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African American Prevention Intervention Network

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Science in HIV Prevention

While prevention science will not give "the answer," science fills in critical pieces of the prevention puzzle. Science used in conjunction with an agency's experience with clients can strengthen, inspire, target, and best use limited resources in HIV prevention programs. This fact sheet will cover some of the basic elements of prevention science, what they mean, and their implications for service.

Using science in prevention is now mandated in many areas. In 1994, the Centers for Disease Control and Prevention (CDC) radically changed how it makes prevention program awards. The CDC's guidance recommends that HIV Prevention Community Planning Groups (CPGs) use epidemiology, evaluation and behavioral science theories, findings, and methodologies in developing programs.

Science that is applicable to HIV prevention can be broken down into five general categories:

- epidemiology,
- basic behavioral science,
- behavior change theory,
- intervention science, and
- evaluation methodology.

Five General Categories of Science in HIV Prevention

Epidemiology is the study of the occurrence of infections or disease in a population. It can tell you how many people are newly infected with HIV, what subpopulations have been infected, and who might be expected to be infected by HIV in the future. Behavioral epidemiology can tell you about the frequency of risk behaviors. Using local epidemiology can help program planners target specific audiences and behavior risks that are most in need of prevention in their community. It can also help planners be more thoughtful about how to best use limited resources. Health departments and the CDC can help by collecting local data for all populations.

Basic Behavioral Science explores the social, behavioral and cultural influences that help explain why people put themselves at risk, and why people continue to get infected with HIV. Research on human sexuality is key to understanding how people change risky sexual behaviors and can help in program design. It does not tell service providers what to do, but can suggest new ways of thinking about program elements.

For example, recent research has shown that childhood sexual abuse is a predictor for risky sexual behavior in adulthood. Knowing this, program managers can incorporate questions on early abuse into needs assessments, add a segment on childhood abuse to multi-session education interventions, develop new programs for adults who were abused and/or give special training to direct service staff on sexual abuse issues.

Behavior Change Theory provides a framework to ideas on why and how people change behaviors that put them at risk for HIV infection. Using behavior change theories can help when crafting an intervention, to support each component in a model as the intervention is designed.

For example, Paulo Freire's theory of Popular Education states that teachers and students should learn from one another. Using this theory, a program can use discussion groups as opposed to lectures. This format can strengthen the intervention by empowering people to personally develop their own solutions to change their environment.

Intervention Science explores which components of programs are more effective and which programs work well in certain populations. For example, in a recent study, the riskiest people did not attend small group educational sessions. A program for gay/bisexual men in Portland, Oregon conducted outreach in bars and at community events, home meetings, and safer sex workshops. While most men attended outreach activities, few men were likely to attend safer sex workshops.

Scientific study of the program showed that outreach was most likely to reach the riskiest men – younger men and men who reported unprotected anal intercourse. Interventions aimed at high risk-taking populations can rely on intensive individual outreach/counseling and/or innovative, minimally structured community-level social activities to help draw their intended audience.

Evaluation Methodology encourages critical thinking about the process of designing interventions, and should not only occur at the end of an intervention. Good evaluation produces information about needs, service use patterns, impacts and outcomes. It also gives a voice to clients' experiences, and allows service providers to learn about their programs so that they can make necessary changes to increase their effectiveness. An agency can hire a consultant or researcher for evaluation, or can conduct its own evaluation.

For example, Tri-City Health Center in Fremont, Calif. surveyed suburban street youth to evaluate the effectiveness of their program of outreach and educational workshops. In response to youth feedback, Tri-City cancelled their scheduled workshops and added a drop-in center providing HIV education as well as support in areas such as dropping out of school, joblessness, substance abuse, abusive relationships and living with HIV.

Source: Adapted from: http://www.caps.ucsf.edu/usingscience.html

For more information, call the technical assistance analyst at the Mississippi Urban Research Center, 1-866-578-6872 (JSU-MURC).