

# Feasibility of a community-based PrEP delivery model among bar patrons in rural South Africa

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Stop TB Partnership hosted by UNOPS

# Tugela Ferry – Rural South Africa

- 180,000 traditional Zulu people
- 30-40% HIV antenatal prevalence
- 1074/100,000 TB incidence
- Served by 350-bed district hospital and 16 nurse-led primary care clinics
- Extreme poverty
  - High unemployment (75%)
  - Water (25%)



# Community-based Approaches

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## MEET PEOPLE WHERE THEY ARE

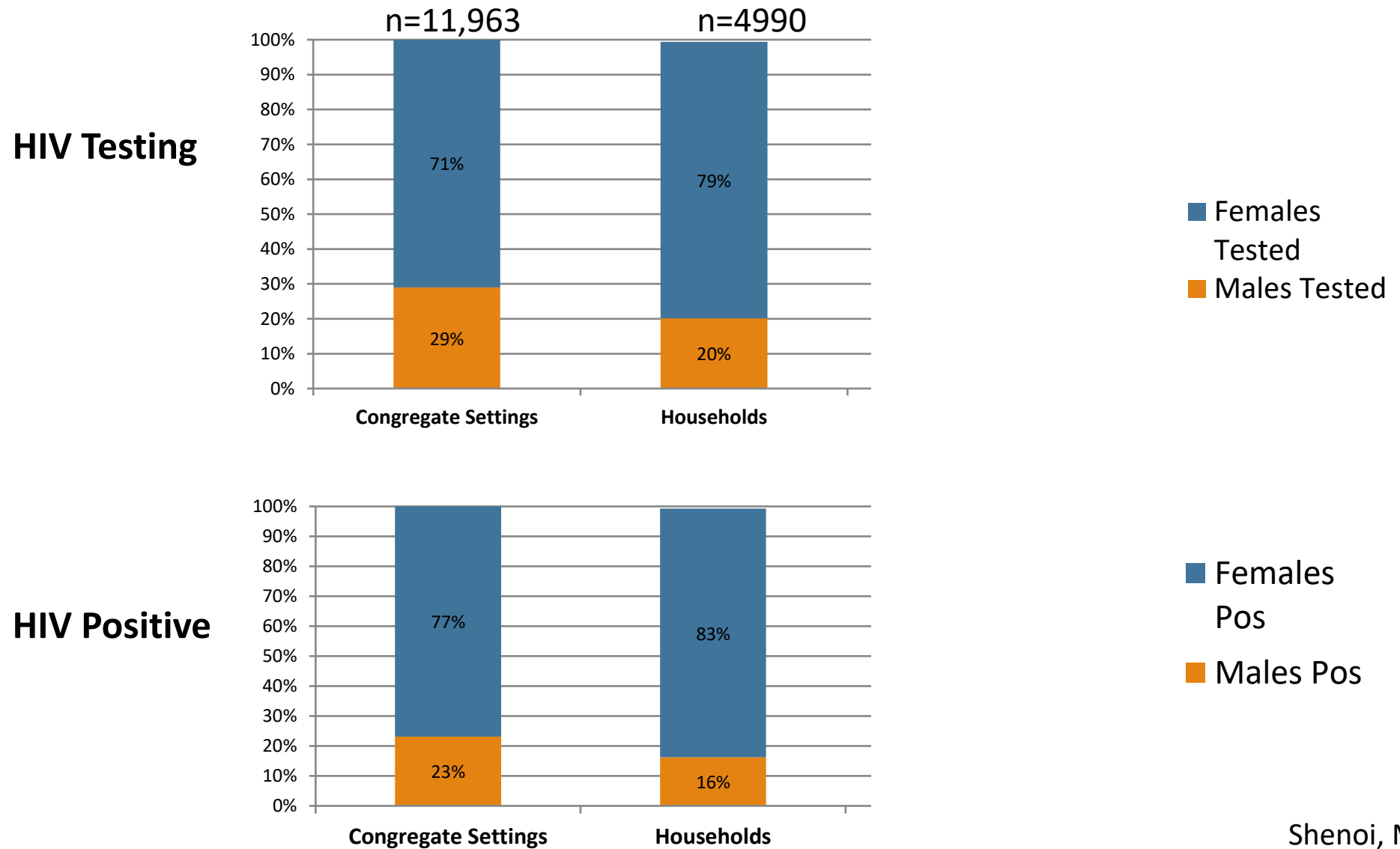
- TB/HIV integrated diagnosis and linkage to care
- Integrated with NCD screening
- Congregate settings
- Households
- Missing: men







# Congregate settings & Households: HIV Testing & Yield by Gender

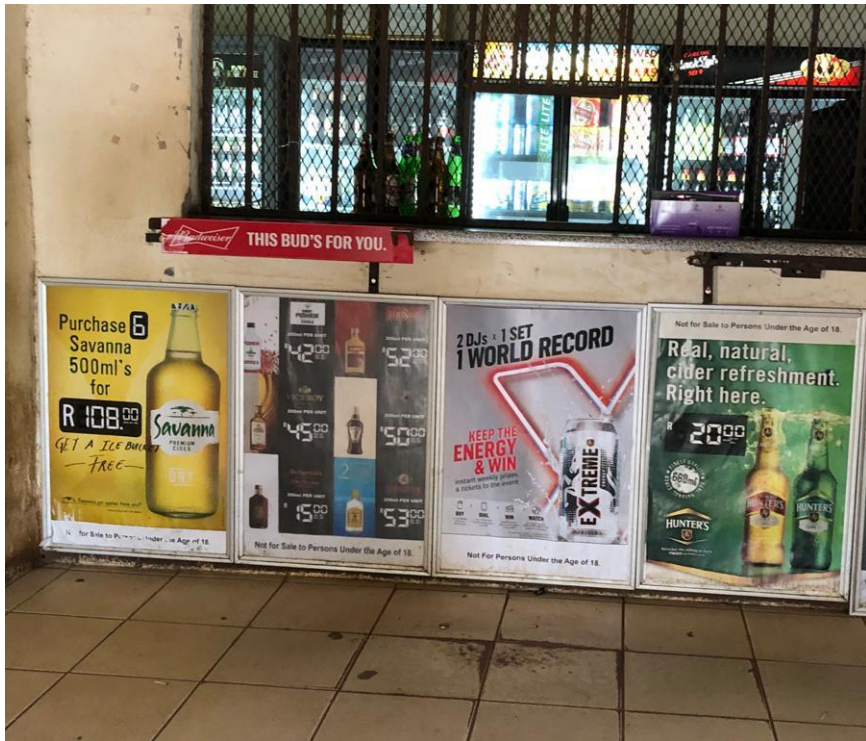


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Where are the men?



# Alcohol Use Disorder & the HIV Epidemic



- AUD is a risk factor for the acquisition of HIV
  - Increases likelihood of non-adherence to therapy
  - Increases risky sexual behaviors
  - Reduces effectiveness of ART
- Complicates engagement in the HIV care cascade
- **Prevalence in South Africa is 7%**
  - compared to an average of 3.7% in other sub-Saharan African countries
- **AUD prevalence in SA is much higher for men (12.4%) than for women (1.8%)**

# Alcohol Based Venues, aka “shebeens”



MG personal photo



MG personal photo

- Informal settings
- **High prevalence of risk behaviors**
  - Excess alcohol consumption
  - Lack of condom use
- Few successful interventions targeting HIV prevention at shebeens to date

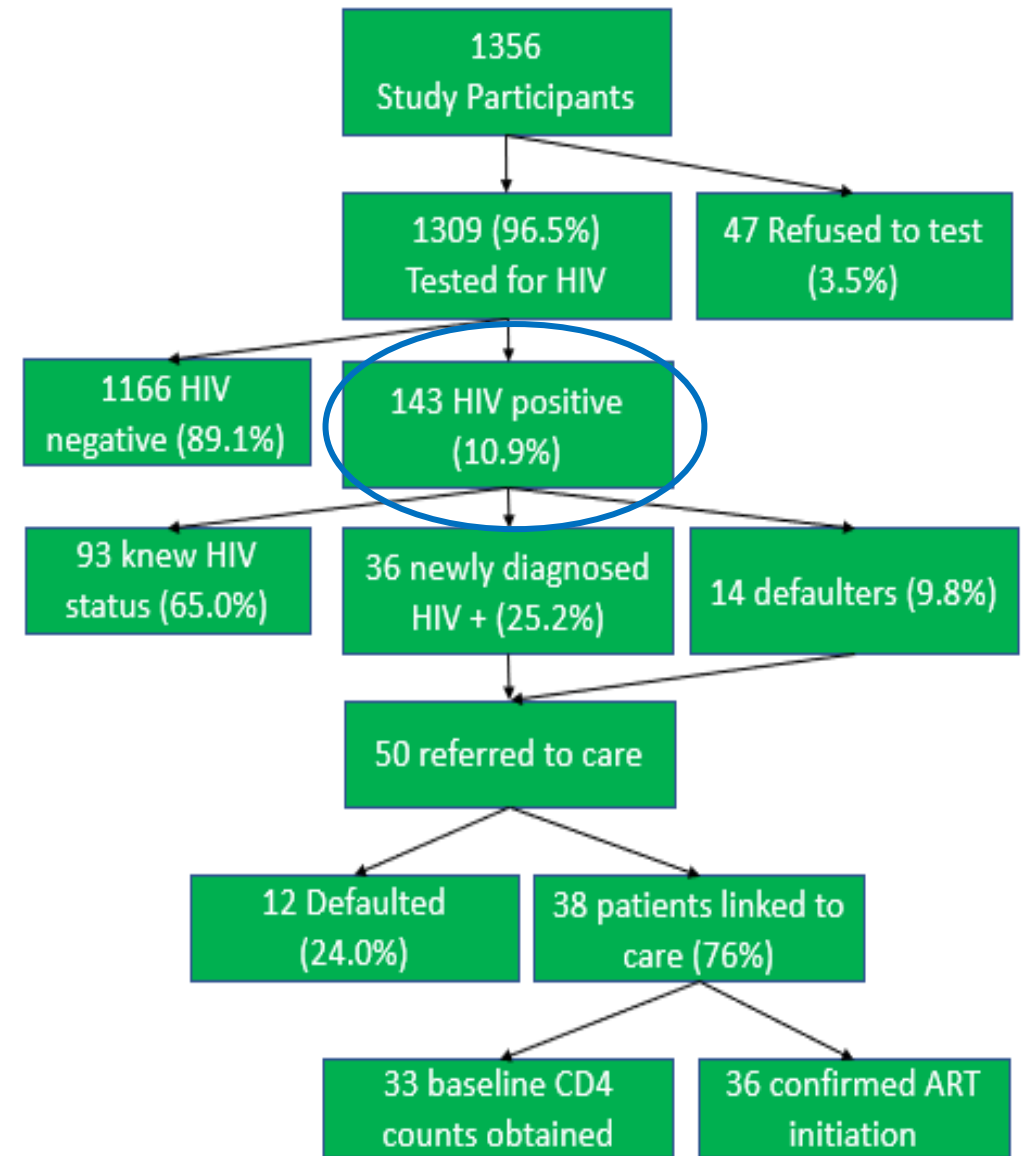


Is it feasible  
to engage young people  
in community settings  
such as shebeens?

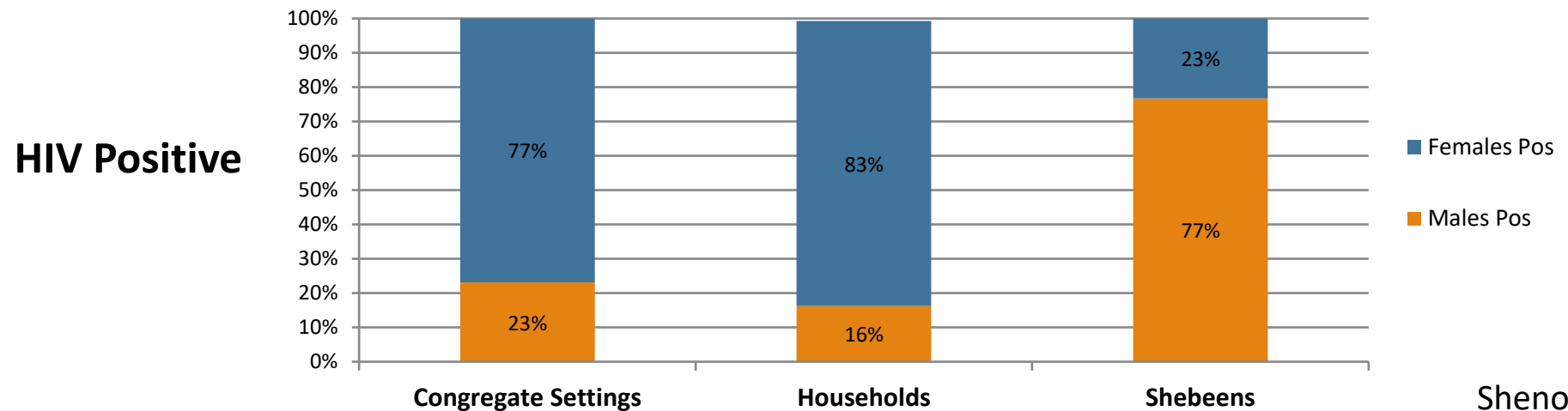
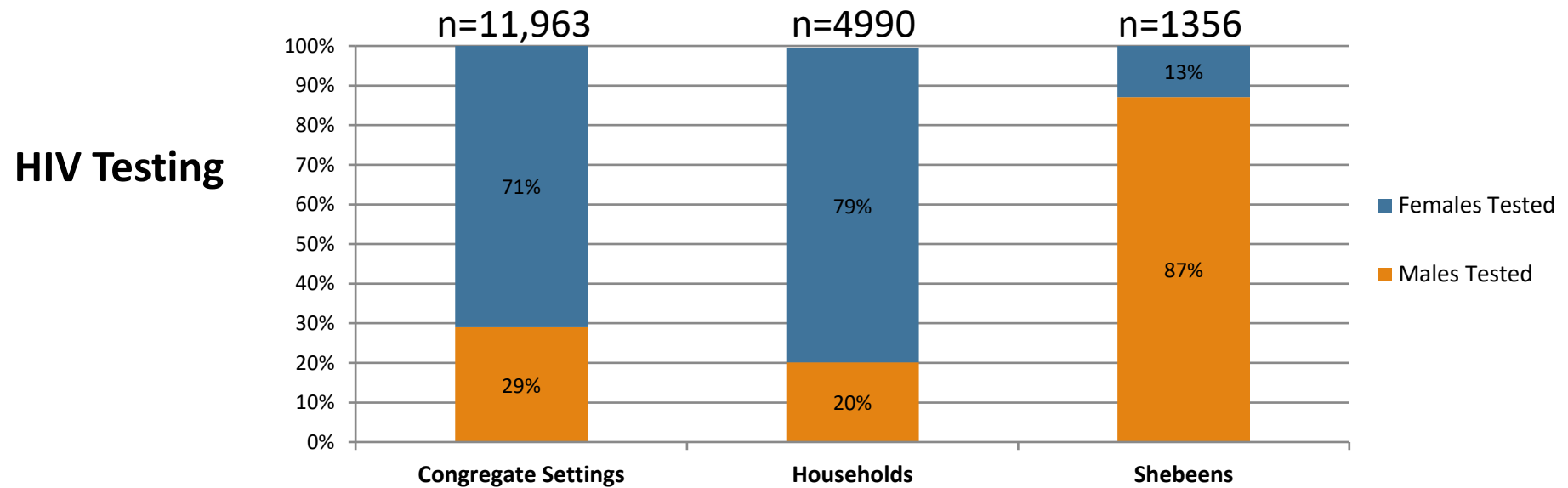
Is it feasible  
to conduct HIV testing  
outside of shebeens to  
reach young men?

**Table 1. Characteristics of the Study Population (n=1356)**

	n (%)
Age (IQR)	30 (22-46)
Male Gender	997 (73.5)
Marital Status	
Single	316 (23.3)
Partner	867 (63.9)
Married	165 (12.2)
Electricity	1245 (91.8)
Receives a monthly social grant	329 (24.3)
Employment	348 (25.7)
Access to running water	409 (30.2)
Flushing Toilet	46 (3.4)
Never gone to clinic	193 (14.2)
Never tested for HIV	224 (16.5)
Substance Abuse	
Hazardous alcohol usage	588 (43.4)
Cigarette usage	552 (40.7)
Cannabis usage	202 (14.9)
Risky Sexual Behavior	
IV Drug Use	13 (1.0)
Ever had condomless sex	1220 (90)
Prior STI history	202 (14.9)
Participated in transactional sex	35 (2.6)



# Congregate settings & Households: HIV Testing & Yield by Gender



Is it feasible  
to engage young people  
in community settings  
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YES

Is it feasible  
to conduct HIV testing  
outside of shebeens to  
reach young men?

YES




# PrEP in South Africa

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- Approved by the Medicines Control Council of South Africa in 2016
  - Previous priority groups: FSW, MSM, AGYW, serodiscordant couples
- Rollout in primary care clinics began in Feb 2020
  - Delayed by COVID-19
- Paucity of published data on:
  - **How best to engage the public**, including different risk groups
  - **Integrating PrEP services within existing health care system and HIV care framework**

Is it feasible  
to provide PrEP in  
community  
settings?

# Methods

- **All male** CHW team recruited shebeen patrons for **comprehensive health screening** including:
  - HIV test
  - TB symptom screen (+Gene Xpert)
  - blood pressure check
  - fingerstick blood sugar
  - STI symptom screen
  - AUDIT scale for alcohol use
- Patrons without HIV that were **eligible for PrEP** were offered enrollment into the study
- 1 mo, 4 mo,  no follow up -> transfer to primary care clinic
- **No clinic visits required**

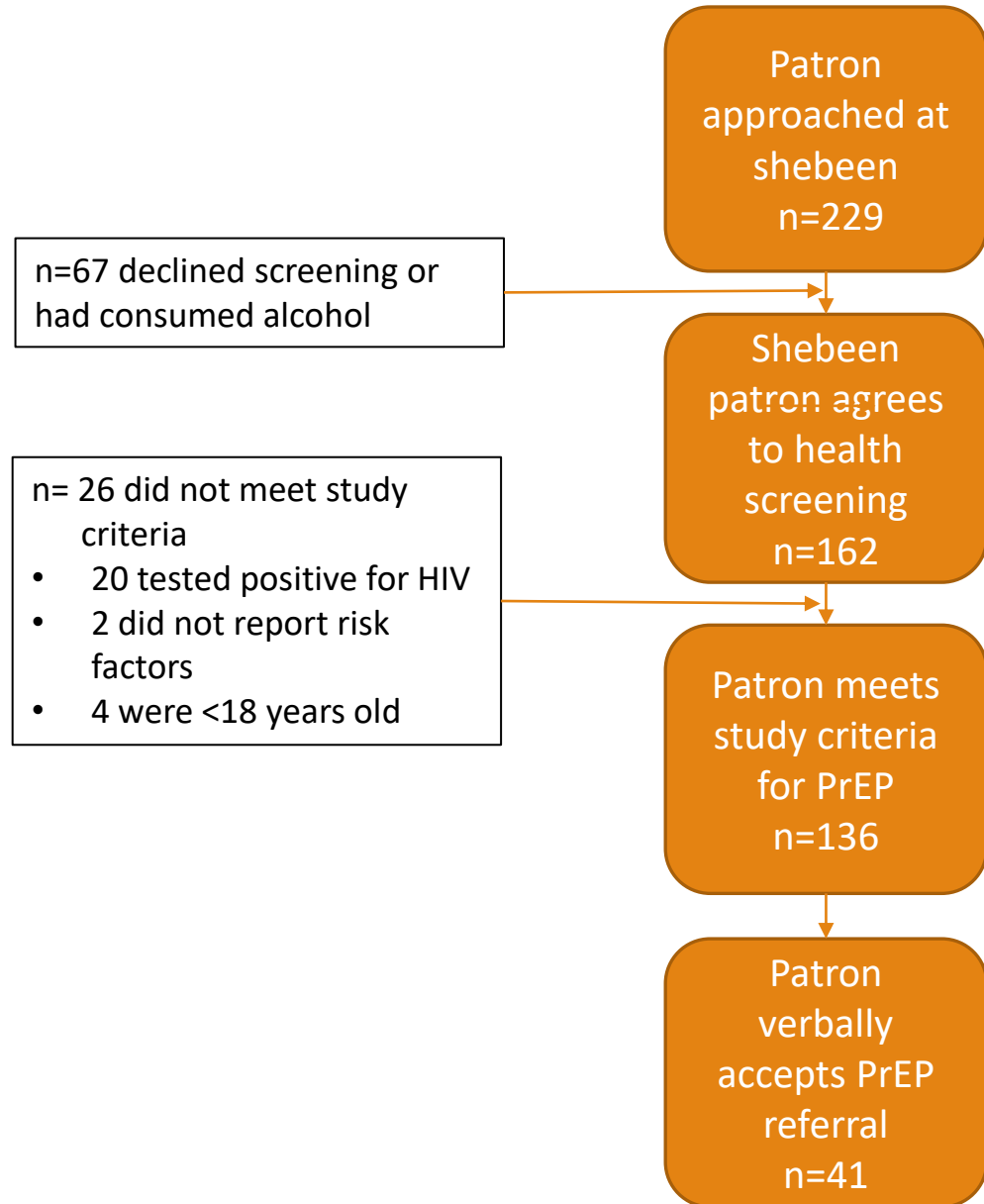
## BOX 2: Indications for the use of pre-exposure prophylaxis.

1. Any sexually active HIV-negative **MSM or transgender person** especially:
  - those with HIV-positive sexual partner(s) who are not confirmed virologically suppressed
  - partner(s) of unknown HIV status
  - recent STI
  - multiple sexual partners
  - history of inconsistent or no condom use
  - commercial sex work
  - recurrent PEP users
  - history of sex whilst under the influence of alcohol or recreational drugs.
2. **Heterosexual** women and men especially:
  - those with HIV-positive sexual partner(s) who are not confirmed virologically suppressed
  - partner(s) of unknown HIV status
  - recent STI
  - multiple sexual partners
  - history of inconsistent or no condom use
  - commercial sex work
  - serodiscordant couples trying to conceive
  - recurrent PEP users
  - history of sex whilst under the influence of alcohol or recreational drugs.
3. People who inject **drugs**:
  - HIV-negative PWID with HIV-positive/unknown status injecting partner(s)
  - share injecting needles and drug preparation equipment.
4. All of the above groups include **adolescents and sex workers**, which each constitute special groups meriting specific consideration:
  - Especially vulnerable are young MSM and adolescent girls.

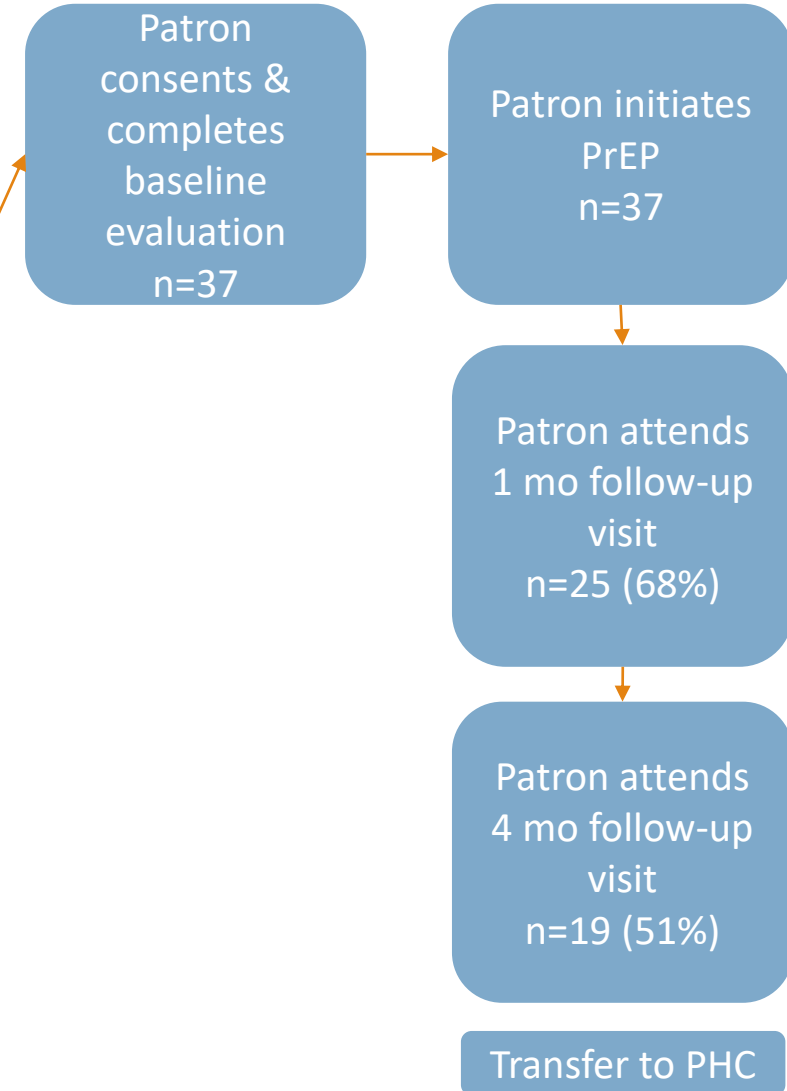




## COMMUNITY



## Participant's choice



**Table 1. Characteristics of Bar Patrons Eligible for PrEP (n=136)**

Proportion or Median (IQR)	All PrEP-Eligible (n=136)	Non-initiators (n=99)	PrEP initiators (n = 37)	p-value	Men only (n=108)	Men only Non-initiators (n=74)	Men only PrEP Initiators (n=34)	p-value
<b>Median Age (IQR)#</b>	28 (23-40)	30.0 (24-43)	26.0 (21-31)	<b>0.035</b>	28 (23-38.8)	29 (24-41.3)	26 (21-31)	<b>0.06</b>
<b>Men&amp;</b>	108 (79.4%)	74 (74.7%)	34 (91.9%)	<b>0.028</b>	-	-	-	-
<b>Employed&amp;</b>	41 (30.1%)	29 (29.3%)	12 (32.4%)	0.72	38 (35.2%)	26 (35.1%)	12 (35.3%)	0.58
<b>Smoker (cigarettes) &amp;</b>	73 (53.7%)	53 (53.5%)	20 (54.0%)	0.96	71 (65.7%)	51 (68.9%)	20 (58.8%)	0.98
<b>Marijuana User&amp;</b>	19 (14%)	12 (12.1%)	7 (18.9%)	0.3	18 (16.7%)	11 (14.9%)	7 (20.6%)	0.46
<b>Median AUDIT score (IQR)#</b>	10 (6-14.75)	10 (6-14)	11 (6.5-16)	0.46	11 (8-15)	11 (8-14)	11 (7-16.5)	0.86
<b>Hazardous Drinkers&amp;</b>	97 (71.3%)	71 (72.4%)	26 (70.3%)	0.8	87 (80.6%)	62 (83.8%)	25 (73.5%)	0.49
<b>Inconsistent condom use&amp;</b>	125 (91.4%)	90 (91%)	35 (94.6%)	0.48	101 (93.5%)	69 (93.2%)	32 (94.1%)	0.8
<b>History of STI &amp;</b>	8 (5.9%)	5 (5.05%)	3 (8.1%)	0.5	7 (6.5%)	4 (5.4%)	3 (8.8%)	0.39
<b>Median number of sex partners in last 1 month (IQR)#</b>	1 (1-2)	1.0 (1-1)	1.0 (1-2)	<b>0.04</b>	1 (1-2)	1 (1-1.25)	1 (1-2)	0.11
<b>Median number of sex partners in lifetime (IQR)#</b>	9.5 (5-15)	8 (5-11)	12 (8.5-15)	<b>0.02</b>	10 (5.3-15)	10 (5-15)	12 (9-16.3)	<b>0.06</b>
<b>Never attended clinic&amp;</b>	78 (57.4%)	51 (51.5%)	27 (73.0%)	<b>0.02</b>	66 (61.1%)	41 (55.4%)	25 (73.5%)	<b>0.07</b>
<b>*STI: Sexually Transmitted Infection</b>								
<b>*AUDIT: Alcohol Use Disorder Identification Test</b>								
<b>*IQR: Interquartile Range</b>								
<b>*CI: Confidence Interval</b>								
<b>#Mann-Whitney U</b>								
<b>&amp;Chi-square</b>								

**Table 2. Predictors of PrEP Uptake among Bar Patrons**

	<b>All shebeen patrons (n=136)</b>		<b>Men only (n=108)</b>	
	Unadjusted Odds Ratio (95% CI) <sup>§</sup>	Adjusted Odds Ratio (95% CI) <sup>§</sup>	Unadjusted Odds Ratio (95% CI) <sup>§</sup>	Adjusted Odds Ratio (95% CI) <sup>§</sup>
<b>Age (years)</b>	0.93 (0.89 – 0.97)	<b>0.92 (0.88-0.97)</b>	0.93 (0.88-0.98)	<b>0.93 (0.88-0.98)</b>
<b>Man</b>	3.83 (1.1 – 13.6)			
<b>Number of sex partners in last month</b>	1.6 (0.93 -2.89)			
<b>Number of sex partners in lifetime</b>	1.07 (1.01 – 1.13)	<b>1.07 (1.02-1.13)</b>	1.05 (1.0-1.12)	<b>1.05 (0.99-1.12)</b>
<b>Never attended clinic</b>	2.54 (1.13 – 5.8)		1.77 (0.92-3.4)	<b>1.13 (0.42-3.1)</b>

# Discussion

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- Screening at alcoholic venues targets a **hard to reach population** that engages in high-risk sexual behavior (inconsistent condom use, multiple partners)
- **Predictors of PrEP Uptake:**
  - **Age**
  - **Male sex**
  - **Median # of sexual partners (lifetime & previous 1 month )**
  - **“Never attended clinic”**: Suggestive of success reaching a population that does not otherwise engage in care



Is it feasible  
to provide PrEP in  
community  
settings?

YES

Community-based  
model of PrEP care is  
promising for  
reaching men

Is it feasible  
to provide PrEP in  
community  
settings?

Hazardous alcohol  
use is not associated  
with PrEP uptake  
and retention

YES

# The missing men

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- Most men (61%) report that they never visit clinic:
  - 55% of non-initiators
  - 73% of PrEP initiators
- Men had high levels of other HIV risk markers / facilitators

	PrEP Non-Initiators	PrEP Initiators
Inconsistent condom use	>90%	>90%
Hazardous drinking	79.7%	73.5%
Smoking cigarettes	68.9%	58.8%
Smoking marijuana	14.9%	20.6%

# Limitations

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- Pilot project
- COVID-19
  - Disrupted enrollment
  - Risk behavior may have changed during covid-19 lockdowns
- Other target populations (AGYW, MSM, serodiscordant couples) may require different strategies

# Evaluation of Community-based PrEP

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## 20 INDIVIDUAL IN-DEPTH INTERVIEWS

- PARTICIPANTS WERE **HIGHLY SATISFIED WITH HIV TESTING AND PREP PROVISION IN THE COMMUNITY**

- ~2 reported concerns about privacy and peer pressure to reveal HIV test results

- Challenges to PrEP initiation and adherence included:

- Stigma
  - Daily pill burden
  - Travel to clinic
  - Alcohol use

- Supportive factors for PrEP initiation and adherence included:

- Individual strategies (e.g. alarms reminders)
  - Rapport with community nurses
  - Social support

# Evaluation of Community-based PrEP

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Attrition when transferring to clinic due to:

- Perceived barriers including: poor clinic access (long queues, conflict with work hours)
- Stigma (belief that men cannot be sick, only persons living with HIV attend clinic)
- Unwelcoming clinic environment (mistrust, negative interactions with female nurses)

Facilitators:

- Convenient medication delivery
- Same team (continuity of care)
- Gender concordant care: male nurses/CHWs) helped avoid stigma



# Evaluation of Community-based PrEP

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Attrition when transferring to clinic due to:

Facilitators:

- Perceived barriers to access (long distances, hours)
- Stigma (beliefs about persons living with HIV)
- Unwelcoming environment, negative interactions

## MEN'S SUGGESTIONS:

- visiting shebeens more frequently/regular schedule
- expanding to additional sites (sporting events)
- unmarked cars for home visits
- assistance with facilitating PrEP disclosure to family/partner(s)
- PrEP patient ambassadors
- injectable PrEP

delivery

care)

male

oid stigma

# Conclusions

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Community-based approaches are useful adjunctive strategies to contribute to case finding and linkage to care

- Peer navigation, CHWs: gender concordant care
- Community-based models of PrEP delivery are feasible and can reach those who do not access clinics

Alcohol use disorder is an important comorbidity among young men

# Acknowledgements

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Outstanding team including

- Dr. Anthony Moll
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- Sduduzo Khanyile
- Bona Mvelase
- Dr. Megan Grammatico
- Church of Scotland Hospital nurses



MG personal photo; R33 Main Road through Tugela Ferry



MG personal photo; Drakensberg Mountains