Identifying Best Practices for Promoting Linkage to, Retention, and Re-engagement in HIV Care: Findings from a Systematic Review

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Disclosures

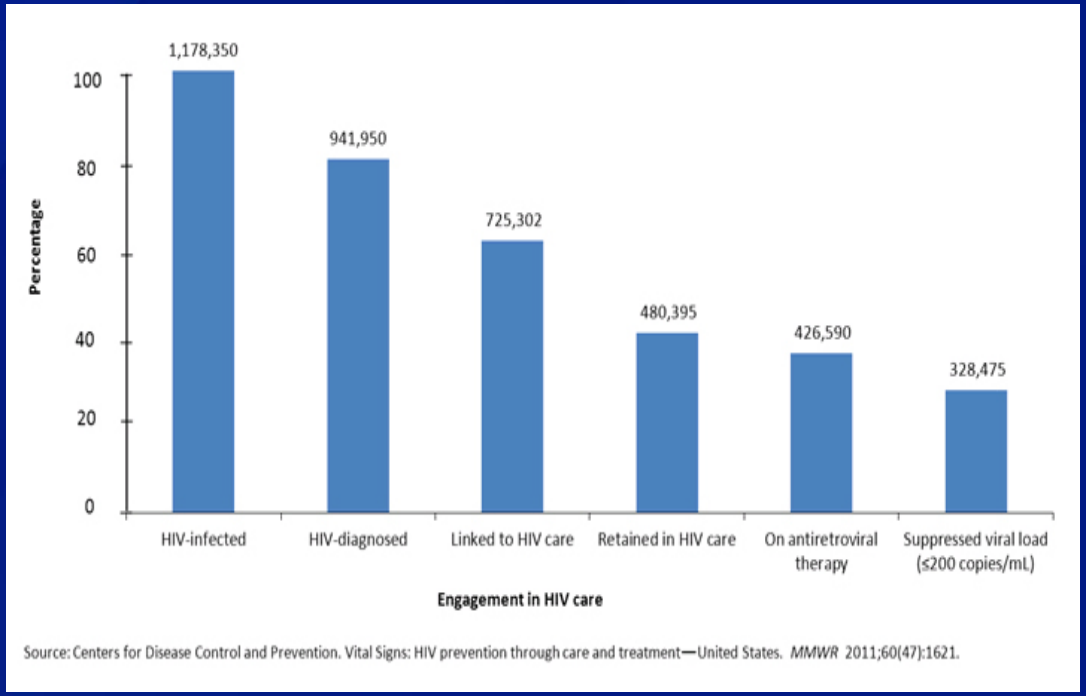
- No conflict of interest

Today's Presentation

- Background
- Criteria Development
- Inclusion/Exclusion Criteria
- Evaluation Criteria
- Evidence-based LRC Interventions (EBIs)
- Evidence-informed LRC interventions (EIs)
- Challenges
- Next Steps

Background

- Increased focus on HIV care continuum
- NHAS goals



Source: Centers for Disease Control and Prevention. Vital Signs: HIV prevention through care and treatment—United States. *MMWR* 2011;60(47):1621.

Criteria Development Process

- Reviewed seminal LRC studies
- Drafted evaluation criteria
- Conducted 3 CDC internal consultations
- Conducted 2 external consultations at IAPAC 2012 and 2013
- Received DHAP input

Consultants

CDC	NIMH	External
Jason Craw	Cyndi Grossman	Rivet Amico
Nicole Crepaz	Michael Stirratt	Tom Giordano
Lytt Gardner		Lisa Hightow-Weidman
Cindy Lyles		Lisa Metsch
Gary Marks		Michael Mugavero
Janet Heitgerd		Stephen Safren
Luke Shouse		Amy Wohl
Linda Koenig		
David Purcell		
Arin Freeman		
Raekiela Taylor		

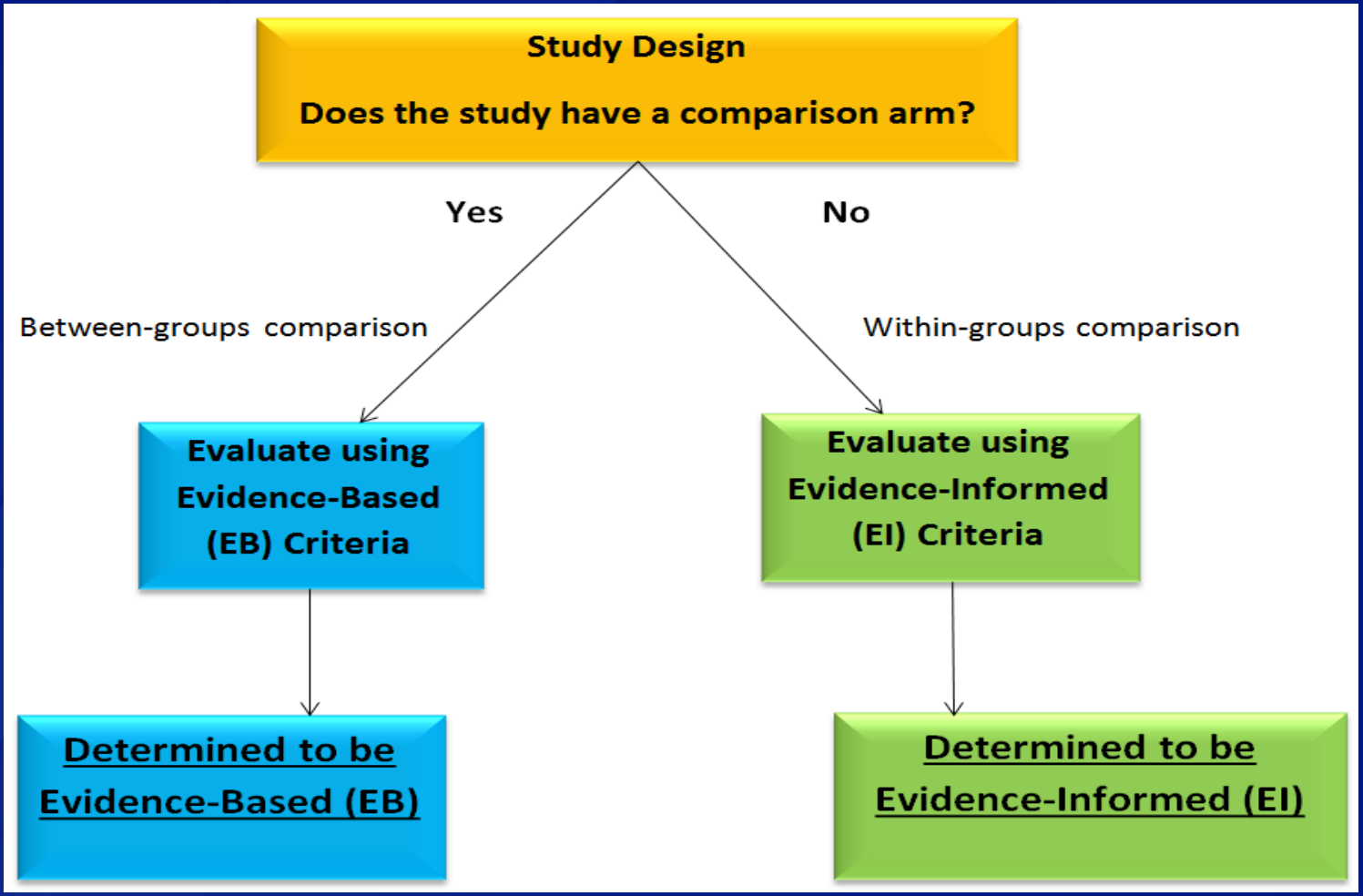
Review Inclusion Criteria

- **All types of LRC interventions**
- **Study design**
  - U.S. based: RCT or non-RCT; 1-group pre-post
  - International: RCT
- **Published between 1996 – Feb 2013**
- **Focused on people diagnosed with HIV**
- **Relevant LRC outcomes reported**
  - linkage, retention, re-engagement
- **Used relevant measures**
  - HIV med visits documented in medical or agency records or surveillance reports
  - HIV viral loads and/or CD4 counts as proxies for HIV med visits in above reports
  - Self–reports validated by med or agency records, or surveillance reports

Review Exclusion Criteria

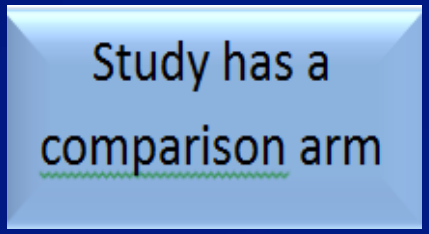
- Health care utilization
- Outcomes not specific to HIV care
- Self-reported outcomes
- Lack of pre-intervention data for one-group studies

Evaluation Criteria by Study Design



Evidence-based Criteria

- **Studies evaluated on:**
  - Study design quality
  - Study implementation quality
  - Appropriateness of analysis
  - Strength of evidence
  - Other limitations



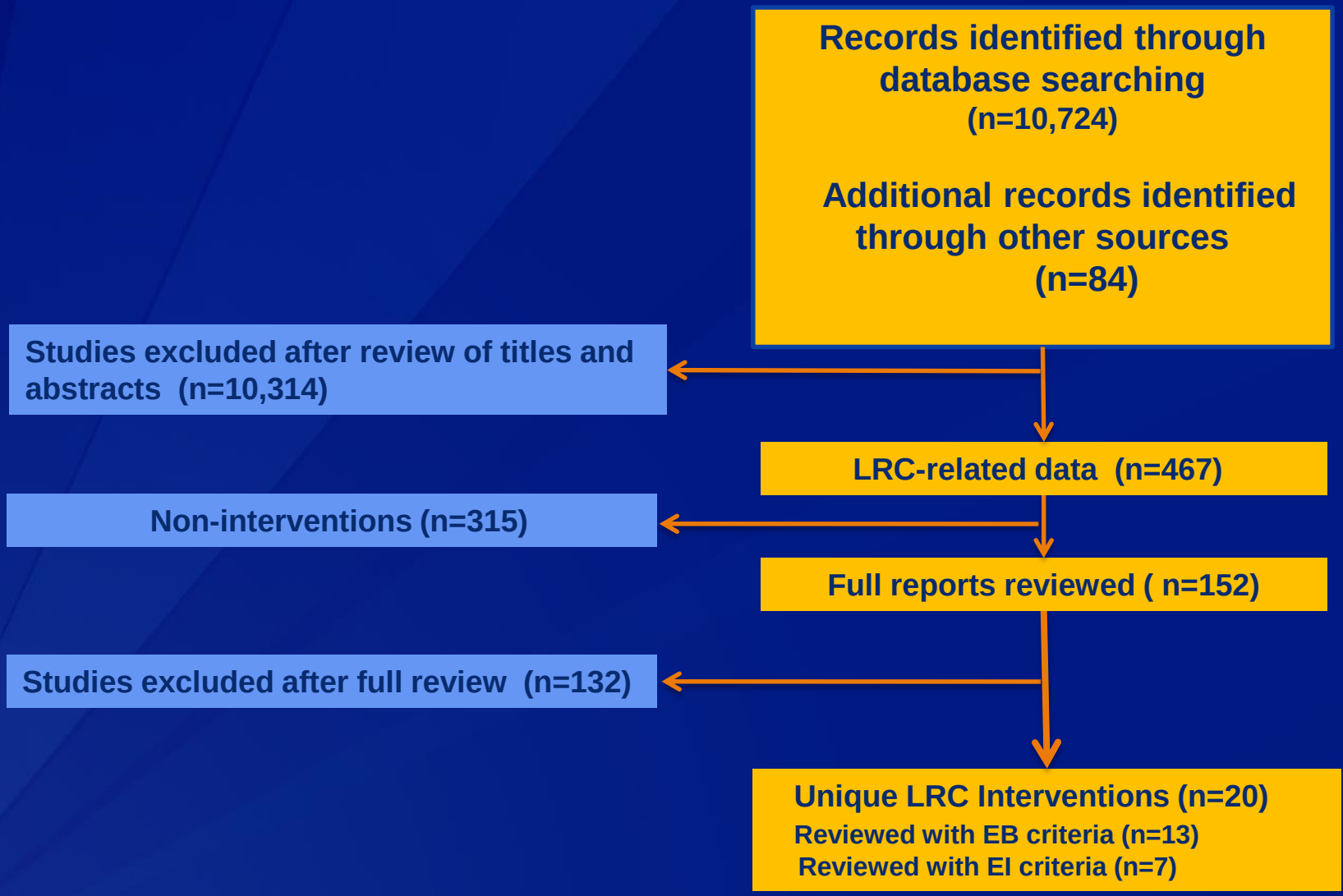
- **Significant positive intervention effects based on between group comparisons on relevant outcomes**
- **No significant negative intervention effects**

Evidence-informed Criteria

- **Significant positive pre-post intervention changes for relevant LRC outcomes**
- **No significant negative pre-post intervention changes for relevant LRC outcomes**

Study has no comparison arm

LRC Systematic Search (Jan 1996-Feb 2013)



LRC Evidence-Based Interventions (EBIs)

Author (Pub. Year)	Intervention Name	Intervention Effect	Primary Strategies
Gardner (2005)	ARTAS	Linkage	Strengths-based case management
		Retention	
Robbins (2011)	Virology FastTrack	Retention	Interactive notification system for providers
Lucas (2010)	Clinic-based Buprenorphine (BUP)	Retention	Co-location of drug Tx and HIV med care
Muhamadi (2010)	Extended Counseling	Linkage	Counselor training & home visits by peers

LRC Studies that failed EB Criteria

- **9 studies: 7 U.S. , 2 International**
- **Majority focused on retention in care**
- **Most common reasons:**
  - No statistically significant positive findings (n=9)
  - Sample size < 40 (n=3)
  - Non-appropriate comparison arm (n=2)
  - LRC outcome did not occur within required time point (n=2)
  - Biased allocation to arms (n=2)

LRC Evidence-Informed Interventions (EIs)

Author (Pub. Year)	Intervention Name	Intervention Effect	Primary Strategies
Gardner (2012)	Stay Connected	Retention	• Brochures/posters in exam & waiting rooms • Brief verbal messages
Hightow-Weidman (2011)	STYLE	Retention	• Case management • Counseling/support • Appointment scheduling
Davila (2013)	Centralized HIV Services	Retention	Addition of health care staff specializing in youth to HIV clinic
Enriquez (2010)	Bilingual Care Team	Retention	Addition of bilingual health care staff to HIV clinic
Mugavero (2008)	Project CONNECT	Linkage	Scheduling orientation visit 5 days after call to clinic

LRC Studies that failed EI Criteria

- 2 U.S. studies
- Focused on HIV testing and linkage to care
- No significant positive findings pre to post

Summary

- **4 EBIs and 5 EIs identified**
- **Most common reason for failing PRS criteria**
  - not having significant positive findings
- **Most delivered in the clinic setting**
- **Majority focused on retention in care**
  - EBs: 2 retention, 1 linkage, 1 linkage/retention
  - EIs: 4 out of 5 focus on retention outcomes
- **Various intervention strategies**
- **No re-engagement interventions met criteria**

Challenges

How to …

- systematically review evaluation reports that are not available in peer-review journals
- prevent conflation of EBs and EIs
- collect high impact prevention-related data (e.g., cost, sustainability) not readily reported to inform research translation

Next Steps

- Add new LRC chapter to PRS compendium
- Evaluate 2013 LRC studies
- Publish findings in peer-review journal
- Translate intervention strategies into practice
- Identify promising approaches
- Explore non-peer reviewed reports

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Mahalo (Thank you)

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ARTAS

Target Population	Intervention Components	Intervention Effect
Recently diagnosed HIV+ patients	• Strengths-based approach • Up to 5 visits with case manager • Informational packets • Case manager encouraged contact with a clinic and accompanied patient	Linkage to care: ↑ 1st HIV care visit in 6 months over 12 mos. Retention in care: ↑ at least 1 HIV care visit in each of 2 consecutive 6-month follow-up periods over 12 mos.

Gardner, L., Metsch, L., Anderson-Mahoney, P., Loughlin A., del Rio, C., . . . the ARTAS Study Group. (2005). Efficacy of a brief case management intervention to link recently diagnosed HIV-infected persons to care, *AIDS, 19, 423-431*

Virology FastTrack

Target Population	Intervention Components	Intervention Effect
HIV+ clinic patients	Interactive alerts notified providers of missed appointments or adverse events via: • provider's electronic medical record (EMR) "home page" • patient-specific EMR page • biweekly emails	Retention in care: ↓ Missed HIV care appointments (no completed appointment for > 6 months over a 12-month period)

Robbins, G., Lester, W., Johnson, K., Chang, Y., Estey, G., Surrao, D., . . . Freedberg, K. (2012). Efficacy of a clinical decision-support system in an HIV practice: a randomized trial, *Annals of Internal Medicine, 157, 757-768*,

Clinic-Based Buprenorphine (BUP)

Target Population	Intervention Components	Intervention Effect
Opioid dependent HIV+ clinic patients	Clinic-based BUP • BUP induction and dose titration • Urine drug testing • Individual counseling	Retention in care: ↑ # of HIV care visits over 12 months

Lucas, G.M., Chaudhry, A, Hsu, J, Woodson T, Lau, B., Olsen, Y., . . . Moore, R.D. (2010). Clinic-based treatment of opioid-dependent HIV-infected patients versus referral to an opioid treatment program, *Annals of Internal Medicine, 152,* 11, 704-712.

Extended Counseling

Target Population	Intervention Components	Intervention Effect
Newly diagnosed HIV+ patients	• Post-test counseling by trained counselors • Monthly home visits by community support agents (e.g., influential community volunteers, peers)	Linkage to care: ↑ 1st HIV care visit measured over 5 months

Muhamadi, L., Tumwesigye, N., Kadobera, D., Marrone, G., Wabwire-Mangen, F., Pariyo, G., . . . Ekstrom, A. (2011). A single-blind randomized controlled trial to evaluate the effect of extended counseling on uptake of pre-antiretroviral care in eastern Uganda, *Trials, 12 (184)*

Stay Connected

Target Population	Intervention Components	Intervention Effect
HIV+ clinic patients	• Print reminder materials: brochures, exam and waiting room posters • Brief verbal messages delivered by all clinic staff	Retention in care: ↑ Kept 2 consecutive HIV care visits over 12 mos. ↑ Proportion of all scheduled HIV care visits kept over 12 mos.

Gardner L., Marks G., Craw J., Wilson T., Drinoni M., Moore R., . . . Giordano T, for the Retention in Care Study Group. (2012). A low-effort, clinic-wide intervention improves attendance for HIV primary care. *Clinical Infectious Diseases*, 55, 1124-1134

STYLE

Target Population	Intervention Components	Intervention Effect
Young HIV+ Black or African American and Hispanic or Latino MSM	• Social marketing campaign • Outreach • Increased HIV testing services • Support group meetings • Case management • Help with appointment scheduling	Retention in care: ↑ At least 1 HIV care visit per 4-month period over 24 mos.

Hightow-Weidman, L., Smith, J., Valera, E., Matthews, D., Lyons , P. (2011) Keeping them in "STYLE": finding, linking, and retaining young HIV-positive Black and Latino men who have sex with men in care, *AIDS Patient Care and STDs, 25,*11, 37-45

Bilingual/Bicultural Care Team

Target Population	Intervention Components	Intervention Effect
HIV+ Hispanic or Latino clinic patients	• Comprised of bilingual nurse practitioner, Ryan White case manager, peer educator • Patient education and case management materials in Spanish	Retention in care: ↑ mean # of scheduled and kept visits over 12 months

Enriquez, M., Farnan, R., Cheng, A., Almeida A., Del Valle, D., Pulido-Parra, M., Flores, G. (2008). Impact of a bilingual/bicultural care team on HIV-related health outcomes, *Journal of the Association of Nurses in AIDS Care, 19, 4, 295-301*

Centralized HIV Services

Target Population	Intervention Components	Intervention Effect
Young HIV+ black or African-American and Hispanic or Latino clinic patients	Multidisciplinary youth clinic staffed by youth-focused health care providers, social workers, and case managers	Retention in care: ↑ Having 3 or more quarters with at least 1 visit in 12 mos. ↓ 6-mos gap in care during 12 mos.

Davila, J, Miertschin, N, Sansgiry, S, Schwarzwald H, Henley, C, Giordano, T. (2013). Centralization of HIV services in HIV-positive African American and Hispanic youth improves retention in care. *AIDS Care, 25,* 2, 202-206.

Project CONNECT

Target Population	Intervention Components	Intervention Effect
HIV+ clinic patients	Scheduled orientation visit within 5 days of initial call to clinic • Semi-structured interview • Psychosocial survey • Baseline lab testing • Meeting with social worker if uninsured	Linkage to care: ↓ No shows for first clinic visit over 6 months

Mugavero, M. (2008). Improving engagement in HIV care: what can we do? *Topics in HIV Medicine, 16,* 5, 156-161.