

Introduction

- On a given day the US criminal justice system holds about **2.3 million people** and each year **11.4 million people** are held in jails alone¹.
- Prisoners in state and federal prisons have over **five times greater rate of HIV** than people not incarcerated².
- When HIV positive individuals are released they have **lower rates of retention in care and antiretroviral adherence** than before or during incarceration³. This is problematic for the wellbeing of both the HIV positive individuals, and for the communities where they are being released.

Objective

This study will examine the HIV continuum of care (linkage to care, retention in care, adherence to antiretroviral therapy, and durable viral suppression) outcomes of individuals who have history of incarceration compared to those who have never been incarcerated.

Methods

This study used data from the Florida Cohort Study, which administered a survey to 797 consenting HIV positive individuals, and matched the survey responses to the participants' medical records, and to their eHARS (Enhanced HIV/AIDS Reporting System) data. Demographic items, HIV diagnosis, HIV linkage to care, HIV care retention, HIV medication adherence, and viral suppression as well as other HIV care services items (having an HIV case manager, not missing appointments, and having a consistent place for HIV care) were assessed. Variable definitions and data source are described in Table 1.

Table 1. Variable definitions and data source

Variable	Definition	Data source
Linked to care	Taking less than 6 months from diagnosis to treatment	Survey Item
HIV care services	Having an HIV case manager	Survey Item
	Never missing appointment in the last 6 months	Survey Item
	Having a consistent place for HIV care in the last 6 months	Survey Item
Retained in care	Having at least 2 clinic visits with CD4 or HIV viral load tested at least 90 days apart in the last 12 months.	eHARS
Adherence to antiretroviral therapy	Taking antiviral medication	Survey Item
	Having greater than 95% adherence to antiviral medication	Survey Item
	Always taking medication as directed	Survey Item
Durable viral suppression	Having less than or equal to 200 copies/mL in each of the viral load tests in the past 12 months	eHARS

Data Analysis Plan. Frequencies, cross tabulations, and regression analyses were conducted with HIV care variables as the outcome variables and incarceration history ("ever been incarcerated"; yes = 1, no=0) as the independent variable.

Results

Table 2. Demographics of individuals with incarceration history compared to those with no incarceration history, 2012 - 2017

Variable	Incarcerated (%)	Never Incarcerated (%)
Age Group ***		
18-34	13.9	16.9
35-44	21.2	15.4
45-54	44.3	33.1
55 and older	20.6	34.6
Gender		
Male	61.5	64.6
Female	35.1	33.5
Transgender	3.5	2.0
Race***		
Hispanic	15.4	27.4
Non-Hispanic white	19.1	31.5
Non-Hispanic Black	65.6	41.1
Education***		
Less than High school	38.9	25.0
High school diploma	33.1	24.6
Beyond a high school diploma	27.9	50.4
Homeless***	21.1	9.2
Uninsured	5.2	5.7
Employment**		
Unemployed	26.6	24.0
Disabled	53.1	44.0
Employed	20.3	32.0

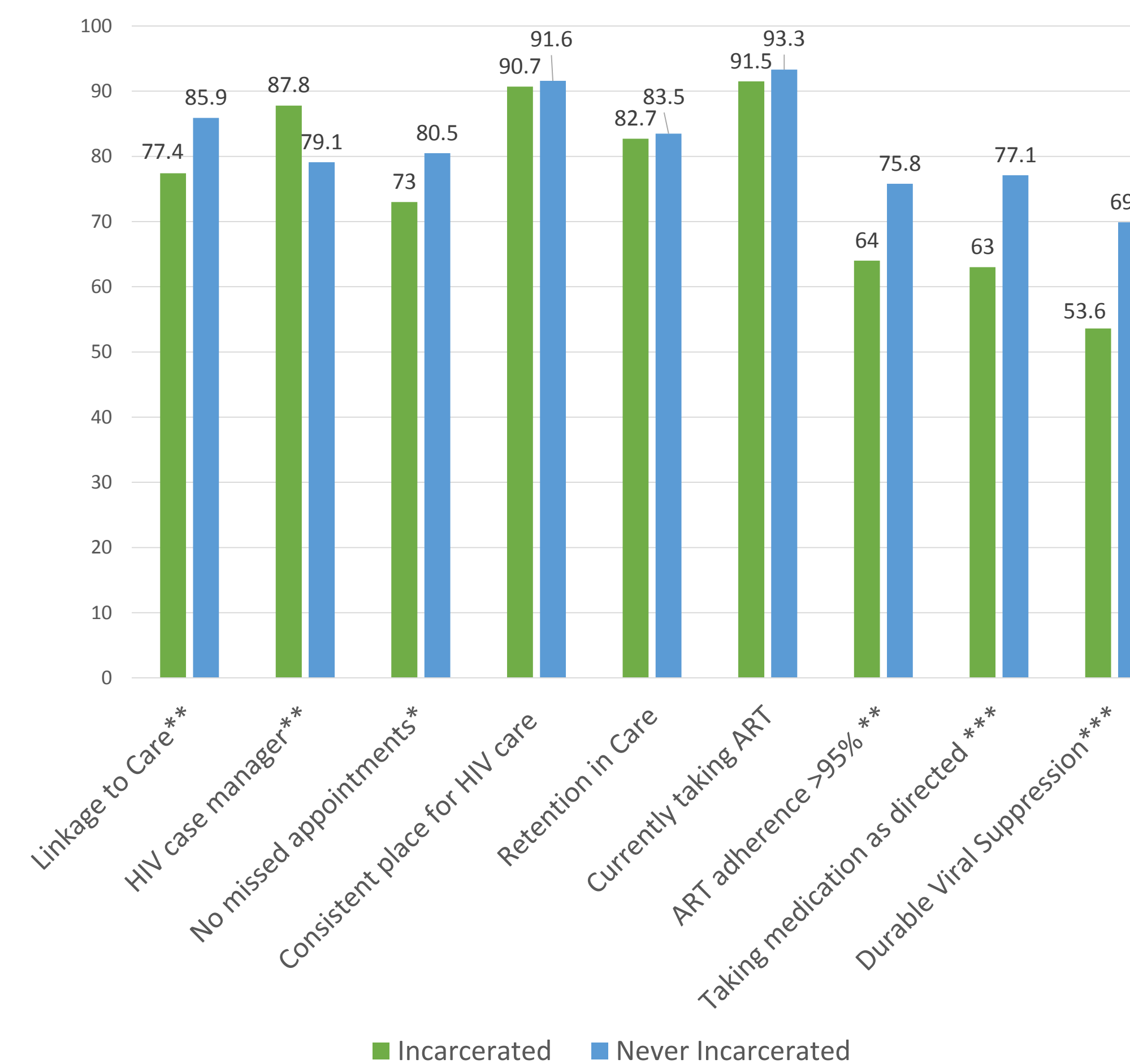
1. Significance levels: *<0.05 **<0.01 ***<0.001

Table 3. Unadjusted and adjusted odd ratios for associations between incarceration history and the HIV care continuum.

	OR	95% CI	AOR ¹	95% CI
Linkage in care	0.562**	(0.371, 0.849)	0.582*	(0.371, 0.912)
HIV care services				
HIV case manager	0.524**	(0.346, 0.792)	0.557*	(0.348, 0.892)
No Missed appointments	0.655*	(0.453, 0.946)	0.829	(0.543, 1.265)
Adherence				
Adherence > 95%	0.568**	(0.395, 0.815)	0.674	(0.450, 1.011)
Take ART as directed	0.507***	(0.354, 0.727)	0.473***	(0.314, 0.711)
Durable viral suppression	0.497***	(0.359, 0.687)	0.673*	(0.464, 0.977)

1. Adjusted for age group, gender, ethnicity, race, education, homelessness, and employment.
2. Significance levels: *<0.05 **<0.01 ***<0.001

Figure 1. HIV continuum of care variables among individuals with incarceration history compared to those without history of incarceration



Discussion

The results of this study show that individuals with incarceration history (IH) generally have worse HIV outcomes when compared to those who do not have IH. This conclusion is based on the ultimate goal of reaching viral suppression, where those with IH are less likely to achieve durable viral suppression compared to those without IH. In addition, when individual HIV continuum steps and other HIV care services were analyzed (Figure 1), the negative relationship with IH appears at every step except for *retention in care* and having an *HIV case manager*. *Retention in care* did not have a statistically significant relationship with IH, while those with IH were more likely to have a case manager than those without IH. However, after adjusting for demographic factors (Table 3), it was found that those with IH were actually less likely to have an HIV case manager, less likely to have been linked to care within 6 months of HIV detection, less likely to take ART as directed, and less likely to have durable viral suppression compared to those without IH.

Implications/Recommendations

This study has major policy implications in Florida, considering its high rates of HIV in its general population. While programs have been established to improve the transition from criminal justice facilities to the community, most programs stop after 6 to 12 months post-release. While the first few months after release have shown to be a critical time for individuals released from incarceration with respect to being linked and reengaged into HIV care, additional programs could be implemented to focus on the long term care of individuals who have a history of incarceration. Future studies should look more deeply at the HIV continuum of care of ex-offenders. These studies should stratify analysis by length of incarceration, type of incarceration facility, and how long ago individuals were incarcerated.

Acknowledgements

We would like to thank The Southern HIV and Alcohol Research Consortium (SHARC) and Florida Department of Health for putting together the database which made this study possible. Research reported in this poster was supported by NIAAA of the National Institutes of Health under award number #U24 AA022002. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Literature Cited

- Wagner, P. (2015). Jails matter. but who is listening? Retrieved from <https://www.prisonpolicy.org/blog/2015/08/14/jailsmatter/>
- CDC. (2015). HIV among incarcerated populations. Retrieved from <https://www.cdc.gov/hiv/group/correctional.html>
- Iroh, P. A., Mayo, H., & Nijhawan, A. E. (2015). The HIV care cascade before, during, and after incarceration: A systematic review and data synthesis. *American Journal of Public Health, 105*(7), e16. doi:10.2105/AJPH.2015.302635