NIMH HIV Prevention Research

presented to

The President's Advisory Council on HIV/AIDS (PACHA).

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U.S. Department of Health and Human Services.
National Institutes of Health.
National Institute of Mental Health.

[Red AIDS ribbon and globe.]

Outline

- NIMH overview
- HIV prevention: science to practice
- Interagency collaborations
- Current and future initiatives

Center for Mental Health Research on AIDS.

Behavioral Research Priorities.

- Innovative, multidisciplinary HIV prevention research
- Clarify the impact of new biomedical strategies
- Develop multilevel prevention strategies for HIV
- Improve effectiveness of mental health services for people living with HIV and mental illness

From Discovery to Intervention: Phases of Behavioral Prevention Research

- Phase I (Discovery): Risk factors for high-risk behavior
- Phase II (Exploration): Pre-intervention studies/multi-site trials
- Phase III (Efficacy): Clinical trials
- Phase IV (Effectiveness): Technology transfer/ disseminate research results to community

Effective Prevention Approaches Different Levels

- NIMH Multisite HIV Prevention Trial: (Individual)
- African American Serodiscordant Couples: (Couple)
- Family-based interventions (CHAMP)
- Popular Opinion Leaders: (Community)
- HIV Testing Policy Change: (Government/Policy)

Interventions Must be Tailored to Target Population

[Woman using cell phone.]
[Man and woman sitting on dock, looking at a lake.]
[Young woman smiling, and young man holding guitar and smiling.]
[Young men and woman of various ethnic backgrounds.]
[Nurse taking senior man's blood pressure.]
[Men and woman silhouetted in front of globe.]
[Man and boy smiling and playing a video game.]
[Profile of young men and woman wearing graduation gowns and caps.]
[Group of young men and woman cheering.]

[Book covers.]
How to Write a Successful Research Grant Application.
A Guide for Social and Behavioral Scientists.
Edited by Willo Pequegnat, Ph. D.
and Ellen Stover, Ph. D.

Preventing HIV Transmission.
The Role of Sterile Needles and Bleach.
National Research Council.
Institute of Medicine.

AIDS. The Second Decade.

Evaluating AIDS Prevention Programs.
Expanded Edition.
National Research Council.

AIDS and Behavior.
An Integrated Approach.
Institute of Medicine.
AIDS Ribbon.

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Science to Practice: Primary HIV Prevention Research Priorities

- Identify patterns of risk for HIV transmission
- Develop and test new interventions reduce risk
- Multi-level interventions
- Long-term maintenance of change
- Behavioral aspects of biomedical strategies to prevent HIV infections

Science to Practice: NIMH to CDC

- CDC disseminates evidence-based interventions through the Diffusion of Evidence Based Interventions (DEBI) program
- Of the 15 most rigorous interventions included in DEBI, 8 were developed and tested by NIMH grantees
- CDC has conducted trainings for over 3,000 agencies through DEBI process

Science to Practice: Intervention for Women Living with HIV.

A Randomized Controlled Trial to Reduce HIV Transmission
Risk Behaviors and Sexually Transmitted Diseases Among
Women Living With HIV.
The WiLLOW Program.

Gina M. Wingood, ScD, M P H, Ralph J. DiClemente, Ph D, Isis Mikhail, MD, DrPH, MPH, Delia L. Lang, PhD, MPH, Donna Hubbard McCree, PhD, MPH, Susan L. Davies, PhD, Med, James W. Hardin, PhD, Edward W. Hook, III, MD, and Michael Saag, MD.

J Acquired Immune Deficiency Syndrome, Volume 37, Supplement 2, October 1, 2004.

Science to Practice: Project LIGHT.

Randomized Clinical Trial (N = 3706).
7 Session Cognitive - Behavioral Intervention.
Standard of Care HIV/AIDS Information and Video.

- 37 inner-city community-based clinics in five U.S. cities.
- New York City, Baltimore, Atlanta, Milwaukee, Los Angeles.
- 26% Hispanic, 74% African-American, 58% female.

Efficacy.

- Fewer unprotected acts, higher rate of condom use (over 12 months).
- For men, gonorrhea incidence reduced by 50% in intervention group.

N I M H Multisite HIV Prevention Trial Group (1998). The N I M H Multisite HIV Prevention Trial: reducing HIV sexual risk behavior. Science, 19, 1889-94.

[N I M H Multisite Prevention Trial.
Protocol. Suitcase, brochures, and other informational materials.]

Science to Practice: Popular Opinion Leader (POL) Intervention

AIDS Care.
Psychological and Socio-medical Aspects of AIDS/HIV.
Publication details, including instructions for authors and subscription information.
http://www.informaworld.com/smpp/title~content=t713403300.
Popular opinion leaders and HIV prevention peer education: resolving discrepant findings, and implications for the development of effective community programmes.
J. A. Kelly.

Online Publication Date: 01 February 2004.
To cite this Article: Kelly, J. A. (2004) 'Popular opinion leaders and HIV prevention peer education: resolving discrepant findings, and implications for the development of effective community programmes'. AIDS Care. 16:2. 139-150.

Cost-Effectiveness.

Estimated annual numbers of HIV infections in the presence or absence of evidence-based HIV prevention services (1978-2002).

Number of infections.
Without prevention services (estimated at over 100,000).
With prevention services (estimated at 40,000).

Holtgrave. Evidence-based efforts to prevent HIV infection: An overview of current status and future challenges. Clinical Infectious Diseases, 2007, 45(Suppl. 4).

Cost Effectiveness.

Modeling the effectiveness and efficiency of overall national response to HIV infection in the United States, 1985 – 2000.

Modeling the effectiveness and efficiency of overall national response to HIV infection in the United States, 1985-2000.

Model of HIV incidence.

Flattens (after peaking) at 161,000 infections per year.
Estimated number of infections averted. 1,585,000.
Gross cost in U.S. dollars per infection averted. 6,400.
Net cost. Cost saving.

Decreases (after peaking) and then flattens at 123,000 infections per year.
Estimated number of infections averted. 1,031,000.
Gross cost in U.S. dollars per infection averted. 9,800.
Net cost. Cost saving.

Decreases (after peaking) at a rate of 6% per year.
Estimated number of infections averted. 672,000.
Gross cost in U.S. dollars per infection averted. 15,100.
Net cost. Cost saving.

Decreases (after peaking) at a rate of 12% per year until flattening at 40,000 infections per year.
Estimated number of infections averted. 204,000.
Gross cost in U.S. dollars per infection averted. 49,700.
Net cost. Cost saving.

Other Policy-relevant NIMH Research

- Modeling studies to estimate cost-effectiveness of HIV testing informed CDC's recommendation for routine HIV testing for U.S. adults
- Study to examine social networks of young Black MSM following an 2002 HIV outbreak in North Carolina
- Rapid oral HIV testing in urban emergency rooms yields lower positive predictive values than anticipated

Consensus Conference.

Interventions To Prevent HIV Risk Behaviors.
N I H Consensus Development Conference.
February 11-13, 1997.
[Two silohetted faces looking at each other. Male and Female symbols. Syringe.]

HIV Becomes Chronic Disease.

AIDS Patients Face Downside of Living Longer.
By Jane Gross.
Published January 6, 2008.

Chicago.
John Holloway received a diagnosis of AIDS nearly two decades ago, when the disease was a speedy death sentance and treatment a distant dream.

Yet at 59 he is alive, thanks to a cocktail of drugs that changed the course of the epidemic. But with longevity has come a host of unexpected medical conditions, which challenge the prevailing view of AIDS as a manageable, chronic disease.

Mr. Holloway, who lives in a housing complex designed for the frail elderly, suffers from complex health problems usually associated with advanced age: chronic obstructive pulmonary disease, diabetes, kidney failure, a bleeding ulcer, severe depression, rectal cancer, and the ligering effects of a broken hip.

John Holloway, 59, survived AIDS but has more health problems than his 84-year-old father.

[John Holloway, sitting on chair.]
Nicole Bengiveno. The New York Times.

Secondary HIV Prevention: NIMH Priorities

- A comprehensive HIV prevention strategy for the U.S. requires secondary HIV prevention
  - Secondary prevention = Prevention and care targeted to HIV+ individuals
  - Behavioral interventions targeting this group complement primary prevention interventions
  - Promote engagement in medical care and improve medication adherence

Collaboration within NIH

- Develop prevention messages for emerging biomedical prevention strategies
- Examine facilitators and barriers to microbicide use (e.g., partners, context of use; MTN)
- Brief, feasible interventions for persons with acute HIV infection (HPTN)
- Age-appropriate interventions for adolescents (ATN, PHACS, IMPAACT)

Multiple Comorbidities in HIV Infection.

HIV/AIDS. [Inside yellow circle.]
Substance Abuse. drugs, alcohol. [Inside red circle.]
Mental Disorder. SMI, depression. [Inside blue circle.]

Comorbidity with HIV and Hepatitis among persons with severe mental illness (SMI)

	HIV+	HEP B	HEP C
SMI	3.1%	23.4%	19.6%
General US Population	0.3-.4%	4.9%	1.8%

Rosenberg et al., Am Pub Health, 2001.

Prevention for Adolescents.

Different Outcomes:

- Delayed onset
- Reduction number of older partners
- Perceived invulnerability/impact of disease

Different Venues/Approaches:

- Family
- Schools
- Clubs
- New Technology and Media

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HRSA SPNS Initiative (2005-2007)

- HRSA funded 15 clinical sites (across the U.S.) to implement OPTIONS
- Evaluation in progress

The Options/Opciones Project: A collaborative Discussion between the Clinician and Patient:

- Assess patient's risk behavior
- Address any ambivalence about change
- Elicit strategies from the patient for moving towards change
- Negotiate a behavior change goal or plan of action

OPTIONS Intervention Reduces Risk Behavior Among Patients in HIV Care.

Estimated Number of Risky Sexual Events.

Assessment Interval	Time 1	Time 2	Time 3	Time 4
Control Arm (n = 245)	2	3	6	9
Intervention Arm (n = 252)	7	4	3	2

CDC and NIMH Collaboration: Research on Technology Transfer and Intervention Dissemination

- NIMH and CDC share common interests
  - Both seek to study and improve the process of dissemination, adoption, and implementation
- NIMH recently developed a Funding Opportunity Announcement (FOA) in collaboration with CDC (May 2008)

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Current Funding Opportunity Announcements at NIMH

- Preclinical Therapeutics Development for NeuroAIDS
- Recent HIV Infection, New Prevention Challenges and Opportunities
- Men's Heterosexual Behavior and HIV Infection
- Methods for Prevention Packages Program (with NIAID)
- HIV/AIDS, Severe Mental Illness And Homelessness
- Prevention Research with HIV Positive Individuals
- HIV Treatment Adherence Research
- Effect of Racial/Ethnic Discrimination & Bias on Healthcare Delivery
- Community Participation Research Targeting Medically Underserved

Example of Initiatives within NIAID HIV Prevention Trials Network (HPTN)

- NIMH staff work with protocol teams on new intervention efforts
  - Multi-level intervention for African-American MSM (6-8 cities)
  - Feasibility study to determine rates of HIV incidence among women at high-risk in 10 geographic areas

Behavioral Risk Reduction is Today's AIDS Vaccine

N I M H Multisite HIV Prevention Trial.
PROTOCOL.
HIV/S T D Prevention and Translational Research.
Center for Mental Health Research on AIDS.
National Institute of Mental Health.
National Institutes of Health.