Methods
Participants:
We enrolled 270 pharmacists but only 225 in 37 states completed the study. We present findings from 188 community-based pharmacists that provided care to at least 10 HIV-positive patients.

Survey:
Pharmacists were asked to rate their comfort-level with seven HIV prevention-related activities using a 5 point Likert Scale (1= strongly disagree, 5 = strongly agree):
1) Counseling HIV-positive heterosexuals
2) Counseling HIV-negative clients about PrEP
3) Responding to HIV-related questions
4) Counseling on condom-use and spermicide
5) Filling/counseling HIV-positive MSM
6) Selling needles to PWIDs
7) Discussing how to clean needles with PWIDs

Hypotheses: We tested 3 hypotheses:
Ho1: Pharmacists in high HIV regions are more likely to report being comfortable engaging in HIV prevention-related activities
Ho2: Pharmacists working in specialty pharmacies are more likely to report being comfortable engaging in HIV prevention-related activities
Ho3: HIV-certified pharmacists are more likely to report being comfortable engaging in HIV prevention-related activities

Data Analysis was done in a 4-step process:
Step 1: We generated a HIV prevention index of the 7 HIV prevention-related activities [Cronbach alpha =0.83]
Step 2: We ran binary generalized linear modelling (GLM) regressions for each HIV prevention-related activity and the HIV prevention index (hereafter, dependent variables) and each pharmacist factor (e.g., age, education, experience) and pharmacy factor (e.g., type, disease, prescription size).
Step 3: We ran multiple GLM regressions for each dependent variable and all statistically significant pharmacist and pharmacy factors
Step 4: We re-ran multiple GLM regressions for statistically significant variables including the following interaction terms:
   - HIV certification and HIV patient volume
   - Specialty and HIV certification
   - High HIV region and HIV patient volume

Results
- Pharmacy characteristics are summarized on Table 1 and pharmacist demographics on Table 2
- Table 3 provides statistics on the proportion of pharmacists who agreed strongly agreed being comfortable providing each of the 7 HIV prevention-related activity
- Table 4 contains results of multivariate analysis with interaction terms, summarized as follows:
  - High HIV patient population was significantly associated with comfort selling needles to PWIDs but marginally associated with comfort counseling on condom use
  - Specialty pharmacy was only marginally associated with comfort answering HIV-related questions
  - HIV certification was the single most significant predictor of high comfort with 5 of the 7 HIV prevention-related activities (HIV-related questions, condom use, counseling HIV+/heterosexual and MSM, and filling PrEP)
  - Pharmacists with higher publicly-insured patients had more comfort counseling HIV+ patients and counseling/fitting PrEP

Most of the interactions were not statistically significant:
- HIV certification with high patient population was only marginally associated with less comfort counseling on condom use
- However, the interaction between HIV high county and high HIV+ patient population was associated with lower comfort counseling heterosexual and MSMs
- HIV certification was not significant predictor of comfort with counseling on PrEP

Discussion
Contrary to our first hypothesis, pharmacists in high HIV regions were less likely to report comfort with HIV prevention-related activities
In support of our second hypothesis, pharmacists in specialty pharmacies reported comfort levels answering HIV-related questions
In support of our third hypothesis, HIV certification significantly predicted comfort with most HIV prevention-related activities
Pharmacists with more HIV+ patients were more comfortable taking about condom use and counseling on PrEP
Almost none of the pharmacy or pharmacist factors significantly predicted comfort with counseling PWIDs, how to clean needles
Only HIV certification and high HIV+ population were significantly associated with comfort selling needles to PWIDs

Conclusions
HIV certification is the single most significant predictor of pharmacists’ comfort engaging in HIV prevention-related activities
Pharmacies should invest in HIV certification
Pharmacists HIV certification curricula could be expanded to include comfort counseling PWIDs how to clean needles
Finding that pharmacists in high HIV regions had less comfort with HIV prevention-related activities is counter-intuitive

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