

# **Risk, Reason and Reality**

## ***Building a Science of Sexual and Reproductive Health to Prevent Unintended Pregnancy among Adolescents***

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Emory CFAR: **C**onnecting and **F**unding **A**IDS **R**esearchers<sup>©</sup>

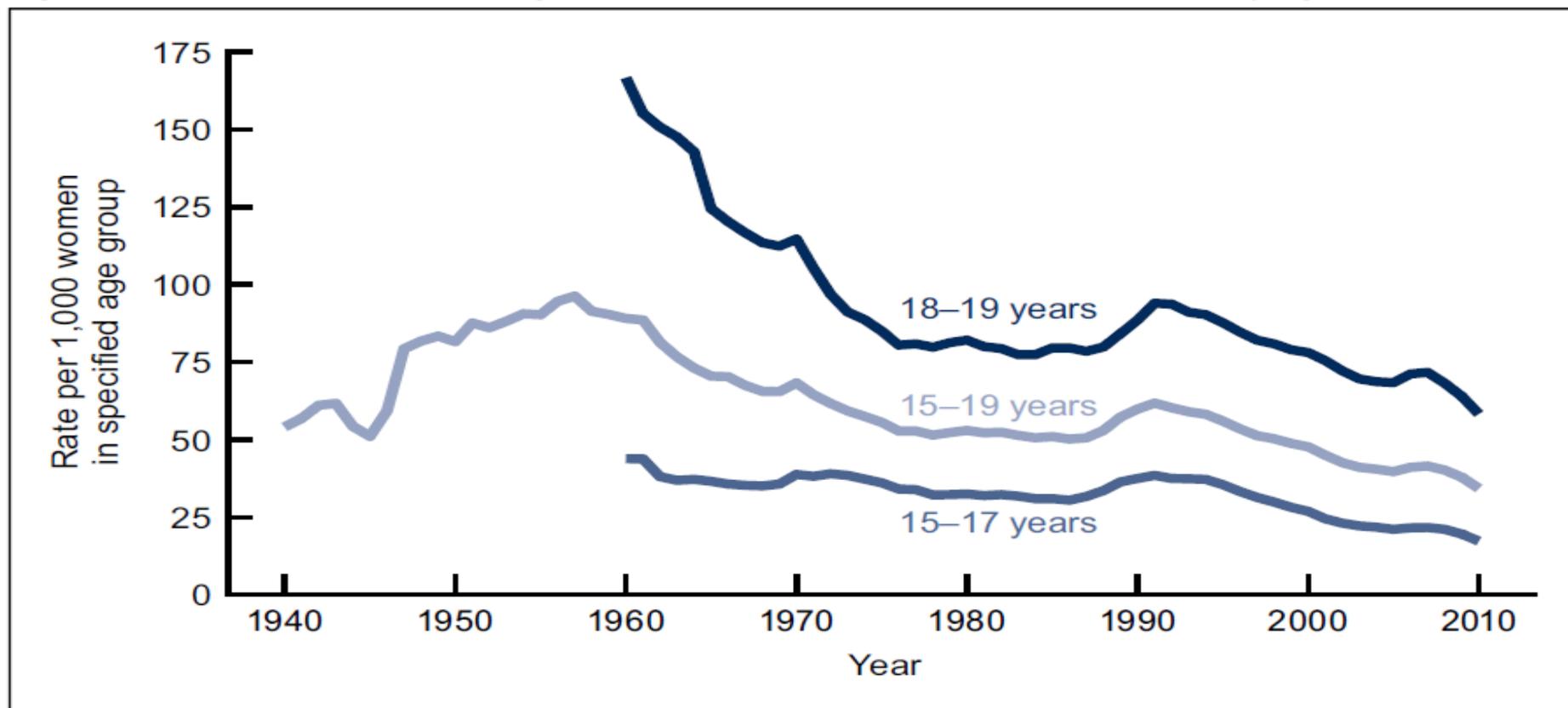


EMORY  
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PUBLIC  
HEALTH

# The U.S. teen birth rate declined 9 percent to reach a historic low in 2010.

- The birth rate for U.S. teenagers fell 9 percent from 2009 to 2010, to 34.3, the lowest level ever reported in the seven decades for which a consistent series of rates is available (1,3) (Figure 1).

Figure 1. Birth rates for women aged 15–19: United States, 1940–2010, and by age, 1960–2010

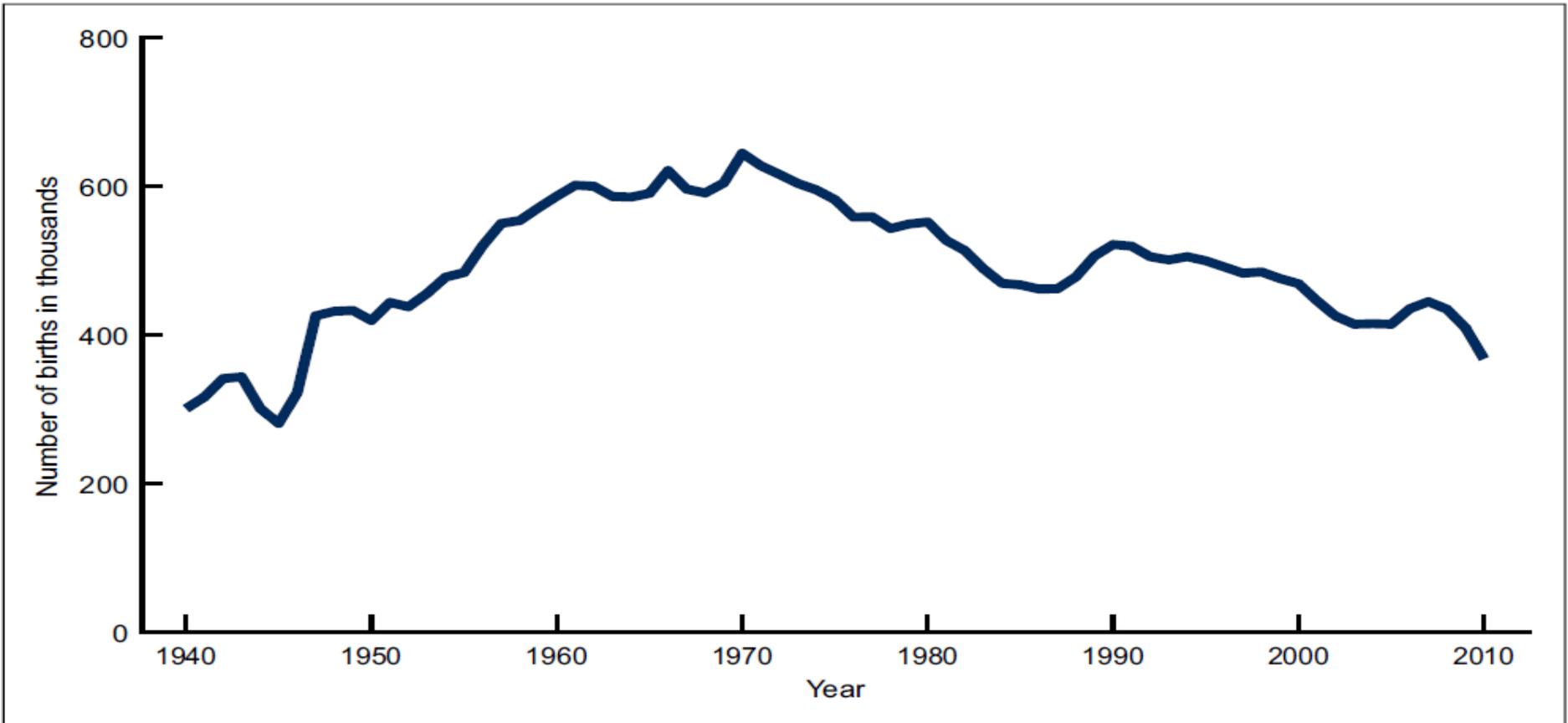


NOTE: Data for 2010 are preliminary.  
SOURCE: CDC/NCHS, National Vital Statistics System.

# Fewer babies were born to teenagers in 2010 than in any year since the mid-1940s.

- The number of babies born to women aged 15–19 was 367,752 in 2010, a 10-percent decline from 2009 (409,802), and the fewest reported in more than 60 years (322,380 in 1946) (1,3) (Figure 2).
- The 2010 total of births to teenagers was 43 percent lower than the peak recorded in 1970 (644,708).

Figure 2. Number of births for women aged 15–19: United States, 1940–2010

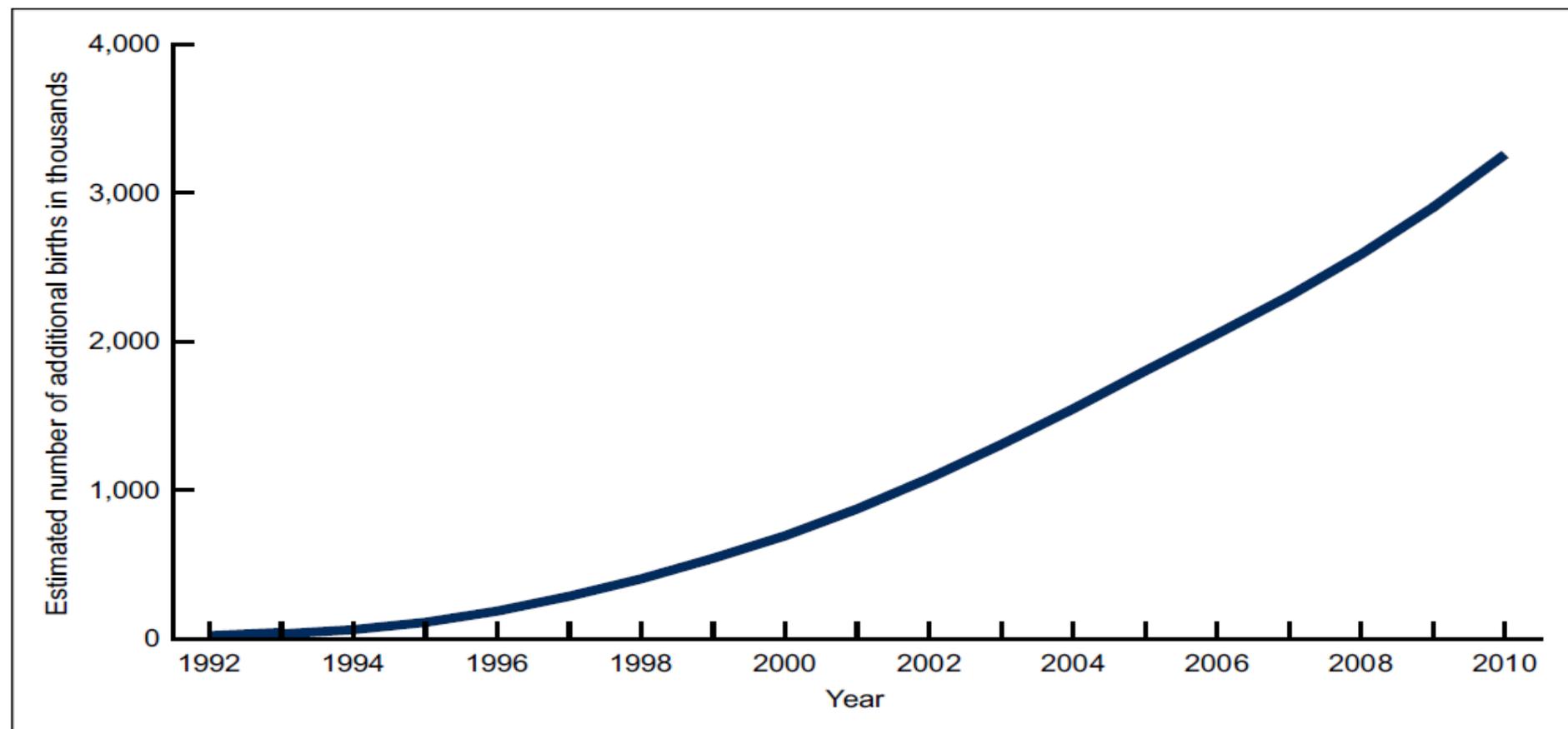


NOTE: Data for 2010 are preliminary.  
SOURCE: CDC/NCHS, National Vital Statistics System.

## If the 1991 birth rates prevailed, there would have been an estimated 3.4 million additional births to teenagers from 1992 through 2010.

- The impact of the decline in the teen birth rate on the number of births to teenagers over the nearly two-decade period, 1992–2010, is substantial. If the 1991 rates had continued to prevail from 1992 through 2010, there would have been an additional 3.4 million births to women aged 15–19 in the United States (with nearly 1 million of those additional births occurring between 2008 and 2010) (Figure 4).

Figure 4. Estimated cumulative number of additional births to women aged 15–19 from 1992 through 2010 for the United States if 1991 birth rates had continued



NOTE: Data for 2010 are preliminary.

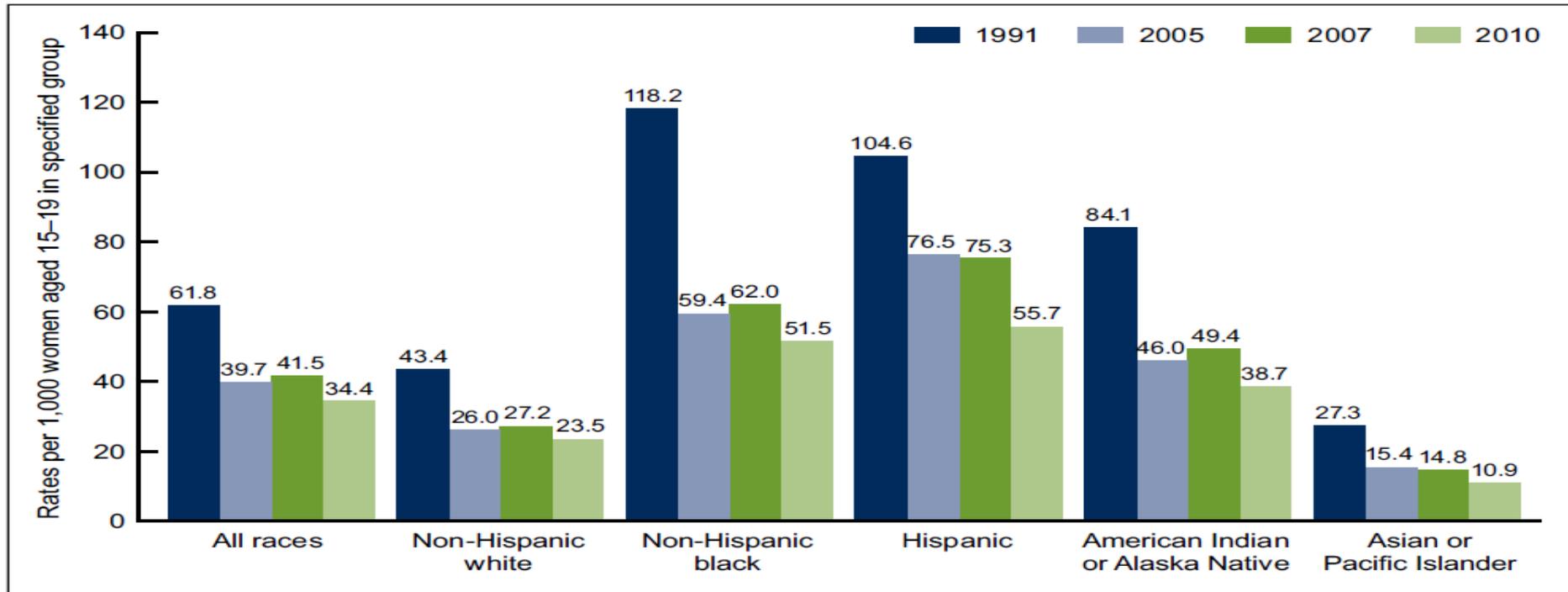
SOURCE: CDC/NCHS, National Vital Statistics System.

# Birth rates for ages 15–19 declined to historic lows in 2010 in all racial and ethnic groups, but disparities remain.

- Rates declined by 9 percent for non-Hispanic white and non-Hispanic black teenagers, by 12 percent for American Indian or Alaska Native (AIAN) and Hispanic teenagers, and by 13 percent for Asian or Pacific Islander (API) teenagers from 2009 to 2010 (3) (Figure 3).
- Rates in 2010 ranged from 10.9 per 1,000 API to 23.5 for non-Hispanic white teenagers, 38.7 for AIAN, 51.5 for non-Hispanic black, and 55.7 for Hispanic teenagers.

## NCHS Data Brief ■ No. 89 ■ April 2012

Figure 3. Birth rates for women aged 15–19, by race and Hispanic origin: United States, 1991, 2005, 2007, and 2010



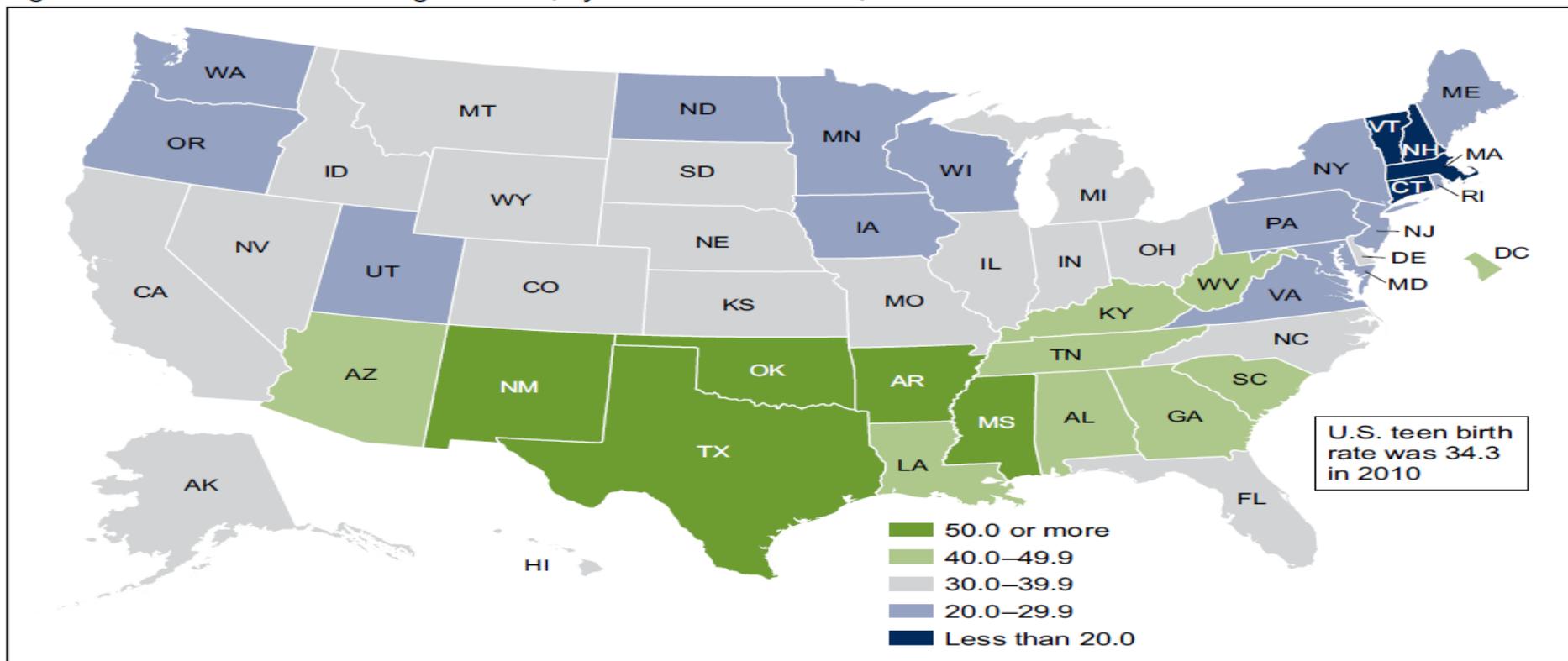
NOTE: Data for 2010 are preliminary.  
SOURCE: CDC/NCHS, National Vital Statistics System.

## Birth rates for teenagers continue to vary significantly across states.

- The birth rate for teenagers ranged from 15.7 in New Hampshire to 55.0 in Mississippi in 2010 (Figure 6).
- Rates tended to be highest in the South and Southwest and lowest in the Northeast and Upper Midwest, a pattern that has persisted for many years (1,8).
- Some of the variation across states reflects variation in population composition within states by race and Hispanic origin (data not shown) (1,8).

### NCHS Data Brief ■ No. 89 ■ April 2012

Figure 6. Birth rate for women aged 15–19, by state: United States, 2010



NOTES: Data for 2010 are preliminary. Access data table for Figure 6 at: [http://www.cdc.gov/nchs/data/databriefs/db89\\_tables.pdf](http://www.cdc.gov/nchs/data/databriefs/db89_tables.pdf).

SOURCE: CDC/NCHS, National Vital Statistics System.

# A Contextual Perspective of Influences Affecting Adolescents' Risk for Unintended Pregnancy and STIs

**I**

Family

Relational

Community/Peers

Societal/cultural



# *Challenges and Opportunities for Enhancing Pregnancy and STI Prevention*

- ✧ Parents' underestimation of risk
- ✧ Adolescents' perception of parents' credibility
- ✧ The chasm in translating theory into practice
- ✧ Media-based models
- ✧ New combination models

# *Challenges to Parents providing Prevention Messages*

- ✧ Parents' ability to recognize their adolescent is at-risk (LA PTA)



# *Challenges to Parents providing Prevention Messages*

- ✧ Adolescents' perception of parents' credibility (Tony)



# *Challenges to Pregnancy and STI Prevention*

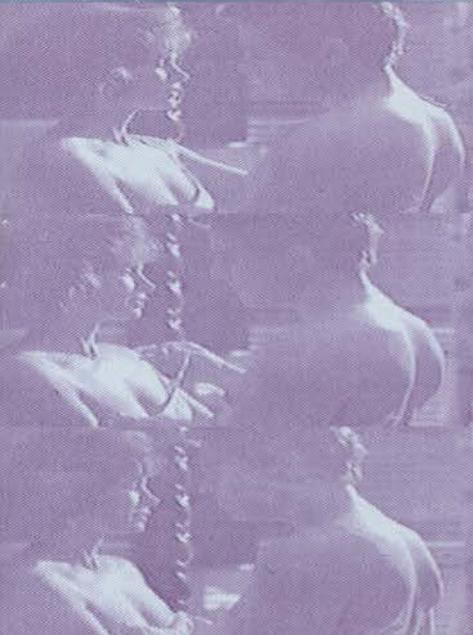
✧ Media influences





**A Biennial Report  
to the Kaiser Family  
Foundation  
1999**

# SEX ONLY



**Executive Summary**



**Dale Kunkel, PhD**

**Kirstie M. Cope**

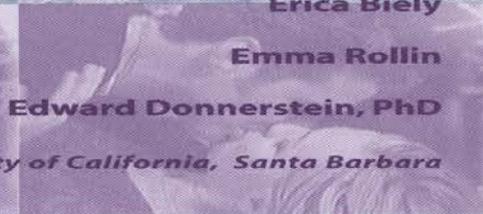
**Wendy Jo Maynard Farinola**

**Erica Biely**

**Emma Rollin**

**Edward Donnerstein, PhD**

*University of California, Santa Barbara*



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# The Internet as a Newly Emerging Risk Environment for Sexually Transmitted Diseases

Mary McFarlane, PhD

Sheana S. Bull, PhD, MPH

Cornelis A. Rietmeijer, MD, MPH

SEVERAL STUDIES HAVE SHOWN that transmission of sexually transmitted diseases (STDs), such as human immunodeficiency virus (HIV) infection, often involves persons with multiple and sometimes anonymous sex partners.<sup>1-10</sup> Sex with anonymous partners typically has been initiated in bars, bathhouses, clubs, or parks.<sup>4</sup> It has been suggested that the Internet may be another venue for the initiation of sexual contact.<sup>11</sup> Observations of chat rooms and other Internet sites reveal that the Internet facilitates communication of sexual desires, as well as in-person meetings resulting in sexual contact.<sup>12</sup> Identifying information such as full name, address, or place of work may be withheld from Internet-based sex partners. Due to the impossibility of observing this behavior from initiation of conversation to completion of a sexual encounter, it is difficult to gauge the rate at which persons engage in Internet-initiated sexual relationships. Also, it is difficult to assess, based on Internet observations, the risk of STD/HIV transmission resulting from these encounters. Our goal was to determine whether the use of the Internet to solicit sex partners should be considered a potential risk factor for STD/HIV. To ascertain whether

**Context** Transmission of sexually transmitted diseases (STDs) such as human immunodeficiency virus (HIV) infection is associated with unprotected sex among multiple anonymous sex partners. The role of the Internet in risk of STDs is not known.

**Objective** To compare risk of STD transmission for persons who seek sex partners on the Internet with risk for persons not seeking sex partners on the Internet.

**Design** Cross-sectional survey conducted September 1999 through April 2000.

**Setting and Participants** A total of 856 clients of the Denver Public Health HIV Counseling and Testing Site in Colorado.

**Main Outcome Measures** Self-report of logging on to the Internet with the intention of finding sex partners; having sex with partners who were originally contacted via the Internet; number of such partners and use of condoms with them; and time since last sexual contact with Internet partners, linked to HIV risk assessment and test records.

**Results** Of the 856 clients, most were white (77.8%), men (69.2%), heterosexual (65.3%), and aged 20 to 50 years (84.1%). Of those, 135 (15.8%) had sought sex partners on the Internet, and 88 (65.2%) of these reported having sex with a partner initially met via the Internet. Of those with Internet partners, 34 (38.7%) had 4 or more such partners, with 62 (71.2%) of contacts occurring within 6 months prior to the client's HIV test. Internet sex seekers were more likely to be men ( $P < .001$ ) and homosexual ( $P < .001$ ) than those not seeking sex via the Internet. Internet sex seekers reported more previous STDs ( $P = .02$ ); more partners ( $P < .001$ ); more anal sex ( $P < .001$ ); and more sexual exposure to men ( $P < .001$ ), men who have sex with men ( $P < .001$ ), and partners known to be HIV positive ( $P < .001$ ) than those not seeking sex via the Internet.

**Conclusions** Seeking sex partners via the Internet was a relatively common practice in this sample of persons seeking HIV testing and counseling (representative of neither Denver nor the overall US population). Clients who seek sex using the Internet appear to be at greater risk for STDs than clients who do not seek sex on the Internet.

JAMA. 2000;284:443-446

www.jama.com

high-risk persons seek sex partners on the Internet, we surveyed clients of an HIV counseling and testing site regarding Internet behaviors and risk for STD/HIV.

## METHODS

This study was reviewed and approved by the institutional review board at the Centers for Disease Control and Preven-

tion (CDC), as well as by the Colorado Multiple Institutional Review Board. Clients aged 18 years or older who sought

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See also pp 447 and 485 and Patient Page.

# *Internet Quiz*



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# No Easy Fixes Are Seen To Curb Sex-Site Access

By JOHN SCHWARTZ

One of the most thorough reports ever produced on protecting children from Internet pornography has concluded that neither tougher laws nor new technology alone can solve the problem.

"Though some might wish otherwise, no single approach — technical, legal, economic or educational — will be sufficient," wrote the authors of the report, "Youth, Pornography and the Internet," issued yesterday by the National Research Council. "Rather, an effective framework for protecting our children from inappropriate materials and experiences on the Internet will require a

## Study says parents are key to control of Internet use.

balanced composite of all of these elements."

What might seem a rather bland conclusion is actually a surprising stand, said Alan B. Davidson, associate director of the Center for Democracy and Technology, a technology-policy organization in Washington.

"The report dares to be unsexy," he said. "It does not call for legislation to solve this problem," despite a strong push in Congress to pass laws requiring technology tools like pornography filters in schools and libraries. One such law, the Children's Internet Protection Act, is being challenged in federal court by a coalition of librarians and civil liberties groups; a decision in that case is expected this month.

Richard L. Thornburgh, the former attorney general who led the project, predicted in a preface to the

report that its conclusions "will disappoint those who expect a technological 'quick fix' to the challenge of pornography on the Internet."

The language of the report is meticulously balanced but wryly conclusive. Filters intended to block pornographic sites, the report explained, "can be highly effective in reducing the exposure of minors to inappropriate content if the inability to access large amounts of appropriate material is acceptable."

The report compared the problem of protecting children from online risks to dealing with a more mundane hazard of daily life. "Swimming pools can be dangerous for children," the authors wrote. "To protect them, one can install locks, put up fences and deploy pool alarms. All of these measures are helpful, but by far the most important thing that one can do for one's children is to teach them to swim."

Bruce A. Taylor, the president of the National Law Center for Children and Families, said the report would be the basic document for judges and lawmakers approaching these issues for the foreseeable future, but added that he was disappointed that the group did not make strong recommendations on "techno-gizmos of their own" that he said might be developed, like age identifiers that would follow minors through cyberspace. Such ideas have been criticized as impractical by Internet engineers, but Mr. Taylor said a strong push from the committee might have helped move things forward. "Parents can't create those protocols and protections," he said, "but how hard would it be for industry to do it?"

Herbert Lin, the director of the study, said the process shook the preconceptions that each participant brought to the table. Many of them, he said, believed at the beginning "if only people would just do this — whatever 'this' is — the problem would be all over."

"Nobody," he said, "realized how complicated the process was."

# Teen Sexting and Its Association With Sexual Behaviors

Jeff R. Temple, PhD; Jonathan A. Paul, PhD; Patricia van den Berg, PhD;  
Vi Donna Le, BS; Amy McElhany, BA; Brian W. Temple, MD

**Objective:** To examine the prevalence of sexting behaviors as well as their relation to dating, sex, and risky sexual behaviors using a large school-based sample of adolescents.

**Design:** Data are from time 2 of a 3-year longitudinal study. Participants self-reported their history of dating, sexual behaviors, and sexting (sent, asked, been asked, and/or bothered by being asked to send nude photographs of themselves).

**Setting:** Seven public high schools in southeast Texas.

**Participants:** A total of 948 public high school students (55.9% female) participated. The sample consisted of African American (26.6%), white (30.3%), Hispanic (31.7%), Asian (3.4%), and mixed/other (8.0%) teens.

**Main Outcome Measure:** Having ever engaged in sexting behaviors.

**Results:** Twenty-eight percent of the sample reported having sent a naked picture of themselves through text or e-mail (sext), and 31% reported having asked someone for a sext. More than half (57%) had been asked to send a sext, with most being bothered by having been asked. Adolescents who engaged in sexting behaviors were more likely to have begun dating and to have had sex than those who did not sext (all  $P < .001$ ). For girls, sexting was also associated with risky sexual behaviors.

**Conclusions:** The results suggest that teen sexting is prevalent and potentially indicative of teens' sexual behaviors. Teen-focused health care providers should consider screening for sexting behaviors to provide age-specific education about the potential consequences of sexting and as a mechanism for discussing sexual behaviors.

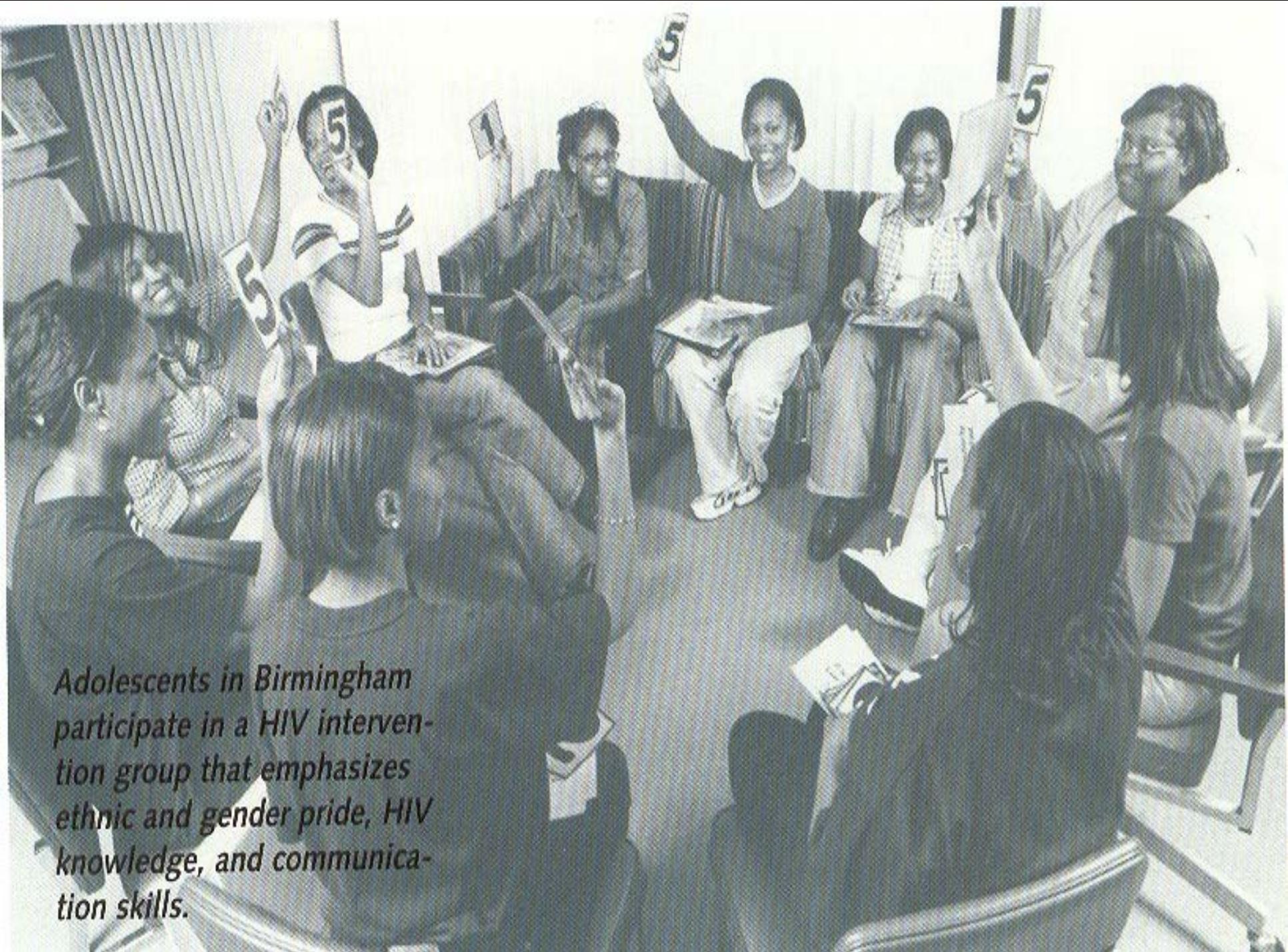
*Arch Pediatr Adolesc Med.* 2012;166(9):828-833.

Published online July 2, 2012.

doi:10.1001/archpediatrics.2012.835

# "The Boxed" Diffusion Format



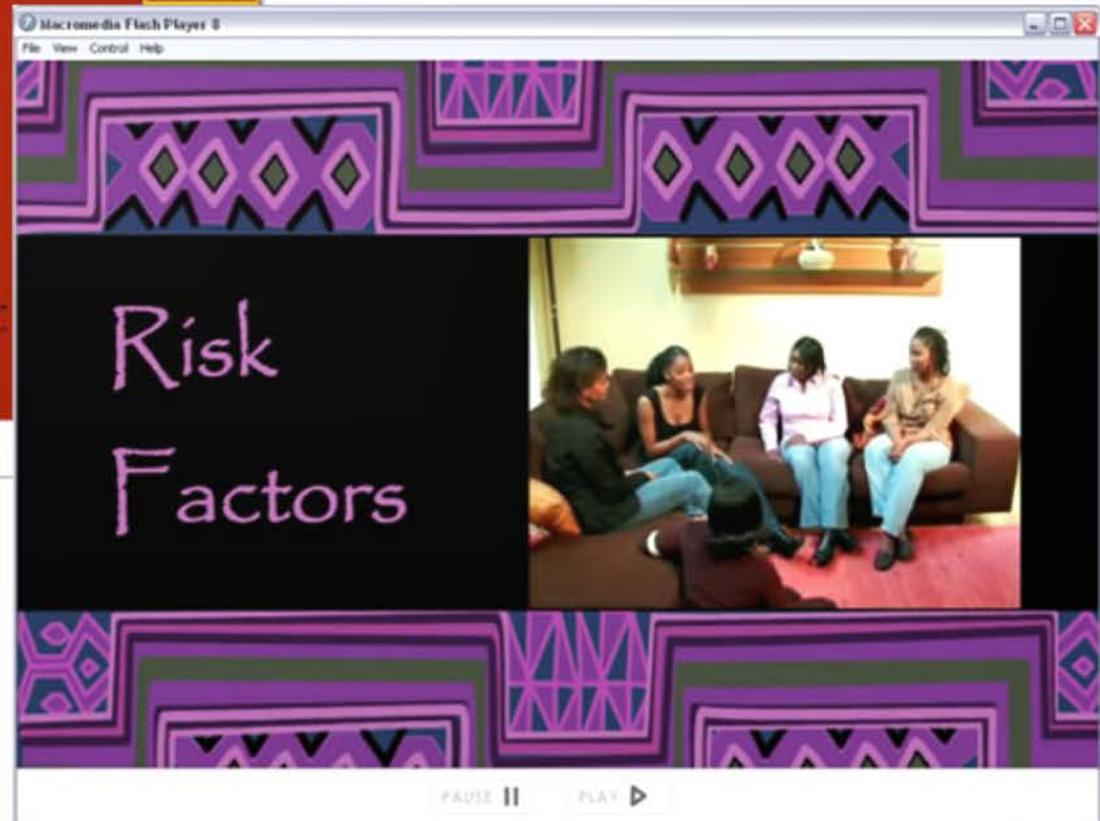
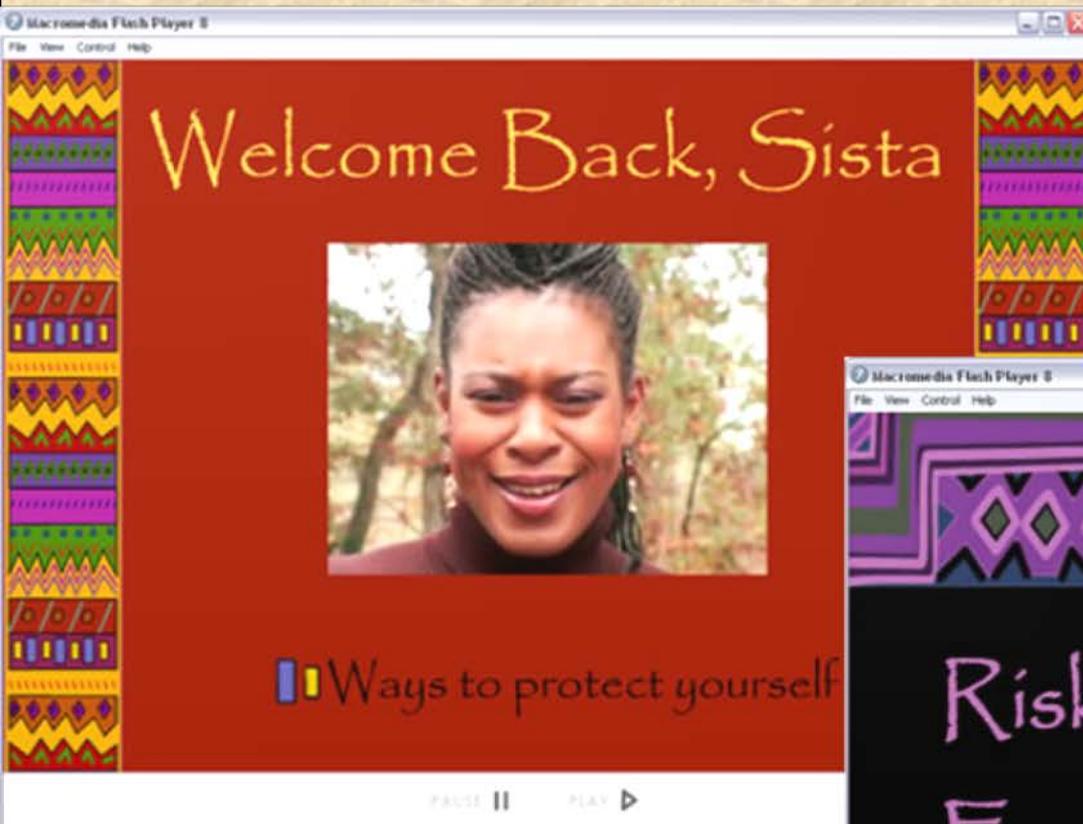


*Adolescents in Birmingham participate in a HIV intervention group that emphasizes ethnic and gender pride, HIV knowledge, and communication skills.*

# *Living in the Era of Media — the Good, the Bad, and the Surprising*

- ✧ Media has changed the world, literally.
- ✧ Today, we have access to unlimited amounts of information and countless numbers of people.
- ✧ The presence of Facebook and Twitter, our smartphones and iPads shape who we are and how we relate to each other?
- ✧ Importantly, media and networking provides promising implications for designing and translating effective SRH interventions to broader segments of the adolescent population.

# *“The New Media” Diffusion Format*



# SAHARA

S = Sisters



A = Accessing

H = HIV

A = AIDS



R = Resources

A = At a Click



# Overview of SAHARA Activities

## ◆ Session 1 Activities (1 hour)

- ✧ Tutorial
- ✧ Ethnic & Gender pride
- ✧ Personal Values/The Value of My Body
- ✧ The Nuts & Bolts of HIV/AIDS Education
- ✧ Risk Factors for HIV
- ✧ The Dating Game
- ✧ Healthy options for safer sex



## ◆ Session 2 Activities (1 hour)

- ✧ Communication: Aggressive, Passive or Assertive
- ✧ Condom Negotiation
- ✧ Condom Use/Condom Demonstration
- ✧ Condom Use Role Plays
- ✧ Healthy & Unhealthy Relationships
- ✧ Graduation & Resources



### Psychology & Health

Publication details, including instructions for authors and subscription information:  
<http://www.informaworld.com/smpp/title-content#713648133>

### Preliminary efficacy of a computer-based HIV intervention for African-American women

Gina M. Wingood<sup>a</sup>; Josephina J. Card<sup>b</sup>; Deja Er<sup>c</sup>; Julie Solomon<sup>b</sup>; Nikia Braxton<sup>c</sup>; Delia Lang<sup>c</sup>; Puja Seth<sup>c</sup>; Jim Cartreine<sup>c</sup>; Ralph J. DiClemente<sup>c</sup>

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Online publication date: 13 February 2011

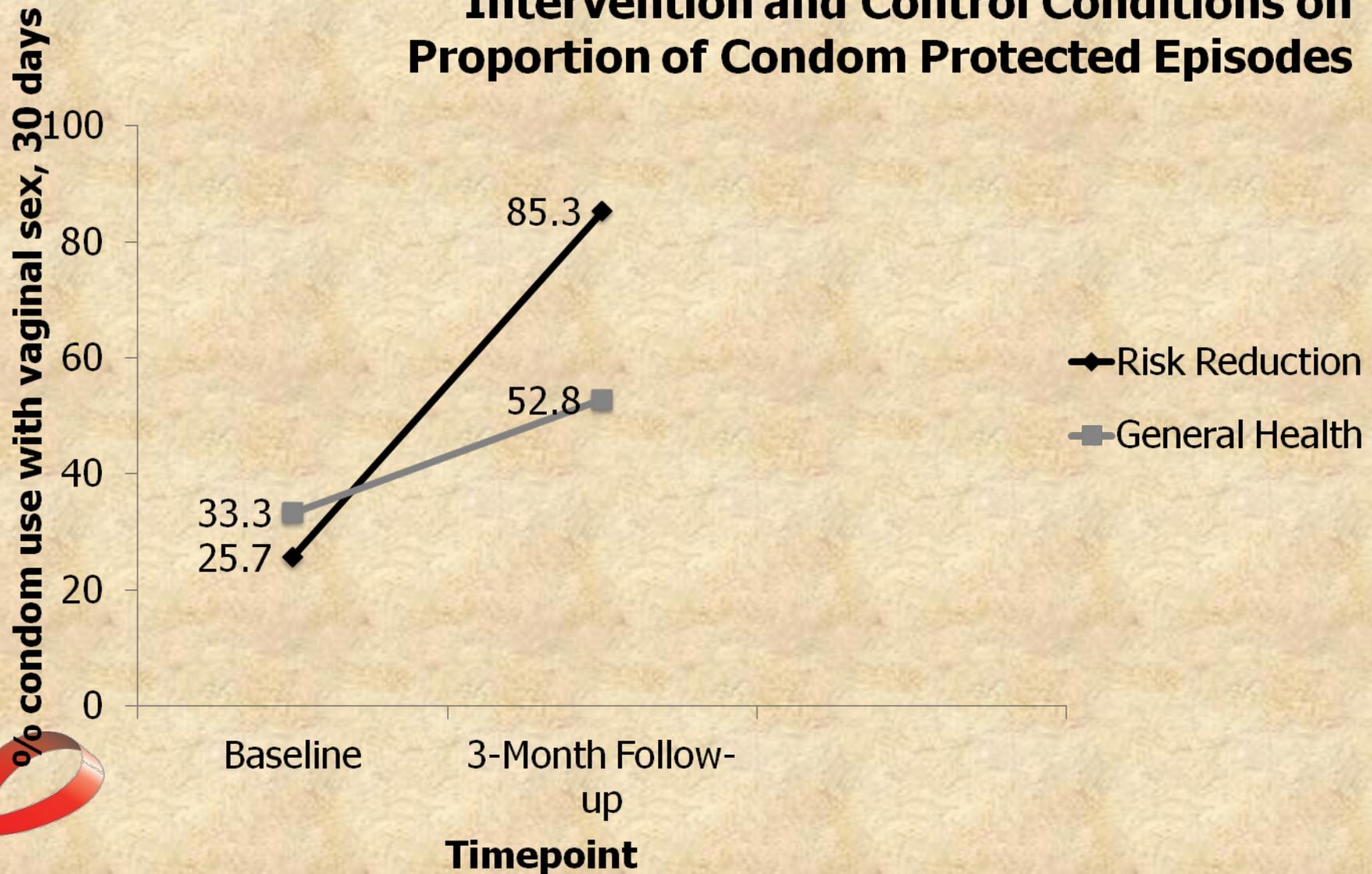
# *Implementing SAHARA*



# *Intervention Effects on Condom Use Practices and Mediators*

	<b>General Health (n=68)</b>	<b>SAHARA (n=67)</b>	<b>P-value</b>
% condom use with in past 30 days vaginal sex at 3 month follow-up	52.8	85.3	.03
HIV knowledge at 3 month follow-up	8.99	9.45	.001
Condom Use Self-Efficacy at 3 month follow-up	28.96	30.81	.012

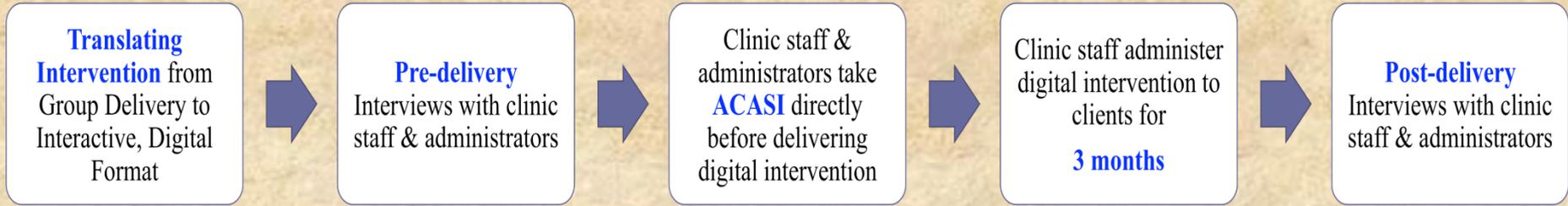
# Comparison of SAHARA Risk Reduction Intervention and Control Conditions on Proportion of Condom Protected Episodes



# *HORIZONS*



# Translation and Dissemination Design for Adapting *HORIZONS* to a Media Implementation Platform



## INTERVENTION CORE ELEMENTS LINKED TO ACTIVITIES IN DIGITAL INTERVENTION

Ethnic & Gender  
Pride  
Role Models

Poetry  
Media Images  
Role Models

Sexual Health  
Decision Making

Goal Setting  
Values  
Sexual Health Options (AMOUR)

HIV/STD Knowledge

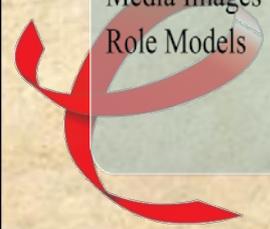
Facts about STDs  
Testing  
OPRaH

Healthy & Unhealthy Relationships

Personal Risk Factors  
Understanding Risk  
What Turns You On?

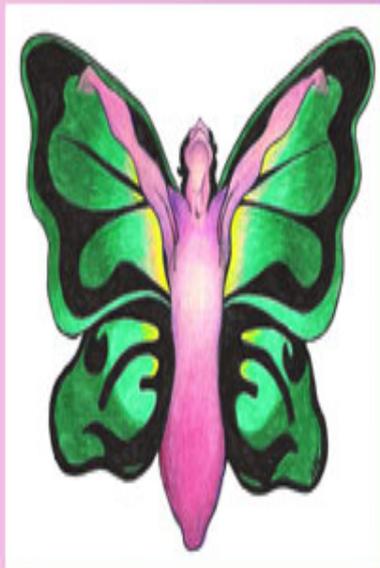
Negotiating Safer Sex

Communication  
Negotiation Skills  
Condom Excuses & Comebacks  
Boundary Setting



***AFIYA – A Mobile-based Counseling  
Strategy to Reduce Attenuation of HIV  
Intervention Efficacy over an 36-month  
Follow-up?***

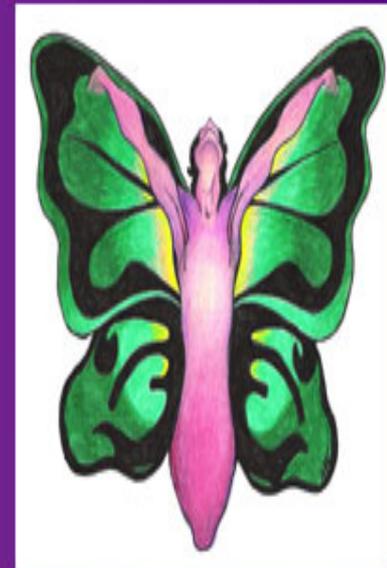
*Results from A Randomized Controlled Supplemental  
Treatment Trial*



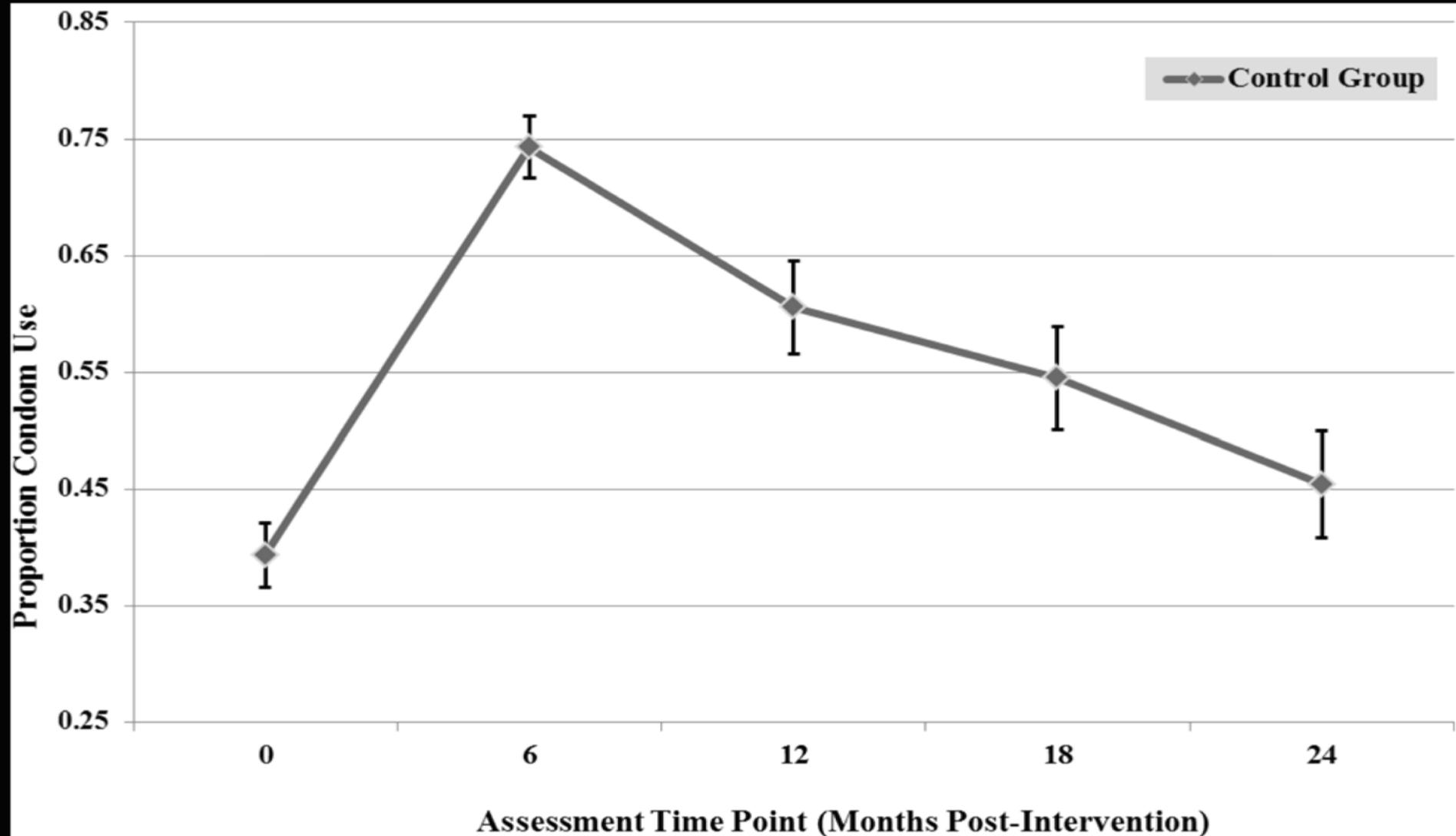
AFIYA

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“Strength and Good Health”



# Change in Proportion of Condom Use among Participants Reporting an Initial Increase in Condom Use Following Exposure to an Intervention



# *The Age of Miniaturization*

## *Translating Big Media to Small Mobile Devices*

- ✧ Adapt existing media interventions (iMPPACS) with demonstrated evidence of efficacy for individual users as one component of a multimedia-based HIV prevention intervention



# Mass Media as an HIV-Prevention Strategy: Using Culturally Sensitive Messages to Reduce HIV-Associated Sexual Behavior of At-Risk African American Youth

Daniel Romer, PhD, Sharon Sznitman, PhD, Ralph DiClemente, PhD, Laura F. Salazar, PhD, Peter A. Vanable, PhD, Michael P. Carey, PhD, Michael Hennessy, PhD, Larry K. Brown, MD, Robert F. Valois, PhD, MPH, Bonita F. Stanton, MD, Thierry Fortune, MBA, and Ivan Juzang, MBA

The evidence base and theoretical frameworks for mass media HIV-prevention campaigns in the United States are not well-developed. We describe an intervention approach using culturally sensitive mass media messages to enhance protective beliefs and behavior of African American adolescents at risk for HIV. This approach exploits the potential that mass media messages have, not only to reach a large segment of the adolescent population and thereby support normative change, but also to engage the most vulnerable segments of this audience to reduce HIV-associated risk behaviors. The results from an ongoing HIV-prevention trial implemented in 2 medium-sized cities in the United States illustrate the effectiveness of this intervention approach. (*Am J Public Health*. 2009;99:2150–2159. doi:10.2105/AJPH.2008.155036)

The incidence rate of HIV in the United States is 7 times higher among African Americans than among Whites,<sup>1</sup> with disproportionate transmission through heterosexual contact.<sup>2</sup> Although adolescents with HIV/AIDS represent a minority of US cases (approximately 5%), they constitute one of the fastest growing groups of newly infected persons in the country, and African American adolescents are disproportionately affected. Of the estimated 18849 persons under the age of 25 years who were diagnosed with HIV/AIDS during 2001 through 2004, 61% were Black.<sup>3</sup> Given these data, it is imperative that interventions focus on African American adolescents and specifically address the concerns that are unique to this population. In addition, it is especially desirable for HIV-prevention interventions to reach as large an audience as possible.

Mass media campaigns are well-suited to meet these goals because media have wide reach.<sup>4,5</sup> Adolescents in general, and African American adolescents in particular, are heavy users of media; and media messages can be culturally targeted to this audience. Furthermore, experience from commercial marketing suggests that African Americans respond favorably to mass media messages designed to address their specific interests.<sup>6,7</sup>

Unfortunately, the evidence for the effectiveness of general HIV mass media prevention campaigns in the United States is weak,<sup>8</sup> and this is particularly true for campaigns targeting African American adolescents. This is partly because researchers face problems in isolating media effects in multicomponent interventions.<sup>4,9</sup> In addition, most HIV prevention in the United States has been conducted on an individual level with small group counseling or school-based programs.<sup>10</sup> This practice has been justified through the belief that face-to-face interventions have greater power than mass media to alter HIV-associated risk behaviors,<sup>4</sup> in part because these interventions permit greater opportunities for active participation (e.g., skills training, modeling, and rehearsal) relative to viewing a media message.<sup>11</sup>

Here we describe a culturally sensitive approach to using mass media to promote greater acceptance of safer sexual behavior in the wider African American youth audience and, more importantly, to encourage behavior change (condom use) in the youth most at risk for sexually transmitted infections (STIs), including HIV. Interventions can be sensitive to the “surface structure” or “deep structure” of an audience’s culture.<sup>12</sup> Surface structure refers to the use of change agents whose background and use of language is similar to that of

the audience and the use of channels of communication that can best reach the audience. Sensitivity to deep structure reflects an understanding of how members of the audience conceptualize the health risk in their lives and the barriers they encounter in reducing or managing the risk. We designed an intervention to be sensitive to both types of structures, and we argue that culturally sensitive messages can be designed to actively engage youth, especially those who are most at risk for HIV infection. First, we review what is known about the use of media to influence the adoption of HIV preventive behaviors. We then illustrate the approach with preliminary data from a randomized controlled trial that was designed to rigorously test the effectiveness of such an intervention.

## MASS MEDIA AND HIV PREVENTION

Considerable experience with mass media HIV-prevention campaigns has been gained from the developing world. These interventions suggest that safer sexual behavior can be encouraged by media messages that promote favorable norms and behavior in entire communities. Furthermore, successful interventions have employed sufficiently intense schedules of television or radio to reach the youth audience. In South Africa, for instance, the LoveLife program found that mass media in combination with a face-to-face intervention was associated with decreased risk of HIV infection, decreased number of partners, and increased use of condoms.<sup>5</sup> Furthermore, a radio and television HIV prevention campaign in Ghana directed at those aged 15 to 30 years was successful in decreasing sexual initiation among the youngest cohort. More generally, the media campaign increased awareness of AIDS and condom use among the sexually active.<sup>13</sup>

# *Media-based Technology*

## *The Potential for Enhancing Pregnancy and STI Prevention*

- ❖ Potential to be cost-effective
  - ❖ Require less staff, financial resources to implement
  - ❖ Require less time for intervention recipients
- ❖ Offer possibility of widespread intervention dissemination
- ❖ Flexible administration approach
- ❖ Allay concerns (i.e. lack of confidentiality) associated with group-based interventions
- ❖ Variety of formats available: Computerized, video-based, mobile delivered, SMS, social networking
- ❖ Can provide both, an effective programmatic and efficient dissemination platform

# *Accumulation Multi-level Intervention Model*

*Interventions at different levels produce a cumulative impact on a common mediating pathway.*

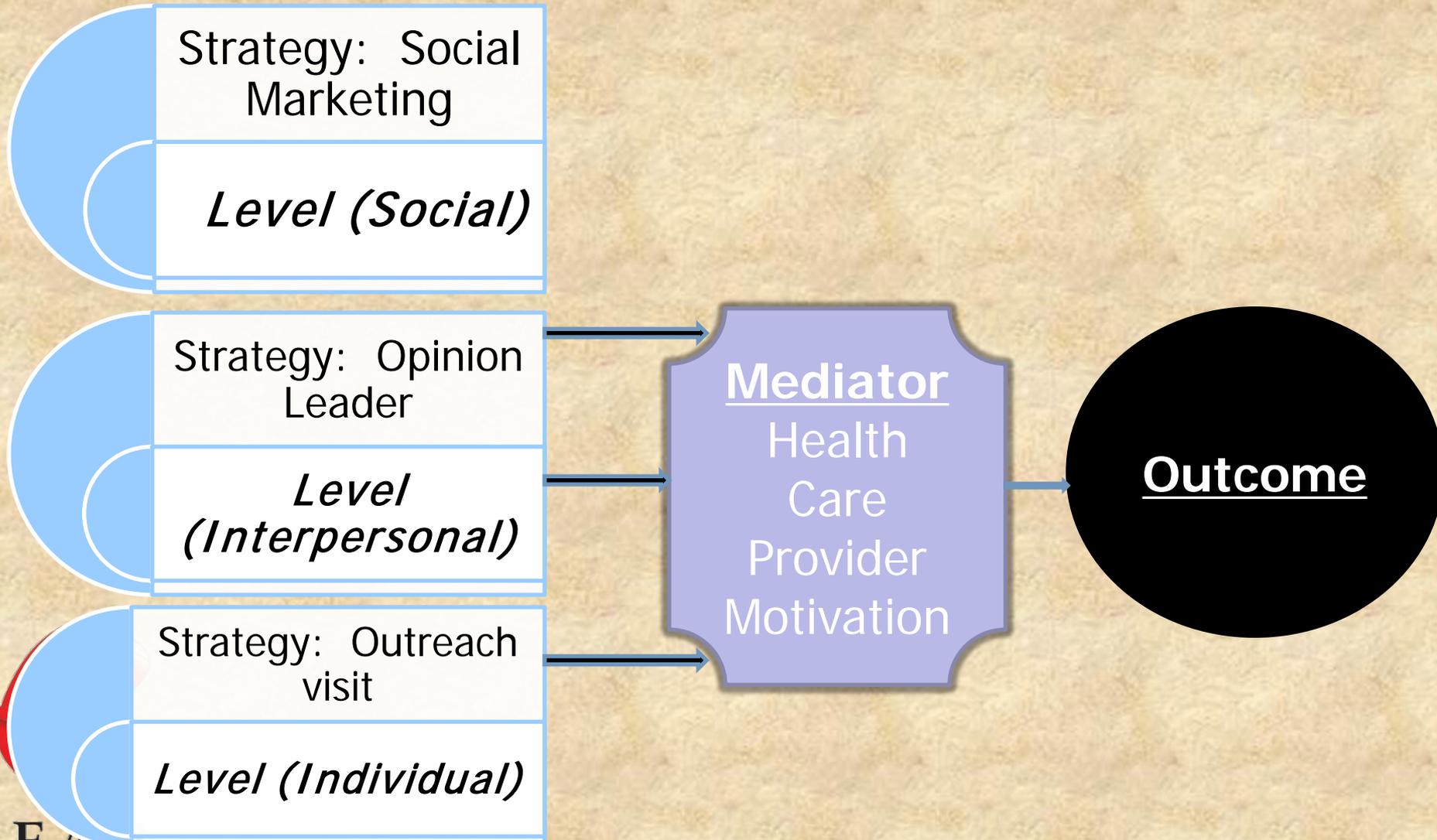
*The effect of each intervention is not conditional on other interventions.*

*The interventions exhibit pooled interdependence, each intervention makes a discrete contribution.*



# Accumulation Model

Goal: Enhance HCP motivation to target pregnancy and STI prevention



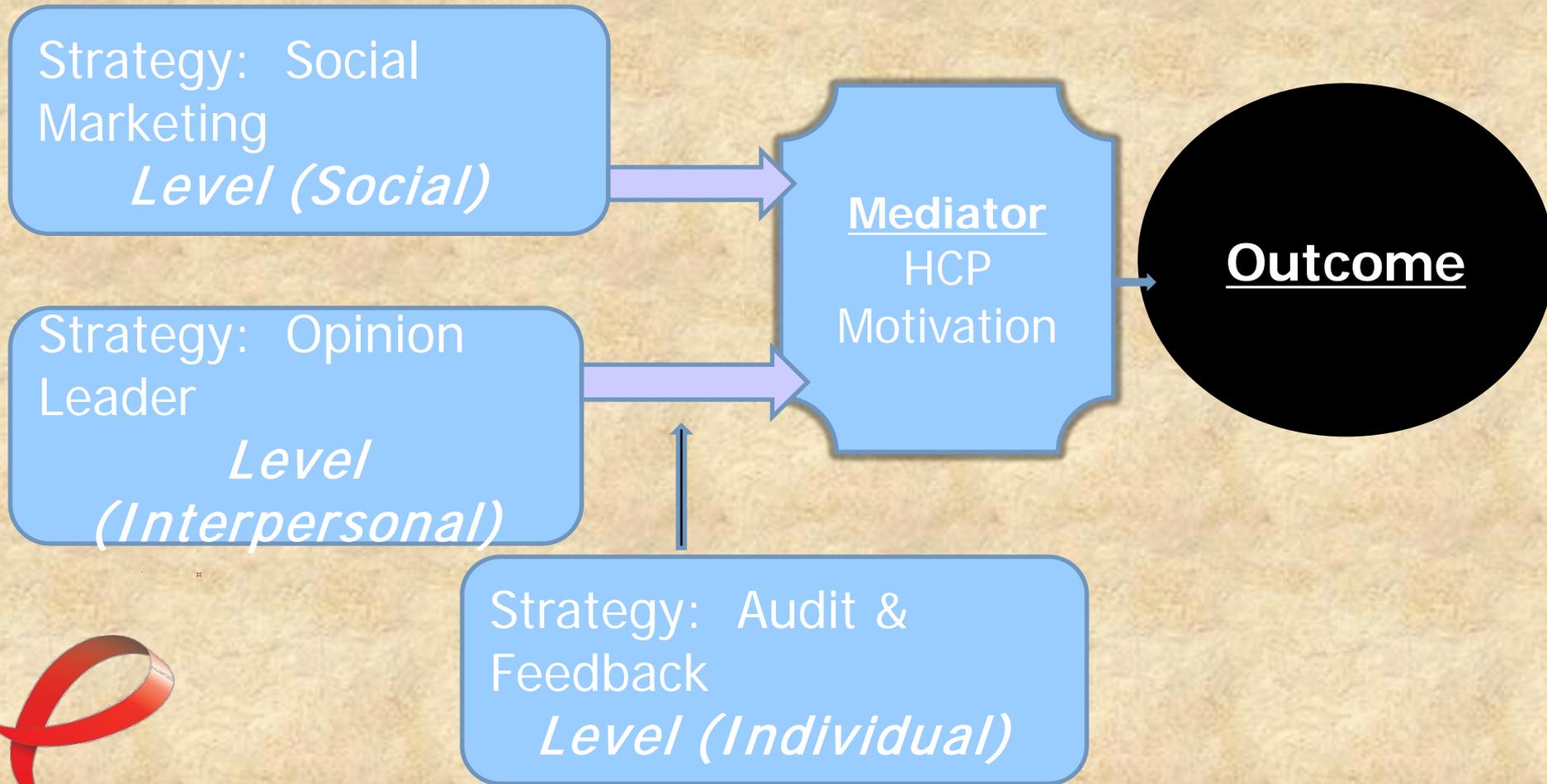
# *Amplification Model*

- *The effect of one or more interventions is conditional on another intervention.*
- *One intervention increases the target audience's sensitivity or receptivity to the other intervention.*
- *One intervention magnifies the amplitude of the other intervention through a mediating pathway.*



# *Amplification Model*

*(Goal: Enhance HCP motivation to target pregnancy and STI prevention)*



# *Facilitation Model*

*Like the amplification strategy, the effect of one or more interventions is conditional on another intervention.*

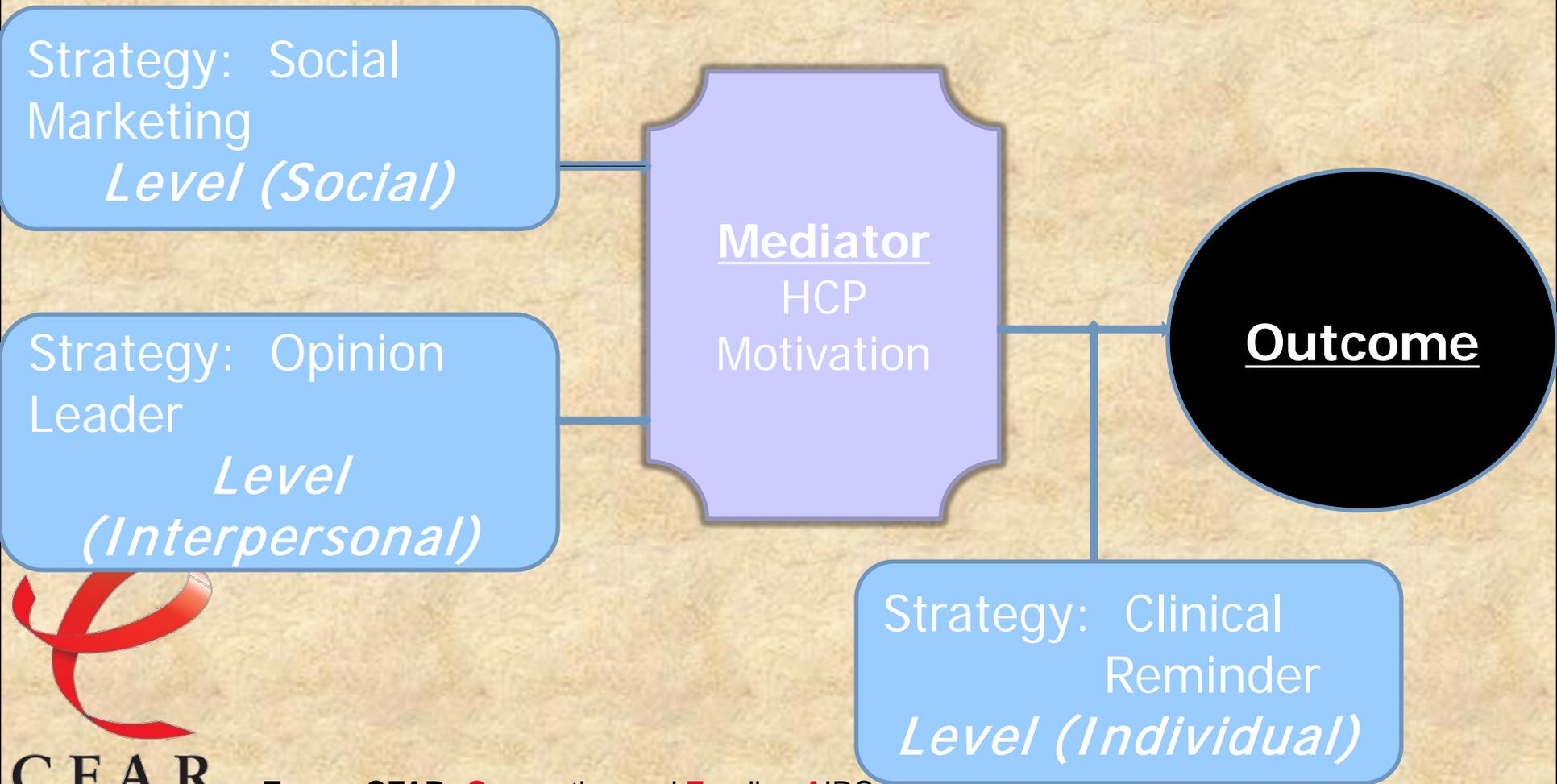
*However, instead of boosting the signal the conditional intervention clears the pathway for the other intervention to produce the desired outcome.*

*The intervention removes barriers or facilitates the effect of the other interventions.*



# Facilitation Model

*(Goal: Enhance HCP motivation to target pregnancy and STI prevention)*



# *Convergence Model*

- *Interventions at different levels mutually reinforce each other by altering patterns of interaction among two or more mediators.*
- *The interventions exhibit reciprocal interdependence, the outputs of some interventions become the inputs of other interventions.*



# Convergence Strategy

*(Goal: Enhance HCP motivation to target pregnancy and STI prevention)*

