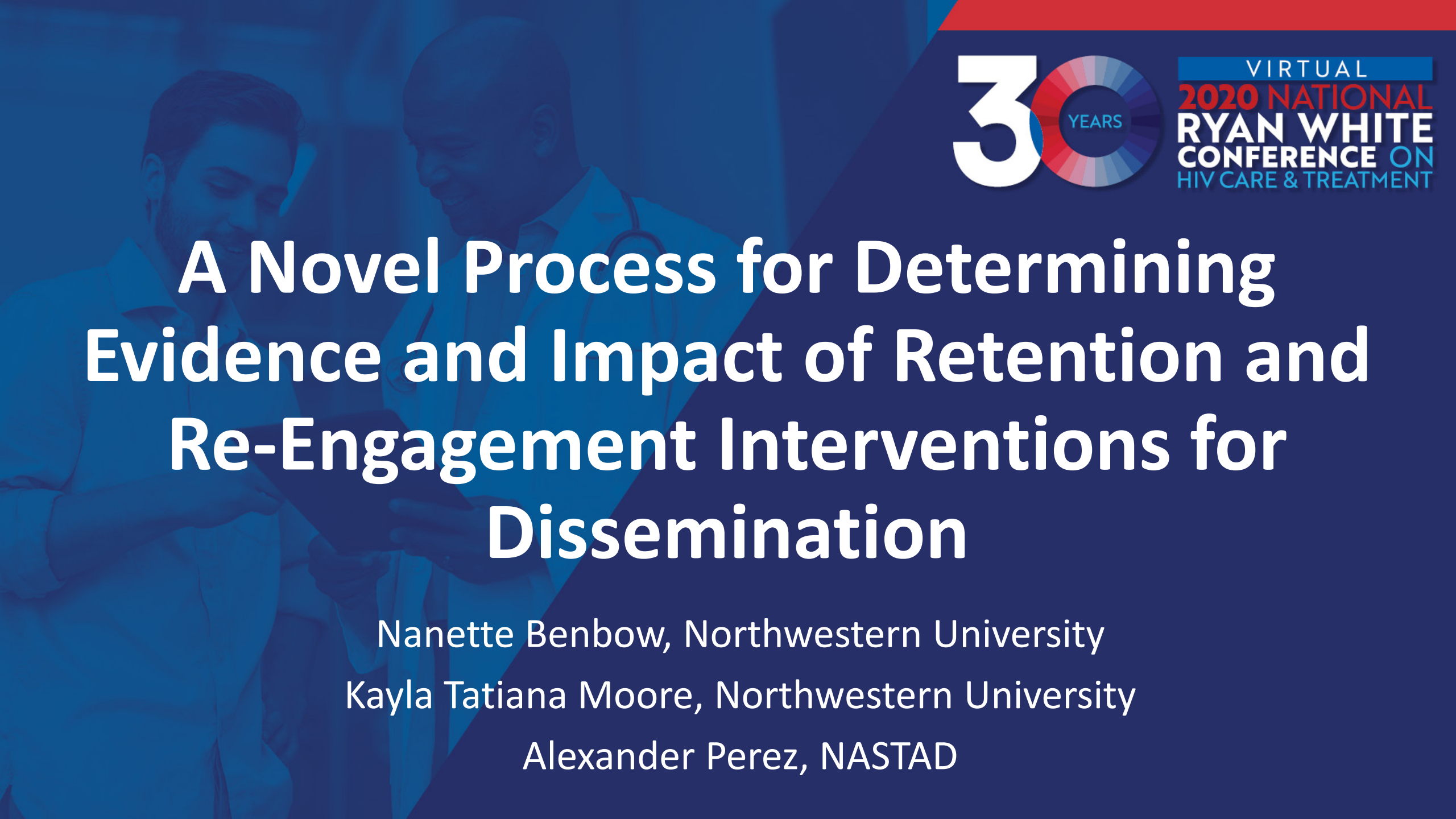


VIRTUAL 2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

A Novel Process for Determining Evidence and Impact of Retention and Re-Engagement Interventions for Dissemination

Nanette Benbow, Northwestern University

Kayla Tatiana Moore, Northwestern University

Alexander Perez, NASTAD

Outline

- Purpose and scope of the project
- Identifying the interventions
  - Literature review process
  - Findings
- Establishing intervention level of evidence
- Selecting interventions
  - Evidence criteria
  - Impact in real-world settings

Purpose and Collaboration (1)

- This presentation details work from a collaborative partnership between **NASTAD**, **Northwestern University's Center for Prevention Implementation Methodology**, and **Howard Brown Health Center** in response to HRSA-18-048 '*Evidence Informed Approaches to Improving Health Outcomes for People Living with HIV,*' an award under HRSA's Special Projects of National Significance (SPNS).

NASTAD

Center for Prevention Implementation Methodology FOR DRUG ABUSE AND HIV

Northwestern Medicine® Feinberg School of Medicine

Howard Brown Health

Purpose and Collaboration (2)

Purpose:

- To identify, catalog, disseminate, and support the replication of evidence-informed approaches and interventions to **engage people living with HIV (PLWH) who are not receiving, or who are at risk of not continuing to receive HIV healthcare.**
  1. **Identify interventions**
  2. **Select interventions based on level of evidence and implementation impact**
  3. **Develop implementation manuals for selected interventions**
  4. **Disseminate and support replication**

Purpose and Collaboration (3)

- An *Evidence and Dissemination Expert Panel (EDEP)* was established to inform the overall focus of the project during the entire lifecycle of the grant.
- The primary role of the EDEP:
  - **Assist with the identification of evidence-informed approaches and interventions**
  - **Provide input on criteria for establishing evidence**
  - **Rate and make recommendations on evidence-informed and evidence-based interventions**
  - Provide guidance on key variables to assess program costs
  - Provide input and feedback on implementation manual development and training materials
  - Inform dissemination and replication to support translation into real-world implementation
  - Promote mentoring opportunities and fostering communication across end users

Priority Interventions

- Involve **data utilization** interventions which identify and actively intervene with PLWH who are out of care;
- Involve **innovative service delivery models/set of services** that are responsive to the needs of PLWH who need to be engaged, re-engaged or retained in HIV healthcare, including clinical care team approaches that support linkage, re-engagement, and retention in care and HIV treatment services;
- Use **acuity scale tools** to determine if an individual living with HIV is likely to engage or re-engage in healthcare and what level of services are needed for the person to do so.

Identifying Interventions

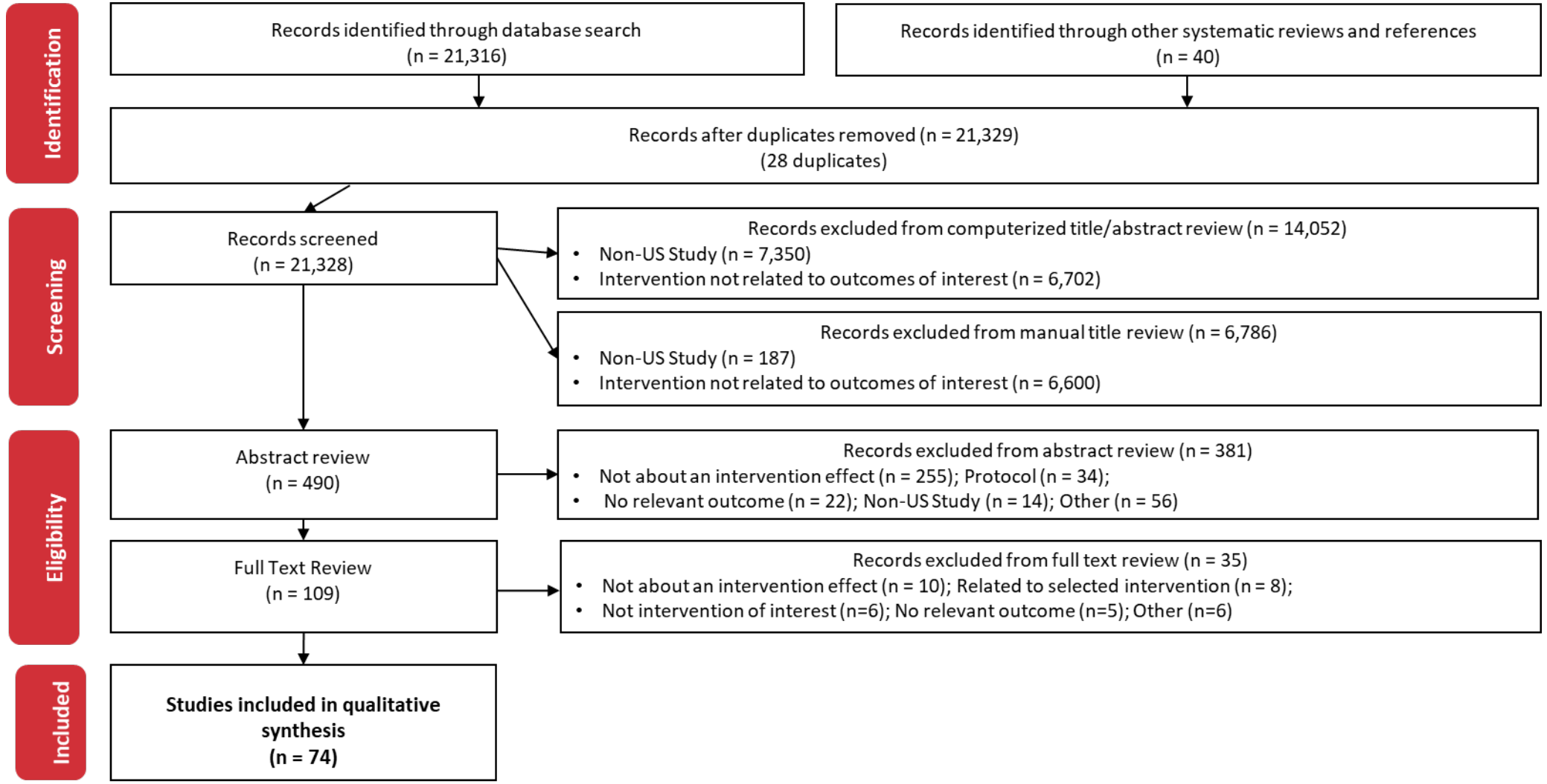
- Systematic review of the literature
- Review of registries and inventories of evidence-informed interventions
- Review of abstracts and posters from HIV-related conferences
- Expert panels and key-stakeholders to identify completed but not yet publicly available interventions
- Survey of NASTAD members (RFI) to identify interventions currently or previously implemented in the field (RW and CDC programs)

Literature Review Inclusion Criteria

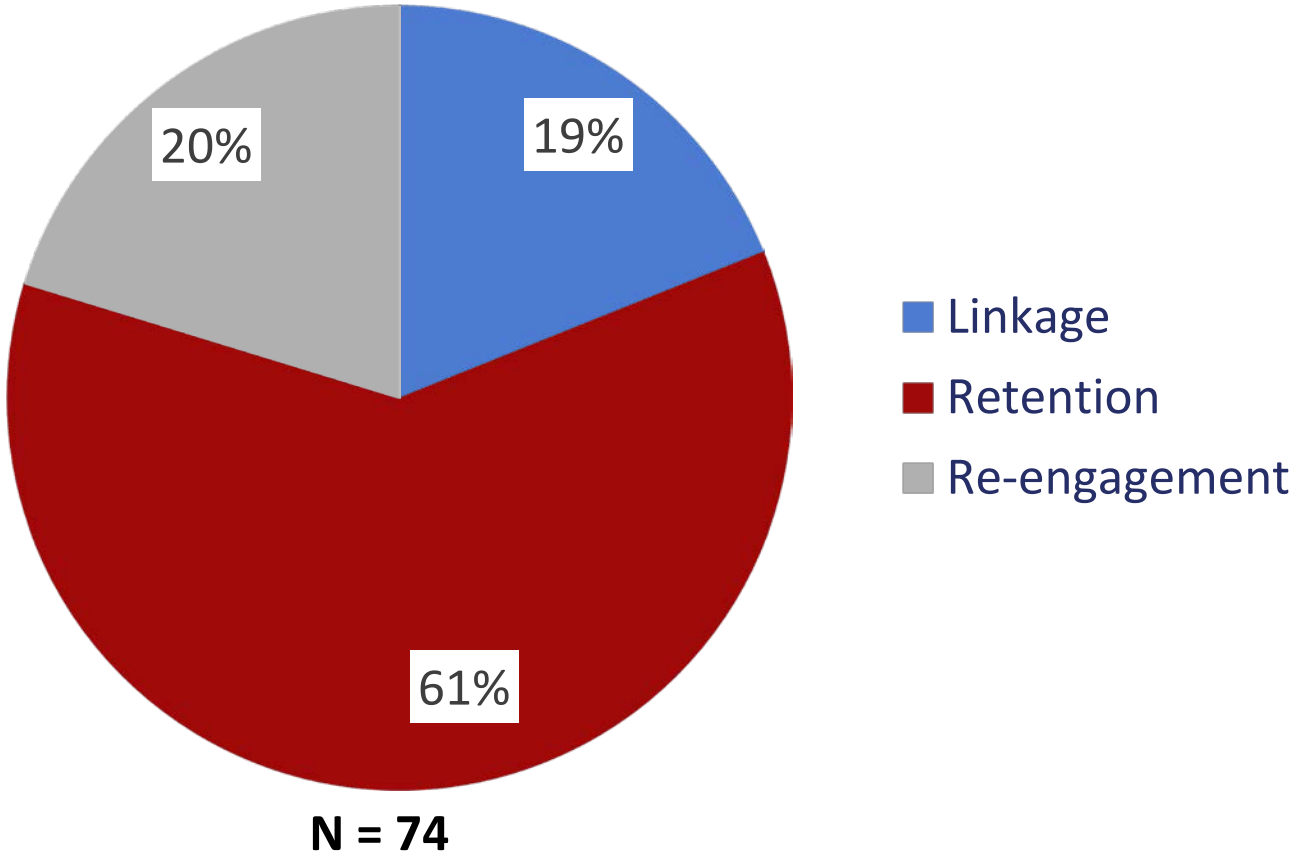
Included studies that:

- Took place in the U.S.
- Examine the effectiveness of an intervention/approach and describe linkage, retention and/or re-engagement outcomes;
- Clearly define an intervention/approach;
- Have a linkage, re-engagement, and/or retention component as part of the intervention/approach
  - HIV testing interventions with active linkage component

Literature Review Process



Characteristics of Selected Studies
Intervention Focus



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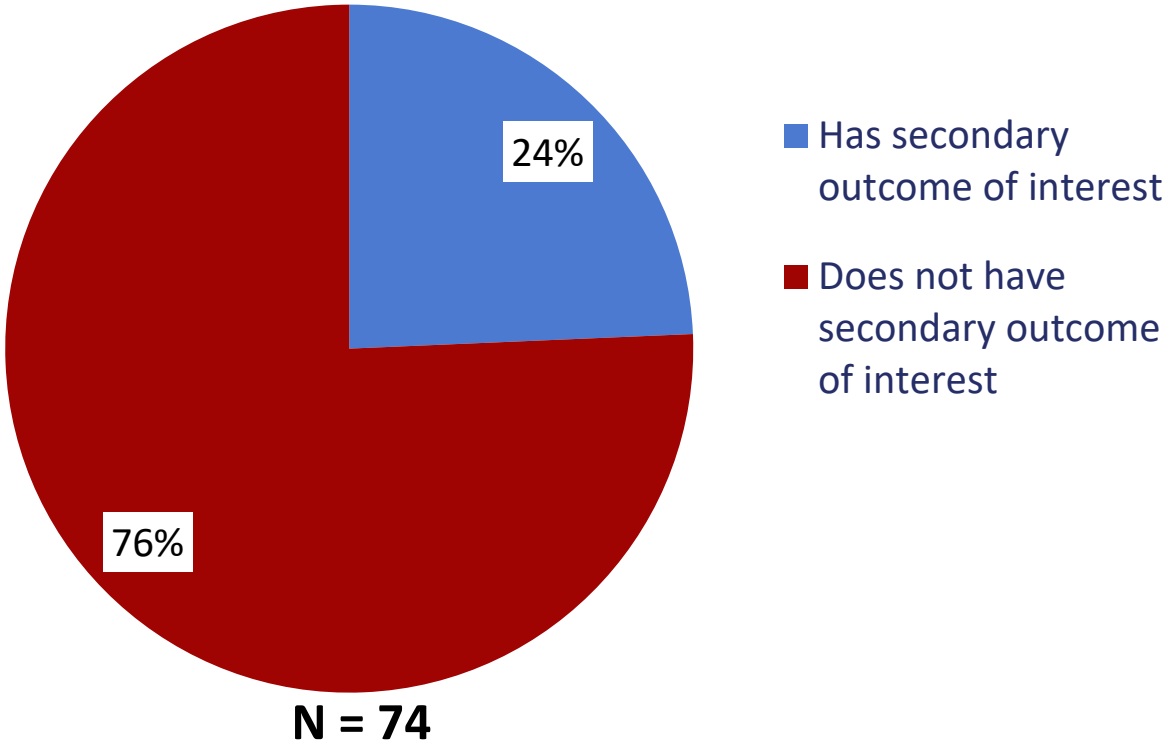
Characteristics of Selected Studies
Secondary Outcome of Interest

All Studies



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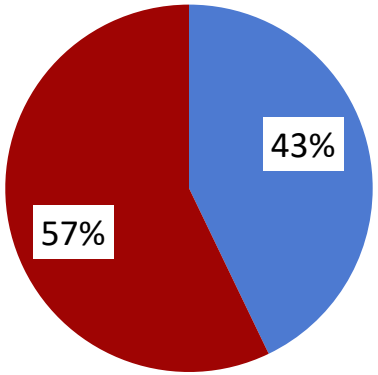
Linkage



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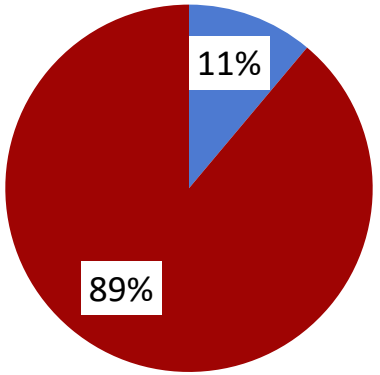
Retention



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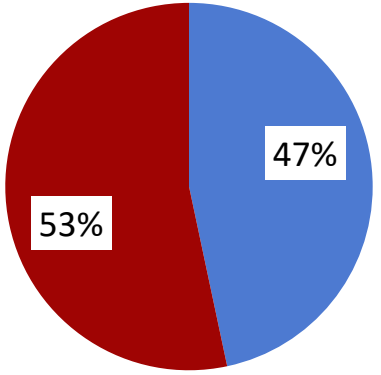
Re-engagement



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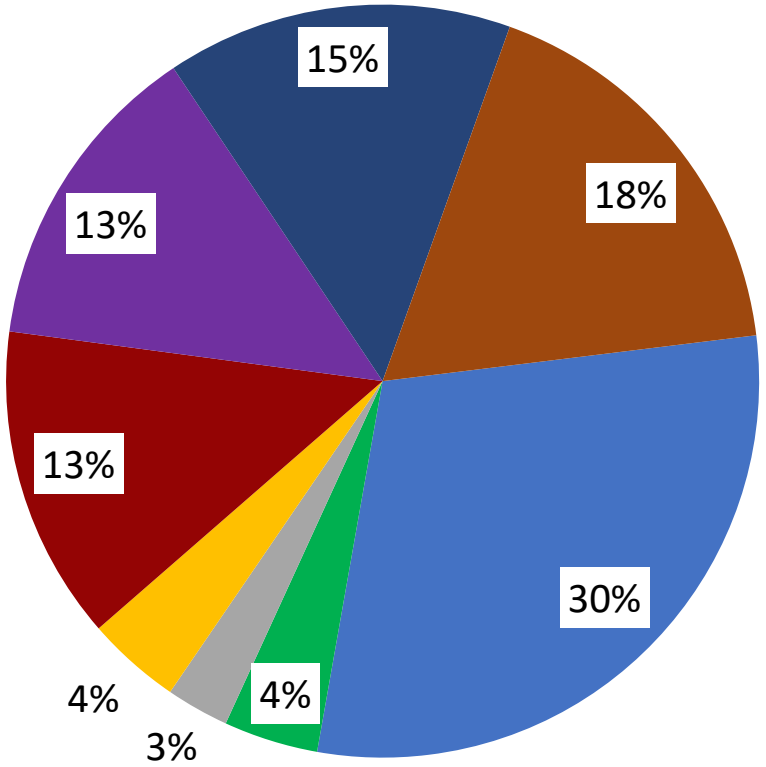
Characteristics of Selected Studies
Study Design

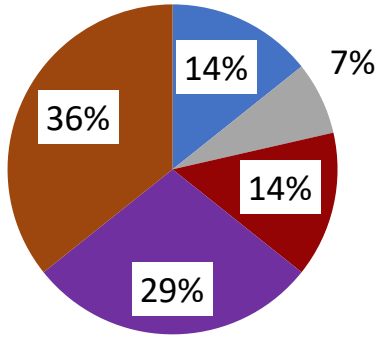
All Studies



N = 74

- Randomized controlled trial
- Quasi-randomized controlled trial
- Non-randomized controlled trial
- Historically controlled
- Prospective cohort
- Retrospective cohort
- Pre-post
- Cross-sectional

Linkage



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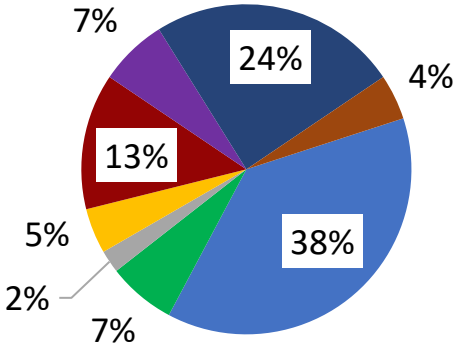
Retention



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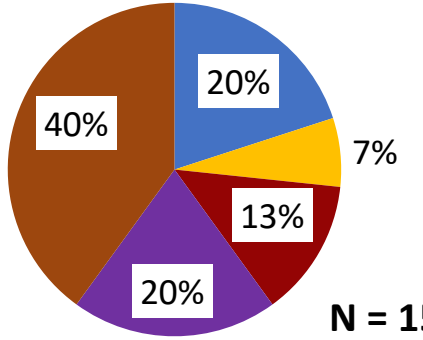
Re-engagement



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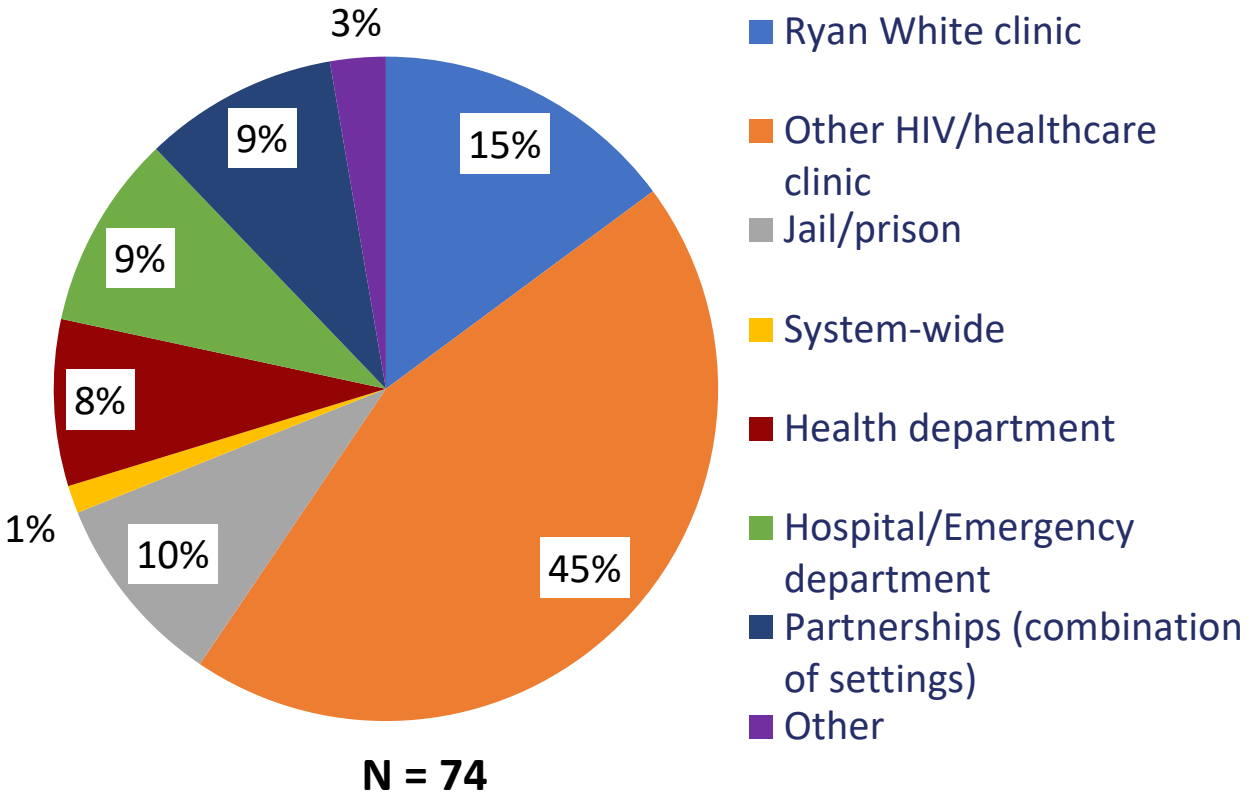
Characteristics of Selected Studies
Intervention Setting

All Studies



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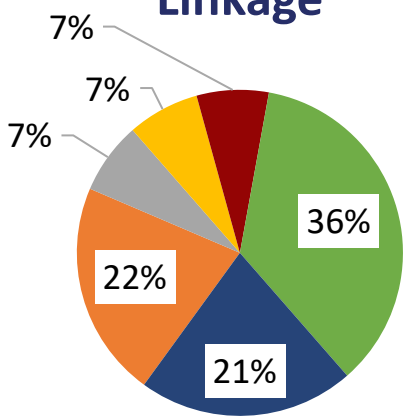

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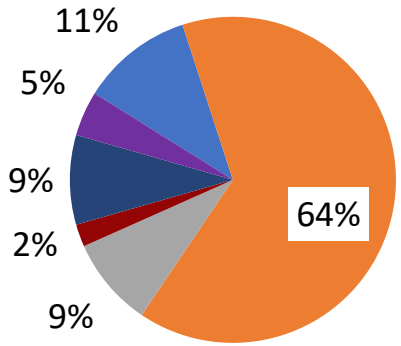
Retention



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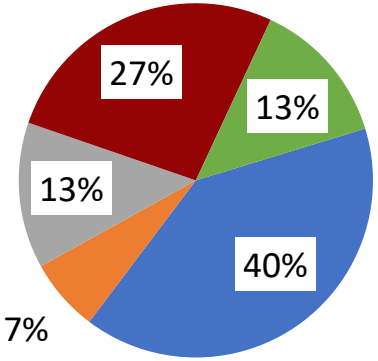
Re-engagement



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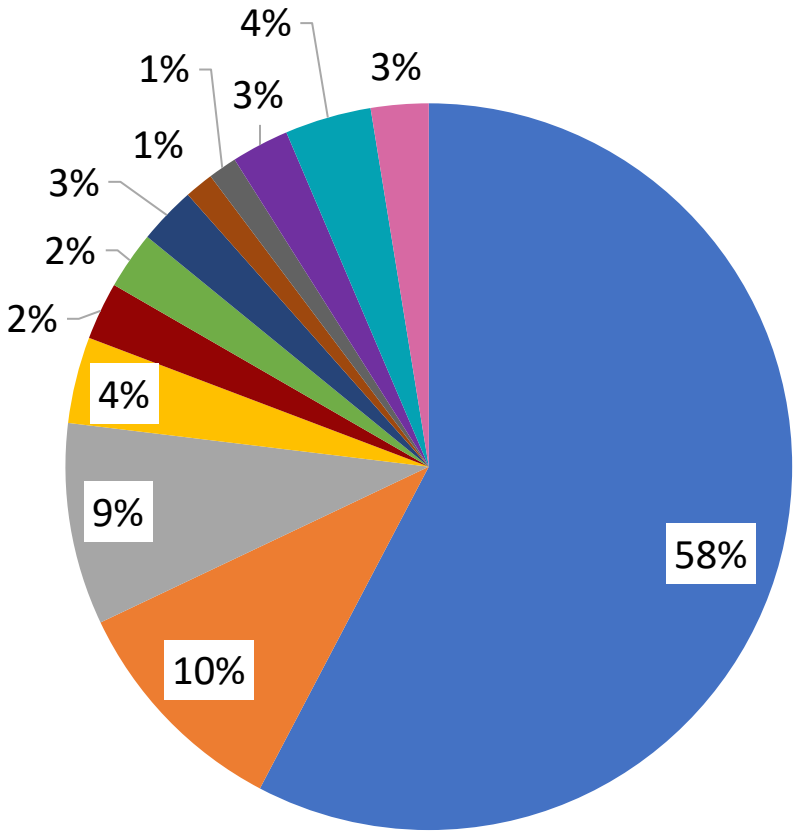
Characteristics of Selected Studies
Population Focus

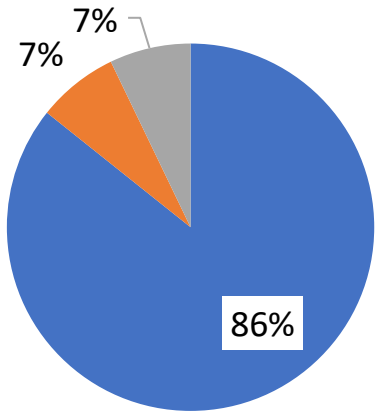
All Studies



N = 78

- General population
- Youth/young adults (ranges between 13-29 years)
- Currently incarcerated or post-release
- Injection or opioid drug users
- Homeless or unstably housed
- Veterans
- Live in southern or rural US
- Pregnant women
- Women with difficulty keeping appointments
- Hispanic/Latino(a) men and women
- Black MSM
- Hispanic/Latino MSM

Linkage



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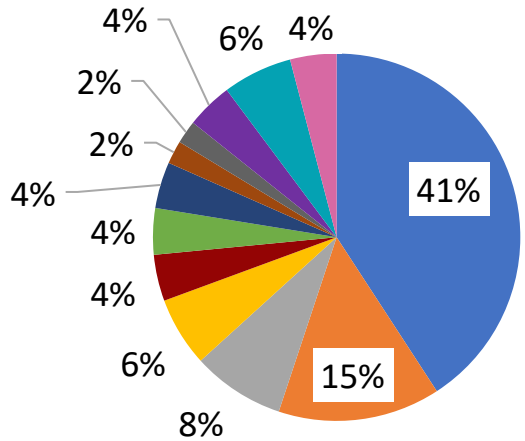
Retention



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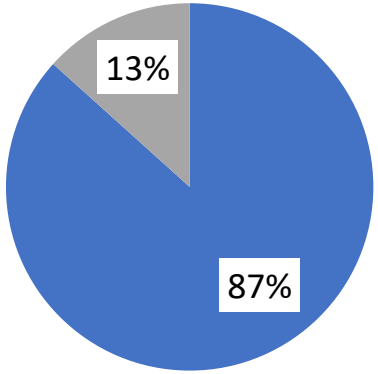
Re-engagement



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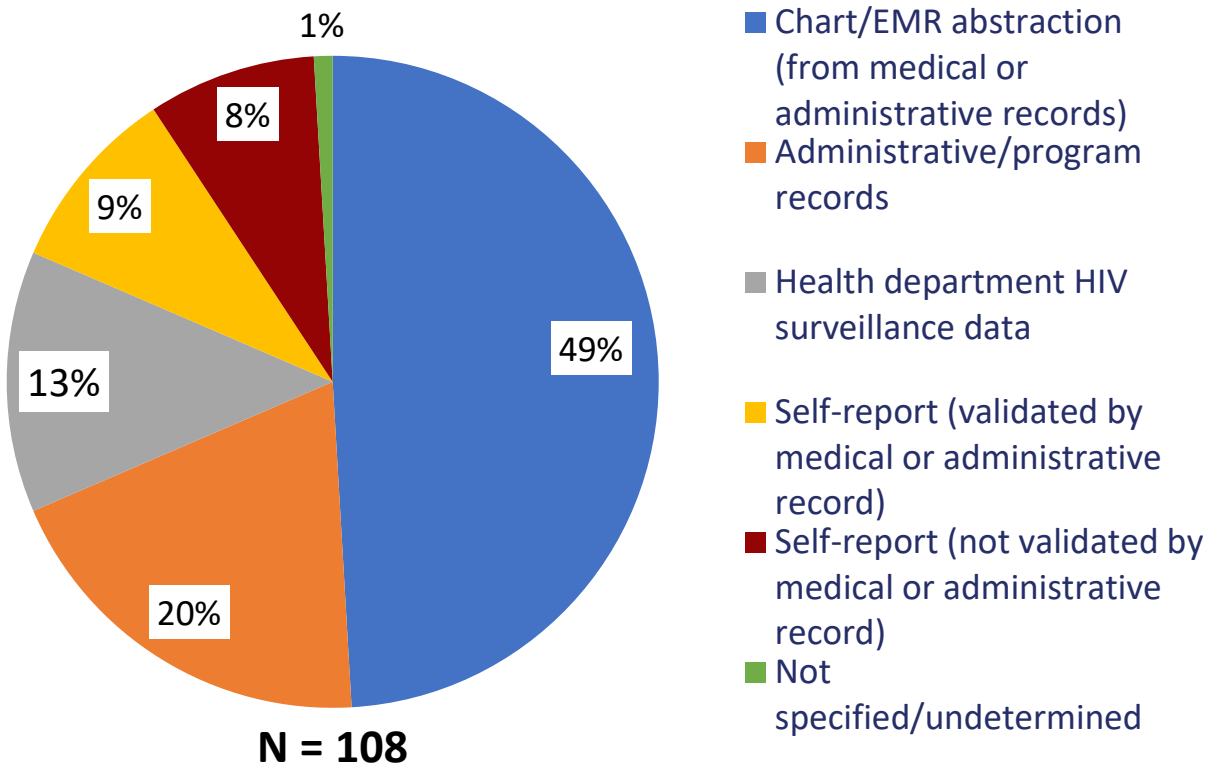
Characteristics of Selected Studies
Data Source

All Studies



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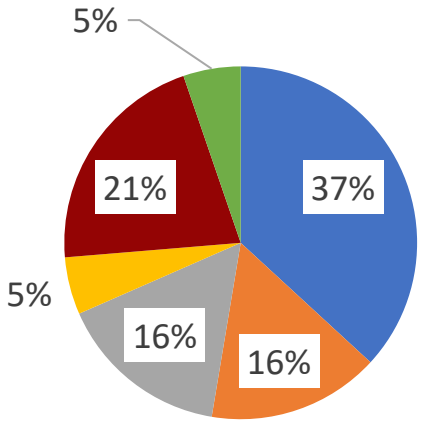
Linkage



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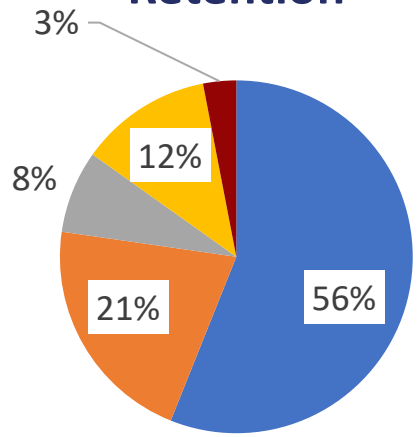
Retention



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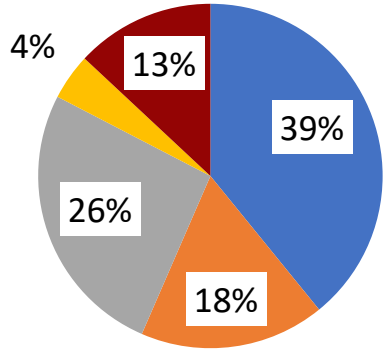
Re-engagement



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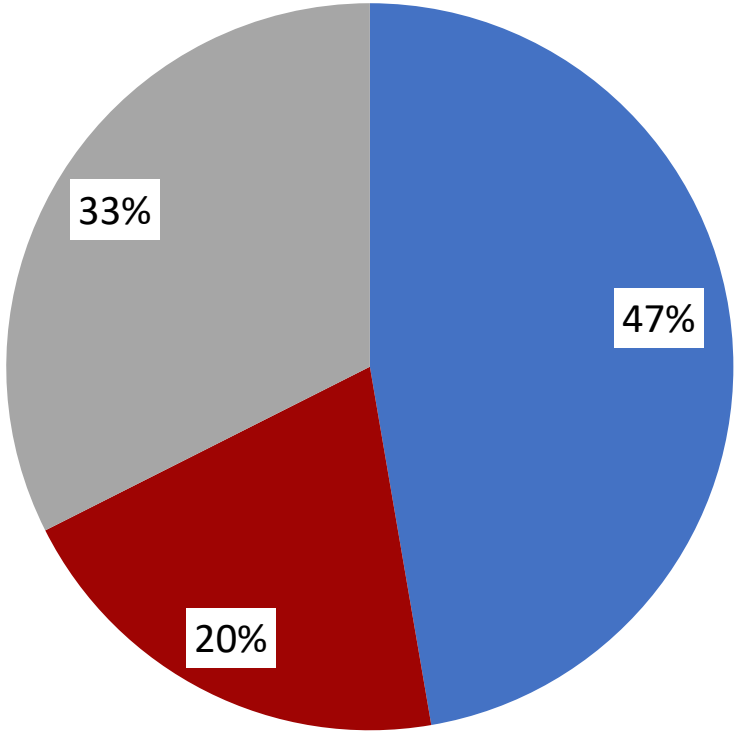
Characteristics of Selected Studies
Statistical Significance of Outcomes

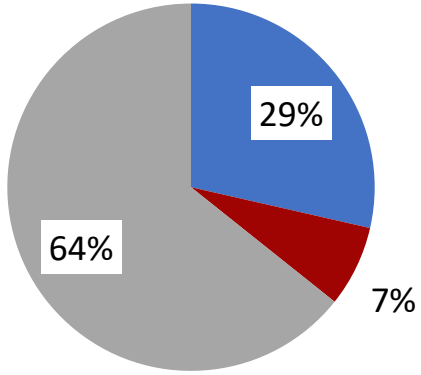
All Studies



N = 74

- Positive association
- No association
- No test of significance

Linkage



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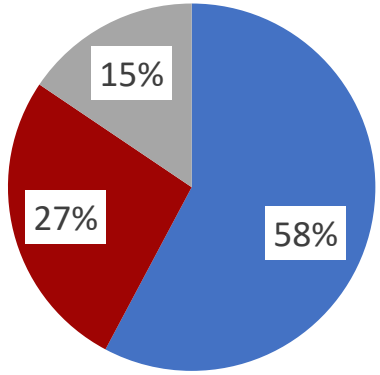
Retention



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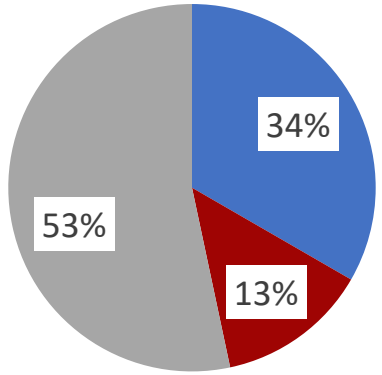
Re-engagement



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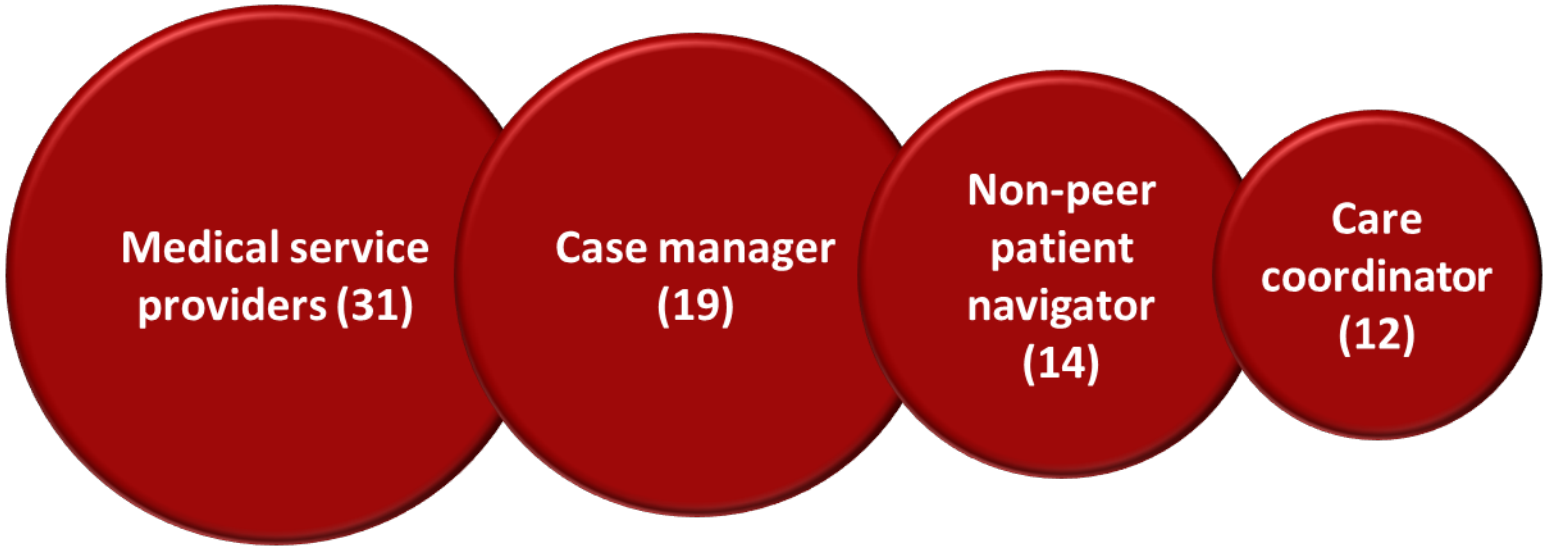
Characteristics of Selected Studies
Intervention Deliverer

- Most frequently used intervention deliverers:



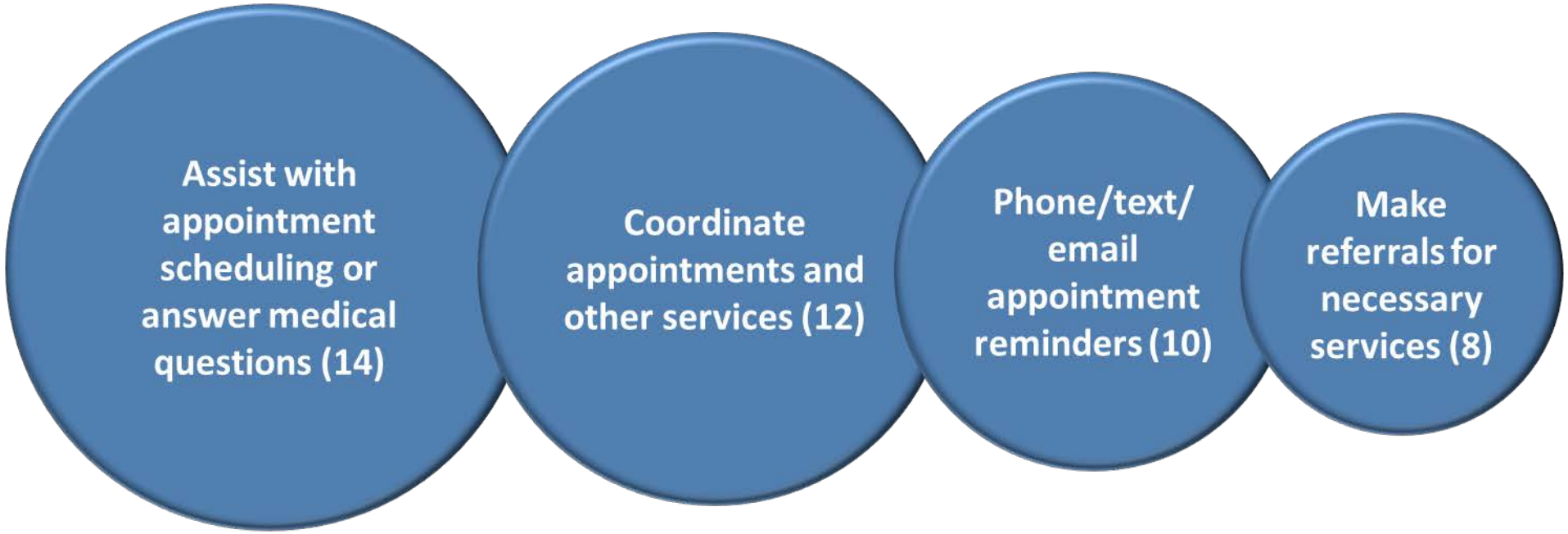
- Almost half of studies (35) used more than one intervention deliverer

Others:

- Health educator
- Linkage specialist
- Social worker
- Peer navigator
- Data manager
- Health department disease intervention specialist
- Medical case manager
- Nurse
- Outreach coordinator
- Text/direct messaging/automated calling
- Housing Referral specialist
- Clinic coordinator
- Corrections specialist
- Medical transporter
- Outreach specialist
- Peer educator
- Poster/video/presentation
- Retention specialist
- Treatment adherence specialist

Characteristics of Selected Studies Intervention Strategies

- Most frequently used intervention strategies:



- 70 strategies were used across all studies
- 55 studies used more than one intervention strategy; retention studies used more than one strategy most frequently

Higa, D.H., Marks, G., Crepaz, N. *et al.* Interventions to Improve Retention in HIV Primary Care: A Systematic Review of U.S. Studies. *Curr HIV/AIDS Rep* **9,** 313–325 (2012). https://doi.org/10.1007/s11904-012-0136-6

Determining Levels of Evidence

- For the purpose of this project, **evidence-informed approaches and interventions** were defined as tools, strategies, or models that have been proven effective or have shown promise as a methodology, practice, or means of improving the care and treatment of PLWH. Based on this definition, we considered the following two levels of evidence:
  - **Evidence-based** interventions (EBI – meet the CDC's Prevention Research Synthesis (PRS) Criteria for Evidence-Based Interventions for Retention in, and Re-engagement in HIV Care (LRC);
  - **Evidence-informed** interventions (EII) – demonstrate impact and strength of evidence *without* meeting all of the CDC's criteria for being evidence-based; consider other factors such as potential impact and relevance to the Ryan White HIV/AIDS Program.

Developing Evidence Criteria

- Sources used to inform evidence criteria
  - Past HRSA projects that assessed level of evidence (E2i, CEBACC)
  - CDC's Prevention Research Synthesis (PRS) Criteria for Evidence-Based and Evidence Informed Interventions for Retention in, and Re-engagement in HIV Care (LRC)[1]
- Collaborated with HRSA-HAB members to develop criteria to measure and score level of evidence.

Source: [1]https://www.cdc.gov/hiv/pdf/research/interventionresearch/compendium/lrc/cdc-hiv-lrc_criteria_ebis.pdf

Evidence Scoring Focus

Study Design

- Type of design
- Limited Selection Bias
- Comparison Group
- Minimal Allocation Bias
- Sufficient Sample Size
- Quality of Data sources
- Valid and Clearly-defined Outcome(s)
  - Linkage
  - Re-engagement
  - Retention
  - *NHAS Goals, ART Adherence & Viral Suppression*

Strength of Evidence and Study Quality

- Significant Tests
- Significant Intervention Effects
- Quality of Analysis
  - Analysis of participants as originally designed
  - Description of Participant Exclusions
  - Factors impacting intervention effect
  - Equivalence and adjustment of demographic and other key factors
  - Negative effects
  - Other limitations

Research Design Criteria

Type of Design:

- Randomized control trial (RCT) study
- Quasi-randomized control trial
- Non-randomized studies
  - Non-randomized control trial
  - Controlled before-and-after
  - Interrupted-time-series
  - Historically controlled (includes serial cross-sectional)
  - Prospective cohort
  - Retrospective cohort
  - Case-control
  - Pre-post (uncontrolled longitudinal - case series)
  - Cross-sectional (e.g. post-intervention only, no baseline)

Was the study design prospective?

- Study begins prior to or at exposure of intervention for both arms
- Study begins prior to or at exposure of intervention for only one arm
- No, study design is not prospective

Comparison Arm

- Concurrent (similar setting & population)
- Non-concurrent, implemented in a different site (similar setting & population), within 12 months of start of intervention
- Non-concurrent, historical control (similar setting & population)
- Non-concurrent (not within 12 months nor similar setting and population)
- No comparison arm or not appropriate comparison
-

Allocation Method

- Randomized allocation of participants to study arm
- Randomized allocation of groups to study arm
- Non-random allocation with minimal bias
- Non-random allocation with moderate bias
- Not-randomized (Not applicable)

Relevant Outcomes

- **Relevant Outcome and follow-up period**
- Linkage outcome #1 (completed medical visit and/or CD4/VL)
  - Within 1 month after intervention initiation
  - Within 2-6 months after intervention initiation
  - Within calendar year or 12-month period after intervention initiation
- Re-engagement outcome #1 (completed medical visit and/or CD4/VL)
  - Within 1 month after intervention initiation
  - Within 6 months after intervention initiation
  - Within calendar year or 12-month period after intervention initiation
- Retention # 1 (Two or more completed medical visits or CD4/VL at least 90 days apart)
  - Two or more visits at least 90 days apart at 12-24 months of intervention initiation
  - Two or more visits at least 90 days apart at 6 to 12 months of intervention initiation
  - Two or more visits at least 90 days apart in less than 6 months of intervention initiation
- Time out of care for re-engagement interventions
  - ≥12 months
  - <12 months

Significance level:

- **($p < .01$)**
- **($p \leq .05$)**
- **($p > .05$)**

Effect size

- **Large (OR≥2, RR≥2)**
- **Moderate (1.5≤ OR <2,1.5≤ RR <2)**
- **Small (1<OR<1.5, 1<RR<1.5)**

Scoring Criteria

Study Design	Score	Total Points Possible
1.1 Study Design		4
1.2. Sample Size		4
1.3. Data Collection		2
1.4. Data Source		2
1.5.1 Relevant Outcome - Linkage #1		
Linkage #2-#4		
1.5.2 Relevant Outcome - Re-engagement #1		
Re-engagement #2-#4		
1.5.3 Relevant Outcome - Retention #1		
Retention #2-#4		
1.5 Max Relevant Outcome		3
1.6. Re-engagement Outcome		2
1.7. Rationale for Measure		1
Total Study Design		**18**

Strength and Quality of Evidence	Score	Total Points Possible
2.1. NHAS Goal Met		3
2.2.1. Significance - Linkage #1-4		
2.2.2. Significance - Re-engagement #1-4		
2.2.3. Significance - Retention #1-4		
2.2. Max Significance Relevant Outcome		2
2.2.4. Significance - # Relevant Outcomes with 2+		3
2.3.1 Primary Outcome Effect - Linkage #1-4		
2.3.2 Primary Outcome Effect - Re-engagement #1-4		
2.3.3. Primary Outcome Effect - Retention #1-4		
2.3 Max Effect Relevant Outcome		3
2.3.4. Effect - # Relevant Outcomes with significant		3
2.4. Number of Other Significant Clinical Outcomes		4
Total Strength of Evidence		**18**
Study Potential Bias/Limitations		
Study Quality Indicators		
Total Quality of Study		**7**
Total Study Design, Strength and Quality		**43**

Final Scoring

- Based on scoring, an intervention/approach could achieve a maximum score of **18** for the "Study Design" category, **18** for "Strength of Evidence", and **7** for "Quality of Study and Analysis".
- For each intervention, we calculated the percentage of points achieved in each category and then calculated a weighted evidence score where "Strength of Evidence" was assigned a weight of **0.5**, and "Study Design" and "Quality of Study and Analysis" were each assigned a weight of **0.25**.

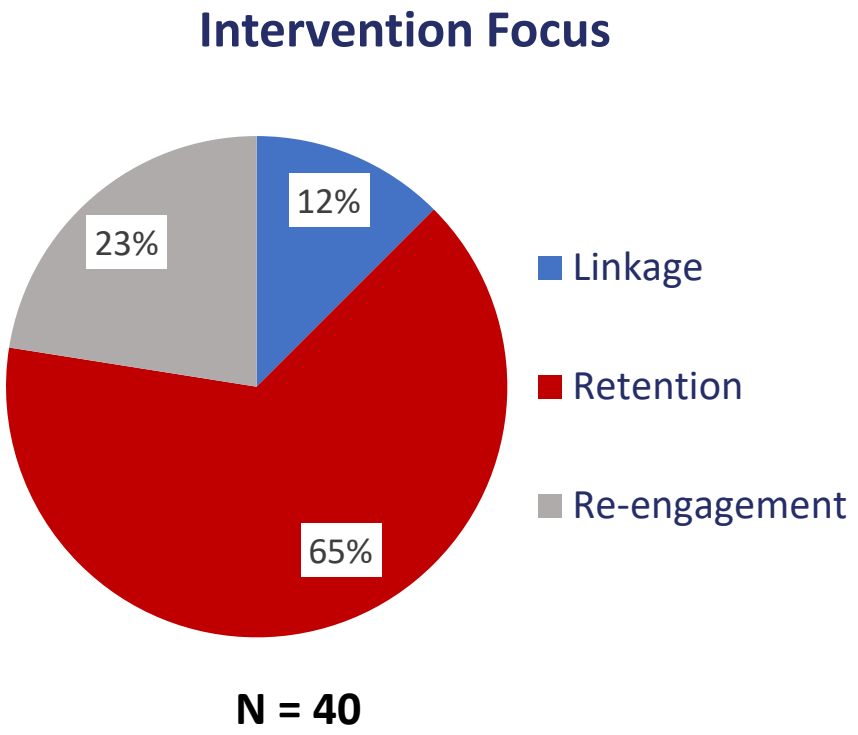
Distribution	Total Study Design[1]	Total Strength of Evidence[1]	Total Quality of Study[1]	Weighted Total Evidence[2]
Min	39%	0%	0%	13%
25% Percentile	50%	0%	14%	22%
Median	61%	11%	43%	29%
75% Percentile	67%	22%	57%	38%
Max	83%	50%	86%	55%

[1] Items highlighted in blue scored below the median in their respective evidence category

[2] Total weighted score = .25 x Study Design + .5 x Strength of Evidence + .25 x Study Quality

Interventions Selected for EDEP Review

- 40 interventions were selected that had an evidence score at or above the median weighted evidence score:
  - 37 from literature review
  - 3 from request for information (RFI) [More information about this RFI can be found in the presentation "*Shifting the narrative towards research equity: evidence, effectiveness, and innovation in the era of ending the HIV epidemic*" (abstract no. 16086)
- 6 studies were excluded that already had an implementation manual
- No interventions were identified that used an acuity scale



Intervention and Evidence Summary Sheets for EDEP

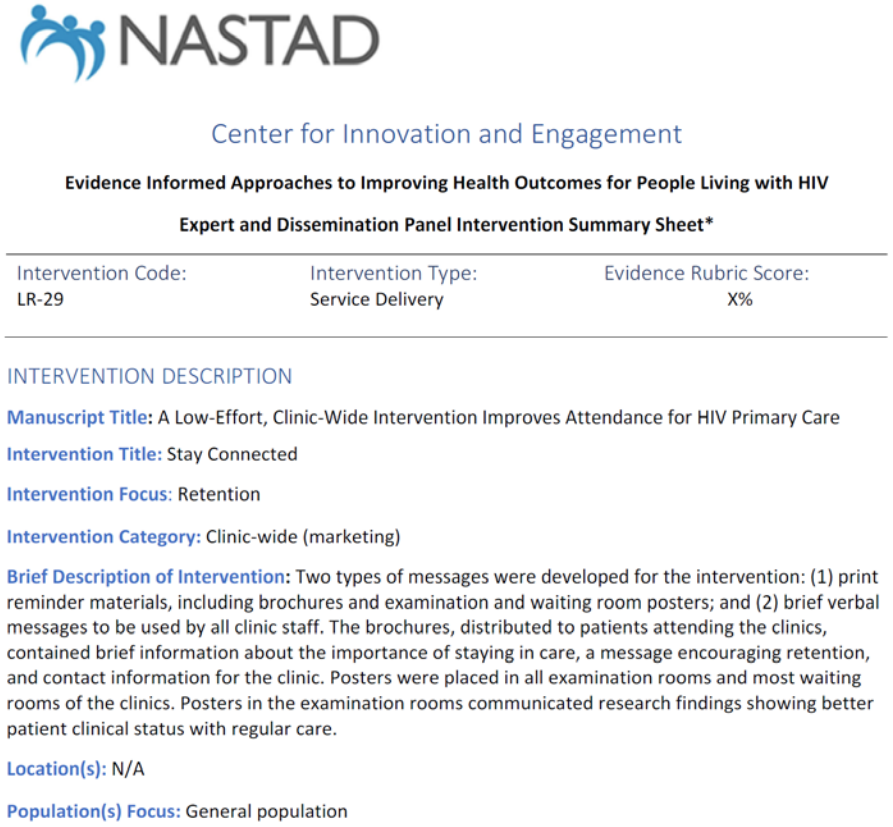
VIRTUAL 2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

INTERVENTION DESCRIPTION

- Manuscript & Intervention Title
- Intervention Focus
- Intervention Type
- Brief Description of Intervention
- Location(s)
- Population(s) Focus
- Intervention Setting and Sites
- Staff Delivering the Intervention
- Intervention Duration
- Study Time Period

EVALUATION STUDY AND RESULTS

- Research Design
- Eligibility Criteria
- Comparison
- Relevant Outcomes
  - Significant Positive Findings on Relevant Outcomes
  - Findings of Relevant Outcomes Not Statistically Significant
  - Strengths/Other Significant Clinical Outcomes
  - Other Considerations/Limitations



NASTAD

Center for Innovation and Engagement

Evidence Informed Approaches to Improving Health Outcomes for People Living with HIV

Expert and Dissemination Panel Intervention Summary Sheet*

Intervention Code:	Intervention Type:	Evidence Rubric Score:
LR-29	Service Delivery	X%

INTERVENTION DESCRIPTION

Manuscript Title: A Low-Effort, Clinic-Wide Intervention Improves Attendance for HIV Primary Care

Intervention Title: Stay Connected

Intervention Focus: Retention

Intervention Category: Clinic-wide (marketing)

Brief Description of Intervention: Two types of messages were developed for the intervention: (1) print reminder materials, including brochures and examination and waiting room posters; and (2) brief verbal messages to be used by all clinic staff. The brochures, distributed to patients attending the clinics, contained brief information about the importance of staying in care, a message encouraging retention, and contact information for the clinic. Posters were placed in all examination rooms and most waiting rooms of the clinics. Posters in the examination rooms communicated research findings showing better patient clinical status with regular care.

Location(s): N/A

Population(s) Focus: General population

Impact Scoring Process

- In addition to reviewing the intervention evidence score, the EDEP was asked to use their experience and expertise to evaluate the real-word impact of each intervention
- "Impact" refers to the practical impact an intervention can have in improving engagement and retention in HIV, measured using the following 7 criteria:

- **Relevance and Reach**
  - Does it impact a significant population of PLWH?
- **Acceptability**
  - Will it be accepted by priority populations?
  - Will it be accepted by providers?
- **Appropriateness**
  - Will it fit into institutional goals/objectives?
- **Feasibility**
  - Can it be integrated or readily adapted?
- **Transferability**
  - Will it achieve similar outcomes in other settings?
- **Sustainability**
  - Can methods/outcomes be maintained over time?

Impact Scoring Process – EDEP

- Each EDEP member was assigned a packet containing a subset of 8 intervention summaries to review and score potential impact. Packet included:
  - Intervention and evidence summary sheet;
  - Hyperlinks to intervention manuscripts with additional details;
  - Scoring sheet to grade intervention impact.
- EDEP members reviewed each intervention summary in the assigned packet and scored each using the impact scoring table.

Factor	Score*	Comments
Relevance and Reach	1	
Acceptability to Target Population	1	
Acceptability to Provider/Implementor	3	
Appropriateness	4	
Feasibility	4	
Transferability of the Intervention and Outcomes	5	
Sustainability	2	
Sum of Points @ 3 or above	16.0	
Impact Score (% of all points)	46%	
*1 = Strongly Disagree; 2= Disagree; 3= Neither Agree nor Disagree; 4= Agree; 5= Strongly Agree		

$$\frac{\text{sum of points at 3 or above}}{\text{35 (max points)}} = \text{impact score}$$

Impact Scoring Process – EDEP Convening

- EDEP members were paired to review the same set of interventions and arrive at a final impact score for each:
  1. Review individual scores for assigned interventions (40 interventions total/5 pairs)
  2. Discuss scores with partners
  3. Develop a consensus score for each intervention
  4. Categorize each intervention as: High priority, Medium priority, or Low priority
     - Include at least one intervention in each category
     - These categories are not strictly contingent on evidence score
     - Leverage both impact and evidence score

Impact Scoring Process – Intervention Prioritization

- Pairs came together in small groups to discuss intervention prioritization and finalize selection of high priority interventions
  - 2 groups – 5 members each
  - Groups were asked to provide rationale for each prioritization

- 17 interventions

- 7 interventions

- 16 interventions

Impact Scoring Process – Prioritization Rationale

- Standard of Care
- Low Evidence Score
- Model seems difficult to replicate/not feasible

Medium
PRIORITY

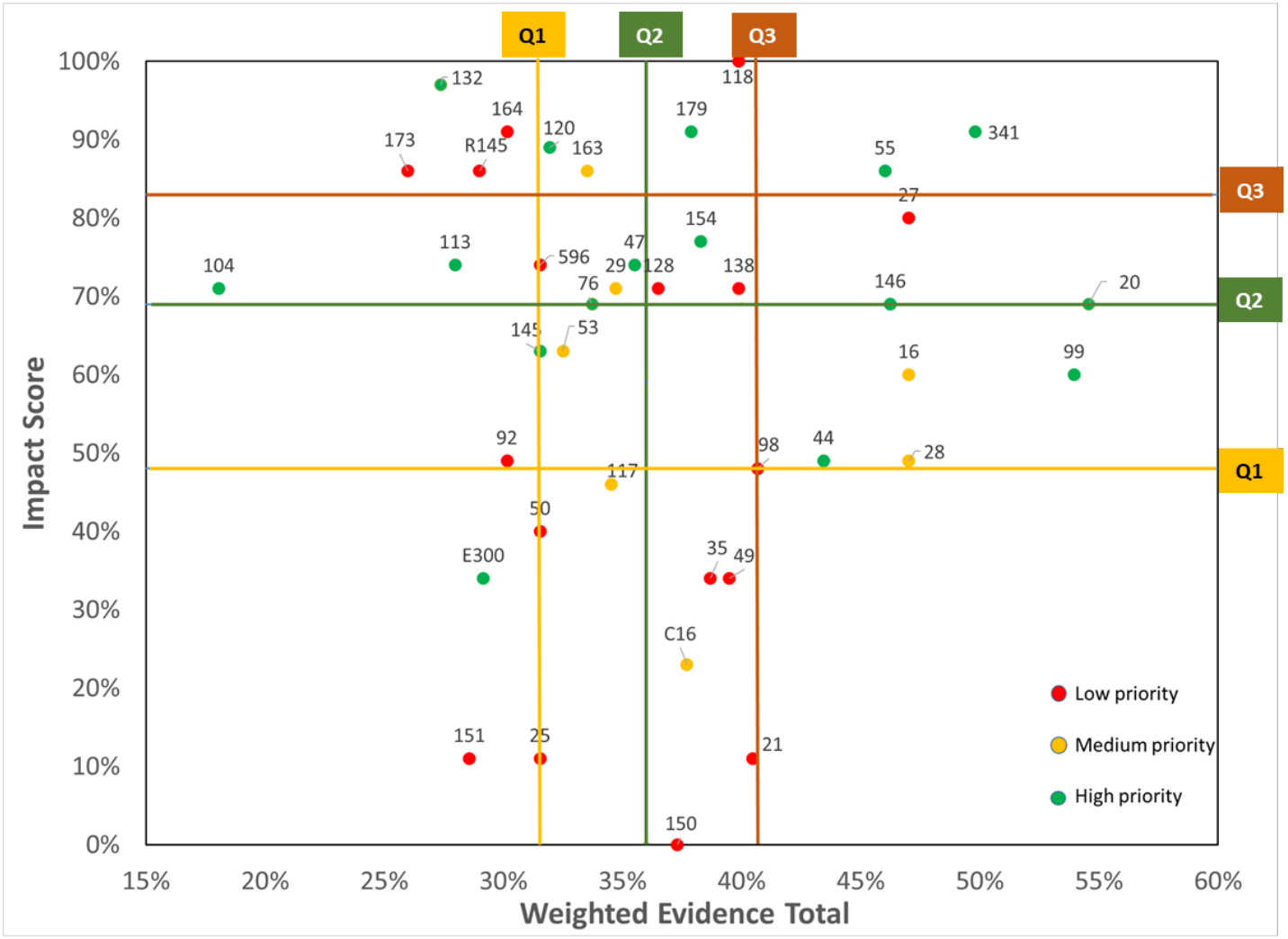
- Priority population focus is important, but intervention model may be difficult to replicate
- Intervention is promising but may need additional discussion/thought regarding replication feasibility

Impact Scoring Process – Prioritization Rationale continued

- Potential for broad population coverage (reach)
- Potential for streamlined integration into standard of care practices in different care settings
- Focus on priority population(s)
- Ease of adaptability
- Potential for sustainability

"Crucial, feasible, and patient-centered"

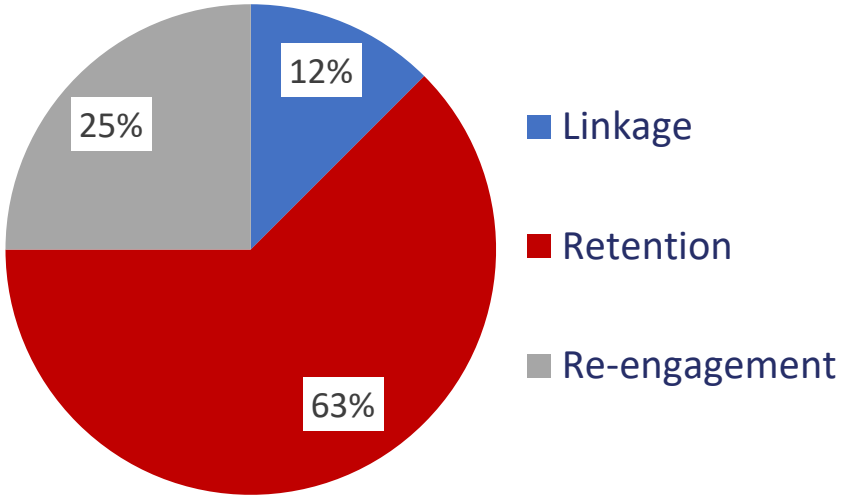
Evidence, Impact, and Priority



Selection of Final Interventions

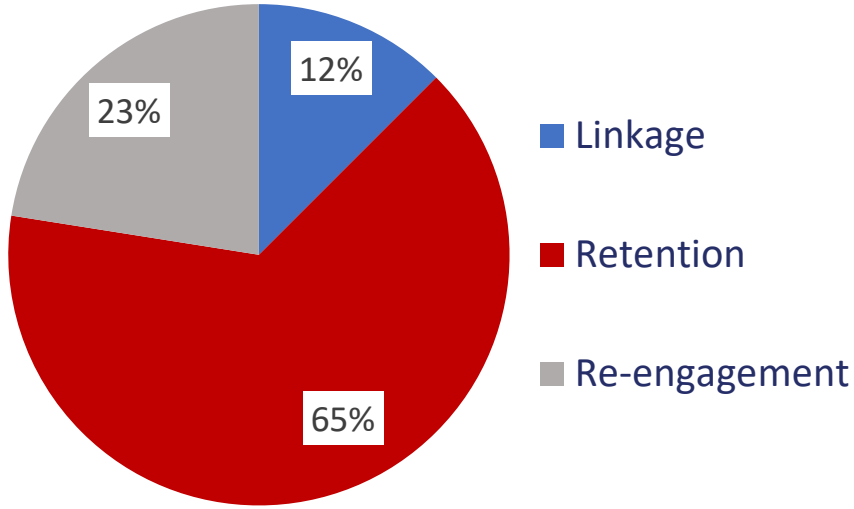
- The 14 high priority interventions were selected by EDEP members

Selected by EDEP



N = 14

Studies with Evidence



N = 40

Conclusion

- Additional research and program evaluation is needed to identify effective re-engagement interventions
- Our process highlights the value of evidence scoring used in conjunction with impact assessments of real-world experts/implementers to increase potential adoption and implementation success of evidence-based/informed interventions.

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- For further questions about the project and chosen interventions, please email Rosy Galvan with the subject line *"CIE Interventions"*.