Landscape of NIH-funded HIV Implementation Research

Preliminary Results of a Scoping Review

Nanette Benbow, M.A.S   **J.D. Smith, Ph.D.**

Northwestern Medicine®
Feinberg School of Medicine

Third • Coast • CFAR
CENTER FOR AIDS RESEARCH IN CHICAGO

Center for Prevention Implementation Methodology
FOR DRUG ABUSE AND HIV

Acknowledgements

- J.D. Smith
- Nanette Benbow
- Carlos Gallo
- Hendricks Brown
- Juan Villamar
- Krystal Baker
- Miriam Rafferty

- Lisa Hirschhorn
- Gregory Phillips
- Michelle Birkett
- Dennis Li
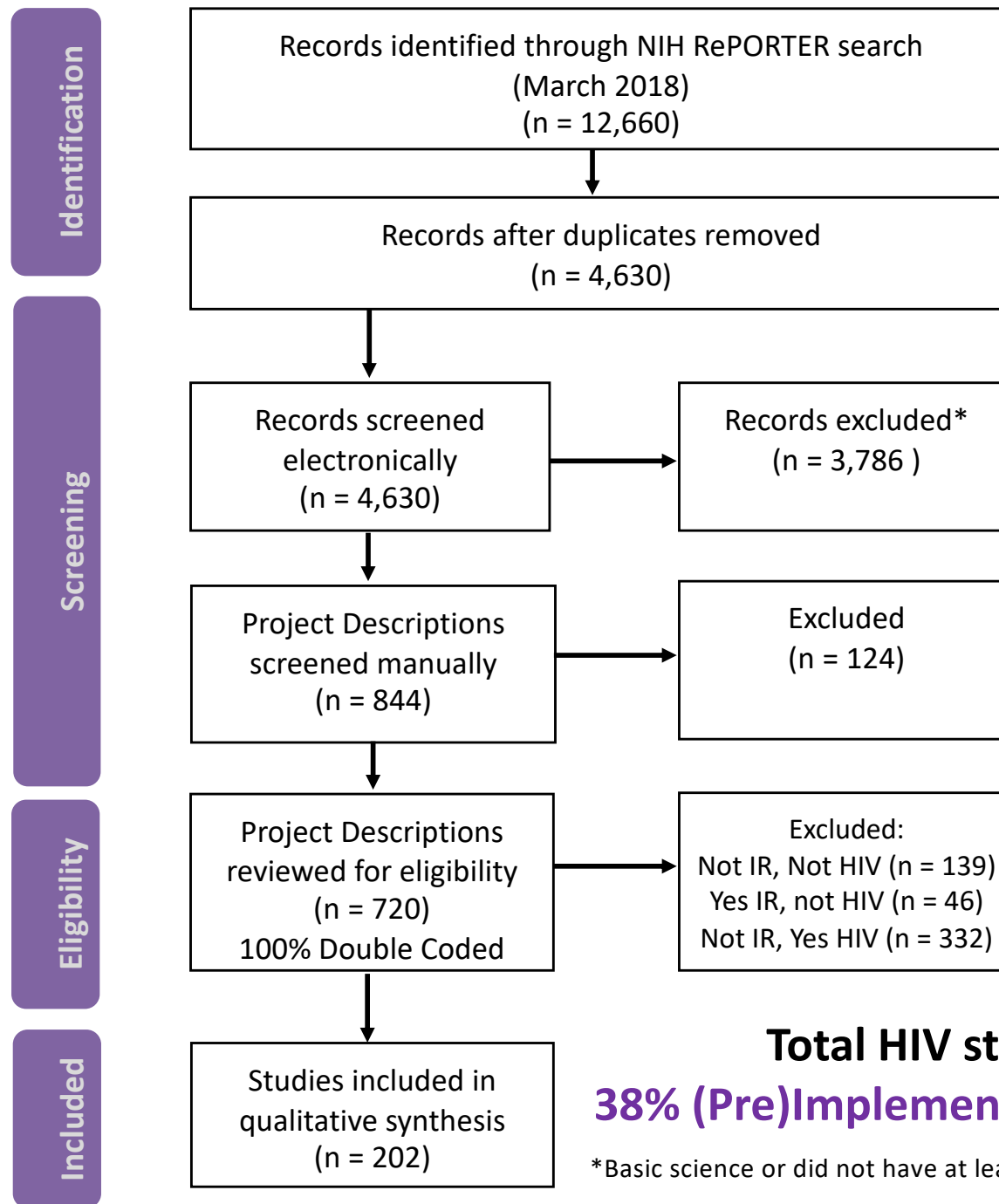- Moira McNulty
- Stef Baral
- Amrita Rao

Funding Acknowledgments

Purpose of Scoping Review & Definitions

- Identify the proportion and characteristics of HIV-related implementation research studies funded by NIH since 2013

- Definitions:

    ▪ HIV-related: Studies that measure an HIV outcome related to the Prevention or Care continuum indicators (including PrEP-awareness, linkage, retention, adherence; and HIV risk reduction.

    ▪ Implementation-related research: Studies that evaluate the use of strategies to integrate interventions into real-world settings to improve patient outcomes (NIH, 2013). *Also included **pre-**implementation research.

PRISMA Flow Diagram

Identification

Records identified through NIH RePORTER search
(March 2018)
(n = 12,660)

Records after duplicates removed
(n = 4,630)

Screening

Records screened electronically
(n = 4,630)

Records excluded*
(n = 3,786)

Project Descriptions screened manually
(n = 844)

Excluded
(n = 124)

Eligibility

Project Descriptions reviewed for eligibility
(n = 720)
100% Double Coded

Excluded:
Not IR, Not HIV (n = 139)
Yes IR, not HIV (n = 46)
Not IR, Yes HIV (n = 332)

Included

Studies included in qualitative synthesis
(n = 202)

Total HIV studies = 534
38% (Pre)Implementation Research (IR)

*Basic science or did not have at least one IR and HIV intervention word

Grant Characteristics

	N	%
Funding Institute/Center		
CGH	9	4.6%
NCHHSTP	6	3.1%
NIAAA	6	3.1%
NIAID	23	11.7%
NICHD	17	8.6%
NIDA	50	25.4%
NIMH	68	34.5%
Other/Unknown	23	11.4%
Grant Mechanism		
R01	84	41.6%
R21	36	17.8%
R34	23	11.4%
K-Series	18	8.9%
U-Series	25	12.4%

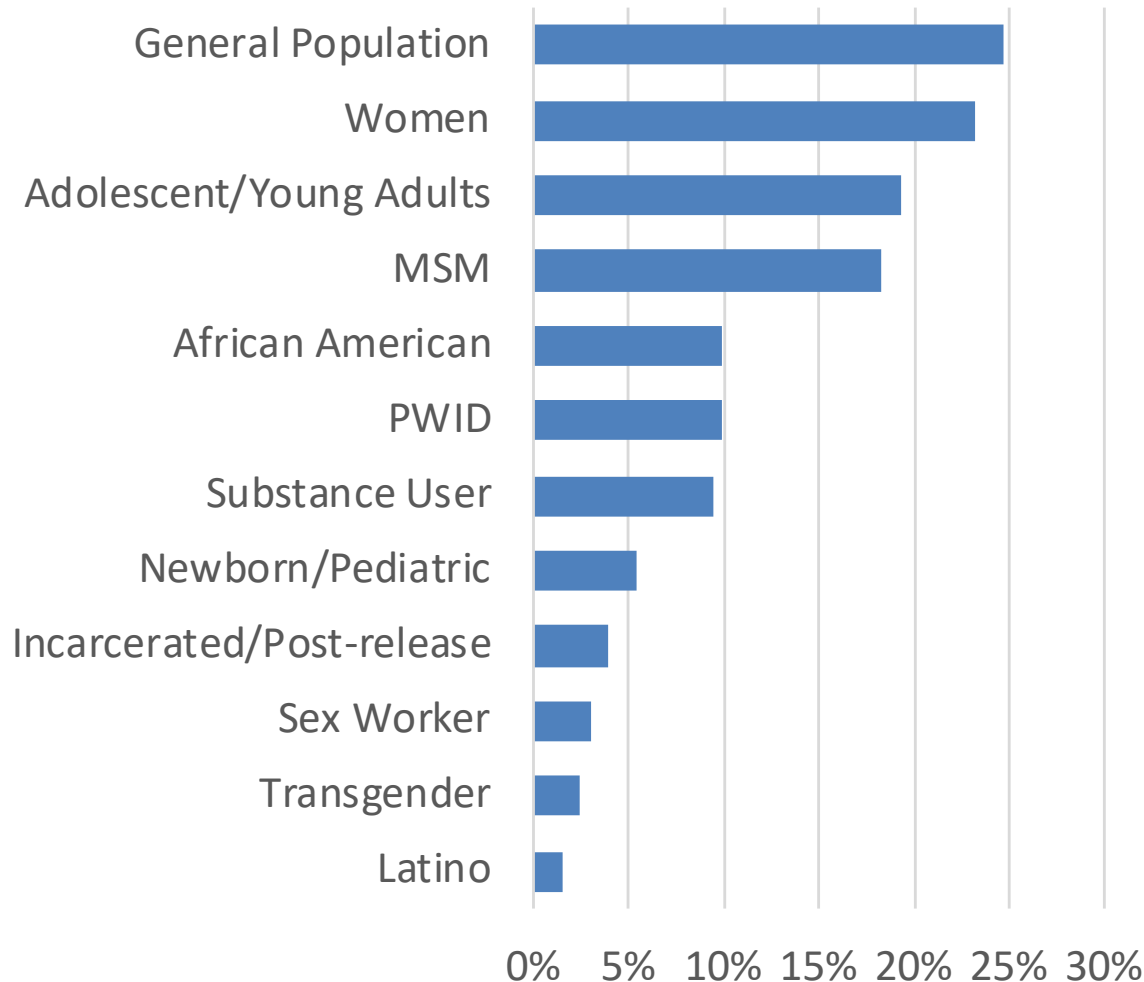|	N	%
Study Start Date		
2013	25	12.4%
2014	37	18.3%
2015	45	22.3%
2016	47	22.8%
2017	45	22.3%
2018	3	1.5%
Study Section		
Behavioral and Social Consequences of HIV/AIDS	38	19.0%
Behavioral and Social Science Approaches to Preventing HIV/AIDS	39	19.5%
Special Emphasis Panel	117	58.5%
Other	8	3.0%

Primary Study Populations*
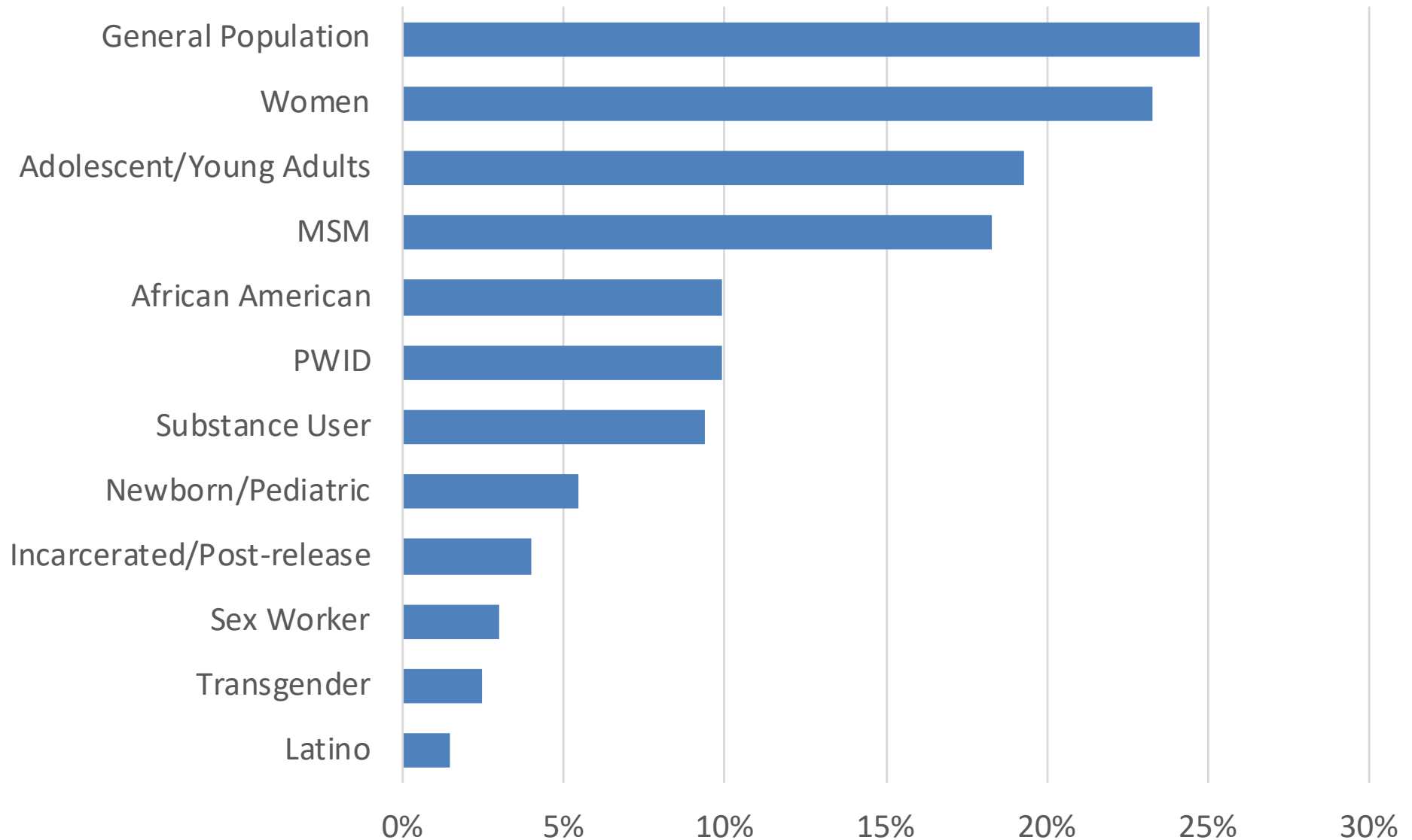
*Populations not mutually exclusive

Population Characteristics

Primary Study Populations*

| Population	Percentage
General Population	~24%
Women	~23%
Adolescent/Young Adults	~19%
MSM	~18%
African American	~10%
PWID	~10%
Substance User	~9%
Newborn/Pediatric	~5%
Incarcerated/Post-release	~4%
Sex Worker	~3%
Transgender	~2%
Latino	~1%

0% 5% 10% 15% 20% 25% 30%

*Populations not mutually exclusive

HIV Status

- Not specified 13%
- Negative 28%
- Positive 32%
- Both 27%
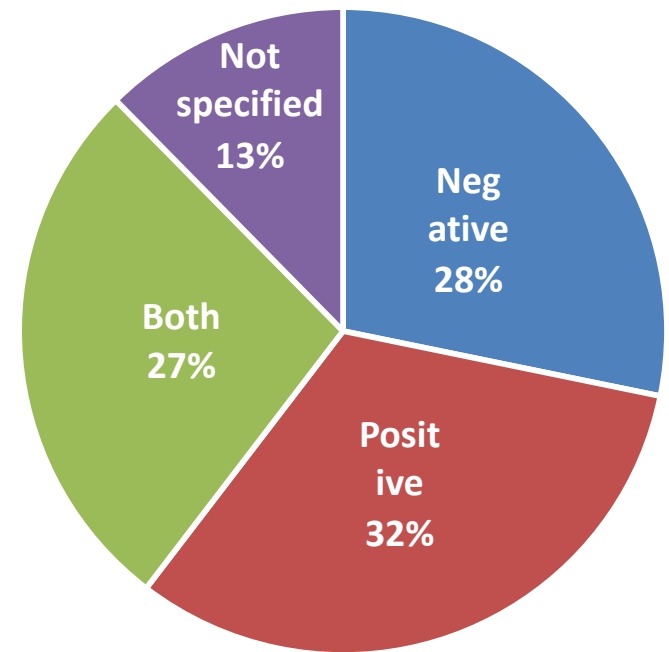
US = 51%
International = 49%

Steps Along the Continuum

Only One Step (57%)

Continuum Step	%
Prevention	61%
HIV Testing	11%
Linkage	0%
Re-Engagement	3%
Retention	6%
ART	19%
Viral Suppression	1%

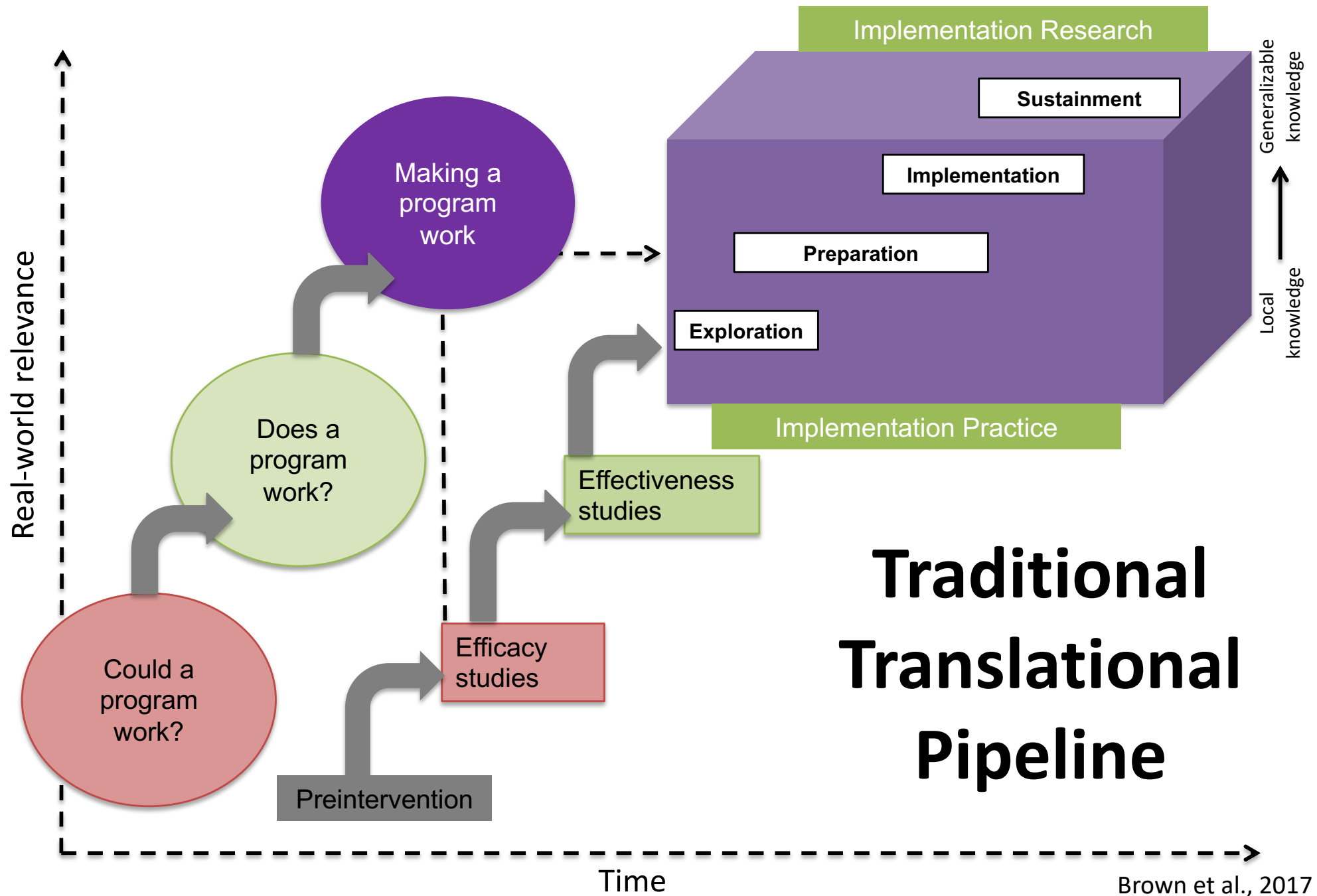## More Than One Step (43%)
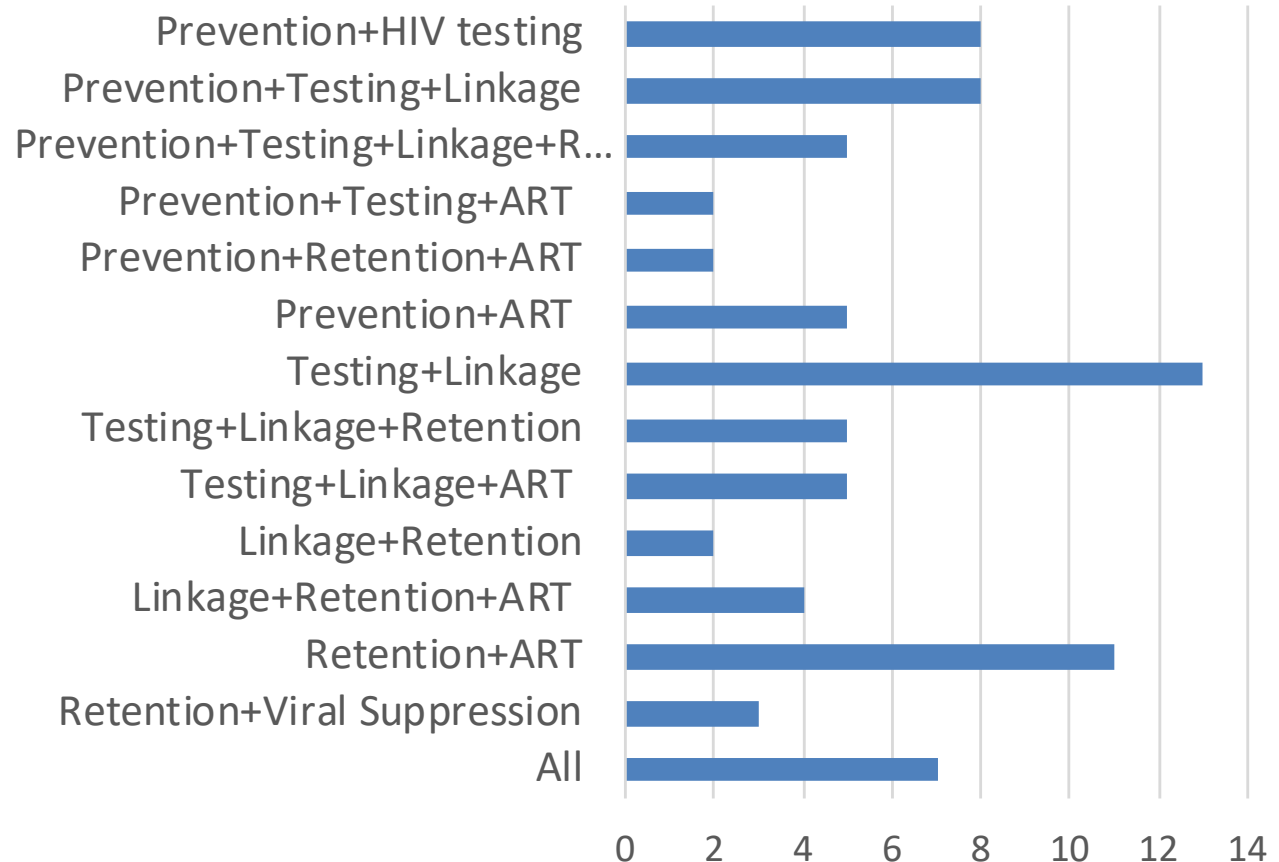
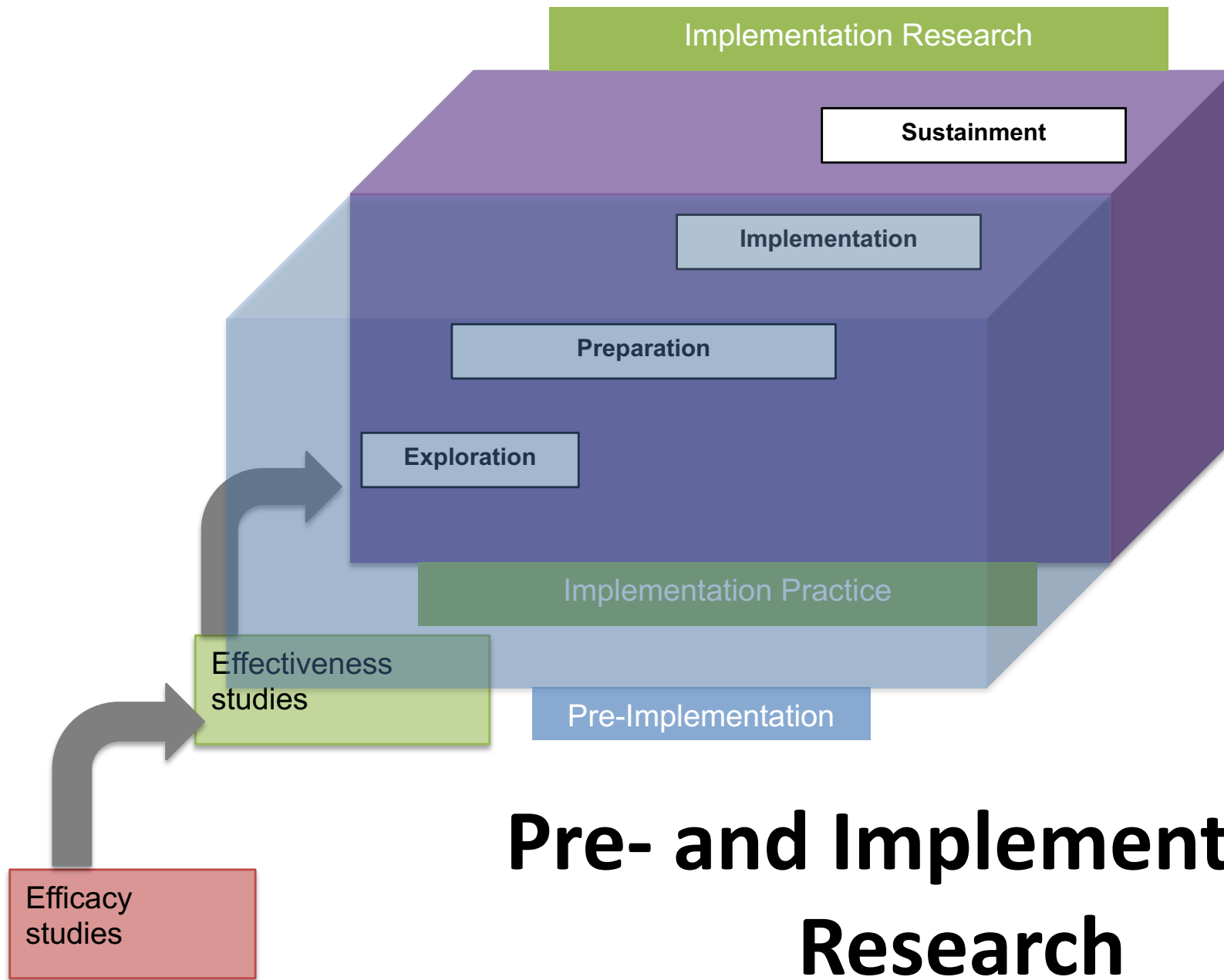# Selected Interventions by Delivery Method
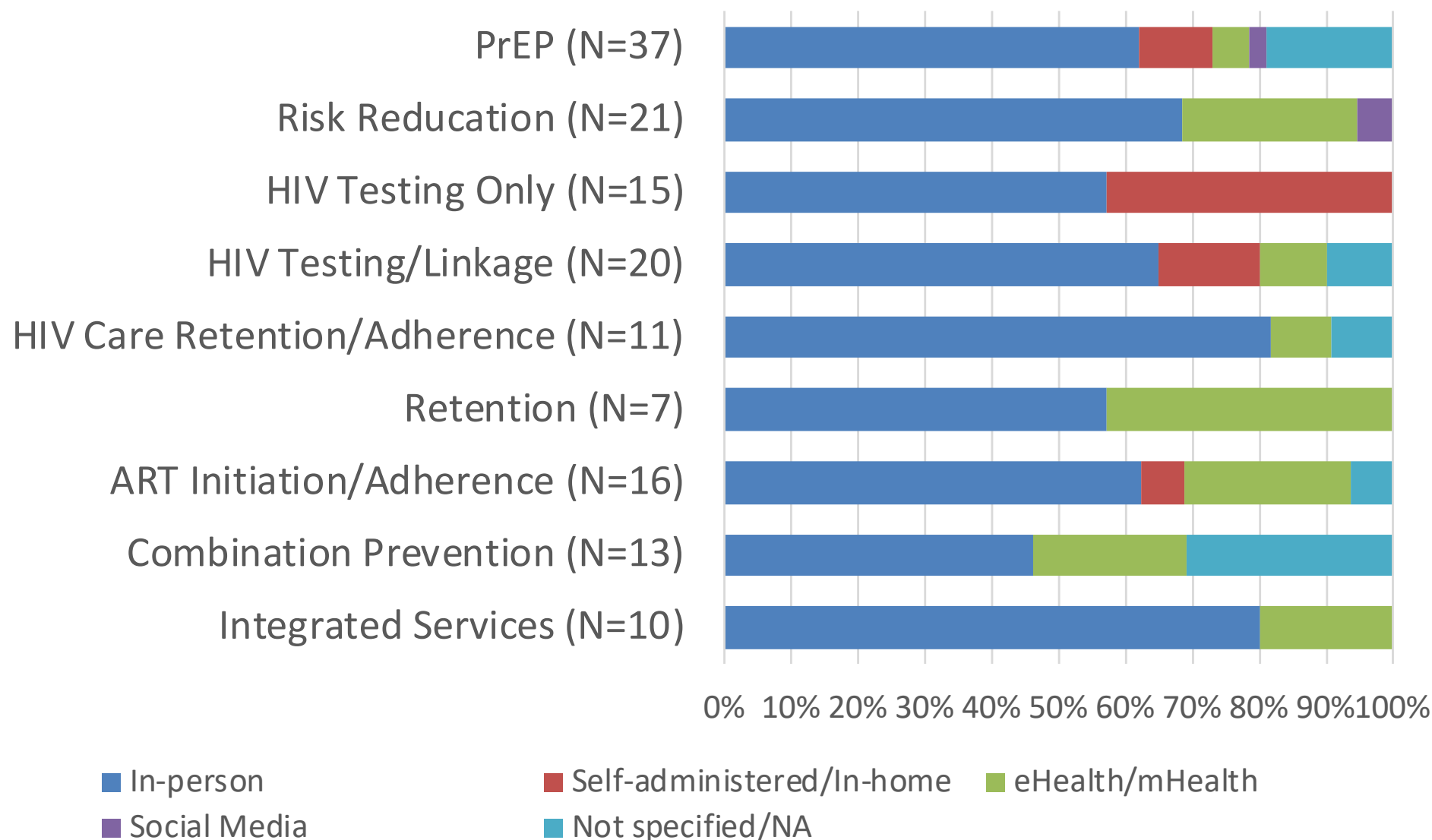
Inclusive View of Implementation Research

- **NIH Definition:** IR <u>evaluates of the use of strategies</u> to integrate interventions into real-world settings to improve patient outcomes.

- Also included **pre-**implementation research:
  - Research to understand implementation processes and barriers/facilitators
  - Research on the feasibility, acceptability of novel strategies
  - Formative research to develop novel strategies
  - Adapting an evidence-based intervention (application of a strategy)
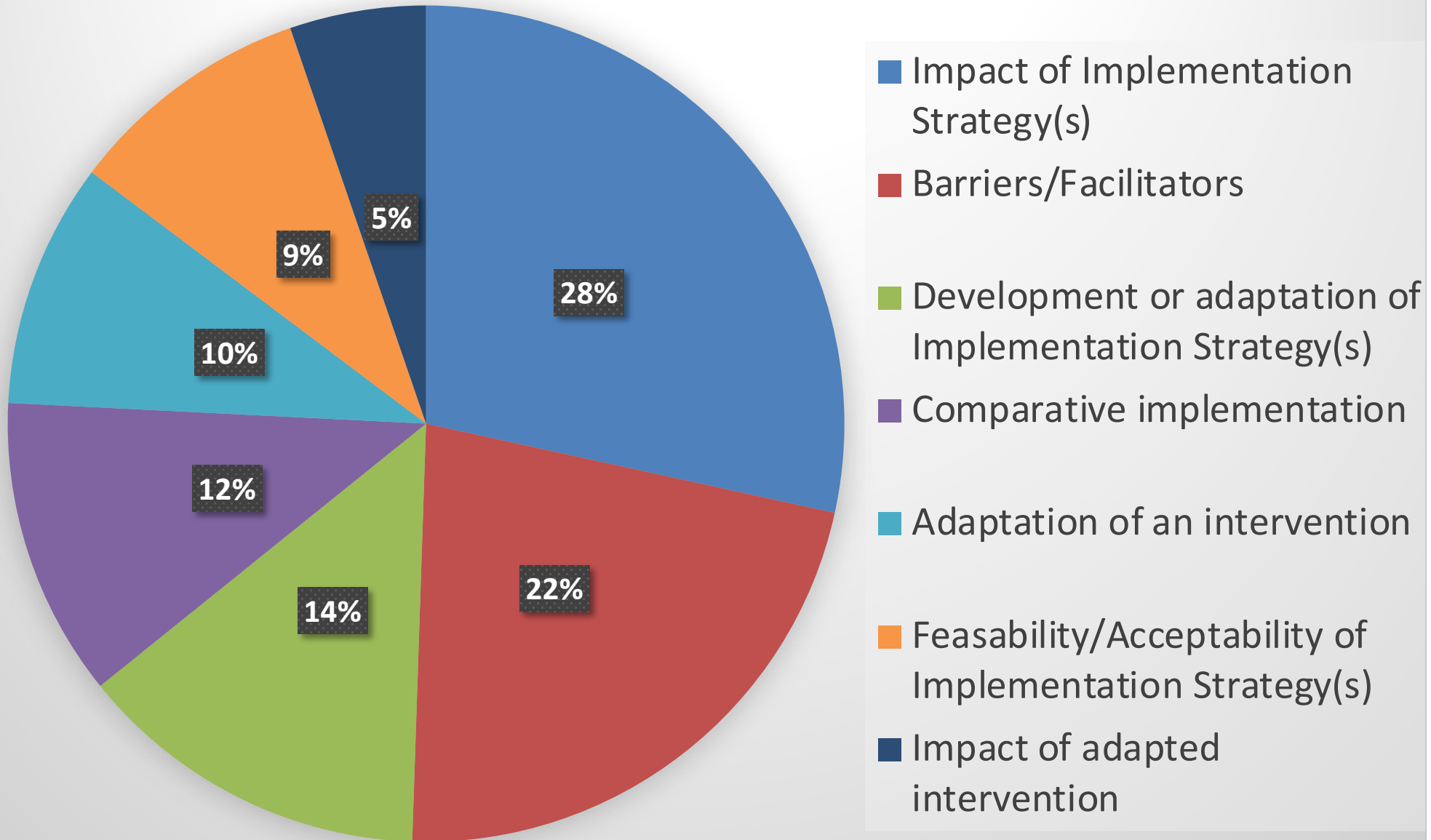 - Modeling that has the potential to inform IR

Traditional Translational Pipeline

Brown et al., 2017

NM Northwestern Medicine®
Feinberg School of Medicine

Third • Coast • CFAR
CENTER FOR AIDS RESEARCH IN CHICAGO

10

Center for Prevention Implementation Methodology
FOR DRUG ABUSE AND HIV

Pre- and Implementation Research

Study Type/Aim

- ■ Impact of Implementation Strategy(s) — 28%
- ■ Barriers/Facilitators — 22%
- ■ Development or adaptation of Implementation Strategy(s) — 14%
- ■ Comparative implementation — 12%
- ■ Adaptation of an intervention — 10%
- ■ Feasability/Acceptability of Implementation Strategy(s) — 9%
- ■ Impact of adapted intervention — 5%

Northwestern Medicine®
Feinberg School of Medicine

Third • Coast • CFAR
CENTER FOR AIDS RESEARCH IN CHICAGO

Center for Prevention
Implementation Methodology
FOR DRUG ABUSE AND HIV

Implementation Research Framework, Model or Theory

	N	%
Adapt-ITT	5	2.5
Consolidated Framework for IR (CFIR)	5	2.5
RE-AIM	5	2.5
Implementation Framework (not specified)	3	1.5
PRECEDE/PRECEDE-PROCEED	3	1.5
Diffusion of Innovation	2	1.0
PARIHS	2	1.0
EPIS	2	1.0
Note stated	174	87.0

Implementation Strategies

More than 150 discrete implementation strategies

- Adaptation of intervention/implementation strategies

- Care coordination/integration

- Delivery location/method/agent

- Education/Training

- Implementation facilitation/toolkit/support

- Policy

- Peer navigation/support
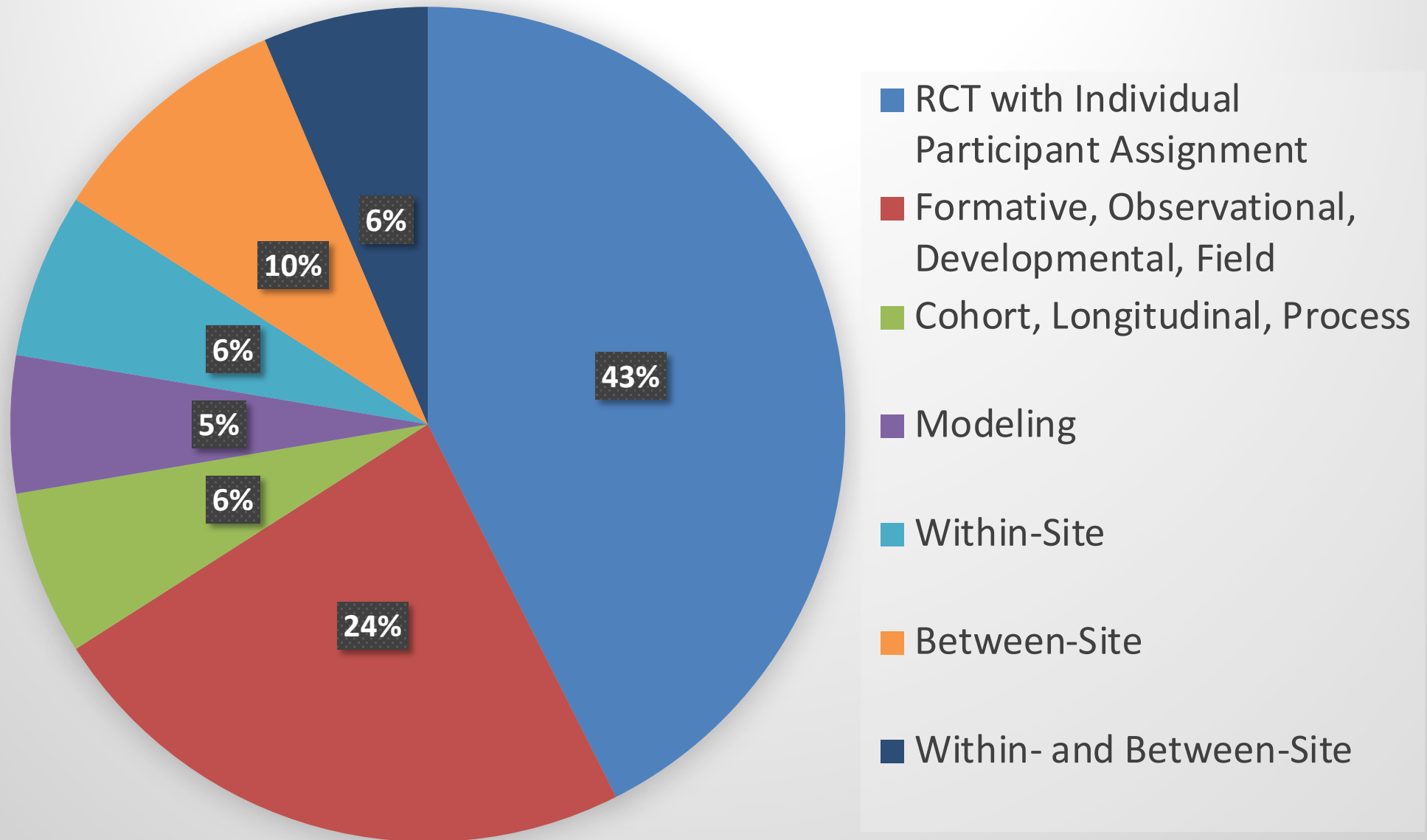
- To be developed

Implementation Outcomes
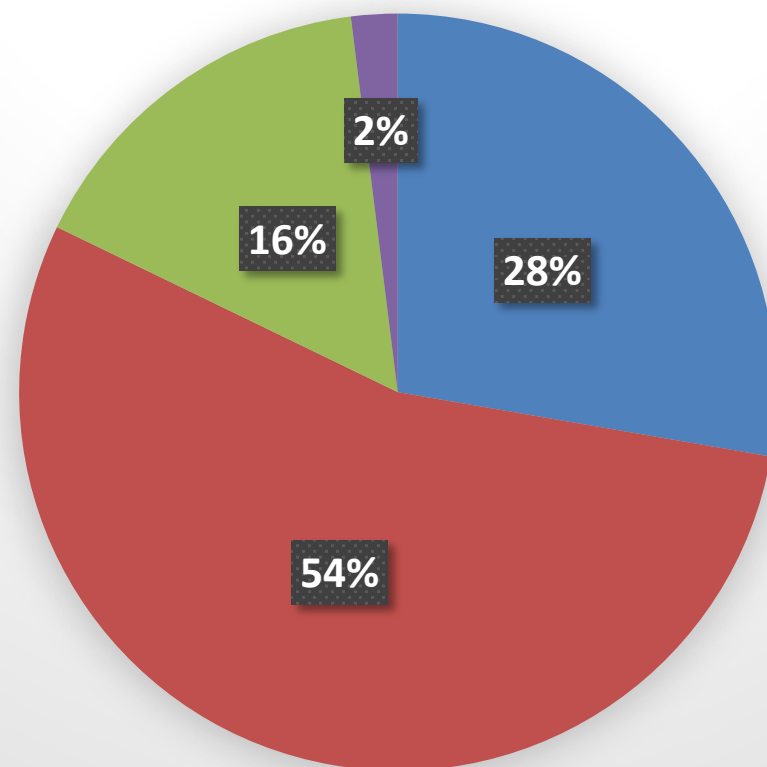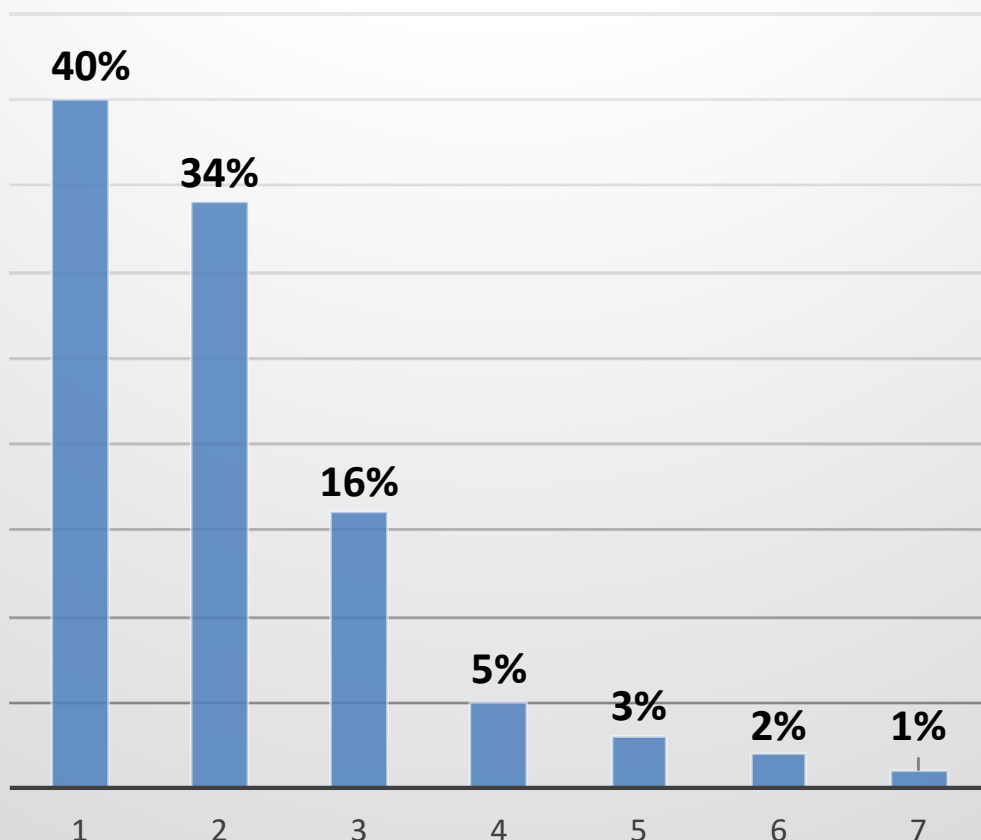
N = 13: Acceptability, Adoption, Appropriateness, Cost, Determinants, Fidelity, Implementation, Penetration/Reach, Process, Scalability, Speed, Sustainability/Maintenance, System Effects
(Proctor et al., 2011; Glasgow et al., 1999; Saldana et al., 2013)

Study Design Type (categorized)

Bar chart titled "IR Continuum" showing percentages across implementation stages.

Pre-Implementation:
- Barriers/Facilitators Only: 7%
- Developmental: 18%
- Pilot (no IR outcomes): 9%
- Pilot (with IR outcomes): 13%

Strategy Effectiveness:
- Test/Trial (no IR outcomes): 15%
- Test/Trial (with IR outcomes): 19%

Comparative Implementation:
- Comparative Implementation (no IR outcomes): 11%
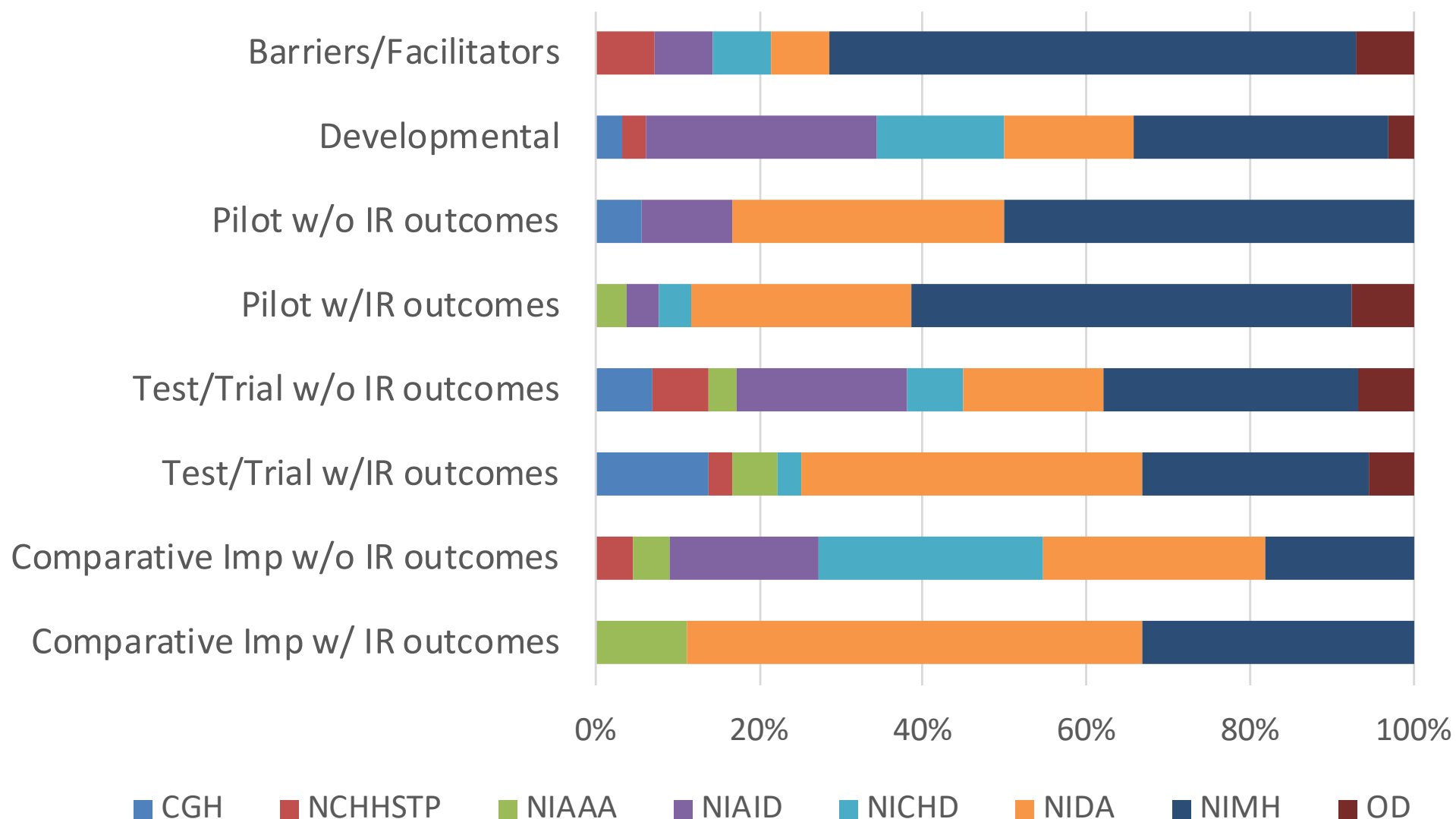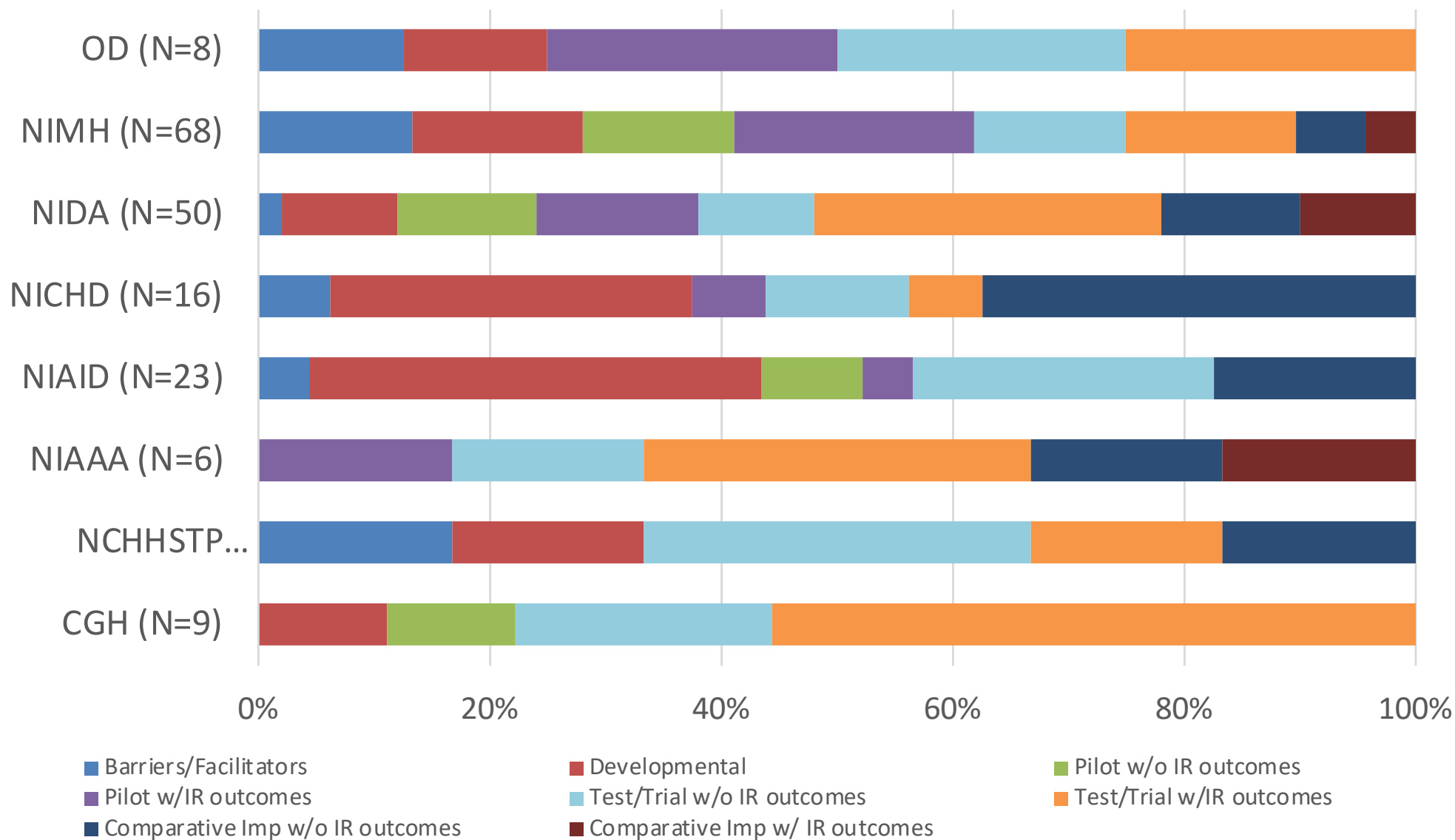- Comparative Implementation (with IR outcomes): 6%
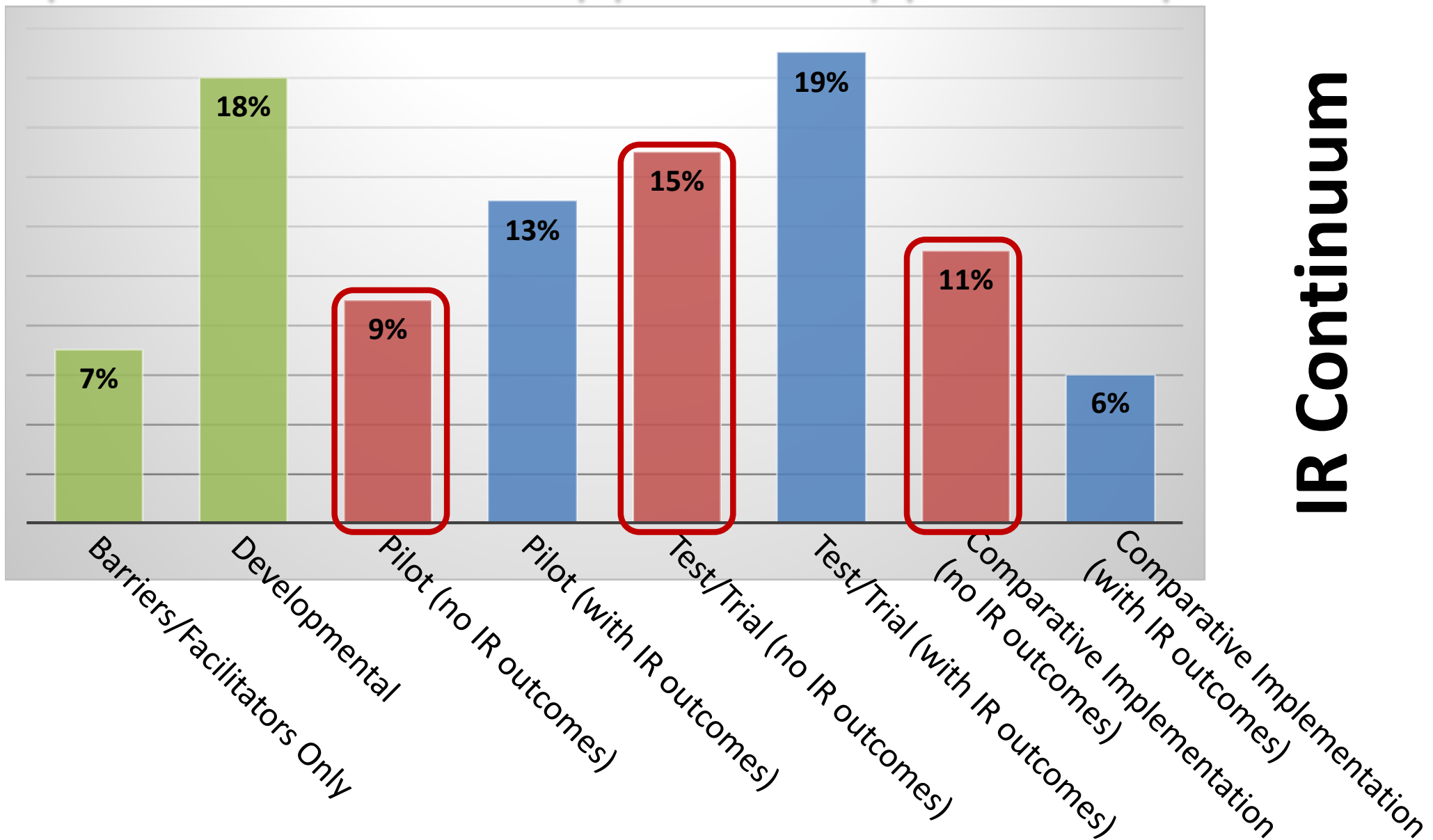
Selected Interventions by IR Stage
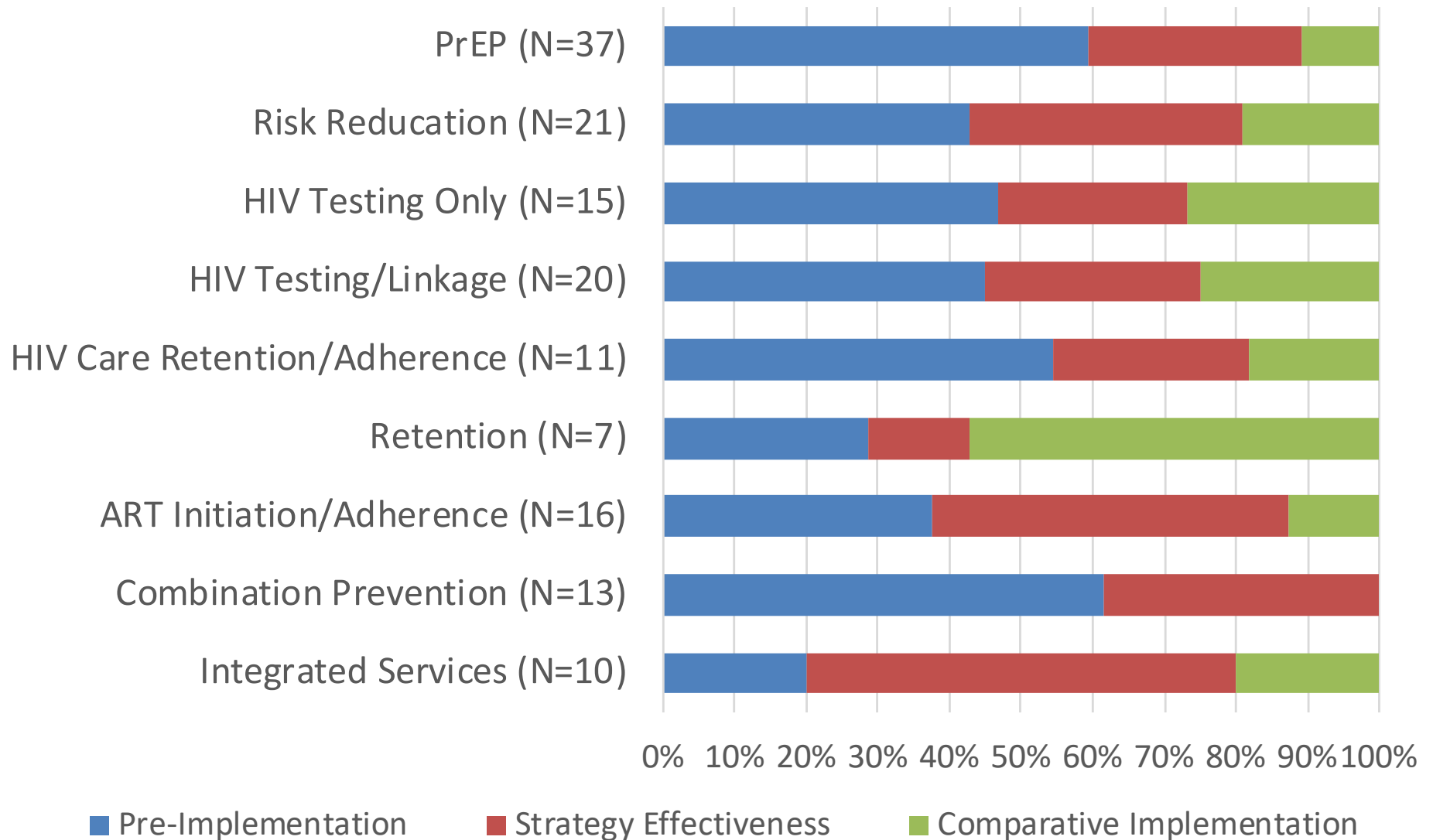
IR Continuum by Funding Institute/Center

IR Continuum by Funding Institute/Center

Limitations

- Analysis based on project descriptions
  - may not contain sufficient detail of implementation-related variables
  - Underinclusion/Underestimating
- Lack of uniformity in abstract content
- Does not reflect the universe of HIV studies

Next Steps

- Inter-coder reliability (approximately 90% for initial human-coded include/exclude)

- Review sample of excluded studies

- Further distinguishing implementation strategies and interventions

- Long form presentation of results

- Prepare for manuscript submission

Conclusions

- Implementation research is still emerging in HIV

- Large number of unlabeled/inaccurately labeled studies

- IR terms and constructs melded with HIV research

- Ample opportunities to expand IR in HIV: **Only 14%!!!**
  - Large proportion of studies are still pre-implementation
  - **Need to collect IR outcomes** – it isn't IR if you aren't collecting outcomes pertaining to implementation

- Need a paradigm shift in the way research is done to understand <u>how</u> to make effective interventions work

- Doing so will speed translation and increase reach of promising interventions to prevent and treat HIV

NM Northwestern Medicine®
Feinberg School of Medicine

**Center for Prevention
Implementation Methodology**
FOR DRUG ABUSE AND HIV