CrescentCare Start Initiative: An Intervention to End the Epidemic

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I have no financial disclosures.
Objectives

• Brief rationale for immediate initiation of HIV antiretroviral therapy
• Describe CrescentCare’s procedure to provide this service
• Review data from immediate start intervention at CrescentCare
Where is HIV now?

HIV has always been about what you do; **today it is also about where you live.**

92% of new U.S. HIV diagnoses occur in **25% of counties.**

...these three cities have the **highest new HIV diagnoses rates** in America.
In 2017, HIVMA endorsed the *U=U Consensus Statement*, saying definitively that when a person living with HIV has an undetectable viral load, they will not transmit HIV.

**The science is clear.**

- **HPTN 052**
- **PARTNER**
- **Opposites Attract**
- **PARTNER 2**

Combined data from 2008-2016 show that there were ZERO linked HIV transmissions after more than a hundred thousand condom-less sex acts within both heterosexual and male-male serodiscordant couples where the partner living with HIV had a durably undetectable viral load.

**But the need remains great.**

- Only **11%** of young adults 18-30 believe that ART is “very effective” in preventing HIV.
- Only **50%** of people living with HIV are engaged in care and virally suppressed.

“The body of scientific evidence to-date has established that there is effectively no risk of sexual transmission of HIV when the partner living with HIV has a durably undetectable viral load, validating the *U=U* message of HIV treatment as prevention.”

*Anthony S. Fauci, MD*

*July 2018*
A person living with HIV who has an undetectable viral load does not transmit the virus to their partners.

New HIV Diagnoses in San Francisco

No change since 2012 in the proportion of PLWH virally suppressed at 65%

2004: Routine HIV Testing
2007: HIV RNA Testing
2010: ART At Dx
2013: PrEP

PrEP Users (est.): 400, 4,700, 12,500
Viral Suppression: 65%, 65%, 67%

Adapted from SF DPH, HIV Epidemiology Annual Report, Published September 2017.
CrescentCare Start Initiative (CCSI): Patients newly diagnosed are seen by a provider within 72 hours (optimally same-day) and provided 30 days of ART.

Early Intervention Services (EIS): Patients contacted our clinic over 72 hours following diagnosis, linked and started on same-day ART. Range of diagnosis: 4 days – 25 years
What Is CrescentCare?

- Started as an ASO in 1984.
- FQHC in 2016
- Primary care for adults, adolescents, and children
- Specialty care for people living with HIV
- Free HIV and STI testing through our sexual wellness clinic
- Community-wide/venue based HIV/STI Testing
- States largest needle exchange
- PrEP clinic — Please see poster by Butler et al.
- Transgender clinic
- Psychiatric services
- Addiction Medicine
- Case management, behavioral health, peer support, insurance enrollment assistance
- Dental clinic
Total numbers

• Project started: 12/1/2016
• First CCSI Patient Seen: 12/6/2016
• Expanded to EIS: 12/21/2016

Total numbers: 346
• 212 CCSI
• 134 EIS
CCSI/EIS Data Review

- Inclusion Criteria: clients enrolled into CCSI or EIS program from December 2016 through March 1, 2018.
- Lab values/Visits were then followed through September 2018 to develop a Continuum of Care.

Total included for data review = **199**
- **130** CCSI
- **69** EIS
Data Review Presented Today

• 4 CCSI Patients referred but not linked and lost to follow up.

• All CCSI patients were started on ART on day of linkage

• 1 EIS patient was referred from the hospital but never linked — (She Passed away before ever linking)

• 1 EIS patients refused ART on day of diagnosis
Age & Gender

- Median Age (CCSI) = 29 (1/3rd under 25)
- Median Age (EIS) = 29 (1/3rd under 25)

**CCSI**
- Male: 74.80%
- Female: 21.10%
- Transgender: 4.10%

**EIS**
- Male: 84.10%
- Female: 10.23%
- Transgender: 5.68%
# Demographics

## Race

<table>
<thead>
<tr>
<th>Category</th>
<th>Race</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSI</td>
<td>Black/AA</td>
<td>64.8%</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>Latinx/Other</td>
<td>11.2%</td>
</tr>
<tr>
<td>EIS</td>
<td>Black/AA</td>
<td>70.6%</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>20.6%</td>
</tr>
<tr>
<td></td>
<td>Latinx/Other</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

## HIV Risk Factor

<table>
<thead>
<tr>
<th>Category</th>
<th>Risk Factor</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSI</td>
<td>Heterosexual Activity</td>
<td>38.1%</td>
</tr>
<tr>
<td></td>
<td>MSM</td>
<td>57.9%</td>
</tr>
<tr>
<td></td>
<td>PWID</td>
<td>4.0%</td>
</tr>
<tr>
<td>EIS</td>
<td>Heterosexual Activity</td>
<td>31.9%</td>
</tr>
<tr>
<td></td>
<td>MSM</td>
<td>60.9%</td>
</tr>
<tr>
<td></td>
<td>PWID</td>
<td>7.2%</td>
</tr>
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## STIs with diagnosis

<table>
<thead>
<tr>
<th>Category</th>
<th>Dx</th>
<th>%</th>
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<tbody>
<tr>
<td>CCSI</td>
<td>Syphilis</td>
<td>23.81%</td>
</tr>
<tr>
<td></td>
<td>Gonorrhea or Chlamydia</td>
<td>26.03%</td>
</tr>
<tr>
<td></td>
<td>Hepatitis B or C</td>
<td>4.76%</td>
</tr>
<tr>
<td>EIS</td>
<td>Syphilis</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>Gonorrhea or Chlamydia</td>
<td>24.1%</td>
</tr>
<tr>
<td></td>
<td>Hepatitis B or C</td>
<td>9.1%</td>
</tr>
</tbody>
</table>
## Poverty Level, Insurance, Mental Health Diagnosis

### Federal Poverty Level

<table>
<thead>
<tr>
<th>Category</th>
<th>FPL</th>
<th>FPL %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSI</td>
<td>Under 100%</td>
<td>39.71%</td>
</tr>
<tr>
<td>EIS</td>
<td>Under 100%</td>
<td>36.62%</td>
</tr>
</tbody>
</table>

### Insurance at Baseline

<table>
<thead>
<tr>
<th></th>
<th>Insured</th>
<th>Uninsured</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSI</td>
<td>48%</td>
<td>52%</td>
</tr>
<tr>
<td>EIS</td>
<td>44%</td>
<td>56%</td>
</tr>
</tbody>
</table>

### Mental Health Diagnosis by ICD 10 Code

<table>
<thead>
<tr>
<th></th>
<th>Diagnosis by ICD 10</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSI</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>EIS</td>
<td>Insured</td>
<td>33.3%</td>
</tr>
</tbody>
</table>
Linkage time for CCSI (Hours from Knowledge of Diagnosis to Appointment with a Provider)

- Under 12 hours: 47%
- 24 hours: 29%
- 48 hours: 14%
- 72 hours: 11%
Baseline Data

• **Baseline CD4**

<table>
<thead>
<tr>
<th>Category</th>
<th>CD4 Median</th>
<th>CD4% Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSI</td>
<td>444 cells/mm³</td>
<td>25.7%</td>
</tr>
<tr>
<td>EIS</td>
<td>271 cells/mm³</td>
<td>18%</td>
</tr>
</tbody>
</table>

• **Baseline Viral Load**

<table>
<thead>
<tr>
<th>Category</th>
<th>Viral Load Median (copies/ml)</th>
</tr>
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<tbody>
<tr>
<td>CCSI</td>
<td>42,600</td>
</tr>
<tr>
<td>EIS</td>
<td>70,150</td>
</tr>
</tbody>
</table>
Achieved Viral Suppression

**CCSI Viral Suppression**
- Suppressed 99%
- Non-Suppressed 1%
- 125/126 Patients achieved Viral suppression

**EIS Viral Suppression**
- Suppressed 94%
- Non-Suppressed 6%
- 65/69 patients achieved viral suppression
## Results

1. Time from Diagnosis to First Viral Load Suppression: CCSI
2. Time from Linkage to Care to First Viral Load Suppression: EIS

<table>
<thead>
<tr>
<th>Category</th>
<th>Median (days)</th>
<th>Mean (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCSI ¹</td>
<td>28</td>
<td>40.4</td>
</tr>
<tr>
<td>EIS ²</td>
<td>27</td>
<td>51.28</td>
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¹ CCSI: Category 1
² EIS: Category 2
Transmitted Resistance

CCSI:

• All but two patients received TAF/FTC + DTG
• 118/126 genotypes were performed and reviewed.
• 22/118 (19%) with transmitted resistance
• 18 with NNRTI resistance
• 3/22 with M184V/I with two previously on PrEP
• 4/22 with multiple PI mutations including L90M
• All patients with transmitted resistance achieved viral suppression.
• No ART changes due to renal/hepatic toxicity

EIS:

• All but three patients received TAF/FTC + DTG
• 63/69 genotypes were performed
• 6/63 (9.5%) with transmitted resistance.
• 5 with NNRTI mutations
• 2/6 with M184V/I - no previous PrEP exposure
• All patients with transmitted resistance achieved viral suppression
• No ART changes due to renal/hepatic toxicity
Retention in care: Defined as 2 visits separated by 3 months in past 12 months
Viral Suppression: Less than 200 copies/ml and HIV rna in past six months

Controlling for the 6 patients who transferred care out of state, our retention-in-care for EIS patients would be 87% and viral suppression 84%.

<table>
<thead>
<tr>
<th>Year</th>
<th>Diagnoses</th>
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<tbody>
<tr>
<td>2013</td>
<td>523</td>
</tr>
<tr>
<td>2014</td>
<td>459</td>
</tr>
<tr>
<td>2015</td>
<td>433</td>
</tr>
<tr>
<td>2016</td>
<td>422</td>
</tr>
<tr>
<td>2017</td>
<td>354</td>
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Concluding Comments

What We Know

• Both cohorts demonstrate that starting patients on the day of diagnosis or linkage, before labs are obtained, is a safe and well-tolerated.

• Rapid entry/initiation improves
  – Time to viral suppression (nationally/internationally)
  – Viral suppression at 12 months (my continuum)
  – Retention in care at 10–12 months (my continuum)
  – Survival at 12 months (international studies)

• Rapid entry/initiation is feasible in a variety of settings
But...What We Still Need to Learn

• Which populations will benefit most from this approach?
  – Ambulatory or hospitalized or both?
  – Difficult-to-retain populations?
  – Late-stage vs early-stage disease?

• What is the effect on transmission within communities?

• What are the long-term benefits that rapid approaches bring to the HIV care continuum?
  – Longitudinal retention and viral suppression beyond 12 months?

• What are the best implementation approaches?
  – Global vs domestic?
  – Ryan White vs FQHC vs Academic vs Private?
Conclusions:

• Our test-and-start strategy at a non-academic federally-funded health center in a high prevalence city has been successful in achieving rapid virologic suppression in almost all clients during the study period.

• This data demonstrate benefits of Rapid ART extend beyond increased rates of ART uptake and sooner viral suppression to increased rates of retention-in-care and sustained viral suppression.

• There are differences though in engagement between newly diagnosed patients (viral suppression 90%) and those who deferred immediate linkage (viral suppression 77%) P - 0.0071.

• Immediate ART leading to rapid viral suppression will be a key component of ending the HIV epidemic.
Thanks

- Our Patients
- Fran Lawless
- New Orleans Regional Planning Council
- Katie Conner
- Pam Holm
- Nicholas Van Sickels
- Isolde Butler
- Jade Zeng
- CrescentCare Staff