

HIV Care Coordination Improves Short-Term Care Engagement and Viral Suppression among People without any Evidence of HIV Medical Care for at least 12 Months

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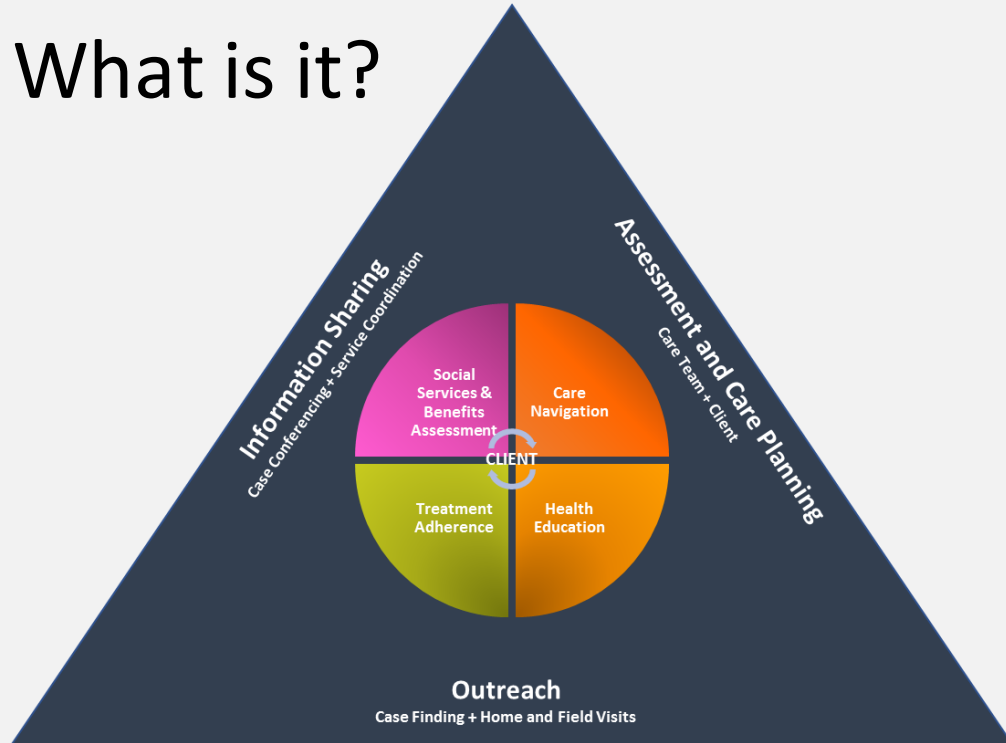
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HIV Care Coordination in New York City

- Launched the NYC comprehensive HIV care coordination program (CCP) in 2009
- CCP supports patients facing barriers to HIV care or treatment
- CCP increases short-term (12 month) viral load suppression, beyond usual care, for
 - Persons newly diagnosed or
 - Persons without viral suppression 12 months prior to enrollment

The NYC Care Coordination Model

What is it?

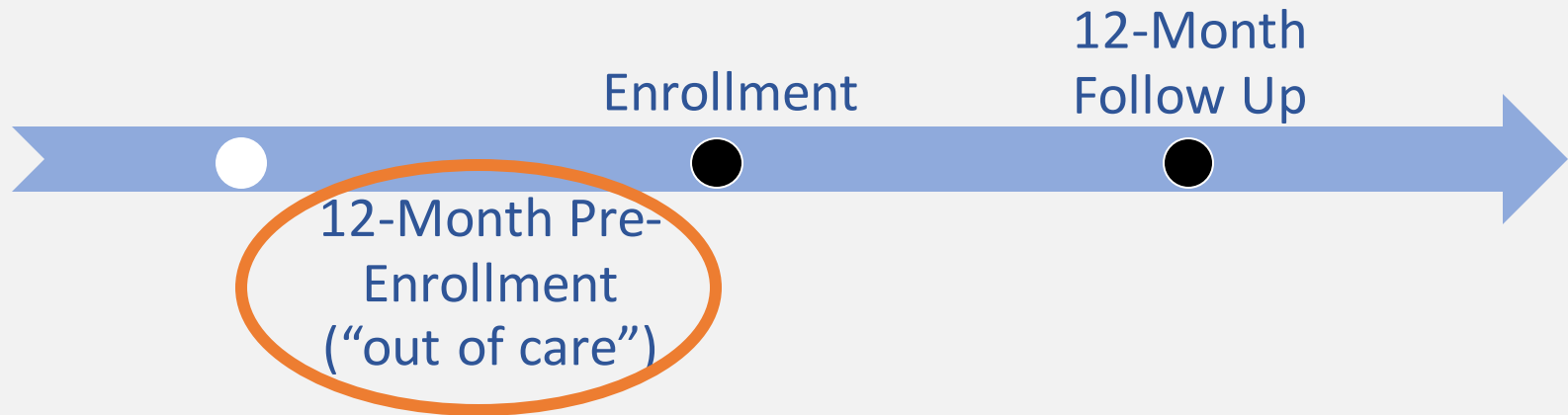


Who is it?



Objective

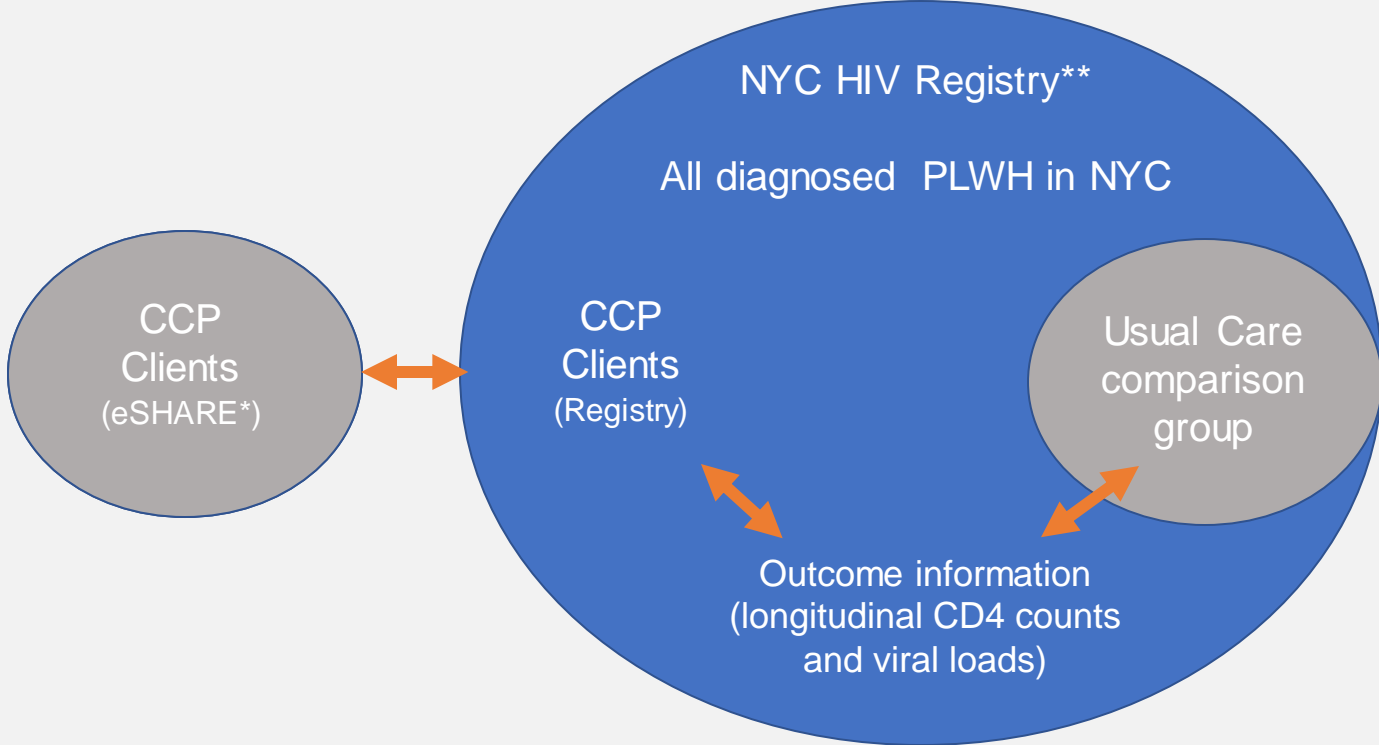
- Examine CCP effects on 1) engagement in care and 2) viral suppression among a subgroup of people who did not have any evidence of HIV medical care (CD4 or VL) in the ≥ 12 prior to enrollment.
- **Compared** outcomes of **CCP enrollees (N = 178)** in the first 12 months of enrollment **with** outcomes among a **'usual care' group (N = 148)**.



Data Sources

1. Provider reporting in eSHARE (local HIV services database)
 - Contains information on all CCP enrollees
 - CCP providers contractually required to submit programmatic data
2. NYC HIV surveillance registry
 - Contains information on all HIV diagnoses in NYC
 - Including comprehensive laboratory information (CD4 and VL data) for individuals who receive HIV medical care

Data Merge



*Electronic System for HIV/AIDS Reporting and Evaluation (eSHARE)

**The NYC HIV Registry contains information on HIV diagnoses and longitudinal viral load results for all diagnosed persons living with HIV.

Usual Care Comparison Group

1. Randomly assigned a pseudo-enrollment date to people who appeared eligible but not enrolled in CCP
2. Matched CCP enrollees to those in the usual care group on
 1. Propensity for CCP enrollment
 2. Pseudo-enrollment/enrollment dates and
 3. Treatment status at enrollment

Variables in Propensity Score

| | |
|------------------------|--|
| Demographic variables | Sex, race/ethnicity, age, country of birth, HIV transmission risk |
| Clinical variable | Year of diagnosis, baseline VL, baseline CD4, linkage to care, number of VL prior to enrollment, |
| Neighborhood variables | Zip code at enrollment, HIV prevalence and poverty levels within zip code at enrollment |

Outcome Definitions

- Care engagement (CE):
 - ≥ 2 laboratory events (VL or CD4) ≥ 90 days apart
 - In the 12-month follow-up period

- Viral suppression (VS):
 - Last viral load < 200 copies
 - In the 12-month follow-up period

Statistical Analysis

- GEE model with binary error distribution and logit link
 - Model terms: CCP or non-CCP exposure, care status (*any* or no care), and CCP*care
 - We used the entire cohort for modeling to account for propensity matching
 - **Odds Ratios** are presented for the 'out of care' subgroup (no CD4/VL in the year prior to enrollment)

Characteristics of Out of Care (N=326) Subgroup

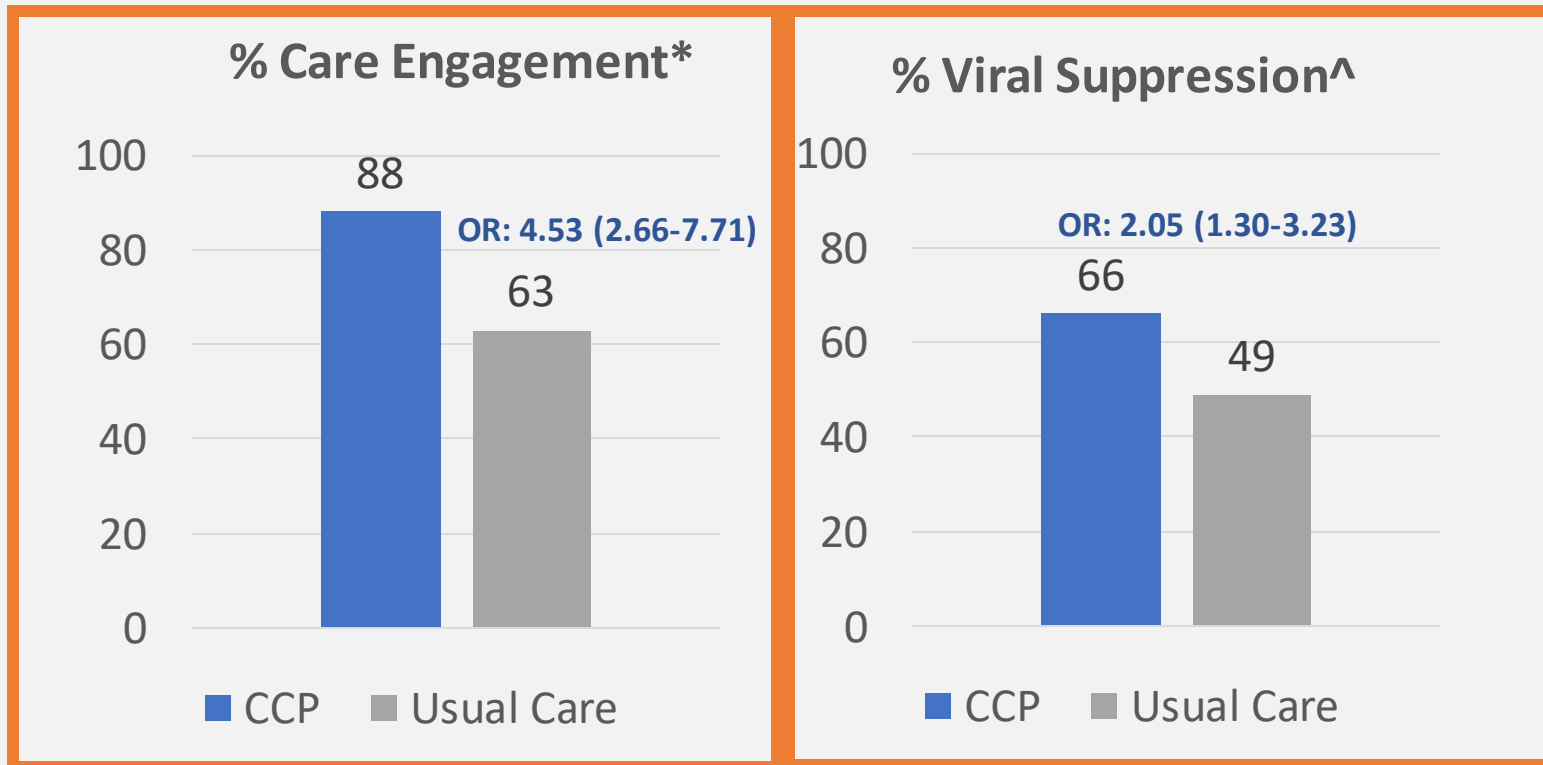
CCP-Enrollees **N = 7,058**
From 12/01/09 to
3/31/13

Matched CCP **N = 6,207**
88% of all CCP-enrollees

Out of Care CCP **N = 178**
3% of all Enrollees

| Characteristic* | CCP N (%) | Usual Care N (%) |
|---------------------------|-----------|------------------|
| Total (N =326) | 178 (100) | 148 (100) |
| Black | 88 (49) | 74 (50) |
| 25-44 | 94 (53) | 75 (51) |
| Baseline CD4 <200 | 23 (13) | 21 (14) |
| Male | 126 (71) | 91 (62) |
| Men who have sex with men | 76 (43) | 42 (28) |

Care Engagement and Viral Suppression (%) – CCP versus Usual Care



*≥2 labs ≥90 days apart in 12-month follow up

^Last viral load <200 copies in 12-month follow up

Strengths and Limitations

- Strengths

- Outcome data for CCP and usual-care group was available regardless of care location or duration of enrollment
- Contemporaneous control matched on propensity scores to control for confounding
- And dates of enrollment to ensure a CCP effect was not the result of secular improvements

- Limitations

- Observational study
- Possibility of uncontrolled confounding remains

Discussion

- Expands the evidence base of effective interventions for people who are out of care
- CCP works better than usual care for reconnecting people who have been out of care with HIV care and treatment in the short-term
 - Notable given the landscape of comprehensive ‘usual care’ services available to persons living with HIV in NYC

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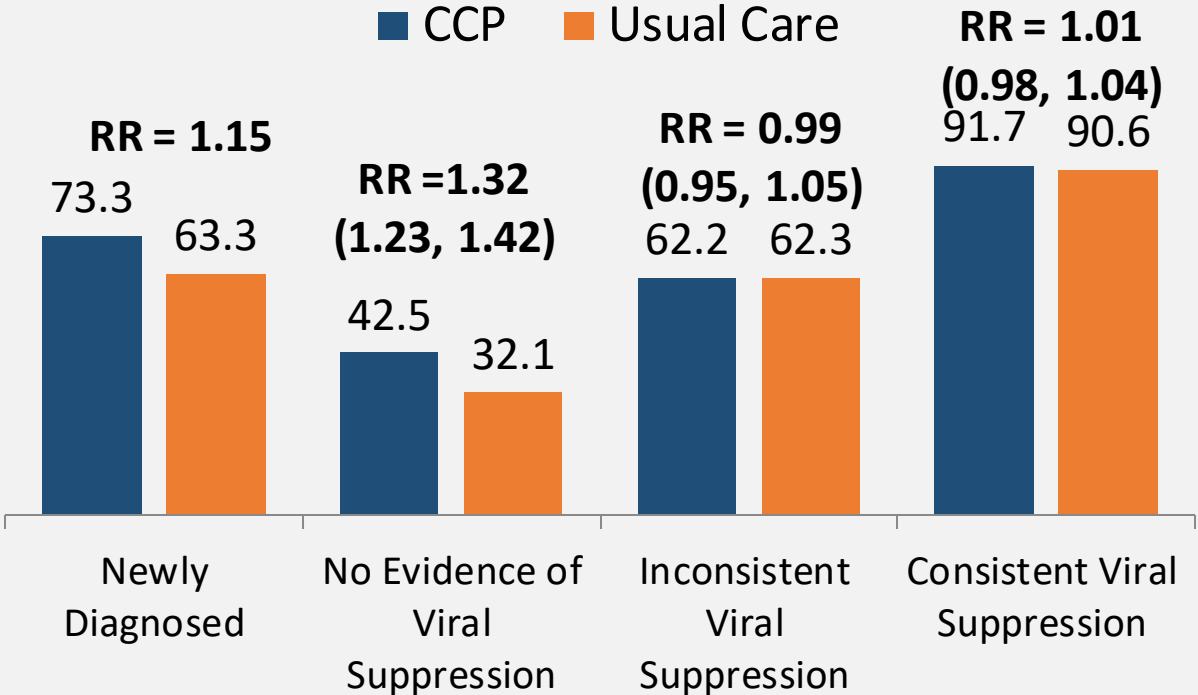
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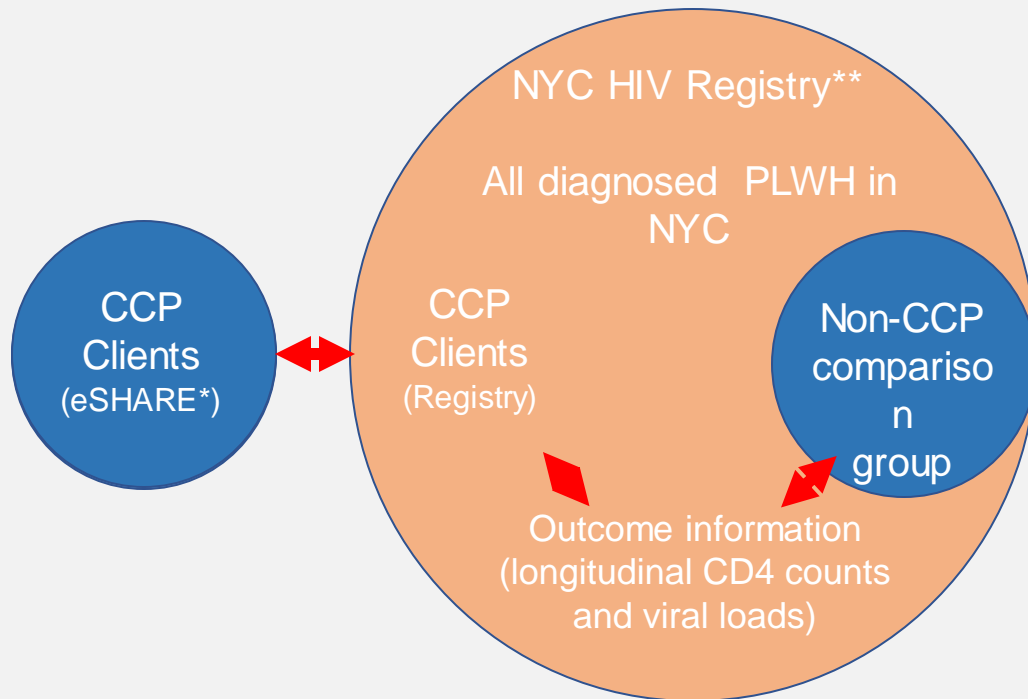
Supplemental Slides

Short Term - Viral Suppression (%) at 12 Months after Enrollment – CCP versus Usual Care, by Baseline Treatment Status



Supplemental Methods

Data Sources




*Electronic System for HIV/AIDS Reporting and Evaluation (eSHARE)

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Constructing a Usual-Care Comparison (1)

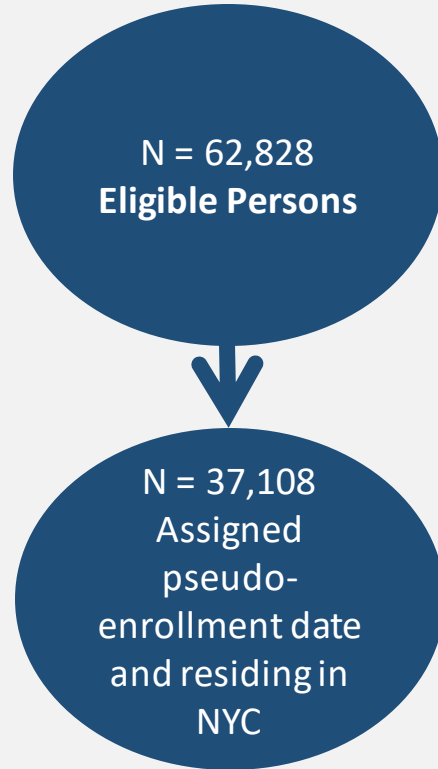
1. Identified persons who met clinical criteria for CCP enrollment, but were not enrolled
 1. Newly diagnosed
 2. Out of medical care
 3. Treatment naïve
 4. Exhibiting poor ART adherence
 5. Experiencing a viral rebound
 6. Experiencing a high viral load



N = 62,828
Eligible
Persons

Constructing a Usual-Care Comparison (2)

2. Randomly assigned a pseudo-enrollment date to eligible persons and restricted to persons residing in NYC
 - Assigned with probabilities such that the temporal distribution of dates matched the distribution of enrollment dates among CCP enrollees
 - Pseudo-enrollment date = time zero
 - Required persons to have ≥ 1 VL in months 0-12 after pseudo-enrollment/enrollment and ≥ 2 VLs in months 13-36 (evidence of NYC residence and HIV care)



Constructing a Usual-Care Comparison (3)

3. Matched CCP enrollees to those in the usual-care group on
- a) Propensity for CCP enrollment
 - b) Pseudo-enrollment/enrollment dates
 - c) Baseline treatment status

| Baseline Treatment Status | Definition |
|----------------------------|--|
| Newly diagnosed | Diagnosed ≤ 12 months prior to pseudo-enrollment/enrollment |
| Consistently suppressed | ≥ 2 VLs ≥ 90 days apart and all VLs ≤ 200 copies/ μ L |
| No evidence of suppression | All VLs reported > 200 copies/ μ L or no VL reported |
| Inconsistently suppressed | ≥ 1 VL ≤ 200 copies/ μ L, but not all VLs ≤ 200 copies/ μ L |