Scaling up HIV PrEP: How HIV nurses’ knowledge, attitudes, and behaviors impact PrEP Implementation

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Disclosures

• Faculty Conflict of Interest Disclosures

• Jeffery Kwong, Jason Farley, Carole Treston have no actual or perceived conflicts of interest related to the content of this program.

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Background

• Centers for Disease Control and Prevention published interim guidance on use of HIV Pre-exposure Prophylaxis (PrEP) for use in MSM in 2011.

• Studies have supported the efficacy and benefit of PrEP in different risk-populations.
Implementation and Scale Up

• Implementation of PrEP has been slow.
• Multiple issues related to implementation and scale up.
Barriers to PrEP Uptake

Consumer Barriers

Provider Barriers
PrEP Implementation Barriers

- Concerns about
  - Efficacy
  - Inequitable access
- Generalist provider adoptability and suboptimal sexual behavior assessment training
- Unintended consequences
  - Medication toxicities
  - Behavioral disinhibition
  - Drug resistance
- “Real world” effectiveness
- Diversion of resources from HIV programs
- Retention
- Linkage to community-based organizations
- Identification of persons at-risk

PrEP Implementation Facilitators

• Belief that PrEP is efficacious\(^1\)
• Willingness to prescribe is increasing\(^2\)
• HIV specialists as resources to the generalist\(^3\)
• Monetary incentives for providers\(^4\)
• Innovative tools for risk assessment\(^5\)
• Ancillary behavioral interventions\(^6\)


New England Providers Perceived Barriers to Prescribing PrEP

- Lack of patient requests
- Concerns about insurance coverage
- Clinicians not trained to prescribe PrEP
- Clinicians not aware of CDC guidance
- Time Constraints
- Clinicians not aware of PrEP
- Limited # of at risk Patient

Krawkower, PLOS, (in press)
Nurses Role in Health Care Delivery and HIV Prevention

• Nurses comprise one of the largest segments of the health care workforce
• Considered “most trusted” profession\(^1\)
• Nurses-led interventions have been shown to be effective for\(^2,3,4\):
  – Increasing HIV testing
  – Engaging difficult to reach populations
  – Supporting adherence
  – Harm reduction
  – Increasing Organizational Capacity

Association of Nurses in AIDS Care

• Leading professional organization dedicated to nurses in HIV care, prevention, and research.
• National and International Chapters
• Over 2,000 members
• Provide advocacy and policy initiatives
• PrEP Task Force
Purpose

• Assess current knowledge, attitudes, beliefs, practices of ANAC members.

• Identify barriers and opportunities for education and change.
PrEP Survey Methods

• Cross-sectional, descriptive survey
  – Data captured through Qualtrics online survey tool
  – Survey was open for participation between June 1 – October 31, 2015
  – US based members with active membership status
    • 1534 eligible members

• Distribution of Survey Link:
  – Email to ANAC members
  – Posted to member list serves
  – Distributed through both local and national conference attendance
Survey Design

• An initial group of PrEP providers designed the original survey based on a review of current literature and their clinical content expertise
  – This was further refined through an ANAC PrEP Taskforce

• The survey was reviewed for face validity by ANAC members and external PrEP prescribers to refine length, content and focus

• The final survey included branching logic which separated prescriber and non-prescriber questioning
  – 35 question prescriber survey
  – 33 question non-prescriber survey
Statistical Analysis

• Only available responses analyzed, i.e. item level nonresponse (missing data) ignored
• Descriptive statistics produced by provider type
• Frequency and relative frequency (%) used for categorical variables, and median and interquartile range (IQR) used for continuous variables
### Results: Demographics

<table>
<thead>
<tr>
<th>Characteristic, n (%)</th>
<th>Prescriber (n=65)</th>
<th>Non-prescriber (n=261)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>50 (76.9)</td>
<td>192 (73.6)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>49 (75.4)</td>
<td>201 (77.0)</td>
</tr>
<tr>
<td>Black/African American</td>
<td>10 (15.4)</td>
<td>45 (17.2)</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>3 (4.6)</td>
<td>5 (1.9)</td>
</tr>
<tr>
<td>Multi-race/Other</td>
<td>3 (4.6)</td>
<td>10 (3.8)</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>2/28 (7.1)</td>
<td>11/130 (8.5)</td>
</tr>
<tr>
<td>Degree Completion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970-1979</td>
<td>0 (0.0)</td>
<td>20 (7.7)</td>
</tr>
<tr>
<td>1980-1989</td>
<td>4 (6.1)</td>
<td>41 (15.7)</td>
</tr>
<tr>
<td>1990-1999</td>
<td>14 (21.5)</td>
<td>60 (23.0)</td>
</tr>
<tr>
<td>2000-2009</td>
<td>22 (33.8)</td>
<td>64 (24.5)</td>
</tr>
<tr>
<td>2010-2019</td>
<td>25 (38.5)</td>
<td>76 (29.1)</td>
</tr>
</tbody>
</table>
## Results: Knowledge of PrEP

<table>
<thead>
<tr>
<th>Level, n (%)</th>
<th>Prescriber (n=65)</th>
<th>Non-prescriber (n=258)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginner</td>
<td>1 (1.5)</td>
<td>22 (8.5)</td>
</tr>
<tr>
<td>Intermediate</td>
<td>9 (13.8)</td>
<td>87 (33.7)</td>
</tr>
<tr>
<td>Proficient</td>
<td>36 (55.4)</td>
<td>129 (50.0)</td>
</tr>
<tr>
<td>Expert</td>
<td>19 (29.2)</td>
<td>20 (7.7)</td>
</tr>
</tbody>
</table>

Before taking this survey were you aware of the CDC guidelines on PrEP?

- Yes: 50 (92.6) for Prescriber, 180 (88.2) for Non-prescriber
- No: 4 (7.4) for Prescriber, 24 (11.8) for Non-prescriber
Results: Comfort Level Discussing PrEP with Patients

<table>
<thead>
<tr>
<th>Level, n (%)</th>
<th>Prescriber (n=54)</th>
<th>Non-prescriber (n=204)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Uncomfortable</td>
<td>2 (3.7)</td>
<td>7 (3.4)</td>
</tr>
<tr>
<td>Uncomfortable</td>
<td>1 (1.8)</td>
<td>6 (2.9)</td>
</tr>
<tr>
<td>Not Sure</td>
<td>1 (1.8)</td>
<td>19 (9.3)</td>
</tr>
<tr>
<td>Comfortable</td>
<td>14 (25.9)</td>
<td>101 (49.5)</td>
</tr>
<tr>
<td>Very Comfortable</td>
<td>36 (66.7)</td>
<td>71 (34.8)</td>
</tr>
</tbody>
</table>
## Results: Patient Population

<table>
<thead>
<tr>
<th>Category</th>
<th>Prescriber (n=56)</th>
<th>Non-prescriber (n=189)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterosexual female</td>
<td>25 (30)</td>
<td>20 (35)</td>
</tr>
<tr>
<td>Heterosexual male</td>
<td>20 (31.5)</td>
<td>15 (30)</td>
</tr>
<tr>
<td>Transgender female (male to female)</td>
<td>2 (5) †</td>
<td>1 (2) ‡</td>
</tr>
<tr>
<td>Transgender male (female to male)</td>
<td>0 (1) †</td>
<td>0 (1)</td>
</tr>
<tr>
<td>Men who have sex with men</td>
<td>50 (50)</td>
<td>40 (50)</td>
</tr>
<tr>
<td>Injection drug users</td>
<td>10 (20) †</td>
<td>5 (20)</td>
</tr>
<tr>
<td>Persons living with HIV</td>
<td>85 (88.5)</td>
<td>75 (93)</td>
</tr>
<tr>
<td>HIV discordant relationship</td>
<td>10 (23) †</td>
<td>8.5 (20) ‡</td>
</tr>
</tbody>
</table>

†n=55, ‡n=188
### Results: Prescriber Practice

<table>
<thead>
<tr>
<th>In the past year, what percentage of your current patients have.., n (%)</th>
<th>Prescriber (n=50)</th>
<th>Non-prescriber (n=172)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Been tested for HIV at least once?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td>4 (8.0)</td>
<td>28 (16.3)</td>
</tr>
<tr>
<td>&lt;25%</td>
<td>16 (32.0)</td>
<td>45 (26.2)</td>
</tr>
<tr>
<td>26-50%</td>
<td>4 (8.0)</td>
<td>14 (8.1)</td>
</tr>
<tr>
<td>51-75%</td>
<td>6 (12.0)</td>
<td>22 (12.8)</td>
</tr>
<tr>
<td>&gt;75%</td>
<td>20 (40.0)</td>
<td>63 (36.6)</td>
</tr>
<tr>
<td><strong>Been prescribed non-occupational PrEP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td>5 (10.0)</td>
<td>43 (25.0)</td>
</tr>
<tr>
<td>&lt;25%</td>
<td>43 (86.0)</td>
<td>122 (70.9)</td>
</tr>
<tr>
<td>26-50%</td>
<td>2 (4.0)</td>
<td>5 (2.9)</td>
</tr>
<tr>
<td>51-75%</td>
<td>0 (0.0)</td>
<td>2 (1.2)</td>
</tr>
</tbody>
</table>
### Results: Prescriber Practice Cont’d

<table>
<thead>
<tr>
<th>In the past year, what percentage of your current patients have.., n (%)</th>
<th>Prescriber (n=50)</th>
<th>Non-prescriber (n=172)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Been prescribed PrEP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td>3 (6.0)</td>
<td>32 (18.6)</td>
</tr>
<tr>
<td>&lt;25%</td>
<td>44 (88.0)</td>
<td>129 (75.0)</td>
</tr>
<tr>
<td>26-50%</td>
<td>3 (6.0)</td>
<td>8 (4.6)</td>
</tr>
<tr>
<td>51-75%</td>
<td>0 (0.0)</td>
<td>3 (1.7)</td>
</tr>
<tr>
<td><strong>Been diagnosed with a STI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td>1 (2.0)</td>
<td>12 (7.0)</td>
</tr>
<tr>
<td>&lt;25%</td>
<td>18 (36.0)</td>
<td>59 (34.3)</td>
</tr>
<tr>
<td>26-50%</td>
<td>17 (34.0)</td>
<td>60 (34.9)</td>
</tr>
<tr>
<td>51-75%</td>
<td>12 (24.0)</td>
<td>29 (16.9)</td>
</tr>
<tr>
<td>&gt;75%</td>
<td>2 (4.0)</td>
<td>12 (7.0)</td>
</tr>
</tbody>
</table>

**Estimated number of patients you’ve prescribed PrEP (n=33)**

- Median=10
- IQR=20

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[ANAC Logo]

Association of Nurses in AIDS Care
Results: Barriers, Prescribers (n=50)

- Drug Resistance
- Real World Efficacy
- Risk Compensation
- Starting Toxic Med
- Clinicians Unaware
- Pts Concern re: Stigma
- Assessing Risk
- Limited # of Eligible Pts
- Clinician Unaware Guidelines
- Clinicians Not Trained
- Time Contraints
- Lack of Pt Knowledge
- Cost/Coverage

Diagram showing the distribution of barriers as perceived by prescribers, with the y-axis listing barriers and the x-axis showing the percentage of respondents, divided into Major Barrier, Moderate Barrier, Minor Barrier, and Not A Barrier categories.
Results: Barriers, Non-Prescribers (n=185)

- Limited # of Eligible Pts: 21 Major, 15 Moderate, 20 Minor, 35 Not A Barrier
- Real World Efficacy: 21 Major, 28 Moderate, 25 Minor, 20 Not A Barrier
- Time Constraints: 24 Major, 27 Moderate, 26 Minor, 20 Not A Barrier
- Starting Toxic Med: 24 Major, 29 Moderate, 26 Minor, 17 Not A Barrier
- Risk Compensation: 25 Major, 30 Moderate, 17 Minor, 24 Not A Barrier
- Pt concern re: Stigma: 26 Major, 32 Moderate, 23 Minor, 10 Not A Barrier
- Drug Resistance: 28 Major, 33 Moderate, 22 Minor, 10 Not A Barrier
- Assessing Risk: 52 Major, 22 Moderate, 10 Minor, 12 Not A Barrier
- Clinician Unaware Guidelines: 48 Major, 27 Moderate, 13 Minor, 10 Not A Barrier
- Clinicians Unaware: 45 Major, 32 Moderate, 11 Minor, 10 Not A Barrier
- Lack of Pt Knowledge: 56 Major, 23 Moderate, 13 Minor, 4 Not A Barrier
- Cost/Coverage: 63 Major, 20 Moderate, 10 Minor, 5 Not A Barrier
- Clinicians Not Trained: 61 Major, 23 Moderate, 8 Minor, 7 Not A Barrier

ANAC: Association of Nurses in AIDS Care
Results

• Prescribers and non-prescribers identified similar **Major Barriers** (Cost/Coverage, Patient knowledge about PrEP, and Clinician Training).

• Non-prescribers identified more major and moderate barriers overall.

• Concerns about real world efficacy were for both groups.

• Concerns about drug resistance and risk compensation varied between providers & non-providers.
Limitations

• Convenience sample
• Mostly HIV experienced nurses, not primary care or general care nurses
• Timing of survey
  – Concurrent PrEP educational webinars provided by ANAC during data collection period
Implications for Practice

• On-going education and information targeting nurses in HIV PrEP implementation and roll-out is needed.

• In order to maximize nurses role, strengthening their ability to provide outreach and education to patients and the community may increase PrEP uptake.

• Roles for Prescribers/Non-Prescribers may be different. Organizations should maximize opportunities for nurses in PrEP Programs.
Implications for Practice

• Nurses with HIV experience may be better prepared to educate at-risk clients and serve as facilitators to improve PrEP uptake.

• Addressing issues of cost and access to PrEP may help decrease nurse-perceived barriers to PrEP implementation.
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