

# Update: Improved Care Engagement and Viral Load Suppression among HIV Care Coordination Clients with Psychosocial Barriers at Baseline

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# HORDS

Costs, Health Outcomes & Real-world Determinants of Success in HIV Care Coordination

# BACKGROUND: CHORDS AND THE NYC RYAN WHITE PART A CCP

**CHORDS:** Costs, Health Outcomes and Real-world Determinants of Success in HIV Care Coordination

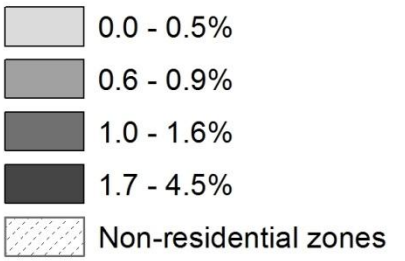
The **Care Coordination Program (CCP)** is designed to support engagement in HIV care and treatment among individuals at elevated risk of suboptimal HIV care outcomes:

- newly diagnosed
- previously lost to care/never in care
- irregularly in care
- initiating a new treatment regimen
- with incomplete medication adherence or response to treatment

# CCP Lead and Partner Service Sites, 2015<sup>a</sup>

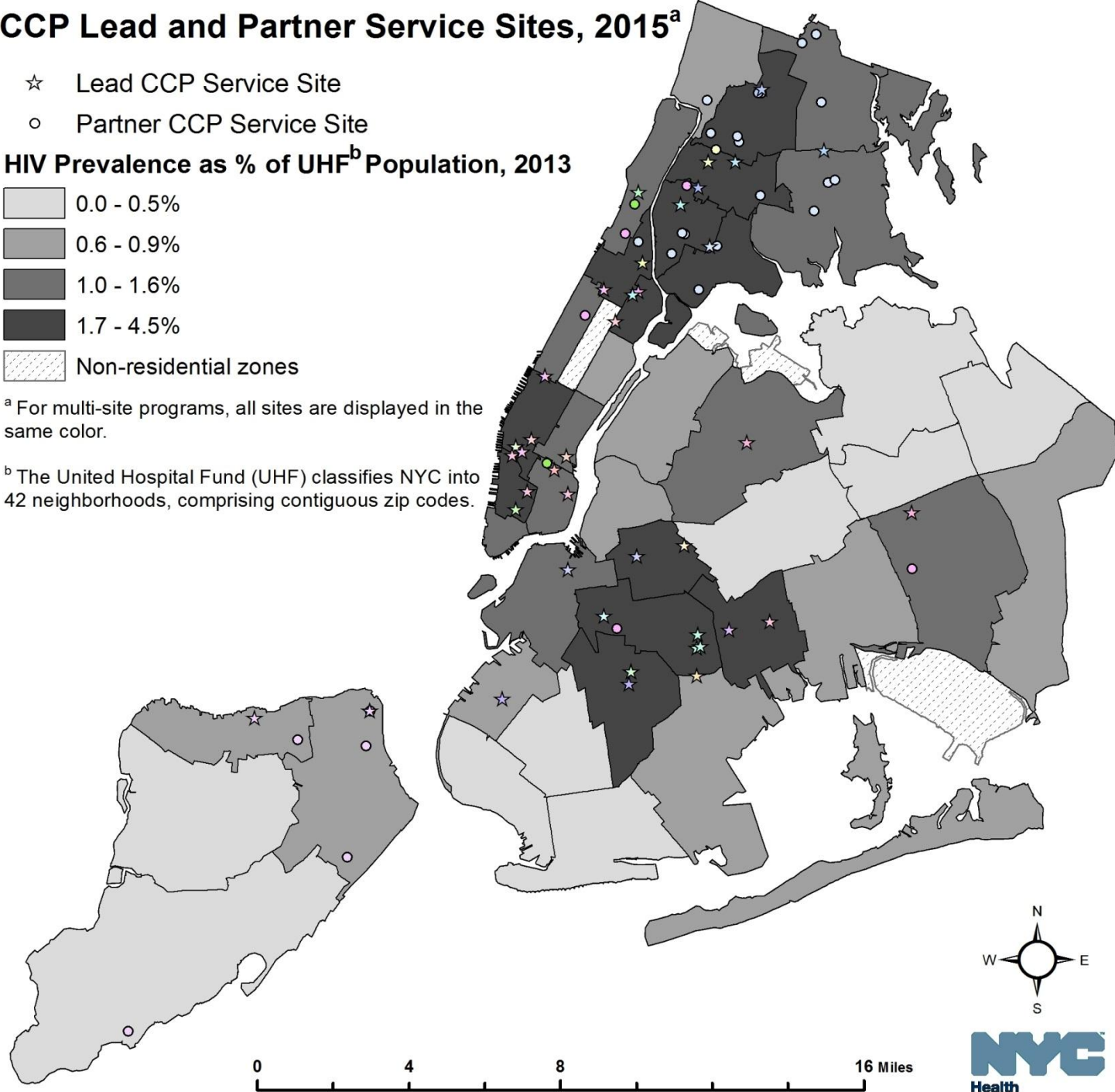
- ☆ Lead CCP Service Site
- Partner CCP Service Site

## HIV Prevalence as % of UHF<sup>b</sup> Population, 2013



<sup>a</sup> For multi-site programs, all sites are displayed in the same color.

<sup>b</sup> The United Hospital Fund (UHF) classifies NYC into 42 neighborhoods, comprising contiguous zip codes.



28 CCP AGENCIES IN NYC



# BACKGROUND: CCP INTERVENTION DESCRIPTION

- **CCP model provides:**
  - case management
  - patient navigation, including accompaniment
  - adherence support, including directly observed therapy (DOT)
  - health promotion in home visits
  - assistance with medical/social services
- See CDC Compendium of Evidence-based Interventions:  
[http://www.cdc.gov/hiv/pdf/prevention/research/compendium/cdc-hiv-HIVCCP\\_EI\\_Retention.pdf](http://www.cdc.gov/hiv/pdf/prevention/research/compendium/cdc-hiv-HIVCCP_EI_Retention.pdf)

# BACKGROUND: KEY BARRIERS TO OPTIMAL HEALTH OUTCOMES

- Individuals with housing, mental health and/or substance use issues are at greater risk for sub-optimal HIV care outcomes.
- Interventions that demonstrate effectiveness in improving adherence to HIV care and treatment may have limited impact among those with key psychosocial barriers.
- The CCP has demonstrated effectiveness\*, but more information is needed on the impact of CCP for those with key psychosocial barriers.

Higa, Marks, Crepaz, et al., *Curr HIV Rep.*, 2012

Thompson, Mugavero, Amico, et al., *Annals of Internal Med.*, 2012

Gardner, Giordano, Marks, et al., 2014

\*M Irvine et al., *CID*, 2014

# OBJECTIVES

- **Compare engagement in care (EiC) and viral load suppression (VLS) among those with key psychosocial barriers:**
  - Unstable housing
  - Poor mental health
  - Hard drug use
- **Further examine EiC and VLS among those with barrier resolution over time**

# METHODS: DATA SOURCES

- Matched CCP programmatic data with NYC HIV Registry data

**Programmatic Data:**  
Ryan White Service Provider  
Reporting (eSHARE=Electronic  
System for HIV/AIDS  
Reporting and Evaluation)



**HIV Surveillance Data:**  
Registry of NYC HIV cases  
(laboratory VL and CD4 tests,  
HIV diagnostic events)

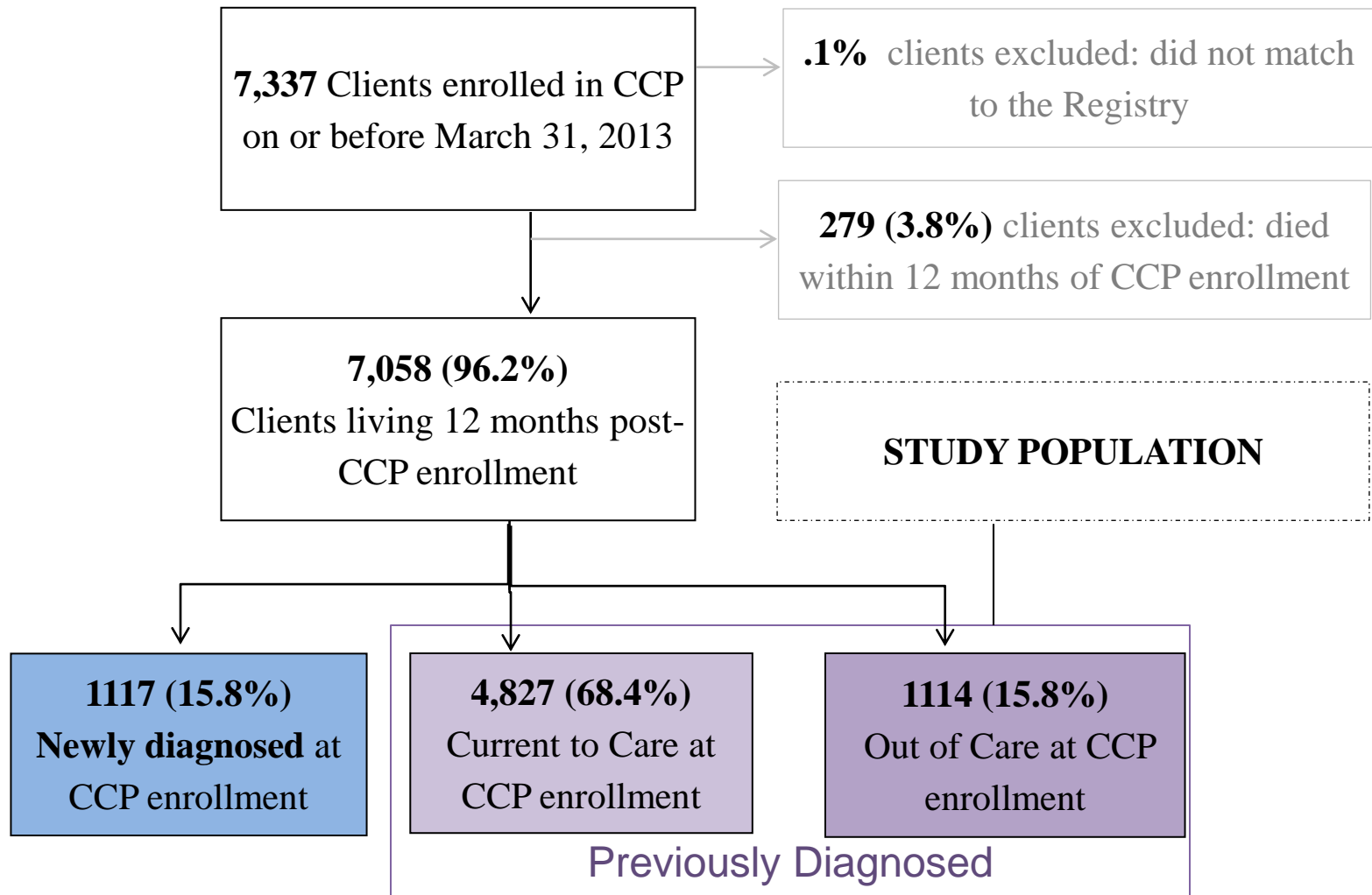
# METHODS: ELIGIBLE SAMPLE AND CARE STATUS GROUPS

- **Clients Eligible for Analysis:** enrolled by March 2013, matched to Registry, and alive for  $\geq 1$  year of follow-up.
- **Key Terms:**
  - Newly Diagnosed: HIV diagnosis date in 12 months before enrollment
  - Current to Care (Baseline): Any CD4 or VL test date in 6 months before enrollment\*
  - Out of Care (Baseline): No CD4 or VL test date in 6 months before enrollment\*

\*Among the previously diagnosed



# METHODS: STUDY ELIGIBILITY



# METHODS: STATISTICAL MEASURES

## ■ Outcome Measures:

- Engagement in Care (EiC):  $\geq 2$  CD4 or VL tests  $\geq 90$  days apart, with  $\geq 1$  in each half of 12-month period
- Viral Load Suppression (VLS):  $VL \leq 200$  copies/mL on most recent test in second half of 12-month period\*

## ■ Estimated post- vs. pre- CCP enrollment relative risks (RRs) for EiC and VLS using GEE

\*Missing VL in 2nd half of 12-month period considered equivalent to unsuppressed VL.

# METHODS: PSYCHOSOCIAL BARRIERS

## Psychosocial Barriers Definitions\*

- **Unstable housing:** Homelessness or residence in temporary/transitional housing
- **Lower mental health functioning:** Mental component summary (MCS) score below sample median (42.14) on the SF-12(v2) functional health assessment
- **Recent hard drug use:** Self-report of using heroin, cocaine, methamphetamines, or Rx drugs to get high (past 3 months)

\* Based on CCP Assessment: Baseline= Intake Assessment;  
Post-baseline=Reassessment

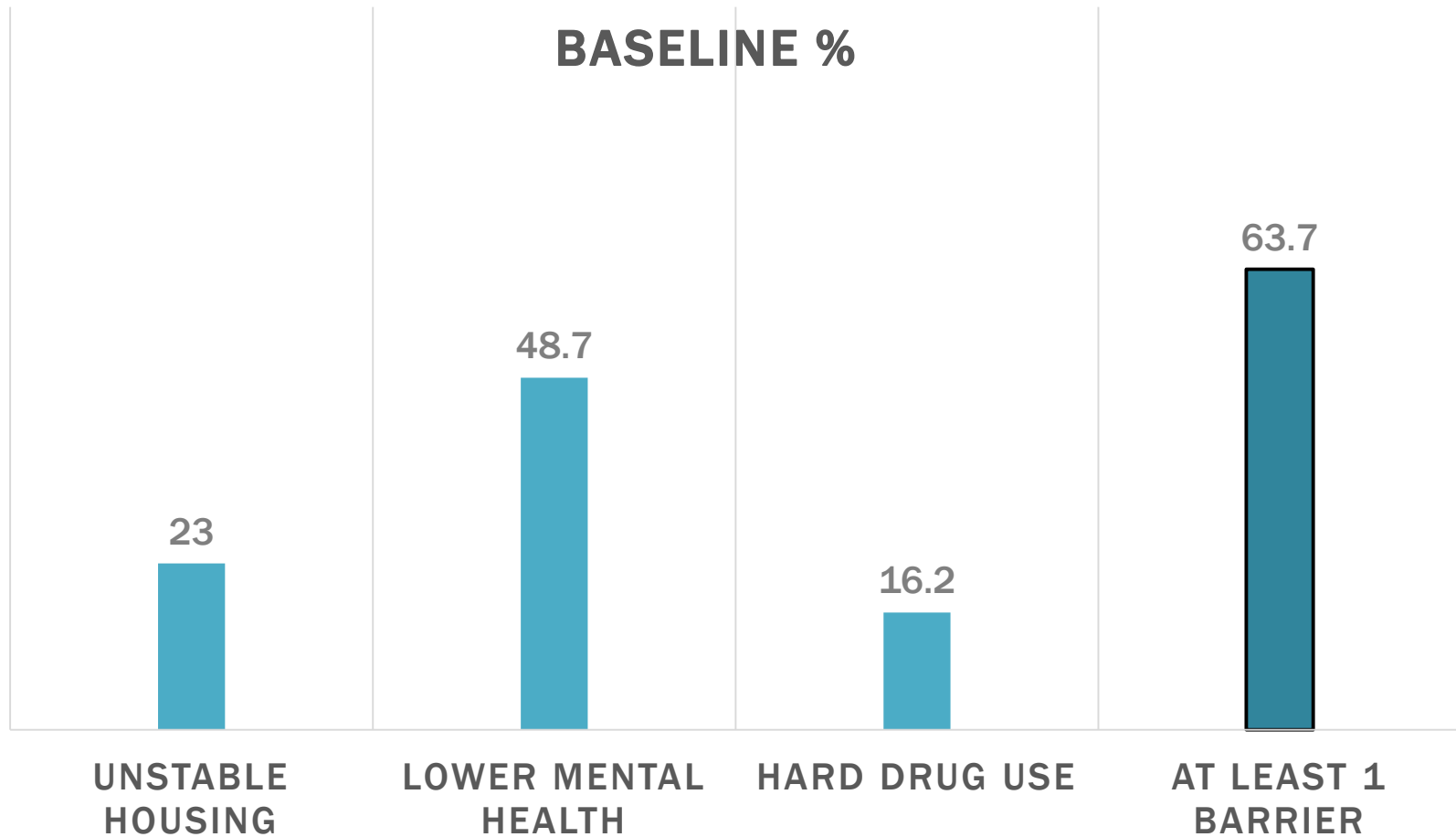
# METHODS: PSYCHOSOCIAL BARRIER RESOLUTION

## Resolution of Psychosocial Barriers Definitions\*

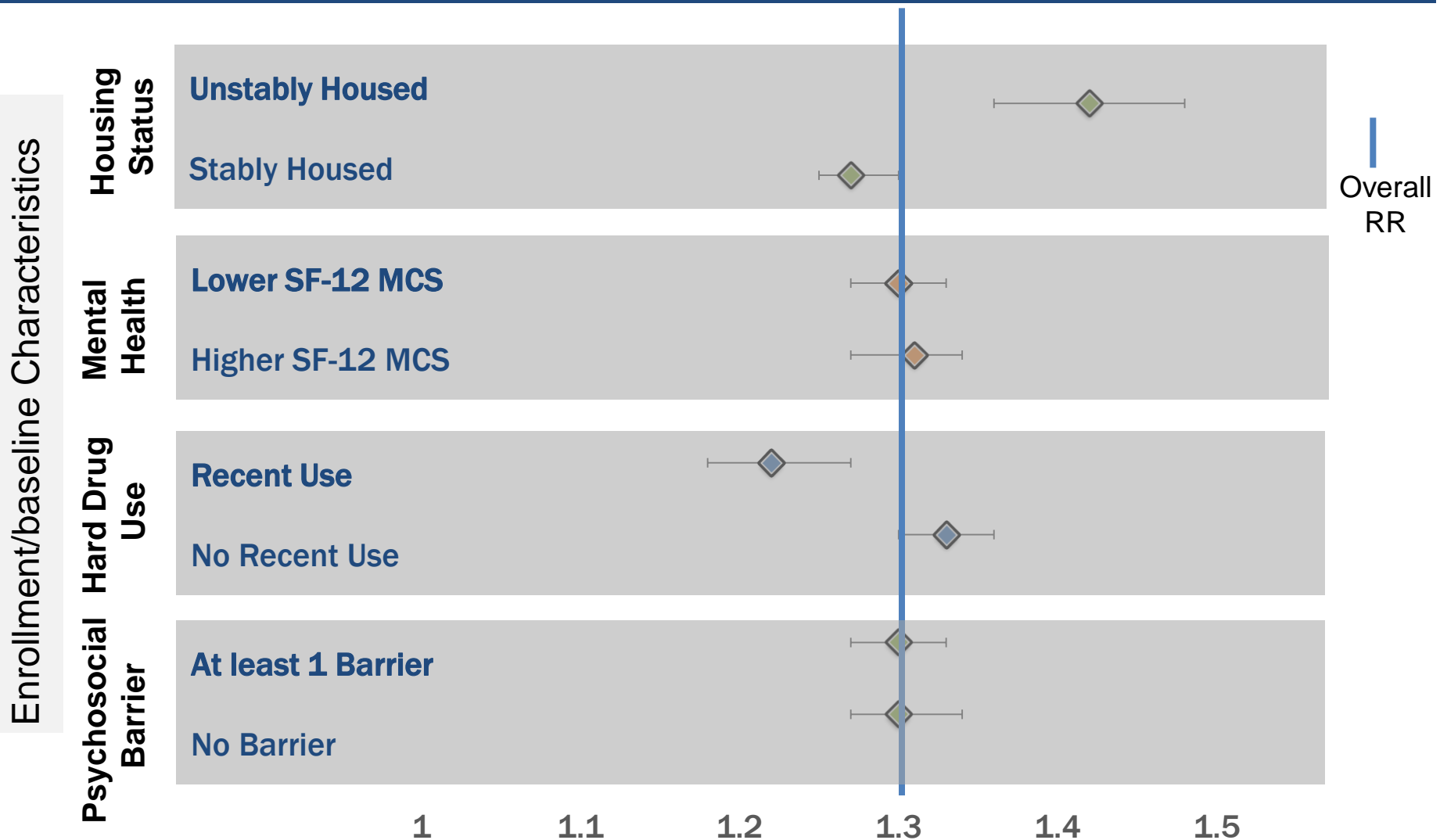
- **Housing resolution:** If unstable housing present at baseline, evidence of stable housing post-baseline
- **Mental health resolution:** If lower mental health functioning present at baseline, a post-baseline MCS score  $\geq$  than the median (42.14)
- **Hard drug use resolution:** If recent hard drug use present at baseline, no use of these drugs post-baseline

\* Based on latest CCP Assessment during the year of follow-up

# PSYCHOSOCIAL BARRIER PREVALENCE: PREVIOUSLY DX'D

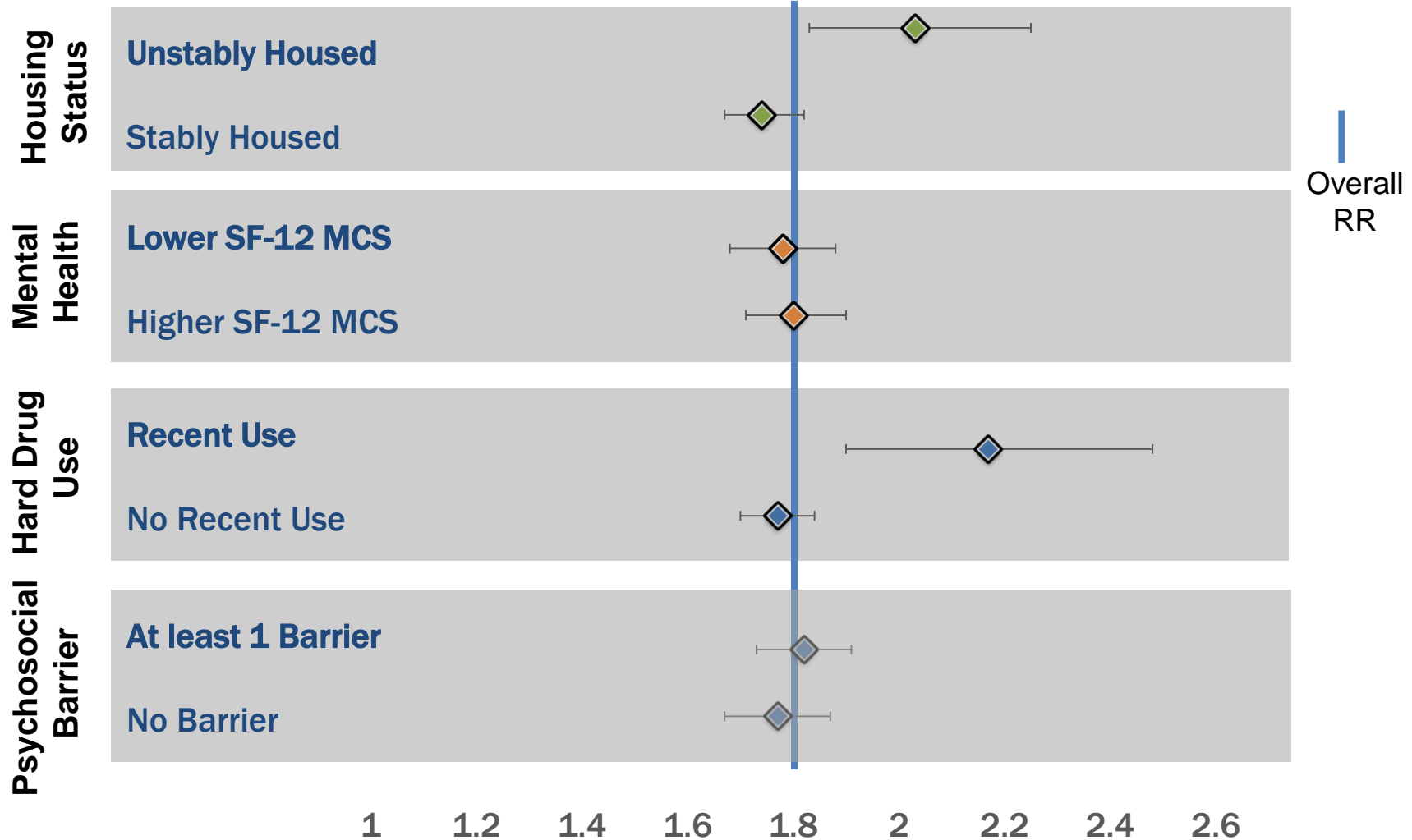


# RESULTS-ENGAGEMENT IN CARE: POST- VS. PRE-ENROLLMENT (RR, 95% CI)



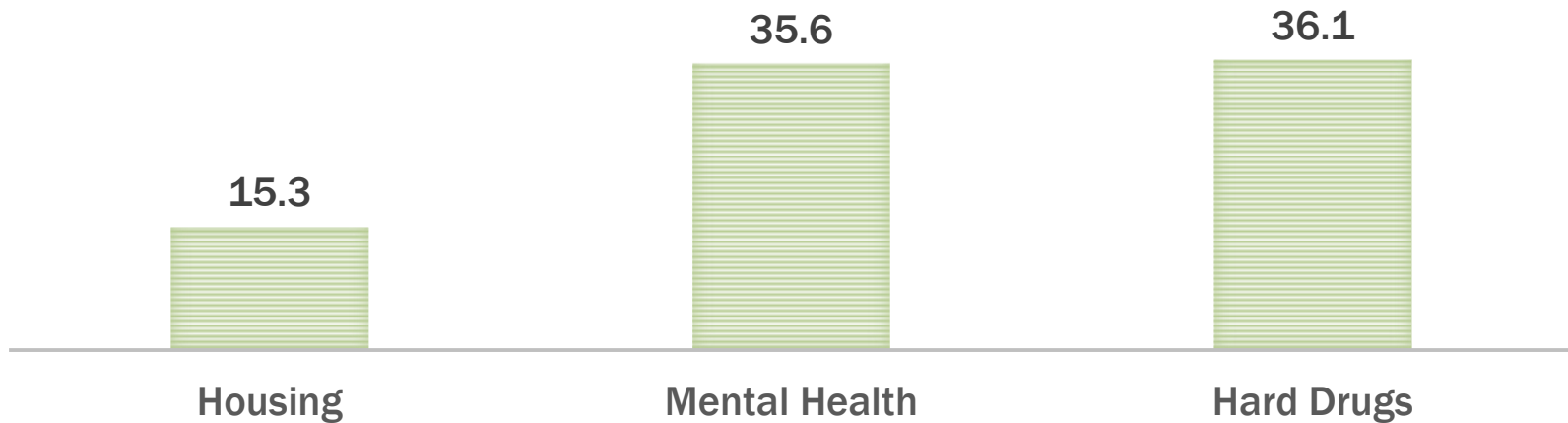
# RESULTS-VIRAL LOAD SUPPRESSION: POST- VS. PRE-ENROLLMENT(RR, 95% CI)

Enrollment/baseline Characteristics



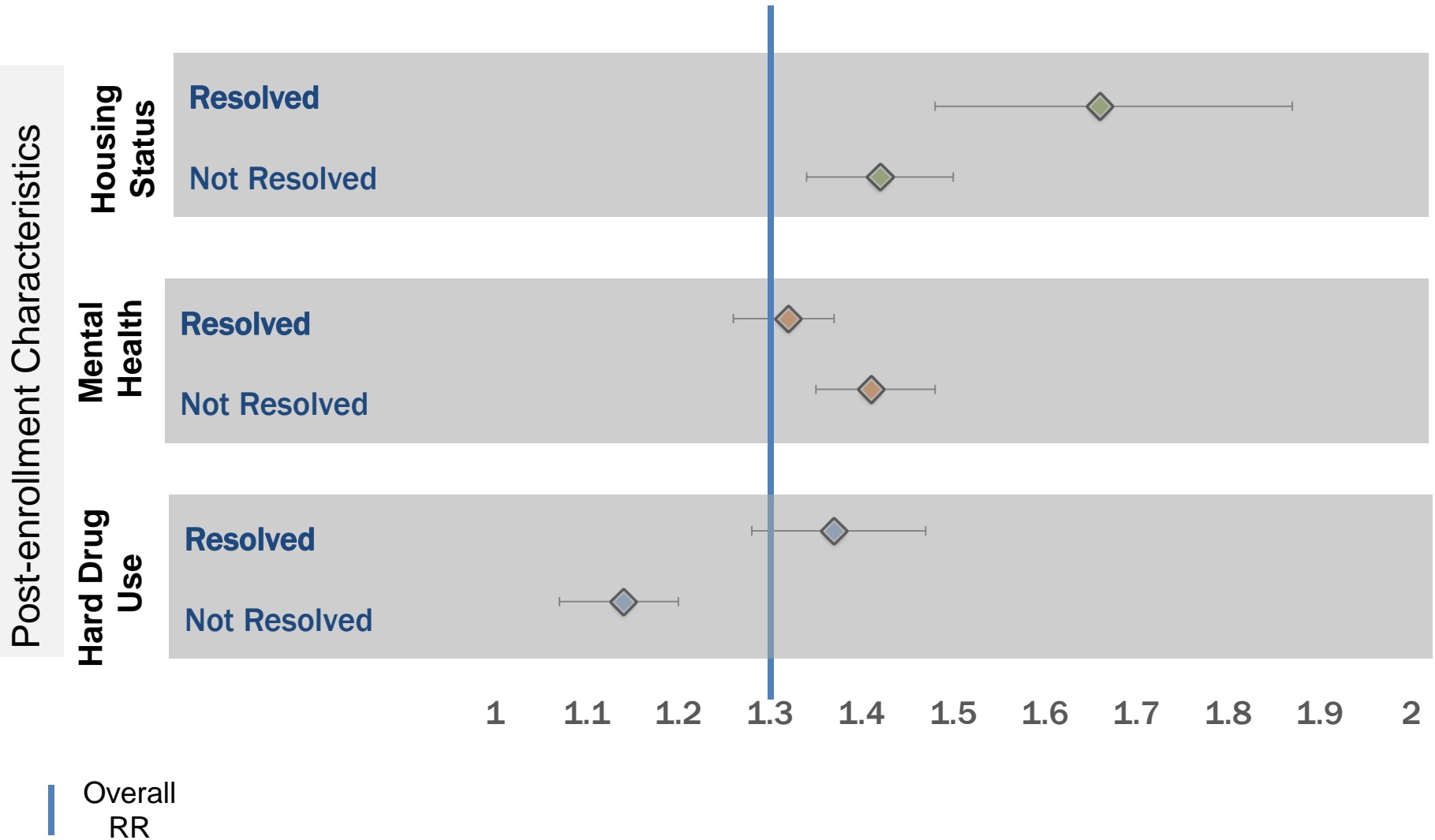
# PROPORTION OF THOSE WITH BARRIER AT BASELINE WHO SUBSEQUENTLY EXPERIENCED RESOLUTION

POST-BASELINE RESOLUTION %

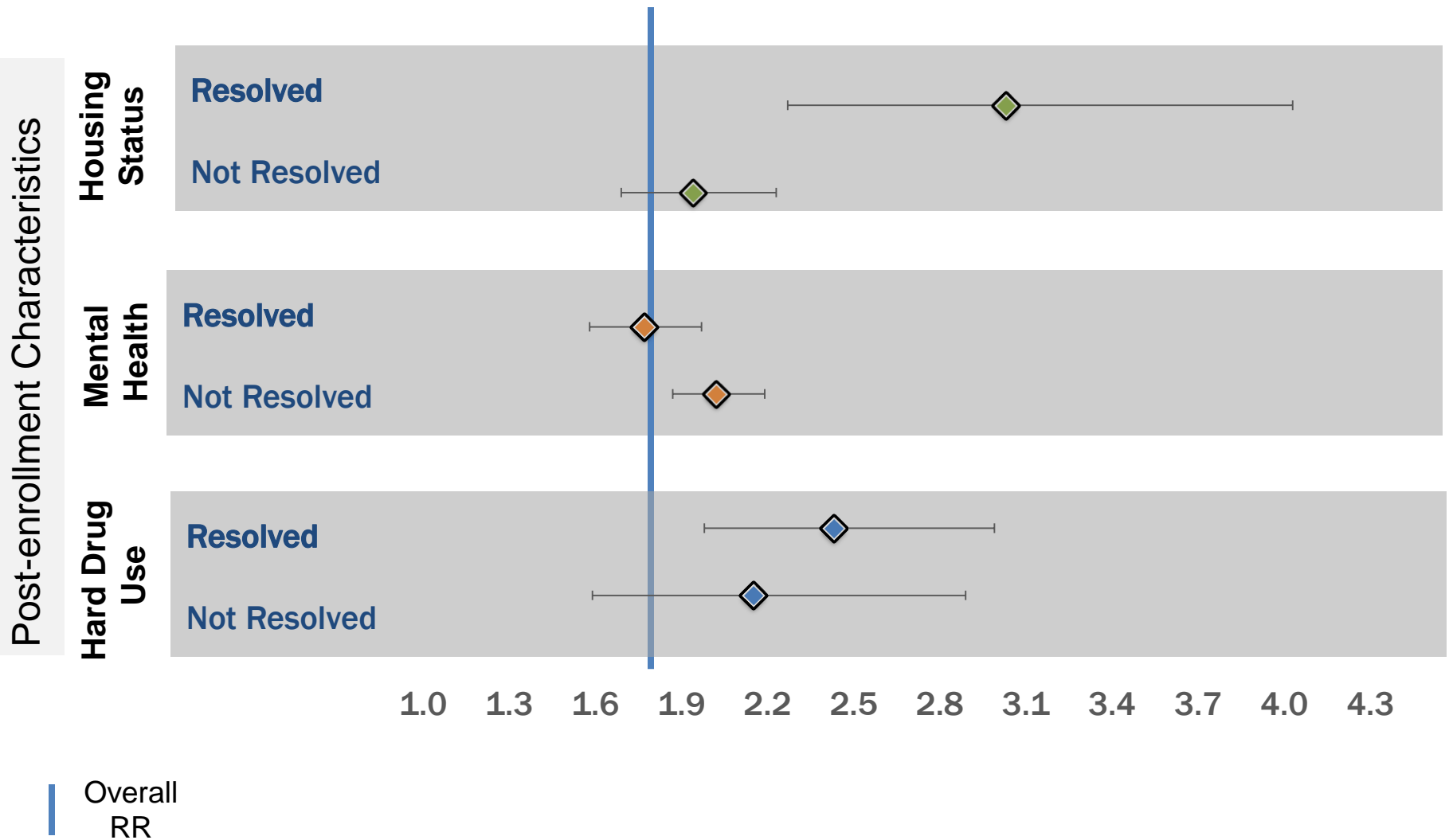




# ENGAGEMENT IN CARE: POST- VS. PRE-ENROLLMENT (RR, 95% CI)



# VIRAL LOAD SUPPRESSION: POST- VS. PRE-ENROLLMENT (RR, 95% CI)



# CONSIDERATIONS

- **Observational study without comparison groups**
  - Subjects as own controls in pre-post comparison
  - Observed improvements in CCP are occurring against backdrop of citywide improvements in EiC and VLS
- **Lab-based measures used as a proxy for primary care visits (EiC)**
  - Provide comparability across sites, pre-post enrollment
  - Could lead to over or under estimation of EiC
- **More information needed on timing and mechanism of improvement**

# CONCLUSIONS

- **Short-term EiC and VLS increases occurred among clients with key barriers to HIV care and treatment adherence**
  - **Greater room for improvement at baseline is reflected in higher RRs**
- **CCP may improve outcomes by addressing key psychosocial barriers**
- **Analyses on longer term outcomes needed**

# ACKNOWLEDGEMENTS

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