

Real-time Data to Care:

Using an emergency department-based health information exchange to facilitate relinkage to HIV care

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Key Points

Emergency department/inpatient hospital provides setting for engaging with substantial number of out-of-care PLWH

Real-time data exchange between health departments and ED/IP electronic health records can lead to improved care engagement/viral suppression

...but needs to be coupled with other HIV care re-engagement interventions



Background

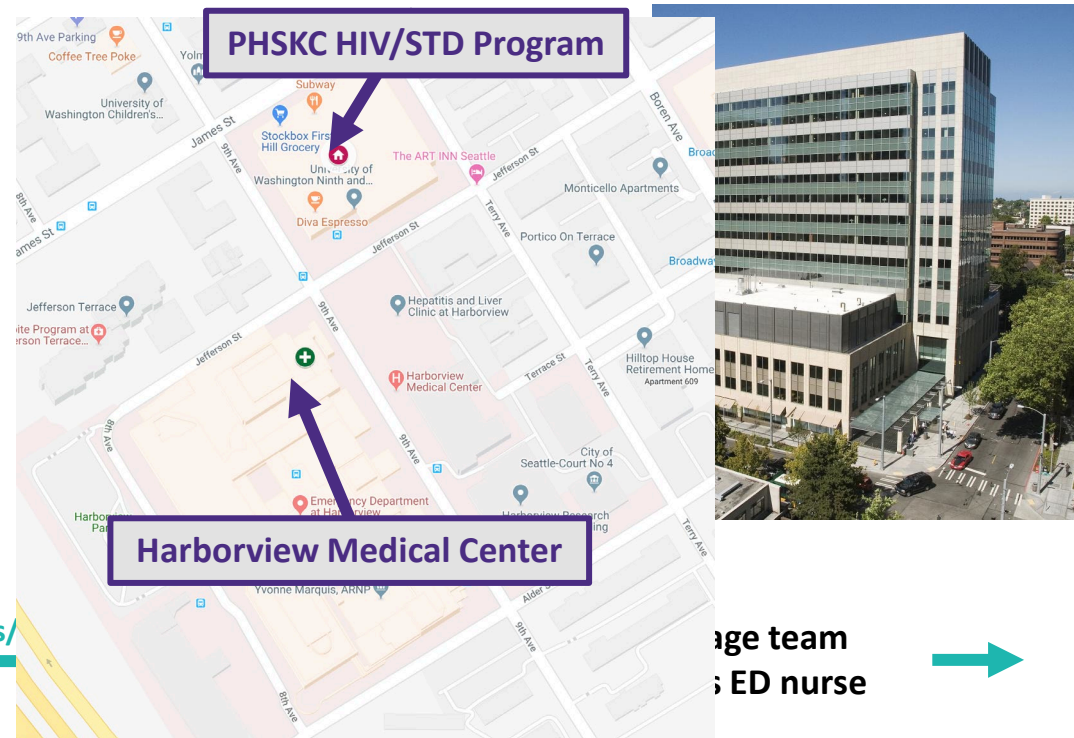
HIV surveillance data to identify out-of-care persons living with HIV in need of relinkage assistance (**Data to Care; D2C**)

D2C interventions affected by surveillance data quality, completeness and timeliness

“Real-time” D2C can improve efficiency and effectiveness of D2C

- **Best case:** setting & opportunity to re-engage in care
- **Worst case:** confirms OOC individual is in jurisdiction and provides updated contact and care information

PHSKC-UW Medicine Data Exchange



UW Medicine patient with ED visit/IP admission



Data exchange checks HIV status and most recent VL in EHR

if VL \geq 200 copies/



age team
s ED nurse



Relinkage team contacts patient to provide relinkage assistance



Objective

To evaluate whether PHSKG-UW Medicine Data Exchange improved HIV care engagement and viral suppression of virally unsuppressed PLWH who had an ED visit/IP admission



Study Subjects and Data Collection

Eligibility criteria: PLWH with ED visit/IP admission at UW Medicine and had VL \geq 200 copies/mL

- **Alert window: 8 AM – 6 PM Monday-Friday**

Data sources: UW Medicine (ED visits/IP admissions); HIV surveillance (HIV care outcomes)

Evaluation Outcomes

HIV care engagement: VL test in 3 months after ED visit/IP admission

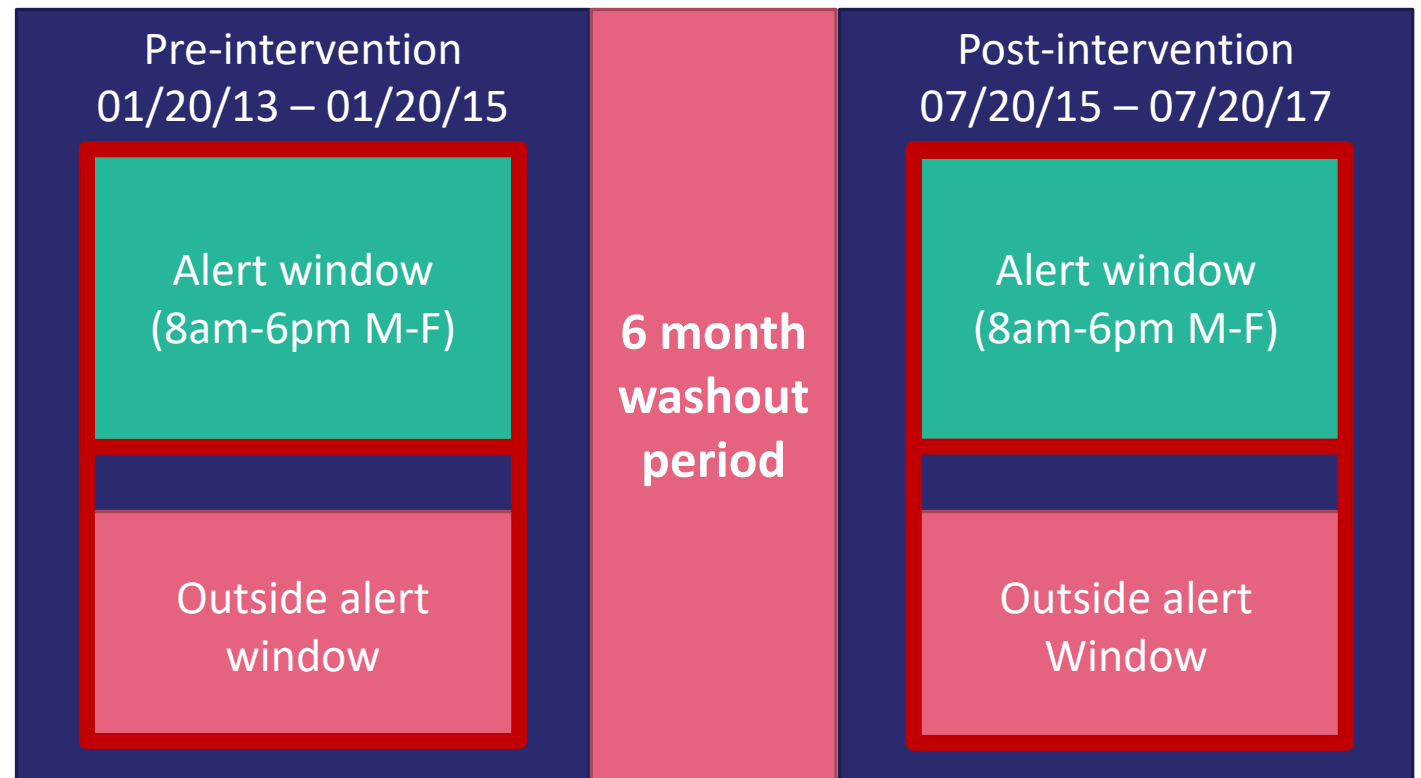
Viral suppression: VL < 200 copies/mL in 6 months after ED visit/IP admission

Evaluation Design

Primary analysis: Pre/post comparison

Secondary analysis: Is pre/post difference due to intervention or secular trends?

- Difference in differences



Statistical Analysis

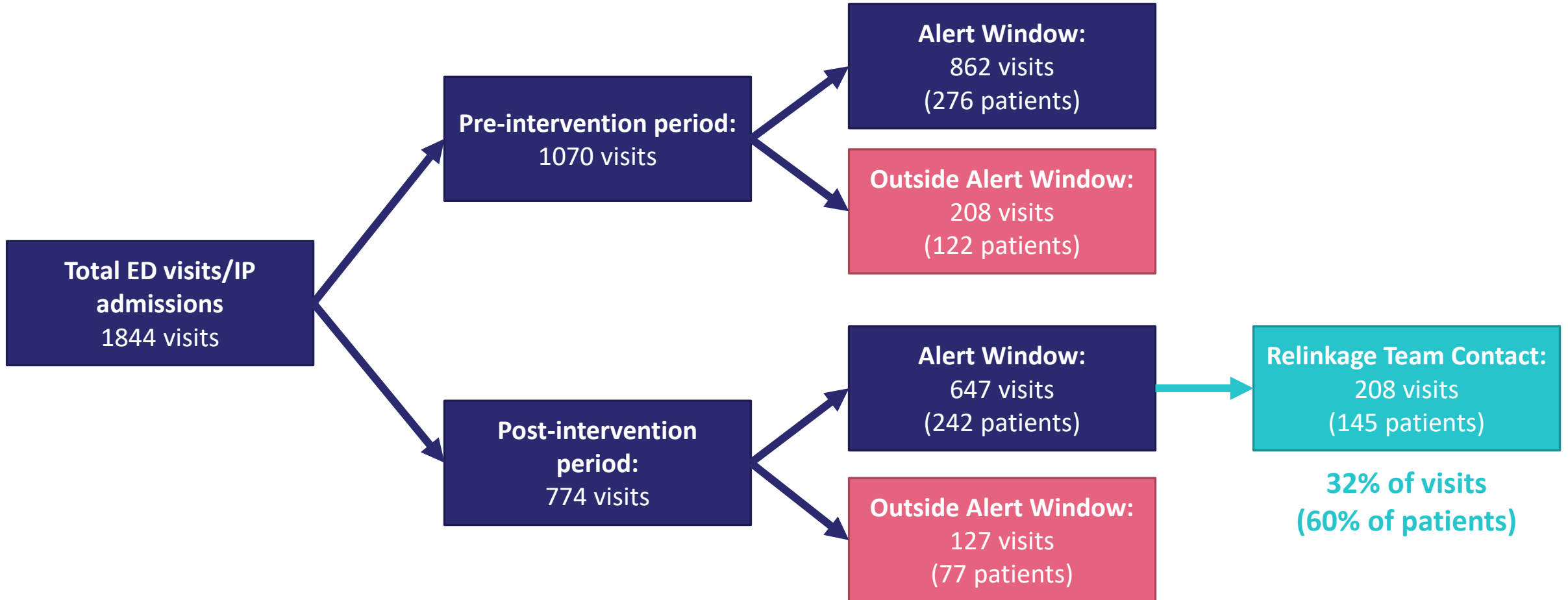
Generalized estimating equations (GEE) with log link and robust standard errors

- Clustering on patient

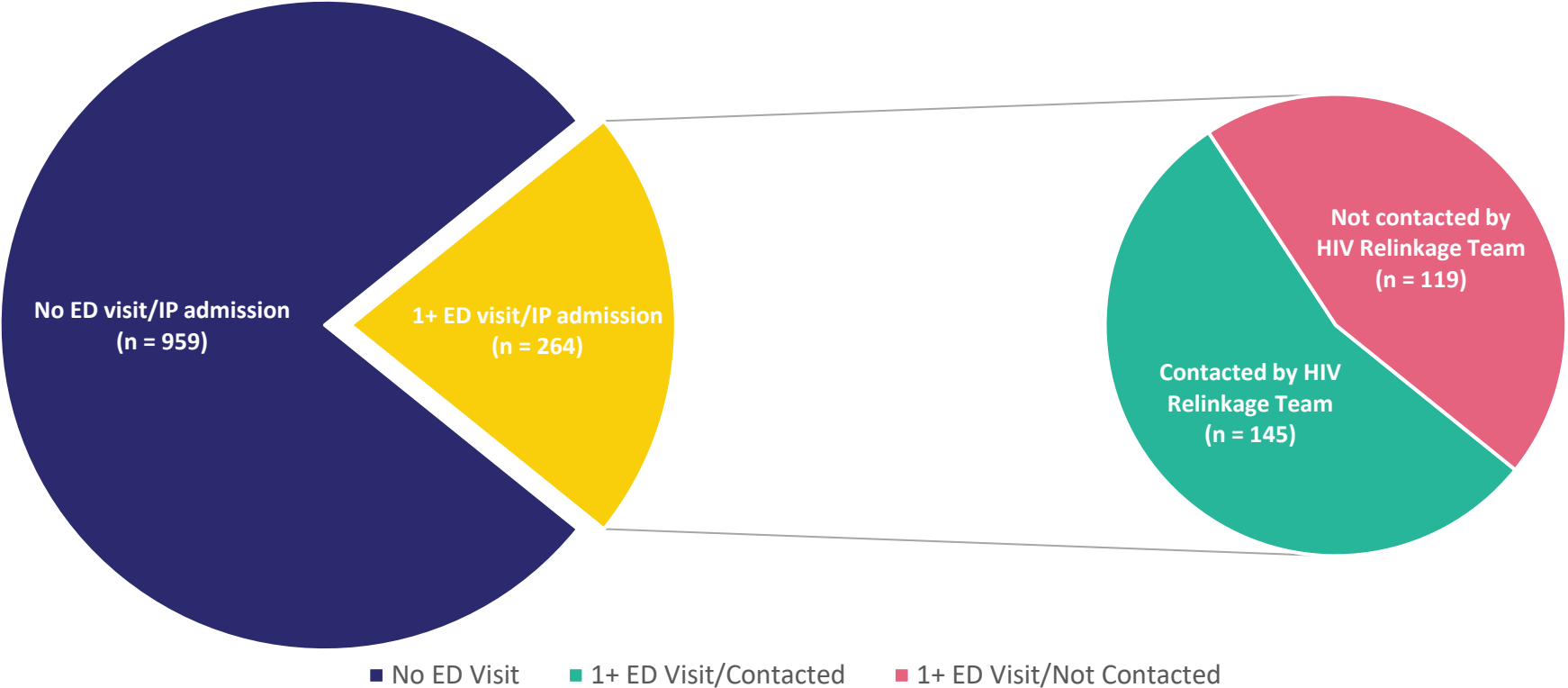
Separate models for care engagement and viral suppression

Models adjusted for age, gender, race/ethnicity, visit type, visit month, and self-reported injection drug use (at time of HIV infection)

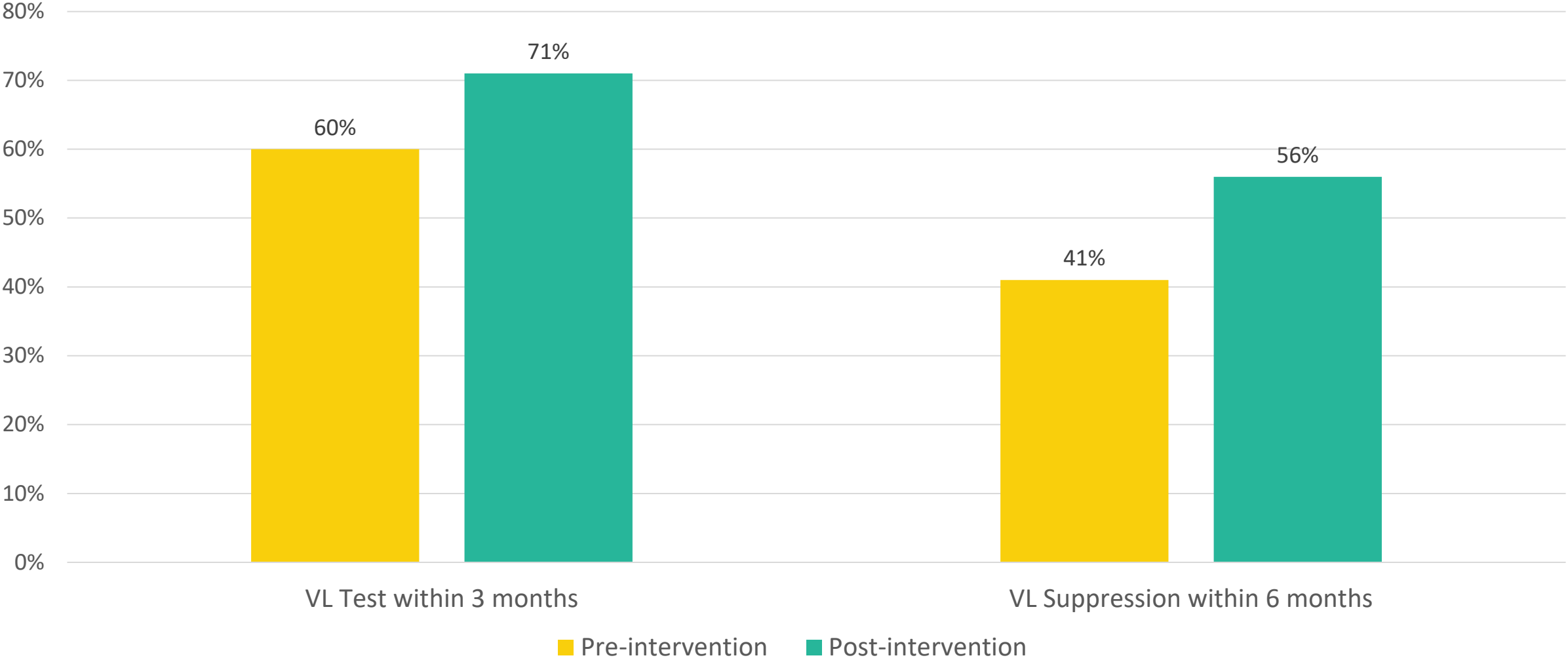
Results



ED/IP utilization among all out-of-care PLWH in King County, 2015-2017



HIV care engagement and viral suppression after ED visit/IP Admission

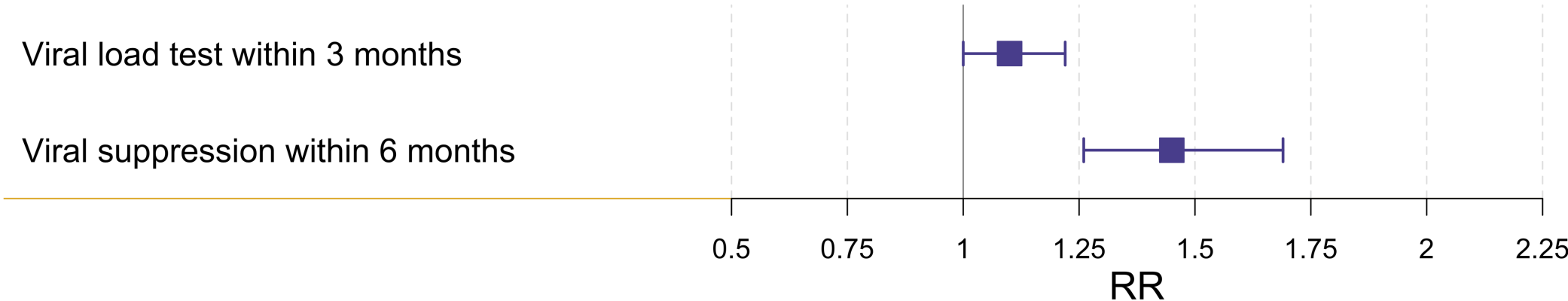




Results: Pre/post Evaluation

Alert Window Visits

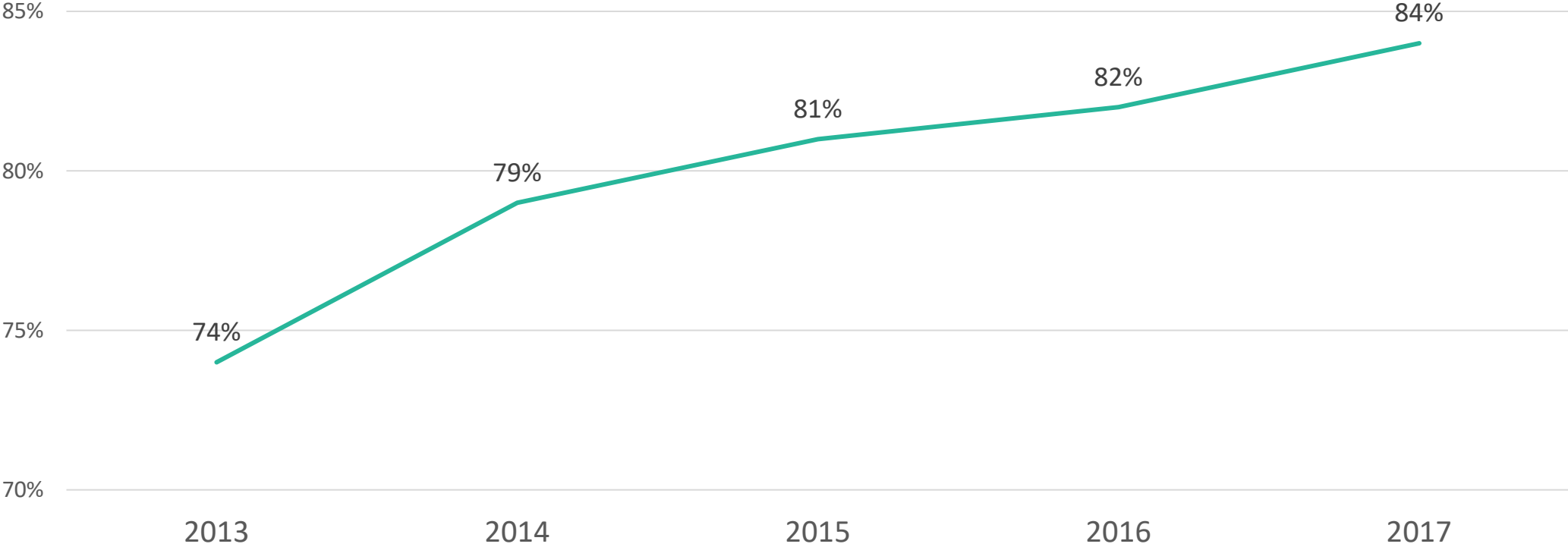
Post-intervention vs. pre-intervention



Adjusted for age (categorical), gender (Cis female, cis male, trans), race/ethnicity (Hispanic/Latinx, Black, White, other), visit type (inpatient/ED), month of visit (categorical), IDU at HIV infection

Effective intervention or secular trend?

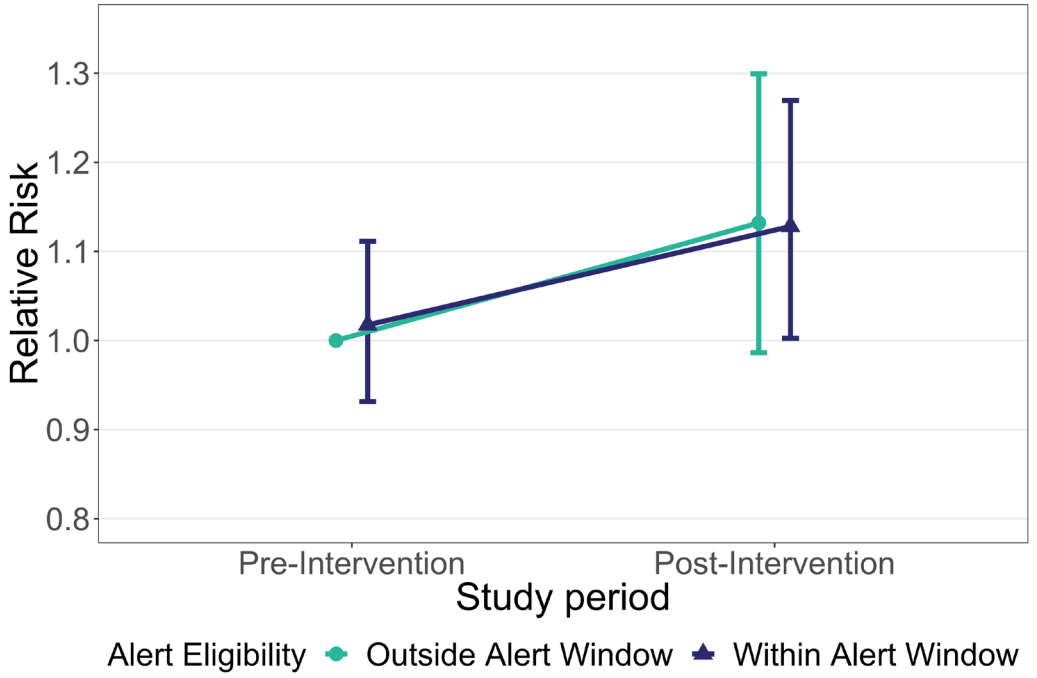
Viral suppression in King County, WA, 2013-2017



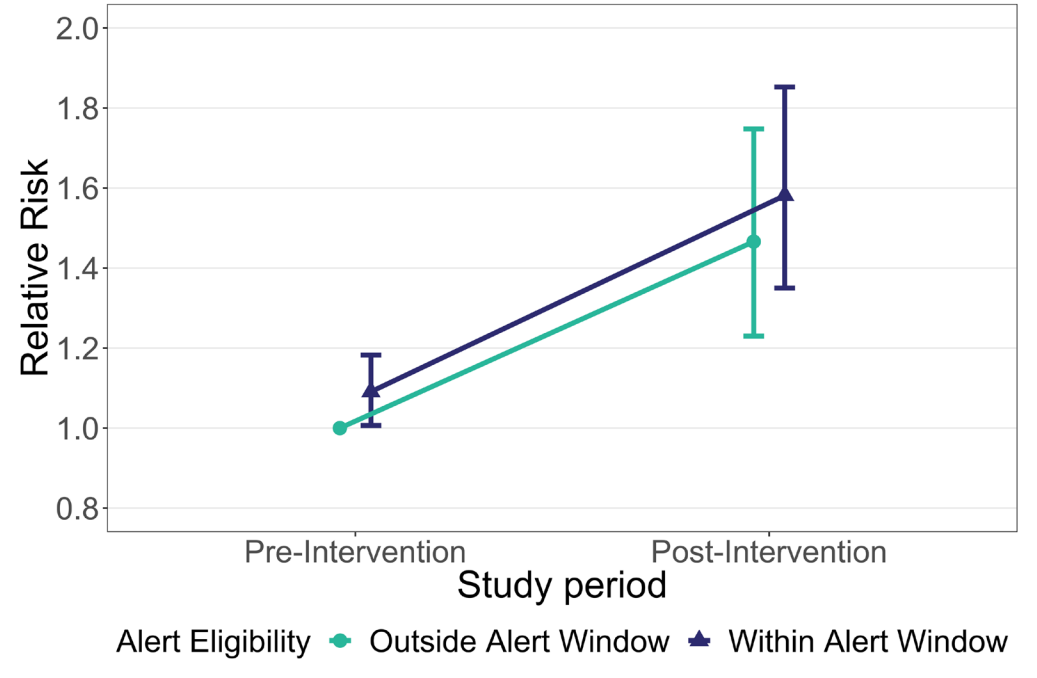


Difference in differences results

VIRAL LOAD TEST WITHIN 3 MONTHS



VIRAL SUPPRESSION WITHIN 6 MONTHS



Adjusted for age (categorical), gender (Cis female, cis male, trans), race/ethnicity (Hispanic/Latinx, Black, White, other), visit type (inpatient/ED), month of visit (categorical), IDU at HIV infection



HIV Care Engagement Programs, 2013-2017

Care and ART Promotion Program (Data to Care)

Max Clinic

Madison Clinic patient tracing program

Lifelong peer outreach program

Other HIV clinic and case management interventions



Data Exchange Facilitators/Barriers

FACILITATORS

Helps prioritize D2C interventions

- Less time spent trying to find OOC patients

Opportunity to interact with hard to reach individuals

ED/IP patients more receptive to re-engaging in care

Useful to identify individual barriers to care

BARRIERS

Capacity

May be difficult to talk to patient (e.g., sleeping, unconscious, not lucid)

HIV care not always top priority for ED patients

Broken systems: lack of access/referral options for MH/substance use treatment, housing services, other services

Limitations

Real-time text alert data not systematically collected

Limited data on reasons for not responding to *all* SMS alerts

Secular trends/competing interventions



Implications/Future Directions

ED visits/IP admissions provide opportunity to interact with substantial number of PLWH

Real-time data exchange with ED/IP facilities useful for prioritizing D2C investigations

Further research needed to translate opportunities to sustained care engagement and viral suppression

Thank you!

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Appendix Slides

Patient Characteristics

PATIENT CHARACTERISTICS

Average number of visits per patient: 3 (SD: 4)

61% 40+ years of age

81% male

45% White; 33% Black; 13% Hispanic/Latinx

39% history of injection drug use

VISIT CHARACTERISTICS

30% inpatient admissions

85% most recent VL \geq 1000 before ED visit/IP admission

Changes to SMS alert triggers

Alert criteria added after July 2017:

- No VL test in past 12 months
- Redcap database of:
 - Max clinic patients
 - Patients on surveillance-based D2C list (with UW Medicine MRN)

