Digital Adherence Interventions:

A Review of CDC Investments in IT-Based Technologies

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9th International Conference on HV Treatment and Prevention Adherence
June 9, 2014
Miami, FL



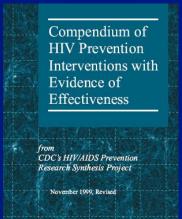
Overview

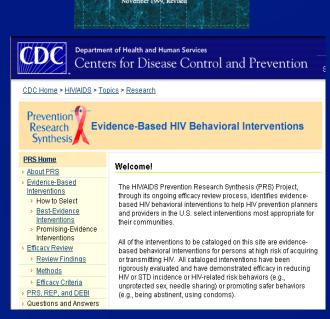
- CDC Research to Practice Framework
- Changing Context of HIV Prevention
- CDC Investment in Technology for HIV Prevention
- Preview of CDC's New e-Learning Toolkit to Improve Adherence – EVERY DOSE EVERY

CDC RESEARCH TO PRACTICE FRAMEWORK

Identifying and Disseminating Evidence-Based Intervention

- Compendium of Evidence-Based HIV Behavioral Interventions
 - Since 1996, PRS has been reviewing and synthesizing the risk reduction intervention literature to help CDC make recommendations to our grantees
 - Original Compendium published in 1999 (now online and updated regularly)
 - First attempt to organize the behavioral intervention literature
 - Focus on efficacy interventions with strongest evidence are highlighted





Research Translation

- Prevention Research Synthesis (PRS)
- Replicating Effective Programs (REP)
 - Developed user friendly intervention packages
 - Tested them with a few CBOs
- Diffusion of Effective Behavioral Interventions (DEBI)
 - Technology transfer: training and technical assistance
 - National dissemination of evidence-based interventions through guidance on use to grantees



Evidence-Based Strategies: The Updated Compendium

Risk ReductionChapter:84 EBIs

HIV/AIDS > Prevention Research > Research

Recommend 2 Tweet Share

Compendium of Evidence-Based HIV Behavioral Interventions

Risk Reduction Chapter

Medication Adherence Chapter

The evidence-based HIV behavioral interventions (EBIs) listed in the *Compendium* have been identified by <u>PRS</u> through an ongoing systematic review process and are classified as either *best-evidence* or *good-evidence*. These interventions represent the strongest HIV behavioral interventions in the scientific literature to date that have been rigorously evaluated and have demonstrated evidence of efficacy. The *Compendium* includes individual-, group-, couple-, and community-level behavioral interventions for high-risk populations.

The *Compendium* is now divided into two chapters. A complete listing of each chapter can be accessed below.

The **Risk Reduction Chapter** of the *Compendium* includes **84** HIV risk reduction (RR) evidence-based behavioral interventions (EBIs), identified from the published or in press scientific literature. (Updated on April 11,2014)

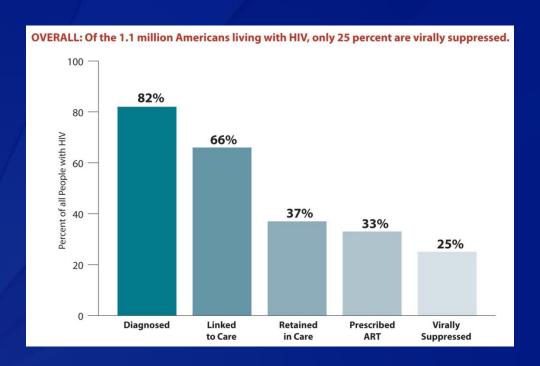
The **Medication Adherence Chapter** of the *Compendium* includes **10** HIV medication adherence (MA) evidence-based behavioral interventions (EBIs), identified from the published or in press scientific literature. (Updated on April 11, 2014)

www.cdc.gov/hiv/prevention/research/compendium/

CHANGING CONTEXT OF HIV PREVENTION

Increased Prevention Options

- Prevention Benefits of Treatment
- Yet about 850,000 don't have their virus under control





Evidence-Based Strategies: The Updated Compendium

Risk Reduction Chapter

interventions for high-risk populations.

- Risk Reduction Chapter:
 - 84 EBIs
- AdherenceChapter:10 EBIs



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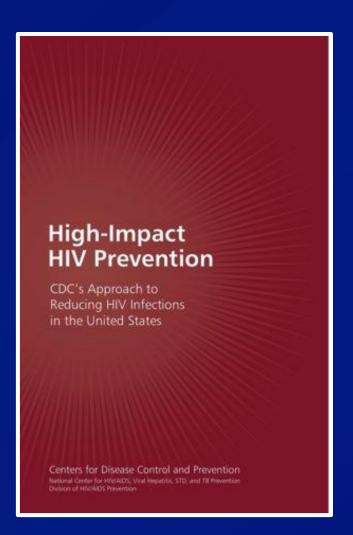
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www.cdc.gov/hiv/prevention/research/compendium/

High-Impact Prevention (HIP)

 Applying the science of implementation to maximize impact



www.cdc.gov/hiv/policies/hip.html

High-Impact Prevention (HIP)

- Key components
 - Effectiveness and cost
 - Feasibility of full-scale implementation
 - Coverage of targeted population
 - Interaction and targeting
 - Prioritizing
- Preventing the most HIV and reducing disparities

High-Impact HIV Prevention CDC's Approach to Reducing HIV Infections in the United States Centers for Disease Control and Prevention

www.cdc.gov/hiv/policies/hip.html

Cost per Infection Averted (\$)

Untargeted interventions	Cost per new infection averted (rank)		
Testing in clinical settings	51,293 (3)		
Partner services	99,105 (7)		
Linkage to care	114,644 (8)		
Retention in care	75,665 (5)		
Adherence to ART		42,753 (2)	
Targeted Interventions	HRH	IDU	MSM
Testing in non-clinical settings	866,272 (12)	53,935 (4)	17,965 (1)
Behavioral intervention for HIV+ people	594,796 (10)	700,005 (11)	97,410 (6)
Behavioral intervention for HIV- people	15,642,127 (14)	2,931,406 (13)	327,210 (9)

HRH: High Risk Heterosexuals; IDU: Injection Drug Users; MSM: Gay, Bisexual and Other Men Who Have Sex with Men

Intervention dissemination through a 'high impact' lens



- Challenges to the Research to Practice Framework
 - Long time to identify, package and disseminate EBIs (packaging and field trial took 2 -3 years)
 - Limited reach (e.g., small training classes)
 - Costly to train in-person and retrain when staff left
 - Long time for CDC training component
 - Rigid approach Interventions had to be implemented as developed with little flexibility for implementing agencies

CDC INVESTMENT IN TECHNOLOGY FOR PREVENTION

Online (e-Learning) training would be more HIP

- □ Turn-around time may be faster to develop the e-package (once first-time issues/clearances are worked out); field trial dropped
- Limited reach markedly expands reach
- Costly— less cost to reach more; greater reach at less cost means higher impact
- □ Too long for CDC training online or "blended" training takes less time (e.g., 2 days away from work instead of 5); no waiting to get into the training
- □ Rigid Using more collaborative process. After training, we will work with implementer to tailor TA to agency's needs; consider how new adherence strategies can augment what they're already doing.

Increasing Investment in Online Resources



Online toolkits

Data to Care for HDs

Online training

Prevention Benefit of ART for providers

VOICES/VOCES

Blended online/face-to-face training

- Couples Testing
- ARTAS



- GameOn! STD/HIV app for youth
- C-BISCT web-based clinic counseling tool
- STEPS to Care LRC tool development
- Adherence App (+ Smartphone research)







One of our major investments has been in adherence interventions

- □ Four Adherence EBIs selected from Compendium to package for online, rather than in-person, training
 - SMART Couples^a
 - HEART^b
 - Partnership for Health^c
 - Peer Support^d
- Selection criteria included:
 - Resource needs to implement the adherence intervention
 - Extent to which the adherence strategies could augment what programs were already doing (and without need for many additional staff)

"Packaging" Interventions for e-Learning Training

- Like REP, training curriculum developed for the online platform
- Core tools:
 - At-a-glance text and visuals to help potential trainees determine interest in the module
 - Seven media rich and interactive components to teach the intervention
 - Strategy Overview
 - Key Players
 - Key Intervention Components
 - Strategy in Action
 - Integrating Intervention into Setting
 - Knowledge Check

- Like REP, original investigators involved. Provided guidance; helped to build out needed aspects of curriculum
 - Needs varied by intervention but included things like additional tools, or descriptive information, or script development
 - Script Development Example: Project HEART
 - Adherence problem-solving with patients & support partner
 - Identify barriers, generate and test strategies to overcome
 - Greatest challenge: demonstrating problem-solving process without in-person modeling, practice or correction
 - Required detailed attention to scripts for filmed/audio vignettes to demonstrate counseling approach
 - Implementation feedback and follow up TA will be informative
- Like REP, training was piloted; however, implementation was not.

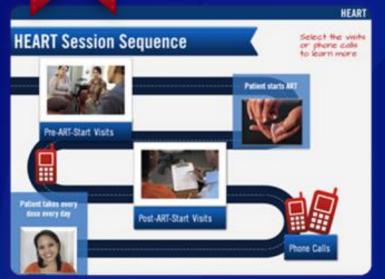


EVERY DOSE EVERY DAY: CDC e-LEARNING TOOLKIT TO IMPROVE ADHERENCE

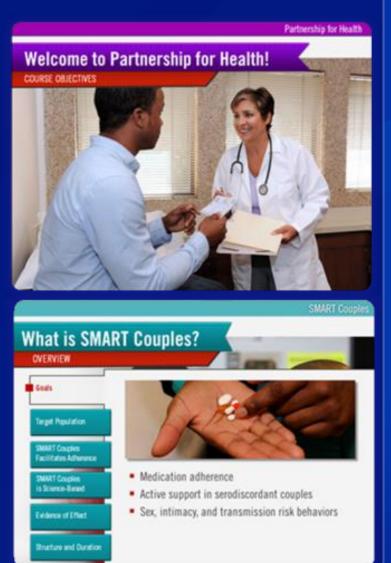


EVERY DOSE EVERY DAY

Supporting strategies for improving HIV medication adherence







EVERY DOSE EVERY DAY e-Learning Modules

Name	Population	Description
Project HEART	ART-naïve or changing regimen	Sessions focus on social support, problem-solving, enlisting support partner, and making individual adherence plan. 5 sessions + 5 phone calls
Partnership for Health	ART-experienced	Sessions at routine medical visits focus on provider- provider relationship that promotes healthy behaviors. Posters and brochures reinforce adherence messages. 3-5 minute session at each encounter
Peer Support	ART- naïve ART-experienced	Persons with HIV with high adherence provide individualized peer support. 6 sessions + weekly phone calls
SMART Couples (Discordant Couples)	HIV+ person has low adherence	Sessions focus on adherence, safer sex, and mutual support 4 sessions

CDC. Compendium of Effective Interventions. http://www.cdc.gov/hiv/prevention/research/compendium/index.html

High Impact Prevention

Related Resources

What's New

Training Calendar & Registration

Contact Us

Language English +

Learn about the Data to Care toolkit, a new resource to link HIV-diagnosed individuals to care.

Biomedical intervention

Medication Adherence

- HIV Medication Adherence Strategies for E-Learning
- HIV Medication Adherence Strategies by Provider
- Patient Navigation

Public Health Strategies Behavioral Interventions Structural Interventions Social Marketing

Medication Adherence



Strategies to improve HIV medication adherence

A New Medication Adherence e-Learning Training Toolkit for Providers

Every Dose Every Day is designed to help providers support medication adherence among people living with HIV to improve the health outcomes and increase the prevention benefits of treatment.

Adherence to anti-retroviral therapy (ART) is critical to the success of HIV treatment and treatment as prevention. However, the benefits of ART can be realized only by those individuals who are tested, diagnosed, timely linked to medical care, and start and adhere to ART to achieve viral suppression.

Video: Reason for Staying Adherent

More Info..

MEDICATION ADHERENCE -ADDITIONAL RESOURCES

- Table 1. Brief description of the 4 evidence-based HIV medication adherence strategies selected for translation into e-Learning trainings for HIV providers
- Table 2. HIV Medication Adherence Strategy by Appropriate Provider Type and Setting
- Medication Adherence Consumer Handouts
- Medication Adherence Posters



Key Steps in Translating Evidence-based Interventions into an e-Learning Package

Develop Design Teams Information
Gathering
with
Researchers

Create
Storyboards
and Scripts to
Convey Key
Intervention
Components

Video Production and Editing Module
Development,
Programming
and Voice
Recording

John Snow, Inc. (JSI) awarded contract 2011. JSI worked collaboratively with CDC's Capacity Builidng Branch to complete this project.

Core e-Learning Module Components











	Challenges and Solutions List some of the chalenges that make it more difficult for you to take your medication medication. Than let profuse solutions to edistricts these challenges.		
	CHALLENGE	SOLUTION	
Knowledge Check			
		For SMART Couples sessions 2 and 3	

Partnership for Health



Video 2: Brief Adherence

O

Effective Interventions HIV PREVENTION THAT WORKS

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Care toolkit, a new resource to link HIV-diagnosed individuals to care.

Biomedical Interventions

Public Health Strategies
Behavioral Interventions
Structural Interventions
Social Marketing

HEART



HEART (Helping Enhance Adherence to Antiretroviral Therapy)

HEART e-Learning Training Information

Helping Enhance Adherence to Antiretroviral Therapy (HEART) is a 5-session individual and dyadic-level intervention strategy. This social support and problem-solving intervention includes 5 sessions and a patient-identified support partner. Two sessions are delivered just before initiating antiretroviral therapy and 3 sessions occur during the

More Info...

RESOURCES & TOOLS

Learn about the Data to

- HEART Implementation Materials
- Medication Adherence Consumer Handouts
- Medication Adherence Posters

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Visit the HIP e-Learning
Center to access the online
CHTC pre-course training.

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Partnership for Health for Medication Adherence



Partnership for Health - Medication Adherence e-Learning Training Information

PfH – Medication Adherence is a brief, clinic-based individual-level, provider-administered intervention strategy that emphasizes the importance of the patient-provider relationship to promote the patient's

More Info...

RESOURCES & TOOLS

- Partnership for Health Implementation Materials
- Medication Adherence Consumer Handouts
- Medication Adherence Posters

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Language English ▼

Visit the HIP e-Learning Center to access the online CHTC pre-course training.

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Peer Support



Peer Support e-Learning Training Information

Peer Support is an individual- and group-level intervention strategy that can be implemented with patients who are either ART-experienced or ART-naïve. Patients who are HIV-positive, taking ART medicines and adherent to their treatment are trained to serve as "peers". Peers provide medication-related social support through group meetings and weekly individual telephone calls. Group meetings are led by peers, who are supervised by agency/clinic program staff. The group meetings are designed to give patients an opportunity to engage face-to-face with their assigned peer, meet other peers and patients who are taking ART medications and share experiences with the group. Whereas, the

More Info...

RESOURCES & TOOLS

- Peer Support Implementation Materials
- Medication Adherence Consumer Handouts
- Medication Adherence Posters

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Related Resources

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Training Calendar & Registration

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Center

Visit the HIP e-Learning Center to access the online CHTC pre-course training.

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SMART Couples



SMART (Sharing Medical Adherence Responsibilities Together) Couples

SMART Couples e-Learning Training Information

SMART Couples is a couple-level intervention administered to individual discordant couples, with poor medication adherence in the HIV-positive partner. The intervention consists of four sessions with the potions and his floor portroer and least about 45 minutes to an hour.

More Info...

RESOURCES & TOOLS

- SMART Couples Implementation
 Materials
- Medication Adherence Consumer Handouts
- Medication Adherence Posters

IMPLEMENTATION MATERIALS PEER Support HEART HELPING ENHANCE ADHERENCE TO ANTIRETROVIRAL THERAPY SHARING MEDICAL ADHERENCE HIV MEDICATION ADHERENCE STRATEGY HIV MEDICATION ADHERENCE STRATE HIV MEDICATION ADHERENCE STRATEGY IMPLEMENTATION MANUAL IMPLEMENTATION MANUAL IMPLEMENTATION MANUAL

CONSUMER HANDOUTS

Vhy People Miss Their Doses



Reasons

Andrew, living with HIV since 1995

It's normal to run into challenges with taking your HIV medicine. But, even missing one dose a month can make your medic effective. The good news is that there are ways to help you every dose every day. What's your challenge?



Pick something you do at the same time every day, like your favorite TV show or brushing your teeth, and take medicine at that time every day. Set an alarm on your v phone. Download a smartphone app to set up reminde track doses.



I Feel Sick From the Side Effects.

It's tempting to skip a dose when your medicine mak bad. But, don't stop taking your medicine. Call your if you develop any side effects. Most side effects go few weeks. Your provider can recommend ways to r side effects.



My Treatment Plan is Too Complicated.

Fill a pill organizer at the start of the week with e medicine. Keep it where you can see it. Ask your help you understand what medicine to take, wh how (for example, with or without food).



I Feel Overwhelmed Doing This Alone

It's okay to ask for help. Your healthcare team you. Talk with them about the challenges you with you to find solutions. Join a support gro family or friends you trust. Ask for help with regular check-ins, going to the pharmacy to or just listening.



I Can't Afford to Pay for My Medic

There are public and private drug assistan pay for your HIV medicine. Ask your HIV c to explain these programs and help you

Talk to your provider about the importance of taking you For more information go to: http://www.cdc.gov/h

National Center for HIV/AIDS, Viral Hepatitis, STD, Division of HIV/AIDS Prevention

CS741860-3



Take Your HIV Medicine Correctly



Tips to Help You

Shirley, living with HIV since 1987

Staying adherent to your HIV medication can be difficult. That's why it's important to get off to a good start when you begin your treatment. Missing even one dose a month can make treatment less effective. Proper planning is important for success.

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Why HIV Medication Saves Lives



Reasons

Judith, living with HIV since 1997

Adherence means taking your HIV medicine exactly as your doctor prescribes - every dose, every day. Adherence is important to the success of your HIV treatment.



It Helps You Live Longer.

People who start treatment early tend to lives as long as people without HIV infection. Without treatment, HIV leads to AIDS (acquired immunodeficiency syndrome) and may lead to



It Helps Your Medicine Work.

HIV treatment does not make HIV go away, but taking your medicine as directed slows down the virus by making it hard for the virus to



It Keeps You Healthy.

It Keeps You Healthy. Taking every dose, every day, keeps the virus from destroying too many CD4 cells, which play an important role in how your body fights off infections and other illnesses. That means



It Helps Prevent Drug Resistance to HIV Medicine.

Missing doses and not taking your medicine correctly makes it easier for HIV in your body to change and cause your medicines to stop working. This is called drug resistance. Taking every dose on time every day helps to prevent drug resistance.



CS241860-1

It Can Help Protect Your Partners.

Taking your medicine exactly as your doctor prescribes helps protect your sexual partners from becoming infected. When you take your HIV medication every day, you have a much lower chance of passing the virus to your sexual partners. But remember, you can still pass HIV to others, so you should take steps to prevent transmission by using condoms every time you have sex.

Talk to your provider about the importance of taking your HIV medication every day. For more information go to: http://www.cdc.gov/hiv/living/index.html

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention Division of HIV/AIDS Prevention



Ask Others for Help.

Join a peer support group to connect with people taking HIV medicine and learn from their experiences. Ask family members and friends to encourage and remind you to take your medicine.







Keep All Your Medical Appointments.

It is important to take care of your health. Form a good relationship with your doctor. Appointments give you the chance to talk openly to your provider about any adherence challenges or treatment concerns. You and your provider have the same goal— TO KEEP YOU HEALTHY.





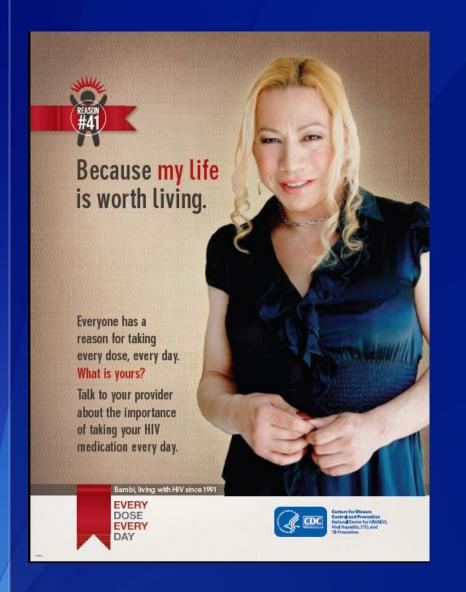


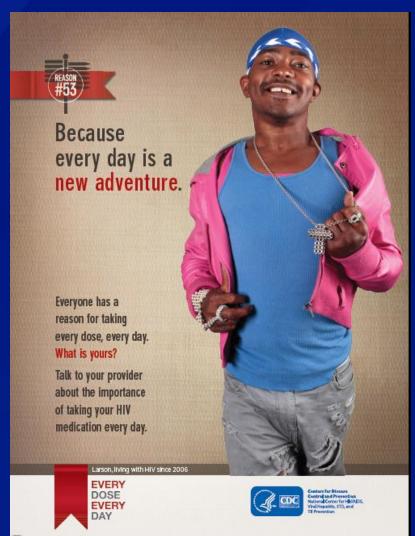
of taking your HIV medication every day. ww.cdc.gov/hiv/living/index.html

atitis, STD, and TB Prevention

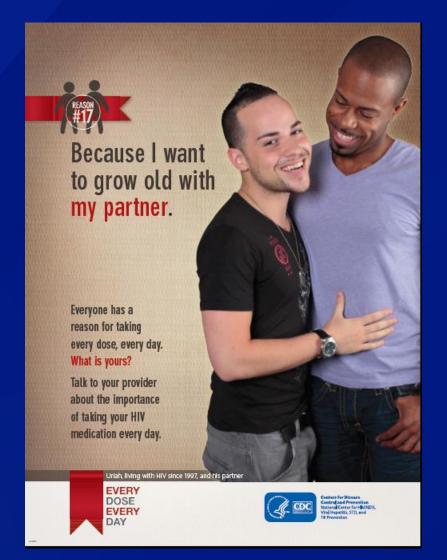




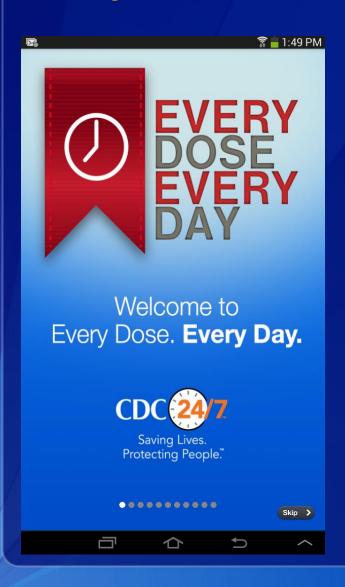








Every Dose Every Day Mobile Application



App Features:

- My Meds
- Drug Details
- Dose reminders
- Healthcare Team
- Reasons Photo
- Viral load tracker
- CD4 count tracker
- Tips for health and wellness
- Buddy Support

Continuing Education Pilot Evaluation

- Continuing education accreditation obtained for physicians, nurses, pharmacists and certified health education specialists
- 20 providers reviewed each module
 - 5 physicians
 - 5 nurses
 - 5 pharmacists
 - 5 certified health education specialists
- Reviewed content of at least 1-2 module(s)
- Completed a 30-item survey for each module reviewed

Continuing Education Pilot Evaluation Comments

- "Course is very well done, user-friendly and informative, including the investigators and diverse clinical providers helped ensure the material remained engaging." (HEART -MD)
- "This is a useful and very relevant training for physicians with patients on ARVs." (PfH MD)
- "...well done course with informative content! The real story video clips are awesome!" (Smart Couples – Nurse)

Next Steps

- Launch toolkit by the end of June 2014
- Implement our dissemination and marketing plan
- Train new capacity building providers to provide technical assistance to jurisdictions
- Working on an evaluation plan to assess uptake and implementation

Every Dose Every Day Trailer



Acknowledgments

- CDC Staff:
 - Rhondette Jones, MPH
 - Kathleen Green, PhD
 - Angel Ortiz-Ricard, JD
 - Acting Branch Chief
 - Janet Cleveland, BS
 - Deputy Dir. of Prevention Programs
 - Susan Robinson, MS
 - Cynthia Crick, MPH, CHES
- JSI Staff
 - Janet Van Ness, MSPH
 - Deborah Dean, MSPH
 - Elizabeth Costello, MPH
 - Vanessa Aller, M.Ed.
 - Jodi Sperber, MSW, MPH
 - Jeremy Holman, MPH

- University of Texas Southwestern Medical Center
 - Anne Freeman, MPH
 - Daniel Casillas, BS
 - Tracee Belzle, BS
- Original Researchers
 - Linda Koenig, PhD
 - Melody Pratt Palmore, MD
 - Robert Remien, PhD
 - Jane Simoni, PhD
 - Joel Milan, PhD



Thank you!

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

