Optimizing service delivery for sex workers operating in and around Birmingham, Alabama

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BACKGROUND

- Implementing appropriate HIV prevention and treatment services for sex workers (SWs) in the U.S. Deep South is critical, given SWs are disproportionally affected by HIV and face complex barriers to care.
- Community-informed implementation strategies are limited.

Objective: explore multilevel determinants of HIV program utilization and unmet needs among SWs across diverse sex work typologies

METHODS

- **Study design**: convergent mixed methods
- **Quantitative analysis (n=370)**
  - *Objective*: identify behavioral and geospatial determinants of BAO utilization
  - *Data*: Merged Birmingham AIDS Outreach (BAO) program data (2021–2023) with geospatial data
  - *Model*: Poisson regression (cluster-robust SE), adjusted for age, race, gender
    - *Primary outcomes*: HIV/STI/HCV uptake and diagnosis
- **Qualitative analysis (n=23)**
  - *Objective*: assess multilevel determinants of program use and unmet need across SW typologies
  - *Data*: in-depth interviews with 14 SWs and 9 key informants (Dec 2023–Jan 2025)
  - *Method*: Thematic analysis

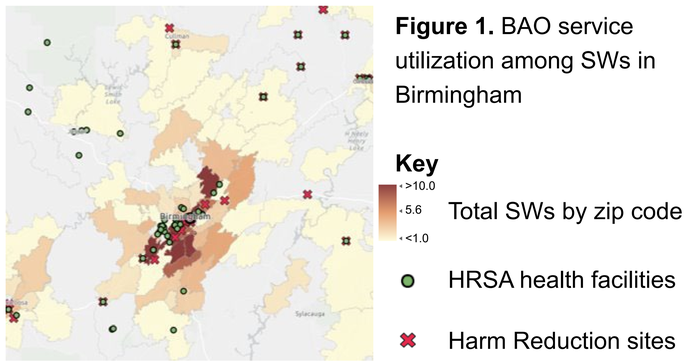


Figure 1. BAO service utilization among SWs in Birmingham

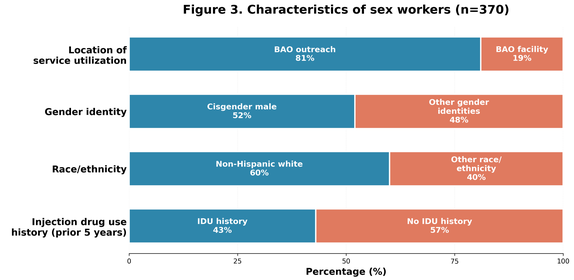
Four distinct typologies of sex work emerged, each with distinct needs and HIV risk profiles. Geographic dispersion and recent funding instability threaten service continuity for sex workers who already face compounding structural barriers in the Deep South.

	Adult content creators	Career sex workers	Circumstantial sex workers	Survival sex workers
Sex worker identity	No	Yes	No	Yes
Clients	Online viewers (e.g., OnlyFans), limited physical contact	Regular client base met online (e.g., Seeking Arrangements)	Irregular client base met online or on street, based on financial need	Consistent client base (multiple per week) met online or on street
Personal agency	High	High	Low to moderate	Low
Safety practices	Strong boundaries and safety practices	Strong boundaries and safety practices	Less consistent safety practices based on financial need	Often nonexistent
HIV service access	Highly variable, often based on work requirements	Regular engagement with preventive care	Variable	Irregular due to structural barriers; often living with HIV
Service provider awareness	Minimal – providers aware but often do not encounter as patients	Moderate – providers may encounter as patients without discussion of sex work	Moderate – providers may encounter as patients without discussion of sex work	High – providers aware of acute healthcare needs
Resource needs	Legal guidance, digital security & privacy protection, peer support	Legal guidance, financial management, safety planning, peer support	Financial management, income-generating activities, safety planning, peer support	Housing & nutrition services, harm reduction, safety planning, peer support
	More agency, less vulnerability			*Less agency, more vulnerability*

Figure 2. Typologies of sex workers identified through qualitative research

RESULTS

- SWs resided a median distance of 9 miles from BAO (Interquartile range: 2.1, 41) (Figure 3)



- Compared to SWs accessed onsite, SWs reached via outreach lived 6.5 additional miles from BAO, 1.3 extra miles from the nearest harm reduction center, and 2 additional miles from the nearest federally qualified health center (Figure 1).
- Uptake of bacterial STI tests was lower among SWs reached via outreach than those reached at the facility (PR 0.08, 95% CI 0.03-0.18).
- Four typologies of sex work emerged (Figure 2), each requiring tailored services.

CONCLUSIONS

- HIV programs must adapt outreach, messaging, and service delivery to ensure acceptability and appropriateness across SW typologies and characteristics.
- Integrating HIV/STI services with housing, legal guidance, and privacy support—tailored to each typology—may better address the diverse needs of geographically dispersed SWs facing structural barriers to care.

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