



Effects of a Rideshare Intervention on HIV Care Engagement in South Carolina

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Continuum 2024 • June 9-11, 2024 • Puerto Rico



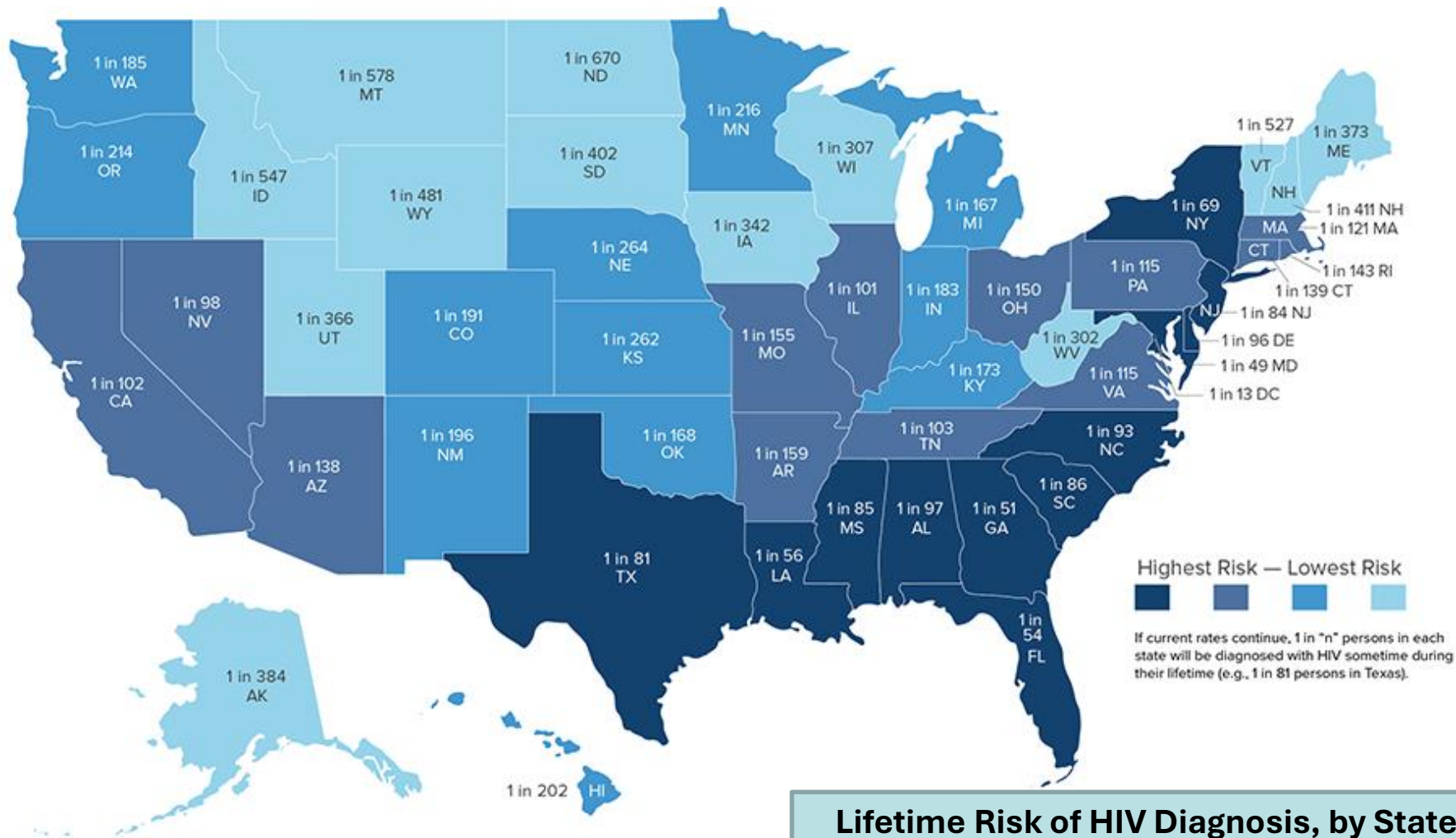
DISCLOSURES

This work was supported by funding from ViiV Healthcare.

Dr. Harrison is supported by the NIH National Institute of Mental Health (NIMH) grants K01MH118073 and R01MH127961. Dr. Harrison is supported by the Health Resources & Services Administration (HRSA) grant D40HP45690.

Drs. Hung and Harrison are supported by the NIH Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD) grant U01HD110062.

Dr Rudisill is supported by the Center for Disease Control and Prevention grants U48DP006401 and U18DP006513, the National Heart, Lung and Blood Institute (NHLBI) grant R01HL163714 and the Duke Endowment.



Lifetime Risk of HIV Diagnosis, by State

Social Determinants of Health





SOUTH CAROLINA = POOR RETENTION IN CARE, LOW VIRAL SUPPRESSION

- In 2021, only 67% of People Living with HIV (PLHIV) in South Carolina were virally suppressed and only 56% were retained in continuous care
- Social determinants of health are major drivers of the “gaps” in the HIV care continuum
- Transportation vulnerability is an understudied experience among PLHIV in the Southern US that has direct impacts across the HIV Care Continuum

“Transportation Vulnerability as a Barrier for People Not Engaged in HIV Medical Care”

- Determine whether providing access to a concierge rideshare (i.e., Lyft) program is more effective than standard care in helping PLHIV to engage in care and achieve viral suppression





State public health agency identifies patients “lost to HIV care” as a **state priority**

USC Psychology Department leads **study design**, IRB submission, and **clinical trial evaluation**

SC HIV Planning council develops initial recommendations for “**Return to Care team**”

USC School of Medicine pursues **funding** from private entity for **clinical trial**
(ViiV Healthcare)

Primary Research Questions

- ❖ Does it work *better* than standard care?
 - ❖ Engagement in care
 - ❖ Rates of viral suppression
- ❖ Is it cost effective?
- ❖ Is it more effective for some areas than for others?





OBJECTIVES

- **Aim #1.** To determine whether a concierge rideshare intervention was associated with improvements in key HIV outcomes, including increased rates of viral suppression and reduced missed HIV care visits for PLHIV in South Carolina
- **Aim #2.** To qualitatively describe transportation vulnerability and perceived impacts for PLHIV in South Carolina
- **Aim #3.** To understand impacts of travel time to HIV care on viral suppression rates for PLHIV in South Carolina
- **Aim #4.** To conduct a cost-effectiveness study of the concierge rideshare intervention versus standard transportation



Concierge Rideshare Intervention

- Concierge rideshare intervention consisted of **free LYFT rides to and from clinic visits for a 12-month period for all participants assigned to the intervention condition**
- Participants were able to access assistance with ride scheduling, and LYFT rides could be scheduled to pick up and drop off patients at the location of their choosing before and after their clinic visits
- COVID-19 pandemic created many challenges that the team had to adapt to





Inclusion Criteria

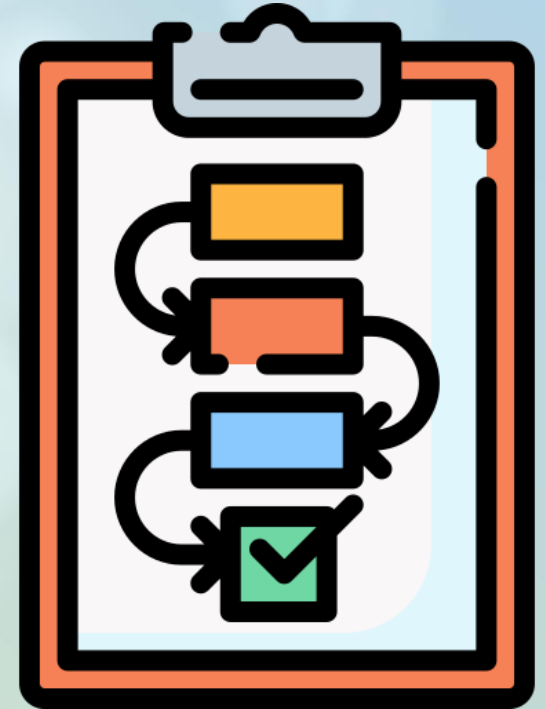
- 1) A person living with HIV aged >18 years
- 2) Re-engaging in HIV care after being ‘lost to care’ (i.e., >9-months with no HIV-related medical appointments or viral load tests) **or** in care but with self-reported transportation vulnerability
- 3) Resident of Richland or Lexington counties in South Carolina.





Procedure

- If interested, potential participants had an individual meeting with a study coordinator who provided another overview of the study, received informed written consent from willing participants, and **randomized the participant to either the concierge rideshare transportation intervention or a standard ‘care as usual’ condition for a 12-month period**
- Recruitment continued until the target sample size was reached ($N=160$)
- After each participant was consented into the study, they were randomly assigned to the concierge rideshare intervention ($n=80$) or standard care ($n=80$) for a 12-month period



Patient Characteristics, by Intervention Group

	Total Cohort (n=160)	Concierge Ridesharing Intervention Condition		<i>p</i> values Intervention vs. Control
		Control/ Std Care, n=80	Intervention, n=80	
Baseline Characteristics				
Age in Years, Mean (SD)	46.9 (11.9)	45.6 (12.5)	48.2 (11.3)	0.163
Baseline Viral Load <=50 c/mL, n (col. %)	129 (80.6%)	30 (88.2%)	64 (80.0%)	0.655
	Number (Column %) of Participants			
Patient Age at Baseline				0.310
<25	6 (3.8%)	4 (5.0%)	2 (2.5%)	
25-44	61 (38.1%)	35 (43.8%)	26 (32.5%)	
45-64	87 (54.4%)	39 (48.8%)	48 (60.0%)	
65+	6 (3.8%)	2 (2.5%)	4 (5.0%)	
Marital				0.422
Single (never married)	123 (76.9%)	62 (77.5%)	61 (76.3%)	
Married	11 (6.9%)	7 (8.8%)	4 (5.0%)	
Widowed, Divorced, Separated	25 (15.6%)	10 (12.5%)	15 (18.8%)	
Sexual Orientation				0.848
Heterosexual or straight	82 (51.3%)	43 (53.8%)	39 (48.8%)	
Gay or lesbian	44 (27.5%)	21 (26.3%)	23 (28.8%)	
Bisexual	21 (13.1%)	9 (11.3%)	12 (15.0%)	
Other	5 (3.1%)	2 (2.5%)	3 (3.8%)	
Unknown	8 (5.0%)	5 (6.3%)	3 (3.8%)	
Gender				1.000
Male	99 (61.9%)	50 (62.5%)	49 (61.3%)	
Female	57 (35.6%)	28 (35.0%)	29 (36.3%)	
Transgender	4 (2.5%)	2 (2.5%)	2 (2.5%)	
Race				0.779
White	30 (18.8%)	13 (16.3%)	17 (21.3%)	
Black/African American	124 (77.5%)	64 (80.0%)	60 (75.0%)	
Other	6 (3.8%)	3 (3.8%)	3 (3.8%)	
Hispanic, <u>Yes</u>	10 (6.3%)	2 (2.5%)	8 (10.0%)	0.046

Patient Characteristics, by Intervention Group

	Total Cohort (n=160)	Concierge Ridesharing Intervention Condition		<i>p</i> values Intervention vs. Control
		Control/ Std Care, n=80	Intervention, n=80	
Baseline Characteristics				
Primary Insurance				0.314
Private	17 (10.6%)	11 (13.8%)	6 (7.5%)	
Public (Medicare, Medicaid, other)	81 (50.6%)	35 (43.8%)	46 (57.5%)	
ACA	28 (17.5%)	15 (18.8%)	13 (16.3%)	
Uninsured	34 (21.3%)	19 (23.8%)	15 (18.8%)	
Education Attainment				0.036
Less than high school	43 (26.9%)	14 (17.5%)	29 (36.3%)	
High school graduate or GED	53 (33.1%)	27 (33.8%)	26 (32.5%)	
Some College or Associate	52 (32.5%)	31 (38.8%)	21 (26.3%)	
Bachelor's degree or higher	12 (7.5%)	8 (10.0%)	4 (5.0%)	
Employment				0.063
Employed full time	38 (23.8%)	25 (31.3%)	13 (16.3%)	
Employed part time	15 (9.4%)	10 (12.5%)	5 (6.3%)	
Unemployed	65 (40.6%)	25 (31.3%)	40 (50.0%)	
Other (student, homemaker)	6 (3.8%)	2 (2.5%)	4 (5.0%)	
Unable to work	33 (20.6%)	17 (21.3%)	16 (20.0%)	
Unknown	3 (1.9%)	1 (1.3%)	2 (2.5%)	
Household Income				0.528
Less than \$10,000	90 (56.3%)	37 (46.3%)	53 (66.3%)	
\$10,000 to \$24,999	40 (25.0%)	23 (28.8%)	17 (21.3%)	
\$25,000 to \$49,999	24 (15.0%)	17 (21.3%)	7 (8.8%)	
\$50,000 or more	6 (3.8%)	3 (3.8%)	3 (3.8%)	



Key Measures

- **Demographic information**
- **Transportation vulnerability** – Screener queried whether the individual lacked a personal vehicle, routinely experienced transportation problems (e.g., unable to afford gas, misses bus often), and has general “trouble...getting to HIV appointments”
- **Intervention compliance** – Intervention participants (n=80) were categorized into “*low compliance group*” when they had never used the concierge service (n=6), had made concierge appointments but never completed any concierge rides (n=11), or had 50% or fewer rides completed (n=29), versus “*high compliance group*” when they had greater than 50% of rides completed (n=34)
- **Missed visits and viral load** – Data were extracted from electronic medical records (EMR) for participants’ viral load and for number of scheduled HIV care visits that were missed during the study period. Viral load data point was used to determine whether a participant had undetectable viral load (i.e. ,defined as <50 copies/mL) at baseline or at the end of the study period



Data Analysis

- Compared proportion of missed visits and undetectable viral load (<50 copies/mL) at study exit across intervention and control groups, using Analysis of Variance (ANOVA) tests and Fisher's exact tests, respectively
- To capture the differences in the outcomes by the compliance to the intervention, we further compared these outcomes between low-compliance intervention group and control group, as well as between high-compliance intervention group and control group.
- Analysis was conducted using SAS® Version 9.5



Results

	Total Cohort (n=160)	Concierge Ridesharing Intervention Condition			<i>p</i> value	
		Control/ Standard Care, n=80	Intervention Group, n=80		Low- Compliance Group vs. Control	High- Compliance Group vs. Control
			Low- Compliance: 50% or Fewer Rides Completed, n=46	High- Compliance: >50% Rides Completed, n=34		
Outcomes						
Proportion of Visits were Missed, Mean (SD)	27.0 (25.7)	26.7 (24.9)	36.9 (26.7)	14.3 (20.7)	0.032 [†]	0.012 [†]
Viral Load ≤50 copies/mL, n (%)						
<i>Baseline</i>	129 (80.6%)	64 (80.0%)	35 (76.1%)	30 (88.2%)	0.655 [§]	0.275 [§]
<i>Final</i>	135 (84.4%)	66 (82.5%)	41 (89.1%)	28 (82.4%)	0.440 [§]	0.985 [§]

Notes: SD=Standard Deviation. † *p* values were calculated using ANOVA tests to compare proportion of visits that were missed between groups. § *p* values were calculated using Fisher's exact tests to compare percentages of participants that had undetectable viral load at the end of the 12-month study period between groups.



What do the
findings
mean?





Implications

- Trial provides evidence that use of a rideshare intervention **reduces missed visits** among PLHIV, when fidelity to the intervention was high
- More than half of PLHIV who had access to the transportation intervention did not use it as intended—perhaps reflecting a subset of participants who experience intersecting challenges to engaging in consistent HIV care (e.g., mental health, homelessness, high poverty, problematic substance use)
- Findings highlight the **need for implementation science-focused research** to investigate why PLHIV may not engage in available programs that address transportation vulnerability, as the intervention only reduced missed visits among participants with good fidelity to the intervention (i.e., those completing more than half of scheduled rides)

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