Integrating Financial Incentives for Viral Load Suppression into HIV Care Management Programs

Considerations for Development and Implementation from The Undetectables Program Scale-up in New York City

Ending the Epidemic Summit
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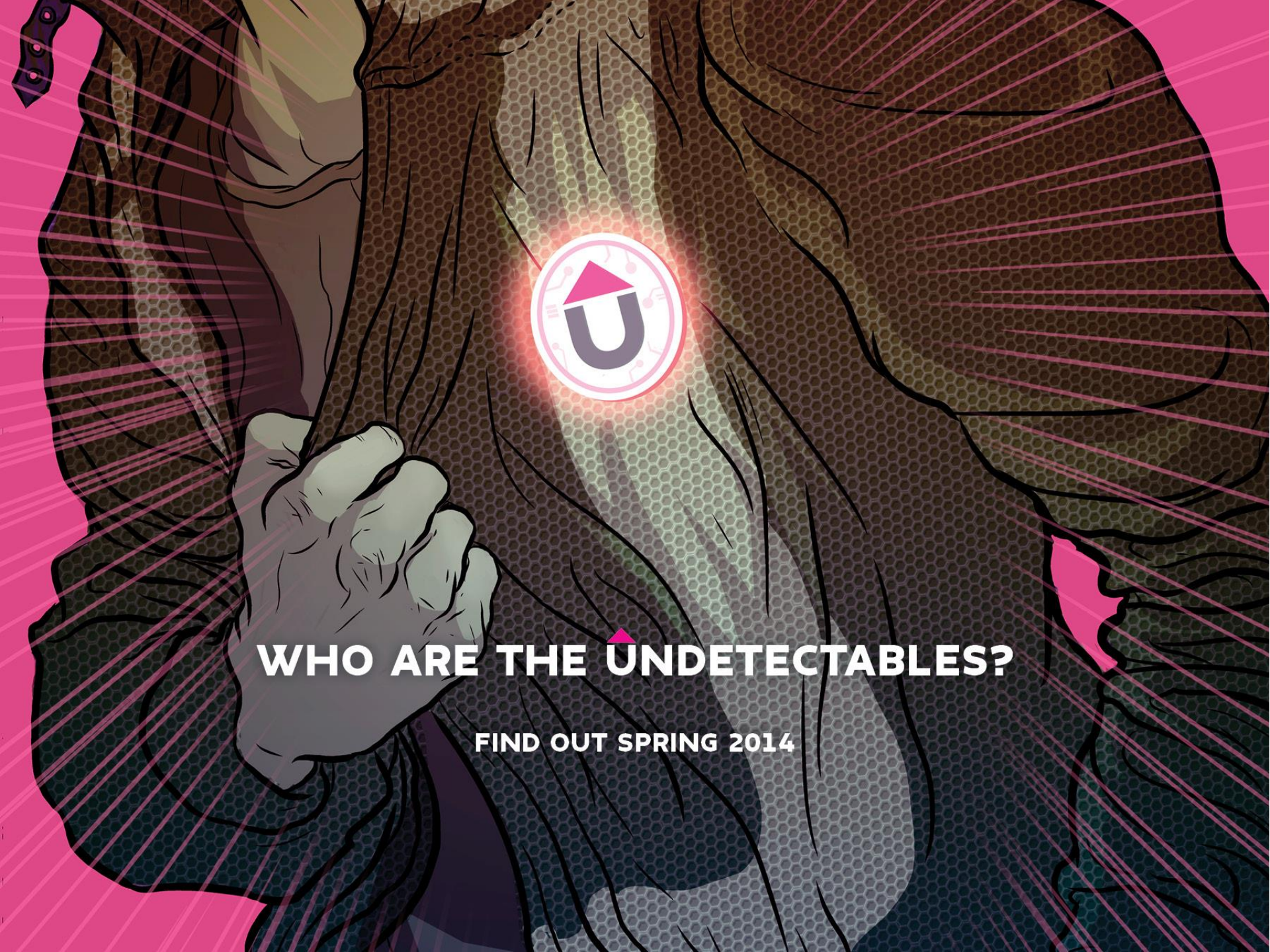
Overview

- **Program Background: The Undetectables VLS Program**
  - The program model
  - Housing Works pilot findings
- **Scaling up in New York City**
- **Integrating Financial Incentives into HIV Care Management**
  - What existing research tells us and how key considerations from the literature were applied to the development and implementation of The Undetectables VLS Program
- **Q&A**
- **Organizational Readiness to Implement**
  - Group activity and discussion

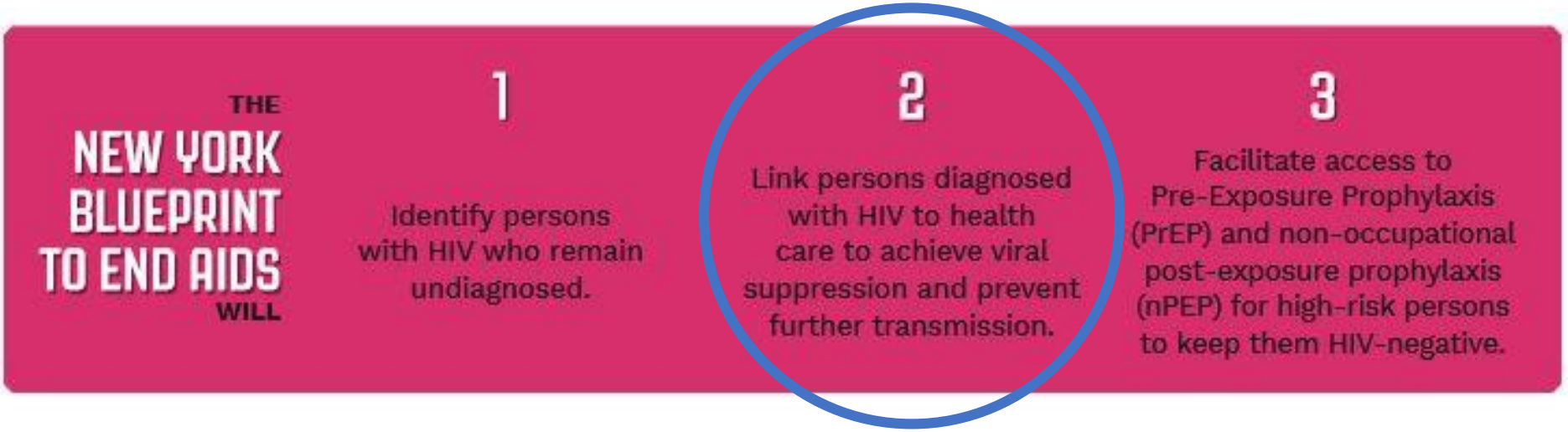
Program Background

UNDETECTABLES


WHO ARE THE UNDETECTABLES?
FIND OUT SPRING 2014

Context:
Ending the Epidemic

The Undetectables is a recommended strategy to promote viral suppression to end the AIDS epidemic



How? By ending AIDS deaths and reducing new HIV infections to 750 or less by the end of 2020.

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The *Undetectables* Viral Load Suppression Project

- **24-month pilot launched March 2014**
- **Funded by the Robin Hood Foundation**
- **Integrated supports developed with UPenn**
- **Added financial incentives to our ART toolkit**
- **To empower clients facing barriers to health**
  - Poverty
  - Housing and food insecurity
  - Behavioral health issues
- **A project of Housing Works, a NYC CBO**

Core to Housing Works' commitment to the NYS Plan to End our AIDS epidemic by 2020

Multiple Goals

- Support clients to achieve and maintain undetectable viral load (≤50 copies/ml)
- Get to at least 80% viral suppression
- Recognize the heroic actions of clients
- Agency culture change focused on ending AIDS
- Address health disparities to leave no one behind
- Spread the liberating and stigma-busting news that Undetectable equals Untransmittable

Culture change: Together, We Can End AIDS

- **Social Marketing: Why become an Undetectable?**
  - Becoming an Undetectable is becoming a Hero!
  - Becoming an Undetectable improves your health, well-being, and life expectancy!
  - Becoming an Undetectable means you will not transmit HIV to sexual partners!
  - Becoming an Undetectable helps to end the HIV epidemic!
- **Agency-wide buy-in:**
  - Support from senior staff as an agency-wide priority
  - Information and training for all community members – staff and clients
  - Collaborative program evaluation and improvement
  - Undetectables Community Advisory Board
  - Building and sustaining momentum through accountability & celebration!

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TRUST IN US
WE CARE!

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A Stepped Approach to ARV Adherence

What's in the toolkit?

- **Client centered ARV adherence planning**
  - **Integrated case conferences with the client, health care provider and case manager/care coordinator**
  - **Motivational interviewing**
  - **Assistance to meet subsistence needs**
  - **Behavioral health assessment/referral**
- **$100 gift card incentive**
  - **For lab result showing undetectable viral load**
  - **Up to four per year**
- **Cognitive behavioral therapy (CBT) groups**
- **Adherence devices/medication reminders**
- **Directly observed therapy (DOT) – formal and informal**

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Using the Toolkit

- For clients receiving Housing Works primary care and case management
- Stepped approach from least to most intensive
- Offer tools that meet the client's needs
- Adherence plans agreed by the client and their team
- Focus on client strengths as well as barriers
- Switch adherence tools as needed

The Financial Incentives

- **Added to integrated care for people with HIV who face demonstrated barriers to ARV uptake and adherence**
- **Up to $400 annually ($100 gift card per quarter) for clients who achieve or maintain a viral load ≤ 50 copies/ml**
- **Clients have blood drawn at clinically appropriate intervals (determined by providers)**
- **Lab reports reviewed with the client by the primary care provider or registered nurse**
- **Quarterly lab work required for each incentive – ensures regular medical engagement for clients who face barriers to retention in effective ARV therapy**

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24-Month Demonstration Project Evaluation

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Evaluation Design

- 24-month pilot evaluated by the University of Pennsylvania
- Community-based participatory approach and intent-to-treat analysis
- Each participant used as their own control to assess viral load and cumulative viral exposure pre- and post-enrollment
- Mixed methods quantitative and qualitative study
- Examined: Feasibility, Efficacy, and Cost-Effectiveness

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Key Findings

(Ghose et al., 2019)

- **Significant positive impact on time spent virally suppressed (<200 copies/ml) found in pre/post evaluation (n=502):**
  - 15% increase post-intervention in mean proportion of all time points undetectable—from 67% to 82% (17% increase using <50 copies/ml)*
  - 23% increase post-intervention in proportion of clients virally suppressed at all time points assessed—from 39% to 62% (20% increase using <50 copies/ml)*
  - Point in time viral suppression increased from 68% at baseline to 85%
- **Social/racial disparities in viral suppression found at baseline disappeared post-enrollment**
  - African Americans and persons experiencing homelessness were half as likely to be virally suppressed at baseline
  - However, post-intervention no individual factor was associated with lack of durable viral suppression
  - In fact, African American participants and substance users were almost twice as likely as others to benefit from the intervention

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*Paired *t* test p<0.0001

Key Findings

(Ghose et al., 2019)

- **Qualitative results indicate that the intervention increased ART adherence by:**
  - Attaching **worth** to viral suppression
    - Welcome acknowledgement of their work to stay healthy and of their role in the fight to end AIDS
    - Transformation of sense of self from objects of medical intervention to agents of their own care
    - New connection to the history of HIV activism
  - Increasing **motivation** to achieve and maintain suppression
    - Increased understanding of personal and collective benefits of VLS
    - Establishment and reinforcement of a healthy orientation
    - Tangible financial benefits to improve lives
    - Improved linkage to necessary services

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Key Findings

(Final Evaluation Report to the Robin Hood Foundation, 2016)

Per person incremental cost of $68/month falls within well accepted cost-effectiveness thresholds for ART adherence interventions

- Well established in the literature that even modestly effective ARV adherence interventions with an incremental cost of $100 or less are cost-effective and scalable
- Used accepted costing methods to calculate the incremental cost per person per year of adding the Undetectables intervention to existing care coordination – as a function of direct costs and average enrollment
- The per person incremental cost of the Undetectables intervention as fully implemented was $812 per year, or $68 per month
- This cost falls well within the $100/month cost-effectiveness threshold for even modestly successful ART adherence interventions

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Scaling Up in New York City

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Scale-Up Process

- **Housing Works and NYC DOHMH prepared the model for replication with a VLS "Learning Lab" Consortium that included:**
  - Medical directors
  - HIV program directors (hospitals and CBOs)
  - Medicaid HIV Special Needs Plan program staff
  - Experts in training, curriculum development, social media and marketing, and monitoring and evaluation

- **The VLS Learning Lab focused on Essential Elements, Organizational Readiness, Curriculum, Evaluation, and Social Marketing**

- **NYC DOHMH issued Ending the Epidemic RFP and awarded contracts to 7 agencies in July 2016, with Housing Work as TA provider**
  - Implementation began January 2017

ETE-Funded Agencies

The Alliance for Positive Change

HARLEM UNITED

Community Healthcare Network

Ryan Health
Caring for New York. Here for You.

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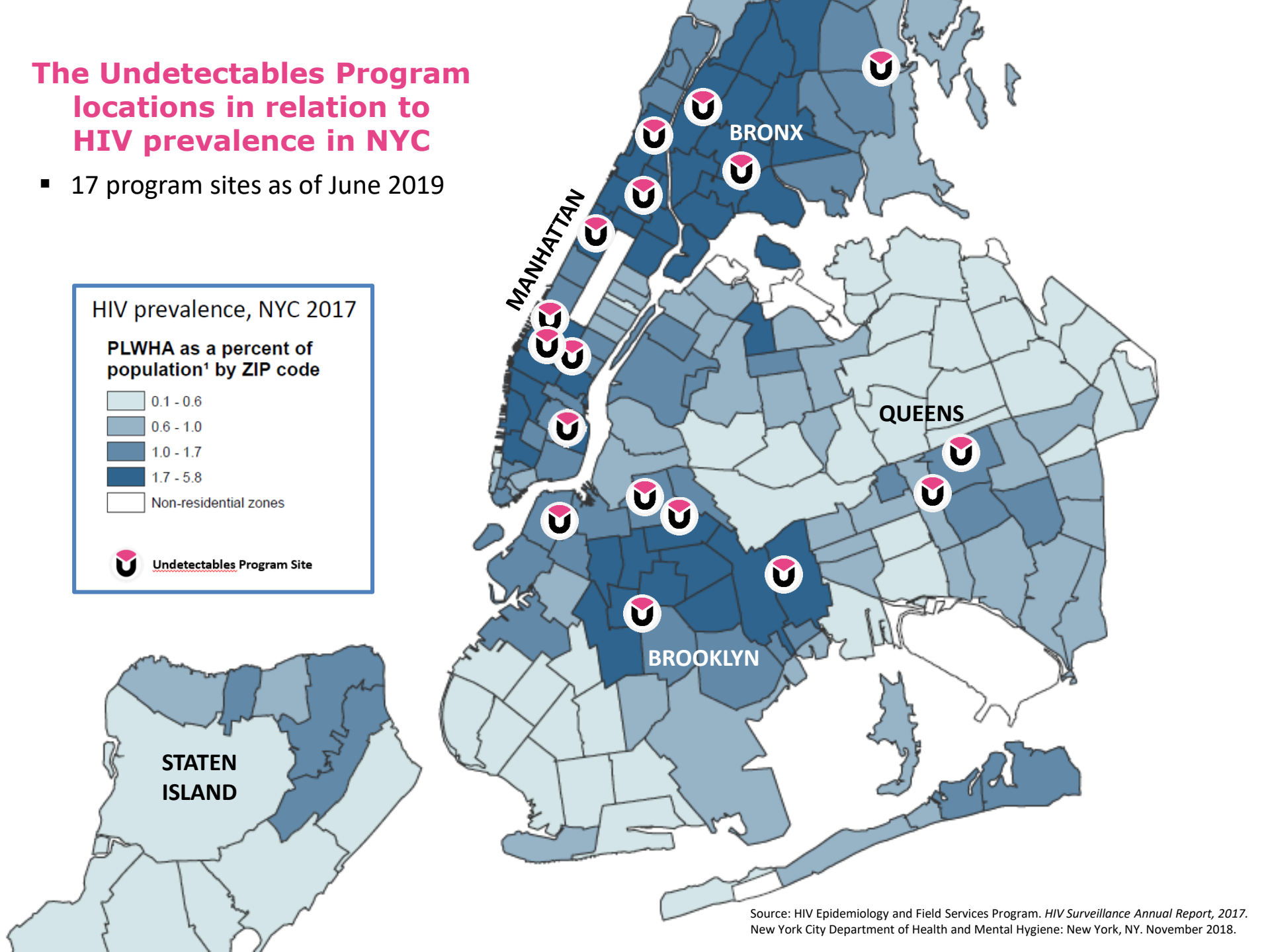
BRIGHTPOINT HEALTH
A member of Hudson River Health Care

Wyckoff
Wyckoff Heights Medical Center

The Undetectables Program locations in relation to HIV prevalence in NYC

- 17 program sites as of June 2019



Source: HIV Epidemiology and Field Services Program. *HIV Surveillance Annual Report, 2017.* New York City Department of Health and Mental Hygiene: New York, NY. November 2018.

ETE-Funded Implementation

- **Program model integrated into existing HIV care management programs**
  - Including: RWPA Care Coordination, RWPB Retention and Adherence Program, Health Homes, and ADHC

- **Start-up and ongoing training and TA by Housing Works**

- **Over 2,700 people enrolled in The Undetectables as of August 31, 2019**

DATA SOURCES

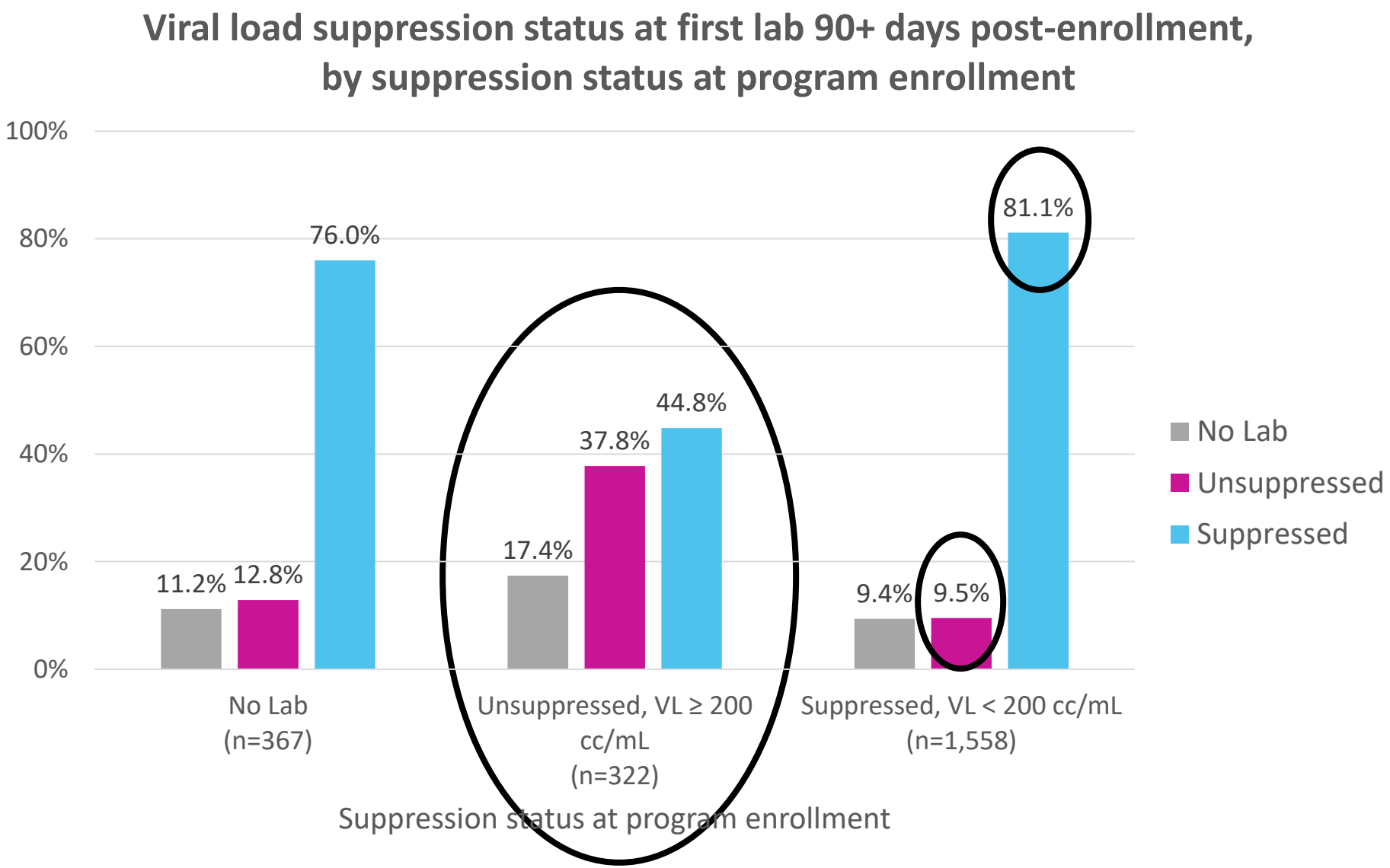
- **eSHARE Forms entered as of 10/16/19**
  - Enrollment, services, sociodemographic, and behavioral information
- **NYC HIV Surveillance Registry, as reported by 3/31/19**
  - Viral load test results
- **Reporting period: 1/1/17 – 12/31/18**

ETE-Funded Implementation

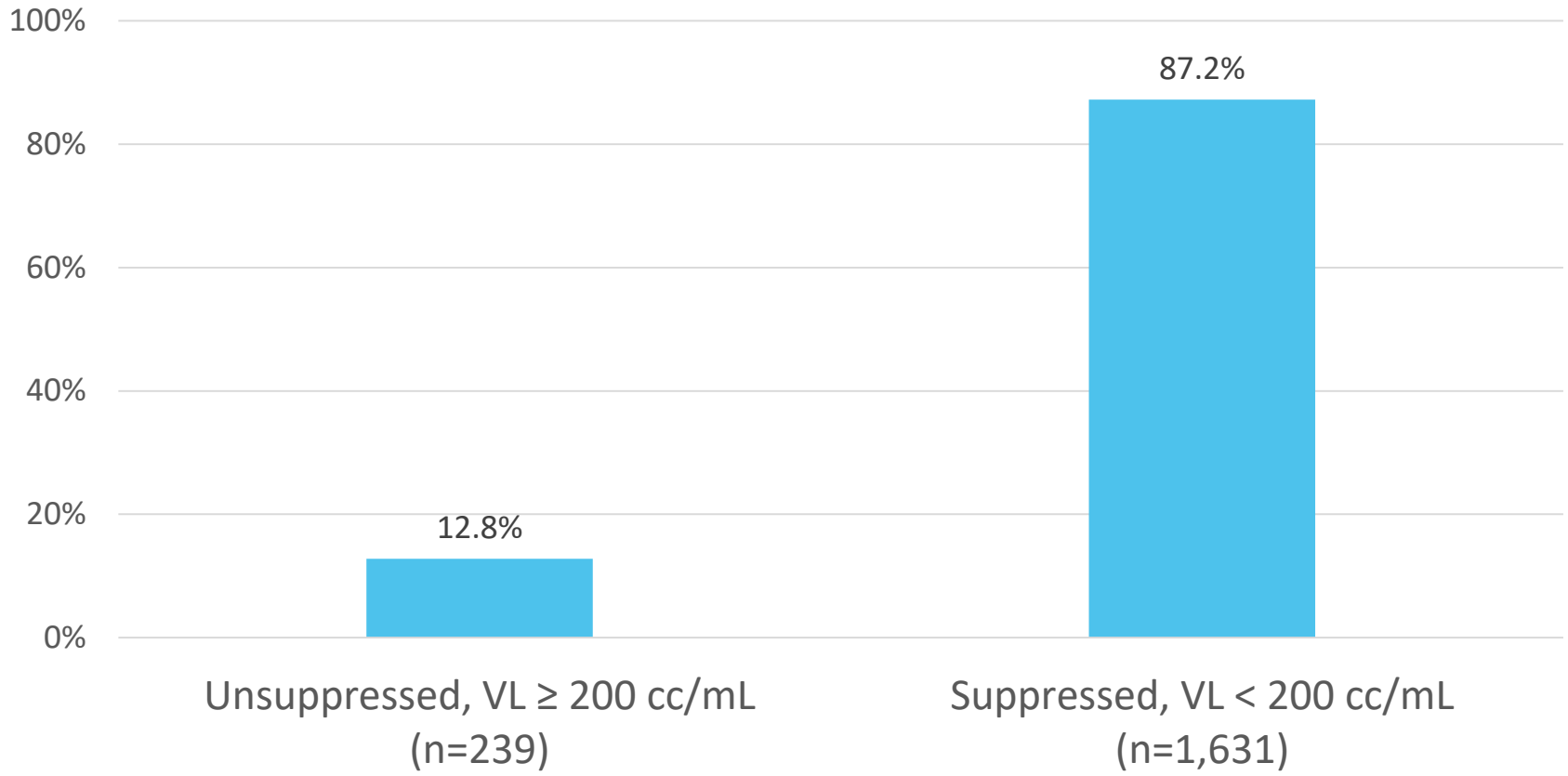
- **From 1/1/17 – 12/31/18: 2,282 clients enrolled in The Undetectables**
- **Most common barriers to ART adherence and VLS among newly enrolled Undetectables clients documented at intake assessment:**
  - Income below FPL (80.5%)
  - Food insufficiency (39.1%)
  - Unstable housing (27.9%)
  - Mental Health (22.9%)
- **Viral suppression status of clients at program enrollment* (n=2,282)**
  - 69.6% virally suppressed**
  - 14.2% unsuppressed
  - 16.2% unknown

* Observation period for viral suppression was 3 months pre-enrollment

** Viral suppression defined as <200 copies/mL

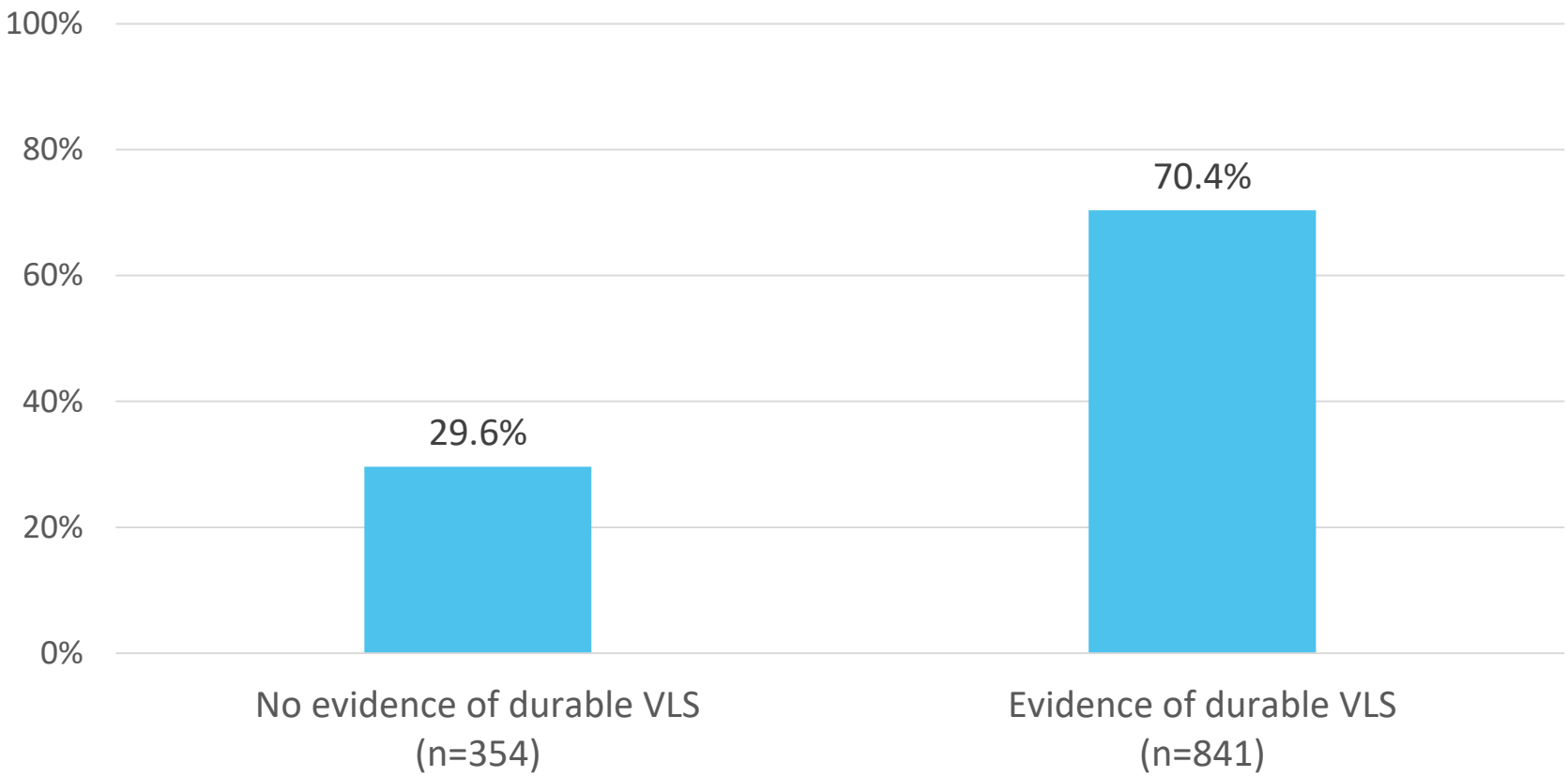

Viral load suppression status at first lab 90+ days post-enrollment, by suppression status at program enrollment
100%
80%
60%
40%
20%
0%
11.2%
12.8%
76.0%
17.4%
37.8%
44.8%
9.4%
9.5%
81.1%
No Lab
Unsuppressed
Suppressed
No Lab (n=367)
Unsuppressed, VL ≥ 200 cc/mL (n=322)
Suppressed, VL < 200 cc/mL (n=1,558)
Suppression status at program enrollment

Viral load suppression status at most recent lab among clients engaged in care* (N=1,870)



*Defined as having ≥2 viral load labs at least 90 days apart from each other during the period of interest (1/2017-12/2018)

Evidence of durable viral suppression* among clients enrolled for the entire 2018 calendar year (n=1,195)



*Having no unsuppressed viral loads (≥200 copies/mL) in the calendar year

Program Expansion

- **<u>November 2017:</u> Community Care of Brooklyn (CCB) replicated The Undetectables in Brooklyn**
  - Supported through the DSRIP Program
  - 3 hospital sites and 3 FQHC sites
  - Over 940 clients enrolled as of Aug 2019

- **<u>November 2018:</u> Amida Care Medicaid Special Needs Plan announced their "Live Your Life Undetectable" viral load suppression program**
  - Features key elements of The Undetectables
  - Offered to all eligible Amida Care members
  - Over 2,450 clients enrolled as of Aug 2019

Integrating Financial Incentives into HIV Care Management Programs

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Gambone et al., 2019

Evidence Base

Overview of existing research on the use of financial incentives (FIs) to promote VLS

- **Behavioral economics**
- **Efficacy and effectiveness**
- **Cost-effectiveness**

Behavioral Economics

- **Integrates principles of psychology and economics**
- **Decision-making is not consistently rational; it is influenced by beliefs, emotions, competing demands, and other contextual factors**
- **Basic principles of behavior reinforcement**
- **Financial incentives provide a certain and near-immediate reward**

Bassett et al., 2015; Gálarraga et al., 2013

Efficacy and Effectiveness of Financial Incentives

- **Contingency management for alcohol and drug treatment**[1]
- **Health promoting behaviors, including smoking cessation, weight loss, attendance at clinical visits, and adherence to medication**[2]
- **ART adherence and viral suppression**[3]

1. Benishek et al., 2014; Gálarraga et al., 2013; Haug & Sorensen, 2006; Higgins et al., 1999; Petry 2010; Petry et al., 2012; Prendergast et al., 2006
2. Bassett et al., 2015; DeFulio & Silverman, 2012; Gálarraga et al., 2013; Giles et al., 2014; Giuffrida et al., 1997; Kane et al., 2004; Mantzari et al., 2015; Petry et al., 2012; Volpp et al., 2008; Volpp et al., 2009
3. El-Sadr et al., 2017; El-Sadr et al., 2015; Farber et al., 2013; Foster et al., 2013; Ghose et al., 2019; Javanbakht et al., 2006; Metsch et al., 2016; Rigsby et al., 2000; Rosen et al., 2007; Silverman et al., 2019; Sorensen et al., 2007

Randomized Controlled Trials

El-Sadr et al., 2017

Findings: Proportion of patients with VLS significantly higher at FI sites compared to Standard of Care sites

- 2-year RCT **(HPTN 065)**
- N= 37 sites (17 FI sites + 20 SOC sites)
- Study arms: a) FI sites vs. b) SOC sites
- Incentive: $70 gift card for VL < 400 copies/mL
- Frequency: Quarterly
- Results: 3.8% higher proportion of VS patients at FI sites compared to SOC sites (p = .01); 4.6% higher at peak of intervention (p = .031)

Metsch et al., 2016

Findings: Proportion of patients with VLS significantly higher in PN+FI group compared to Standard of Care group

- 6-month RCT
- N = 801
- Study arms: a) patient navigation (PN) + FI vs. b) SOC
- Incentive: Cash, debit card transfer, gift cards; escalating (e.g., $10-$30 per PN session escalating up to $220; $100 for VL <200 copies/m at month 6)
- Frequency: At least monthly
- Results: 46.2% of PN+FI group achieved VLS compared to 35.2% of SOC group (p = .04)

Cost-effectiveness of Financial Incentives

- **Cost-effectiveness studies account for future program and societal costs of poor adherence**
  - Estimates indicate adherence programs with moderate efficacy costing ≤$100/month meet cost-effectiveness ratios below a commonly accepted conservative threshold for medical interventions in the U.S.[1]
- **Adamson et al., 2017 (HPTN 065 Study)**
  - Findings: quarterly $70 incentive for VLS was highly cost-effective compared to standard HIV care
- **Farber et al., 2013**
  - Findings: quarterly $100 incentive for VLS was cost-effective using extremely conservative modeling

1. Threshold: $50,000 per quality-adjusted life year (Goldie et al., 2003; Schackman et al., 2005)

Considerations for Program Development and Implementation

What does the literature tells us about financial incentives, and how does it apply to The Undetectables Program citywide scale-up?

AREAS OF CONSIDERATION:

- Multi-level approach
- Target population and patient eligibility
- Incentive structure
- Intervention duration and sustainability of effect
- Feasibility and acceptability
- Politics and ideology

Multi-level approach

The literature tells us…

- FIs should be one component of a multi-level approach
- Combine FIs with existing evidence-based adherence support strategies
  - Care coordination, patient navigation
  - Wrap-around services
  - Patient education, skills training
  - Motivational Interviewing-based adherence counseling
  - Reminder calls/text messages
  - Pillboxes
  - DOT

The Undetectables…

- Multiple levels:
  - Organizational culture change
  - Social marketing campaign
  - Tool kit of evidence-based ART adherence support tools, including FIs
- Citywide scale-up:
  - The Undetectables is integrated into existing HIV care management models

Bassett et al., 2015; El-Sadr et al., 2017; El-Sadr et al., 2015; Farber et al., 2013; Foster et al., 2013; Gálarraga et al., 2013; Ghose et al., 2019; Lynagh et al., 2013; Javanbakht et al., 2006; Metsch et al., 2016; Rigsby et al., 2000; Rosen et al., 2007; Sorensen et al., 2007

Target population and patient eligibility

The literature tells us…

- FIS are more likely to be effective with vulnerable populations
- Restricting participation to only individuals with detectable VL could have negative consequences
  - Seen as penalizing virally suppressed clients
  - Inadvertently encourage virally suppressed clients to reduce adherence in order to qualify

The Undetectables…

- Enrolls PLWH who face adherence barriers
  - Including: homelessness, poverty, food insecurity, current or history of substance use, mental health disorder
- Already suppressed clients cannot be excluded
- Citywide scale-up requires enrollment in an approved HIV care management

Adams et al., 2014; El-Sadr et al., 2017; Farber et al., 2013; Lynagh et al., 2013; Mantzari et al., 2015; Sorensen et al., 2007

Incentive structure

The literature tells us…

- FIs can target behaviors and/or clinical outcomes
- When determining FI value, consider SES of target population and consult community
- Demonstrated effectiveness when targeting VS and/or ART adherence:
  - quarterly $100 cash
  - quarterly $70 gift card
  - monthly $20 cash
  - weekly cash ($2-$10/dose, escalating)

The Undetectables…

- Targets clinical outcome: VL < 200 copies/mL
- $100 unrestricted gift card
- Quarterly

Adams et al., 2014; Adamson et al., 2017; DeFulio & Silverman, 2012; El-Sadr et al., 2017; Farber et al., 2013; Gálarraga et al., 2013; Ghose et al., 2019; Haug & Sorensen, 2006; Javanbakht et al., 2006; Lynagh et al., 2013; Petry et al., 2012; Rigsby et al., 2000; Shackman et al., 2005; Sorensen et al., 2007

Intervention duration and sustainability of effect

The literature tells us…

- FIs are effective during the intervention but benefits tend to fade after FI removed
  - This is common across health behavior change research → maintenance after an intervention ends is rare
- Long-term FI interventions needed to sustain effects and achieve durable VS

The Undetectables…

- Citywide scale-up originally funded for 3-year period (2016-2019) with no cap on length of client enrollment
  - Disenrollment policy: if client misses 2 consecutive quarterly labs, client is disenrolled (but can re-enroll at any time)
- ETE funding extended another 3 years

DeFulio & Silverman, 2012; Mantzari et al., 2015; Metsch et al., 2016; Feldman et al., 2014; Giles et al., 2014; Kwasnicka et al., 2016; Metsch et al., 2016; Petry et al., 2012; Rigsby et al., 2000; Rosen et al., 2007; Simoni et al., 2013; Sorensen et al., 2007

Feasibility and acceptability

The literature tells us…

- Implementation concerns include:
  - Logistical and administrative challenges
  - Increased clinic volume
  - Required frequency of lab work
  - Ethical concerns
- Highly acceptable to patients and clinic staff
  - Emotional benefits gained by receiving or providing positive reinforcement

The Undetectables…

- Housing Works pilot found:
  - Implementation to be highly feasible; and
  - Use of FIs to be highly acceptable to virtually all patients and staff
- Citywide scale-up:
  - Housing Works is providing TA to funded agencies to address implementation concerns
  - Fidelity assessment indicates implementation is highly feasible

Anderson et al., 2017; Farber et al., 2013; Ghose et al., 2019; Greene et al., 2017

Politics and ideology

The literature tells us…

- Provision of FIs to patients has been increasing in health care settings
- Despite body of evidence, skepticism and opposition persist
  - "Incentives decrease intrinsic motivation"
  - "Incentives increase substance use"
  - "Incentives are coercive"
  - "Why pay patients to do what's in their best interest?"
- Proponents: Consider potential health and economic benefits to patients and society

The Undetectables…

- Aligns with NY State's Ending the Epidemic Blueprint
  - Recommendation BP6: Incentivize performance [for both providers and patients]
- Qualitative evaluation of Housing Works' pilot found clients:
  - Felt valued and appreciated
  - Expressed sense of pride being part of larger effort to end the epidemic
  - Used gift card to pay bills, buy necessities

Bassett et al., 2015; Gálarraga et al., 2014; Ghose et al., 2019; Greene et al., 2017; Halpern et al., 2009; Lynagh et al., 2013; Petry et al., 2012; Petry 2010

Recommendations for Implementing Financial Incentives in Care Management Programs

- **Integrate incentives into HIV care management models**
  - Leverage existing staff and resources
  - Package financial incentive with other client-centered, evidence-based adherence strategies
- **Deliver program to individuals who experience individual and/or structural barriers to ART adherence and VLS**
  - Do not exclude people who have already achieved VLS
- **Long-term incentives may be needed because many barriers to ART adherence and VLS are chronic and/or structural**
- **Determine incentive structure (e.g., frequency, value) using existing research, clinical experience, and community input**
- **Build organization-wide support to facilitate implementation**

Gambone et al., 2019

Questions?

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Organizational Readiness

- **VLS Learning Lab Consortium Organizational Readiness and Curriculum Development Work Group was tasked with:**
  - **Defining the conditions necessary for an organization to be ready to implement The Undetectables → Organizational Readiness Checklist**
  - **Defining components necessary for the intervention to be branded as The Undetectables**
  - **Considering how to support the existence of VLS interventions that included components of The Undetectables ("lookalike programs")**

Organizational Readiness Checklist

- HIV Primary Care Capacity
- HIV Care Management Capacity
- Fiscal Capacity
- Experience Service Target Populations
- In-house and Referral Resources
- Internal Processes
- Client Engagement and Social Marketing
- Data Systems
- Quality Management Capacity

Agency Name: _____

The Undetectables Viral Suppression Program

Organizational Readiness Checklist

This checklist is intended to help organizations determine where they currently have the capacity to implement The Undetectables and which areas require further development.

Please provide an honest assessment of each statement below based on the capacity of your organization or, as appropriate, a partner organization that is formally committed to implementing The Undetectables with you.

Organizations are encouraged to discuss this checklist at length with representatives from their administration, clinical practice, supportive services, data and evaluation, and quality management departments.

Items designated with an asterisk denote program features/competencies that are essential to The Undetectables.

	HIV PRIMARY CARE	Partner organization (if applicable): Disagree	Somewhat Agree	Mostly Agree	Agree
*	Our organization provides medical care that prescribes antiretroviral (ARV) medication				
*	Our organization monitors client viral load using laboratory testing (i.e., not patient self-report)				
*	Clinical staff regularly participate in case conferences with social workers/care managers				
	Clinical staff regularly participate in case conferences with social workers/care managers and the client				
*	Clinical staff regularly review lab results with clients and discuss the importance of viral load suppression				
*	Clinical staff regularly discuss the client's needs and desires with the client when determining a course of treatment				
*	Clinical staff regularly provide pill-boxing or blister pack services				
*	Clinical staff regularly provide directly observed therapy (DOT)				
	Our clinic operates or has an established relationship (e.g., MOU) with a pharmacy				

	HIV CARE MANAGEMENT	Partner organization (if applicable): Disagree	Somewhat Agree	Mostly Agree	Agree
*	Our organization has staff who provide care management for people with HIV (e.g., social workers, similar staff)				
*	Our care managers maintain ongoing relationships with clients (e.g., regular communication)				
*	Our care managers are responsible for addressing clients' subsistence needs				
*	Our care managers regularly review client HIV viral loads				
*	Our care managers understand the importance of viral suppression				

Group Activity

Split into 3 groups:

Community Based Organizations with in-house medical services	Community Based Organizations without in-house medical services	Hospitals, FQHCs, and other health facilities

www.LiveUndetectable.org

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ETE-funded Agencies

The Alliance for Positive Change
Brightpoint Health, a member of Hudson River Healthcare
Community Healthcare Network
Harlem United
Housing Works
Ryan Health
Wyckoff Heights Medical Center

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UNDETECTABLES