Treatment as Prevention:

An Intervention to Re-engage and Treat HIV-infected Individuals with Detectable Viral Loads

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RMATRIX-II Collaboration Pilot Projects Program
NIMHD 5U54MD007584-07
Care Continuum

HIV CARE CONTINUUM:

The series of steps a person with HIV takes from initial diagnosis through their successful treatment with HIV medication:

- Diagnosed with HIV
- Linked to care
- Engaged or retained in care
- Prescribed antiretroviral therapy
- Achieved viral suppression

Source: HIV.gov
Care Continuum

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THE SERIES OF STEPS A PERSON WITH HIV TAKES FROM INITIAL DIAGNOSIS THROUGH THEIR SUCCESSFUL TREATMENT WITH HIV MEDICATION

DIAGNOSED WITH HIV

ENGAGED OR RETAINED IN CARE

LINKED TO CARE

PRESCRIBED ANTIRETROVIRAL THERAPY

ACHIEVED VIRAL SUPPRESSION

Source: HIV.gov
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Source: HIV.gov

Those With Undetectable HIV at 'Effectively No Risk' of Transmitting Virus, CDC Says
by Brooke Sopelaa / Sep. 28, 2017 / 9:17 AM ET
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Treatment as Prevention (TasP)
Linkage to HIV Care
Overall linkage to HIV care has increased from 2010 to 2014. Missing the NHAS target in 2015 highlights need for improvements STAT.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>2010</td>
<td>70.2%</td>
</tr>
<tr>
<td>2011</td>
<td>70.4%</td>
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<tr>
<td>2012</td>
<td>71.4%</td>
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<tr>
<td>2013</td>
<td>72.6%</td>
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<tr>
<td>2014</td>
<td>74.5%</td>
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<td>2015</td>
<td>75.0%</td>
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Source: CDC Monitoring Report, 2017
Figure 3. Linkage to HIV medical care after HIV diagnosis among persons aged ≥13 years old, 2010-2015, Hawaii

- within 1 month
- within 3 months

Percentage linked to care:

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<tr>
<td>2010</td>
<td>71.2 (n=104)</td>
<td>83.7 (n=104)</td>
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<tr>
<td>2011</td>
<td>76.5 (n=81)</td>
<td>86.4 (n=81)</td>
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<tr>
<td>2012</td>
<td>69.3 (n=88)</td>
<td>85.2 (n=88)</td>
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<tr>
<td>2013</td>
<td>70.6 (n=102)</td>
<td>82.4 (n=102)</td>
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<td>2014</td>
<td>77.6 (n=98)</td>
<td>90.8 (n=98)</td>
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The HIV Care Continuum Among Persons With Diagnosed HIV Infection, 2015, Hawai'i

- **Diagnoses and Alive (PLWH)**: 100%
- **Linkage to Medical Care within 1 month**: 86.3% of diagnoses in 2015
- **Receipt of Medical Care**: 79.3% of PLWH
- **Retained in Medical Care**: 51.2% of PLWH
- **Viral Suppression**: 69.4% of PLWH

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a Denominator is newly Hawaii Diagnoses in 2015 (124 persons)
b Denominators are persons diagnosed by the end of 2014 and living in Hawai’i in the end of 2015 (2,381 persons).
The HIV Care Continuum Among Persons With Diagnosed HIV Infection, 2015, Hawai‘i

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**Diagnoses and Alive (PLWH)**

**Linkage to Medical Care within 1 month**

**Receipt of Medical Care**

**Retained in Medical Care**

**Viral Suppression**

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**Notes:**

- Denominator is newly Hawaii Diagnoses in 2015 (124 persons)
- Denominators are persons diagnosed by the end of 2014 and living in Hawai‘i in the end of 2015 (2,381 persons).
There is a great need to reengage individuals who have been linked to care but not retained care.
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- Based on a systematic review of the literature between 1996-2014, not a single study on an intervention specifically designed to re-engage individuals into HIV care was identified.

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...the most glaring research gap is the lack of best practices focused on re-engagement in care. While efforts must be improved to link and retain PLWH care, developing and testing strategies to locate PLWH lost to care and retaining them once they are located needs to be prioritized.
So where do they go?

- Linkage
- ?
- Retention
- ?
- Suppression
So where do they go?

- Drug use
- Mental illness
- Financial instability

- Housing instability
- Transportation difficulties
- Knowledge gaps

- Stigma
- Competing life priorities
- Lack of self-efficacy

Linkage  ➔  Retention  ➔  Suppression
So where do they go?

The individual deficit model

- Drug use
- Mental illness
- Financial instability

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- Competing life priorities
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So where do they go?

Social Determinants of Health

- Economic inequality
- Education inequality
- Lack of representation
- Discrimination
- Marginalization
- Culture X Treatment mismatch

- Drug use
- Mental illness
- Financial instability
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- Competing life priorities
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Linkage → Retention → Suppression
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Re-engage

Source: HIV.gov
Intervention: Statement of Need

- There are a minimum of 25 individuals living on Oahu with detectable viral loads.

- There is very limited research on methods of reengaging individuals after falling out of HIV care or treatment.

- Research priorities include:
  1. Identifying individuals who have fallen out of care or treatment.
  2. Identify reasons why they have fallen out of care or treatment.
  3. Introduce an intervention that aims to reengage individuals who have fallen out of care or treatment.
Study Specific Aims: Treatment as Prevention

1. To identify individuals most in need and not currently engaged in HIV treatment

2. To characterize barriers to HIV treatment

3. To examine and evaluate the effectiveness of an innovative intervention promoting HIV treatment adherence.

Public Health Impact: Improve the health and well-being of people living with HIV and prevent new incidents of HIV.
Collaborative Intervention

- Community Partner: Community Health Outreach Work to Prevent HIV/AIDS Project (CHOW Project)

- Biomedical: John A. Burns School of Medicine (JABSOM), Hawaii Center For AIDS and Clint Spencer Clinic

- Social Sciences: University of Hawaii at Mānoa, Department of Psychology

- RMATRIX: Clinical Research Resources & Facilities (CRRF) Core
Procedures

- Identify at least 50 individuals who
  - Have history of non-compliance with care or treatment, or
  - Currently face substantial barriers to care or treatment (i.e., at risk for non-compliance with care or treatment).

- Hiring of a specially trained case manager to address the support needs for individuals with a history of non-compliance to care or treatment.

- Individuals will be prioritized into an intensive case management program, with a maximum of 25 individuals. [Currently 20 are receiving services]

- An additional 25 waitlist individuals will be assessed but not receive intensive case management services.
Intensive Case Management

- Many of the individuals who have fallen out of care have previously or currently received traditional case management services.

- But the client traditional CM ratios can be quite high (>100:1).

- Intensive case management (no more than 25:1) permits the use of person-centered approaches.

- This is paired with the linking of a collaborative team.
Adapt and Deliver

Intensive Case Management ➔ Person-Centered Care

- Treatment and research team members meet regularly to discuss observations and findings from assessments to identify treatment needs to be addressed by the case manager or clinic team.

- All barriers and intervention elements will be documented to shape the development of an intensive case management protocol to reengage people living with HIV.
Person-centered care does not create social change... …but it does can enable everyone to reach the apple.
Measures

- Conduct chart reviews for treatment and comparison group participants, including:
  - All lab results and comorbid chronic conditions over the past two years;
  - Frequency and adherence to scheduled appointments
Measures

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  - Frequency and adherence to scheduled appointments

- Acuity assessments conducted by case managers to identify treatment needs, assess progress, and demonstrate the program’s impact. Domains assessed every 2 months include:
  - HIV care adherence
  - HIV health status
  - Non-HIV related medical issues
  - HIV medication adherence
  - Current substance use
  - Current housing status
  - Current legal status
  - Support systems and relationships
  - Current income and finance status
  - Current transportation/mobility status
  - Current nutritional status

Scores range from 0-42, representing self-management (0) to intensive need (42)
Measures

- Quantitative and qualitative interviews with all participants every 2 months conducted by the research team include:

  Quantitative measures include:
  - Social Support
  - Self-efficacy
  - Satisfaction with life
  - Perceived stress
  - Access to healthcare
  - Health-related quality of life
  - Community support
  - Service needs
  - Engagement in emergency mental or physical health services
  - Engagement in legal
  - Engagement in care
  - Lab results

- Qualitative interviews focus on the identification of unknown barriers and potential solutions
Current Progress
Current Status

- 20 individuals have begun receiving client-centered, intensive case management services

- 11 face to face interviews with program participants – including quantitative and qualitative data

- Initiated data collection for:
  - Chart reviews
  - Program administrative data (dosage)
  - Participant acuity assessments
Participants

- The vast majority of currently enrolled participants represent historically marginalized communities.
  
  - Native Hawaiian is the most commonly cited ethnicity
  - The vast majority report less than a high school diploma
  - The vast majority receive income of less than $20,000 a year
  
- The vast majority report fair to poor health
Many have Comorbidities

<table>
<thead>
<tr>
<th>Depression</th>
<th>Anorexia</th>
<th>Leukemia</th>
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<tbody>
<tr>
<td>Renal Insufficiency</td>
<td>Kidney Disease</td>
<td>CMV Colitis</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>Coronary Artery Disease</td>
<td>Hypothyroidism</td>
</tr>
<tr>
<td>Cervical Intraepithelial Neoplasia</td>
<td>Chronic Dermatitis</td>
<td>Hepatitis B / C</td>
</tr>
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Current Status

 Majority have Intensive Need

- Detectable Viral Load and CD4 < 200
- Missed 2+ consecutive HIV medical appointments in last 6 months
- 2+ non-HIV related illnesses that impact adherence
- Misses HIV medication doses daily / Experience adverse side effects
- Need for mental health support, assessment, and treatment – and does not receive it
- Client’s behaviors negatively impact interactions with providers or other social support
- Current or recent drug/alcohol use or dependence that interferes with HIV medication adherence
Current Status

- Initial Interviews

  - Majority of participants are unemployed, receive food stamps and other welfare assistance and are housed in independent apartments through social service supports (e.g., Gregory House)

  - All participants interviewed have some form of medical insurance (e.g., Ohana, AlohaCare, Medicare, etc.)

    - No participant identified money as a deterrent to seeking care/treatment
Current Status

- Majority (71%) of participants are missing HIV-related clinic appointments due largely to issues with transportation
  - Most require commutes of 30 minutes or greater – with difficulty attaining reliable transportation

- Missing appointments was one of the more highly endorsed reason for missing medication dosages
  - Simply forgetting to take the medication or refusing to take the medication due to side effects were also commonly endorsed
Ongoing Collaboration and Program Development

Support from RMATRIX-II Cores

Spencer Clinic

Case Management Services

Assessment, Implementation and Outcome Research Findings
Summary

With close attention to person-centered barriers and responsive care, the TasP intensive case management program may prove to be an effective and efficient means to re-engage people living with HIV who have fallen out of care or need additional support.
Thank you!

Devin Bamey
Scott Kilousky
Maya Bamey, RN
Nancy Hanks, RN
Questions?

Jack Barile
University of Hawai‘i at Mānoa
barile@Hawaii.edu
Current Status

- Lab Data Averages (since Jan. 2016)
  - Viral Load per Person: Undetectable (n=1) – 182,000
  - CD4 per Person: 50.4 – 623.5
  - Lab Visits Range from 2 – 9
  - Medications

<table>
<thead>
<tr>
<th>Tivicay</th>
<th>Complera</th>
<th>Triumeq</th>
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<tbody>
<tr>
<td>Prezobix</td>
<td>Ziagen</td>
<td>Prezista</td>
</tr>
<tr>
<td>Zofran</td>
<td>Mycobutin</td>
<td>Viread</td>
</tr>
<tr>
<td>Lipitor</td>
<td>Toprol XL</td>
<td>Norvasc</td>
</tr>
<tr>
<td>Abilify</td>
<td>Desyrel</td>
<td>Elavil</td>
</tr>
<tr>
<td>Celexa</td>
<td>Sprycel</td>
<td>Lactulose</td>
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Client Enters TasP Services

- Reduction in Stress
- Increased Self-efficacy

Decrease in Adverse Experiences
- Decreases in Substance Use
- Reduction in Symptoms of Mental Illness

Increase in Community Support

Increased Ability to Obtain Services

Improved Health-Related Quality of Life
- Reduction in Emergency Room Use
- Reduction in Inpatient Stays
- Reduction in Arrests and Incarceration

Increased Satisfaction with Life

This study will:
• Identify individuals most in need of treatment
• Identification of barriers to care
• Address barriers to care
• Improve HIV treatment self-efficacy
• Enable individuals to receive consistent care and treatment for HIV
• Result in treatment stability and suppressed viral loads for participants
Moderators and Outcomes

Moderators
- Level of engagement

Outcome
- Level of acuity
- Health and well-being
- Lab results