Optimizing the Care Continuum for People with HIV and Opioid Use Disorder

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* Only 10 countries have met this target, none in regions with high proportion of PWID

UNAIDS 2020
Uneven Distribution of HIV Infections in PWID (2019)

HIV Incidence & Mortality are Increasing
Treatment Cascades in Ukraine

HIV and Opioid Use Disorder

**HIV (N=240,000)**

- HIV+ Registered (Diagnosed): 56%
- On ART: 36%
- Virally Suppressed: 27%

**WHO Recommends**
- 90% diagnosed
- 81% on ART
- 73% virally suppressed

**PWID (N=336,000)**

- PWID Registered (Diagnosed): 17.5%
- On OST: 4.3%
- Abinent: 3.1%

**WHO Recommends**
- 40% coverage to stop HIV
- 20% coverage to ↓ HIV
- 90% diagnosed
- 81% on ART
- 73% virally suppressed

25%

Yale SCHOOL OF MEDICINE
Opioid Agonist Therapies (OAT): Methadone and Buprenorphine

- 22 RCTs and multiple systematic reviews

**Efficacy for addiction treatment**
- Reduce opioid use and Rx retention (72% vs 9%)
- Reduces injection (90% vs 11%)
- Reduces overdose, death and crime
- Increases engagement in care, employment, HRQoL, and social functioning
- Very cost-effective

**Efficacy for HIV prevention**
- Reduces HIV transmission risk (54%)
- For PWH – it improves each step of the HIV care continuum
Treatment Pathways for Opioid Use Disorder: Disconnect Between Service Delivery and Benefits

**TYPE OF TREATMENT**

- OAT 12%
- XR-NTX 2%
- Inpatient detox or residential svs 15%
- Intensive behavioral counseling 5%
- Non-intensive counseling 58%
- None 8%

**OVERDOSE OR SERIOUS HOSPITALIZATION**

- **Overdose**
  - All other forms: NONE
  - OAT at 3 months: 76% ↓
  - OAT at 12 months: 59% ↓

- **Serious Hospitalization**
  - All other forms: NONE
  - OAT at 3 months: 32% ↓
  - OAT at 12 months: 26% ↓

- Longer duration on OAT was associated with even lower reductions!

N=40,855 people with OUD

*Wakeman SE, JAMA, 2020*
Diagnosis

Engagement in Care

Viral Suppression
Intervention Touchpoints for PWID: HIV Testing

- Death
- Hospital
- Emergency Dept
- Emergency Response
- Primary Care Settings
- Drug Treatment Programs
- CJS: Prisons, Jails, & Police
- Outreach/Harm Reduction

Overdose education and Naloxone Distribution
Medications for OUD
Linkage to and Retention in Care

• ARTAS (Strengths-based Case Management)
  – Evidence-based linkage to HIV Care in newly diagnosed patients
  – Was less effective for key constituencies like those with substance use disorders, mental illness and those who are out-of-care

• Patient Navigation
  – Systematic review, with 17 or 20 finding a benefit mostly for those who were either out-of-care or deemed at high risk for being out-of-care
  – None focused on those with OUD
  – Quality of studies – weak

• Rapid Start Treatment (Seek & Treat)
  – Several clinical trials and effectiveness studies
  – None involve those with OUD

Comparison of Patient Navigation +/- Financial Incentives

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Navigation</th>
<th>Navigation + $$$</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Success</td>
<td>35.7</td>
<td>38.6</td>
<td>34.1</td>
</tr>
<tr>
<td>VS</td>
<td>41</td>
<td>43.6</td>
<td>38.6</td>
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<tr>
<td>Death</td>
<td>12.9</td>
<td>11.4</td>
<td>11.7</td>
</tr>
<tr>
<td>HIV Specialist</td>
<td>66.4</td>
<td>74.8</td>
<td>70.4</td>
</tr>
<tr>
<td>Got ART</td>
<td>73.8</td>
<td>79.5</td>
<td>67.3</td>
</tr>
<tr>
<td>ART Adherence</td>
<td>79.9</td>
<td>81.3</td>
<td>83.1</td>
</tr>
<tr>
<td>MOUD</td>
<td>10.7</td>
<td>7.1</td>
<td>7.4</td>
</tr>
</tbody>
</table>

20% Prof Tx
10% Res Tx
11% Outpt Tx
22% NA/AA

Metsch LR, JAMA, 2016
Impact of Treatment of Opioid Agonist Therapies on the HIV Treatment Cascade (Meta-Analysis)

HIV Treatment Cascade in PWID in Ukraine

HIV+ 100 100
Diagnosed 91 70
Linked to Care 81
Retained in Care 69
On ART 56 56
Optimal Adherence 41 22

On OAT (N=184)  
No OAT (N=336)  

Mazhnaya A, JAIDS, 2018
Attitudes Toward Key Populations by HIV Physicians in Ukraine (N=204)

P < 0.0001 for general vs MSM and PWID
P < 0.00001 for PWH vs MSM and PWID
P < 0.001 for MSM vs PWID

PWH = person with HIV; MSM = men who have sex with men; PWID = person who injects drugs

Ottesen T et al, under review
Decisions to Withhold ART for Key Populations in Ukraine (N=204)

**NOTE:** AIDS defining diagnosis was defined as CD4+ count of <200 while non-AIDS defining diagnosis were defined as CD4+ count of >200
Number of Additional Clinic Visits Required Before Willing to Start ART in Ukraine

Test and Treat

Ottesen T et al, under review
Integrated Care: Quality Health Indicators in Ukraine (N=296)*

* Included quality of addiction HIV and TB outcomes
Patients with HIV and on OAT: Impact of Integrated Care on ART Prescription and Viral Suppression

- **On ART (N=3,221)**
  - Integrated Care: 84%
  - OAT Only: 73%

- **Viral Suppression (N=2,276)**
  - Integrated Care: 79%
  - OAT Only: 59%

Meteliuk A, DAD, 2020
Prospective Trial of Integrating MOUD into Primary Care Clinics in Ukraine: Early Results

- Cluster RCT of integrating methadone into primary care
  - Control (methadone sites)
  - Methadone provided in primary care
  - Methadone provided in primary care with P4P
- Project ECHO provided to PC clinicians to guide specialty care for addiction, HIV and TB (and HCV)
Release from Prison for PWH

- High prevalence of OUD in PWH transitioning from prison
- Studies generally suggest:
  - Poor linkage to HIV care (21% within 14 days), with decreasing levels of viral suppression over time\(^1\)
  - Retention in care over 3 years after release markedly decreases and is higher for recidivists relative to first time incarceration\(^2\)
  - Mortality is 8-fold higher for prisoners with HIV, relative to non-incarcerated PWH, with HIV contributing most to mortality (liver disease, overdose, accident)

Modeling OAT Scale-up and Death in PWID

- HIV prevalence (%)
  - Kentucky: 0
  - Kiev: 26
  - Tehran: 15

- HCV prevalence (%)
  - Kentucky: 26
  - Kiev: 54
  - Tehran: 60

- Overdose CMR (/1000py)
  - Kentucky: 2
  - Kiev: 9
  - Tehran: N/A

- % HIV +ve PWID on ART
  - Kentucky: 25
  - Kiev: 11
  - Tehran: 11

- OAT coverage (%)
  - Kentucky: 5
  - Kiev: 5
  - Tehran: 11

- Mean OAT duration (Months)
  - Kentucky: 4
  - Kiev: 14
  - Tehran: 7

- OAT coverage in prisons (%)
  - Kentucky: N
  - Kiev: N
  - Tehran: 40

- % PWID ever incarcerated
  - Kentucky: 54
  - Kiev: 86
  - Tehran: 72

Degenhardt L et al, Lancet 2019
Modeling OAT Scale-Up and Death

Status Quo: OAT coverage 5% (KY, Kiev) and 11% (Tehran)
Scenario A: 40% OAT in community
Scenario B: plus OAT retention increased to 2 years
Scenario C: plus 40% OAT in prison

Degenhardt L et al, Lancet 2019
Long-Acting Treatments – the future?

Potential for Synergy

• HIV
  – Cabotegravir
  – Rilpivirine

• Addiction (OUD)
  – XR-BPN
  – XR-NTX
  – Implantable NTX
  – Probuphine

Patient Preferences
Retention Strategies
### Intertwined Epidemics – COVID, Opioids, HIV

**Turning Crisis into Opportunity**

#### Pre COVID-19 (Annualized)

<table>
<thead>
<tr>
<th>Dose</th>
<th>Contacts</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Days</td>
<td>2,889,395</td>
<td>240,783</td>
</tr>
<tr>
<td>7 Days</td>
<td>2,376,220</td>
<td>198,018</td>
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<tr>
<td>10 Days</td>
<td>2,260,756</td>
<td>188,396</td>
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#### COVID-19 (Annualized)

<table>
<thead>
<tr>
<th>Dose</th>
<th>Contacts</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Days</td>
<td>2,160,743</td>
<td>180,062</td>
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<tr>
<td>7 Days</td>
<td>1,412,268</td>
<td>117,689</td>
</tr>
<tr>
<td>10 Days</td>
<td>1,243,861</td>
<td>103,655</td>
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</tbody>
</table>

#### Difference (Annualized)

<table>
<thead>
<tr>
<th>Dose</th>
<th>Contacts</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Days</td>
<td>728,652</td>
<td>60,721</td>
</tr>
<tr>
<td>7 Days</td>
<td>963,952</td>
<td>80,329</td>
</tr>
<tr>
<td>10 Days</td>
<td>1,016,895</td>
<td>84,741</td>
</tr>
</tbody>
</table>

**Mortality:**

- 2019 (4.3%) --- Pre-COVID (5.0%) --- COVID (4.2%)

*Meteliuk A et al, JSAT, in press*
Summary: A Prescription for the Future

• HIV testing should be linked and routinely implemented in multiple touchpoints – e.g., harm reduction, health and addiction treatment settings, criminal justice system
• Great need to adapt rapid start ART treatment strategies – as a means to overcome clinician bias
  – Consider rapid start ART + MOUD!
  – Learn lessons from COVID-19 that reduces DEMANDS on patients and providers
• Integrate services where possible – integration, however, is highly variable
• Need for interventions that address multiple layers of stigma (HIV, OUD and MOUD, and incarceration)