

**HOUSTON HIV PREVENTION  
COMMUNITY PLANNING GROUP  
2007 COMPREHENSIVE PLAN UPDATE**

## INTRODUCTION

These updates were compiled and approved by the Prioritization Committee of the Houston HIV Prevention Community Planning Group (HHPCPG). The Prioritization Committee includes members of the CPG with expertise and experience in Epidemiology and Public Policy.

This update is being submitted because the HHPCPG and the Ryan White Planning Council (RWPC) desire to coordinate planning efforts of the prevention and primary care plans. This is taking place for a variety of reasons. First, we aim to eliminate the waste of scarce resources by duplication of research and administration activities. Second, the planning bodies wish to provide the Houston EMA with a holistic vision of HIV prevention and treatment, to better serve those at risk for and living with HIV/AIDS.

One major step to coordinating prevention and primary care planning is to work together in creation of a joint Comprehensive Plan. Since the next planning cycle for RWPC begins in 2009, the HHPCPG is submitting an update to the previous plan (2004-2006). This update will provide the community with the information they need to move forward until a new plan is drafted in conjunction with RWPC, to begin in 2009. This update will cover the areas of Population Prioritization and Intervention Prioritization, as these areas are the ones that have experienced the most change since the 2004-2006 Comprehensive Plan was released. Changes include updated population numbers, updated HIV epidemiology, and a modified allocation methodology.

## POPULATION PRIORITIZATION METHODOLOGY

### Step 1: Identify and Define Behavioral Risk Groups (BRG's)

Building upon methodology used in the previous plan (modeled after the San Francisco HIV Prevention Plan<sup>1</sup>), the Prioritization Committee (PC) reviewed other comprehensive plans, specifically the prioritization methodology, of several other high morbidity metropolitan areas to determine if any methodological updates were needed for Houston. The methodology from the 2004 - 2008 Los Angeles County HIV Prevention Plan<sup>2</sup> was deemed valuable and some minor modifications were made to the Houston methodology based on this plan. The PC continued to prioritize populations in Houston principally on risk behaviors identified by the CDC as primary modes of HIV transmission; these are listed below in Table 1. In addition, subpopulations were analyzed based on racial/ethnic and age characteristics.

**Table 1: Behavioral Risk Groups (BRG's)**

F/IDU	Female injection drug users
FSM	Females who have sex with males
M/IDU	Male injection drug users
MSF	Males who have sex with females
MSM	Males who have sex with males
MSM/IDU	Males who have sex with males and use injection drugs

### Step 2: Determine Relevant Factors

Based upon available data, two factors were useful for this prioritization process: 1) the number of new HIV diagnoses in Houston; and 2) the HIV prevalence (number of living HIV/AIDS cases) in Houston. The number of new HIV diagnoses was defined as any new HIV diagnosis, regardless of AIDS status, from January 1, 2005 to December 31, 2005. The HIV prevalence was defined as all living HIV cases, regardless of AIDS status, as of June 16, 2006. The data source for all HIV data used in this prioritization process was the HIV/AIDS Reporting System (HARS) maintained by the Houston Department of Health and Human Services, Bureau of Epidemiology, HIV/AIDS Surveillance Program.

### Step 3: Determine Population Sizes- City of Houston

In order to calculate rates of new HIV diagnoses by behavioral risk group (BRG), overall population sizes of all relevant BRGs had to be estimated. This section outlines the processes and references that were used to estimate the size of each of the behavioral risk groups in Houston, which are shown in Table 2. The shaded columns indicate populations that were not behavioral risk groups chosen for prioritization; however they were needed to calculate the size of other behavioral risk groups.

<sup>1</sup> The San Francisco HIV Prevention Plan can be referenced at <http://www.dph.sf.ca.us/HIVPrevPlan/page2.htm>

<sup>2</sup> The Los Angeles County HIV Prevention Plan can be referenced at <http://www.lapublichealth.org/aids>

**Table 2: Estimated size of behavioral risk groups**

Gender	Population	Total <sup>1</sup>	FSF <sup>3</sup>	Identify Gay <sup>3</sup>	No Sex in Past Year <sup>3</sup>	FSM	F/IDU <sup>4</sup>
Female	All	981,244	45,137	25,512	133,449	822,282	18,055
	Hispanic	395,472	13,842	4,350	45,084	346,038	7,277
	Black/Non-Hispanic	237,229	6,642	1,423	40,329	195,477	4,365
	White/Non-Hispanic	281,008	13,207	4,777	35,969	240,262	5,171
	13-19 <sup>2</sup>	85,172	3,407	1,107	10,987	73,078	1,567
	20-24	79,481	3,179	1,033	10,253	68,195	1,462
	13-24 <sup>2</sup>	164,653	6,586	2,140	21,240	141,272	3,030
	25+	614,259	24,570	7,985	79,239	527,034	11,302

Gender	Population	Total <sup>1</sup>	MSM <sup>3</sup>	Identify Gay <sup>3</sup>	No Sex in Past Year <sup>3</sup>	MSF	M/IDU <sup>4</sup>
Male	All	965,240	152,508	88,802	94,594	781,844	17,760
	Hispanic	434,934	32,620	16,093	36,969	381,872	8,003
	Black/Non-Hispanic	192,181	15,374	2,883	15,951	173,347	3,536
	White/Non-Hispanic	272,991	26,207	8,190	26,480	238,321	5,023
	13-19 <sup>2</sup>	89,188	8,205	2,230	9,008	77,950	1,641
	20-24	80,115	7,371	2,003	8,092	70,021	1,474
	13-24 <sup>2</sup>	169,303	15,576	4,233	17,100	147,971	3,115
	25+	594,588	54,702	14,865	60,053	519,670	10,940

<sup>1</sup>US Census American Community Survey 2004.

<sup>2</sup>Interpolated using age group 10-14 from the US Census American Community Survey 2004.

<sup>3</sup>Estimated using methodology from *The Social Organization of Sexuality*, Laumann, Edward O.; 1994.

<sup>4</sup>Estimated using methodology from "The Estimated Prevalence and Incidence of HIV in 96 Large US Metropolitan Areas," Holmberg, Scott D., *American Journal of Public Health*; May 1996; pg. 642.

## Population Estimation Methodology

### *Total*

Total population numbers were obtained from the US Census American Community Survey 2004 and represent population projections, with the exception of the age groups 13-19 and 13-24. Since age group 13-19 was not specifically defined in the US Census American Community Survey 2004, age groups 13-19 and 13-24 were interpolated from age group 10-14. An equal distribution among the age group 10-14 was assumed thus 40% of the age group 10-14 was used to represent ages 13 and 14.

### *Men Who Have Sex with Men (MSM)*

MSM population numbers were estimated using percentages from Chapter 8 of "The Social Organization of Sexuality" by Edward O. Laumann. This study provides percentages of six various types of same-gender sexuality: 1) same gender partner since puberty, 2) same gender sex since puberty, 3) same gender attraction, 4) same gender sex appealing, 5) attraction or appeal, and 6) identify as homosexual/bisexual. The percentage used to estimate the MSM population for the purpose of the prioritization process was same gender sex since puberty. Percentages provided by this study are categorized by gender, age, marital status, education, religion, race/ethnicity, and place of residence. Because this study did not collapse the age groups into the

same groups that were needed for the prioritization process, an average percentage of 9.2% was applied to all age groups. This average was derived from the following percentages for men who have had same gender sex since puberty: 18-29 (6.4%), 30-39 (10.6%), 40-49 (10.9%), and 50-59 (8.8%). The limitations of this process include the possibility that some age groups will be over-represented or under-represented.

***Females Who Have Sex with Males (FSM)***

***Males Who Have Sex with Females (MSF)***

The FSM and MSF population numbers were estimated using percentages from both Chapter 8 and Chapter 3 of “The Social Organization of Sexuality” by Edward O. Laumann. Chapter 8 provides percentages of six various types of same-gender sexuality: 1) same gender partner since puberty, 2) same gender sex since puberty, 3) same gender attraction, 4) same gender sex appealing, 5) attraction or appeal, and 6) identify as homosexual/bisexual. The number of individuals who identify as homosexual/bisexual was calculated using the percentages from type 6 of same-gender sexuality (identify as homosexual/bisexual). The number of individuals who have had no sex within the past year was calculated using percentages provided in Chapter 3.

Once these two numbers were calculated, they were then subtracted from the total population to derive the FSM and MSF populations. The limitations of this process include the possibility of bisexual individuals being excluded from the FSM and MSF populations. Because this study did not collapse the age groups into the same that were needed for the prioritization process, an average percentage 10.1% was applied to all male age groups. This average was derived from the following percentages for men who have had no sex within the past year: 18-24 (14.7%), 25-29 (6.7%), 30-34 (9.7%), 35-39 (6.8%), 40-44 (6.7%), 45-49 (12.7%), 50-54 (7.8%), and 55-59 (15.7%). An identical process was used for all female age groups. The limitations of this process include the possibility that some age groups will be over-represented or under-represented.

***Female Injection Drug Users (F/IDU)***

***Male Injection Drug Users (M/IDU)***

The F/IDU and M/IDU population numbers were estimated using information from the article “The Estimated Prevalence and Incidence of HIV in 96 Large US Metropolitan Areas” by Scott D. Holmberg, MD, MPH, which was published in the American Journal of Public Health in May 1996. This article used detailed and rigorous methods to estimate the number of injection drug users in the Houston EMA at 65,200. The EMA population at the time was 3,551,775. The prevalence of IDUs in the Houston EMA was calculated at 1.84% (65,200/3,551,775). This percentage was applied equally across all age and race/ethnicity categories for the purpose of this prioritization process. The limitations of this process include the possibility that some age and race/ethnicity categories will be over-represented or under-represented.

#### **Step 4: Prioritize Behavioral Risk Groups (BRG's) by Number of New HIV Diagnoses**

BRGs were prioritized by the number of new HIV diagnoses, as seen in Table 3.

**Table 3: Number of New HIV Diagnoses, HIV Rates, Living HIV/AIDS Cases and Seroprevalence among BRGs**

<b>Behavioral Risk Group (BRG)</b>	<b>New HIV Diagnoses 2005</b>	<b>Rank (by number of new diagnoses)</b>
Men who Have Sex with Men (MSM)	404	1
Females who Have Sex with Men (FSM)	124	2
Men who Have Sex with Females (MSF)	94	3
Male Intravenous Drug Users (M/IDU)	28	4
Men who Have Sex with Men and Use Intravenous Drugs (MSM/IDU)	22	5
Female Intravenous Drug Users (F/IDU)	19	6

#### **Step 5: Determine Populations of Special Need**

The Prioritization Committee identified three (3) smaller populations at elevated risk for HIV infection. They are:

1. Transgendered Persons (TG)
2. Incarcerated
3. Recently Released from Incarceration

These groups were identified through discussions in the Community Planning Group (CPG). There is not a large amount of data to refer to for these populations because they are missed by the current data collection methods. The Transgender community was identified as a population of special need due, in part, to findings of the Transgender Needs Assessment that was performed in 2002.<sup>3</sup>

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<sup>3</sup> Risser J & Shelton A. (2002) Behavioral Assessment of the Transgender Population, Houston, Texas. Galveston, TX: University of Texas School of Public Health.

## Step 6: Develop Guidelines for Allocating Resources

Funding recommendations were based solely on the number of new HIV diagnoses within each BRG regardless of racial/ethnic and age characteristics. Departing from the previous methodology, no allocation tiers were defined. Instead, the percent of new diagnoses within each BRG was used to determine the recommended funding percentages, as seen in Table 4. It is important to note that 336 new HIV diagnoses were excluded from this analysis because they had no reported risk.

Also, as seen in Table 4, a minimum percentage of the funding within each BRG has been set aside to target both HIV-positive individuals and youth (ages 13 – 24). HIV-positive individuals, both of known and unknown serostatus, are a driving force of the HIV pandemic. The minimum percent targeting HIV-positive individuals was calculated by multiplying the seroprevalence of the BRG by three (3) or using a minimum of five percent, whichever was higher. The minimum percent targeting youth was determined by the percentage of new diagnoses within the BRG that were among youth. For example, there were 404 new HIV diagnoses among MSM in 2005. Of those, 77 were among youth equating to approximately 20% of new MSM HIV diagnoses in 2005.

**Table 4: Recommended Funding Allocations by BRG and Minimum Percent of BRG Allocation Targeting HIV Positive Individuals and Youth**

Behavioral Risk Group (BRG) <sup>1</sup>	Percent of New Diagnoses	Recommended Resource Allocation	Minimum % within BRG Targeting HIV+	Minimum % within BRG Targeting Youth (13-24)
1) MSM New diagnoses: 404	<b>58%</b> (404/691 <sup>2</sup> )	<b>48%</b> <sup>3</sup>	<b>13%</b>	<b>20%</b>
2) FSM New diagnoses: 124	<b>18%</b> (124/691 <sup>2</sup> )	<b>28%</b> <sup>3</sup>	<b>5%</b>	<b>25%</b>
3) MSF New diagnoses: 94	<b>14%</b> (94/691 <sup>2</sup> )	<b>14%</b>	<b>5%</b>	<b>6%</b>
4) M/IDU New diagnoses: 28	<b>4%</b> (28/691 <sup>2</sup> )	<b>4%</b>	<b>17%</b>	<b>No Recommended Minimum</b>
5) MSM/IDU New diagnoses: 22	<b>3%</b> (22/691 <sup>2</sup> )	<b>3%</b>	<b>15%</b>	<b>No Recommended Minimum</b>
6) F/IDU New diagnoses: 19	<b>3%</b> (19/691 <sup>2</sup> )	<b>3%</b>	<b>13%</b>	<b>No Recommended Minimum</b>
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>		

<sup>1</sup>For purposes of making funding decisions, BRG categories are mutually exclusive. Persons at risk for HIV should be counted in only one BRG category.

<sup>2</sup>336 cases with no reported risk were excluded from this analysis. Of the 336 cases with no reported risk, 209 (62%) were male and 127 (38%) were female. There were a total of 1,027 new HIV diagnoses in Houston in 2005.

<sup>3</sup>See Consideration 3 on page 10 for more information on this resource allocation recommendation.

**Table 5: Minimum Percent of All HIV Prevention Funds Targeting Populations of Special Need**

<b>Population of Special Need</b>	<b>Minimum % for HE/RR Activities</b>	<b>Minimum % for CTR Activities</b>
<b>1) Transgendered Persons (TG)</b>	<b>2%</b>	<b>2%</b>
<b>2) Incarcerated</b>	<b>1.5%</b>	<b>0%</b>
<b>3) Recently Released from Incarceration</b>	<b>1%</b>	<b>1%</b>

**STEP 7: Determine Subpopulations of Special Interest within Each BRG.**

Subpopulations, i.e. racial/ethnic and age characteristics, within each BRG were analyzed to determine if they met one or more of the following criteria:

- a) The subpopulation has a rate of new HIV diagnoses that is at least 1.5 times greater than that of the behavioral risk group as a whole.
- b) The subpopulation has an HIV seroprevalence of 2% or higher. This is approximately three times the known HIV seroprevalence in Houston, which is .80% (15,650/1,946,484).

Table 6 below illustrates this process. Column 1 lists the Behavioral Risk Group (BRG), the number of new HIV diagnoses for this BRG, the rate of new HIV diagnoses for this BRG, and the threshold rate for a subpopulation, which is 1.5 times the rate of the BRG. The subpopulations that are shaded met one or more of these criteria. For each subpopulation, the criterion that meets the threshold is in bold and red print. This information is intended to provide assistance in the design and targeting of interventions. In addition, trend analysis of new HIV diagnoses among each of the BRGs is provided below for additional assistance in the design and targeting of interventions.

**Table 6: Subpopulation Threshold Analysis for Intervention Planning and Targeting**

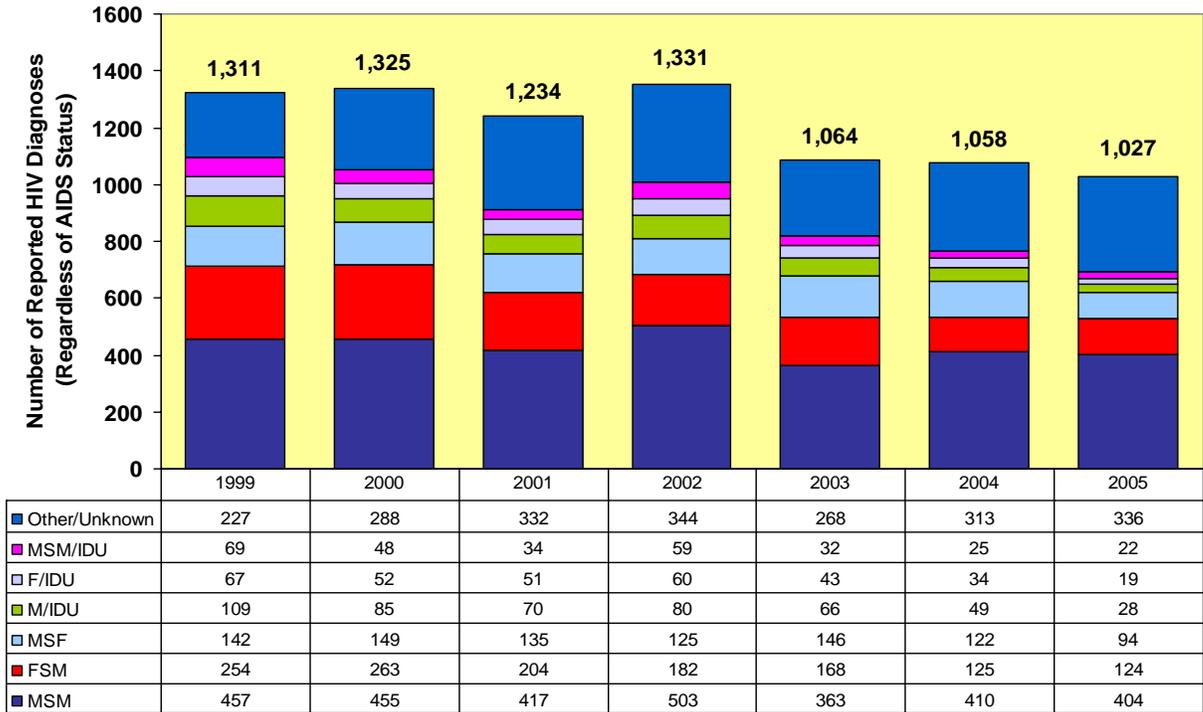
<b>BRG</b>	<b>Subpopulation</b>	<b>New HIV Diagnoses 2005</b>	<b>Rate (per 100,000 population)</b>	<b>Living HIV/AIDS Cases (as of 06/16/2006)</b>	<b>Seroprevalence</b>
<b>1) MSM</b> New diagnoses: 404 Rate: 264.90 Threshold rate: 397.35 Seroprevalence: 4.40%	<b>Hispanic</b>	142	435.32	1,551	5%
	<b>Black/Non-Hispanic</b>	135	878.08	1,981	13%
	<b>White/Non-Hispanic</b>	119	454.07	3,113	12%
	Ages 13-19	17	207.18	24	0%
	<b>Ages 20-24</b>	60	814.05	215	3%
	<b>Ages 25+</b>	327	597.78	6,475	12%
<b>2) FSM</b> New diagnoses: 124 Rate: 15.08 Threshold rate: 22.62 Seroprevalence: 0.29%	Hispanic	32	9.25	417	0%
	<b>Black/Non-Hispanic</b>	80	40.93	1,773	1%
	White/Non-Hispanic	7	2.91	194	0%
	Ages 13-19	7	9.58	22	0%
	<b>Ages 20-24</b>	23	33.73	156	0%
Ages 25+	94	17.84	2,225	0%	
<b>3) MSF</b> New diagnoses: 94 Rate: 12.02 Threshold rate: 18.06 Seroprevalence: 0.18%	Hispanic	36	9.43	345	0%
	<b>Black/Non-Hispanic</b>	52	30.00	925	1%
	White/Non-Hispanic	*	N/A	111	0%
	Ages 13-24 <sup>1</sup>	*	N/A	25	0%
	Ages 25+	88	16.93	1,372	0%
<b>4) M/IDU</b> New diagnoses: 28 Rate: 157.65 Threshold rate: 236.48 Seroprevalence: 5.61%	<b>Hispanic</b>	8	99.97	133	2%
	<b>Black/Non-Hispanic</b>	20	565.59	702	20%
	<b>White/Non-Hispanic</b>	*	N/A	154	3%
	Ages 13-24 <sup>1</sup>	*	N/A	14	0%
	<b>Ages 25+</b>	26	237.65	983	9%
<b>5) MSM/IDU</b> New diagnoses: 22 Rate: 123.87 Threshold rate: 185.81 Seroprevalence: 5.08%	Hispanic	*	N/A	126	2%
	<b>Black/Non-Hispanic</b>	9	254.52	408	12%
	<b>White/Non-Hispanic</b>	9	179.17	364	7%
	Ages 13-24 <sup>1</sup>	*	N/A	10	0%
	<b>Ages 25+</b>	21	191.95	893	8%
<b>6) F/IDU</b> New diagnoses: 19 Rate: 105.23 Threshold rate: 157.85 Seroprevalence: 4.46%	Hispanic	*	N/A	45	1%
	<b>Black/Non-Hispanic</b>	15	343.64	619	14%
	<b>White/Non-Hispanic</b>	*	N/A	139	3%
	<b>Ages 13-24<sup>1</sup></b>	*	N/A	17	1%
	<b>Ages 25+</b>	18	159.26	788	7%

<sup>1</sup>Cell sizes were too small to display the 13-19 and 20-24 age groups separately. The data were aggregated into one age group, 13-24.

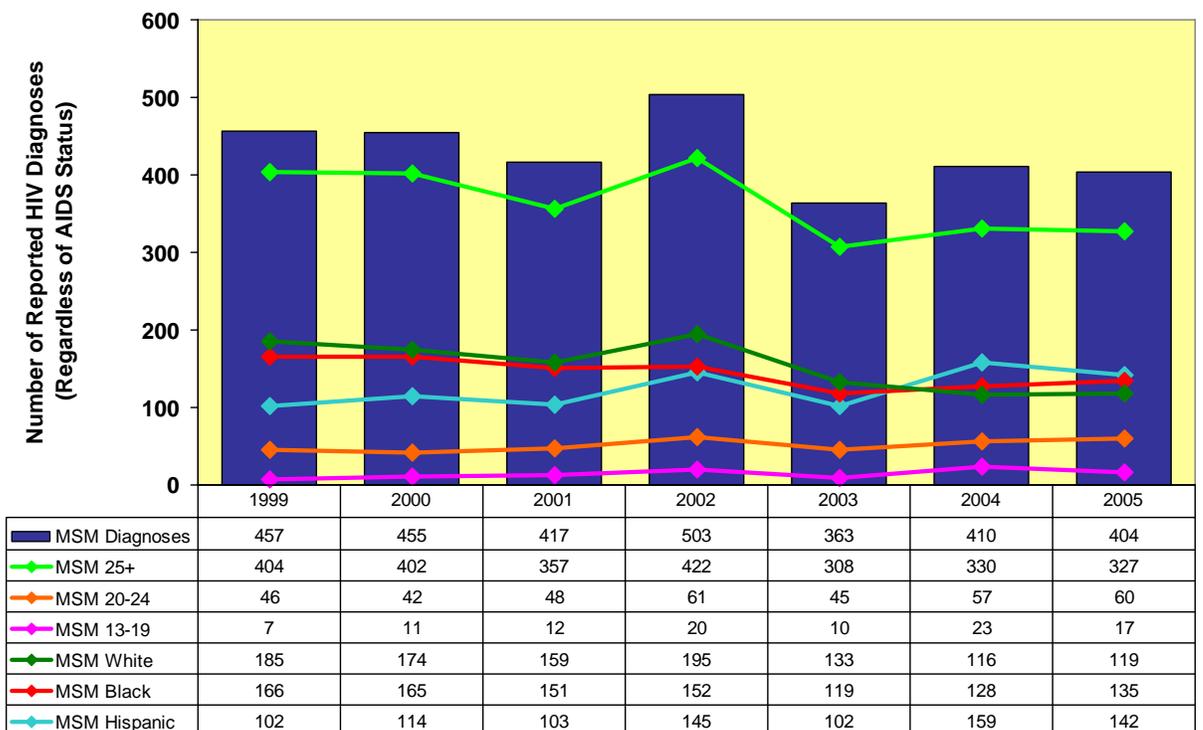
**Table 7: New HIV Diagnoses in 2005 with No Reported Risk**

<b>Race/Ethnicity</b>	<b>Male</b>		<b>Female</b>		<b>Total</b>	
Hispanic	52	24.9%	20	15.7%	72	21.4%
Black/Non-Hispanic	120	57.4%	98	77.2%	218	64.9%
White/Non-Hispanic	28	13.4%	6	4.7%	34	10.1%
Other/Unknown	9	4.3%	3	2.4%	12	3.6%
<b>Total (% of Total)</b>	<b>209</b>	<b>(62.2%)</b>	<b>127</b>	<b>(37.8%)</b>	<b>336</b>	<b>(100.0%)</b>

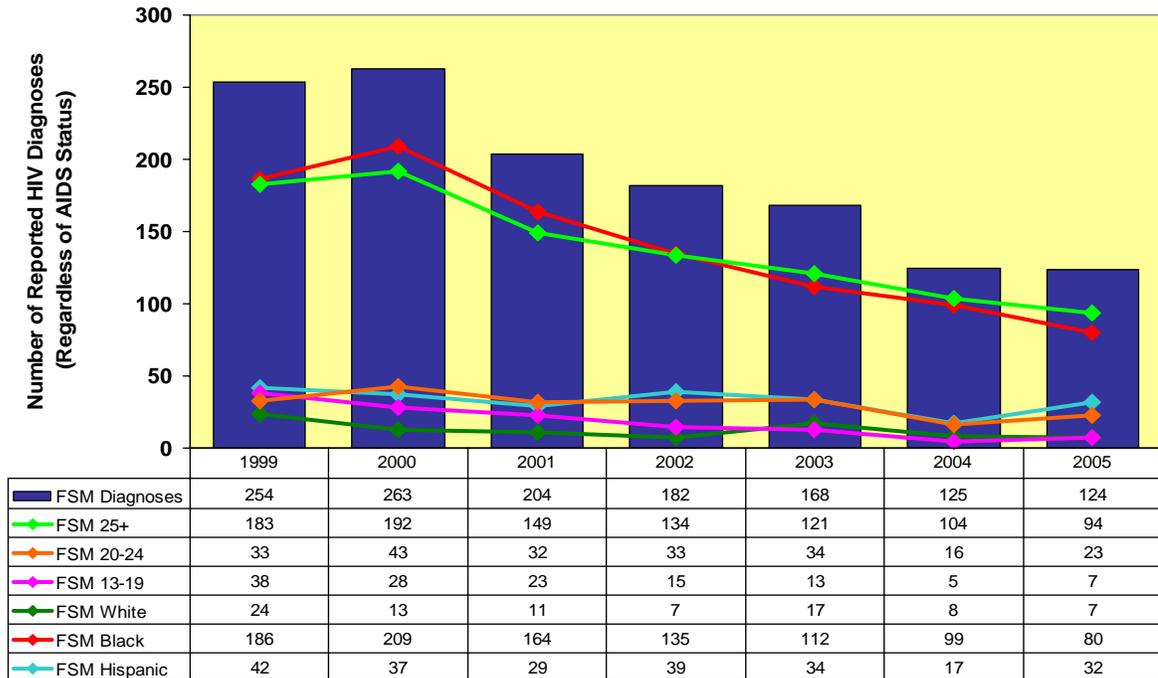
**Chart 1: Total HIV Cases Diagnosed (Regardless of AIDS Status) by Year of Diagnosis and BRG, Houston, Texas as of June 16, 2006**



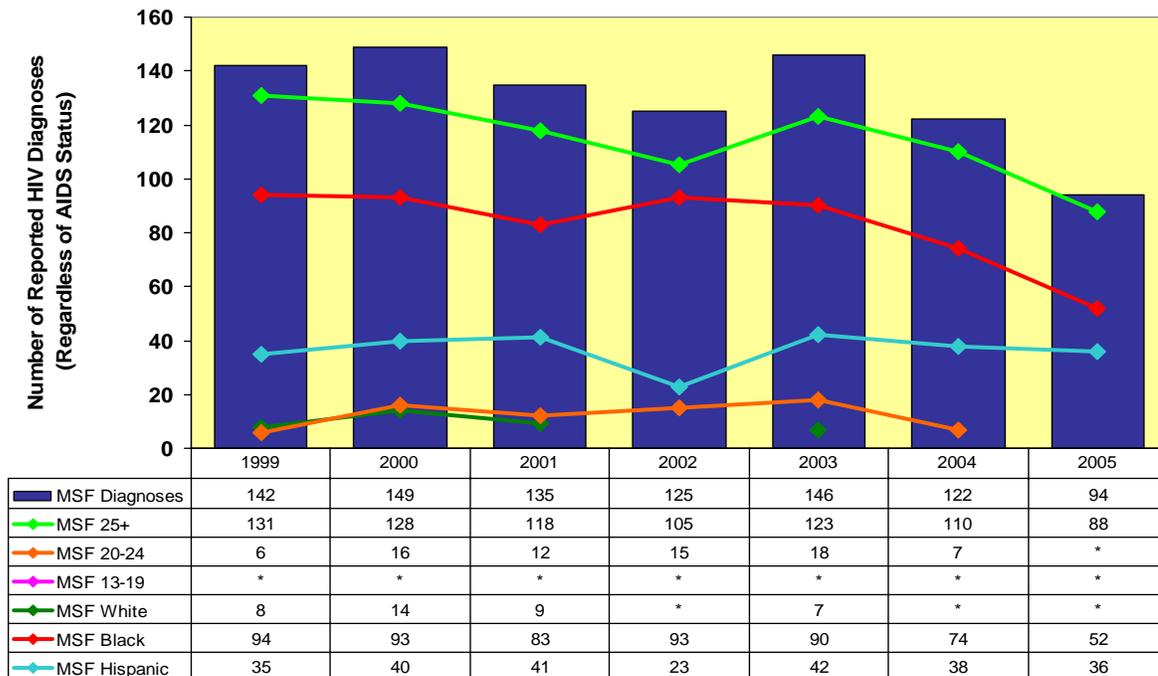
**Chart 2: HIV Cases Diagnosed (Regardless of AIDS Status) by Year of Diagnosis and Subpopulations – MSM BRG Only, Houston, Texas as of June 16, 2006**



**Chart 3: HIV Cases Diagnosed (Regardless of AIDS Status) by Year of Diagnosis and Subpopulations – FSM BRG Only, Houston, Texas as of June 16, 2006**

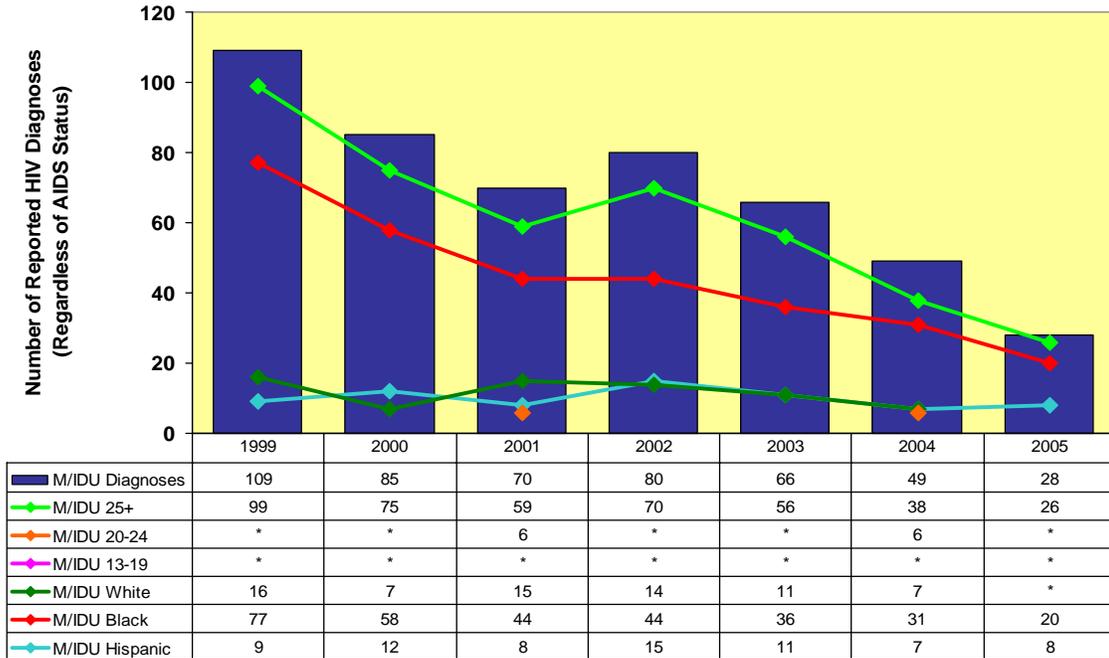


**Chart 4: HIV Cases Diagnosed (Regardless of AIDS Status) by Year of Diagnosis and Subpopulations – MSF BRG Only, Houston, Texas as of June 16, 2006**



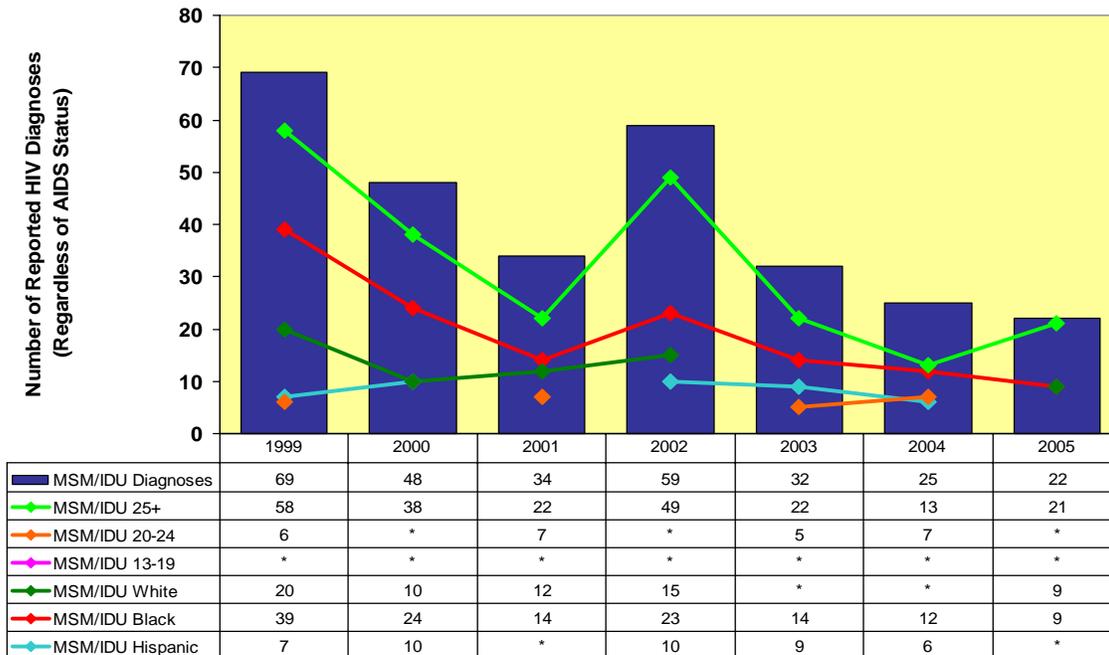
\*Cell size is less than five (5).

**Chart 5: HIV Cases Diagnosed (Regardless of AIDS Status) by Year of Diagnosis and Subpopulations – M/IDU BRG Only, Houston, Texas as of June 16, 2006**



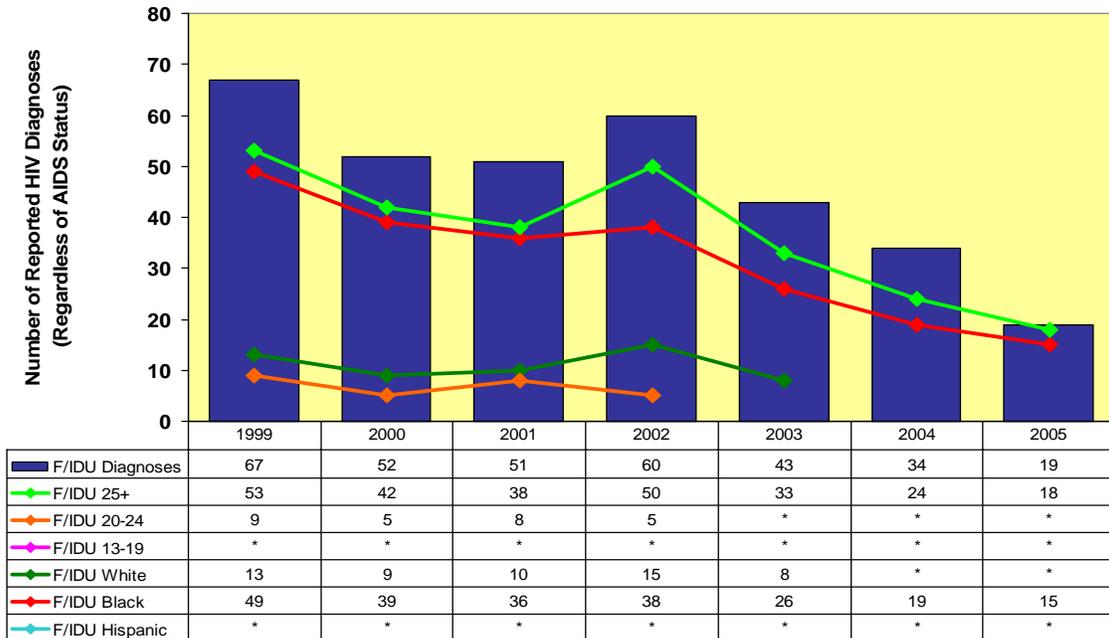
\*Cell size is less than five (5).

**Chart 6: HIV Cases Diagnosed (Regardless of AIDS Status) by Year of Diagnosis and Subpopulations – MSM/IDU BRG Only, Houston, Texas as of June 16, 2006**



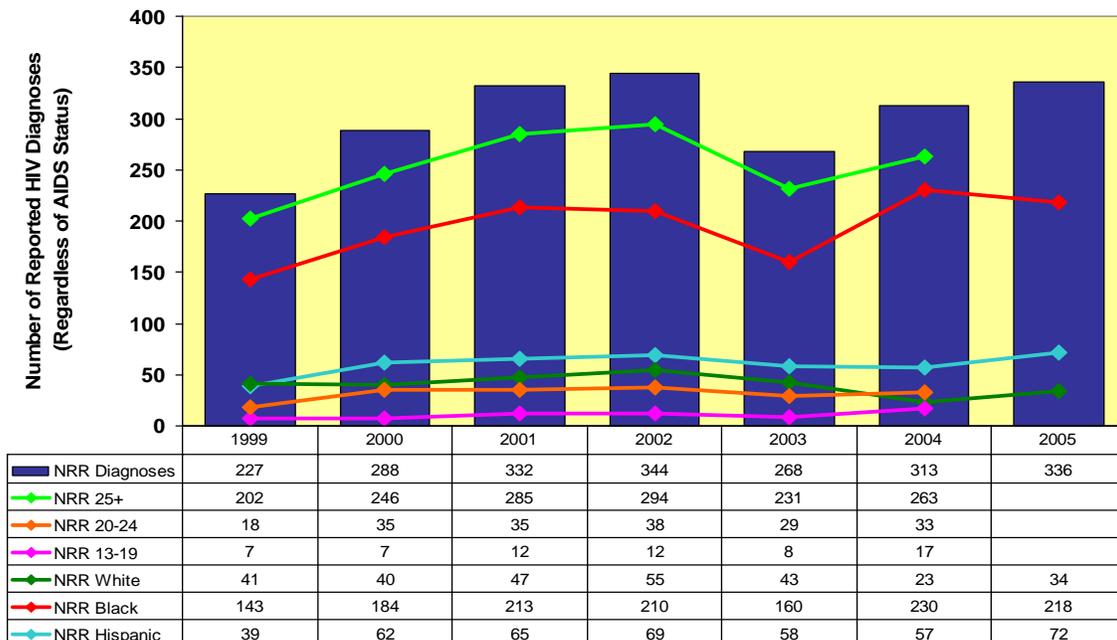
\*Cell size is less than five (5).

**Chart 7: HIV Cases Diagnosed (Regardless of AIDS Status) by Year of Diagnosis and Subpopulations – F/IDU BRG Only, Houston, Texas as of June 16, 2006**



\*Cell size is less than five (5).

**Chart 8: HIV Cases Diagnosed (Regardless of AIDS Status) by Year of Diagnosis and Subpopulations – No Reported Risk (NRR) Cases Only, Houston, Texas as of June 16, 2006**



## **STEP 8: Develop Considerations for Resource Allocation**

### **Consideration 1: Prevention for HIV-Positive Individuals**

HIV-positive individuals are a high priority in every behavioral risk group, in addition to high-risk HIV-negative individuals and those who do not know their serostatus. In order to bring about a reduction in new infections, it is of primary importance that programs reach HIV-positive individuals. Interventions for HIV-positive individuals (both those who know their serostatus and those who are unaware that they are positive) should be designed to address their risk behavior as well as meet their specific needs.

### **Consideration 2: Evidence of High-Risk Behavior**

The Prioritization Committee recommends that interventions be targeted to prioritized behavioral risk groups and subpopulations in accordance to the definition of persons at very high risk for HIV included in Program Announcement #04064 from the CDC. In summary, persons at very high risk for HIV are defined as someone who, within the past 6 months, has had 1) unprotected sex with a person who is living with HIV; 2) unprotected sex in exchange for money or drugs; 3) multiple (greater than 5) or anonymous unprotected sex or needle-sharing partners; or 4) has been diagnosed with a sexually transmitted disease.

### **Consideration 3: Female Partners of Men Who Have Sex with Men (MSM)**

During the CPG meeting on July 27, 2006, there was much discussion surrounding the need to provide more services to female partners of MSM. Anecdotally, the CPG believes that unidentified HIV infections exist within this population due to the lack of perception of HIV risk among FSM related to the unknown sexual behaviors of their male partners. It was decided to shift a portion (10%) of the MSM funding to specifically target those FSM who are partners of MSM and that this funding should be used exclusively for CTR activities.

# INTERVENTION PRIORITIZATION METHODOLOGY

## Background

In recent years, the CDC, researchers, behavioral scientists, and many others have conducted rigorous research to study and determine the effectiveness of a variety of HIV prevention interventions. Through extensive study, it has become increasingly clear that effective interventions are rooted in behavior change theory and have a strong evidence base. To foster the development of such interventions, the CDC encourages the adaptation and tailoring of evidence-based interventions. Several reference documents (e.g., CDC's Diffusion of Effective Behavioral Interventions) offer guidance to assist local health departments, community planning groups, and CBOs as they prioritize and develop effective interventions within their respective communities. To prioritize interventions, the Prioritization Committee (PC) modeled the process used in the 2004 - 2008 Los Angeles County HIV Prevention Plan<sup>4</sup> with some minor modifications.

## Behavioral Theories

There are numerous behavioral theories documented in the scientific literature, which can help inform the design of specific HIV prevention interventions. Some behavioral theories are based upon individual behavior modification approaches to behavior change and other theories address social networks and support systems, attempting to change behavior through influencing peer networks and community norms. The following list provides a brief description of selected behavioral theories, which are commonly referenced in the literature. Where possible, examples of HIV prevention interventions that use each behavioral theory as its foundation are included.

### **AIDS Risk Reduction Model**

To change behavior, the client must first identify and "label" the behavior as risky. Then the client must make a commitment to reduce the risky behavior and change his or her behavior. Factors influencing movement between these stages include fear/anxiety and social norms.

*Example of HIV Prevention Interventions Using the AIDS Risk Reduction Model:*

1. HIV Risk Reduction among African American Homosexual and Bisexual Men
2. Comprehensive Risk Counseling Services

### **Diffusion of Innovation or Social Diffusion Theory**

Diffusion of Innovation describes how new ideas or behaviors are introduced and become accepted by a community. People in the same community adopt new behaviors at different rates and respond to different methods of intervention. The primary components of this theory include:

1. The target population perceives the innovation as new;
2. Channels of communication exist to disseminate the innovation;
3. There is sufficient time or process for the innovation to reach the target population; and
4. A social network exists that connects members of the target population.

*Example of HIV Prevention Intervention Using Diffusion of Innovation:*

1. Popular Opinion Leader
2. Mpowerment

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<sup>4</sup> The Los Angeles County HIV Prevention Plan can be referenced at <http://www.lapublichealth.org/aids>

### **Empowerment Theory**

Empowerment Theory explains how groups of people change through a process of coming together to share experiences, understanding social influences, and collectively developing solutions to problems.

### **Harm Reduction**

Harm Reduction accepts that while harmful behaviors exist, the main goal is to reduce their negative effects. Harm Reduction examines behaviors and attitudes of the client to offer ways to decrease the negative consequences of the targeted behavior.

*Example of HIV Prevention Intervention Using Harm Reduction:*

1. Syringe Exchange Programs
2. Holistic Harm Reduction

### **Health Belief Model**

The Health Belief Model proposes that an individual's actions are based on four key beliefs:

1. People must believe they are personally susceptible to the disease to motivate behavior change ("perceived susceptibility");
2. An individual must perceive the serious nature of the illness ("perceived severity");
3. The person must believe that the behavior will have a benefit ("perceived efficacy"); and
4. The person must believe in his or her ability to overcome the barriers to the behavior.

*Example of HIV Prevention Interventions Using the Health Belief Model:*

Empowerment

### **Popular Education**

Popular Education supports the belief that teachers and students both have strengths and should learn reciprocally from each other. Group discussions examine problems and develop solutions to personally empower people to change their environment, thereby influencing their subsequent actions.

### **Social Cognitive Theory**

Social Cognitive Theory describes learning as a social process influenced by interactions with other people. In the Social Cognitive Theory, physical and social environments are influential in reinforcing and shaping the beliefs that determine behavior (reciprocal determinism). A change in any one of the theory's three components – behavior, physical, or social environments – will influence the remaining two. The concept of self-efficacy (i.e., the client's belief that he or she is capable of performing the new behavior in the proposed situation) is also an essential component of the theory.

*Examples of HIV Prevention Interventions Using the Social Cognitive Theory:*

1. Real AIDS Prevention Project (RAPP)
2. SISTA
3. Healthy Relationships

### **Theory of Reasoned Action**

In the Theory of Reasoned Action, a person's intention is the main influence on his or her behavior. Intention is defined as the combination of personal attitudes toward the behavior as well as the perceived opinions of peers, both heavily influenced by social norms.

*Examples of HIV Prevention Interventions Using the Theory of Reasoned Action:*

1. Community PROMISE

## 2. VOICES/VOCES

### **Transtheoretical Model or Stages of Change<sup>5</sup>**

The transtheoretical model, often called the stages-of-change model, describes the stages people go through when changing behaviors. The five stages described by the model are:

1. Precontemplation - when the person has no intention to adopt (and may not even be thinking about adopting) the recommended protective behavior;
2. Contemplation - when the person has formed either an immediate or long-term intention to adopt the behavior but has not, as yet, begun to practice that behavior;
3. Preparation - when there is a firm intention to change in the immediate future, accompanied by some attempt to change the behavior;
4. Action - when the behavior is being consistently performed but for less than 6 months; and
5. Maintenance - the period beginning 6 months after behavior change has occurred and during which the person continues to work to prevent relapse.

The stages-of-change perspective is important because it recognizes that people are at different stages of readiness when it comes to using condoms or making other changes. Individuals at different stages may be receptive to different types of intervention messages. Clearly, a different strategy is necessary when one is dealing with someone who has no intention of changing his or her behavior than when one is dealing with someone who intends to change but has not been able to act upon that intention. Similarly, someone who is trying to change but has not been able to consistently perform the protective behavior requires a different message or strategy than someone who is consistently performing the behavior. The stages-of-change model suggests that rather than viewing behavior as an “all or nothing” phenomenon, it is important to view behavior change in terms of a sequence of steps and that interventions should be tailored to the stage that an individual is in.

*Examples of HIV Prevention Intervention Using the Transtheoretical Model:*

1. Community PROMISE
2. Real AIDS Prevention Project (RAPP)
3. Comprehensive Risk Counseling Services (CRCS)

Another resource that describes behavioral science theories and their application to health programs is *Theory at a Glance, A Guide for Health Promotion Practice*, National Institutes of Health (NIH), September 1997 (NIH publication number 97-3896).

## **Designing Effective HIV Prevention Interventions**

Behavioral theory provides HIV program planners with a framework within which to develop the intervention, its activities, goals, and objectives. Behavioral theory can also help explain aspects of risk-taking behavior when working with a new target population. Thus, using behavioral theory to design HIV prevention interventions can improve the quality of programs, as well as save valuable time and resources. The behavioral theories discussed above represent a subset of possible theories, which HIV program developers can use to design interventions. The theories are not mutually exclusive and multiple theories can be used to guide effective programs. In its *Procedural Guidance for Selected Strategies and Interventions for Community Based*

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<sup>5</sup> Description of Transtheoretical model available at: <http://www.cdc.gov/hiv/projects/acdp/change.htm>.

*Organizations Funded Under Program Announcement 04064*, the CDC outlines and describes specific individual, group, and community-level interventions, which it has approved for adaptation, tailoring, and use with high-risk populations. These include Mpowerment, Safety Counts, Popular Opinion Leader, and Community PROMISE. These interventions have demonstrated a level of efficacy that the CDC deems appropriate for recommending to HIV prevention providers across the country.

### **Evidence Based Interventions**

In each of the evidence-based interventions discussed earlier, behavioral science plays an important role. However, when developing HIV prevention interventions, there may be other evidence, which a CBO may offer to demonstrate the effectiveness of a particular intervention. This might include evidence based on successful:

1. Evaluation of the same intervention that has not been published in the scientific literature;
2. Evaluation of a similar intervention that has not been published in the scientific literature; and
3. Experience of an intervention based on the CBO's informal theory or "practice wisdom."

Professional and community experience are critical sources of important, practical information. As local providers develop HIV prevention interventions to meet the needs of their targeted risk group(s), these multiple sources of information play a key role in the design, implementation, and evaluation of the intervention. Whatever evidence base drives the program design, behavioral theory is an essential ingredient to program success. The following narrative provides a brief description of the four different types of evidence, which may guide HIV prevention program design:

#### ***Evaluation of the Same Intervention***

With this type of evidence, the intervention being developed is identical to one that has already been evaluated and shown to be effective. Congruence must exist between the proposed intervention and the evaluated intervention with regard to the population served, intervention setting, and core elements of the intervention. For two interventions to be considered the same, the intervention must use the same content, format, and method of delivering the intervention, and to deliver the same number and length of intervention sessions.

*Example: A CBO designs a GLI for African American MSM who are in an urban setting. The intervention was previously conducted and evaluated in a different city, but with the same population. Core elements of the intervention will be replicated including using the same curriculum and materials, focusing on the same content, conducting the same number of group sessions, and utilizing peer educators who have been trained to deliver the intervention.*

#### ***Evaluation of a Similar Intervention***

With this type of evidence, the intervention being developed is similar, though not identical, to an intervention that has already been evaluated. Although modifying a previously evaluated intervention may compromise its effectiveness, it may be necessary if available resources cannot support full implementation of the evaluated intervention or if the intervention needs to be adapted to be culturally appropriate for a different population and setting. Generally, "evaluation of a similar intervention" means that there are differences between the proposed intervention and the previously evaluated intervention in one or more of the following areas: population served; intervention setting, content, and format; method of delivering the intervention; and the number and length of sessions. If differences are too significant between the proposed and the previously

evaluated intervention, the prior evaluation may no longer provide sufficient evidence to support the proposed intervention.

*Example: A CBO designs an ILI for rural heterosexual Latinas. A similar intervention with heterosexual African American women in a rural setting has been evaluated. The intervention plan explains how the risk assessment protocol and educational materials used in the evaluated intervention have been adapted to be culturally and linguistically appropriate for Latinas. The number and length of intervention sessions and the risk reduction skills addressed in each session remain the same.*

### **Theory from the Scientific Literature**

With this type of evidence, the intervention being developed is based on formal behavioral science theory, social science theory, or some other theory that is published in the scientific literature. The theory is divided into component parts (e.g., skills, self-efficacy) and corresponding intervention elements are then developed (e.g., activities to develop condom use skills and increase self-efficacy to use condoms). The intervention plan will explain how the theory is integrated into the content, format, and delivery of the intervention.

*Example: A CBO designs a comprehensive risk counseling services (CRCS) intervention based on the Stages of Change theory. The intervention plan summarizes the theory, explains how it will be used to assess client readiness for behavior change, and describes how counseling strategies will be targeted to the client's stage. The plan also includes an example of a risk assessment tool based on the Stages of Change theory.*

### **Informal Theory**

With this type of evidence, the intervention being developed is based on a theory that is not described in conventional theoretical language and is not published in the scientific literature. The distinction between an informal and formal theory is subtle. Informal theory usually describes a contractor's "practice wisdom" (i.e., knowledge that comes from working with or being a member of a population) and is explained in lay terms. For example, the concept of "self efficacy" from the behavioral science literature on Social Learning Theory may be stated as "confidence to use condoms" by someone not familiar with the formal language of behavioral science. Informal theory provides a logical explanation of why the population is at risk and then integrates this information into the content, format, and delivery of the intervention being designed to address that risk.

*Example: A provider describes an informal theory by stating that some people are at risk for HIV because they lack confidence in their ability to use condoms, because they don't know how to talk about condom use with their sex partners, and because there are not enough positive role models in the community promoting condom use. The intervention plan describes a peer-led, individual level counseling intervention focusing on condom use attitudes and skills, emphasizing the role of peer counselors as positive role models to promote the use of condoms.*

### **Replicating Effective Interventions<sup>67</sup>**

In order to develop more effective HIV prevention programs that will create sustained behavior change, help individuals at risk for HIV to access Counseling, Testing, and Referral (CTR), and prevent transmission of HIV from HIV-positive individuals, the CPG recommends that the

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<sup>6</sup>Information regarding the CDC's Replicating Effective Programs (REP) project at:

<http://www.cdc.gov/hiv/projects/rep/default.htm>.

<sup>7</sup>CDC's Provisional Procedural Guidance for Community Based Organizations at:

[http://www.cdc.gov/hiv/topics/prev\\_prog/AHP/resources/guidelines/pro\\_guidance.htm](http://www.cdc.gov/hiv/topics/prev_prog/AHP/resources/guidelines/pro_guidance.htm)

Houston Department of Health and Human Services (HDHHS) incorporate the CDC's guidance regarding the implementation of evidence-based interventions into all future programming (CDC, 2003 Program Guidance for Program Announcement 04064). Thus for CBOs that implement evidence-based interventions, or who propose to use locally implemented interventions that have been evaluated and shown to be effective, CBOs need to be able to describe the intervention's core elements, key characteristics, and procedures as defined by the CDC (2003).

1. Core Elements are critical features of an intervention's intent and design and are thought to be responsible for its effectiveness and cannot be ignored, added to, or changed.
2. Key Characteristics are crucial activities and delivery methods for conducting an intervention, which may be tailored for different agencies and at-risk populations. They can be adapted or tailored to meet the needs of the target population and ensure cultural appropriateness of the strategy.
3. Procedures describe the activities of the program and provide direction to agencies or organizations regarding its implementation.

Further, CBOs need to be able to describe the specific steps taken to adapt and tailor their intervention for the specified BRGs or target populations using the guidance provided by the CDC. The CDC definitions of adaptation and tailoring are:

1. Adaptation implies that the intervention is being delivered to a different population or in a different venue than the one in which efficacy was originally demonstrated. It involves changes in *who* receives the intervention and *where* it is delivered.
2. Tailoring is when an intervention or strategy is changed to deliver a new message (addressing condom use versus limiting the number of partners), at a new time (at a weekend retreat rather than over a series of weeks), or in a different manner (using verbal rather than written messages) than was originally described... It involves changes in *when* it is delivered, *what* is addressed, and *how* the message is conveyed.

In order to accomplish the work necessary to adapt or tailor interventions to best meet the needs of a given target population, the CPG encourages CBOs to access any available local resources for capacity building and technical assistance.

## **Types of Interventions**

There are a wide variety of interventions that span the HIV continuum of prevention activities and include: recruitment, individual level interventions (ILI), group level interventions (GLI), community level interventions (CLI), health communications/ public information (HC/PI), HIV counseling, testing and referral services (CTR), and comprehensive risk counseling services (CRCS). The following narrative provides a brief description of each of these types of interventions.

## Recruitment

Recruitment<sup>8</sup> is the means by which an organization brings members of a population into HIV prevention interventions, programs, and services. Populations recruited (target populations) can be persons living with HIV or persons whose HIV serostatus is negative or unknown and who are at high risk for HIV. Recruitment can take different forms (outreach, internal referrals, external referrals, etc.) depending on the target population and on the needs and abilities of the CBO doing the recruiting. The types of recruitment are discussed in detail below. Recruitment takes place where the target population congregates; this may or may not be where services are provided. Both places must ensure privacy and confidentiality for clients. Recruitment must link clients whose HIV serostatus is unknown to counseling, testing, and referral services and must link persons living with HIV to care and prevention services.

Core elements are those parts of an intervention that must be done and cannot be changed. They come from the behavioral theory upon which the intervention or strategy is based; they are thought to be responsible for the intervention's effectiveness. **Core elements are essential and cannot be ignored, added to, or changed.** Recruitment has the following 5 core elements:

- Use information from multiple sources to describe common characteristics of the target population.
- Develop and deliver health messages (to be delivered by an outreach worker or by a referral source) that are appropriate for the setting.
- Recruit for specific services (e.g., counseling, testing, and referral services; CRCS; other prevention interventions).
- Link persons living with HIV to care and prevention services.
- Track whether clients complete their referrals (to monitor the effectiveness of the referral strategy).

### *Recruitment by Outreach*

HIV/AIDS educational interventions are generally conducted by peer or paraprofessional educators either face-to-face or via the internet with high-risk individuals in neighborhoods or other areas where the agency's target population gathers. Examples of sites might include streets, bars, parks, bathhouses, shooting galleries, specific websites, etc. **The primary purpose of outreach is recruitment of individuals of behavioral risk groups into more intensive prevention and/or treatment services.** These interventions are conducted by program staff in person or via the internet with high-risk/hard-to-reach individuals. Condoms, bleach, safer sex kits (e.g., condoms/latex barriers with instructions, lubricants), promotional and educational materials and information may be distributed.

Key characteristics of outreach include:

- Go to places where potential clients congregate, and go at times when they are likely to be there.
- Conduct outreach in teams (for safety).

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<sup>8</sup>For more information regarding recruitment, please see:  
[http://www.cdc.gov/hiv/topics/prev\\_prog/ahp/resources/guidelines/print/pro\\_guidance.htm](http://www.cdc.gov/hiv/topics/prev_prog/ahp/resources/guidelines/print/pro_guidance.htm).

- Screen clients to determine their needs for specific prevention services such as counseling, testing, and referral services; comprehensive risk counseling services; or other prevention interventions.
- Develop and deliver tailored and appropriate messages (health promotion and prevention).
- Provide tailored and appropriate materials (describing programs and services for potential clients).
- Use peers as outreach workers, when possible.

Other aspects of outreach include that the outreach worker discusses the agencies or other HIV/AIDS programs and how the individual can benefit from these services. The outreach worker may also ask a few questions to assess risk behavior(s). If individuals are interested in the program, the outreach worker will collect the client's name, address, and phone number to set up an appointment for intake or a linked referral. A referral mechanism for measuring the use of referral services is required.

*Recruitment by Outreach Performance Indicator*

One program performance indicator guides the evaluation of outreach activities. It is:

The mean number of outreach encounters required to get one person to access any of the following services: HIV counseling, testing and referral services, sexually transmitted disease screening or testing services, individual-level intervention services, group-level intervention services, or comprehensive risk counseling services.

*Recruitment through Internal Referrals*

Often a CBO will refer clients to other services within the same organization. This strategy takes advantage of the client's existing trust in the organization. When a referral is made to another service within that organization, the client may be more likely to accept and access the services.

Key characteristics of Internal Referrals include:

- Develop criteria that will help providers of other services within the CBO know who or when to refer.
- Assess all clients to find out whether they would benefit from prevention services
- Deliver within the organization, and refer them as needed.
- Develop targeted and appropriate messages to be delivered by individual members of the CBO or by mass-messaging strategies (e.g., on posters hung throughout the organization).

*Recruitment through External Referrals*

Another source for recruitment is referrals from outside organizations. Because persons at risk for transmission or acquisition of HIV often have competing needs that make HIV prevention a lower priority, they may seek services other than HIV prevention. They can be referred from these other services to HIV prevention interventions. To reach clients in need of prevention services, it is important to obtain a commitment from other service providers to assess their clients for risk of transmitting or acquiring HIV and to make referrals as needed.

Key characteristics of External Referrals include:

- Establish linkages with those service providers that members of the target population are most likely to access, and provide them training related to prevention services.
- Develop formal agreements with appropriate service providers for ongoing screening and referrals to and from these providers.

- Give referral agents tailored and appropriate materials that advertise programs and services.
- Give potential clients tailored and appropriate materials that describe programs and services.

### **Individual-Level Interventions (ILI)**

Individual level interventions (ILI) consist of health education and risk-reduction counseling provided to one individual at a time and either face-to-face or via the Internet. Individual level interventions (ILI) assist clients in making plans for individual behavior change, provide ongoing appraisals of the client's own behavior, and include skills-building activities. These interventions also facilitate linkages to services in both clinic and community-based settings (e.g., substance abuse treatment settings, HIV counseling, testing and referral services) and are intended to support behaviors and practices that prevent transmission of HIV.

1. **Risk-reduction counseling** consists of one-on-one counseling sessions that focus on understanding human behavior (i.e., why people do what they do), identifying the personal factors that affect actions (e.g., self-efficacy, social situations, and cultural norms), increasing knowledge, skills building, and behavior change (e.g., safer sex practices, proper condom/latex barrier use and demonstration, needle cleaning techniques). Trained program personnel generally conduct counseling sessions.
2. **One-on-one internet risk-reduction counseling** consists of HIV risk reduction counseling activities conducted over the Internet. These activities often target gay, bisexual, and/or MSM and MSM/W populations. This type of intervention has a clear engagement and screening process in order to determine client eligibility (e.g., risk group, zip code, etc.) and ability to document participant demographics as well as ongoing participation.

An ILI is successful when it helps an individual to change behavior that puts one at risk for HIV infection or at risk for transmitting HIV. Thus, to measure success, ensuring and documenting that individuals complete the required number of sessions is an important component of ILIs. This can be very challenging with some target populations, particularly those who may be more transient in nature or who wish to remain hidden. Another measure of success is the ability of an ILI to get a person to access other needed services, particularly HIV counseling, testing, and referral services for those with unknown HIV serostatus and partner counseling and referral services for HIV-positive individuals.

In the strictest sense, both outreach and comprehensive risk counseling services could be considered ILIs.

However, although these interventions also target individuals, the CPG and HDHHS define these interventions separately as distinct components of the broader continuum of HIV prevention services in Harris County.

### ***ILI Program Performance Indicators***

There are two program performance indicators that guide the evaluation of ILI. These are:

1. Proportion of persons that completed the intended number of individual level intervention sessions.
2. Proportion of the intended number of the target population to be reached with the individual-level intervention that were actually reached.

## **Group-Level Interventions (GLI)**

As the name implies, group level interventions (GLIs) are health education risk-reduction counseling activities that shift the delivery of service from the individual to groups of varying size. GLIs may be peer or non-peer models, involving a wide range of skills-building, information, education, and support. In general, GLIs have multiple sessions and include a follow-up component. Like ILI, the purpose of GLI is to change to and sustain positive, health-promoting behaviors that reduce the risk of infection or transmission of HIV. Because of the importance of sustained behavior change, any group level intervention that lacks a skills component (e.g., “HIV 101” only workshops) is excluded from this category. They also seek to link participants to other needed services (e.g., HIV counseling, testing and referral services, comprehensive risk counseling services).

1. Group risk reduction counseling generally occurs in small group sessions that focus on behavior change activities (e.g., safer sex practices, proper condom/latex barrier use and demonstration, and needle cleaning techniques). Trained program staff conduct these sessions, which range from three to six sessions. Because behavior change occurs over time, sessions need to also occur over time.

Group risk reduction counseling sessions follow a close-ended group model as opposed to an open-ended model. Close-ended groups are structured, have a defined lifespan, and have set membership limits. The closed group allows for important continuity, which fosters trust among members as they get to know each other over time. With a closed group model, the CBO is able to establish client-specific outcome objectives that can be monitored over time (e.g., self-reported increased condom use with sexual partners at the end of four weeks of group attendance). Open-ended support group sessions that are less structured, informal, and are geared to risk reduction behavior maintenance are not conducive to this type of goal-setting. Closed end groups are usually finite and open-ended groups are usually ongoing.

2. Peer Health Education describes a role-model method of education in which trained, self-identified members of the target population provide HIV/AIDS education to their behavioral peers. Once Peer Health Educators are successfully trained (they are usually required to complete and pass an internal agency certification course), they have clearly defined roles and responsibilities. They do not replace the CBO’s professional health educators, but they can augment the intervention team and enhance intervention efforts. Peer Health Educator trainings cannot be a stand-alone intervention.

Individuals who become Peer Health Educators often feel empowered as they help persons in their communities and social networks adopt healthy behaviors. This work strengthens and supports their own behavior change efforts. Peer Health Educators often serve as community change agents as they are able to sustain intervention efforts in the community long after professional educators are gone.

Like ILIs, GLIs are successful when they help small group participants create and sustain positive behavior change over time. Thus, tracking participation and attendance is a core element of the intervention. Whether groups are peer-led or professionally-led, CBOs need to develop rigorous tracking mechanisms to document participation. Follow-up is also a core element to be able to assess longer-term change. However, this can be particularly challenging to CBOs when trying to entice participants to come back for follow-up sessions.

### *GLI Program Performance Indicators*

There are two program performance indicators that guide the evaluation of GLI. These are:

1. Proportion of persons that completed the intended number of group level intervention sessions.
2. Proportion of the intended number of the target population to be reached with the group level intervention who were actually reached.

### **Community-Level Interventions (CLI)**

Community-level interventions (CLIs) seek to reduce risk conditions and promote healthy behaviors in the broader community as a whole, rather than by intervening with individuals or small groups. CLIs attempt to alter social norms, policies, and the environment. CLIs include community mobilization efforts, social marketing campaigns, community-wide events, policy interventions, and structural interventions.

1. Community Mobilization - This is a process by which community citizens take an active role in defining, prioritizing, and addressing issues in their community. This process focuses on identifying and activating the skills and resources of residents and organizations while developing linkages and relationships within and beyond the community for the purpose of expanding the current scope and effectiveness of HIV/STD prevention.
2. Social Marketing Campaigns use modern marketing principles to affect knowledge, attitudes, behaviors, and beliefs regarding HIV/AIDS risk, associated behavior change and risk reduction, access to services, and treatment education. Social marketing is not simply advertising a service or hotline number but is action oriented. Social marketing activities should include a planning, development, and distribution phase.
3. Community Forums provide information to and elicit information from a community.
4. Health Fairs/Community Events include special events such as street fairs, job fairs, health fairs, World AIDS Day activities, and local celebrations in communities that deliver public information to large numbers of people.
5. Structural Interventions remove barriers and incorporate facilitators of an individual's HIV prevention behaviors. These barriers or facilitators include physical, social, cultural, organizational, community, economic, legal, or policy circumstances or actions that directly or indirectly affect an individual's ability to avoid exposure to HIV.

Structural interventions seek to modify the social, environmental, and political structures that influence the delivery of HIV prevention services. Structural interventions may impact legislation, technology, and health care standards, among others, to improve the delivery and/or effectiveness of HIV prevention efforts.

Structural interventions may include, but are not limited to: (1) integrating HIV/AIDS services into faith-based activities, (2) mandating HIV-antibody testing for specific offenders, (3) modifying a standard of care to include mandatory offering of HIV-antibody testing to pregnant women, (4) establishing standards and regulations for the operation of commercial sex venues, or (6) developing broad school-based support for HIV/AIDS among stakeholders.

Measuring the success of CLIs offers unique challenges as large-scale impact or change may not be evident for years. Thus, although long-term outcome-oriented evaluation is needed to measure the success of CLI, in the immediate-term, process measures lend themselves to CLI. CBOs may

be able to utilize more outcome-oriented measures for specific CLIs, such as structural interventions that produce concrete outcomes (e.g., legislative changes).

### **Health Communications/Public Information (HC/PI)**

Health communications/public information (HC/PI) efforts deliver HIV/AIDS prevention messages through one or more channels. Their purpose is to target specific audiences to build general support for safer behavior, personal risk-reduction efforts, and/or inform persons at risk for infection or transmission how to obtain specific services. HC/PI interventions do not include a skills building component.

Group Presentations are the most common form of HC/PI activity. These information only, “one-shot” education interventions (e.g., HIV 101 class) may target small or large groups. Group presentations differ from group risk reduction counseling in that group presentations lack a skills building component.

### **HIV Counseling, Testing and Referral Services (CTR) including Syphilis Elimination**

HIV counseling, testing and referral services constitute an individual-level intervention designed to inform persons of their HIV status. It is the voluntary process of client-centered, interactive information sharing in which an individual is made aware of the basic information about HIV/AIDS, an explanation of testing procedures and test results, an assessment of the individual’s risk for HIV transmission, a review of strategies to prevent HIV infection or transmission, a review and offering of partner counseling and referral services and the delivery of client-centered referrals.

Diagnostic testing is performing an HIV test based on the presence of clinical signs or symptoms.

Screening is performing an HIV test for all persons in a defined population.

Targeted testing is performing HIV screening on subgroups of persons at higher risk, generally defined on the basis of behavioral, clinical, or demographic characteristics.

Opt-out screening is performance of an HIV test after explaining the test and notifying the patient that the test will be done; consent is inferred unless the patient declines.

Informed consent is a process of communication between patient and provider through which an informed patient can participate in choosing whether to undergo HIV testing. It may include providing information about HIV and the implications of HIV test results.

HIV prevention counseling is an interactive process to assess risk, recognize specific behaviors that increase the risk for acquiring or transmitting HIV, and develop a plan to take specific steps that will reduce risks.

Over the past two years, the technology for HIV counseling, testing and referral services (CTR) have improved so that community-based providers (where available) now have a choice to offer individuals two different HIV testing technologies: Conventional CTR and Rapid Testing. Both Conventional CTR and Rapid Testing can be provided either confidentially or anonymously; however, Rapid Testing allows the individual being tested to receive his or her HIV test results within a half hour of being tested.

HIV counseling, testing and referral services (CTR) are a voluntary, client-centered interaction process through which an individual seeks to learn his or her HIV status. During this process, the individual receives basic HIV/AIDS information, an explanation of testing procedures and test results, a review of strategies to prevent HIV infection or transmission, information and offering of partner counseling and referral services, and the delivery of client-centered, linked referrals.

Referrals are made as appropriate to the needs of the individual whether that person is newly diagnosed HIV positive or HIV negative. The components of CTR, regardless of testing technology, are as follows:

### ***Components of CTR***

- 1) Risk Assessment is a standardized tool to determine if the client is in need of a high-level or low-level intervention.
- 2) Prevention Counseling (Initial) Session is a one-on-one, client-centered interactive process that assists and encourages the client to identify the specific behaviors that place him or her at risk for getting or passing on HIV/STD/HCV. The process of counseling also helps the client identify and commit to a specific step designed to reduce the risk for HIV transmission or acquisition and gives a chance to practice skills that go along with that step.
- 3) HIV Test must be a Food and Drug Administration-approved HIV-antibody test to determine the presence of HIV antibodies.
- 4) Disclosure Counseling (Follow-Up) Session occurs after the test results have been processed and returned. Within the context of a client-centered discussion, the CTR Risk Reduction Specialist (RRS) informs the client of his or her HIV-antibody test results. The CTR RRS integrates the test result in a meaningful discussion based on the individual's reported risk factors and consistent with his or her risk reduction efforts. This session reinforces the issues and topics discussed in a prevention counseling session. Also at this time, the CTR RRS provides the opportunity for partner elicitation and for clients to receive additional counseling, information, and linked referrals.
- 5) Post-Disclosure Counseling Session (Optional) occurs after the disclosure session and provides the opportunity for partner elicitation and for clients to receive additional counseling, information, and linked referrals.
- 6) Partner Elicitation occurs during the Disclosure Counseling (Follow-Up) Session and/or the Optional Post-Disclosure Counseling Session once an individual has tested positive for HIV. This is an interaction in which the names, locating information and identifying information of the HIV-positive client's sex partners and/or needle-sharing partners are elicited. Partner Elicitation should be followed by a discussion of the best method of partner notification: by health department or by contract referral with the client. See also: Partner Counseling and Referral Services below.
- 7) Utilizing Social Networks<sup>9</sup> (Optional) is a strategy for reaching and providing CTR to persons with undiagnosed HIV infection. Enlisting HIV-positive or high-risk HIV-negative persons (i.e., recruiters) to encourage people in their network (i.e., network associates) to be tested for HIV may provide an efficient and effective route to accessing individuals who are infected, or at very high risk for becoming infected, with HIV and linking them to services.
- 8) Linked Referrals direct individuals being tested for HIV to a specific service of immediate need as assessed and prioritized during his or her individual assessment (e.g., group-level HE/RR program, PCM, substance abuse treatment, medical care). The CTR counselor provides written information regarding the referral, which may include but not be limited to: date, client's name, agency referred to, reason for

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<sup>9</sup> For more information regarding Social Networks, go to:

<http://www.cdc.gov/hiv/resources/guidelines/snt/pdf/SocialNetworks.pdf>

referral, and the name of the individual making the referral. The distinguishing characteristic of a linked referral is that verification is obtained regarding the client's access to the referred service(s). **In the context of prevention counseling, referral does not include ongoing support or management of the referral.**

### ***CTR Interventions***

- 1) HIV screening has been recommended in traditional, health-care settings; however, it may be beneficial in non-traditional settings when targeted in high-prevalence venues and geographic areas. Targeted HIV Screening includes the following CTR components: 1) Risk Assessment, 2) HIV Test, 3) Disclosure Counseling Session, 4) Partner Elicitation, 5) Social Networks (Optional), and 6) Linked Referrals, which may include referral to Protocol-Based Counseling.
- 2) Protocol-Based Counseling (PBC)<sup>10</sup> is an individual-level intervention involving a pre-defined set of standards for multiple interventions delivered as a set and includes the following CTR components: 1) Risk Assessment, 2) Prevention Counseling (Initial) Session, 3) HIV test (Optional), 4) Disclosure Counseling (Follow-Up) Session, 5) Post-Disclosure Counseling Session (Optional), 6) Partner Elicitation, 7) Social Networks (Optional), and 8) Linked Referrals. Counseling, partner elicitation, and/or referral may be provided without testing.

### ***De-Linking Counseling and Testing***

In certain situations, it may be appropriate and beneficial to de-link HIV counseling from HIV testing, i.e. not require counseling prior to administering an HIV test. With this Request for Proposals (RFP), the HDHHS is making this distinction using the CTR interventions listed above: 1) Targeted HIV Screening and 2) Protocol-Based Counseling (PBC). Targeted HIV Screening can be done without a counseling session while PBC requires counseling and may or may not include an HIV test. Please refer to Table 8: CTR Matrix to determine the appropriateness of these interventions in conjunction with testing technologies and settings. Proposers should understand and clearly define the benefits to the target behavioral risk group (BRG) in relation to the proposed CTR intervention(s).

### ***HIV Testing Technologies***

- 1) Conventional HIV Testing requires a specimen (usually blood or oral fluid) to be collected from the client and sent to a laboratory for processing. A screening test for HIV antibodies (e.g. EIA, ELISA) must be performed. If HIV antibodies are detected with the screening test, a highly specific, confirmatory test (e.g. Western Blot, IFA) must be performed. Test results are then returned to the requesting provider within a two-week period of time.
- 2) Rapid HIV Testing requires a specimen (usually blood or oral fluid) to be collected from the client and processed within a short interval of time, approximately 10 – 60 minutes. Rapid HIV testing is only a screening test for HIV antibodies, and positive results are considered “presumptive” until confirmatory results can be obtained through a conventional HIV testing technology.

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<sup>10</sup> For more information regarding Protocol-Based Counseling in Texas, including Quality Assurance Standards, go to: <http://www.dshs.state.tx.us/hivstd/training/pctools.shtm>

### ***Settings for CTR Services***

#### **Traditional Settings include:**

- 1) Clinic-Based CTR services are offered in a clinic setting where clients may access other health services if needed.

#### **Non-Traditional Settings include:**

- 2) Community-Based CTR services are offered in community-based venues to effectively reach high-risk target populations. Examples of community-based venues include bars, clubs, commercial sex venues, etc.
- 3) Outreach CTR services are offered in outreach settings in high-prevalence geographic areas. Examples of outreach settings include parks, street corners, outdoor events, etc.
- 4) Mass Testing Day CTR services offered either in community-based venues or outreach settings in high-prevalence geographic areas usually in conjunction with a National day of recognition. These events typically require coordination among several different providers to offer a high volume of HIV tests on a given day.

### ***Rapid CTR in Houston***

Broad-scale implementation of rapid HIV testing at HDHHS-contracted agencies in Harris County using OraQuick® testing devices began in June 2005. These sites consist of clinic-based and community-based venues as well as outreach settings.

Since June 2005, community-based agencies have reported overwhelming community acceptance of rapid testing yet have failed to see a high rate of HIV infection. In 2005, HDHHS-funded contractors performed 12,383 OraQuick® HIV tests and identified 91 new positives for a positivity rate of 0.73%. In addition, a sharp decrease in syphilis testing by community-based agencies has been seen in direct relation to the implementation of rapid CTR. The HDHHS anticipates that all of the current rapid HIV testing providers will continue to implement this new testing technology into 2007 as part of either contracted CTR services or as part of the implementation of Rapid HIV testing through the national Advancing HIV Prevention demonstration project through CDC-direct funding to CBOs.

### ***CTR Program Performance Indicators***

There are three program performance indicators associated with HIV counseling, testing and referral, whether it is conventional testing or rapid testing. These indicators are:

1. Percent of newly identified, confirmed HIV-positive test results among all tests reported by CDC-funded HIV counseling, testing, and referral sites.
2. Percent of newly identified, confirmed HIV-positive test results returned to clients.
3. Percent of facilities reporting a prevalence of new HIV-positive tests equal to or greater than the jurisdiction's target as specified in the first indicator immediately above.

### ***Partner Counseling and Referral Services (PCRS)***

PCRS is a systematic approach to notifying sex and needle-sharing partners of HIV-infected persons of their possible exposure to HIV so they can learn their HIV status, avoid infection or, if infected, prevent HIV transmission to others. PCRS helps partners gain earlier access to individualized counseling, HIV testing, medical evaluation, treatment, and other prevention services. See also: Partner Elicitation above.

- 1) Partner Elicitation is the process of eliciting or obtaining names, locating information and identifying information of the client’s sex and/or needle-sharing partners as well as social networks of an HIV-positive individual. Due to the very sensitive nature of PCRS, CBO staff must be well trained in order to conduct partner elicitation. In Texas, this activity may be conducted by health department staff and/or CBO staff.
- 2) Partner Notification is the process of informing an HIV-positive individual’s sexual or needle sharing partner of his or her possible exposure to HIV. Partner notification is traditionally a function of the health department and, in Texas, may only be conducted by health department staff or through contract referral with the client.

**CTR Considerations**

***Matrix for Appropriate Use of CTR Interventions and HIV Testing Technologies***

Below is a matrix that outlines the appropriate settings to be utilized in conjunction with appropriate CTR interventions and HIV testing technologies. For example, appropriate settings for the use of Protocol-Based Counseling in conjunction with the conventional HIV testing technology include clinic-based and community-based settings only.

**Table 8: CTR Matrix**

CTR INTERVENTIONS	HIV TESTING TECHNOLOGIES	
	Conventional HIV Testing	Rapid HIV Testing
<b>Targeted HIV Screening</b>	Appropriate Settings Include: <ul style="list-style-type: none"> <li>• Clinic-Based</li> <li>• Community-Based</li> <li>• Outreach</li> <li>• Mass Testing Day</li> </ul>	Appropriate Settings Include: <ul style="list-style-type: none"> <li>• Community-Based</li> <li>• Outreach</li> <li>• Mass Testing Day</li> </ul>
<b>Protocol-Based Counseling</b>	Appropriate Settings Include: <ul style="list-style-type: none"> <li>• Clinic-Based</li> <li>• Community-Based</li> </ul>	Appropriate Settings Include: <ul style="list-style-type: none"> <li>• Clinic-Based</li> <li>• Community-Based</li> <li>• Outreach</li> </ul>

***Considerations for Non-Traditional Settings for CTR Services<sup>11</sup>***

- 1) Privacy and Confidentiality – Ensuring clients’ privacy and confidentiality during CTR is essential, but could present unique challenges in some non-traditional settings. Confidentiality can more easily be breached in settings where clients and providers can be seen or heard by others. Suggested strategies for maintaining privacy and confidentiality in non-traditional settings include the following:
  - a) Use privacy screens to create a separated area in a mobile van.
  - b) Use private offices or rooms at the location, preferably with locking doors.
  - c) Mark a specific room with a “do not disturb” or “occupied” sign.
  - d) Designate an area in the setting that provides physical privacy.
  - e) In parks and similar locations, seek areas with as much privacy as possible.
  - f) Provide counseling and testing services in the client’s home or other secure setting.
  - g) Have clients return to the setting to receive test results and counseling and referral.

<sup>11</sup> Information regarding the CDC’s Revised Guidelines for HIV Counseling, Testing, and Referral at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5019a1.htm>

- 2) Informed Consent – Staff members providing CTR services should be sensitive to barriers that can interfere with obtaining true informed consent, including alcohol and drug use, mental illness, and peer pressure in venues where persons congregate or socialize. Suggested strategies for obtaining informed consent in non-traditional settings include the following:
  - a) Use of a Sobriety Standard. *In conjunction with the HDHHS and community mental health providers, establish clear and easy guidelines and sobriety standards to help counselors determine when clients are not competent to provide consent. Although it is important to assess sobriety level, every person who has been drinking or using other substances should not be excluded from testing. Some persons will be active substance abusers who use substances on a daily basis; these persons are generally at high risk for infection and should not be excluded from testing if they are still capable of providing informed consent.*
  - b) Schedule an appointment to test at a later date/time.
  - c) Follow up at a later time with the client if contact information is available.
  - d) Read the informed consent form to the client.
  - e) Use verbal prompts to ensure that the client understands information in the informed consent form.
- 3) Counseling – Staff members working in community-based and other non-traditional settings should know and use risk-screening strategies to determine whether HIV prevention counseling should be recommended. Staff members should be trained in HIV prevention counseling or other approaches aimed at personal HIV risk reduction. When appropriate (e.g., among IDUs), information regarding other STDs and blood borne diseases should be incorporated into the counseling sessions.
- 4) Testing – The decision to offer HIV testing in non-traditional settings should be based on several factors, including availability of resources and feasibility of providing test results and follow-up. In some cases, referral to other providers is appropriate. The selection of a specific HIV test technology should be based on quality control and logistical issues (e.g., field conditions related to collection, transport, and storage of specimens; worker safety; and the likelihood that clients will receive HIV test results). Providers must understand the extent to which field conditions can affect specimens (e.g., extreme temperatures or time lapse from collection to processing). Test specimens should be collected, stored, and transported according to manufacturer instructions.
- 5) Provision of Test Results – Clear protocols for provision of test results and prevention counseling should be developed. The following strategies might be useful in ensuring the provision of results in non-traditional settings:
  - a) Provide a telephone number that clients can call to schedule an appointment to receive test results.
  - b) Make an appointment with the client at the time of testing to receive results.
  - c) Provide incentives (e.g., food certificates, hygiene kits, food).
  - d) Return to a site on a regularly scheduled basis.
  - e) Provide reminders when contact information is available.
- 6) Referral – Staff members working in community-based and outreach settings should be trained to implement and manage referrals. Providers should establish appropriate collaborative relationships for referrals. Arranging for PCRS staff members or case managers to be available to clients at the time test results are provided might help promote referral.

- 7) **Record Keeping** – Maintaining the confidentiality of client records is critical. Providers should develop written protocols for record keeping that address transport of client records to and from outreach venues. Strategies to maintain confidentiality of client records in non-traditional settings include the following:
- a) Return all client records to the office immediately after the CTR session.
  - b) Transport ALL client records in a locked briefcase or backpack. Store all records in a secured area (e.g., locked file drawers) in compliance with all HIPAA guidelines.
  - c) Provide option of anonymous counseling and testing as well as confidential counseling and testing.
  - d) Verify identity of client (e.g., match client signature with that provided for informed consent or check identification card) when providing test results.
  - e) Store paperwork in a lockbox while in outreach settings.
  - f) Password protect and encrypt electronically stored client records.

For anonymous HIV testing, procedures to ensure client anonymity (i.e., no indication of testing in the client's record and no recording of personal identifying information on laboratory requests) should be developed. Even when staff members providing CTR services know the client (including name and locating information) from other activities, the client's right to be tested anonymously should be protected.

- 8) **Staff Safety** – Providing services in outreach settings (e.g., bars, parks) might compromise staff safety, which must be considered in development of outreach protocols. Appropriate training and precautions (e.g., working in teams) should be developed in planning services in non-traditional settings.

#### ***Development of Non-Traditional CTR Settings***

The CPG recommends that the HDHHS work with community partners and Commercial Sex Venue (CSV) owners to support the delivery of rapid HIV testing in CSVs. Rapid HIV testing must be implemented in high prevalence geographic areas and/or high-risk populations, ensuring that resources and efforts are directed appropriately. The expansion of rapid HIV testing services into non-traditional CTR settings (including community-based venues and outreach settings) will be guided by the following steps:

- 1. Site identified as high volume, high prevalence setting
- 2. Site and/or community express interest in implementing Rapid HIV Testing
- 3. Resources are identified to support Rapid HIV Testing in new site
- 4. Site is inspected to ensure that requirements for providing Rapid HIV testing are in place and that the Quality Assurance plan can be met
- 5. The HDHHS provides implementation guidelines and technical assistance
- 6. Rapid HIV Testing staff is identified, trained and certified
- 7. Rapid HIV Testing services begin

### ***CTR Performance Indicators<sup>12</sup>***

There are three program performance indicators that guide the evaluation of CTR. These are:

1. Percent of newly identified, confirmed HIV-positive test results among all tests reported by CDC-funded HIV counseling, testing and referral sites.
2. Percent of newly identified, confirmed HIV-positive test results returned to clients.
3. Percent of facilities reporting a prevalence of new HIV-positive tests equal to or greater than the jurisdiction's target as specified in the first indicator immediately above.

### ***PCRS Performance Indicators***

There are three program performance indicators that guide the evaluation of PCRS. Although PCRS indicators apply to the health department regarding partner notification, they are included here as a reference as to why partner elicitation is important. These are:

1. Percent of contacts with unknown or negative serostatus who receive an HIV test after PCRS notification.
2. Percent of contacts with a newly identified, confirmed HIV-positive test among contacts who are tested.
3. Percent of all contacts with a known, confirmed HIV-positive test among all contacts.

### **Comprehensive Risk Counseling Services (CRCS)**

Comprehensive Risk Counseling Services (CRCS) are a client-centered HIV prevention activity with the fundamental goal of promoting the adoption of HIV risk-reduction behaviors by clients with multiple, complex problems and risk reduction needs. It is a hybrid of HIV risk-reduction counseling and traditional case management that provides intensive, ongoing, and individualized prevention counseling, support, and service brokerage. It excludes any one-on-one counseling that lacks ongoing and individualized prevention counseling, support, and service brokerage.

The core elements of CRCS require the assessment of HIV risk behaviors and other psychosocial and health service needs in order to provide risk reduction counseling and to assure psychosocial and medical referrals, such as housing, drug treatment, and other health and social services for HIV positive and high-risk negative persons. CRCS provides intensive, individualized support and prevention counseling to assist persons in remaining HIV-negative, or to reduce the risk of HIV transmission by those persons who are HIV-positive. CRCS should not duplicate services funded by psychosocial case management services (funded by the Ryan White CARE Act, Texas

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#### <sup>12</sup> ***New HDHHS Counseling, Testing and Referral Guidelines***

Full-time (1.0 FTE) certified HIV Risk Reduction Specialists must conduct a minimum of twenty-four (24) HIV counseling, testing and referral sessions per month. Furthermore, each site (testing site, not agency) conducting HIV counseling, testing and referral services is required to administer a minimum of 60 tests monthly, must realize an HIV-positivity rate of 1.00% or greater, and must serve a client population where a minimum of 85% of the clients are classified as being part of a behavioral risk group.

Department of State Health Services or other care-specific funding streams) that support case management for HIV-positive persons.

Comprehensive Risk Counseling Services must follow CDC guidelines and ensure that all characteristics and components are conducted (e.g., develop a client recruitment and engagement strategy, screen and assess clients for appropriateness for CRCS, develop a client-centered prevention plan, establish protocols to classify clients as “active”, “inactive”, or “discharged”). CRCS sessions technically begin once the client consents to the service and is successfully engaged. **Please note that recruitment and screening activities occur before the engagement process.** It is expected that a CRCS case manager will meet at least once with the client before the client is considered a true “CRCS client.” CRCS clients must complete a minimum of four (4) sessions. Agencies must hire CRCS case managers with the appropriate training and skills to complete the CRCS activities consistent with this intervention description.

#### ***Comprehensive Risk Counseling Services Indicators***

There are two program performance indicators that guide the evaluation of comprehensive risk counseling services. These indicators are:

1. Proportion of persons that completed the intended number of comprehensive risk counseling sessions.
2. Proportion of the intended number of the target population to be reached with comprehensive risk counseling services who were actually reached.

## Recommendations

The CPG developed the recommendations by referring to the CDC publication of Diffusion of Effective Behavioral Interventions, or DEBI's. The CPG recommends the following types of HIV prevention interventions and other critical services to reach Houston/Harris County's priority risk groups and improve the response to the HIV epidemic:

1. **Health Education Risk Reduction (HE/RR)**, including Individual-level interventions (ILI), group-level interventions (GLI), community-level interventions (CLI) and health communication/ public information (HC/PI) targeted to high-risk HIV-negative persons and HIV-positive persons.
2. **HIV Counseling, Testing and Referral Services (CTR)** including Syphilis Elimination.
3. **Comprehensive Risk Counseling Services (CRCS)** to promote the adoption and maintenance of HIV risk-reduction behaviors by clients with multiple, complex problems and risk-reduction needs.
4. **Social Marketing**, designed to alter HIV testing and risk-reduction behaviors, correct misperceptions and misinformation, and create a supportive environment for communication about what it means to be HIV-positive or HIV-negative.
5. **School-Based Prevention Programs** including the development and provision of an innovative HIV/ AIDS training program that increases broad school-based support for HIV/AIDS education among school administration, teachers and medical staff, school boards, parent-teacher organizations and parents for comprehensive HIV education and prevention activities for students.
6. **HIV Prevention Evaluation, Technical Assistance, and Capacity Building** to assist local HIV prevention providers in the development of evidence-based, behavior theory-based and behavioral risk group-specific interventions, to ensure collection of relevant program evaluation markers and to assist with program assessment and refinement efforts.
7. **Expanded Syringe Access** allows persons to purchase syringes at participating pharmacies without a prescription, to prevent transmission of blood-borne infections, including HIV and Hepatitis C Virus.
8. **Syringe Exchange**, which is currently illegal in the state of Texas, has been proven to be an effective intervention and is recommended by many professional organizations, including the American Medical Association (AMA) and the American Public Health Association (APHA). In the event that syringe exchange becomes legal in the state of Texas, it is a recommended intervention.

***Allocations by Type of Prevention Service***

The CPG recommends the following resource allocation model outlined in Table 8.

**TABLE 9: Recommended Resource Allocations by Type of Prevention Service**

<b>Service Description</b>	<b>Recommended % Allocation</b>
<b>1.0 Health Education/Risk Reduction (HE/RR)</b>	
1.1 HE/RR by BRG	45.00%
1.2 Corrections HE/RR	1.50%
sub-total	46.50%
<b>2.0 HIV Counseling, Testing and Referral Services</b>	
2.1 CTR by BRG in Traditional Settings	7.50%
2.2 CTR by BRG in Non-Traditional Settings	22.50%
2.3 Syphilis Elimination	4.00%
sub-total	34.00%
<b>3.0 Set Asides</b>	
3.1 Evaluation/Training	2.00%
3.2 Capacity Building/Technical Assistance	2.00%
3.3 School-Based	6.25%
sub-total	10.25%
<b>4.0 Other Special Initiatives</b>	
4.1 Social Marketing by BRG	9.25%
sub-total	9.25%
<b>TOTAL</b>	<b>100%</b>