Enroll and/or link high-risk populations to appropriate services.
DESCRIPTION	Recruitment and Linkage interventions use many of the principles of outreach (VBIO) but have a primary goal of actively engaging a participant in order to enroll him or her in the services provided by the organization and/or linking the client to appropriate resources.

DURATION	Can be done as a brief encounter (5 minutes) or more extended encounter (up to 20 minutes) during which HIV prevention education and referrals are provided.
SETTINGS	Street or in venues where the priority population may congregate at appropriate times of the day, night, week, and year.*
STAFFING AND MINIMUM QUALIFICATIONS	Trained peer recruiters.
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>TOOLS:</p> <ul style="list-style-type: none"> • Printed health education/risk reduction information. • Information about the organization's services. • Prevention materials, such as safer sex supplies and sterile injection equipment. • Referrals to appropriate health and social services, HIV prevention, medical care, mental health, substance use, STI testing and treatment, and other support services. <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Develop a recruitment and/retention plan that is appropriate to the larger program model and priority population. • Develop strategies and programmatic systems to ensure linkages to services within or outside the agency. • Collect process data to evaluate program recruitment outcomes. • Have staff participate in ongoing trainings.
RESOURCES	<p>CDC'S PROVISIONAL PROCEDURAL GUIDANCE FOR COMMUNITY BASED ORGANIZATIONS: http://www.cdc.gov/hiv/topics/prev_prog/AHP/resources/guidelines/pro_guidance.htm</p>
STRENGTHS	<ul style="list-style-type: none"> • Can reach large numbers of people. • Can be implemented creatively in combination with other interventions. • Appropriate for nearly all populations, especially those that are marginalized, underserved, and not connected to the service system. • Can link individuals to services.
LIMITATIONS	<ul style="list-style-type: none"> • May not be accepted or permitted in certain venues. • May not always meet clients' needs for services if there is a lack of available referral resources.

*Examples of venues are street corners, raves, schools, faith institutions, hospitals, sport leagues, gyms, the general assistance office, single room occupancy hotels (SROs), halfway houses, Internet chat rooms, outdoor cruising spots, bookstores, sex clubs, public housing, laundromats, crack houses, street fairs and other community events, massage parlors, porn theaters, bars, night clubs, community centers, and retail merchants.

Individual Risk Reduction Counseling

For many priority populations, individual risk reduction counseling (IRRC) is an intervention that is effective at changing drug use and sexual risk behaviors, whether by a brief single encounter, an extended more intensive encounter, or more than one encounter. Multiple encounters are more likely to result in behavior change. For example, Rotheram-Borus et al (2004) reported an increase in safer sex acts among injection drug users, with both in-person and telephone interventions. Crosby et al (2009) reported increased condom use and decreased numbers of partners among newly diagnosed STI patients receiving IRRC. A study by Kamb et al (1998) demonstrated an increase in 100% condom use and reduced repeat STIs among heterosexual adolescent and adult STI clinic patients with both an enhanced and brief IRRC intervention compared with didactic instruction alone. IRRC sessions with women living with HIV were effective at increasing self-efficacy and condom use in another study (Fogarty et al 2001). IRRC interventions using interactive video have also been effective in reducing drug and sexual risk behaviors among clinic patients living with HIV (Gilbert et al 2008). Although no specific cost-effectiveness information for this particular intervention was found in the literature, Kahn (1995) reported on one study that found an extended counseling intervention for IDUs to be cost-effective. Exhibit 26 describes IRRC and how and when to implement it.

EXHIBIT 26

Individual Risk Reduction Counseling

PRIORITY POPULATION	Individuals at high-risk for acquisition and/or transmission of HIV
GOALS	<ul style="list-style-type: none"> • Deliver consistent prevention messages that eliminate or reduce sexual and/or injection drug transmission risk behavior • Provide linkages to HIV testing programs and other appropriate services
DESCRIPTION	IRRC is a personalized, client-centered encounter between an individual and a trained counselor. IRRC is a time-limited intervention that can be used as a vehicle for transitioning clients into more intensive services.
DURATION	Counseling sessions that are 20 to 30 minutes long. May be delivered once or through several sessions.
SETTINGS	IRRC is highly mobile and can take place in an outreach setting, a person's home, shelters, clinics, community centers, over the telephone, or on the Internet.
STAFFING AND MINIMUM QUALIFICATIONS	Trained health educator in risk assessments and harm reduction. Organizations that include an IRRC session as a part of their HIV testing services must certify counselors in accordance to the State Office of AIDS requirements for counselor certification.

TOOLS AND GUIDANCE FOR IMPLEMENTATION**TOOLS:**

- Printed health education/risk reduction information on HIV transmission and ways to prevent infection.
- Prevention materials, such as safer sex supplies and sterile injection equipment.
- Referrals to appropriate health and social services, HIV prevention, medical care, mental health, substance use, STI testing and treatment, and other support services.
- Risk assessments.

GUIDANCE FOR IMPLEMENTATION:

- Conduct a risk assessment to determine the client's possible risk for HIV/STIs and other comorbidities.
- Develop risk reduction plan with the client to help reduce his or her sexual risk.
- Provide a sexual communication discussion to help improve the client's ability to communicate with partners to make safer sex decisions.
- Provide discussions with IDUs regarding safer injection and linkage to syringe programs.
- Track and follow up on referrals and linkages made.
- Collect process and behavioral data to evaluate program outcomes

RESOURCES**CDC'S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION ACTIVITIES:**

http://www.cdc.gov/hiv/resources/guidelines/herrg/activities_ind-group.htm

STRENGTHS

- Generally suitable for all populations.
- Provides personal attention to individuals for whom privacy and confidentiality are important.
- Can help transition clients into more intensive services, such as Prevention Case Management (PCM, see pp XX).
- Offers flexibility and allows for a personalized approach for each client.

LIMITATIONS

- May be difficult to build trust with one-time clients.
- Does not address setting long-term goals with clients.

Prevention Case Management

Prevention case management (PCM), also known as Comprehensive Risk Counseling and Services (CRCS), has only emerged in the last five years as a common approach to HIV prevention. Recent literature has shown that PCM is labor intensive and potentially costly to implement properly. For these reasons, PCM clients should be carefully chosen. Selected examples of research on its effectiveness include the following:

- The SFDPH HPS PCM/Multiple-Session Workshop (MSW) Outcome Study (information and results available from the SFDPH HIV Prevention Section, (dara.geckeler@sfdph.org))
- The New York City Department of Health's HIV PCM Evaluation (http://www.hunter.cuny.edu/schoolhp/centers/comm_urb/Current%20Projects/PCM.doc)

Preliminary results from the SFDPH study indicate that PCM is effective at decreasing the highest risk sexual and injection behaviors (Sebesta 2003, unpublished report). Risk behaviors

among study participants decreased dramatically in the first month and remained low at four-month follow-up for both PLWH and HIV-negative individuals. However, PCM was no more effective at facilitating behavior change than MSWs. Since MSWs can reach more people, they may be more cost-effective (see section on MSWs, p. 252). However, PCM may be more appropriate than MSWs for some individuals or populations (e.g., people in crisis, people with mental health and/or substance use issues, people needing intensive support in linking to ancillary services, and people who would not feel comfortable attending a group intervention). Continuing analysis of data from this study will examine the efficacy of PCM in linking clients to needed substance use, mental health, care, prevention, and other health and social services. PCM is not intended to replace CARE case management for HIV-positive clients. The role of the prevention case manager is to work with the individual on prevention and behavioral change and to coordinate with the CARE case manager, who links the individual to CARE services.

An evaluation of a PCM program in Wisconsin that combined IRRC and case management showed that participants had a significant reduction in risk transmission behaviors including unprotected vaginal intercourse, insertive anal intercourse, or syringe sharing with partners of negative or unknown HIV status (Gasiorowicz et al 2005).

PCM has some unique characteristics compared with IRRC and group-level interventions that may make it the most suitable intervention for some individuals. For example, PCM is more intensive and involves a more ongoing relationship with the provider than IRRC does. Unlike group interventions, it is also an individually tailored service. Therefore, individuals who need intensive one-on-one support for dealing with life issues may benefit more from PCM than other types of interventions. PLWH are one such group, and, thus, PWP can be done using PCM. Exhibit 27 describes PCM and how and when to implement it.

EXHIBIT 27 Prevention Case Management

PRIORITY POPULATION	Individuals at high risk for acquisition and/or transmission of HIV.
GOALS	<ul style="list-style-type: none"> • Deliver consistent prevention messages that eliminate or reduce sexual and/or injection drug transmission risk behavior • Provide linkages to HIV testing programs and other appropriate services
DESCRIPTION	PCM is a client-centered activity with the fundamental goal of promoting the adoption and maintenance of HIV risk-reduction behaviors by clients with multiple, complex problems and risk-reduction needs. The intervention is intended for persons having or likely to have difficulty initiating or sustaining practices that reduce or prevent HIV acquisition, transmission, and/or reinfection. As a hybrid of HIV risk-reduction counseling and traditional case management, PCM provides intensive, ongoing, individualized prevention counseling, support, and service linkage. This HIV prevention activity addresses the relationship between HIV risk and other issues such as substance use, STI treatment, mental health, and social and cultural factors. (CDC HIV Prevention Case Management Guidance, September 1997).
DURATION	Sixty- to ninety-minute sessions, with a minimum of four sessions per client.
SETTINGS	Private settings in community-based organizations and clinics.
STAFFING AND MINIMUM QUALIFICATIONS	Facilitators with experience as social workers, therapists, and/or trained counselors in motivational interviewing, harm reduction, and crisis management who are supervised by a licensed clinical social worker, marriage and family therapist, or equivalent.

TOOLS AND GUIDANCE FOR IMPLEMENTATION

TOOLS:

- Printed health education/risk reduction information on HIV transmission and ways to prevent infection.
- Prevention materials, such as safer sex supplies and sterile injection equipment.
- Referrals to appropriate health and social services, HIV prevention, medical care, mental health, substance use, STI testing and treatment, and other support services.
- Risk assessments.

GUIDANCE FOR IMPLEMENTATION:

- Conduct a risk assessment to determine the client's possible risk for HIV, STIs, and other comorbidities.
- Develop a risk reduction plan with the client to help reduce his/her risk for HIV.
- Engage in a dialogue on sexual communication discussion to improve the client's ability to communicate with his/her partners in order to make safer decisions during sexual encounters.
- Provide disclosure assistance and skill-building activities to support clients' concerns and improve their ability to disclose their HIV status in a way that leads to safer and healthier decision-making.
- Provide injection support (including syringe provision) with IDUs regarding safer injection and linkage to syringe programs.
- Provide linkage to care and maintenance in care over time to ensure that the client attends ongoing medical appointments, verification whether the appointments were kept and medical workups completed.
- Provide linkage to other support services to ensure that client appointments were kept and that the clients' support needs are being addressed.
- Collect process and behavioral data to evaluate program outcomes.
- Adhere to the "HIV Prevention Case Management: Standards and Guidelines for the Delivery of Services of San Francisco", developed by the Prevention Case Management Standardization and Evaluation Project Community Advisory Board (2000).

RESOURCES

CDC'S COMPREHENSIVE RISK COUNSELING AND SERVICES:

http://www.cdc.gov/hiv/topics/prev_prog/CRCS/

CDC HIV PREVENTION CASE MANAGEMENT LITERATURE REVIEW AND CURRENT PRACTICE (1997): <http://www.cdc.gov/hiv/pubs/hivpcml.htm>

CDC review of PCM programs across the country (Purcell et al 1998)

Please contact SFDPH HIV Prevention Section for the PCM Standards and Guidelines.

STRENGTHS

- More intensive, longer-term intervention than IRRC.
- Appropriate for PLWH high-risk HIV-negative individuals, and high-risk individuals who do not know their serostatus.
- Suitable for people seeking some stability/regularity in their lives and people who are reaching an action stage in dealing with health concerns.
- Can be implemented in a variety of settings (e.g., health care facilities, CBOs).
- Provides personal attention to individuals for whom privacy and confidentiality are important.
- Provides opportunities for linkages and referrals to other health and social services, including medical care, mental health, substance use, HIV testing programs, STI testing and treatment, and other HIV prevention services; referrals can be tracked and followed up on.
- Can support and maintain behavior change.
- Can address multiple barriers and cofactors.

LIMITATIONS

- Insufficient for creating community-wide influence unless accompanied by outreach or other interventions.
- Newer literature questions the cost and overall effectiveness of PCM. Providers should ensure that PCM is utilized carefully.

Post-Exposure Prophylaxis (PEP)

Post-Exposure Prophylaxis (PEP), sometimes referred to as Post-Exposure Prevention, involves beginning administration of anti-HIV therapy to an individual who suspects that he or she has been exposed to HIV within 72 hours after the exposure. PEP has been used to prevent HIV seroconversion among (1) healthcare workers who have been exposed during their jobs (e.g., accidental needlesticks), and (2) individuals who may have been exposed through sexual contact or through sharing of injection equipment. Most of the recent literature focuses on the use of PEP in developing countries, but research relevant to the United States has been cited in this section. PEP is a clinical intervention, in that a treating physician must prescribe the medication. Currently, state and federal prevention funding cannot be used to pay for HIV medications, including those used for PEP.

Regarding occupational exposure, PEP has been shown to reduce the risk of HIV infection among exposed healthcare workers by 81% (Cardo et al 1997). The U.S. Public Health Service has established guidelines for the use of PEP in such situations, which can be accessed at the following URL: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5409a1.htm>. PEP is most cost-effective for occupational exposure when targeted to those exposed to known HIV-positive sources and those with severe exposures (Marin et al 1999).

The use of PEP to prevent seroconversion among those who were exposed through sexual contact or injection drug use has been less well investigated than for occupational exposure. No data supporting PEP's effectiveness at preventing seroconversions exists, and there are numerous practical and ethical considerations that would make conducting such a study challenging. However, feasibility studies have been done. One recent study in San Francisco has documented that it is feasible to implement a PEP program for nonoccupational exposure (Kahn JO et al 2001). Study participants included 401 individuals potentially exposed to HIV and 64 of their partners through whom they may have been exposed. Most study participants were between 20 and 60 years old, White, and male. Among the individuals enrolled in the study, there were four known seroconversions in the 12 months following PEP administration. None of the four seroconversions had occurred in the first 6 months. All of the seroconversions appear to have occurred not as a result of the exposure incident for which they received PEP, but as a result of engaging in high-risk behaviors after receiving PEP (Roland 2003). Further, approximately 80% of MSM and female participants reported decreases in HIV risk behaviors at 6-month and 12-month follow-up (Martin et al in press). The U.S. Department of Health and Human Services has established recommendations for the use of PEP after non-occupational exposure (nPEP), which can be accessed at the following URL: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5402a1.htm>.

How PEP is implemented could have substantial public health implications. For example, if people believe that PEP is available, might they be less likely to practice safer sex? The potential public health implications related to PEP should be considered as the guidelines and recommendations for the administration of PEP for sexual/injection drug use exposure evolve.

For sexual exposure, assuming PEP's efficacy, it has been determined to be cost effective in one study, but only for individuals who report receptive anal intercourse with a partner of unknown serostatus (Pinkerton et al 2001). (See Exhibit 28.)

EXHIBIT 28 Post-Exposure Prophylaxis

PRIORITY POPULATION	Individuals who may have been exposed or potentially exposed to HIV within the previous 72 hours.
GOAL	Eliminate possibility of HIV acquisition.

DESCRIPTION	This intervention consists of beginning administration of anti-HIV therapy to people within 72 hours after they have been exposed or potentially exposed to HIV. It also includes the provision of or referrals to HIV testing programs. For individuals exposed through sexual contact or injection drug use, PEP also includes HIV risk reduction counseling and referrals to appropriate health and social services, including medical care, mental health, substance use, and other HIV prevention services.
DURATION	Initial medical visit and twenty-eight day treatment.
SETTINGS	Medical settings, including emergency rooms and STI clinics.
STAFFING AND MINIMUM QUALIFICATIONS	Medical providers knowledgeable about PEP
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>TOOLS:</p> <ul style="list-style-type: none"> • Protocol for PEP <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Conduct a risk assessment to determine the client's possible exposure to HIV. • Provide prescription for treatment. • Follow-up with patient to ensure completion of treatment.
RESOURCES	<p>CDC'S NON-OCCUPATIONAL POST-EXPOSURE PROPHYLAXIS GUIDELINES: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5402a1.htm</p> <p>PUBLIC HEALTH SERVICE GUIDELINES FOR OCCUPATIONAL EXPOSURE: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5011a1.htm</p> <p>OFFERING HIV PEP FOLLOWING NON-OCCUPATIONAL EXPOSURES: Recommendations for Health Care Providers in the State of California: http://www.cdph.ca.gov/programs/aids/Documents/RPT2004OfferingPEPFollowingNonOccupExp2004-06.pdf</p>
STRENGTHS	<ul style="list-style-type: none"> • Has been favorably received by gay and bisexual men, especially those at highest risk (Kalichman 1998). • Used by those exposed through sexual means when made available (Kahn et al 2001). • Provides opportunities for risk reduction counseling and referrals to ongoing HIV prevention services.
LIMITATIONS	<ul style="list-style-type: none"> • May act as a deterrent to risk reduction among high-risk populations if made widely available (Kahn et al 2001). • Associated with many logistical and ethical issues that remain unresolved (e.g., who should administer PEP, who is eligible for PEP, how many times can a person get PEP). • May not be as accessible to those exposed through injection drug use-related behaviors as for sexual behaviors (Kahn et al 2001). • May have long-term effects that are as yet unknown. • PEP has not been proven to be effective. • Only available to those with health coverage, or who can afford the medication.

B. GROUP-LEVEL INTERVENTIONS

What Are Group-Level Interventions?

Group-level HIV behavioral interventions are designed to influence individual risk behavior by changing knowledge, attitudes, beliefs, and self-efficacy in a small group setting. These interventions promote individual behavior change in situations where information and activities delivered by a trained counselor, educator, or other facilitator can be reinforced by peer pressure and support from other group members. The interventions often focus on the development of skills through live demonstrations, role-plays, and/or practice. Skills may include learning how to use condoms correctly, how to implement personal decisions to reduce risk, and how to negotiate safer sex effectively with partners.

This section provides information on the following group-level interventions, presented by level of effort required:

- Single Session Groups
- Multiple Session Workshops

Single Session Groups

A number of studies have shown that single session groups (SSGs) can be effective at reducing sexual risk behavior in many different populations. They have also been shown to be cost effective in some populations and some contexts (Pinkerton et al 2001). However, multi-session interventions are more likely to have an effect (see the section on MSW, p. 252). Because of this, providers need to justify why they would implement an SSG when a MSW or other multi-session intervention would be appropriate and feasible. In some contexts, multi-session interventions may not be feasible (e.g., when clients are unlikely to attend multiple sessions), and in these cases SSG can be used. SSGs can be implemented as drop-in groups or as more structured interventions. Much of the research supporting the use of SSGs was conducted in the early 1990s, but the available recent literature is included.

Several effective SSG interventions have been described in the literature. Many of them use a peer-led approach, which may be part of the reason for their effectiveness (see the section on Peer Education, p. 231). Populations that have reported decreases in HIV risk behavior after participating in SSGs include:

- Female African-American and Latina adolescents (Jemmott et al 2005);
- Adolescents (Kennedy et al 2000a);
- Incarcerated individuals (Grinstead et al 1999);
- Gay Asian and Pacific Islander men in San Francisco (Choi et al 1996);
- African American male adolescents in Philadelphia (Jemmott et al 1992); and
- Gay and bisexual men in Philadelphia (Valdiserri et al 1989).

Exhibit 29 describes SSGs and how to implement them.

PRIORITY POPULATION	Individuals at high risk for acquisition and/or transmission of HIV.
GOAL	Deliver prevention messages that eliminate or reduce sexual and/or injection drug transmission risk behavior.
DESCRIPTION	An SSG is a one-time intensive session that focuses on information about HIV (e.g., transmission, behavior change), motivational activities, skills-building, self-esteem issues, social support, and/or community building. It may also touch on other relevant issues specific to the priority population. This intervention may be implemented with planned groups, impromptu groups, drop-in groups, support groups, mobile-intervention vans as session sites, or other methods.
DURATION	Session duration varies based on topic and format.
SETTINGS	Private settings in community-based organizations and clinics accessible to the priority population.
STAFFING AND MINIMUM QUALIFICATIONS	Facilitators with experience as social workers, therapists, and/or trained health educators.
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>TOOLS:</p> <ul style="list-style-type: none"> • Printed health education/risk reduction information. • Topic/session protocol and/or interactive activities. • Prevention materials, such as safer sex supplies and sterile injection equipment. • Referrals to appropriate health and social services, HIV prevention, medical care, mental health and substance use services, STI testing and treatment, and other support services. <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Advertise and promote through media and outreach. • Recruit participants via other activities, both HIV- and non-HIV-related. • Follow with additional support, follow-up groups, and/or "booster" groups. • Include ground rules created and adopted by participants. • Include discussions about issues beyond HIV, as appropriate (e.g., racism, homophobia). • Collect process data to evaluate program outcomes.
RESOURCES	CDC'S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION: http://www.cdc.gov/hiv/resources/guidelines/herrg/activities_ind-group.htm
STRENGTHS	<ul style="list-style-type: none"> • Appropriate for populations that cannot commit to multiple sessions. • Can recruit clients for other prevention-oriented activities. • Can contribute to shifting community norms if offered frequently and focused on particular topics of interest to the community.
LIMITATIONS	<ul style="list-style-type: none"> • Not as effective as MSW at changing HIV risk behavior. • Less helpful for people with serious mental health issues, for the highest-risk populations, and for those most in denial about their risk. • Difficult to conduct outcome evaluation in terms of behavior change over time if clients are not linked to additional services.

Multiple Session Workshop

A multiple session workshop (MSW) is a very versatile intervention because its content can be tailored to almost any population. Further, MSWs have demonstrated effectiveness at reducing various sexual risk-taking behaviors, as well as affecting knowledge and attitudes about HIV among several populations, especially when compared with SSGs.

Research on the effectiveness of MSWs as an intervention has been conducted for diverse populations, including:

- HIV-negative IDUs and IDUs living with HIV (Latkin et al 2003);
- Incarcerated men (Grinstead et al 2001);
- Men and women (Healthy Living Project Team 2007 and Fogarty et al 2001);
- African American gay and bisexual men in San Francisco (Peterson et al 1996);
- Gay and bisexual men in general (Roffman et al 1998), (Carey et al 2004);
- Heterosexual men (Elwy et al 2002);
- Low-income African American women (Carey et al 2000);
- Immigrant Latina women (Gomez et al 1999);
- STI clinic patients (Branson et al 1998); and
- Incarcerated African American and White women (St. Lawrence et al 1997).

MSWs have also been shown to be effective for a variety of sub-populations of adolescents, including: youth living with HIV (Rotheram-Borus et al 2001), homeless adolescents (Rotheram-Borus et al 1991), male and female adolescent African Americans (DiClemente & Wingwood 2004, St. Lawrence et al 1995), and middle school students (Levy et al 1995).

Finally, an MSW is likely a cost-effective intervention, depending on the specific priority population and the context in which it is implemented (Pinkerton et al 2001, Pinkerton et al 2002). In addition, preliminary results from a local study show that MSW is no more or less effective at creating behavior change than PCM. Because PCM only reaches one individual at a time and MSW can reach multiple people, the MSW may be a more cost-effective intervention for people who would attend a group-level intervention and do not need or want more intensive one-on-one counseling and support (see also the section on PCM, p. 246). Exhibit 30 describes MSWs and how to implement them.

EXHIBIT 30 Multiple Session Workshop

PRIORITY POPULATION	Individuals at high risk for acquisition and/or transmission of HIV.
GOALS	<ul style="list-style-type: none"> • Deliver prevention messages that eliminate or reduce sexual and/or injection drug transmission risk behavior. • Improve coping with the combined stressors of HIV and other contextual factors. • Increase skills that address HIV risk behaviors.
DESCRIPTION	MSW is a curriculum-based series of workshops, groups, or meetings that introduce HIV issues and link them to other life issues not easily or immediately understood as relating to HIV. The expectation is that the same individuals will attend all sessions in a series. Each workshop session's topics usually build on those from previous sessions. Groups may be mixed or serostatus-specific, structured, or need/issue-driven for risk reduction and psychosocial support. Groups can be held in a variety of community settings.

DURATION	Session times vary based on topic and format, but with a minimum of a three-session series.
SETTINGS	Private settings in community-based organizations and clinics accessible to the priority population.
STAFFING AND MINIMUM QUALIFICATIONS	Facilitators with experience as social workers, therapists, and/or trained health educators.
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>TOOLS:</p> <ul style="list-style-type: none"> • Printed health education/risk reduction information. • Structured curriculum and/or interactive skill-building activities. • Prevention materials, such as safer sex supplies and sterile injection equipment. • Referrals to appropriate health and social services, HIV prevention, medical care, mental health, substance use, STI testing and treatment, and other support services. <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Advertise and promote through media and outreach. • Recruit participants via other activities, both HIV- and non-HIV- related. • Follow with additional support. • Include ground rules created and adopted by participants. • Include discussions about issues beyond just HIV, as appropriate (e.g., racism, homophobia).
RESOURCES	<p>CDC'S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION: http://www.cdc.gov/hiv/resources/guidelines/herrg/activities_ind-group.htm</p>
STRENGTHS	<ul style="list-style-type: none"> • Better than SSGs for addressing HIV risk-reduction issues and strategies in depth, dealing with the underlying causes of unsafe behavior, and creating behavior change. • Attract people seeking connection with others who have shared experiences and interests (e.g., gay men seeking social contacts and support outside of the gay bar scene). • Suitable for people with high perception of personal risk, people who are already highly motivated to attend groups, people who desire structure (e.g., some homeless and/or jobless people), and people who can commit to attending sessions on an ongoing basis. • Provides an opportunity for people to talk about sexual and drug-related behaviors with their peers. • Feasible to conduct in institutional settings (e.g., schools, treatment centers, prisons/jails). • Can contribute to shifting community norms when focused on particular topics of interest to the community. • Long-term knowledge and skill building supports behavior change. • Fosters ownership and promotes active involvement and leadership.
LIMITATIONS	<ul style="list-style-type: none"> • May have limited effectiveness with populations that are unlikely to disclose or discuss their risk behaviors (e.g., MSM who live heterosexual lives, people engaging in survival sex). • May not be as effective or appropriate for mentally ill populations or people with limited free time (e.g., people who are struggling to hold onto housing/employment or juggling home, kids, education, and/or work). • May pose challenges regarding retention.

What Are Community-Level Interventions?

C. COMMUNITY-LEVEL INTERVENTIONS

Community-level HIV interventions are designed to influence individual risk behavior by changing knowledge, attitudes, and beliefs in a defined community. These interventions can motivate and reinforce behavior change in individuals who do not participate directly in the intervention by promoting norms that support safer sex through awareness campaigns, and community mobilization efforts.

This section provides information on the following community-level interventions, ordered by level of effort required:

- Social Marketing
- Venue-Based-Group Outreach

Social Marketing

Social marketing is about more than providing information and messages. It is a holistic community-level approach that uses commercial marketing techniques to benefit individuals and society, with the goal of achieving changes in behaviors, attitudes, and community norms to promote health.

Social marketing has been used extensively in many developing countries to promote maternal and child health and has been extended to HIV prevention. In the U.S., social marketing has been successful in the areas of tobacco control, teen pregnancy, and other issues, as well as HIV prevention. Examples of successful local and other social marketing campaigns related to HIV prevention include the following:

- An evaluation of a San Francisco social marketing campaign called "HIV Stops With Me" revealed that the campaign was widely viewed, well-recalled, and persuasive. Fifty-six percent of survey respondents reported that they were more likely to use condoms with HIV-negative or unknown serostatus partners after viewing the campaign (Bailey et al 2003).
- In an evaluation of a campaign to increase awareness of HIV risk among same-gender-loving African American men engaging in sex/drug exchange in the Tenderloin, the majority of survey respondents reported that the ads reflected their daily environment and caused them to stop and think about HIV transmission when exchanging drugs for sex (David Binder Research, unpublished report, 2003).
- An evaluation of a San Francisco social marketing campaign called "Resist Meth" revealed that the campaign was widely viewed, well-recalled, and persuasive. Seventy-nine percent of respondents agreed that after seeing the campaign, they felt that crystal meth was "a problem among gay/bi men in San Francisco." Fifty-eight percent felt that "meth use was less socially acceptable in the community." Seventy-one percent agreed that "the community is coming together to confront the meth problem." (Paquette et al 2008).
- A review of calls to the San Francisco HIV/AIDS hotline revealed that during a social-marketing campaign to promote testing, overall call volume increased, the number of calls resulting in referrals to HIV testing services increased, and the percentage of callers citing television or bus ads/billboards (the locations where the campaign ads appeared) as the impetus for calling increased (Hocking 2003).
- Social marketing has also been used successfully in non-San Francisco locales to recruit gay men from multiple subgroups, including men of color, youth, and closeted men, for HIV prevention counseling (Fisher et al 1996), to increase dialogue and awareness of HIV among gay men (Dawson and Hartfield 1996), to motivate gay men to get tested for HIV (Dawson & Hartfield 1996), and to increase condom use among adolescents (Kennedy et al 2000b).

Social marketing campaigns are based on and guided by research with the priority population. The first step is to gain an in-depth understanding from and about the priority population through primary and secondary research. Based on the findings from this research, the appropriate behavioral objectives, interventions, messages, materials, programs, and evaluations can be designed. All these elements are based on intimate knowledge of the priority population and its members' lifestyles, values, beliefs, attitudes, fears, and hopes. It is also important to understand how social marketing messages can be crafted to successfully compete with other messages the priority population is receiving. For example, a social marketing campaign promoting condom use among gay male drug users must compete with community norms that do not support condom use. Campaigns that are more focused (e.g., on a particular issue among a particular audience) have a greater affect if they can achieve significant visibility among the population.

Social marketing campaigns must have what are called the "4 Ps" of marketing: product, price, place, and promotion. The 4 Ps are defined as follows:

- **Product:** The behavior or idea the campaign is trying to promote. The product must be presented in a way that addresses benefits that are relevant and motivating to the priority audience. For example, a campaign intended to encourage people to get an HIV test must speak to the benefits of getting tested from the perspective of the priority audience; these might include benefits such as peace of mind, empowerment, and caring for oneself and one's partner.
- **Price:** The monetary and other costs/disadvantages associated with adopting the behavior or idea. For example, the costs of adopting safer sex practices might include money (for condoms), time (to discuss condom use with partners), a perception that pleasure will be reduced, and fear of rejection or abuse resulting from asking a partner to use a condom. Social marketing campaigns must attempt to show how the benefits outweigh the costs.
- **Place:** Whether people are in the right frame of mind to pay attention to the message, where people will act on the message, and whether the campaign promotes a product or service (such as HIV testing programs) where the product or service is provided. Research done prior to implementing a social marketing campaign must explore what the best places are for the priority population (e.g., at bars, in sex clubs, on the streets, through social service agencies, etc.) For example, a campaign to promote HIV testing should consider what changes, improvements, and preparations need to be made at HIV testing sites within the area where the campaign is being implemented.
- **Promotion:** The media channels and communication methods that will be used to disseminate the message. Social-marketing campaigns can use a number of methods to get a message out. Some of these methods are television (e.g., public service announcements), radio, posters (e.g., on bus shelters), billboards, newspaper ads, the Internet, brochures, pamphlets, palm cards, videos, and other creative promotional items.

Exhibit 31 describes social marketing and how to implement it.

EXHIBIT 31 Social Marketing

<p>PRIORITY POPULATION</p>	<p>Specific communities defined by race, gender, sexual orientation and other defined characteristics.</p>
<p>GOALS</p>	<ul style="list-style-type: none"> • Build general support for safe behavior. • Support personal risk reduction. • Inform persons at risk about infection and how to obtain specific services. • Decrease stigma and prejudice against persons living with HIV.
<p>DESCRIPTION</p>	<p><i>“Social marketing is the use of marketing principles and techniques to influence a priority audience to voluntarily accept, reject, modify, or abandon a behavior for the benefit of individuals, groups, or society as a whole.” (Kotler et al 2002). Social marketing campaigns can aim to affect behavior through influencing knowledge, beliefs, attitudes, and/or norms.</i></p>
<p>DURATION</p>	<p>Duration varies but should be enough period of time for the priority audience to interact with the campaign materials.</p>
<p>SETTINGS</p>	<p>Settings vary based on types of media utilized, but the product must be positioned to maximize benefits and minimize costs.</p>
<p>STAFFING AND MINIMUM QUALIFICATIONS</p>	<p>A person in charge who manages the program and staff who specialize in the form of media planned to be used for the product being developed.</p>
<p>TOOLS AND GUIDANCE FOR IMPLEMENTATION</p>	<p>TOOLS:</p> <ul style="list-style-type: none"> • The tools necessary to develop a social marketing intervention vary with the type of media that is planned for the product being developed. <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Ensure that the campaign is based on consumer research that illuminates consumers' lifestyles, values, attitudes, hopes, and fears about HIV and how they understand the disease in the context of their lives. • Identify the behaviors the program will seek to promote or to reduce or eliminate. These should be behaviors that can be realistically achieved, and the campaign should focus on people most receptive to change. • Develop a measurable objective that is clearly linked to and supports HIV prevention goals. • Link the priority population to appropriate resources. • Develop an implementation plan and time schedule. • Conduct focus groups and activities planned to fit what the community and priority audience need and want. • Ensure that the campaign is visible enough and sustained over enough time to make an impact. • Collect process and behavioral data to evaluate program outcomes.

RESOURCES

CDC'S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION ACTIVITIES:

<http://www.cdc.gov/hiv/resources/guidelines/herrg/index.htm>

CDC NATIONAL CENTER FOR HEALTH MARKETING:

http://www.cdc.gov/communication/cdcynergy_eds.htm

STRENGTHS

- Reflects the life context of the priority population and the messages they think are best, because research with the priority population forms the basis for the campaign.
- Can have a broader effect than individual-level interventions because it addresses the community norms and values that influence behavior.
- When implemented effectively (e.g., appropriate visibility and message), can become sufficiently memorable and motivating to be self-sustaining (i.e., the campaign message becomes known throughout the community, e.g., "HIV Stops With Me").
- Can be accessible to those who are difficult to reach through traditional prevention channels because it can reach large and diverse segments of the population (e.g., Mizuno et al 2002)

LIMITATIONS

- Can be costly. Campaigns have high start-up costs and funding must be sustained over time for campaigns to exist long enough (e.g., months or years) to have an effect.
- Evaluation of social marketing can be costly, and it is challenging to link resulting behavior changes directly to the effects of the campaign.
- May result in little or no effect if sufficient research is not conducted up front.
- Can be challenging to implement, because campaigns must take complex issues and behaviors and translate them into short and simple messages. This has occasionally resulted in controversy.
- May be unsuccessful with those who are isolated and/or do not identify with the messages or people depicted in the campaign.
- May not be effective for people with low literacy if written materials are used.

Venue-Based Group Outreach

Venue-Based Group Outreach (VBGO) has been found to be an effective intervention for reaching certain consumers who might not otherwise have access to HIV prevention services. It differs from VBIO in that the focus of the intervention is to reach large numbers of people with multiple approaches, as opposed to spending concentrated time with individuals. VBGO has the potential to influence knowledge, attitudes, and behavioral intention. It is difficult to say whether it leads to behavior change because most VBGO events do not have a post-intervention follow-up component to track participants' behaviors. A few studies have examined the effectiveness of this kind of intervention. In one study, VBGO was found to be more effective for reaching high-risk young gay men compared with small group workshops (Kegeles et al 1996). A study conducted in London found VBGO to be an effective intervention to reach gay men in large cities (Bonnell et al 2006). Exhibit 32 describes VBGO and how to implement it.

EXHIBIT 32 Venue-Based Group Outreach

PRIORITY POPULATION	Communities at high risk for acquisition and/or transmission of HIV.
GOALS	<ul style="list-style-type: none">• Deliver consistent prevention messages and promote the services of your organization.• Provide referrals to HIV testing programs and other appropriate services.
DESCRIPTION	VBGO is outreach conducted with the goal of reaching large numbers of people with multiple approaches in community settings, including commercial venues and public events. VBGO can take a variety of forms, including information booths, community theater, or brief skits or role plays that are designed to promote HIV risk reduction among audience members. The distribution of appropriate prevention materials (e.g., condoms and lubricant) may also be a component of these activities.
DURATION	Duration varies based on the event.
SETTINGS	Street corners, public fora, speakers' bureaus, bars, sex clubs, street fairs, health fairs, and parades.
STAFFING AND MINIMUM QUALIFICATIONS	Event coordinator and trained peer outreach workers.

TOOLS AND GUIDANCE FOR IMPLEMENTATION

TOOLS:

- Printed health education/risk reduction information.
- Prevention materials, such as safer sex supplies and sterile injection equipment.
- Referrals to appropriate health and social services, HIV prevention, medical care, mental health, substance use, STI testing and treatment, and other support services.

GUIDANCE FOR IMPLEMENTATION:

- Respect the operating conditions at, and contribute to the spirit of, the venue/event.
- Make it interactive and engaging.
- Emphasize community unity, creating a positive environment in which participants can socialize and mingle.
- Encourage networking among members of different communities, through sharing of information and resources.
- Conduct in safe environments for the priority audience.
- Provide an opportunity for confidential, one-on-one referrals to HIV prevention or other services before or after the intervention.
- Develop methods for tracking referrals made to other services, to the extent possible.
- Collect process data to evaluate program outcomes.
- Outreach workers should participate in ongoing trainings.

RESOURCES

CDC'S GUIDELINES FOR HEALTH EDUCATION AND RISK REDUCTION ACTIVITIES:
<http://www.cdc.gov/hiv/resources/guidelines/herrg/index.htm>

STRENGTHS

- Can reach people who identify with a community, group scene, or social group.
- Suitable for groups with multiple issues and barriers to change, groups with a lack of access to services, people with a low perception of risk, people needing basic information and referrals, and people who have never experienced another intervention.
- Can provide a forum for dialogue between friends and family (community building).
- Can encourage individuals and communities to participate in other prevention activities.
- Reach high-risk populations at appropriate times, including late-night and early-morning hours, and at appropriate locations.
- Good for introducing a topic to a large group and then following up with in-depth one-on-one interventions.
- Non-threatening due to group context and familiar setting.
- Can tailor message to different groups.

LIMITATIONS

- May not be as effective for reaching people who do not identify with a group or community.
- Unclear whether it can influence behavior.
- May be less effective in changing behavior than for introducing messages.
- Less effective when the venue is not structured.

D. INTERVENTIONS FOR DETECTING AND TREATING COMORBIDITIES

What Are Comorbidities?

A comorbidity describes the effect of other diseases an individual might have other than the primary disease of interest. For example in San Francisco, research shows that gonorrhea is a driver of the HIV for the populations at highest risk for new infection, and there is an increase prevalence of syphilis among gay men living with HIV/AIDS. The section also focuses on information on tuberculosis, as well as viral hepatitis prevention, transmission risk and issues regarding co-infection with HIV/AIDS. The goal is to improve collaboration among programs in order to enhance integrated service delivery at the client level, or point of service delivery.

This section provides information, listed alphabetically, on the following comorbidities:

- Sexually Transmitted Infections
- Tuberculosis
- Viral Hepatitis

Sexually Transmitted Infection (STI) Detection and Treatment

The presence of an STI other than HIV is an indicator of risk for HIV infection because STIs and HIV are primarily transmitted in the same way (via sex). Perhaps more importantly, certain STIs, especially ulcerative STIs, such as syphilis and herpes, may increase a person's biological risk for acquiring or transmitting HIV for several reasons, including that ulcers may serve as a point of exit or entry for HIV. STI screening and treatment offer key opportunities for integrating HIV prevention activities because those at risk for STIs may also be at risk for HIV. Overall, greater integration of HIV and STI detection and treatment services is needed. When delivering HIV prevention interventions, STIs should also be discussed and appropriate tests offered and provided, and vice versa for those not already known to be HIV-positive.

Testing and treatment of STIs can be an effective tool in preventing the spread of HIV. An understanding of the relationship between STIs and HIV infection can help in the development of effective HIV prevention programs for persons who engage in high-risk sexual behaviors. In 2007, CDC released the Program Collaboration and Service Integration (PCSI) Initiative that emphasizes the integration of STIs and HIV (along with viral hepatitis and TB) and how combined screening and counseling by providers reflects and accomplishes that goal. The CDC fact sheet on STIs (revised on December 2007) indicates that "testing and treatment of STIs can be an effective tool in preventing the spread of HIV" (<http://www.cdc.gov/std/hiv>).

Specifically for San Francisco, the following issues should also be addressed:

- Gonorrhea is a driver of HIV (see pp. 121-123).
- STIs are cofactors for HIV infection (see pp. 132-135).
- There is a high rate of syphilis among gay men who are HIV positive (Phipps et al 2009).

A person seeking testing and possible treatment for an STI provides an ideal opportunity for HIV prevention education, HIV testing programs, linkages to risk-reduction services, and partner services for HIV and STIs. Exhibit 33 describes STI detection and treatment and how these activities may be used as HIV prevention methods.

PRIORITY POPULATION	Individuals at high risk for acquisition and/or transmission of HIV and STIs
GOAL	To integrate testing services for individuals who may be at risk for both HIV and other STIs due to sexual activities and to eliminate STIs that are drivers of the HIV epidemic in San Francisco.
DESCRIPTION	STI detection refers to evaluation, testing and treatment for STIs. In addition, on-site dispensation of medications, STI patient education, and partner notification and treatment services may be offered.
DURATION	30 to 45 minutes, if conducted as an individual intervention; the time can be reduced if integrated into other testing or medical services.
SETTING(S)	Private or public settings in medical offices, community-based organizations, and clinics.
STAFFING AND MINIMUM QUALIFICATIONS	Medical provider or health educator trained in risk assessment, STIs, and harm reduction. Nonclinical organizations need to have a phlebotomist available to provide venipuncture for some STI tests.
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>TOOLS:</p> <ul style="list-style-type: none"> • Printed health education/risk reduction information. • Prevention materials, such as safer sex supplies and sterile injection equipment. • Testing kit (depending on the STI) or phlebotomist to provide venipuncture. • Referrals to appropriate health and social services, HIV prevention, medical care, mental health, substance use, STI testing and treatment, and other support services. <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Conduct an assessment to determine client's possible risk for STIs. • Draw blood and/or provide the client instructions for how to collect a specimen (if no blood draw). • Provide STI education and/or counseling on STIs and ways to prevent them. • Disclosure of results to the client, including counseling regarding what the results mean and the options and support available to the client. • Treatment (if available onsite) — provide the client with treatment for the STI and/or follow-up to ensure treatment has been completed. Depending upon test and testing venue, this can include distribution of partner packs (aka, Expedited partner therapy). A client is given medication to provide to sexual partners who were exposed to gonorrhea or chlamydia. • Linkage to medical care if client diagnosed with an STI (e.g., assistance in making a medical appointment, verification whether the appointment was kept and medical workup completed). • Partner services to ensure that the client is aware of the opportunity to inform sexual and/or syringe-sharing partners of possible exposure to HIV.
RESOURCES	<p>SFDPH STI PREVENTION AND CONTROL SERVICES: http://www.sfcityclinic.org</p> <p>CDC STI DETECTION IN HIV PREVENTION: http://www.cdc.gov/std/hiv</p>

STRENGTHS

- Can serve as a bridge to HIV testing for high-risk individuals.
- May increase a person's perception of his or her HIV risk if he or she is found to have an STI.
- Reinforces risk reduction and health promotion behaviors for both STIs and HIV.
- Can encourage regular 3- to 6-month screening for STIs and HIV together, even without symptoms, in high-risk groups such as gay men and other MSM.
- Can be done in multiple locations.
- Can use new screening technologies.
- Can be effective at changing community STI rates when targeted appropriately, which could, in turn, influence HIV transmission rates.

LIMITATIONS

- Must be accompanied by HIV testing services to maximize effectiveness.
- Will not reach people who do not get regular STI screening, those who do not have access to regular medical care, and those who do not have symptoms and, therefore, might not seek screening (unless the intervention is mobile and reaches people where they are).

Tuberculosis Detection and Treatment

Tuberculosis (TB) is caused by bacteria that are spread from person to person through the air when a person with active TB disease of the lungs or throat coughs, sneezes, speaks, or sings. People nearby may inhale TB bacteria and become infected.

In 2008, 118 (14.6 cases per 100,000) new cases of active TB were diagnosed in San Francisco. Over the last decade, TB incidence has declined by more than 50% due to intensive efforts to prevent infection and active disease among San Francisco residents (SFDPH, Tuberculosis Surveillance Report, 2008).

Tuberculosis is particularly dangerous for persons infected with HIV due to their weakened immune systems. Once infected with TB, those with HIV co-infection have a greater than 100 fold risk of developing active TB disease compared to those without HIV. TB treatment is more complex and potentially more toxic for those with HIV than for those without it because of interactions between the drugs used to treat the two diseases. Additionally, TB disseminated to organs other than the lungs and acquired rifamycin-drug resistance are more common among people with HIV than those without it. In San Francisco, 11% of TB cases (13 of the 118) were co-infected with HIV in 2008. Among those with HIV co-infection, 5 of the 13 were also homeless. HIV infection is strongly associated with homelessness among those with active TB disease in San Francisco (SFDPH, Tuberculosis Surveillance Report, 2008).

This high level of risk underscores the need for TB screening and preventive treatment programs for people with HIV and those at greatest risk for HIV infection. The CDC recommends that individuals infected with HIV should be tested for TB. In addition, individuals infected with TB should complete preventive therapy as soon as possible to prevent progression to active TB disease (CDC 2008a). The HPPC also encourages screening and treatment for sexual partners of PLWHA with active TB disease.

Everyone suspected to be infected with TB and placed on treatment is required by state law to be reported to the health department within one working day. Additional reporting requirements include discharge or transfer from any health or correctional facility and interruptions in treatment. Directly observed therapy and other adherence-promoting strategies should be used in all patients with HIV-related TB. Whenever possible, the care for HIV-related TB should be provided by or in consultation with experts in management of both TB and HIV. The care for persons with HIV-related TB should include close attention to the possibility of TB treatment failure, antiretroviral treatment failure, paradoxical reactions of TB (i.e., temporary worsening of signs or symptoms of TB), side effects of all drugs used, and drug toxicities.

In February 2003, the American Thoracic Society, the CDC, and the Infectious Diseases Society of America (IDSA) jointly released new guidelines for the treatment of TB. This information can be found on the CDC website at www.cdc.gov/tb/topic/TBHIVcoinfection/default.htm. Exhibit 34 describes tuberculosis detection and treatment and how these activities can be used as HIV prevention methods.

EXHIBIT 34 Tuberculosis Detection and Treatment

PRIORITY POPULATION	PLWHA at risk for exposure to TB, particularly HIV-positive individuals who are homeless, born in a TB-endemic country, or are recent contacts of a person known to have TB.
GOAL	To integrate testing and treatment services for PLWHA who may be at risk for TB.
DESCRIPTION	TB is a disease caused by a bacterium called <i>Mycobacterium tuberculosis</i> . The bacteria usually attack the lungs but TB bacteria can attack any part of the body such as the kidneys, spine, and brain. TB remains a serious threat, especially for HIV-infected persons. People infected with HIV are more likely than uninfected people to become sick with other infectious diseases and have TB disseminate to organs other than the lungs.
DURATION	Based on the level of intervention (e.g., screening only, diagnosis, and/or treatment), as well as stage of the disease (i.e., latent or active).
SETTING(S)	Detection and treatment can be implemented in both community and medical settings. Diagnosis of TB must be conducted by a medical provider.
STAFFING AND MINIMUM QUALIFICATIONS	Staffing and minimum qualifications are also determined by level of intervention. Organizations that wish to implement detection services must have staff who are certified to perform TB testing. For a skin test, a provider must be certified as a Tuberculin Skin Test (TST) technician, and, for blood draws, must be a certified phlebotomist. Diagnosis and treatment regimens must be provided by a medical provider. Directly observed therapy (DOT) is routinely provided by the San Francisco TB Control Program or can be implemented by trained health workers on-site in coordination with the TB Control Program.
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>Tools and guidance for implementation may differ by setting. Information about settings is provided on the SFDPH website.</p> <p>TUBERCULOSIS SCREENING</p> <ul style="list-style-type: none"> • TB Screening in San Francisco • TB Screening Guidelines for Drug-Treatment Programs in California • TB Screening Procedures at Methadone Clinics in San Francisco • TB Screening Procedures for Homeless Shelters in San Francisco <p>GUIDELINES FOR ASSESSMENTS AND TREATMENT</p> <ul style="list-style-type: none"> • TB Infection-Control Guidelines for Homeless Shelters, updated January, 2005 • Latent Tuberculosis Infection: A Guide for San Francisco Providers • Treatment of Latent TB Infection – 2003 • Pediatric TB Risk-Factor-Assessment Questionnaire (PDF document) • QuantiFERON-TB Gold Blood Test: Provider Information and Guidelines
RESOURCES	<p>SFDPH WEBSITE: www.sfdph.org/dph/comupg/oservices/medSvs/TB/</p> <p>CALIFORNIA DEPARTMENT OF PUBLIC HEALTH WEBSITE: www.cdph.ca.gov/programs/tb</p> <p>CDC WEBSITE: www.cdc.gov/tb/topic/TBHIVcoinfection/default.htm</p>

exhibit continues next page

STRENGTHS

- Raise awareness among healthcare workers about HIV-related TB and the need for a collaborative approach to the problem.
- The presence of comprehensive materials is an important step in ensuring community awareness about HIV, TB, the link between them, and the prevention, treatment, and care opportunities available.
- TB screening can also form the basis for identifying HIV-infected clients who show no evidence of active TB and would benefit from treatment with isoniazid for latent TB infection.
- Early identification of TB followed by prompt referral for diagnosis and treatment increases the chances of survival, improves quality of life, and reduces spread of TB in the community.
- DOT programs are designed to address issues of TB-related stigma in work and home environments.

LIMITATIONS

- Cost-effectiveness research comparing home- and clinic-based DOT models are needed.
- Research is required to identify the characteristics of subpopulations and patients for whom DOT is particularly effective.
- Limited research on the sustainability and educational and cultural appropriateness of different DOT approaches with diverse populations.

Viral Hepatitis Detection, Vaccination and/or Treatment

Hepatitis means “inflammation of the liver.” It may be caused by a variety of factors, including environmental toxins, certain medications, alcohol, or viruses. Each type of virus that causes hepatitis has a letter assigned to it. In the U.S., the most common types of viral hepatitis are hepatitis A (HAV), hepatitis B (HBV), and hepatitis C (HCV) — each caused by a different virus that is transmitted differently; the three types are only related in that they attack the liver and can cause liver disease. Of note, San Francisco has the highest rate of liver failure and liver cancer of all counties in the U.S., and the rate is expected to increase, mostly due to HBV and HCV infections (National Cancer Institute 2008). For more information on HBV and HCV, see Chapter 2: Community Assessment, pp. 60-147.

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HIV and Viral Hepatitis Co-infection

HBV and HCV are common causes of morbidity and mortality among PLWHA. While HBV and HCV infection do not accelerate the progression of HIV in coinfecting individuals, viral hepatitis coinfection complicates HIV treatment and can lead to more accelerated liver damage than would occur in individuals who are infected only with HBV or HCV.

In the U.S., an estimated 10 percent of PLWHA are also infected with HBV. HIV-infected people are three to six times more likely to develop a chronic or long-term HBV infection because of their weakened immune systems than individuals without HIV. For those PLWHA who are also infected with HBV, treatment is possible and, in fact, some medications used to treat HIV are also used to treat HBV, as discussed in the following website: http://www.hbvadvocate.org/FactSheets/HBV_HIV%20coinfection.pdf

HCV is one of the most common coinfections with HIV, affecting a quarter of HIV-infected persons in the United States (CDC 2008). This may be higher in some settings, such as the Positive Health Program at San Francisco General Hospital, which has a 42% HIV/HCV coinfection rate (Personal communication, Brad Hare, January 27, 2009). Individuals coinfecting with HIV/HCV are prone to accelerated liver damage due to immunosuppression and because many HIV medications are toxic to the liver (CDC 2008).

While the need for HBV and HCV testing of MSM living with HIV and the need for HBV testing of all MSM are well established, there is debate related to testing HIV-negative MSM for HCV. Sex as a mode of HCV transmission is now generally accepted in the medical community (Terrault 2002). The rate at which this occurs and factors related to sexual acquisition are not clear, but it appears that this transmission route is relatively rare.

Viral hepatitis vaccination, testing and treatment programs can be effectively integrated into “STI treatment facilities, HIV counseling and testing facilities, correctional facilities, drug treatment facilities, and other public health settings where STI and HIV prevention and control services are available” (<http://www.cdc.gov/hepatitis/HCV.htm>).

Hepatitis A

Hepatitis A is an acute liver disease caused by HAV. It is spread through the ingestion of fecal matter, either through contaminated food or water or through sexual activities such as rimming. HAV infection may last weeks to months and can be temporarily debilitating, though it is rarely fatal. In 2007, 27 cases of HAV were reported to SFDPH (SFDPH 2008d). The SFDPH, the Gay and Lesbian Medical Association, and the CDC recommend HAV vaccinations for gay men and MSM because they are at increased risk for the infection. In San Francisco MSM carry a disproportionate burden of disease for HAV.

Detection of HAV Infection

HAV antibody testing is only recommended for diagnosing acute disease.

Vaccination for HAV

There is a vaccine to prevent HAV infection. The vaccine course is two shots given six months apart. The first dose is highly effective in itself, and can be administered to transients who may not return for the second dose. The HAV vaccine also comes in a combination form with HBV vaccine. This is given as three shots over a period of six months.

SFDPH's Communicable Disease Control & Prevention Section launched the StopHep program. The program provides HAV vaccine to local public health centers and private, non-profit organizations at no charge. In exchange the receiving organizations agree to administer the vaccine at minimal cost to patients at accessible locations and in order of risk priority. For more information, visit <http://www.StopHep.com>. In addition, several local clinics participate in the State Adult Hepatitis Vaccine Program, which provides free hepatitis A and B vaccines for administration in settings serving at-risk adults. For more information, visit <http://www.cdph.ca.gov/programs/immunize/Pages/AHVP.aspx>.

Priority populations for HAV vaccine include the following:

- MSM;
- Users of injection and non-injection drugs;
- PLWHA or people infected with HCV, chronically infected with HBV, or with chronic liver disease; and
- Persons with clotting-factor disorders.

Treatment for HAV

For HAV, no medication is available. However, supportive treatment can address symptoms.

Hepatitis B

Hepatitis B virus (HBV) is spread through blood-to-blood contact (such as sharing of injection equipment), via vertical transmission (from mother to child during birth), and through sexual activity (such as unprotected vaginal or anal sex). It can cause acute or chronic liver disease and can be fatal. Most adults with acute HBV infection clear the virus on their own and do not develop chronic HBV infection. However, 5% of adults with acute HBV develop chronic liver disease.

In 2007, 10 cases of acute HBV infection were reported to SFDPH (2007 Communicable Disease Annual Report, 2008). The SFDPH, the Gay and Lesbian Medical Association, and the CDC recommend vaccination against HBV for MSM because they are at increased risk for infection. In San Francisco MSM carry a disproportionate burden of HBV disease. In addition, Asian Americans, Native Hawaiians, and Pacific Islanders have higher HBV infection rates compared with other groups.

Detection of HBV Infection

Integrating HIV and viral hepatitis testing services can increase disease screening rates among IDUs (Stopka et al 2007) and among other individuals who may be at risk for viral hepatitis, such as MSM. A combination of tests for HBV surface antigen, core antibody, and surface antibody is recommended for certain individuals, including Asian Americans, Native Hawaiians, and Pacific Islanders and others from countries where HBV prevalence is at least 2%, MSM, IDUs, HIV-infected persons, and pregnant women to diagnose past or present HBV infection. Interpreting HBV serology can be difficult and requires consultation of testing guidelines. For people who test HBV-surface-antigen positive, referrals to follow-up testing and care are needed. For people who test surface-antibody negative and who are not chronically infected, referrals to vaccination are needed. For people who are immune, no follow-up is needed.

Vaccination for HBV

A vaccine exists to prevent HBV infection. It is usually given as a course of three shots provided over a six-month period. The HBV vaccine also comes in a combination form with HAV vaccine, which is administered over the same period as HBV vaccine alone. For more information on HBV vaccination, visit San Francisco Hep B Free at <http://www.sfhepbfree.org>.

Treatment of HBV Infection

For HBV, no medication is available to address acute infection, but chronic infection may be treated with antiviral medications. Access to viral hepatitis treatment may be challenging: Not everyone is appropriate for HBV treatment regimens, antivirals are expensive, and access to specialty care (e.g., hepatologists) may be limited.

Hepatitis C

Hepatitis C virus (HCV) is the most common chronic bloodborne infection in the U.S. (CDC, 2008). HCV is transmitted easily through blood-to-blood contact, especially the sharing of syringes, cookers, and other supplies used for injection drug use. The virus causes chronic infection in 75 – 85% of those infected. Approximately 15% – 25% of persons clear the virus from their bodies without treatment and do not develop chronic infection. HCV infection is the most common cause for liver transplant in the U.S. Based on national estimates, 3.2 million individuals are chronically infected with HCV, 475,000 of whom reside in California (California Department of Health Care Services 2001).

In California, HCV-related mortality rates doubled between 1995 and 2004; in San Francisco, mortality rates were 60% higher than the state average during that time, rising from 2.30 deaths per 100,000 in 1995 to 5.37 deaths per 100,000 in 2004 (Wise 2008).

Individuals who inject drugs are the group most influenced by HCV. An estimated 91% of all 18,000 IDUs (Tseng et al 2007) and 45% of IDUs under 30 years of age in San Francisco have been infected with HCV at some point in their lives (Hahn et al 2001).

Detection of HCV Infection

Testing for HCV antibodies is recommended for all current and former IDUs, PLWHA, and others who may be at risk for HCV acquisition. Integrating HIV and HCV testing services can increase disease screening rates among IDUs (Stopka et al 2007). For those who test HCV-antibody positive, further testing for HCV RNA is required to confirm current infection.

Vaccination for HCV

No vaccine exists to prevent HCV infection. For this reason, integrated HIV and HCV prevention education, counseling, and testing are essential to address the HCV epidemic in San Francisco.

Treatment of HCV Infection

Effective treatment exists for chronic HCV. Not everyone needs treatment, and treatment is not appropriate or effective for everyone. Access to HCV treatment may be challenging: access to specialty care (e.g., hepatologists) may be limited for people who are uninsured, treatment costs are high, and treatment side effects are difficult to manage. Although IDUs represent the majority of incident and prevalent cases of HCV, most lack access to treatment (Sylvestre 2005). This presents a significant challenge to successfully linking HCV-infected individuals to medical care. Despite the treatment challenge, when a person seeks testing for HCV, it is an ideal opportunity to provide viral hepatitis and HIV prevention education, HIV testing, linkage to risk reduction services, and psychosocial support services. Additionally, HCV testing provides an opportunity for education regarding liver care and referrals to drug and alcohol treatment, including harm reduction services. For more information on the link between HCV and HIV, see the section on Cofactors in Chapter 2, (p. 133).

Sexual transmission of HCV is documented in HIV positive MSM in the context of multiple partners (Bollepalli et al 2007), group sex, fisting, and unprotected anal intercourse (Danta, 2007, Rauch et al 2005, Ghosn et al 2006), and concurrent STIs such as syphilis and gonorrhea (Ghosn et al 2004). However, studies addressing sexual transmission in HIV- negative MSM are lacking, and research addressing sexual transmission in other populations is conflicting (Clark & Kulasegaram 2006).¹

Exhibit 35 describes HCV detection and treatment and how these activities can be used as HIV prevention methods.

¹ This sexual transmission data was summarized in a literature review conducted by Jacob Heberlein, RN, MSN.

EXHIBIT 35 Hepatitis C Detection and Treatment

PRIORITY POPULATION	Individuals at risk for both HIV and HCV due to sexual activity, sharing injection equipment, or other activities that may lead to blood-to-blood contact.
GOAL	To integrate testing and treatment services for individuals who may be at risk for HIV and HCV due to sexual activity, sharing injection equipment, or other activities that lead to blood-to-blood contact.
DESCRIPTION	HCV can cause acute or chronic liver disease, but is primarily a chronic condition that can create lasting morbidity and mortality.
DURATION	For testing, 45–60 minutes if conducted as an individual intervention. Time can be reduced if integrated into other testing or medical services. Treatment duration depends on the level of intervention required, but may require ongoing monitoring and disease management.
SETTING(S)	Private settings in community-based organizations and clinics accessible to the priority population.
STAFFING AND MINIMUM QUALIFICATIONS	<ul style="list-style-type: none"> • For test counseling, a medical provider or health educator who is trained in risk assessments, HCV, and harm reduction. In settings providing HIV counseling, testing, and linkages, the test counselor must be certified by the State of California. • If providing HCV testing and test kits using blood samples from client-administered finger sticks are not available, non-medical settings will need a phlebotomist to provide venipuncture. • Further testing and treatment requires a medical provider and, in some cases, specialty care from a hepatologist and/or other specialists.
TOOLS AND GUIDANCE FOR IMPLEMENTATION	<p>TOOLS:</p> <ul style="list-style-type: none"> • Printed health education/risk reduction information. • Prevention materials, such as safer sex supplies and sterile syringes and other injection equipment. • Testing kit or testing materials. • Referrals to appropriate health and social services, HIV prevention, medical care, mental health, substance use, and STI testing and treatment, and other support services. • Medical care clinic and/or hospital required for further testing and treatment. <p>GUIDANCE FOR IMPLEMENTATION:</p> <ul style="list-style-type: none"> • Conduct assessment to determine client's possible risk for HCV. • Conduct test by drawing blood or provide the client with a test kit and instructions for using the kit. • Provide HCV education and/or counseling and information on transmission and prevention. • Disclose results to client, explaining what the result means and provide information about what options and support are available. • Provide linkage to further testing if HCV-antibody positive (e.g., assistance in making a medical appointment, verification whether the appointment was kept and further testing completed). • For further testing and treatment, link individuals to medical care and/or liver clinic.

RESOURCES	<p>CDC'S VIRAL HEPATITIS INFORMATION: http://www.cdc.gov/hepatitis/ChooseC.htm</p> <p>HCV ADVOCATE: http://www.hcvadvocate.org/</p> <p>SFDPH CHRONIC HEPATITIS REGISTRY: http://www.sfcddcp.com/chronichepreregistry.html</p>
STRENGTHS	<ul style="list-style-type: none"> • Can serve as a bridge to HIV testing services for IDUs and other high-risk individuals. • May increase a person's perception of their HIV risk if they are found to have HCV. • Can be done in mobile settings. • Can use new screening technologies, as they emerge (e.g., rapid oral HCV-antibody testing). • Treatment can stop or slow viral replication and, in some cases, eliminate infection.
LIMITATIONS	<ul style="list-style-type: none"> • Must be accompanied by HIV testing services to maximize effectiveness. • Further HCV testing and treatment may be difficult to access for those who test HCV-antibody positive and some individuals with HCV may not be eligible for treatment.

Definition

Structural Interventions for HIV prevention are actions that modify the social, economic, and political structures and systems in which we live. These interventions may affect technology, legislation, media, healthcare, and the marketplace. Rather than attempting to change individual behaviors, structural interventions aim to alter the physical environments in which we live, work, play, and/or take risks to help reduce HIV transmission. Structural interventions also include methods to reduce or abolish income inequality, racism, bigotry, phobias and other inequalities and oppressions which create vulnerability to HIV/AIDS (This definition was approved by the HPPC in 2006).

Introduction

This section aims to provide the reader with key components and steps that they will need to consider if they wish to develop and implement a structural intervention. This tool box is intended to complement the Structural Changes section of this chapter (pp. 195-197).

How is “structural intervention” different from “structural change?”

Structural change was defined by the HPPC (in 2006), as new or modified programs, practices, or policies that are logically linkable to HIV transmission and acquisition and can be sustained over time, even when the key actors are no longer involved.

The concept is that one identifies a problem or need for which a structural change could be implemented to alter the environment and achieve a desired outcome. For example, the community might identify an outcome of “increasing safer sex practices in sex clubs.” Organizations may have different ideas about how to achieve the desired outcome. That is why the HPPC defined “structural interventions” as the “process” used to achieve the “change.” Some communities, such as San Francisco, have closed sex clubs, some have altered the lighting in the space, some have taken the doors off the rooms, and some require staff to monitor the space. In Los Angeles County, regulations have been passed banning unprotected sex in all county commercial sex venues (such as bathhouses and sex clubs) and requiring them to pay \$1,088 in annual licensing fees and undergo quarterly health inspections. The county requires the venues to display signs and posters stating that unprotected sex is prohibited, and they must provide free condoms, lubricant, and information on HIV prevention and safer sex. The law also requires commercial sex venues to offer 20 hours a week of HIV testing and counseling at their own expense.

Tool Box #3 STRUCTURAL INTERVENTIONS

Barriers to Implementing Structural Interventions

Because structural interventions often involve advocacy, they can be difficult or impossible to fund with government money. However, providers engage in advocacy around social and policy issues on a daily basis, even if it is not part of a specifically funded intervention. The goal is to coordinate these efforts in San Francisco and to develop common targets for social and policy issues to maximize impact.

EXHIBIT 36 Structural Interventions

DESCRIPTION	Actions that modify the social, economic, and political structures and systems in which we live. These interventions may affect technology, legislation, media, healthcare, and the marketplace. Rather than attempting to change individual behaviors, structural interventions aim to alter the physical, social, and legal environments in which we live, work, play, and/or take risks to help reduce HIV transmission. Structural interventions also include methods to reduce or abolish income inequality, racism, bigotry, phobias, and other inequalities and oppressions that create vulnerability to HIV/AIDS.
GUIDANCE FOR IMPLEMENTATION	An agency considering a structural intervention should consider the following: <ul style="list-style-type: none"> • Feasibility • Impact • Acceptability • Sustainability • Unintended consequences • Scope of effort • Alignment with mission and values • Agency capacity • Research support • Timing
RESOURCES	UCSF CENTER FOR AIDS PREVENTION STUDIES, FACT SHEET http://www.caps.ucsf.edu/pubs/FS/structural.php STRUCTURAL INTERVENTIONS, HIV PREVENTION AND PUBLIC HEALTH: Descriptive summary of selected literature http://www.effectiveinterventions.org/files/structuralinterventions.pdf
STRENGTHS	<ul style="list-style-type: none"> • Take activities beyond individual behavior change. • Aim to create sustainable changes that reach a broad audience. • Address problems experienced repeatedly by multiple clients. • Do not rely on public funding.
LIMITATIONS	<ul style="list-style-type: none"> • Processes often involve advocacy, so they can be difficult or impossible to fund with government money. • Potential for negative, unintended consequences and stigmatization of priority populations. • Time consuming and requires a lot of resources. • Can be difficult to explain.

Structural Interventions – a Closer Look

I. What are some key concepts and steps in considering structural intervention development for organizations? Why would an organization choose to implement structural interventions?

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1. The need for a more complete and varied response to HIV

Most HIV prevention efforts have focused on behavior change. These efforts, while important, are insufficient. There are limits to the scale of nonstructural interventions (e.g., how many people can be reached). There is also a need to tackle larger contextual factors that can increase risk for HIV transmission.

2. Economic realities

Individual, group, and community-level interventions can be costly in terms of staff time and have limited reach (Blankenship et al 1983). Given limited financial resources, individual interventions alone cannot undo the structural factors that currently drive the epidemic.

Even if budgets for HIV prevention were to remain stable, there is currently not enough money to provide individual services for everyone who needs them. Ideally, structural interventions should rely as little as possible on support from the public health sector's scarce and diminishing resources (Wohlfeiler 2007).

3. Sustainability

Few studies estimate the impact of individual, group, and community-level interventions beyond a relatively short period of time (Wohlfeiler 2007). A goal of structural interventions is to create a systemic shift that will so a change can be sustained over time, as opposed to creating a time-limited, funding-based program.

For example, the financial burden of free condom distribution has been borne by public health agencies. If legislation were passed requiring all establishments with liquor licenses to provide them to their patrons, these programs would be sustained, independent of public health funding.

4. Priorities for the SFDPH

The SFDPH welcomes structural interventions as a means to reduce HIV transmission.

5. Success in other areas of public health

Structural interventions have a long history in other areas of public health, such as violence, tobacco control, and alcohol consumption (Wohlfeiler n.d.). Some other examples are as follows:

- *Changing laws created smoke-free workplaces, bars, restaurants, parks, and zones around buildings to reduce the effect of smoking and second-hand smoke.*
- *Changing seatbelt laws has decreased vehicle-accident-related fatalities and injuries.*
- *Banning unprotected sex in commercial sex venues and bathhouses has influenced HIV prevention.*
- *Fluoride in water has decreased the number of cavities across the population and improved dental health for those who can't afford dental care.*

II. Below is an example case that helps clarify what a structural intervention is and is not. While many structural interventions involve influencing policy change, others do not. Note that there are many levels at which a structural intervention can occur, some of which involve policymaking bodies, and others that do not.

Case Example:

To illustrate the distinction between structural- and community-level interventions, the causal pathway in Figure 1 represents a common scenario: intoxicated patrons leaving bars with lowered inhibitions, placing them at increased risk of HIV infection.

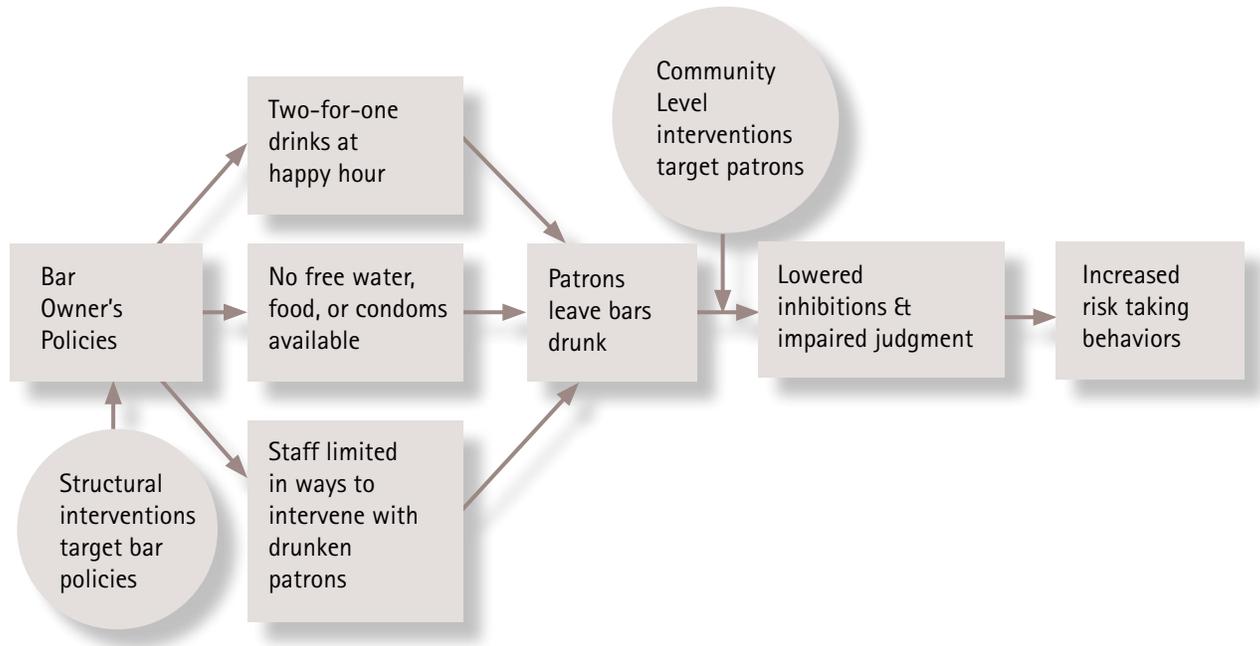
Issue Identified:

Addressing the issue of intoxication and how it impacts HIV risk behaviors.

Outcome Desired:

Provide access to free water and availability of food.

FIGURE 1 Causal pathway illustrating the difference between structural and community-level interventions to create behavior change.



Example of a Community-Level Intervention:

One point of intervention appears in the circle at the top. Outreach workers themselves outside of the club, handing out water, food and condoms to intoxicated patrons as they leave. While this may help sober the individual, make sure they have protection in their pocket and serve as a gentle reminder about HIV, it is dependent on the health worker being there to implement the effort.

Example of a Structural Approach:

An example of a structural intervention would be to facilitate a process where a health worker targets bar owners to change their internal policies to better safeguard their patrons. The circle at the bottom of the chart shows that by working with bar owners, it could be possible to change the following: the rules about happy hour, the provision of free water, access to food and/or condoms, and how bartenders and bouncers can limit the amount that patrons drink or offer remedies to those who appear impaired. The goal is to try to achieve the same outcome with the patrons, but not require health workers to conduct the activities.

Intervening with bar owners is only one possible route for structural intervention in this scenario. Alternatives might include working with the other systems involved, like the Alcohol Control Board or law enforcement. Another option would be to work with the Board of Supervi-

sors to obtain special permits for late-night food carts to be stationed outside bars and clubs, turning the idea borne from public health over to the private sector. These solutions would be sustainable and independent of ongoing public-health funding.

III. Here are some key concepts to consider about whether a structural intervention may be appropriate:

- Is the change that is needed wider than individual behavioral change? For example, does it address access, availability, or acceptability? These are factors that are not focused on individual behavior change, but on changing systems. For example, creating access to treatment for substance users (treatment on demand) would address accessibility of services in a way that could reduce the impact of substance use on HIV transmission for many individuals.

Note: increased access to services in and of itself is not a structural change because it is tied to existing funding and not sustainable. Defining a new city priority for treatment on demand and developing new funding mechanisms for it would make it a structural change.

- Are there many clients who have the same problem? Is there a solution that might work for all of them?
- Are there many clients who get help and then return some time later with the same problem or a new problem? Perhaps a client has been treated for substance use, but lack of employment is the underlying issue. Job training programs or creation of new jobs may address a systemic problem that would in turn reduce substance use.

IV. Make sure there is an understanding of how structural factors affect HIV transmission before trying to address them.

Mapping the Influence of Structural Factors

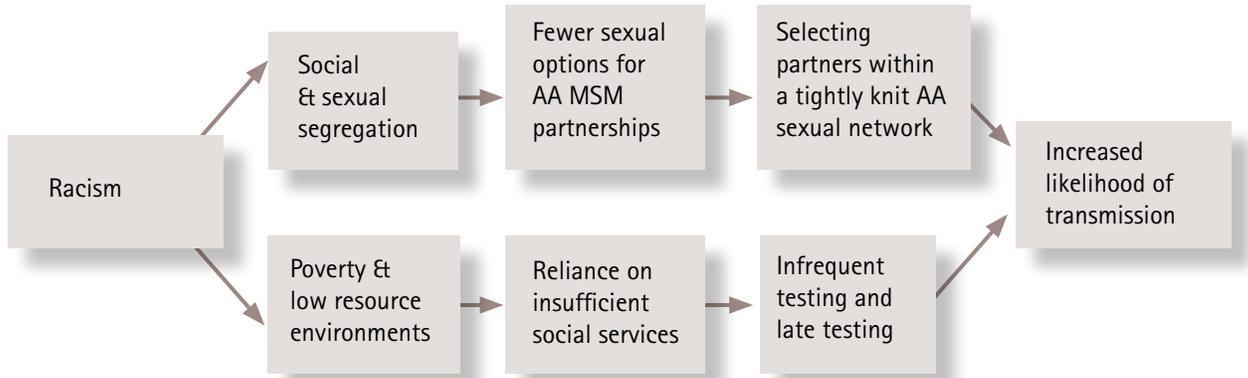
Causal pathways is a term used to describe the ways in which structural factors trickle through various domains to lead to increased likelihood of HIV transmission or some other specific issue. In HIV prevention, an understanding of causal pathways can reveal how structural factors and risk of HIV transmission are linked (Gupta et al 2008).

Figure 2 gives an example of a causal pathway, namely, the effects of racism on the HIV epidemic within the African American MSM community (AA MSM). It explains, in part, how there has been disproportionately high background prevalence in this population, a reason for the high incidence rates within the AA MSM community today.

The figure shows how racism can be traced through two causal pathways to explain the high likelihood of HIV/STI transmission among AA MSM in San Francisco. In the causal pathway at the top, racism most likely accounts for why, in a recent study of MSM partner preference in San Francisco, AA MSM were found to generally be the least preferred sexual partners among Asians, whites, and Latinos, (Fisher n.d.). The net effect of the social and sexual segregation is having fewer sexual options in the partner-selection process, which may contribute to why African American MSM are four times more likely to partner with other African American MSM, thus forming an more isolated sexual networks with high background prevalence.

The causal pathway at the bottom of Figure 2 traces how economic and environmental factors can lead to increased likelihood of exposure in San Francisco. Nearly two-thirds of positive testers during 2006-07 were from a few under-resourced areas of the City (SFDPH n.d.). AA MSM experience social marginalization due in part to the absence of culturally specific social spaces and social services (African American Workgroup 2008) and are tested less frequently, or later in their HIV infection, than other MSM (Millet et al 2008).

FIGURE 2 Multiple causal pathways can be linked to increased likelihood of HIV transmission



V. Make sure to plan for evaluation of the intervention.

Think about the change that you are trying to effect. How can you measure whether the intervention has had the intended impact? For example, if the goal is to increase treatment slots for substance users, one could measure the number of slots available before the intervention and compare it to the number of slots after the intervention. Additionally, one could compare the need for slots by assessing the length of a waiting list at various treatment centers in the city before and after the intervention.

Summary of California Laws and Regulations for HIV Testing

APPENDIX 1

ELEMENTS	SUMMARY OF LAWS AND/OR REGULATIONS*
<p>CONSENT</p>	<p>Consent is regulated by several statutes under California law and differs among testing approaches. Because no identifying information is permitted for anonymous testing, Health and Safety Code Sections 120885 –120895 require that consent for anonymous testing be provided verbally. For confidential testing in nonmedical settings, Health and Safety Code (HSC) Section 120990 requires written consent for HIV testing.</p> <p>However, HSC Section 120990 permits medical providers who have a signed general consent for medical services to inform the client that a test is planned and that they have a right to decline. The information that the test is planned may be given verbally or in writing.</p> <p>It is important to note that all HSCs (120885–120895 and 120990) require that authorization be given voluntarily and with full consent by the client. In order to ensure that the client understands what he or she are consenting to, a provider must provide the client with information about the HIV antibody test and about the validity and accuracy of the test before it is performed, inform the client that there are numerous treatment options available for a patient who tests positive for HIV and that a person who tests negative for HIV should continue to be routinely tested, and advise the patient that he or she has the right to decline the test.</p>
<p>DOCUMENTATION</p>	<p>Client-level testing data, counseling data, and clients' records and results are protected under HSC 121025(a). The code indicates that all public health records relating to HIV or AIDS containing personally identifying information developed or acquired by state or local public health agencies or an agent of such an agency shall be confidential and shall not be disclosed, except as otherwise provided by law for public-health purposes or pursuant to a written authorization by the person who is the subject of the record or by his or her guardian or conservator.</p> <p>It is important to note that the law does not just apply to HIV-testing information, but to all required and supplemental elements.</p>
<p>HIV RAPID ANTIBODY TEST</p>	<p>HSC 120917 authorizes The California Department of Health Services (CDHS) to designate HIV counseling and testing sites with an HIV counselor who is trained by CDHS/OA to, under identified conditions, perform any HIV test that is classified as waived under the federal Clinical Laboratory Improvement Amendments (CLIA). Under this program, CDHS may perform and report clinical test results using a rapid HIV test for diagnosis. A second, approved test shall be used to confirm initially reactive test results. All rapid tests shall be confirmed using technology approved by the FDA.</p> <p>HSC 120917 enables HIV counselors who have successfully completed HIV counselor training to advance to limited phlebotomy technician (LPT) training. These counselors may substitute a General Education Development or high school diploma for their successful completion of the HIV counselor curriculum, and may perform any HIV test using oral-testing technology waived under CLIA. However, these counselors shall not perform any test using whole blood unless they meet the statutory and regulatory requirements for performing that test. HSC Section 120917 also mandates that CDHS/OA consult with the CDHS Laboratory Science Division to develop a comprehensive curriculum for HIV counselor training that meets the LPT-training requirements.</p>

DISCLOSURE OF HIV TEST RESULTS

Disclosure of HIV results is regulated by several statutes under California law and differs according to the testing approach used. Under the law, disclosure of results is regulated not only in how they are delivered to the client, but how the information can be shared to provide additional services and repercussions if the information is improperly disclosed.

DISCLOSURE OF RESULTS TO CLIENTS:

Because no identifying information is permitted for anonymous testing, HSCs 120885 –120895 require that disclosure of results be provided in person (face-to-face).

In order to protect client confidentiality, HSC 120895 specifically prohibits the electronic delivery of clinical laboratory test results or any other related results for HIV antibody tests to clients regardless of their authorization.

DISCLOSURE OF RESULTS FOR PUBLIC-HEALTH PURPOSES:

HSC 121015 permits but does not require, a physician and surgeon to disclose to a person reasonably believed to be a sexual partner or a person with whom the patient has shared the use of hypodermic needles, or to the local health officer, that the patient has tested positive on a test to detect HIV infection, except that no physician or surgeon shall disclose any identifying information about the individual believed to be infected, except as required in Section 121022. No physician or surgeon shall disclose the information unless he or she has first discussed the test results with the patient and has offered the patient appropriate educational and psychological counseling that shall include information on the risks of transmitting HIV to other people and methods of avoiding those risks and has attempted to obtain the patient's voluntary consent for notification of his or her contacts. The physician or surgeon shall notify the patient of his or her intent to notify the patient's contacts prior to any notification. When the information is disclosed to a person reasonably believed to be a spouse, or to a person reasonably believed to be a sexual partner, or a person with whom the patient has shared the use of hypodermic needles, the physician or surgeon shall refer that person for appropriate care, counseling, and follow-up. This section shall not apply to disclosures made other than for the purpose of diagnosis, care, and treatment of persons notified pursuant to this section, or for the purpose of interrupting the chain of transmission.

HSC 121022 requires healthcare providers and laboratories to report cases of HIV infection to the local health officer using patient names.

HSC 121025(b) allows public health agencies, or an agent of such an agency, to disclose personally identifying information in public-health records to other public-health agencies (local, state, or federal), or to supporting medical researchers, when that information is necessary to carry out the duties of the agency or researcher in the investigation, control, or surveillance of disease.

DISCLOSURE OF RESULTS FOR MEDICAL PURPOSES:

Inclusion of a person's HIV test result in his or her medical record is not considered a disclosure under HSC 120980. A client may provide written authorization to disclose test results by a person responsible for their care and treatment. Written authorization is required for each separate disclosure of the test results, and must include to whom the disclosure would be made.

HSC 120985 permits a physician who orders an HIV test to record the results in the patient's medical record, or otherwise disclose it without written authorization to the patient's health care providers for the purpose of diagnosis, care, or treatment of that patient.

UNAUTHORIZED DISCLOSURE:

HSC 121025(d) states that no confidential public health record may be required to be disclosed in the context of any civil, criminal, or administrative proceeding.

Further, HSC 121022(e) requires state and local health department employees and contractors to sign a confidentiality agreement that includes penalties for a breach of confidentiality and procedures for reporting a breach of confidentiality prior to accessing confidential HIV-related public-health records. HSC 121025(e) and 120980 increased civil penalties for unauthorized disclosure and for any person who negligently discloses or willfully or maliciously discloses the content of any confidential public health records.

ELEMENTS	SUMMARY OF LAWS AND/OR REGULATIONS*
TRAINING OF TEST COUNSELORS	HSC 120871 relates to the training of HIV counselors. This statute requires the CDHS to authorize the establishment of training programs for counselors for publicly funded HIV testing programs and by specified nonprofit community-based organizations. Participating organizations are required to follow curriculum content and design for these trainings that are approved by CDHS.
HEPATITIS C TESTING	In order to protect clients' confidentiality, HSC 120895 specifically prohibits the electronic delivery of clinical laboratory test results or any other related results for the presence of antigens indicating a hepatitis C infection, regardless of authorization.
SEXUALLY TRANSMITTED DISEASE (STI) TESTING	<p>Unlike for HIV, California has strict Health and Safety Codes that authorize the department of health to prevent and control venereal diseases. Under HSC 120500, "venereal diseases" means syphilis, gonorrhea, chancroid, lymphopathia venereum, granuloma inguinale, and chlamydia. Some highlights of the regulations are provided below, but organizations requesting resources or support to conduct STI testing should become thoroughly familiar with HSC 120500 –120605.</p> <p>TREATMENT:</p> <p>HSCs 120565 and 120570 require the agency that administers STI treatment make reasonable efforts to determine whether the person has complied with his or her STI treatment and make all reasonable efforts to persuade the person to comply if not. If it thereafter appears reasonably likely that he or she has failed to comply, the provider must report the person's name and address to the CDHS.</p> <p>HSC 120582 permits a treating physician who diagnoses a sexually transmitted chlamydia, gonorrhea, or other sexually transmitted infection, as determined by the department, in an individual patient to prescribe, dispense, furnish, or otherwise provide prescription antibiotic drugs to that patient's sexual partner or partners without examination of that patient's partner or partners.</p> <p>PARTNER SERVICES:</p> <p>HSCs 120555 requires local health officers to use every available means to ascertain the existence of cases of infectious venereal diseases within their respective jurisdictions, to investigate all cases that are not, or probably are not, subject to proper control measures approved by the board, to ascertain so far as possible all sources of infection, and to take all measures reasonably necessary to prevent the transmission of infection.</p> <p>PARTNER ELICITATION:</p> <p>HSCs 120555 requires individuals diagnosed with a venereal disease to provide the name and address of any person from whom the disease may have been contracted and to whom the disease may have been transmitted.</p>
HIV-PREVENTION EDUCATION	HSC 120846 was added to the Health and Safety Codes to permit publicly funded HIV testing sites to advise certain clients who have been tested before and are following appropriate risk reduction measures that they may not need any further education services, determine whether a person should be allowed to self-administer any data collection form required by the department certain and to provide prevention education using various methods.

*This summary is based on current California laws as of January 2009.

New Prevention Approaches in Development

A number of new, innovative prevention technologies are still in development. If any of these interventions are found to be effective, safe, and relevant to San Francisco, multiple issues will need to be addressed regarding their distribution, cost, and role in the broad spectrum of HIV-prevention efforts. Community planning will play a vital role in determining how to best meet these challenges. The goal of this appendix is to provide a very brief summary of some of the most important interventions currently under development and to provide further references for more detailed information.

Vaccines

Finding a vaccine against HIV could bring an end to the epidemic or greatly decrease the burden of disease, as vaccines have done for smallpox, polio, and some other infectious diseases. At this time, there is promise of an effective HIV vaccine.

Vaccines generally work by training the body's immune system to fight off an infection before a person is actually exposed to the causative virus or bacterium. A preventive HIV vaccine would protect the vaccinee from becoming infected with HIV. There are also therapeutic vaccines that work by reducing the impact that a disease, once contracted, has on the body. A therapeutic vaccine for persons living with HIV/AIDS might help delay the need for antiretroviral therapy or bolster therapy for those with resistant disease. The NIH-sponsored HIV Vaccine Trials Network (HVTN) (<http://www.hvtn.org>) is testing candidates for both types of HIV vaccines. The search for an HIV vaccine began soon after HIV was identified, and continues around the world. Many different kinds of HIV vaccines have been formulated and tested, and here in San Francisco they are being tested by the HIV Research Section of the SFPDPH (<http://www.helpfighthiv.org>) as a Clinical Trials Unit of the HVTN.

It is important to note that no HIV vaccine candidate contains HIV, live or attenuated; and most candidates contain small amounts of the RNA or protein of HIV – never enough to cause HIV infection.

Testing Phases: Vaccines are tested in phases, as follows:

Phase 0 is carried out *in silico*, which is to say it tests a vaccine candidate's properties in the laboratory vessels, or in nonhuman animals. In the case of HIV vaccine candidates, the most important animals in which testing occurs are nonhuman primates, particularly monkeys, which are susceptible to Simian Immunodeficiency Viruses (abbreviated SIV); the major variety of HIV (HIV-1) was acquired by people eating the meat of chimpanzees infected with SIVcpz, the variety of SIV that infects chimpanzees. The other variety of HIV (HIV-2) was acquired by people eating the meat of sooty mangabeys, a variety of monkey that has its own variety of SIV known as SIVsm; HIV-2 is almost completely confined to West Africa.

Phase I is the first phase carried out in humans. It determines whether a vaccine candidate is safe and tolerable, possible side effects, and technical properties known as pharmacodynamics and pharmacokinetics. These studies are conducted with a small number of healthy individuals (typically 15 to 50) and last 12 – 18 months.

Phase II measures whether a vaccine candidate creates the desired immune response, determines appropriate dosing, and provides further information about safety. Phase II studies include 50 to 250 people (sometimes more), and can last anywhere from two to three years.

Phase III (Efficacy Trials) An efficacy trial tests whether a vaccine candidate works to either prevent infection or to help those who have become infected to better fight the infection. Efficacy trials enroll thousands to tens of thousands of participants who are at risk for a disease, and can last five to ten years. After an efficacy trial has been completed, investigators have a good picture of the vaccine's efficacy, safety, and its range of possible side effects.

Microbicides

Microbicides are gels, creams, films, or suppositories that might prevent the transmission of HIV (and possibly other STIs) when applied topically (e.g., in the vagina or rectum). At this time, there is no effective microbicide to prevent HIV, and trials of several products have failed to show any sign of protection. However, studies of multiple potential microbicides are in progress, mostly under the aegis of the NIH-funded Microbicides Trials Network (MTN), whose web site is <http://www.mtnstopshiv.org>.

Microbicides go through similar testing phases as those for vaccines.

Pre-Exposure Prophylaxis (PrEP) and Post-Exposure Prophylaxis (PEP)

Pre-Exposure Prophylaxis (PrEP) involves HIV negative people taking HIV drugs to prevent HIV infection before they are exposed. Currently, it is not known whether this method can prevent HIV infection.

There are multiple studies of PrEP candidates currently under way around the world in different populations, such as men who have sex with men, heterosexual men and women, and injection-drug users. You can learn more about these studies at <http://www.prepwatch.org>. In San Francisco, the HIV Research Section of the SFPDH is currently conducting two PrEP studies, Project T and PREPARE. To learn more, go to <http://www.preparesf.org>.

PrEP and PEP

PrEP is different from Post-Exposure Prophylaxis (PEP), which is currently available. Post-Exposure Prophylaxis involves the use of a short course (28 days) of one or two HIV drugs, begun within 72 hours of a potential HIV exposure. Though no definitive studies of PEP have been conducted, there is evidence from studies of healthcare workers who have been inadvertently exposed to HIV, mostly by needlesticks, that PEP may be partially effective in preventing HIV infection. The challenge of PEP, however, is that a person must accurately identify when they were potentially exposed to HIV, and must begin the treatment soon after that exposure as it is reasonably clear that PEP started more than 72 hours after exposure is ineffective. You can learn more about PEP at http://sfhiv.org/basics_pep.php. Please see pp. 248-249 for more information about PEP.

Circumcision

Several trials in Africa among heterosexuals have proved that circumcision reduces the risk of HIV infection in heterosexual men. Efforts are underway in Africa to increase circumcision rates among heterosexual men at highest risk for HIV. While several studies have suggested that uncircumcised MSM are at higher risk for HIV transmission compared with circumcised MSM, the role of circumcision in preventing HIV among MSM has yet to be determined. For more information about circumcision and HIV, go to <http://www.cdc.gov/hiv/resources/factsheets/circumcision.htm>, or http://www.avac.org/pdf/factsheet_MC.pdf.

