

Introduction

The last thirty years have marked advances and increased efficacy in HIV care, allowing individuals living with HIV to be able to live long, healthy lives (HHS, 2020). Team-based care models, aimed at specific age populations, allow for targeted approaches to support the unique life events of individuals across the aging continuum.

According to the Centers for Disease Control and Prevention (CDC), the majority of new diagnoses are among younger demographics. However, older populations, due to efficacy of HIV treatment, account for nearly half of those living with HIV. Increasing viral suppression among all age groups may be the single most effective strategy for preventing new infections and improving the health of those living with HIV (CDC, 2018). However, there are different challenges faced by each of these groups. For younger populations, challenges faced may include: stigma, health literacy, socioeconomic status, and co-occurring conditions. Challenges faced by our aging population include: multiple chronic diseases or conditions, poly-pharmacy, changes in physical and cognitive abilities, and social isolation. This presents the need for multifaceted and tailored approaches to address the clinical and psychosocial needs for each respective population to support access to HIV care, retention in care, and medication adherence.

Northern Nevada HOPES, a federally qualified health center in Reno, NV, developed a team-based care model focused on care coordination for two specific age groups: (1) individuals ages 49 years and younger, and (2) individuals ages 50+ years. Care team members included staff from various departments trained in the specific needs of these different sub-populations to help Northern Nevada's populations stay healthy and remain engaged in HIV care.

Purpose

The overall objective of this project was to examine HIV viral suppression among our two age-specific care teams to assess efficacy of our efforts and inform future health care initiatives.

Goals

1. Analyze effectiveness of targeted outreach project among age-specific care teams.
2. Explore demographic data among our two care groups population, to inform specific barriers to suppression for this population.
3. Develop and implement new strategies based on outcome data to improve continuity of care.

Methods & Activities

Each quarter, during case conference meetings, staff reviewed the 'HIV Care Team Dashboard' (**Figure 1**) built from data mined from HOPES' electronic health records system, eClinicalWorks (eCW). This allowed the teams to assess aggregate data trends as well as patient specific compliance with regards to health metrics. The metrics were specific to Health and Human Services Administration's (HRSA) defined clinical outcome measures, which include: (1) viral load suppression, (2) antiretroviral therapy, (3) flu vaccine compliance, and (4) cervical cancer screening compliance. The care team focused heavily on viral suppression outcomes, and therefore targeted patients who were **not** virally suppressed.



Targeted outreach (including phone calls, home visits, and community searches) were done to:

- complete acuity assessments for psychosocial needs,
- verify linkage support services based on identified needs,
- schedule missed or cancelled medical or behavioral health appointments,
- and /or verify medication pick-ups from the Pharmacy.

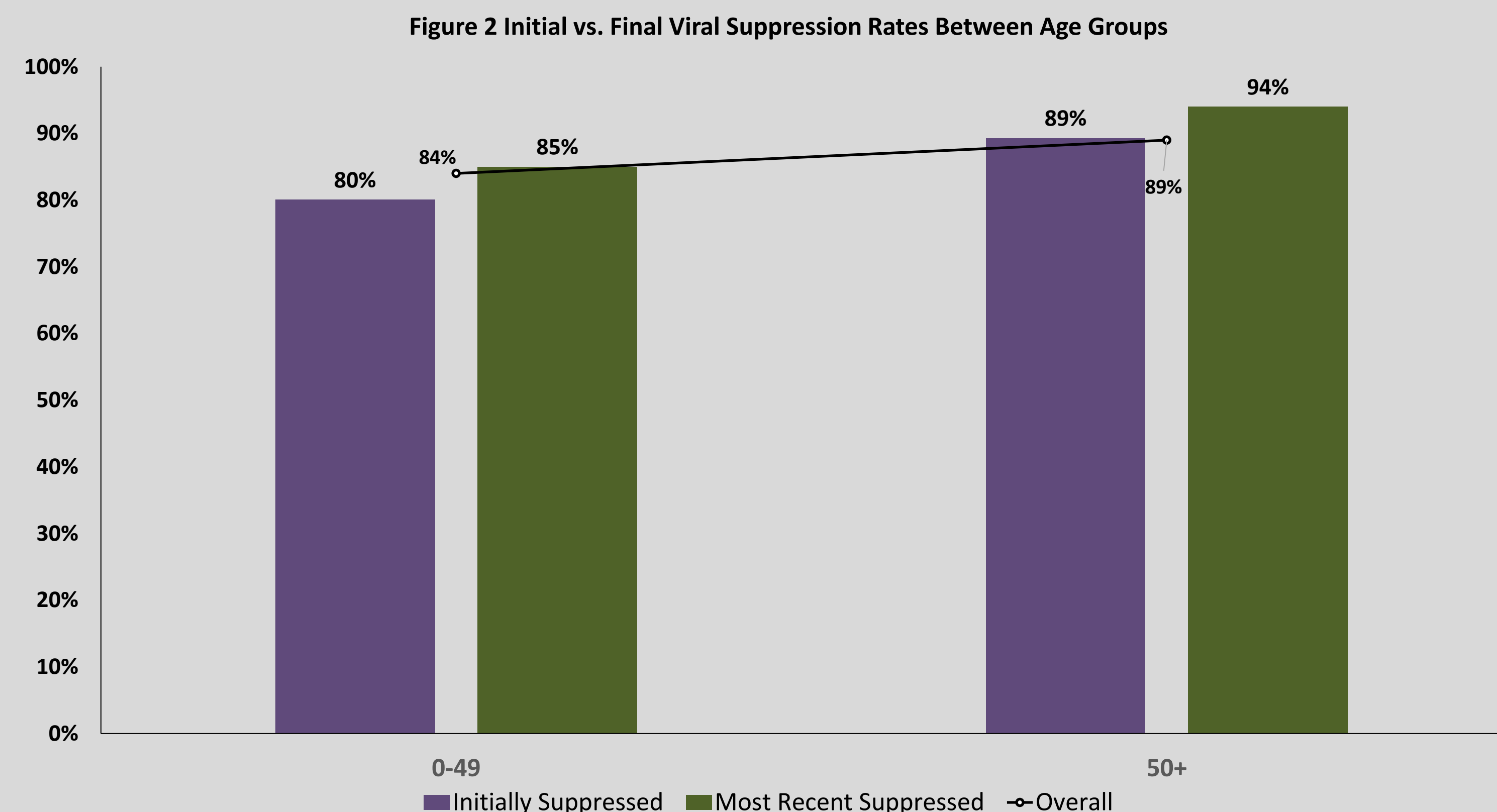
We utilized viral suppression as a proxy for this project as it was the best marker for treatment success and adherence. Viral suppression rates were taken at baseline and at project completion to assess differences among time periods, as well as changes over time. Viral suppression rates were compared between care team groups with a focus on particular demographics to inform further analysis.

Table 1. Demographic Overview Among Age Groups

	0-49	50+
Total Patients	416	384
Average Age	36	59
Average FPL (%)	161%	167%
Experiencing Homelessness (%)	64%	55%
Average Time Living with HIV	7.5 Years	17 Years
Accessing Primary Care	63%	64%
Accessing Behavioral Health	24%	15%
Accessing Case Management	82%	73%

Findings & Implications

The influence of age on viral suppression was identified as we found our aging population typically had higher viral suppression at both measurement points, as well as higher conversion rates to suppression over time on specific covariates. This suggests that while our team-based care model had positive implications for all populations, there are noticeable characteristics in our aging population that allow for treatment success and adherence. As seen in **Figure 2**, viral suppression at baseline vs. project end was higher for our aging population. However, both groups saw approximately 11% improvement in viral suppression throughout the project period.



Compared to the younger group, our aging population had higher viral suppression rates at baseline and project end among **all** housing and Federal Poverty Levels (FPL) statuses (**Table 2**). This was pronounced even when comparing both groups among those experiencing homelessness and those living at or below 400% of the FPL. Additionally, our aging population displayed greater viral suppression conversion rates compared to their younger counterparts (**Table 3**).

Table 2. Viral Suppression among Age Groups for FPL and Housing Status

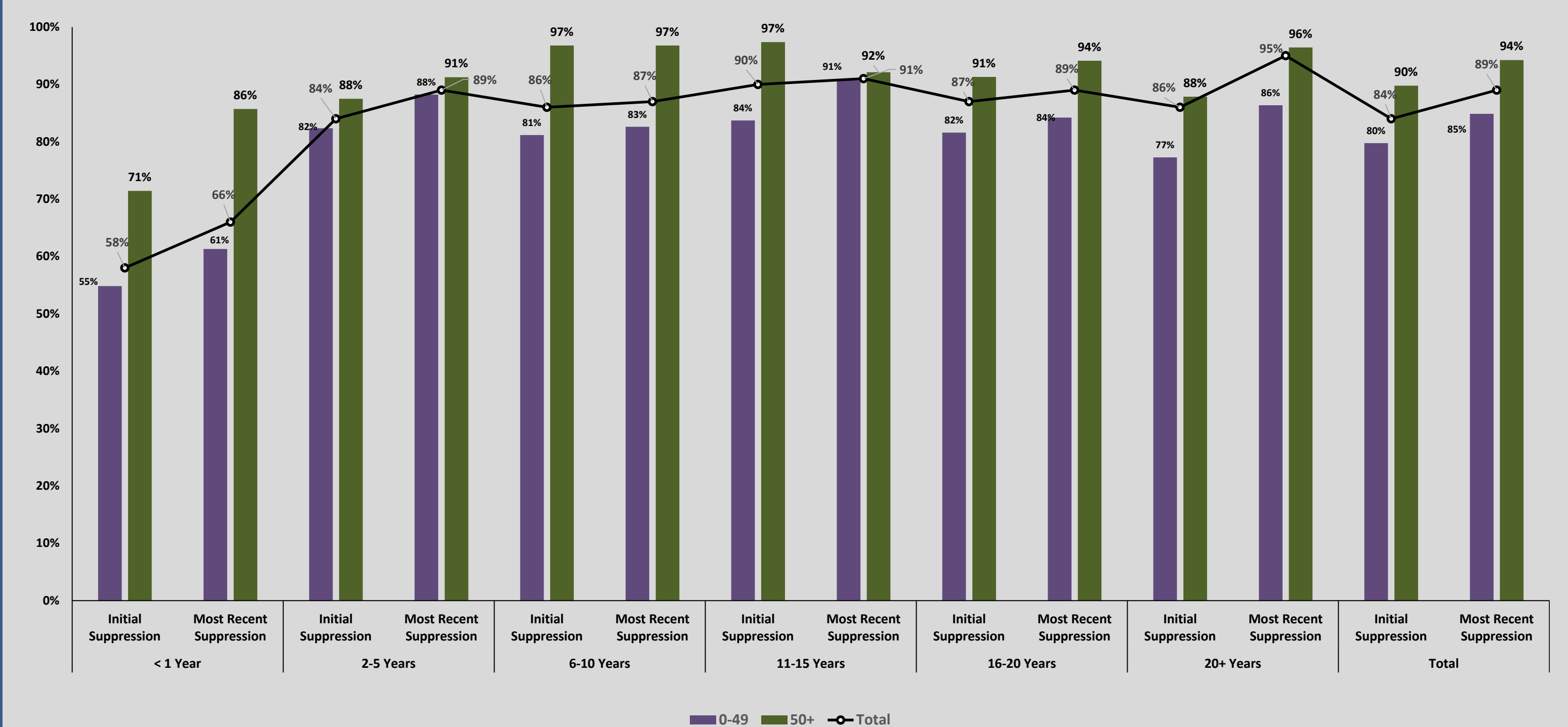
	0-49		50+	
	Initial VL Suppression (%)	Final VL Suppression (%)	Initial VL Suppression (%)	Final VL Suppression (%)
Federal Poverty Level (FPL)				
0-99 % FPL	74%	80%	84%	92%
100-199 % FPL	81%	83%	92%	95%
200-299% FPL	84%	90%	90%	94%
300-399 % FPL	87%	97%	97%	100%
400+ % FPL	93%	95%	95%	100%
Housing Status				
Homelessness	78%	82%	87%	90%
Stably Housed	84%	94%	92%	94%

Table 3. Viral Load Suppression Conversion Rates Among Age Group

Age Group	% Converted to VL Suppression by Project End	% Converted to VL Unsuppressed by Project End
0-49	35%	2%
50+	50%	1%

Among those newly diagnosed (i.e., living with HIV for less than 1 year), there was striking contrast between groups (**Figure 3**). Viral suppression was higher among our aging population. Additionally, in this group, there were significant improvements of viral suppression conversion over time compared to our younger demographic (15% versus 6%, respectively).

Figure 3. Viral Load Suppression Rates By Years Living With HIV Among Age Groups



Our analysis led us to confirm our team-based age group approach was overall beneficial to both demographics of interest. However, our aging population may have responded more positively (and more dramatically) to our outreach strategies than our younger demographics. Further analysis will be done to understand the unique characteristics that allow this population to successfully engage in treatment compared to their younger counterpart. We celebrate the resiliency of our aging population and will continue to work to ensure successful health outcomes are achieved.

References

- Centers for Disease Control and Prevention (CDC). (2018, November). *HIV and Older Americans*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. <https://www.hiv.gov/hiv-basics/living-well-with-hiv/taking-care-of-yourself/aging-with-hiv>
- Centers for Disease Control and Prevention (CDC). (2020, May). *HIV and Youth*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Centers for Disease Control and Prevention. <https://www.cdc.gov/hiv/group/age/youth/index.html>
- Health and Human Services (HHS). (2020, May). *Aging with HIV*. U.S. Department of Health and Human Services, Minority HIV/AIDS Fund. <https://www.hiv.gov/hiv-basics/living-well-with-hiv/taking-care-of-yourself/aging-with-hiv>
- U.S. National Library of Medicine. (2020, July). *Guidelines for the Use of Antiretroviral in Adults and Adolescents with HIV*. U.S. Department of Health and Human Resources, National Library of Medicine. <https://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-ary/277-hiv-and-the-older-person>

Introduction & Purpose

The last thirty years have marked advances and increased efficacy in HIV care, allowing individuals living with HIV to be able to live long, healthy lives (HHS, 2020). Team-based care models, aimed at specific age populations, allow for targeted approaches to support the unique life events of individuals across the aging continuum.

According to the Centers for Disease Control and Prevention (CDC), the majority of new diagnoses are among younger demographics. However, older populations, due to efficacy of HIV treatment, account for nearly half of those living with HIV. Increasing viral suppression among all age groups may be the single most effective strategy for preventing new infections and improving the health of those living with HIV (CDC, 2018). However, there are different challenges faced by each of these groups. For younger populations, challenges faced may include: stigma, health literacy, socioeconomic status, and co-occurring conditions. Challenges faced by our aging population include: multiple chronic diseases or conditions, poly-pharmacy, changes in physical and cognitive abilities, and social isolation. This presents the need for multifaceted and tailored approaches to address the clinical and psychosocial needs for each respective population to support access to HIV care, retention in care, and medication adherence.

Northern Nevada HOPES, a federally qualified health center in Reno, NV, developed a team-based care model focused on care coordination for two specific age groups: (1) individuals ages 49 years and younger, and (2) individuals ages 50+ years. Care team members included staff from various departments trained in the specific needs of these different sub-populations to help Northern Nevada's populations stay healthy and remain engaged in HIV care.

The overall objective of this project was to examine HIV viral suppression among our two age-specific care teams to assess efficacy of our efforts and inform future health care initiatives.

Goals

1. Analyze effectiveness of targeted outreach project among age-specific care teams.
2. Explore demographic data among our two care groups population, to inform specific barriers to suppression for this population.
3. Develop and implement new strategies based on outcome data to improve continuity of care.

Methods & Activities

Quarterly staff reviewed the 'HIV Care Team Dashboard' (**Figure 1**) built from HOPES' electronic health records system, eClinicalWorks (eCW). This allowed the teams to assess aggregate data trends as well as patient specific compliance with regards to Health and Human Services Administration's (HRSA) defined clinical outcome measures, which include: 1) viral load suppression, (2) antiretroviral therapy, (3) flu vaccine compliance, and (4) cervical cancer screening compliance. The care team focused heavily on viral suppression outcomes, and therefore targeted patients who were **not** virally suppressed.

Targeted outreach (including phone calls, home visits, and community searches) were done to:

- complete acuity assessments for psychosocial needs,
- verify linkage support services based on identified needs,
- schedule missed or cancelled medical or behavioral health appointments,
- and /or verify medication pick-ups from the Pharmacy.

We utilized viral suppression as a proxy for this project as it was the best marker for treatment success and adherence. Viral suppression rates were taken at baseline and at project completion to assess differences among time periods, as well as changes over time. Viral suppression rates were compared between care team groups with a focus on particular demographics to inform further analysis.

Figure 1. HIV Care Team Dashboard

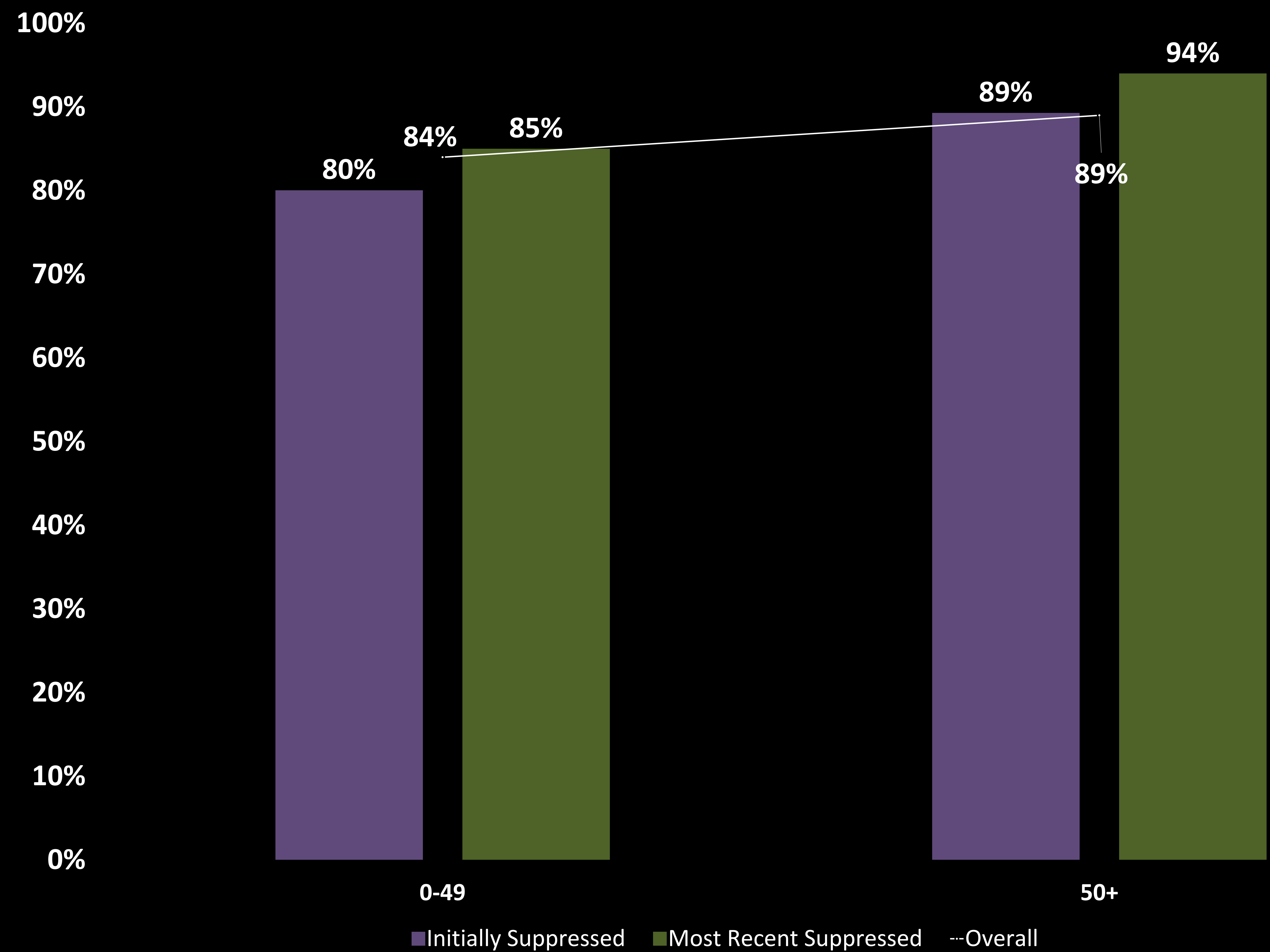


Findings & Implications

The influence of age on viral suppression was identified as we found our aging population typically had higher viral suppression at both measurement points, as well as higher conversion rates to suppression over time on specific covariates. This suggests that while our team-based care model had positive implications for all populations, there are noticeable characteristics in our aging population that allow for treatment success and adherence.

As seen in **Figure 2**, viral suppression at baseline vs. project end was higher for our aging population. However, both groups saw approximately 11% improvement in viral suppression throughout the project period

Figure 2 Initial vs. Final Viral Suppression Rates Between Age Groups



Findings & Implications (cont.)

Compared to the younger group, our aging population had higher viral suppression rates at baseline and project end among all housing and Federal Poverty Levels (FPL) statuses (**Table 2**).

This was pronounced even when comparing both groups among those experiencing homelessness and those living at or below 400% of the FPL.

Additionally, our aging population displayed greater viral suppression conversion rates compared to their younger counterparts (**Table 3**).

Table 2. Viral Suppression among Age Groups for FPL and Housing Status

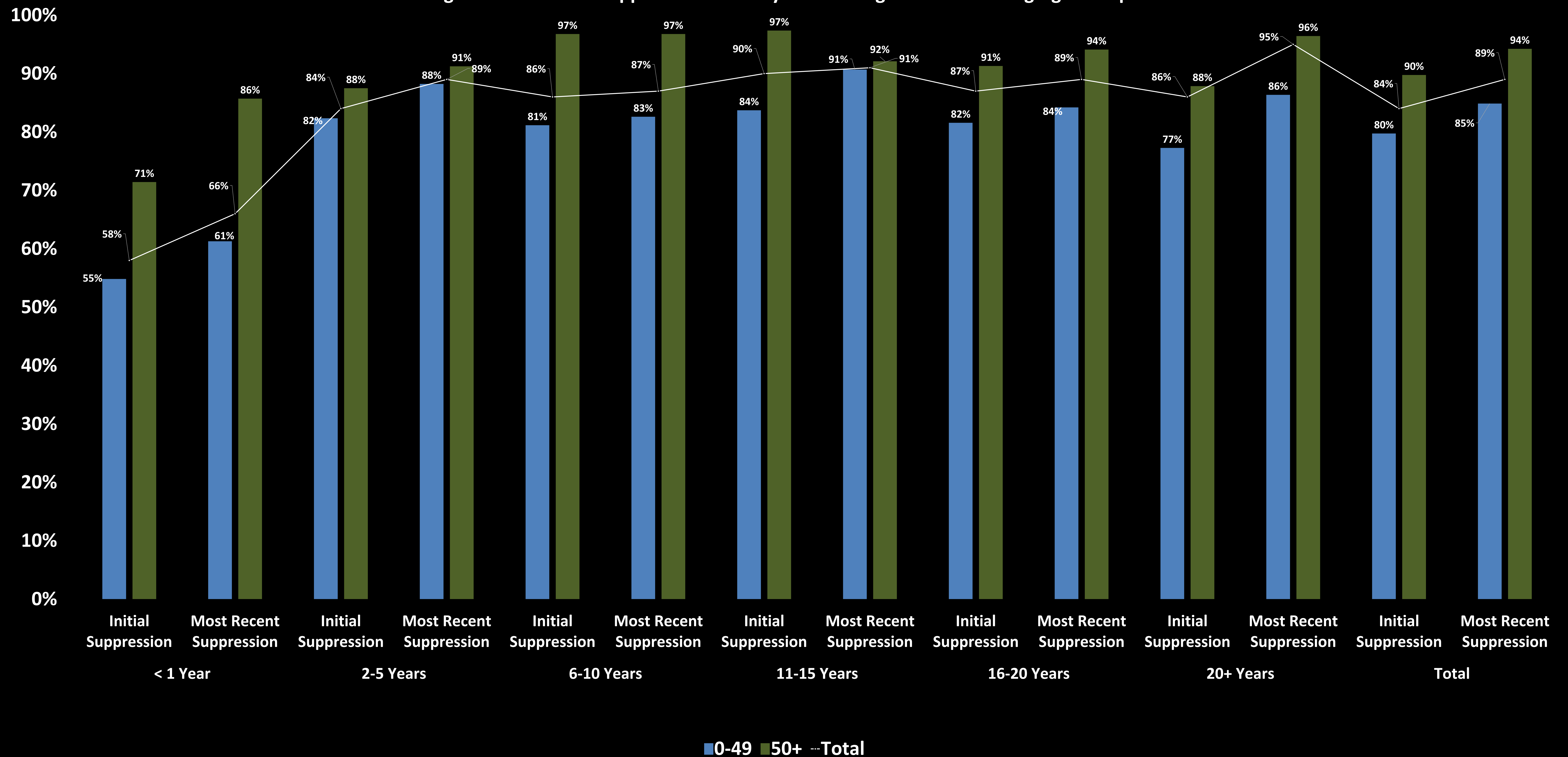
	0-49 Age Group		50+ Age Group	
	Initial VL Suppression (%)	Final VL Suppression (%)	Initial VL Suppression (%)	Final VL Suppression (%)
Federal Poverty Level (FPL)				
0-99 % FPL	74%	80%	84%	92%
100-199 % FPL	81%	83%	92%	95%
200-299% FPL	84%	90%	90%	94%
300-399 % FPL	87%	97%	97%	100%
400+ % FPL	93%	95%	95%	100%
Housing Status				
Homelessness	78%	82%	87%	90%
Stably Housed	84%	94%	92%	94%

Table 3. Viral Load Suppression Conversion Rates Among Age Group

Age Group	% Converted to VL Suppression by Project End	% Converted to VL Unsuppressed by Project End
0-49	35%	2%
50+	50%	1%

Findings & Implications (cont.)

Figure 3. Viral Load Suppression Rates By Years Living With HIV Among Age Groups



Among those newly diagnosed (i.e., living with HIV for less than 1 year), there was striking contrast between groups (**Figure 3**). Viral suppression was higher among our aging population. Additionally, in this group, there were significant improvements of viral suppression conversion over time compared to our younger demographic (15% versus 6%, respectively).

Findings & Implications (cont.)

Our analysis led us to confirm our team-based age group approach was overall beneficial to both demographics of interest.

However, our aging population may have responded more positively (and more dramatically) to our outreach strategies than our younger demographics. Further analysis will be done to fully understand the unique characteristics that allow this population to successfully engage in treatment compared to their younger counterpart.

We celebrate the resiliency of our aging population and will continue to work to ensure successful health outcomes are achieved. Because at HOPES, we truly believe...We are in this together!

References

Centers for Disease Control and Prevention (CDC). (2018, November). *HIV and Older Americans*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. <https://www.hiv.gov/hiv-basics/living-well-with-hiv/taking-care-of-yourself/aging-with-hiv>

Centers for Disease Control and Prevention (CDC). (2020, May). *HIV and Youth*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Centers for Disease Control and Prevention. <https://www.cdc.gov/hiv/group/age/youth/index.html>

Health and Human Services (HHS). (2020, May). *Aging with HIV*. U.S. Department of Health and Human Services, Minority HIV/AIDS Fund. <https://www.hiv.gov/hiv-basics/living-well-with-hiv/taking-care-of-yourself/aging-with-hiv>

U.S. National Library of Medicine. (2020, July). *Guidelines for the Use of Antiretroviral in Adults and Adolescents with HIV*. U.S. Department of Health and Human Resources, National Library of Medicine. <https://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-arv/277/hiv-and-the-older-person>