Lessons Learned from Using the Data to Care Approach for Improving the HIV Care Continuum in Connecticut

CIRA Webinar

M. Villanueva

6/24/2021

Objectives

- Discuss Data to Care (D2C) Strategy
- CDC CoRECT (Cooperative Re-engagement Clinical Trial) Study Results
  - Connecticut
  - Multi-sites
- Describe Lessons learned

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2013

Shifting the Paradigm: Using HIV Surveillance Data as a Foundation for Improving HIV Care and Preventing HIV Infection

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Definition

- Data to Care (D2C) is a *public health strategy* that uses HIV surveillance and other data to support the HIV Care Continuum, by identifying persons living with HIV who are in need of HIV medical care or other services and facilitating linkage to these services.
- Jurisdictions should include the active use of HIV surveillance data as part of their comprehensive strategy for linkage to and re-engagement in care activities.
- Programs currently implementing D2C have shown improved surveillance data quality, better collaboration among surveillance, prevention and care and treatment staff, and successful linkage to or re-engagement in care for persons living with HIV.

https://www.cdc.gov/hiv/effective-interventions/respond/data-to-care

Examples of D2C activities:

- 1) Identify persons who are not in care (NIC) and then link or re-engage them in care
- 2) Identify persons who are in care but are not virally suppressed and work with the clients and their providers to support attaining viral suppression or
- 3) Identify pregnant women or mothers and their exposed infants who may need coordinated services (perinatal HIV services coordination).

Potential Benefits of D2C Programs

- Successful linkage to or re-engagement in care for persons with HIV;
- Expanded partner services for persons with HIV not newly diagnosed, including an opportunity to re-interview individuals out of care, conduct partner notification, and offer testing and other prevention services;
- Identification of and follow-up with persons with HIV who may be in care, but are not virally suppressed, and need adherence support or other services;
- Improved surveillance data quality
- Better collaboration among surveillance, prevention, care, and treatment staff

National Strategic Plan
A Roadmap to End the Epidemic
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GOALS OF D2C

- Increase number of PWH who are engaged in care
- Increase number of PWH who are virally suppressed
- Decrease ongoing HIV transmission

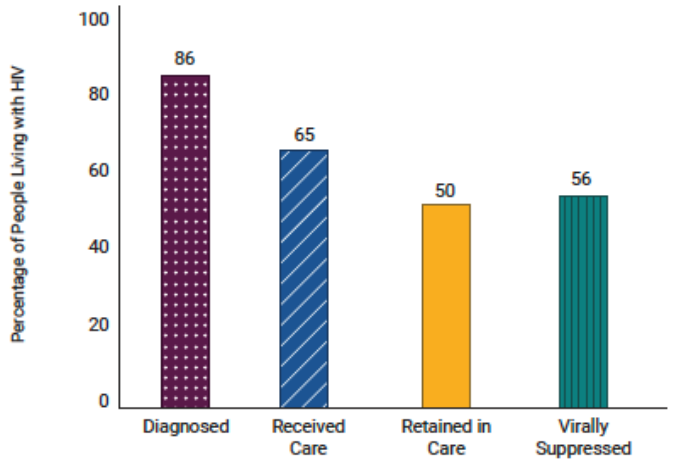


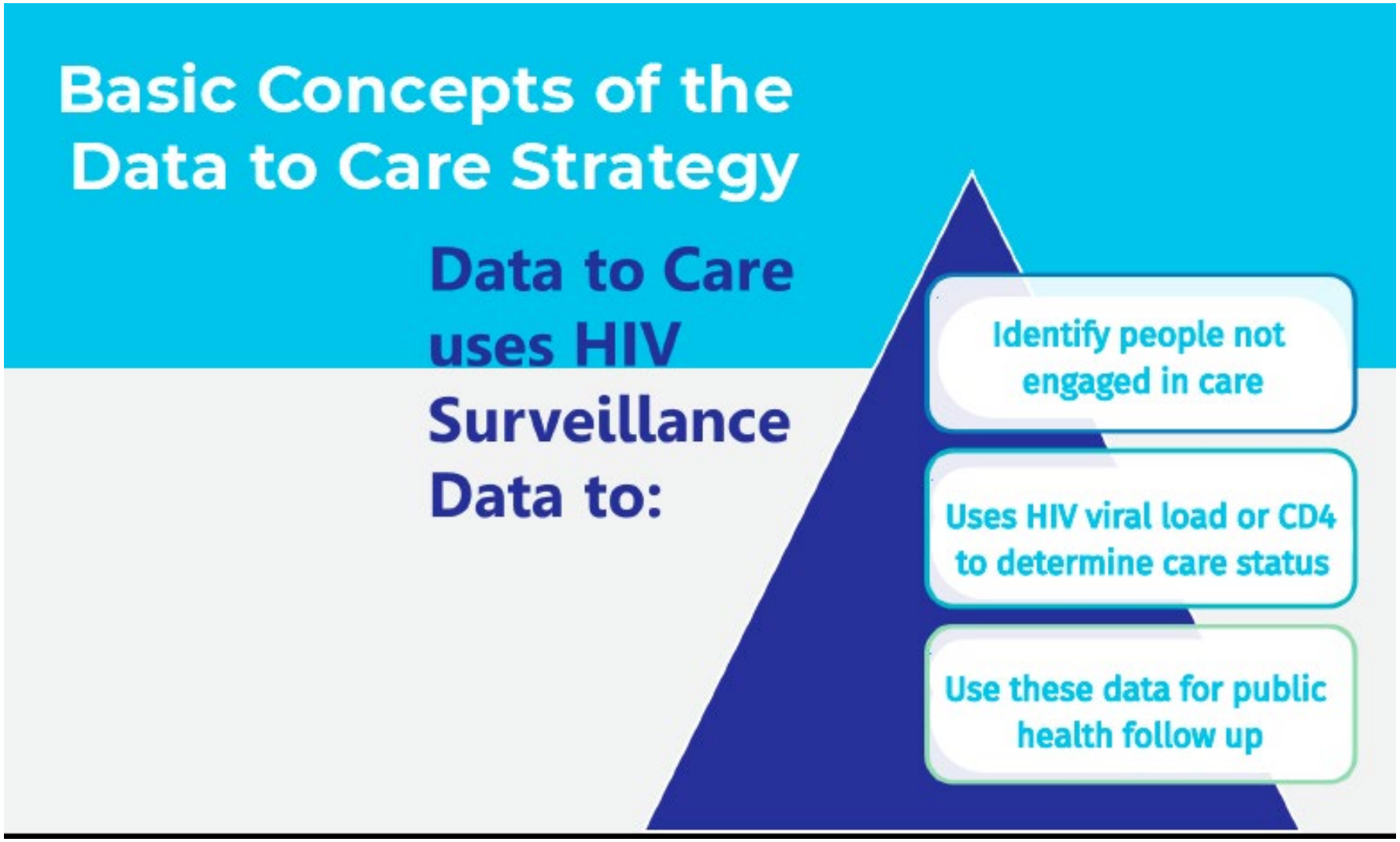
Figure 6. Prevalence-based HIV care continuum, United States, 2018

Table 2. HIV Transmissions in the United States, 2016

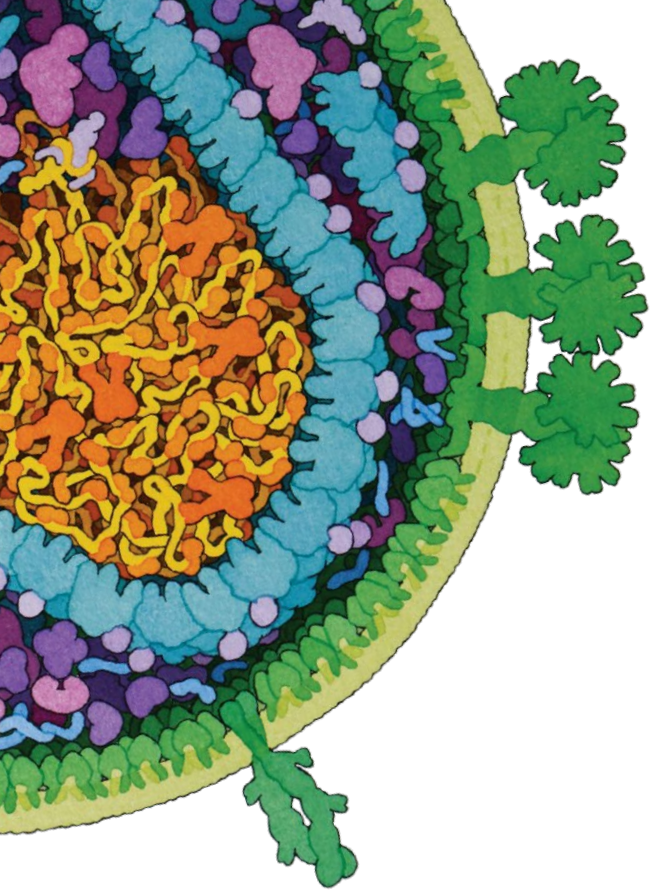
% of People with HIV	Status of Care	Accounted for X% of New Transmissions[a]
15%	Didn't know they had HIV	38%
23%	Knew they had HIV but weren't in care	43%
11%	In care but not virally suppressed	20%
51%	Taking HIV medicine and virally suppressed	0%

* Total does not equal 100% because of rounding.

Note: CDC analysis shows that the vast majority (about 80%) of new HIV infections in the United States in 2016 were transmitted from the nearly 40% of people with HIV who either did not know they had HIV, or who received a diagnosis but were not receiving HIV care.[27]



Courtesy, H. Linardos CT DPH



SCIENCE SPOTLIGHT™

Project CoRECT (Cooperative Re-engagement Clinical Trial):

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Partnership between Yale University and CT DPH
CDC Grant 9/1/2014-8/31-2020

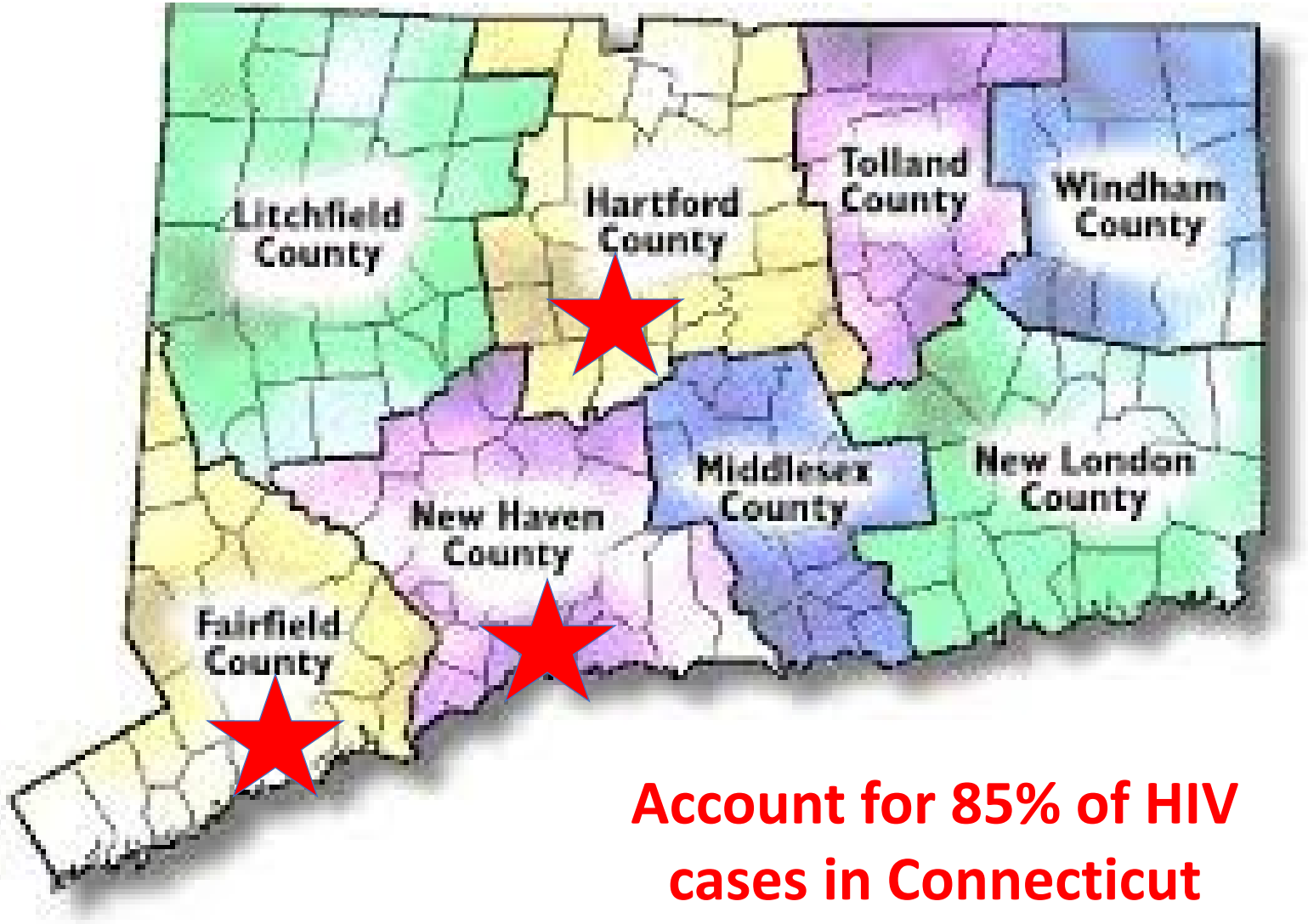
Disclosure:

CROI 2021

Goals of Project CoRECT

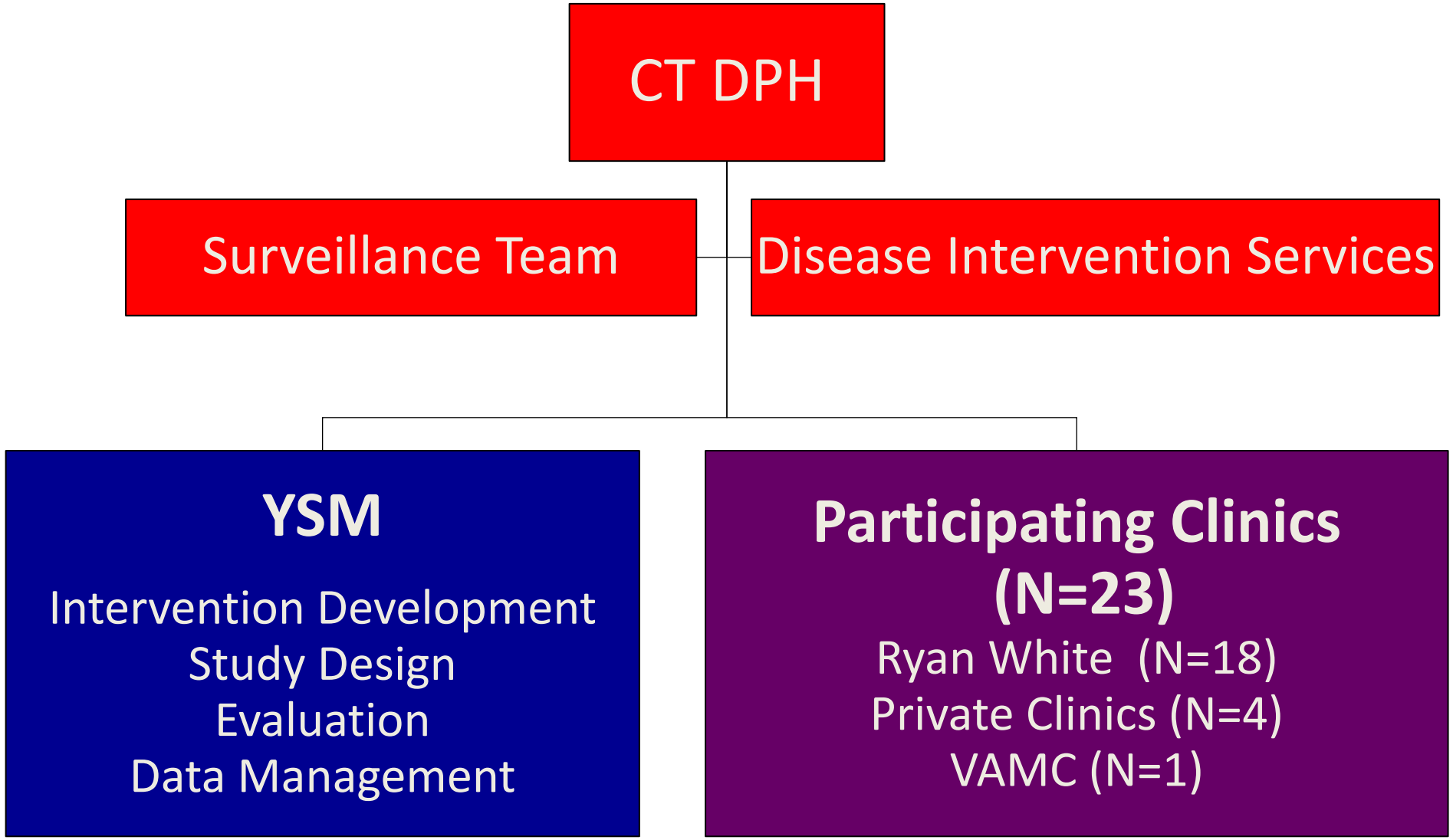
- To establish a statewide electronic monitoring system to identify PWH who are out-of-care (OOC)
- To use a public health model of contact tracing, using Disease Intervention Specialists (DIS) to find and link OOC PWH into HIV care and increase the proportion of PWH with VS
- Develop and deploy a DIS intervention designed to LINK → RETAIN →VS OOC PWH
- RCT: randomize 600 PLH to DIS vs control (SOC)
- Three sites chosen: CT; Philadelphia; Massachusetts

Map of Connecticut Counties

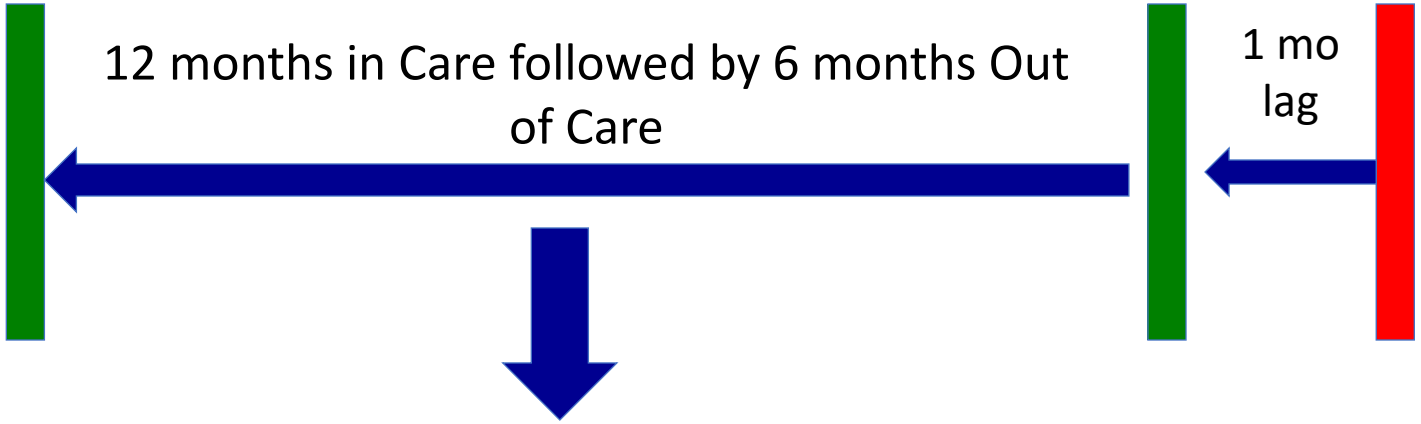


Account for 85% of HIV cases in Connecticut

PROJECT CoRECT Partners



Defining Out-of-Care*



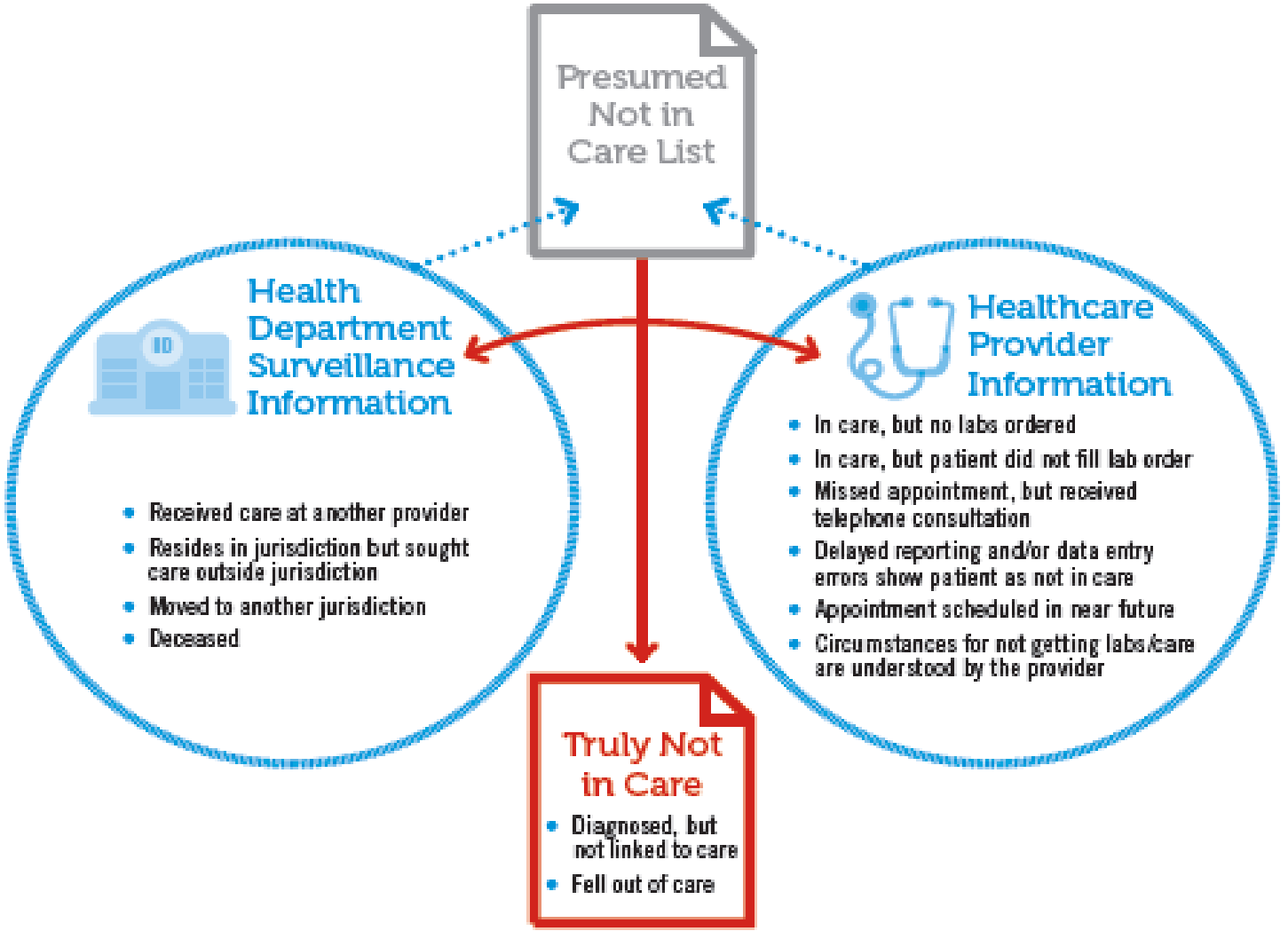
Case Conference

DIS and Participating Clinic

Exclude:

1. "Well" patients (2 consecutive VL<200 at least 6 months apart)
2. Recent visits during lag period
3. Visit scheduled in next 3 months
4. ECF resident, incarcerated, moved, not out pt, deceased
5. Provider discretion
6. Other

Information Used by Health Department HIV Surveillance Staff and Healthcare Providers to Refine the Not in Care List



Keeping Connecticut Healthy
DPH
Connecticut Department of Public Health

Methods

Study Design: RCT with clinic-specific randomization to clinic standard of care (SOC) vs DIS who were trained to locate, assess barriers to care, and facilitate re-engagement in care.

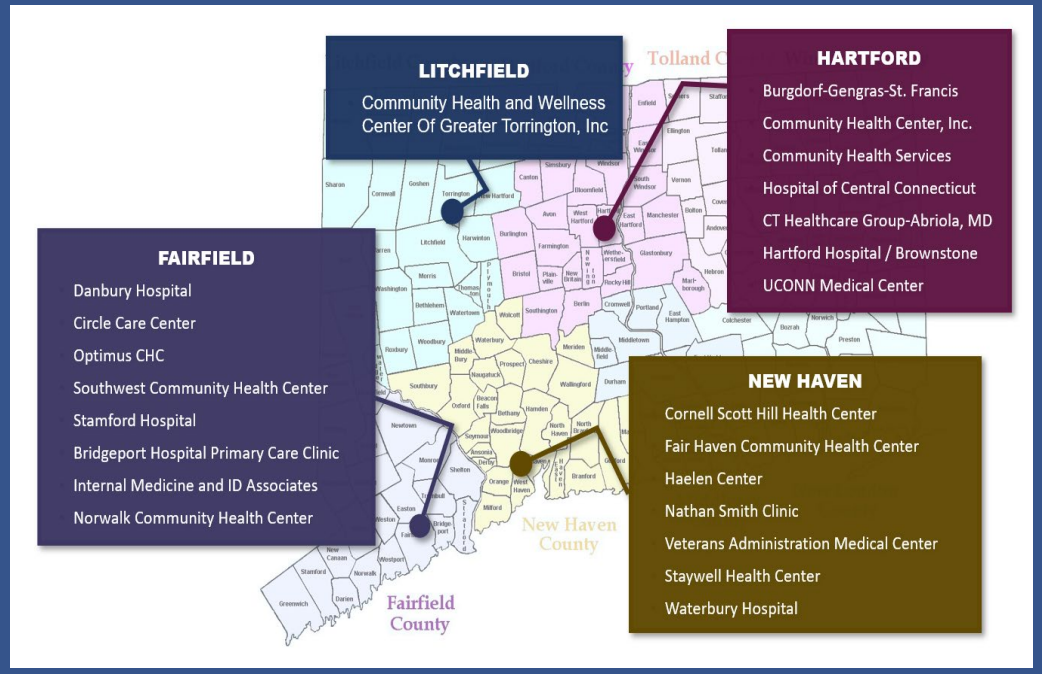
Eligibility: PWH defined as recently OOC (lack of HIV VL and/or clinic visits 6 months after a 1 year in-care period)

Data sources: CT DPH eHARS HIV surveillance database and client-level data from 23 participating HIV clinics

Time Frame: Recruitment 11/2016-7/2018; follow-up to 2/2020

Primary outcomes:

- Re-engagement at 90 days (by VL) post randomization
- Retention in HIV care (2 HIV labs 90 days apart) at 12 months post randomization
- Viral suppression (VS= VL<200 copies/ml) 12- and 18-months post randomization



23 HIV Clinics in CT

Enrollment in CT: 11/2016-7/2018

Figure 1: Flowchart for Enrollment of Patients Who Disengage from Medical Care

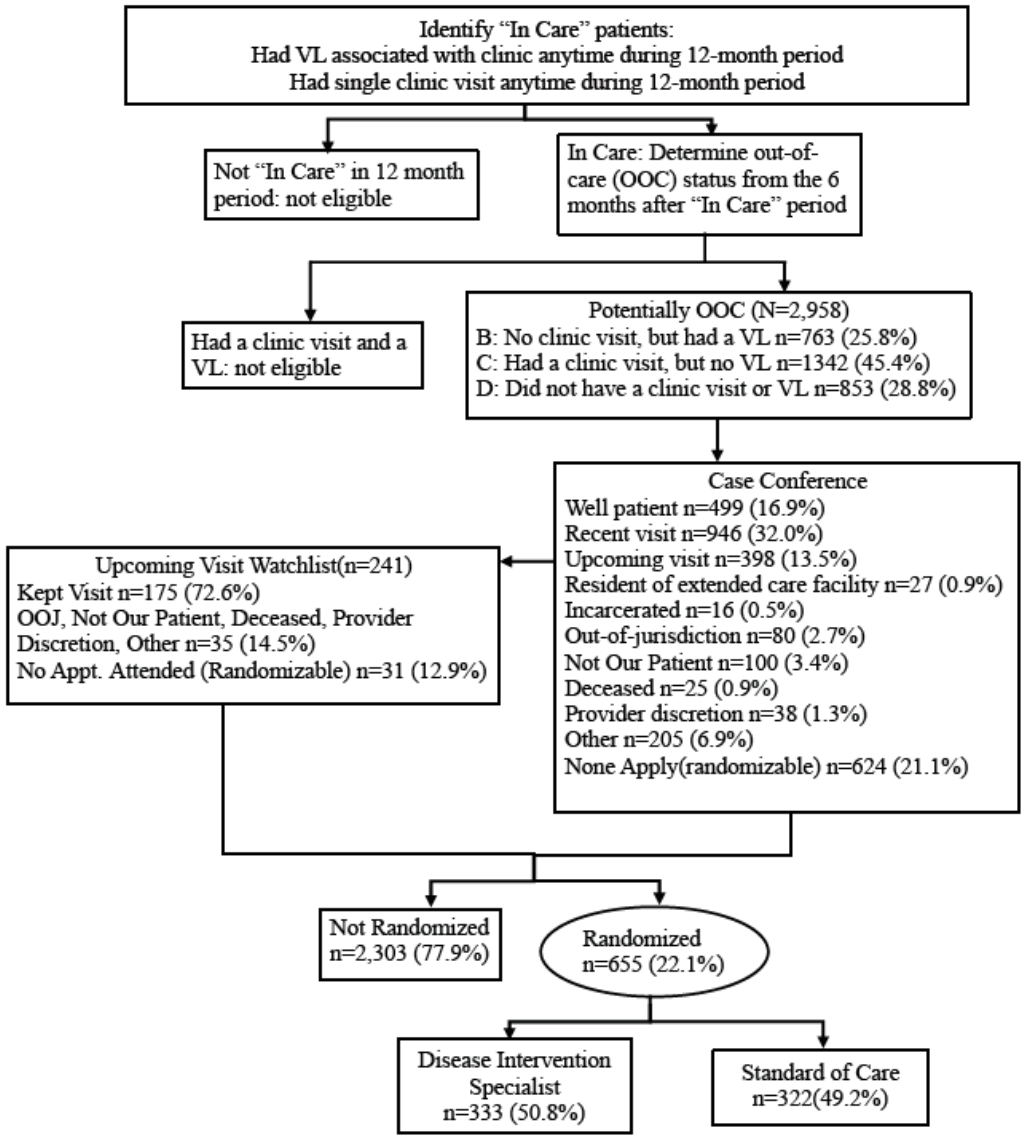
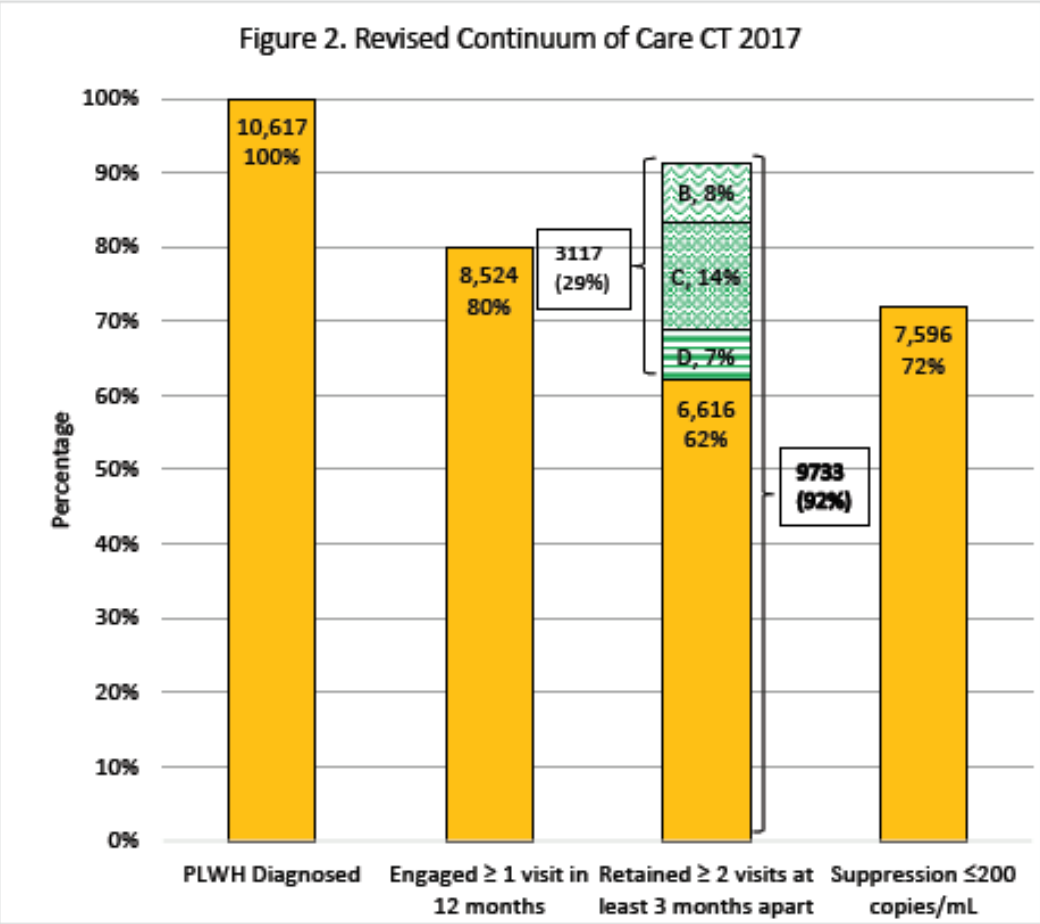


Figure 2. Revised HIV Continuum of Care CT 2017



Revised HIV Continuum of Care in CT

LESSON : There are fewer Actually OOC once data Refinement happens

Results: CT

Table 1: Primary Outcomes by Intervention Arm

Variable	Total (%) N=655	DIS (%) n=333	SOC (%) n = 322	p-Value
Re-engagement in 90 days	305 (46.6)	170 (51.1)	135 (41.9)	0.019
Retention in care at 12 months	324 (49.5)	167 (50.1)	157 (48.8)	0.72
Viral Suppression at 12 months	400 (61.1)	213 (64.0)	187 (58.1)	0.12
Viral Suppression at 18 months	425 (64.9)	222 (66.7)	203 (63.0)	0.33

- DIS (N=333) and SOC (N=322) groups well-matched (mean age 46.1 years; 62.4% male; 40.3% Black, 37% Hispanic; 29.6% MSM, 27.2% IDU, 29% heterosexual; last in care CD4 count mean 551 cells/ul)
- Re-engagement at 90 days better in DIS group (DIS 51.1% vs SOC 41.9%, p=.019)
- Retention in care at 12 months and VS at 12-and 18- months not significantly different

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Multi-Site Outcomes Data

THE COOPERATIVE RE-ENGAGEMENT CONTROLLED TRIAL: A RANDOMIZED TRIAL TO ASSESS A COLLABORATIVE DATA TO CARE MODELTO IMPROVE HIV CARE CONTINUUM OUTCOMES

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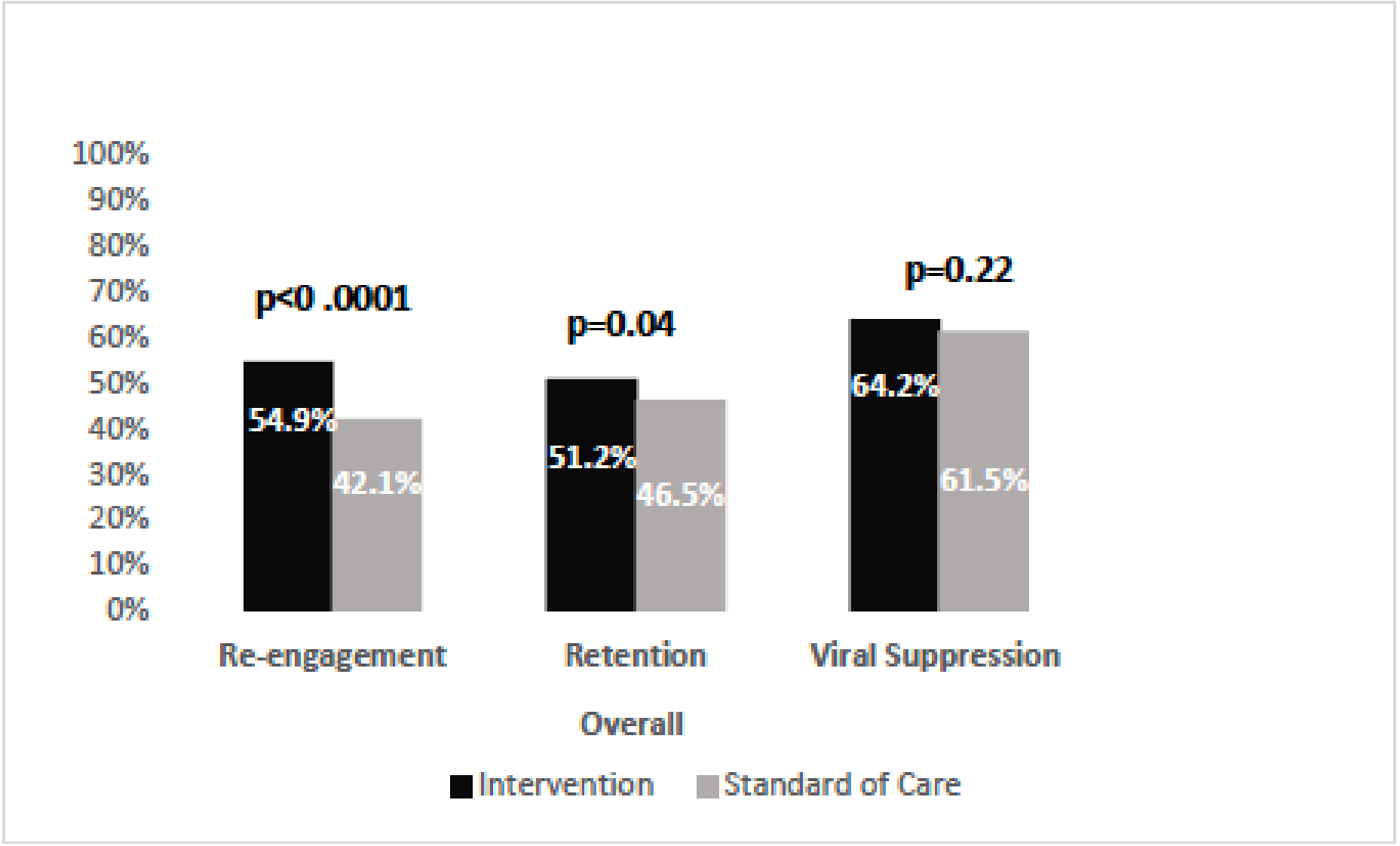
Submitted to Lancet Regional Health Americas

Selected Demographics: Multi Sites

Multi-Sites: Demographics and Clinical Characteristics by Randomization Status

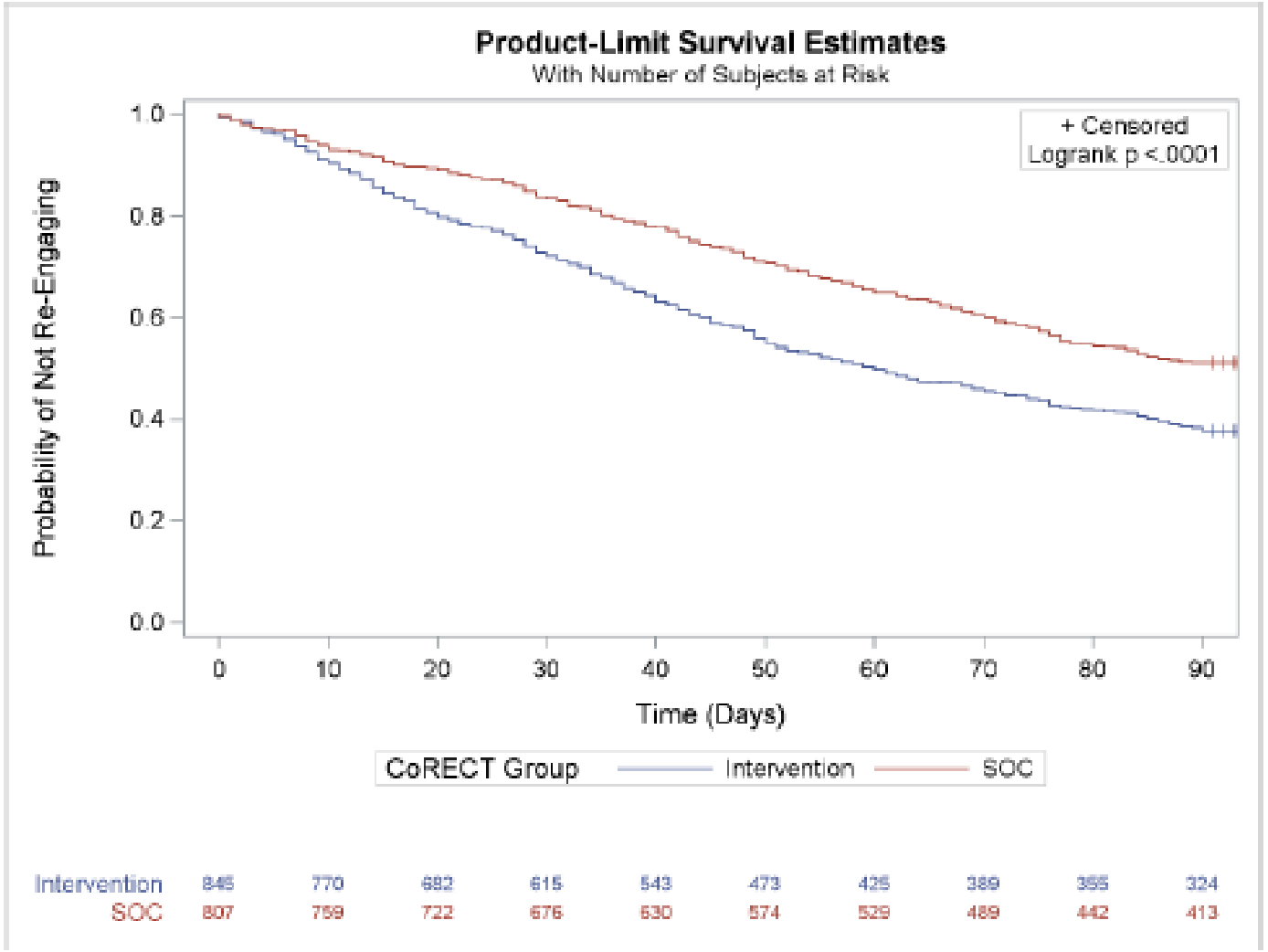
Demographics	DIS (Intervention) n(%)	Standard of Care n(%)
Total N=1893	958 (50.6%)	935 (49.4%)
Male (birth sex)	672 (70.1%)	644 (68.9%)
Race/Ethnicity		
Black	460 (48.0%)	455 (48.7%)
White	237 (24.7%)	245 (26.2%)
Hispanic	239 (25.0%)	213 (22.8%)
Other	22 (2.3%)	22 (2.3%)
Age Median years (IQR)	46.0 years (34-54)	45.5 years (34-53)
Transmission Category†		
MSM, MSM/HET	376 (39.2%)	359 (38.4%)
IDU (IDU or HET/IDU)	198 (20.7%)	174 (18.6%)
MSM/IDU or MSM/HET/IDU	37 (3.9%)	54 (5.8%)
HET	213 (22.2%)	223 (23.8%)
Other (Peri/NIR/Other)	134 (14.0%)	125 (13.4%)
Last Viral Load in Year Prior to Randomization		
<200 copies/mL.	536 (75.1%)	519 (73.9%)
Last CD4 in in Year Prior to Randomization		
≤50 cells/μL	12 (1.8%)	11 (1.6%)
51-199 cells/μL	62 (9.2%)	72 (10.8%)
200-350 cells/μL	100 (14.9%)	98 (14.6%)
351-499 cells/μL	143 (21.3%)	142 (21.2%)
≥ 500 cells/μL	353 (52.7%)	348 (51.9%)

Multi Site: HIV Treatment Outcomes by Study Arm*



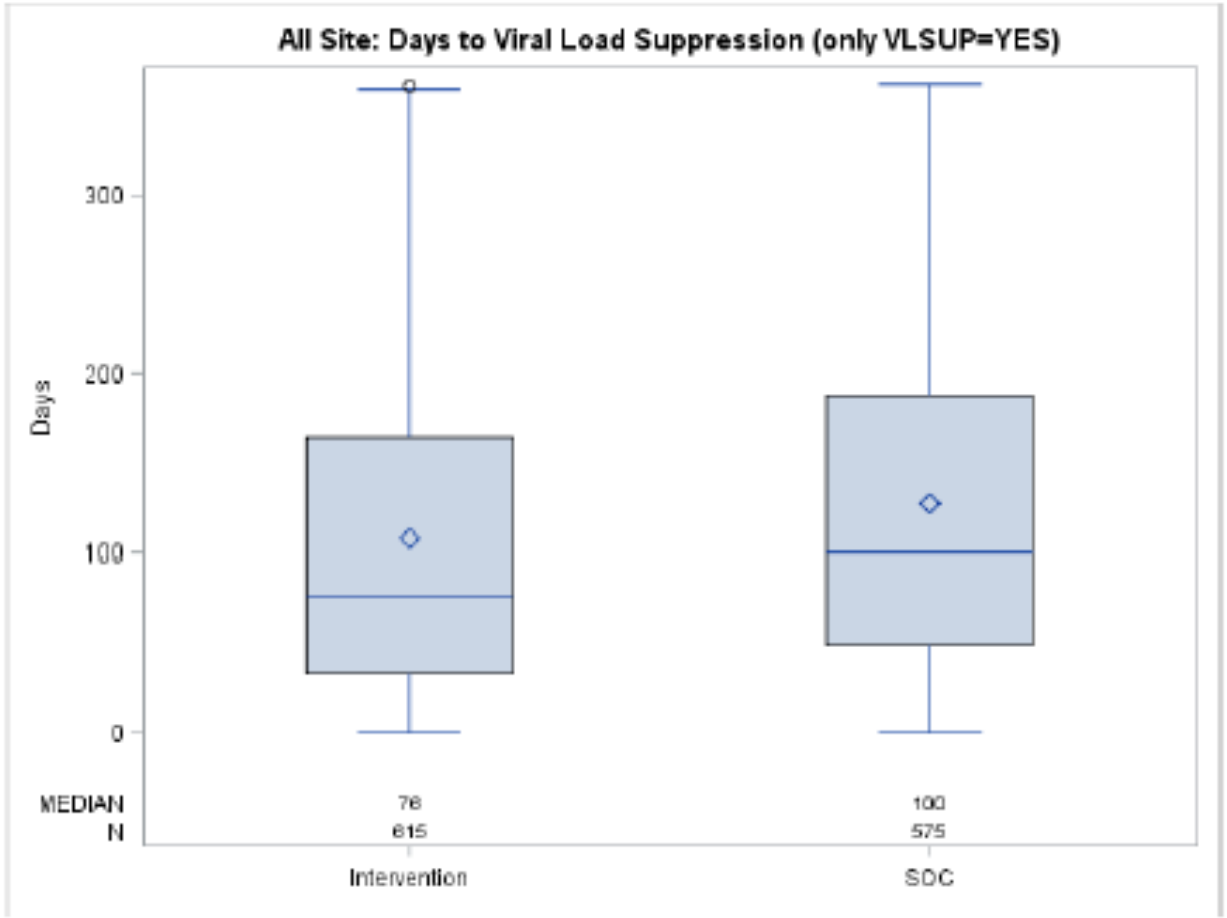
*Philadelphia: retention at 12 months statistically significant

Multi-Site: Time to Re-Engagement in Care at 90 Days



Multi-Site: Time to VL Suppression (<200 copies/ml)*

1A: All Sites: Days to Viral Load Suppression



Wilcoxon Two-Sample Test

p=0.0006

*Only Philadelphia statistically significant

Conclusions

- A D2C process involving joint data sharing and evaluation between HIV clinics and DPH successfully identified PWH who were recently OOC and eligible for DIS intervention
- D2C process refined the HIV care continuum to better quantify OOC persons
- DIS were successful in re-engaging OOC PWH at 90 days, but not in longer term outcomes such as retention in care at 12 months and VS at 12 and 18 months
  - SOC group did "catch up" with time
- Re-engagement in care at 90 days by any means (DIS or SOC) was associated with increased likelihood of retention at 12 months
- There remain gaps in CoC (not everyone re-engages in care or are retained so we need additional interventions)

Additional Lessons Learned

- Data clean-up resource intensive→need for efficient data infrastructure
- Important role of case conference for determining truly OOC
  - Need to formalize this methodology including standardize definition of who is eligible for DIS→*Philadelphia outperformed all sites
  - Allows for whittling down of OOC cases (less feasible with surveillance-only strategies)
  - Modifies the estimates of out-of-care and can inform DIS case load
- Optimizing timeframe for OOC:
  - Longer time frames have fewer cases but they are harder to find
  - Shorter time frames more cases to sort through but higher success in finding
    - Potentially greater impact for preserving immunologic and virologic parameters
    - Prevent transmissions
- Role of DIS=training important; additional resource for clinics
  - How to optimize communication with clinics
- Incorporate field outcomes into surveillance database

Additional Lessons Learned

- Designing and sustaining a D2C program can be challenging as need committed leadership to build and adapt infrastructure
- Optimizing the partnership between clinics and Health Department can be the subject of further research
- Academic partners can provide research expertise

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