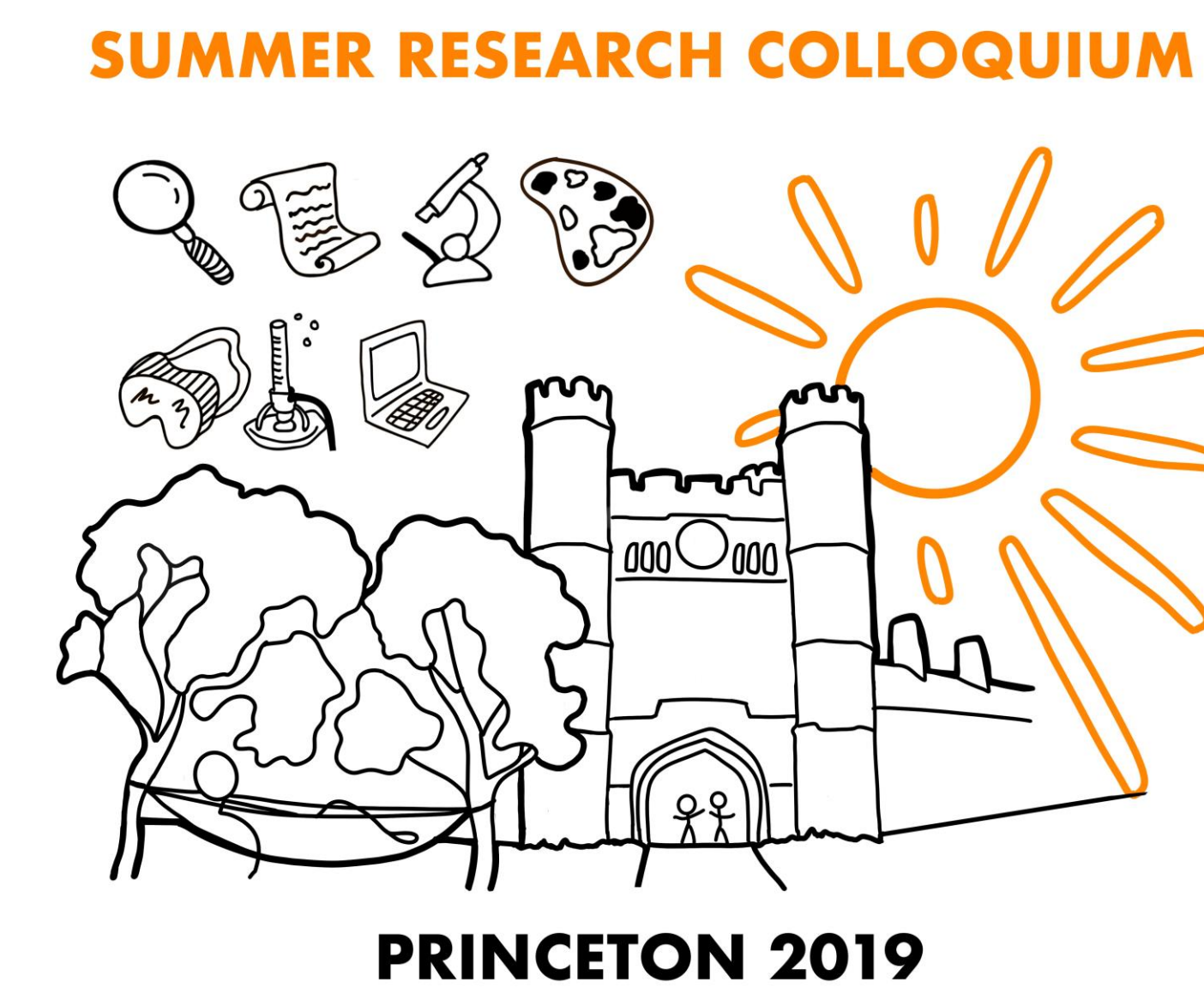
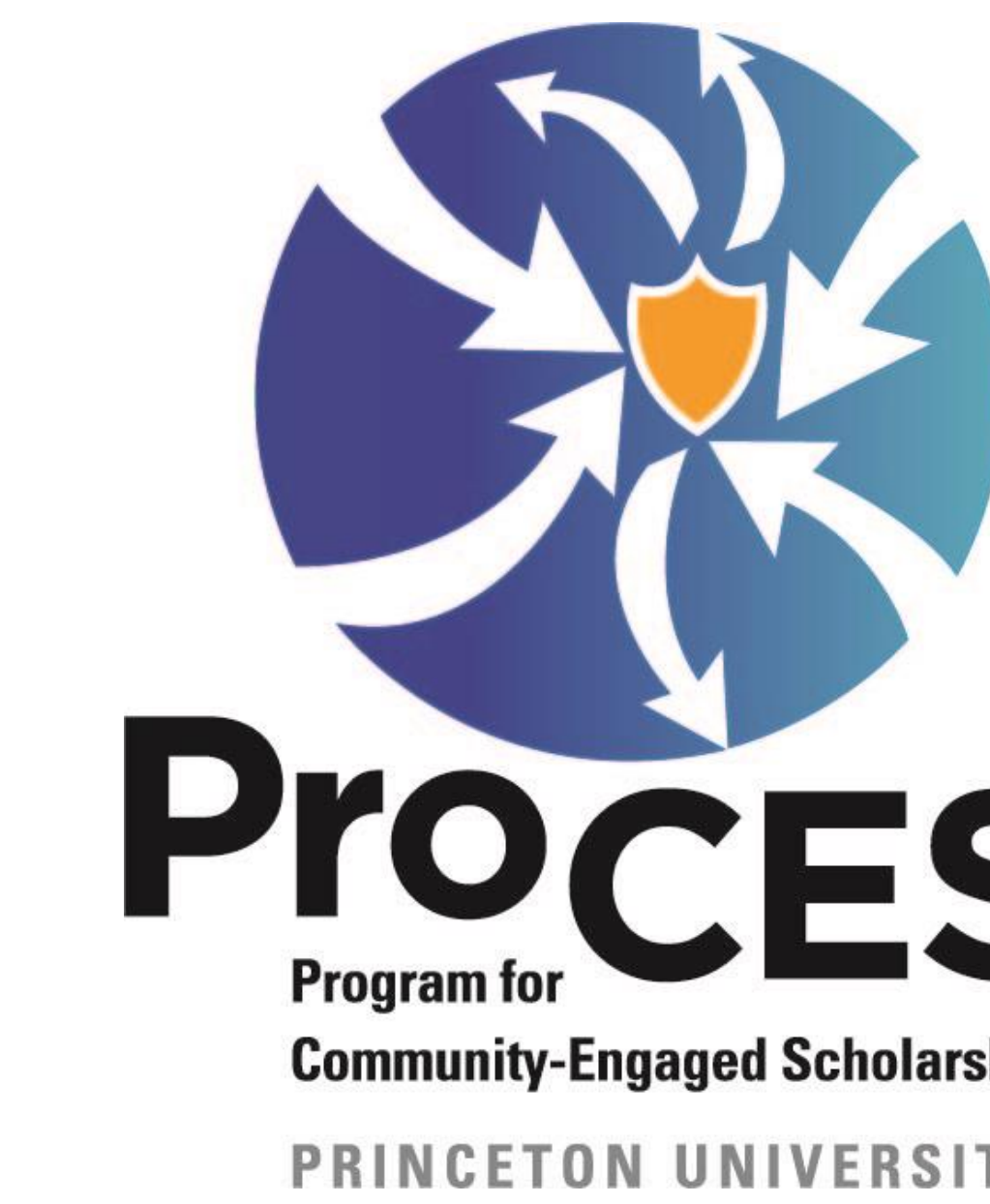


# Effects of Housing on HIV Viral Suppression at Hyacinth AIDS Foundation

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## Background

As part of a comprehensive analysis of Hyacinth services, a cross-comparison of the non-virally suppressed (NVS) clients to the virally suppressed (VS) clients was conducted. Unstable housing was identified as a distinguishing factor of the NVS clients. This observation called for a deeper investigation into the effects of stable housing and Hyacinth's housing services on the viral suppression rate of the client population.

Several studies have found a positive correlation between stable housing and effective HIV treatment, as clients dealing with income and/or housing insecurity may find it much more difficult to consistently take HIV medication due to the prioritization of more immediate needs. This project examined how Hyacinth services have aided clients in housing and how such treatment can be improved.

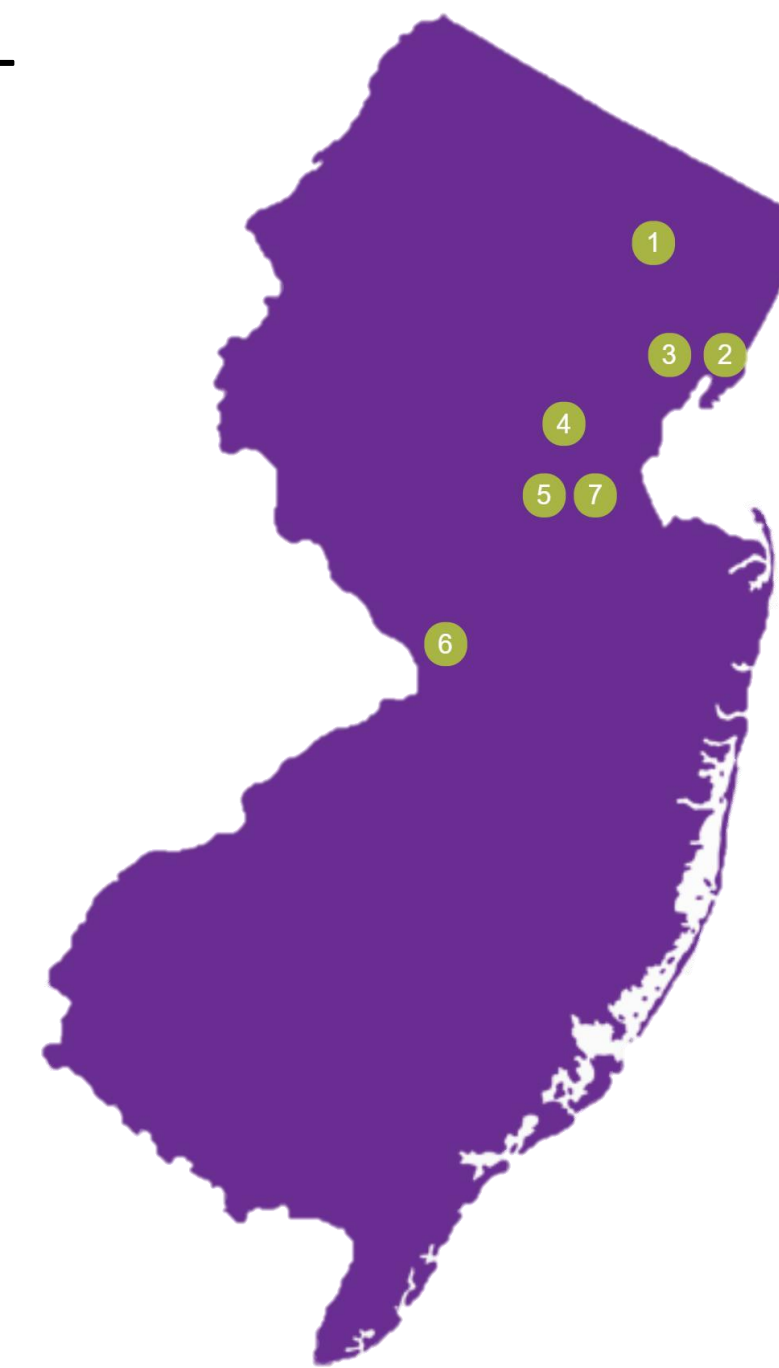


Figure 1. Hyacinth's six regional offices across NJ.

## Research Questions

What are the distinguishing factors of the non-virally suppressed client population as compared to the suppressed client population? How efficiently are Hyacinth services addressing these factors, and how can they improve?

## Methods and Materials

The project was comprised of several stages of analysis. First, the demographics of the active Newark client population were determined using reports generated by the online client database e-COMPAS. The medical history of those clients were then recorded by manually going through each file. This was used to calculate the viral suppression rate and CD4 growth rate of the overall client population, along with categorizing clients into the NVS or VS groups. The demographics, socioeconomic status, medical history, etc. of those two groups were then calculated using Excel and compared to find the distinguishing factors.

Once housing was identified as a significant factor, the population of active clients receiving housing services at Hyacinth were cross-listed with those receiving medical treatment to find overlapping clients receiving both services. The housing history, the number of housing service units and housing transitions, and the HIV status of each client was then recorded from the e-COMPAS and analyzed.

In addition to the research on housing and HIV viral suppression, a focus group was formed for women clients at Hyacinth to determine what barriers or challenges might prevent them from accessing cervical cancer screenings.



Figure 2. e-COMPAS, the online database used to retrieve demographic, socioeconomic, and housing data.

## Results

When comparing the NVS clients to the VS clients, it was found that the greatest differences between the two populations were the length of time they have been active with Hyacinth and the socioeconomic factors (i.e. employment and housing status) affecting the client. The NVS clients generally began treatment more recently than the VS clients, with 61.54% and 43.36%, respectively, being diagnosed after 2010. The socioeconomic factors affecting the clients also appear to have the largest effect on the probability of reaching viral suppression, with an over 10% difference in unemployment rate and an over 25% difference in the rate of homelessness.

Demographics Comparison	Non-Virally Suppressed	Virally Suppressed
	Percentage	Percentage
<b>Year of Diagnosis (HIV)</b>		
Prior to 2000	7.69%	30.09%
2000-2010	30.77%	26.55%
2010-Present	61.54%	43.36%
<b>Employment Status</b>		
Full-time/Part-time	15.38%	24.78%
Unemployed	84.62%	75.22%
<b>Living Conditions</b>		
House/Apartment	53.85%	73.45%
Homeless/Shelter	46.15%	19.47%
Prison	0.00%	5.31%
Group/Treatment Center	0.00%	1.77%

Table 1. Proportions of demographics among NVS and VS clients.

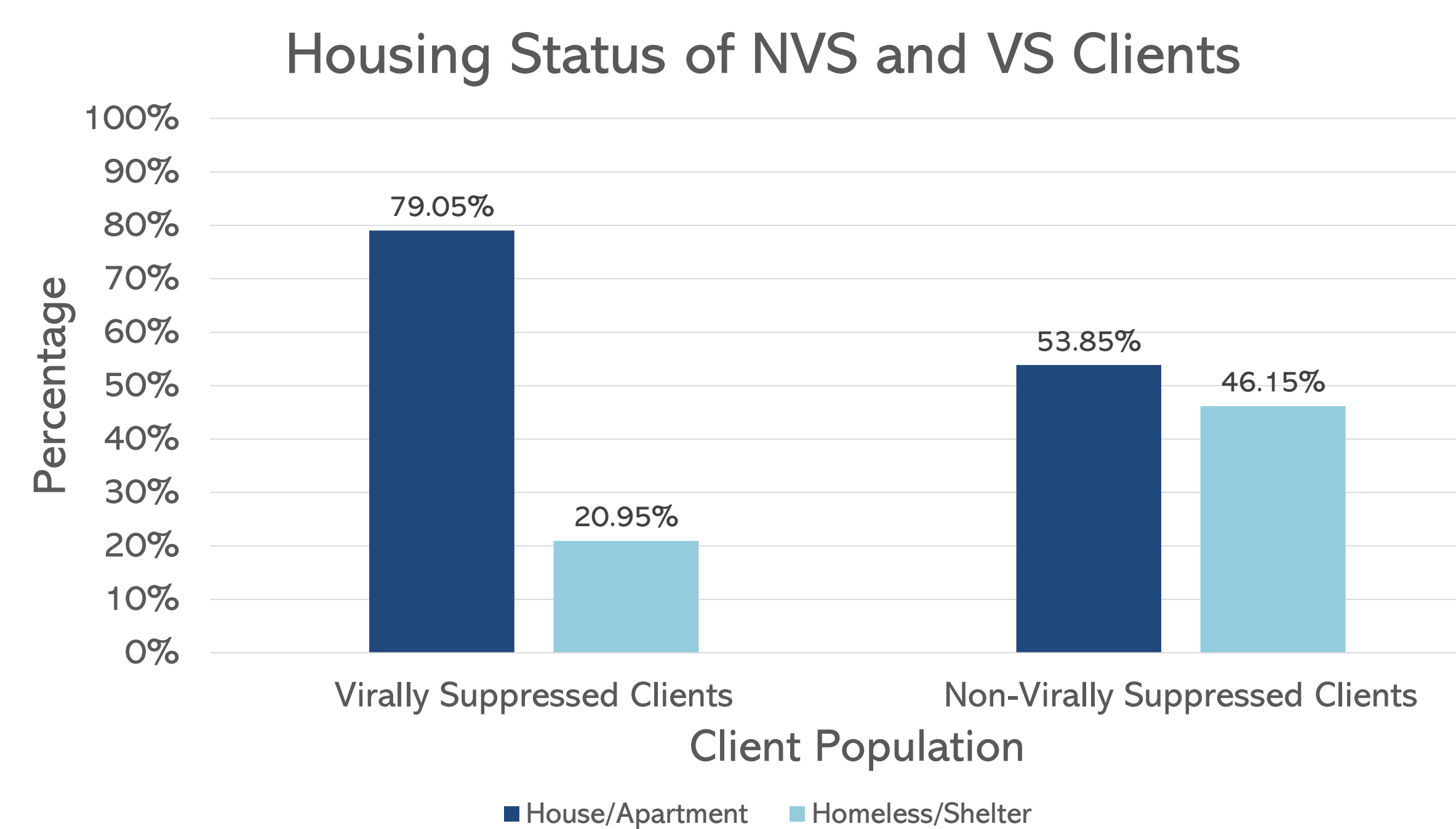


Figure 3. Comparison of housing status proportions among NVS and VS clients.

The investigation into housing effects revealed that out of the 172 active clients receiving housing services, only 10, or 5.8%, had also received medical treatment from Hyacinth within the past fiscal year. Two of the 10 clients who had received housing services in addition to their medical treatment had not become virally suppressed, marking an 80% viral suppression rate as compared to the overall 89.34%. It is possible this proportion is skewed due to the small population size. Finally, the average number of housing service units was higher in the VS group than the NVS group, at 16 and 10 units, respectively.

## Discussion

Because the average time to reach viral suppression is 29.29 weeks, the data suggest that a significant proportion of the NVS client population began treatment too recently for their medication to effectively reduce the viral load to an undetectable level. The housing status of the client also has a notable correlation with whether the client can reach an undetectable viral load, suggesting that treatment approaches emphasizing the provision of housing services may promote the rate of viral suppression in clients. The race/ethnicity, gender, medical status, and sexual orientation of the client do not appear to affect the probability of reaching viral suppression.

The percentage of clients using both medical and housing services at Hyacinth, or 5.8%, is low enough to raise concerns that there exists a service gap where clients who come to Hyacinth for medical purposes are not being referred to the housing department for additional services. This is especially pressing given the positive effects of stable housing on HIV treatment and the high proportion of Hyacinth medical clientele dealing with housing insecurity. Further investigation should determine more effective methods to connect Hyacinth services and utilize its wrap-around system, such as emphasizing stable housing as an essential aspect of treatment.

Due to the small sample size, it is difficult to generalize whether specific housing arrangements led to certain medical status outcomes. The difference in service units between NVS and VS clients might suggest that greater efforts at finding stable housing lead to greater viral suppression; however, the limited sample size suggest that these findings are not able to be generalized easily, and more extensive research at Hyacinth would be needed to expound on the relationship between the efforts of the organization to provide housing services and the treatment success of the client.



With **safe and affordable** housing, people with HIV are better able to **start and stay** on HIV treatment.

Figure 4. Infographic about housing and HIV treatment.

## Acknowledgements

Special thanks for my mentor, Jodi Riccardi, for her support and guidance throughout the project. I would also like to thank Deloris Dockrey, Johanne Rateau, and all other Hyacinth employees for their support and kindness. Finally, thank you to Maria and Trisha from the ProCES office and to the SRC mentors.



Figure 5. Hyacinth logo.

## References

- Figures 1 & 5: <https://www.hyacinth.org/>  
 Figure 2: <https://bp.e-compas.com/>  
 Figure 4: <https://www.hiv.gov/hiv-basics/living-well-with-hiv/taking-care-of-yourself/housing-and-health>