Bridging the Gaps: The Use of Health Information Technology and Bridge Counseling to Improve Retention in Care in North Carolina

Jennifer Keller, MPH
Kristen Sullivan, PhD, MSW, MBA
Katherine Schafer, MD
Mary Beth Cox, MPH
Amy Heine, MSN, RN, FNP-BC
Jacquelyn Clymore, MS
Arlene Seña, MD, MPH
Aimee Wilkin, MD, MPH

1Wake Forest University School of Medicine, 2Duke University, 3Communicable Disease Branch, North Carolina Department of Health and Human Services, 4University of North Carolina-Chapel Hill
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Disclosures

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The Southern HIV Epidemic

PLWH have worse health outcomes and start ARV therapy later than other regions of the US.

In 2011, nearly 50% of HIV diagnoses were in the South, which accounts for only 37% of US population.

North Carolina:
8th highest HIV-related mortality in 2010
10th in the U.S. for estimated number of PLWH
8th for new HIV diagnoses in 2011

Kaiser Family Foundation. State health facts, HIV/AIDS.
NC Engagement of PLWH Mirrors National Engagement Data Trends

NC HIV Cascade, Population in Care
Diagnosed through 12/31 of Given Year and Living as of 12/31 of Following Year

Cases

<table>
<thead>
<tr>
<th>Cases diagnosed &amp; reported</th>
<th>At least 1 care visit</th>
<th>2 or more care visits 3 months apart</th>
<th>Virally Suppressed - Overall population (NHAS)</th>
<th>ADAP Clients</th>
<th>Virally Suppressed - ADAP Clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>26,777</td>
<td>10,222</td>
<td>7,017</td>
<td>6,892</td>
<td>77%</td>
</tr>
<tr>
<td>2009</td>
<td>27,922</td>
<td>11,314</td>
<td>7,503</td>
<td>7,496</td>
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</tr>
<tr>
<td>2010</td>
<td>28,960</td>
<td>12,830</td>
<td>8,887</td>
<td>8,827</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>30,252</td>
<td>14,220</td>
<td>9,639</td>
<td>10,127</td>
<td></td>
</tr>
<tr>
<td>2012*</td>
<td></td>
<td>15,068</td>
<td>10,013</td>
<td>11,028</td>
<td></td>
</tr>
</tbody>
</table>

DATA SOURCES: NCEDSS (data as of 4/1/2014), and ADAP (data as of 12/26/2013).
ADAP= AIDS Drug Assistance Program.
*2012 data are overestimates due to reporting delays for death information.
Comparison Assumptions:

NC Linked to Care Definition: At least 1 lab value (CD4 or Viral Load)

NC Retained in Care Definition: 2 or more lab values (CD4 or Viral Load) 90 days apart


NC DATA NOTE: Labs used as proxy for care visits. Limitation to lab data used in analysis. Mandatory reporting did not go into effect until June 2013 and still is not fully implemented.

DATA SOURCES: NCEDSS (data as of 4/1/2014), and ADAP (data as of 12/26/2013).
ADAP= AIDS Drug Assistance Program.
*2012 data are overestimates due to reporting delays for death information.
Regional HIV Care

- Ryan White funded university-based clinic in Winston-Salem, NC
- Provided medical care for approx. 2,000 HIV patients in 2013
- Onsite HIV medical care, laboratory, psychology, nutrition, dental, patient navigation, social work, transportation and medication assistance, and subcontracted community-based medical case management
Bridging the Gaps

- NC LINK: Four year HRSA SPNS Systems Linkage initiative
- Primary Goal: Increase the number of people living with HIV engaged in consistent care through the creation of a system of linkages between HIV testing and HIV care providers.
- At Wake Forest, a Bridge Counseling (BC) intervention was implemented in June 2012 through participation as a demonstration site for NC LINK
Bridge Counseling 101

- BC Definition: Outreach program composed of strategic activities to reengage out of care PLWH
- WF Out of care definition: No HIV medical visit ≥ 9 months

Bridge Counseling 101

• Clinic Patient Navigators and community-based medical case managers assigned additional role of “Regional Bridge Counselors” (RBC)

• BC Activities include:
  – EMR/CAREWare searches
  – Phone calls and letters
  – Internet searches
  – Contacting outside providers/pharmacies
Cycle Begins

Referral to RBC

Outreach Activities

RBC Outcome Documented

SBC Receives Referral and Outreaches

SBC Outcome Documented
SUMMARY OF RBC EFFORTS:

- 40% (193) Returned to Care
- 28% (136) Other definitive outcome (deceased/incarcerated/relocated)
- 31% (149) Referred to SBC for f/u
SUMMARY OF SBC EFFORTS:
- 41% (61) Returned to Care
- 28% (42) Other definitive outcome (deceased/incarcerated/relocated/refused care)
- 7% (11) Linkage in progress
- 24% (35) Still unknown
RBC+SBC=Successful partnership

- Through the combined efforts of the regional and state bridge counselors:
  - 53% (254) returned to care
  - 36% (175) found to be relocated/deceased/incarcerated
  - Only 7% (35) are still unable to be located
# Bridge Counseling Improved Retention Measures at Wake Forest

<table>
<thead>
<tr>
<th>Retention Measure</th>
<th>Baseline (Pre-Intervention) As of 4/30/12</th>
<th>Data As of 11/30/13</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>In+care measure 2: Medical Visit Frequency</td>
<td>57.06%</td>
<td>69.18%</td>
<td>p&lt;0.0001</td>
</tr>
<tr>
<td><em>(One visit every 6 months for a 24 month period)</em></td>
<td></td>
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</tr>
<tr>
<td>In+care measure 3: Medical Visits for Newly Enrolled Clients</td>
<td>51.28%</td>
<td>62.86%</td>
<td>ns</td>
</tr>
<tr>
<td><em>(1 visit every 4 months in the first 12 months of care)</em></td>
<td></td>
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<tr>
<td>In+care Measure 4: Viral Load Suppression</td>
<td>76.29%</td>
<td>77.97%</td>
<td>ns</td>
</tr>
<tr>
<td><em>(Last viral load in 12 month period &lt;200 c/mL)</em></td>
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</tbody>
</table>
## Demographic Profile:
General Clinic Population Patients Compared to the Bridge Counseling Population

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>General Clinic Population (N=1,945)</th>
<th>BC Population (N=438*)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race</strong></td>
<td></td>
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</tr>
<tr>
<td>African American</td>
<td>1217 62.6%</td>
<td>311 71.0%</td>
<td>p&lt;0.0009</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>125 6.4%</td>
<td>8 1.8%</td>
<td>p&lt;0.0001</td>
</tr>
<tr>
<td>White</td>
<td>557 28.6%</td>
<td>115 26.3%</td>
<td>ns</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1253 64.4%</td>
<td>284 64.8%</td>
<td>ns</td>
</tr>
<tr>
<td>Female</td>
<td>669 34.4%</td>
<td>149 34.0%</td>
<td>ns</td>
</tr>
<tr>
<td>Transgender</td>
<td>23 1.2%</td>
<td>5 1.1%</td>
<td>ns</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-24</td>
<td>123 6.3%</td>
<td>23 5.3%</td>
<td>ns</td>
</tr>
<tr>
<td>25-34</td>
<td>261 13.4%</td>
<td>96 21.9%</td>
<td>p&lt;0.0001</td>
</tr>
<tr>
<td>35-44</td>
<td>458 23.6%</td>
<td>109 24.9%</td>
<td>ns</td>
</tr>
<tr>
<td>45-54</td>
<td>689 35.4%</td>
<td>143 32.7%</td>
<td>ns</td>
</tr>
<tr>
<td>55+</td>
<td>414 21.3%</td>
<td>67 15.3%</td>
<td>p=0.0046</td>
</tr>
<tr>
<td><strong>Risk Factor</strong></td>
<td></td>
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<td></td>
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<tr>
<td>MSM</td>
<td>786 40.4%</td>
<td>183 41.8%</td>
<td>ns</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>910 46.8%</td>
<td>216 49.3%</td>
<td>ns</td>
</tr>
<tr>
<td><strong>Special Populations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young MSM (17-24)</td>
<td>47 2.4%</td>
<td>17 3.9%</td>
<td>ns</td>
</tr>
<tr>
<td>African American Men</td>
<td>726 37.3%</td>
<td>190 43.4%</td>
<td>p=0.0195</td>
</tr>
<tr>
<td>African American Women</td>
<td>491 25.2%</td>
<td>117 26.7%</td>
<td>ns</td>
</tr>
<tr>
<td>Women of Childbearing Age (17-39)</td>
<td>304 15.6%</td>
<td>82 18.7%</td>
<td>ns</td>
</tr>
<tr>
<td>Older Adults (55+)</td>
<td>414 21.3%</td>
<td>67 15.3%</td>
<td>p=0.0046</td>
</tr>
</tbody>
</table>

*unduplicated patients
Lessons Learned

- Bridge counseling at the clinic and statewide level can be effective in re-engaging out of care patients
- CAREWare was useful to track referrals and document reengagement efforts across multiple sites
- Close collaboration between the RBCs and SBC decreased the number of out of care patients requiring SBC intervention over time
- Staff buy-in was essential as bridge counseling was assigned in addition to daily responsibilities
Future Directions

• Analyze long term retention data for bridge counseling cohort, their clinical outcomes, and unique characteristics of the “repeaters”
• Build a data bridge between clinic EMR (EPIC) and CAREWare
• Standardize proactive outreach for patients with missed appointments
Future Directions

- Develop daily “HIV Priority Access Clinic” to accommodate rapid relinkage and walk-in appointments
- Add additional patient navigator to work with new patients to better monitor linkage and retention in the first 6 months of care
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Our Patients and their Families
Wake Forest HIV Medical Providers
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Wake Forest Infectious Disease Clinic Staff
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Katherine Schafer, MD, Mary Beth Cox, MPH, Amy Heine, MSN, RN, FNP-BC,
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Questions?
References