

# Age-Related Differences in Quality-of-Life Outcomes of People Living With HIV

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## Key Takeaways

- Both people living with HIV (PLWH) and their physicians reported that HIV impacted overall quality of life (QoL) to at least some extent, regardless of age
- Although older PLWH (aged >70 years) had more comorbidities and higher levels of moderate-to-extreme pain and fatigue as well as more discomfort taking their HIV medication in front of others, they were generally more accepting of and less impacted by HIV than younger PLWH, possibly due to living with HIV for a longer period of time or focusing more on other comorbidities
- While physicians' perspectives on adherence were similar across ages, self-reported patient adherence improved with age, suggesting that older patients are more adherent than physicians realize

## Introduction

• Today, in the United States, PLWH can achieve life spans similar to those of individuals without HIV if diagnosed early and treated with suppressive antiretroviral therapy

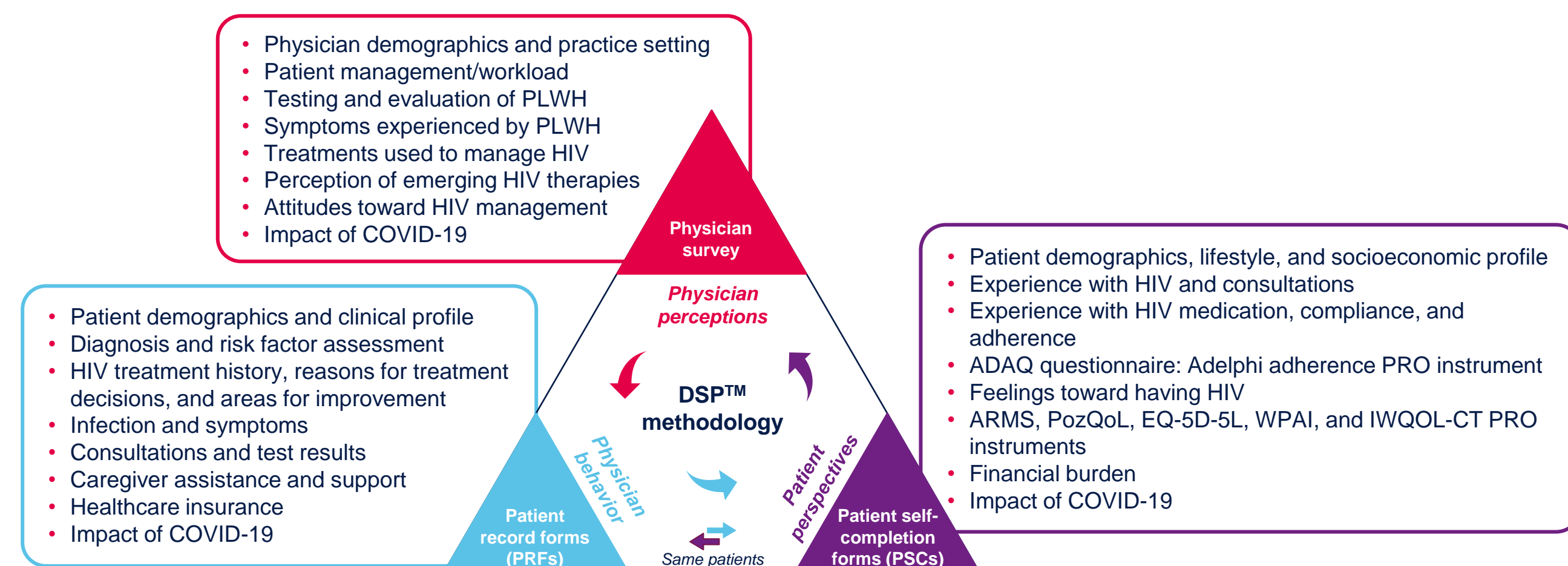
- However, the impact of HIV status on QoL as people age is unclear

• We aimed to describe treatment adherence and cost as well as HIV burden and QoL among PLWH in the United States stratified by age

## Methods

- Data were extracted from the Adelphi HIV II Disease Specific Programme™, a point-in-time survey of PLWH and their physicians (Figure 1)
- Physicians were PCPs or infectious disease specialists who treated ≥10 PLWH each month
- Patients had a confirmed HIV diagnosis, were aged ≥18 years, and were not currently involved in clinical trials
- Physicians reported patient demographics, comorbidities, adherence, satisfaction with HIV control, and clinical details based on their observations
- PLWH reported cost of treatment as well as treatment satisfaction, QoL, and adherence using the EuroQoL 5-Dimension Health Questionnaire (EQ-5D), HIV-specific PozQoL, and Adherence to Refills and Medications Scale (ARMS) and Adelphi Adherence Questionnaire (ADAQ), respectively<sup>2-4</sup>
- PLWH were categorized by age (18-30, 31-50, 51-60, 61-70, and 71-82 years), and descriptive analyses were performed

Figure 1. Overview of the Disease Specific Programme (DSP)™



## Results

### Participants

- 60 physicians provided data for 600 PLWH with a mean age of 44.7 years, 76% were male, and 51% were White (Table 1); 249 PLWH reported data directly
- Comorbidities increased with age, with 27% (22/82) of PLWH aged 18 to 30 years, 59% (185/311) aged 31 to 50 years, 83% (109/132) aged 51 to 60 years, 95% (59/62) aged 61 to 70 years, and 100% (13/13) aged 71 to 82 years reporting comorbidities
- The most common comorbidities across all 600 participants were hypertension (28%), dyslipidemia (22%), anxiety (19%), and depression (19%)

Table 1. Demographics and Baseline Characteristics of PLWH Overall and by Age as Reported by Physicians

Parameter	Age					
	Total (N=600)	18-30 y (N=82)	31-50 y (N=311)	51-60 y (N=132)	61-70 y (N=62)	71-82 y (N=13)
Sex assigned at birth, male, %	76 <sup>a</sup>	78	74	78	79	77
BMI, mean (SD), kg/m <sup>2</sup> [n]	27.5 (5.2) [591]	25.4 (4.2) [79]	27.3 (5.1) [306]	29.1 (5.3) [132]	28.6 (5.4) [61]	23.6 (2.8) [13]
Race/Ethnicity, %						
White/Caucasian	51	54	50	52	53	31
African American	29	26	28	31	32	46
Hispanic/Latinx	13	12	14	10	15	15
Asian	4	4	4	4	0	8
Other races <sup>b</sup>	3	3	3	4	0	0
Employment status, %						
Full-time	66	57	75	67	37	15
Part-time	14	17	15	17	5	8
Other <sup>c</sup>	20	26	10	16	58	77
Time since diagnosis, mean (SD), y [n] <sup>d</sup>	6.8 (8.1) [489]	1.8 (1.9) [66]	5.2 (6.0) [260]	10.4 (9.5) [103]	13.3 (9.9) [48]	14.9 (14.1) [12]
Mode of exposure, %						
Unprotected sex	86	87	86	84	89	92
Personal intravenous drug use/needle sharing	8	5	7	11	8	8
Other <sup>e</sup>	10	12	11	9	7	8
Most common insurance, n	229	27	120	54	22	6
Employer provided/sponsored, %	42	33	46	46	27	17
Health insurance exchange plan, %	21	37	22	15	14	—
Medicaid, %	11	11	8	17	14	17

<sup>a</sup>8% of PLWH identified as transgender male, transgender female, or other gender. <sup>b</sup>Included Native American, Middle Eastern, and individuals of multiple races. <sup>c</sup>Included long-term sick leave, homemaker, student, retired, and unemployed. <sup>d</sup>PLWH with a known diagnosis. <sup>e</sup>Included engagement in sex work/transactional sex, occupational exposure, and blood transfusion.

### Treatment Type and Adherence

- Overall, regardless of age, most PLWH were currently taking single-tablet regimens (STR; 91%), with similar levels of adherence (65% completely adherent; Table 2)

Table 2. Treatment Type and Adherence Level for PLWH Overall and by Age as Reported by Physicians

Parameter, %	Age					
	Total (N=600)	18-30 y (N=82)	31-50 y (N=311)	51-60 y (N=132)	61-70 y (N=62)	71-82 y (N=13)
Regimen type, STR	91	89	93	88	92	69
Most common STR/ monthly injection used (≥5% total)						
BIC/TAF/FTC	44	54	45	40	40	15
EFV/FTC/TDF	9	10	8	7	15	15
DTG/3TC	9	7	8	8	16	15
EVG/c/TAF/FTC	6	5	6	8	3	15
CAB/RPV	5	1	7	7	2	0
Physician-stated level of adherence						
Completely adherent	65	65	66	64	65	62
Mostly adherent	26	23	28	23	26	23
Somewhat adherent	3	2	3	4	6	0
A little adherent	1	1	0	3	2	8
Not at all adherent	1	0	1	2	2	8
Too early to tell	3	7	2	5	0	0
Don't know	1	1	1	0	0	0

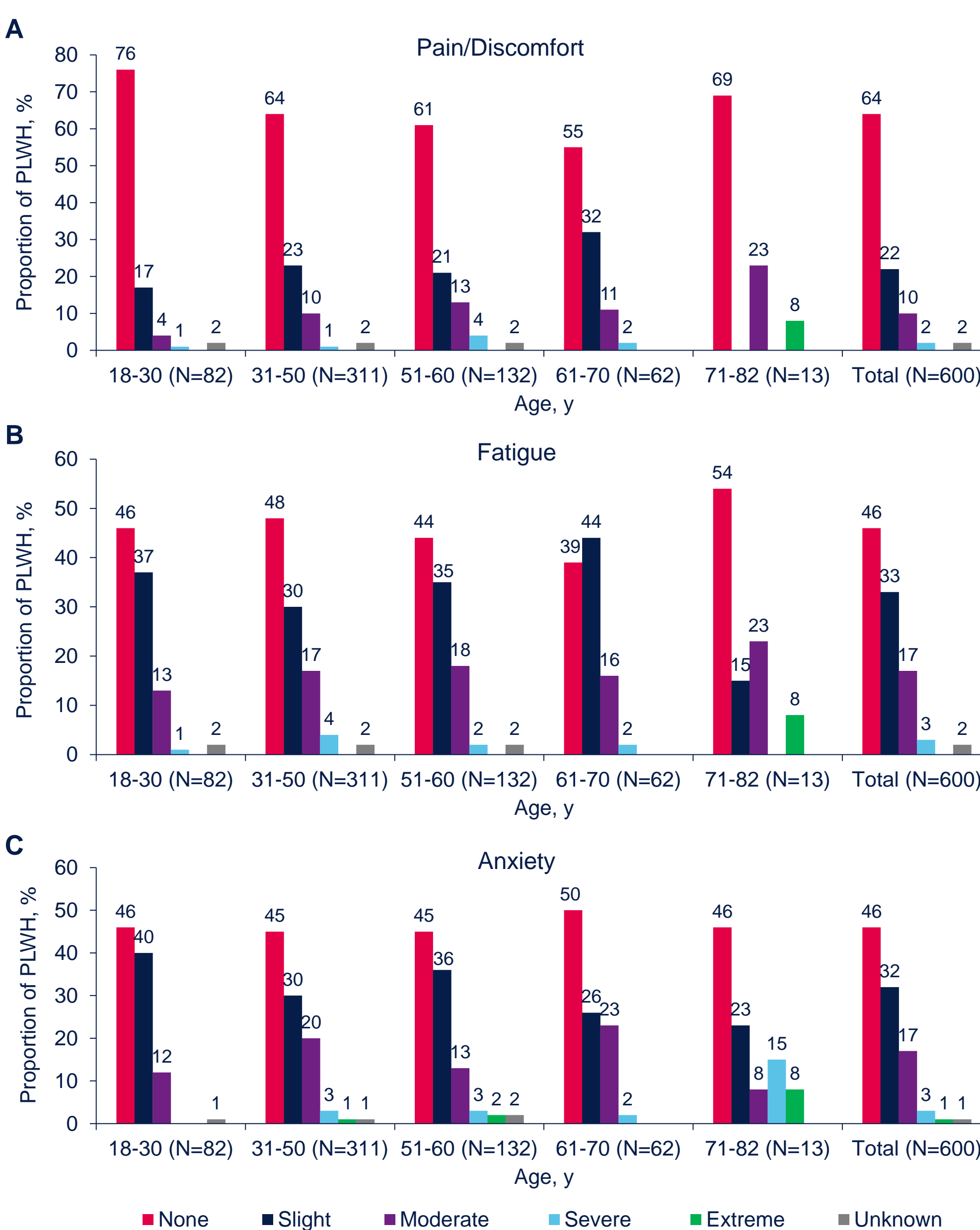
### Treatment Cost

- Most PLWH (92%) had insurance covering their HIV treatment, with employer-provided insurance being most common for PLWH aged 31 to 50 and 51 to 60 years (46% per group); Medicare and Medicare part D prescription drug plan was the most common for PLWH aged 71 to 82 years (50% each), while health insurance exchange plan was most common for PLWH aged 18 to 30 years followed by employer-provided insurance (37% and 33%, respectively)
- Mean (SD) patient out-of-pocket cost per month for HIV prescription medicine was \$41.15 (\$131.96)
- PLWH aged 61 to 70 and 71 to 82 years reported the lowest cost per month (mean [SD], \$13.75 [\$17.98] and \$13.00 [\$12.04], respectively), whereas PLWH aged 31 to 50 years reported the highest cost per month (mean [SD], \$55.54 [\$175.28])

### Quality of Life

- Physicians reported that PLWH aged >70 years had higher levels of moderate-to-extreme pain and fatigue, but levels of anxiety due to HIV were similar across age groups (Figure 2)
- PLWH aged >70 years did not find taking their medication to be overly burdensome and were not concerned about being dependent on medication but were less comfortable taking medication in front of others (Figure 3)

Figure 2. (A) Pain/Discomfort, (B) Fatigue, and (C) Anxiety in PLWH Overall and by Age as Reported by Physicians



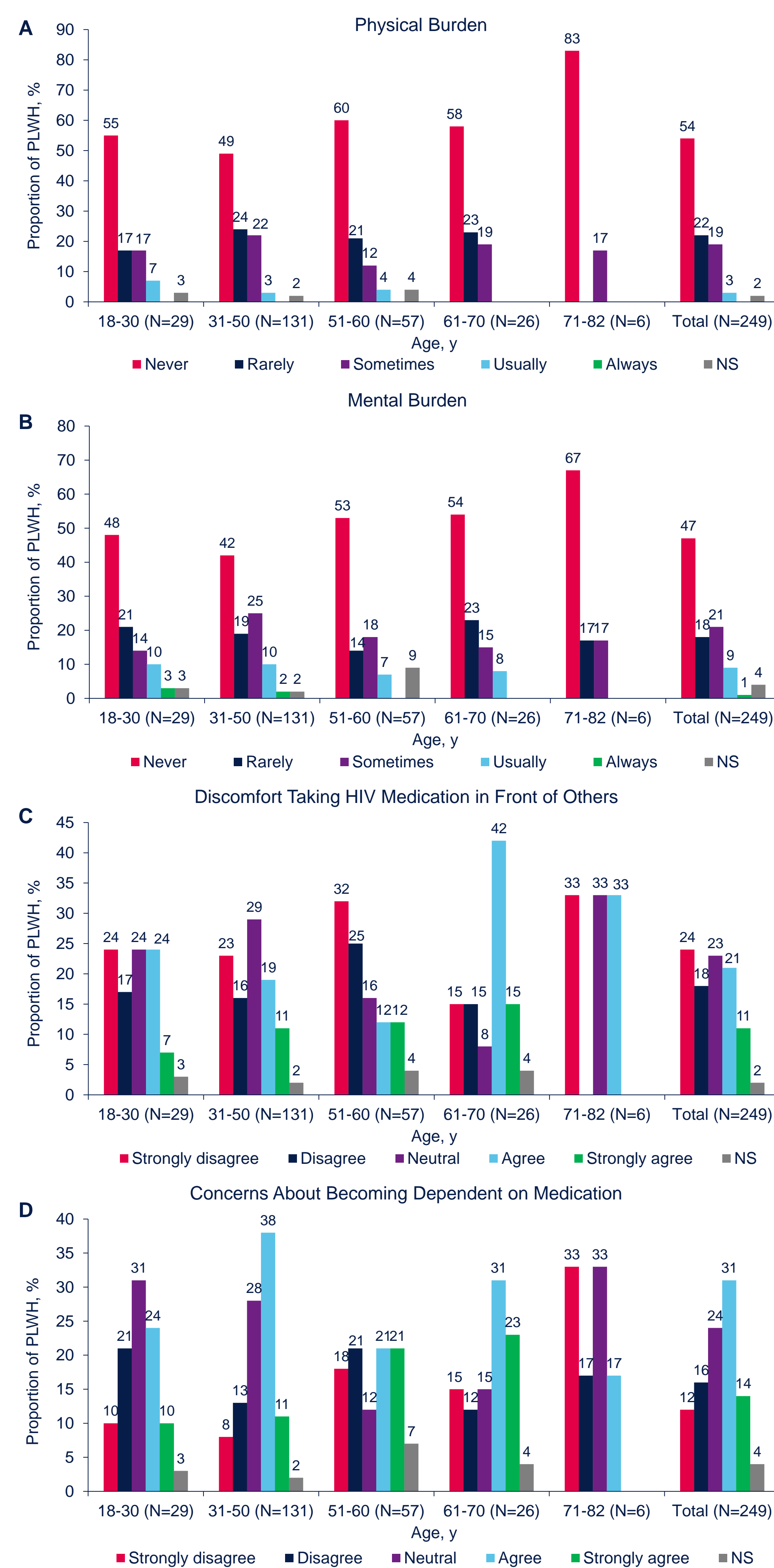
- Overall, PLWH aged >60 years reported better QoL on the HIV-specific PozQoL but lower QoL on the EQ-5D than all other age groups (Table 3)

Table 3. Summary of PRO Scores

Questionnaire <sup>a</sup>	Age					
	Total (N=249)	18-30 y (N=29)	31-50 y (N=131)	51-60 y (N=57)	61-70 y (N=26)	71-82 y (N=6)
EQ-5D VAS score, n	241	29	126	55	25	6
Mean (SD)	81.6 (15.1)	87.2 (9.8)	81.2 (16.0)	82.6 (13.2)	75.0 (19.1)	79.8 (5.7)
[Confidence]	[1.9]	[3.6]	[2.8]	[3.5]	[7.5]	[4.5]
EQ-5D-5L US score, n	235	29	124	51	25	6
Mean (SD)	0.86 (0.19)	0.94 (0.11)	0.86 (0.19)	0.85 (0.17)	0.76 (0.24)	0.79 (0.21)
[Confidence]	[0.02]	[0.04]	[0.03]	[0.05]	[0.09]	[0.17]
PozQoL overall QoL average score, n	248	29	131	56	26	6
Mean (SD)	3.4 (0.8)	3.3 (0.8)	3.2 (0.8)	3.5 (0.7)	3.5 (0.8)	4.0 (0.8)
[Confidence]	[0.1]	[0.3]	[0.1]	[0.2]	[0.3]	[0.6]
ARMS score, n	235	29	124	52	24	6
Mean (SD)	15.2 (3.6)	15.8 (3.3)	15.4 (3.9)	14.8 (3.6)	14.9 (3.1)	13.3 (1.0)
[Confidence]	[0.5]	[1.2]	[0.7]	[1.0]	[1.2]	[0.8]
ADAQ score, n	247	29	131	55	26	6
Mean (SD)	0.38 (0.47)	0.28 (0.34)	0.43 (0.49)	0.38 (0.48)	0.26 (0.45)	0.21 (0.27)
[Confidence]	[0.1]	[0.1]	[0.1]	[0.1]	[0.2]	[0.2]
Treatment satisfaction						
Physicians, n	599	81	311	132	62	13
Mean [confidence]	4.4 [0.1]	4.3 [0.2]	4.4 [0.1]	4.4 [0.2]	4.4 [0.2]	4.5 [0.4]
PLWH, n	249	29	131	57	26	6
Mean [confidence] <sup>b</sup>	4.3 [0.1]	4.1 [0.5]	4.3 [0.2]	4.2 [0.3]	4.4 [0.4]	5.0 [—]

ADAQ, Adelphi Adherence Questionnaire; ARMS, Adherence to Refills and Medications Scale; VAS, visual analog scale. <sup>a</sup>EQ-5D VAS score ranges from 1-100, with higher scores representing better QoL; EQ-5D-5L score ranges from 0-1, with higher scores representing better QoL; PozQoL score ranges from 1-5, with higher scores representing better QoL; ARMS score ranges from 14-56, with lower scores representing better adherence; ADAQ score ranges from 0-4, with lower scores representing better adherence; treatment satisfaction questionnaire score ranges from 0-5, with higher scores representing greater satisfaction. <sup>b</sup>PLWH with a patient self-completion form.

Figure 3. (A) Physical Burden, (B) Mental Burden, (C) Discomfort Taking HIV Medication in Front of Others, and (D) Concerns About Becoming Dependent on Medication as Reported by PLWH



## Conclusions

- Regardless of age, PLWH reported an impact of HIV on overall QoL
- Physicians' perspectives on adherence were similar across age groups, yet adherence improved with age from patients' perspectives, wherein older patients are more adherent than their physicians realize
- Older PLWH were more accepting of and less impacted by HIV specifically but had lower overall health-related QoL, reflecting age-related health issues
- In younger age groups, physicians were generally more satisfied with current treatment than younger PLWH, whose survey responses suggested a substantial lack of treatment satisfaction
- These data suggest the need for more holistic care to bridge the gap between physician and patient perspectives on the meaning of successful treatment
- Reinforcing continued high-quality engagement and interaction between physicians and patients may help identify individual unmet needs as PLWH age