Scaling up HIV PrEP:

How HIV nurses' knowledge, attitudes, and behaviors impact PrEP Implementation

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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.

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Implementation and Scale Up

- Implementation of PrEP has been slow.
- Multiple issues related to implementation and scale up.

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Barriers to PrEP Uptake

Consumer Barriers

Provider Barriers

PrEP Implementation Barriers

- Concerns about
  - Efficacy[1]
  - Inequitable access[2]
- Generalist provider adoptability and suboptimal sexual behavior assessment training[3, 4]
- Unintended consequences[5]
  - Medication toxicities
  - Behavioral disinhibition
  - Drug resistance
- "Real world" effectiveness[6]
- Diversion of resources from HIV programs[7]
- Retention[8]
- Linkage to community-based organizations[7]
- Identification of persons at-risk[8]

[1]Krakower, D. S., & Mayer, K. (2015). The Role of Healthcare Providers in the Rollout of Pre-exposure Prophylaxis. *Curr Opin HIV AIDS, Epub ahead of print*.
[2]Calabrese, S. K., Earnshaw, V. A., Underhill, K., Hansen, N. B., & Dovido, J. F. (2014). The Impact of Patient Race on Clinical Decisions Related to Prescribing HIV Pre-exposure Prophylaxis (PrEP): Assumptions About Sexual Risk Compensation and Implications for Access. *AIDS Behav, 18*(2), 226-240.
[3]Mimiaga, M. J., White, J. M., Krakower, D. S., Biello, K. B., & Mayer, K. H. (2014). Suboptimal Awareness and Comprehension of Published Preexposure Prophylaxis Efficacy Results Among Physicians in Massachusetts. *AIDS Care, 26*(6), 684-693.
[4]Krakower, D., & Mayer, K. H. (2012). Engaging Healthcare Providers to Implement HIV Pre-Exposure Prophylaxis. *Curr Opin HIV AIDS, 7*(6), 593-599.
[5]Krakower, D., Ware, N., Mitty, J. A., Maloney, K., & Mayer, K. H. (2014). HIV Providers' Perceived Barriers and Facilitators to Implementing Pre-exposure Prophylaxis in Care Settings: A Qualitative Study. *AIDS Behav, 18*, 1712-1721.
[6]Desai, M., Gafos, M., Dolling, D., McCormack, S., & Nardone, A. (2015). Healthcare Providers' Knowledge of, Attitudes to and Practice of Pre-exposure Prophylaxis for HIV Infection. *HIV Medicine*, 1-10.
[7]Hosek, S. G. (2013). HIV Pre-Exposure Prophylaxis Diffusion and Implementation Issues in Nonclinical Settings. *Am J Prev Med, 44*(1S2), S129-S132.
[8]Norton, W. E., Larson, R. S., & Dearing, J. W. (2013). Primary Care and Public Health Partnerships for Implementing Pre-Exposure Prophylaxis. *Am J Prev Med, 44*, S77-S79.

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]

[1]Krakower, D., Ware, N., Mitty, J. A., Maloney, K., & Mayer, K. H. (2014). HIV Providers' Perceived Barriers and Facilitators to Implementing Pre-exposure Prophylaxis in Care Settings: A Qualitative Study. *AIDS Behav, 18*, 1712-1721.
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[4]Krakower, D., & Mayer, K. (2012). Engaging Healthcare Providers to Implement HIV Pre-Exposure Prophylaxis. *Curr Opin HIV AIDS, 7*(6), 593-599.
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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)

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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

[1] www.gallup.com [2]O'Byrne, MacPherson, et al. (2015). *Public Health Nursing* ; [3]DeGrezia, Mignano, et al. (2013*, JANAC;*[4] Biggs et al *(*2015*) AJAN.*

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- 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

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Purpose

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

- Identify barriers and opportunities for education and change.

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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

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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

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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

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Results: Demographics

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

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Results: Knowledge of PrEP

Level, n (%)	Prescriber (n=65)	Non-prescriber (n=258)
Beginner	1 (1.5)	22 (8.5)
Intermediate	9 (13.8)	87 (33.7)
Proficient	36 (55.4)	129 (50.0)
Expert	19 (29.2)	20 (7.7)
Before taking this survey were you aware of the CDC guidelines on PrEP?	n=54	n=204
Yes	50 (92.6)	180 (88.2)
No	4 (7.4)	24 (11.8)

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Results: Comfort Level Discussing PrEP with Patients

Level, n (%)	Prescriber (n=54)	Non-prescriber (n=204)
Very Uncomfortable	2 (3.7)	7 (3.4)
Uncomfortable	1 (1.8)	6 (2.9)
Not Sure	1 (1.8)	19 (9.3)
Comfortable	14 (25.9)	101 (49.5)
Very Comfortable	36 (66.7)	71 (34.8)

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Results: Patient Population

What percent of your current patients are in the following categories? Median (IQR)	Prescriber (n=56)	Non-prescriber (n=189)
Heterosexual female	25 (30)	20 (35)
Heterosexual male	20 (31.5)	15 (30)
Transgender female (male to female)	2 (5) †	1 (2) ‡
Transgender male (female to male)	0 (1) †	0 (1)
Men who have sex with men	50 (50)	40 (50)
Injection drug users	10 (20) †	5 (20)
Persons living with HIV	85 (88.5)	75 (93)
HIV discordant relationship	10 (23) †	8.5 (20) ‡
†n=55, ‡n=188		

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Results: Prescriber Practice

In the past year, what percentage of your current patients have.., n (%)	Prescriber (n=50)	Non-prescriber (n=172)
Been tested for HIV at least once?		
Don't know	4 (8.0)	28 (16.3)
<25%	16 (32.0)	45 (26.2)
26-50%	4 (8.0)	14 (8.1)
51-75%	6 (12.0)	22 (12.8)
>75%	20 (40.0)	63 (36.6)
Been prescribed non-occupational PrEP		
Don't know	5 (10.0)	43 (25.0)
<25%	43 (86.0)	122 (70.9)
26-50%	2 (4.0)	5 (2.9)
51-75%	0 (0.0)	2 (1.2)

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Results: Prescriber Practice Cont'd

In the past year, what percentage of your current patients have.., n (%)	Prescriber (n=50)	Non-prescriber (n=172)
Been prescribed PrEP		
Don't know	3 (6.0)	32 (18.6)
<25%	44 (88.0)	129 (75.0)
26-50%	3 (6.0)	8 (4.6)
51-75%	0 (0.0)	3 (1.7)
Been diagnosed with a STI		
Don't know	1 (2.0)	12 (7.0)
<25%	18 (36.0)	59 (34.3)
26-50%	17 (34.0)	60 (34.9)
51-75%	12 (24.0)	29 (16.9)
>75%	2 (4.0)	12 (7.0)
Estimated number of patients you've prescribed PrEP (n=33)	Median=10 IQR=20	-

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Results: Barriers, Prescribers (n=50)

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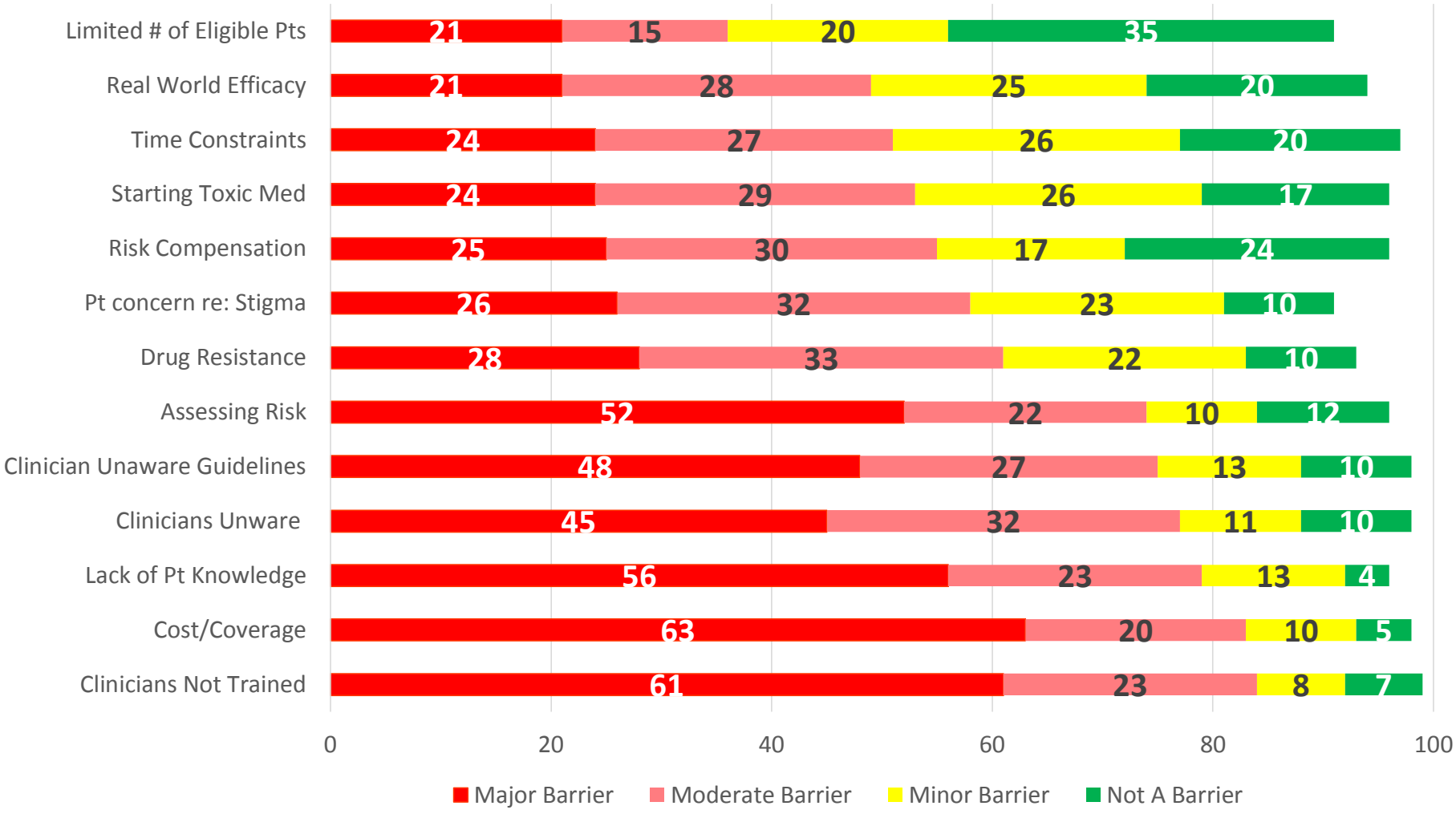
Results: Barriers, Non-Prescribers (n=185)



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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.

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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

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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.

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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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Thank you

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