

Chapter 4

What Works in HIV Prevention?

Identifying HIV prevention strategies and interventions for
Connecticut's
most-at-risk populations



Literature Review What Works in HIV Prevention?

The Centers for Disease Control and Prevention (CDC) expects HIV prevention community planning to improve HIV prevention programs by strengthening the: (1) scientific basis, (2) community relevance, and (3) population-or risk-based focus of HIV prevention interventions in each project area. According to the Goals, Objectives and Guiding Principles of the new CDC Guidance (2003), community planning should:

- Identify priority HIV prevention needs (a set of priority target populations and interventions for each identified target population) in each jurisdiction,
- Identify prevention interventions/activities for prioritized target populations, which have the potential to prevent the greatest number of new infections
- Ensure that prevention activities/interventions for identified priority target populations are based on behavioral and social science, outcome effectiveness, and/or have been adequately tested with intended target populations for cultural appropriateness, relevance and acceptability.

The new CDC Guidance further indicates that rather than prioritizing interventions for priority target populations as in previous priority setting processes, CPGs should instead “conceptualize interventions/activities as a set or mix of interventions/activities versus one specific intervention/activity for each target population.” However, all selected prevention interventions/activities must still be science-based, proven effective, and culturally/ethnically appropriate.

In 2003, the CDC issued evaluation guidelines to which all states receiving federal funding must comply. This is required in order to measure the effect of HIV prevention intervention as well as to collect uniform data across all states and jurisdictions in the United States. The CDC recommends that federal funding support priority populations and interventions as determined and identified by the respective CPG in its comprehensive plan. Currently Connecticut’s comprehensive plan for 2005-2008 supports a broad range of interventions targeted to priority populations. The majority of the interventions meet the CDC’s HIV Prevention Research Project criteria for relevance and methodological rigor (e.g. interventions must aim to reduce sex-or drug-related risk behaviors or incidence rates of HIV or other STD and must directly impact the transmission of HIV). Others, although not included in the CDC’s *Compendium of HIV Prevention Interventions*, are research-based and have an identified positive and significant behavior/health component. The *CDC Compendium of HIV Prevention Interventions with Evidence of Effectiveness* (revised August 31, 2001) defines three broad categories of interventions:¹

- **Behavioral interventions** aim to change risk behaviors or reduce incidence rates of HIV or other sexually transmitted diseases (STDs). These interventions tend to emphasize individual and small group approaches, e.g. counseling, small group discussions, and skills demonstrations.
- **Social interventions** aim to change risk behaviors or decrease incidence rates of HIV or other STDs and also include explicit and direct attempts to change peer or community norms related to HIV risk. These interventions, while using individual or small group approaches, emphasize peer influence and community-level approaches. This category also includes any interventions aimed at changing environmental factors or structures related to HIV risk.

¹ Centers for Disease Control and Prevention, HIV/AIDS Prevention Research Synthesis Project. *Compendium of HIV Prevention Interventions with Evidence of Effectiveness*. Atlanta, GA, November 1999, Revised August 31, 2001.

- **Policy** studies aim to change risk behaviors or decrease incidence rates of HIV or STDs as a function of administrative or legal decisions, e.g. condom availability in public settings, HIV education in schools.

In the 2001 planning cycle, Dr. Deborah Cornman, CPG member and Behavioral Scientist with the Center for HIV Intervention and Prevention (CHIP) at the University of Connecticut, conducted an extensive literature review to research interventions that had been proven effective based on the CDC criteria for populations prioritized by the CPG. The list of Interventions defined in the 2002-2004 Connecticut HIV Prevention Plan, was based on her work plus extensive additional research, which included the following:

- AED's *Setting HIV Prevention Priorities Manual*
- CDC's Evaluation Guidance
- CDC's *Compendium of HIV Prevention Interventions* (1999)
- CDC's *Replicating Effective Programs Plus* (REP+)

In reviewing additional literature for effective interventions, Dr. Cornman utilized CDC's criteria for assessing intervention effectiveness. According to the CDC, for an intervention to be termed "effective" it must meet certain criteria:

- Have a clearly defined audience
- Have clearly defined goals and objectives
- Be based on sound behavioral and social science theory
- Be focused on reducing specific risk behaviors
- Be evaluated with pre- and post- intervention data.

Dr. Cornman's extensive and comprehensive review of the literature for effective HIV prevention interventions resulted in the prioritization of interventions for Connecticut's CPG identified target populations for the 2002-2004 Connecticut HIV Prevention Plan.

In 2002, Dr. Cornman and the Interventions and Resource Committee (IRC), reviewed the 2001 research findings, Chapter 4 of the Comprehensive Plan, the prioritized populations and interventions, and identified significant literature gaps for three of the populations – youth, individuals living with HIV, and men of color who have sex with men. Two populations, youth and HIV positive individuals, were chosen for expanded research, which resulted in 19 additional interventions being identified for these populations. Although the expanded criteria was much less rigorous than that of the CDC, the IRC committee felt that local prevention service providers could improve program development, implementation, and delivery by being exposed to a greater number of interventions.

For the 2005-2008 Comprehensive HIV Prevention Plan, the Community Services Assessment (CSA) Committee decided to utilize both the intervention research and literature review conducted in 2001 and 2002 with particular intervention recommendations focused on prevention for positives. (**See *Interventions section of Chapter 5: Connecticut's Priorities for 2005-2008***).

This chapter will provide the reader with insight into Connecticut's research findings on prevention strategies and interventions. Included is background information on scientific theories used as the foundation for many of the proven effective HIV prevention interventions, descriptions of nationally recognized intervention levels and practical examples, as well as updated findings from the CPG's literature review, including effective or evaluated prevention interventions (although limited) for HIV positives, IDUs, MSM and Heterosexual tables. Effective interventions for populations identified by the CPG in 2001 – incarcerated population and people

over 50 – are also included. (See Comparison of CPG/DPH interventions and CDC Interventions in Appendix C).

Scientific Theory

Sound scientific theory for HIV prevention interventions takes the form of behavioral science theory. Behavioral sciences comprise a broad field of studies including psychology, sociology and anthropology among others. These sciences examine human activities in an attempt to discover patterns and to formulate rules about social behavior (CPLT Manual 2000).² More simply stated, behavioral science seeks to understand why people behave as they do. Since many health problems are linked to human behavior, behavioral theory can be used to understand how to prevent health problems, such as HIV.

Many theories seek to explain how and why individuals and/or the societies in which they live modify behaviors to improve their health status. Behavioral theories are useful for HIV prevention because they can serve as road maps for designing effective interventions. Suppose for example that prevention service providers acknowledge an individual or population’s need for a specific behavior change. They can then examine behavioral theories that take into account the characteristics of the population and the intended behavior change, and choose a theory selected on which to base the intervention. The selected theory is comprised of many elements such as a description of what individuals, groups or communities may need to make a behavior change more easily and the barriers that they may encounter along the way. Just as road maps are designed to assist travelers in getting the most from a trip by providing a visual aid of a journey’s infrastructure, behavioral theories present the framework for effective intervention design. Examples of relevant behavioral social science theories are described in the following tables.

<u>COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR</u>		
Description of theory	Things to consider when using this theory	Example of the theory is used in practice
1. Health Belief Model (HBM)		
HBM- (<i>Rosenstock, 1974; Maiman & Becker, 1974</i>) The HBM is the most commonly used model to predict and explain individual health behaviors. Applying a cost-benefit perspective to explain preventive health behaviors, the HBM is based upon the idea that health behavior is a function of an individuals perception and interaction of (1) threat (susceptibility and severity of illness); (2) perceived benefits (preventive benefits weighed against perceived barriers to behavioral change); and, (3) cue to action in the form of internal (e.g. physical symptoms) or external	HBM- This theory is limited in a number of ways. It does not address the influence of culture, class, economics, environment, and life experience in shaping health behaviors. It fails to consider the role of both habit and social network influence in health behavior decisions. It also does not provide recommendations for ways to persuade persons to change their behaviors. Finally, it does not examine the interaction between multiple risk factors (i.e. sex and drugs) and its impact on HIV risk and precautionary behavior. An important component of the HBM is that the	HBM- A Hepatitis C prevention program for active IDUs based in HBM would demonstrate the dangers and ease of Hep C transmission to IDUs, and highlight the ease of practicing safer needle using behaviors.

² National Minority AIDS Council, Community Planning Leadership & Orientation Training Manual, 2000.

<u>COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR</u>		
Description of theory	Things to consider when using this theory	Example of the theory is used in practice
(e.g. social experience) stimuli.	individual must feel the need to change (perceived susceptibility and severity) and believe that change will be advantageous and that they are competent to make that change. With respect to adoption of needle-use risk-reduction behavior, at least three studies of injection drug users found that avoidance of AIDS (an indirect measure of susceptibility) was a significant factor in influencing behavior change.	
2. Social Learning Theory (SLT)		
SLT- (<i>Bandura, 1977, 1986</i>) The SLT assumes that behavior and environment are reciprocal systems that interact continuously and is based upon the concept of <i>reciprocal determinism</i> : interaction among a person, his or her behavior, and the environment in which the behavior takes place. Self-efficacy is an important mediating factor between beliefs and behavioral change. Self-efficacy encompasses an individual's reasons, knowledge, resources, social supports, and skills. According to the SLT, risk-reduction campaigns should be directed to peer networks (e.g. racial, ethnic, and socio-economic segments of the population) and their existing social networks of organizations, schools, workplaces and religious groups. Enhancing communication skills is also an important goal.	SLT- Self-efficacy is behavior-specific and does not necessarily extend to all health behavior situations. Therefore, factors such as previous observations and reinforcement experience, coupled with perceptions of the environment may impact positively or negatively on one's self-efficacy. Studies using the SLT have shown that social norms, peer pressure, and communication have been found to be successful in delaying adolescent's sexual activity and in adoption of condom use. Low self-efficacy has been associated with engaging in unprotected intercourse.	SLT- A pregnancy prevention program for youth based in social learning theory would direct pregnancy prevention messages to peer networks at risk of having an unwanted pregnancy, targeting these groups in their natural gathering places, encouraging communication among the group members about the risks, and building skills among the group members to reduce their risk.
3. Theory of Reasoned Action (TRA)		
TRA- (<i>Fishbein & Ajzen, 1975</i>) The TRA helps to explain how people make decisions. Its underlying premise is that humans are rational thinkers and systematically process and weigh the results of their health actions before they take one. It is essential to identify the individual's attitudes and/or community's normative system that is maintaining a behavior. Changing a behavior is viewed as changing the underlying cognitive structure,	TRA- One limitation to TRA is it assumes people systematically think about behavior (as part of a rational decision-making model). This may not be applicable to emotionally based impulsive behaviors such as sex and drugs. The TRA has been used to prove that male partner resistance or reluctance to use birth control is a significant determinant of a woman's nonuse of oral contraception. The TRA has been used in studies that demonstrate	TRA- A weight loss program based in TRA would focus on giving overweight individuals information on the importance and benefits of increased exercise and healthy food choices – seeking to demonstrate the reasons that they should take these steps for a healthier life.

<u>COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR</u>		
Description of theory	Things to consider when using this theory	Example of the theory is used in practice
an essential part of the risk-reduction process.	that female African-Americans who had more favorable attitudes towards condoms, perceived subjective norms more supportive of condom use, and who had firmer intentions to use condoms reported using condoms more consistently compared with other female adolescents.	
4. Information-Motivation-Behavioral Skills Model		
IMB- (Fisher & Fisher, 1992, 2000). The information-motivation-behavioral skills model argues that HIV prevention Information, Motivation, and Behavioral Skills are critical factors in HIV preventive behavior. According to the model, HIV risk behavior is generally caused by deficits (or weaknesses) in an individual's level of HIV prevention information, motivation, and behavioral skills. In order to increase preventive behavior, these deficits must be identified and addressed. The model asserts that specific informational, motivational, and skills factors will vary as a function of culture, class, economics, environment, and life circumstances, and for that reason, interventions need to be population specific. Further, the critical factors required for prevention will vary depending on the particular HIV preventive behavior.	IMB- The IMB model has received support with diverse populations and an array of different HIV preventive behaviors. It offers a set of procedures to use to identify population specific deficits in critical factors necessary for HIV prevention, and for designing and evaluating interventions. Research with the model has been inconsistent in documenting the role of information, likely because at this point in the HIV epidemic, most people have most of the critical information about HIV prevention and transmission. Earlier in the epidemic information was an important factor in prevention, and it may be in the future (e.g., if and when an effective vaccine is found).	IMB- An adolescent drunk driving prevention program based on the IMB model would seek to effect change by giving at risk teens information on the risks of drinking and driving, providing them with the motivation (perhaps threat of loss of license) to avoid that behavior, and giving them the skills (negotiating with parents a safe ride program if they choose to drink) to avoid the behavior.
5. Protection Motivation Theory (PMT)		
PMT- (Rogers, 1975) The PMT initially addressed the effects of fear on attitude change through use of persuasive messages. Fear arousal is no longer thought to be essential for behavior change. The focus is now on the cognitive process. PMT was modified to incorporate the concepts of self-efficacy from the SLT, and perceived barriers and costs from the HBM. The PMT integrates the cognitive,	5. PMT- Adding social norms and behavioral history to the model improved the prediction of AIDS-related behavior for both heterosexuals and homosexuals.	PMT- PMT has been used to show the differences in cognitive mediating processes between persons engaging in adaptive (condom use or restraint from high-risk sexual behavior) and maladaptive (unprotected sex) HIV risk-related behaviors.

<u>COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR</u>		
Description of theory	Things to consider when using this theory	Example of the theory is used in practice
behavioral, and social processes that underlie the gradual adoption of HIV risk-reduction. Protection motivation is measured by behavioral intentions to adopt the communicator's suggestions.		

COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR		
Description of Theory	Things to consider when using this theory	Example of the theory is used in practice
6. Behavioral Relapse Prevention Theory (BRP)		
BRP- (<i>Marlatt & Gordon, 1985</i>) The BRP theory focuses on the maintenance stage of the behavioral change process. Therefore, it specifically focuses on persons who have already identified their high-risk behavior and have taken steps to make changes. Behavior coping skills training and reasoning techniques are the foundation of interventions geared to changing patterns of sexual expression and drug use. Problem-solving exercises, role-playing, and buddy-systems are just some examples of the techniques used with the BRP theory.	BRP- With the BRP theory, after relapse, decreased perception of risk is an important factor in continuing the relapse behavior. Therefore, a BRP intervention needs to focus on maintaining or increasing perceptions of risk.	BRP- Alcoholics anonymous seeks to utilize the BRP model. By providing sponsors, group support, and having individuals share strategies, struggles, and model coping behaviors, it includes all the key components of the model.

Stage Models and Theories

7. Transtheoretical or Stages of Change Model™		
TM- (<i>Prochaska & DiClemente, 1983, 1986</i>) The TM is based on the assumption that individuals pass through stages in considering health-related behavior change and that determinants of each of these stages differ. The TM is three-dimensional in that it addresses (1) stages (when changes occur); (2) processes (how individuals make changes); (3) levels of behavioral change (what people change) from initial adaptation to maintenance. The five stages of change that are not necessarily linear or exclusive include: Pre-contemplation, Contemplation, Preparation, Action, and Maintenance. The TMs focus is interpersonal and therefore fails	TM- The TM is focused on interpersonal behavioral change and fails to consider structural influences on behavior. Also, the TM fails to consider the mediating role of social norms, social networks, the media, community and organizational participation, gender roles, culture, and power, in bringing about changes in sexual and drug-related behavior. Often referred to as "meeting people where they are," TM seeks to only ask individuals to make changes that they are ready for.	TM- Training for a marathon must be undertaken using the stages of change model and would begin by considering running, be followed by actually looking into running and to training, and then by actually beginning the training process. While training you may consider quitting, have to go back to thinking about why you wanted to run in the first place, and then recover from missed days of training again. If you were trying to recruit others to run with you, then you would design your message to fit what they were thinking about marathons when you approached them. You would approach a marathon enthusiast

to consider the structural influences on behavior. It is often this theoretical construct that is used in addiction recovery programs.		differently than a couch potato.
COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR		
Description of Theory	Things to consider when using this theory	Example of the theory used in practice
8. AIDS Risk-Reduction Model (ARRM)		
ARRM- (<i>Catania et al., 1990</i>) The ARRM identifies behavior change as a multi-step process with different psychological and social determinants for each stage. According to the ARRM, the three stages in behavior change are: <i>Labeling</i> of high-risk behavior (becoming knowledgeable about HIV transmission and HIV risk behaviors), <i>Commitment</i> to changing high-risk behaviors, and <i>Enactment</i> of risk-reduction behavior. Movement from one stage to the next is predicated on achieving the goals of the prior stage. Emotions, alcohol and drug use, and environmental clues impact behavior motivation over time.	ARRM- The ARRM is applicable to diverse populations such as gay men, bisexuals, heterosexuals, teens, and communities of color. Originally designed to predict sexual risk reduction, the AARM can be modified to predict drug-related risk reduction.	AARM- A program seeking to decrease cholesterol intake modeled on the ARRM would first seek to teach participants that taking in cholesterol is a risky behavior. Then it would seek to get participants to commit to eating foods lower in fat and cholesterol. Finally it would seek to help people take the steps (cooking lower fat foods) to actually undertake the new diet.
9. Modified AIDS Risk-Reduction Model (M-ARRM)		
M-AARM- (<i>Ehrhardt et al., 1992</i>) The M-ARRM is based on the belief that there are different determinants for each stage of behavior change because of the complexity of sexual risk behavior. The first stage is <i>Susceptibility</i> and is a modification of the labeling stage in the ARRM. Second is the <i>Prioritizing</i> stage where prevention is seen within the context of competing life issues. Third is the <i>Intention</i> stage, a modification of the ARRMs Commitment stage. Next is the <i>Enactment</i> stage, which takes into account sexual negotiation, sexual behavior, sexual functioning, and self-efficacy. Last is the <i>Maintenance</i> stage, which addresses long-term behavior change. There are different determinants for each stage of behavior change because of the complexity of sexual risk behavior.	M-AARM- This model is HIV/AIDS specific and therefore has a much more focused approach in terms of initiation, application, and maintenance.	M-AARM- If the cholesterol intake reduction program above used the modified ARRM it would change the first step into two steps: realizing that continued intake of high fat foods has serious health implications and then prioritizing reducing the fat intake to avoid those implications. Moreover once the individual committed to change, a step would be added to help participants maintain the lower risk behavior.

COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR		
Description of Theory	Things to consider when using this theory	Example of the theory used in practice
Organizational Models and Theories		
10. Diffusion of Innovation Model (DIM)		
<p>DIM- (Rogers, 1983) <i>The DIM is based upon a process of communicating (via opinion leaders) new ideas (changes in social norms) through channels among members of a particular social system or within society over a period of time. There are four main elements to the DIM: 1) Innovation that is considered a new idea; 2) Communication channels that facilitate the diffusing of a message; 3) Time or process; and 4) a social structure. Diffusion is based on social patterns rather than on geographic ones.</i></p>	<p>DIM- <i>A drawback to the DIM is that disparity of access to diffusion of innovation is based on socioeconomic status, education level, and community integration. Those who have access to numerous media channels and community opinion leaders are in the best position to reap the advantages of diffusion of innovation.</i></p>	<p>DIM- <i>DIM was used to explain the role of popular opinion leaders in communicating the desirability of HIV risk reduction to gay men. The intervention consisted of identified leaders in gay social settings being trained in HIV prevention education, and in turn imparting this information to men who visited the social settings (e.g. bars and social clubs). Participants in the intervention city reported a significant decrease in unprotected anal intercourse and a decrease in multiple sex partners compared with cities where the intervention was withheld.</i></p>
11. Social Action Theory (SAT)		
<p>SAT- (Ewart, 1991, 1995) SAT applies theory to practice as it guides program design. It provides the program planner with a task analysis of the specific steps that must be taken to make change happen. The SAT model guides the intervention planner through a three-step process: 1) define desired health protective habits as “action steps”; 2) identify and alter relevant personal and interpersonal habits to achieve those action steps; 3) alter actual personal social environment to promote and sustain self and interpersonal changes. The SAT identifies the macro-social and environmental conditions that empower or constrain adoption of preventive health behavior. Several researchers are currently using the SAT as a framework for HIV preventive interventions.</p>	<p>SAT- This theory is useful and important because it provides a conceptual framework for examining the cognitive processes, social transactions, and environmental contexts and moderators that promote or impede HIV risk reduction.</p>	<p>SAT- Weight Watchers is a weight management program modeled on SAT. It seeks to take the overall goal of losing weight and break it down into manageable pieces, which include: controlling calorie intake, increasing whole grain foods (which break down slowly and make you feel full longer), and increasing physical activity. The program also seeks to help participants identify emotional triggers that cause them to make unhealthy food choices or to skip exercising and to substitute those reactions with healthier choices.</p>

COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR		
Description of Theory	Things to consider when using this theory	Example of the theory used in practice
12. Organizational Stage Theory (OST)		
<p>OST- (<i>Kaluzny & Hernandez, 1988</i>) According to the OST, when applied to community organizations, theories can provide a framework for understanding how their social systems function, the interrelationships among various interest groups and subsets of culture, and how they can be mobilized to promote community-wide HIV prevention. Like the Transtheoretical Model, the OST outlines the following four important organizational stages of change: 1) Problem identification; 2) Identification of alternatives and their solutions and development of those alternatives along with the allocation of resources for change; 3) Implementation of change; and 4) Institutionalization of change.</p>	<p>OST- Similar to the stages that individuals pass through in the Transtheoretical model, organizations also go through sequential stages of change. A drawback to the OST stems from its social-psychological orientation and does not address the various sources of shared power and authority in an organization or community for specific issues, the value orientations of influential persons and groups, the environment within an organization or community, and the constraints and sources of resistance to change.</p>	<p>OST- This theory can be adapted to understand the ecology of HIV-affected communities based on a specific geographic area or target population, such as homeless women, injection drug users, gay men, and sex workers.</p>
13. Organizational Development Theory (ODT)		
<p>ODT- (<i>Tichy & Beckhard, 1982; Brown & Covey, 1987</i>) The ODT addresses the limitations of the OST. It seeks to identify problems that are barriers to the organizations healthy functioning, rather than to initiate specific behaviors. Intervention is directed towards changing organizational processes and structures and worker's behavior and roles so as to improve organizational effectiveness. Quality-of-life issues and human relationships are the targets of the problem diagnosis, action planning, intervention, and evaluation stages. Other organizational issues that are taken into account include environmental factors, cultural values, ideologies and social norms effecting organizational change.</p>	<p>ODT- Both OST and ODT can guide the development of specific intervention strategies tailored to a community's stage of readiness and can identify appropriate community leaders, health care providers, and groups that would be most likely to promote community-wide HIV behavioral change.</p>	<p>ODT- Programs seeking to reduce underage smoking often rely on ODT – as they seek to make it more difficult for teenagers to purchase tobacco products. The “We Card” program – now visible at many retailers who sell tobacco products is one example of this theory in action.</p>

COGNITIVE THEORIES AND MODELS OF HEALTH-RELATED BEHAVIOR		
Description of Theory	Things to consider when using this theory	Example of the theory used in practice
14. Precede-Proceed Model (PPM)		
<p>PPM -- (<i>Green & Kreuter, 1991</i>) The PPM is a comprehensive planning model that provides a framework for assessing a community's needs. There are nine phases of action: (1) Social Diagnosis (subjective problems and priorities of an individual or community are addressed); (2) Epidemiological Diagnosis (the health of the individual or community is evaluated); (3) Behavioral and Environmental Diagnosis (e.g. risk factors); (4) Educational and Organizational Diagnosis (predisposing, enabling, and reinforcing factors that facilitate or hinder motivation for change and maintenance); (5) Administrative and Policy Diagnosis (of service providers and organizations and their link to the community); (6) Implementation; (7) Process Evaluation; (8) Impact Evaluation; and (9) Outcome Evaluation (long-term changes).</p>	<p>PPM – This model is all encompassing in that it identifies factors that contribute to health problems that must be changed to initiate and sustain the process of behavior and environmental change, analyzes policies and resources that can facilitate or hinder development of health promotion programs, and identifies strategies for implementation and evaluation of interventions. Also, the two pieces of the model, Precede and Proceed, can be used together or separately, as each piece is a comprehensive model in itself.</p>	<p>PPM has been used to develop objectives to decrease the incidence of new HIV infections among women enrolled in a drug treatment program. Intervention objectives were to discuss alternative stress-reduction techniques, identify sources of peer and social support for continued drug-free behavior, and to inform women about perinatal HIV transmission. These objectives were translated into intervention activities that included support groups and peer educator training among other activities. Three indicators of intervention impact were identified: use of condoms, cessation of drug use, and, for women who continued to inject drugs, sterilization of needles or participation in a needle-exchange program.</p>

Chart created by Sefa Martinez, Marta Moret and Kristin duBay Horton for the HIV Evaluation Bank Training – **Designing Effective Interventions: Using Science and Experience**, November 2001. Primary source for above chart: Mantell, Joanne E., DiVittis, Anthony T., Auerbach, Marilyn I., *Evaluating HIV Prevention Interventions*, Plenum Press, New York, 1997

SUMMARY SHEET

The following intervention summary sheet lists interventions proven to work with Connecticut's priority populations. A number of the interventions that the Connecticut CPG and the DPH utilize are not included in the CDC Evaluation Guidance – i.e. counseling and testing, drug treatment advocacy, and methadone maintenance. (Note: SEP= Syringe Exchange Program)

Interventions that have been proven to work by population.		IDU	MSM	Heterosexual	Youth	Mother to Child	HIV+
Individual Level Interventions (ILI)	Counseling and Testing	X	X	X	X	X	X
	Individual Drug/Alcohol Counseling	X					
	Methadone Maintenance	X					
	Peer Counseling		X				
	Couples Counseling						X
	Motivational Interviewing						
	Intervention by Physicians					X	
Group Level Interventions (GLI)	Peer and Non-peer Multiple Session Workshops	X	X	X	X		X
	Support Groups						
Outreach	Peer and Non-Peer		X	X			
PCM	Prevention Case Management						
PCRS	Partner Counseling and Referral Services						
Health Comm/ Public Info (HC/PI)	Broadcast Media						
	Hotlines						
	Single Session Workshops		X	X	X		
	Clearinghouses						
	Print and Other Media						
Community Level Interventions (CLI)	Community Mobilizations		X	X	X		
	Social Marketing Campaigns		X	X	X		
	Single Session Workshop						
	Community Wide Events		X	X	X		
	Policy Interventions		X	X	X		
	Structural Interventions	X (SEP)	X	X	X		

*SEP - Syringe Exchange Program

In addition to the above list of interventions, other interventions also exist, which do not fit exactly into the previous matrix because of the location at which services are delivered. These include:

- **School-based clinic for HIV testing and prevention:** general health clinics within the school campus that deal with a variety of health issues including HIV
- **Programs in prisons:** individual or group level interventions, which occur in prisons including prevention education classes.
- **Religious support:** usually comprised of religious leaders and congregations who deliver HIV education and prevention messages and provide emotional support and motivation, consistent with religious doctrine, to assist individuals in behavior change (e.g. The Balm in Gilead's Black Church Week of Prayer for the Healing of HIV/AIDS).
- **Capacity Building interventions:** do not necessarily seek to reduce HIV risk, but rather support organizations and individuals who provide HIV risk reduction services. These efforts include linkage of community-based organizations (CBOs) and AIDS-service organizations (ASOs) and can involve the use of experts to provide technical assistance (TA) in such areas as training and hiring, planning and evaluation capacity, fiscal development and administration.

Effective interventions for Connecticut's targeted populations as identified by the Connecticut CPG in the 2005-2008 are included in **Appendix D**. The tables reflect CDC interventions from the 1999 Compendium of HIV Prevention Interventions with Evidence of Effectiveness (updated, 2001) as well as those, which are non-Compendium, but research-based interventions.

Effective Interventions: Findings from CDC Compendium & Connecticut CPG's Literature Review

Key to Cognitive Models & Theories

HBM: Health Belief Model

IMB: Information, Motivation, Behavioral Skills Model

TRA: Theory of Reasoned Action Model

TM: Transtheoretical or Stages of Change Model

ARRM: AIDS Risk Reduction Model

SLT: Social Learning Theory

PMT: Protection Motivation Theory

BRP: Behavioral Relapse Prevention Theory

Chapter 2 Summary and Lessons Learned

The following table summarizes the intervention Levels and Types demonstrated as effective in the review of behavioral science literature. These effective interventions are grouped by population.

Figure 4-3 Summary: Interventions Demonstrated as Effective in Literature Review –by Population

Population	Intervention Level	Intervention Type
Injection Drug Users (IDU)	Community Level Intervention	Syringe Exchange Program
		Outreach
		Methadone Maintenance
		Social Marketing
	Group Level Intervention	Multiple Session Workshop
<i>Heterosexuals</i>	Individual Level Intervention	Counseling and Testing
		Single Session Workshop
		PCM
		Motivational Interviewing
		One on One Peer Counseling
	Group Level Intervention	Single Session Workshop
		Multiple Session Workshop
	Community Level Intervention	Media Campaign
		Outreach
		Single Session Workshop
		Community Mobilization
		Social Marketing
Men who have sex with men (MSM)	Individual Level Intervention	Counseling and Testing
	Group Level Intervention	Single Session Workshop
		Multiple Session Workshop
	Community Level Intervention	Social Marketing
		Natural Opinion Leader
<i>Youth</i>	Group Level Intervention	Single Session Workshop
		Multiple Session Workshop
	Community Level Intervention	Social Marketing
	ILI	One on One peer counseling
		Counseling and Testing
	CLI	Capacity Building
<i>HIV-Positive</i>	ILI	Couples Counseling
	ILI	Case Management
	ILI	Peer/Non-Peer Counseling
	GLI	Multiple Session workshops and Support Groups
Incarcerated Population	ILI	Counseling and Testing
		PCM
	Group	Single session workshop
		Multiple Session Workshop
<i>Adults over 50</i>	GLI	Structural Intervention
		Multiple Session Group

Literature Review Bibliography

The following literature review is reflective of the research and review conducted by Dr. Deborah Cornman for Connecticut's 2002-2004 Comprehensive HIV Prevention Plan. It has been updated to reflect additional research on prevention for HIV-positive individuals.

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