To describe drug use patterns among HIV-infected individuals receiving Ryan White Part A (RWPA) support services in New York City (NYC) (1).

1. To describe drug use patterns among HIV-infected individuals receiving Ryan White Part A (RWPA) support services in New York City (NYC)
2. To examine sociodemographic and clinical characteristics associated with particular patterns of drug use
3. To identify any independent associations between drug use patterns and unsuppressed VL

Data Sources and Variables Derived From Each
- The Electronic System for HIV/AIDS Reporting and Evaluation (eSHARE): Client-level demographic, psychosocial, clinical, and service utilization data collected from PLWH receiving RWPA services in NYC
- The NYC HIV Surveillance Registry (the “Registry”): VL lab values and HIV diagnosis dates

Client Population
7,896 PLWH who matched to the Registry and completed at least 3 substance use assessments in eSHARE that met the following criteria:
1. The first assessment was an Intake Assessment; and
2. The assessments were at least 90 days apart; and
3. The first assessment was dated no earlier than 1/2012 and the third assessment was no more than 24 months apart
4. The first and third assessments were at least 90 days apart; and

Measures
Drug Use Patterns (Exposure):
- Drug use was defined as reporting crack/cocaine, heroin, crystal meth, and/or recreational prescription drug use in the past 3 months
- Clients were categorized into one of 4 patterns of drug use based on their responses on 3 substance use assessments meeting the above criteria:
  - Persistent use (drug use reported on each assessment)
  - Intermittent use-active (drug use reported on third assessment but not all previous ones)
  - Intermittent use-inactive (drug use reported previously with no drug use reported on the third assessment)
  - Persistent non-use (no drug use reported on any assessment)

Unsuppressed Viral Load (Outcome): HIV-1 RNA >200 copies/mL (based on the last VL value in the 12-month period following an individual’s third qualifying substance use assessment)

Sociodemographic and Clinical Characteristics (Covariates): Gender, age, race/ethnicity, primary language, education, income, country of birth, housing status, ART prescription status at intake, VL suppression status at intake, and year diagnosed with HIV

Data Analysis
- Chi-square and Fisher’s exact tests were used to examine relationships between sociodemographic/clinical characteristics and drug use patterns
- Unadjusted odds ratios for unsuppressed VL by drug use pattern were calculated using bivariate logistic regression models
- Covariates that were statistically significant (p<0.05) in bivariate analyses were included in multivariate models to calculate adjusted odds ratios

RESULTS

- Compared to persistent non-users, drug users were more likely to be:
  - Transgender
  - Between 30 and 49 years old
  - Educated at less than the high school level
  - Born in the US/US territory
  - Primarily English speaking
  - Living below the federal poverty level
  - Unstably housed
  - Receiving RWPA harm reduction services

Table 1. Associations between drug use patterns and unsuppressed VL

<table>
<thead>
<tr>
<th>Drug Use Pattern</th>
<th>Total n (%)</th>
<th>Unsuppressed VL n (%)</th>
<th>OR (95% CI)</th>
<th>aOR* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistent non-use</td>
<td>5,002 (75.0%)</td>
<td>1,450 (24.5%)</td>
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<tr>
<td>Intermittent use, inactive at 3rd assessment</td>
<td>919 (11.6%)</td>
<td>337 (36.7%)</td>
<td>1.79 (1.54-2.07)</td>
<td>1.25 (1.04-1.49)</td>
</tr>
<tr>
<td>Intermittent use, active use at 3rd assessment</td>
<td>684 (8.7%)</td>
<td>292 (42.7%)</td>
<td>2.30 (1.95-2.70)</td>
<td>1.66 (1.36-2.02)</td>
</tr>
<tr>
<td>Persistent use</td>
<td>373 (4.7%)</td>
<td>184 (49.3%)</td>
<td>3.00 (2.43-3.71)</td>
<td>2.19 (1.71-2.82)</td>
</tr>
</tbody>
</table>

*Model adjusted for baseline ART status, baseline VL suppression, year of diagnosis, gender, race/ethnicity, age group, education, primary language, country of birth, income, and housing status

DISCUSSION
- The outcome (unsuppressed VL) varied as expected with recent drug use patterns (i.e., persistent use was the most strongly associated with unsuppressed VL)
- Both categories of intermittent use were associated with unsuppressed VL, underscoring that even PLWH who occasionally use drugs may have an elevated risk for negative HIV care outcomes
- Future studies should examine how substance use treatment, harm reduction, and case management services can address the needs of PLWH with different types of drug use patterns

REFERENCES