Rutgers Cancer Institute of New Jersey

# Feasibility and acceptability of implementing HPV self-sampling into street medicine and outreach for women experiencing homelessness

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# Socioeconomic, racial, geographic cervical cancer disparities are pervasive

- Over half of women diagnosed have never or rarely screened

- 14M women aged 21-65 needed screening in USA
  - Older, uninsured, no usual source, immigrants more likely to be overdue
  - Low screening coverage at federally qualified health centers

- Differential follow-up likely reflects barriers to accessing care

# Homeless women are at increased risk

- 4-fold increase in cervical cancer incidence and 6-fold increase in mortality vs. general population
  - High prevalence of risk factors: smoking, STIs
  - Low screening participation, high Pap refusal rates, sexual trauma
- Rough sleepers face additional weather, violence, and trauma risks

Bharel 2009; Baggett 2015; Roncarati 2018

# Discomfort with Pap

Physical discomfort

- “Invasive” and “painful”
- Instruments were “heavy”

Psychological discomfort

- Felt “humiliated,” embarrassed to “expose myself spreading my legs”

Sexual violence and trauma

- “Scared to death,” “overwhelming,” “nerve-wracking”

Kohler 2021

*"I've been raped in the past, and that was very, very long ago. So honestly, sometimes that affects my decision [...] Sometimes it just kind of –* ***I get like this overwhelming – I can't even explain it****. I just get a little overwhelmed at times.* ***And I might flashback to that*** *because it's like:* ***that's the position I was in****. I was on my back. So sometimes that–I flashback to that."*

- 52 y/o woman due for screening

# Providers sometimes hesitated to offer Paps

- Worried about damaging relationship, re-traumatizing patients
- Prioritized other acute health issues
- Low confidence in Pap technical skills
- Female chaperone availability
- Uncertain of patient screening status, lacked access to external EMR

Kohler 2021

*“Two of our providers on the team do outreach work at shelters where we don’t have clinics. They’re* ***literally working out of a suitcase****. And so in those settings, we* ***don’t have an exam table*** *and the only way to get the Pap smear done at these sites is to take the patient up to her personal room and do it on her bed, which can* ***feel uncomfortable for both parties****, but is an option for those who can’t get to a clinic otherwise […] So [they]* ***carry all their equipment there****. You have to* ***wear a headlamp to see what you’re doing****, get the Pap, and carry the sample back in your backpack to be processed here in the lab.”*

- Female MD, family team

# Street Team & Shelter Outreach

- Provides care directly to unhoused people
  - Under bridges, on park benches, in detox units
  - Primary care at Mass General Urgent Care Center

*"Even when they move into housing, **we continue to follow them**, and we do home visits **wherever they are**. And so, if they're on the street, we find them on the street. If they're in a nursing facility temporarily or permanently, **we'll find them** in the nursing facility. When they get admitted to the hospital, **we're in constant communication** with the team in the hospital."*

- female MD street team

# Methods & Sample

- Patient recruitment:
  - Recruited 40/356 females approached at 8 clinics, outreach sites aged 30-64
    - Mean age 49 years
    - 28% High School GED/lower
    - 20% did not have cell phone
    - 66% slept in shelter
    - 60% reported sexual trauma
    - 20% overdue for cervical screening by 10+ years

- Provider recruitment:
  - Purposively identified from Street, Family, HIV, Women's Health teams
  - Interviewed 11 MDs, NPs, PAs, RNs
    - 6 outreach, 5 clinic-based
    - 8 females
    - Mean 8 years experience

# Ideal self-sampling scenario

| Feature | Preferences |
| --- | --- |
| Timing | On-the-spot, during or without appointment |
| Location | Patients preferred cleanliness and privacy of clinic bathroom or exam room; strong opposition to shelter bathrooms |
| Provider | Patients preferred their PCP or gynecologist offer the test<br>Providers suggested nurses could be involved |
| Education | Patients wanted additional support from provider, including a verbal explanation, potentially with a model for demonstration |

# Feasibility Pilot

- Offered self-sampling by PA/DNP
  - Reviewed instructions, brief demo
- Collected sample in public or clinic restroom
  - Staff remained available nearby
  - Documented questions, timing
- Called patients for all (positive or negative) results, counseling
  - Traced HPV+ in person after 3 phone attempts
- Navigated HPV+ patients to closest/usual BHCHP site for follow-up

# Results

- 100% women accepted swab
- 91% reported very or extremely confident
  - Questions about voiding urine, how to break swab off
- 18% reported being a little nervous
  - Mainly about doing something new, felt awkward
  - Worried HPV results
- Mean collection time 2:40
  - Some needed help opening tube, wanted space to setup
- 13% reported not enough privacy
  - Other people in public restroom, unclean space

# Results

- Strong preference for verbal explanation over handout
  - Reportedly promoted confidence in collection
- 100% willing to use swab again, recommend to other women
  - 9% preferred traditional screening for future
    - More accurate, confident in provider results, trust provider
- HPV result delivery preference
  - 47% phone call
  - 27% email/portal message
  - 20% text message
  - 6% in person

# Results

- 13% other hrHPV+

- 47% reached via cell phone within 5 days of result availability
- 27% left multiple messages
- HPV+ traced in person
  - 1 lost to relapse, overdose

## Questions & Concerns

Performance questions, patient self-efficacy concerns

Lost opportunity for comprehensive care

Alignment with national guidelines, quality metrics

## Benefits & Positive Feedback

Physical & Psychological Comfort

Patient Convenience

Usability

Remove staff, space barriers

# Implications for future HPV testing

- Continued emphasis on patient-provider trust, trauma-informed care
  - Address low patient knowledge, risk misconceptions
  - Provide counselling about the benefits of screening, importance of follow-up
  - Demo, offer support to increase self-efficacy

- Provider training on self-sampling performance, follow-up algorithms

- Organizational strategies to ensure adherence to follow-up

# Conclusions

- Offering self-sampling through Street Medicine and Outreach Services was feasible, acceptable to patients and providers
- Patient-centered screening with HPV self-sampling may increase screening participation by addressing complex barriers

# Grazie!

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| Benefits and positive features | Concerns and questions |
| --- | --- |
| Patient **physical and psychosocial comfort:** more private, less invasive for those with trauma history | **Accuracy**: Providers and some patients wanted more information on clinical performance |
| **Patient convenience:** easily integrated into other wrap-around services or no appointment needed | **Self-Efficacy:** few patients worried they made an inadequate sample or contaminated the swab |
| **Remove provider and organizational-level barriers:** space, provider time and technical skills, female chaperone availability | **Comprehensive care:** lost opportunity to do pelvic exam, diagnose other reproductive health issues; consider using as back-up |
| **Familiarity:** some provider experience with and positive impressions of STI self-swab use | **Triage:** concern about low follow-up HPV+ women who refused traditional screening |
| Positive **usability** feedback: patients reacted favorably to device and instructions | Not aligned with **national screening guidelines and quality measures** |

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# Trauma and cervical cancer screening among women experiencing homelessness: A call for trauma-informed care

Racquel E Kohler[1,2,4], Jill S Roncarati[2,4], Anastasia Aguiar[3], Pritha Chatterjee[2,3], Jessie Gaeta[4], Kasisomayajula Viswanath[2,4] and Cassis Henry[4]

**Table 4.** Suggested trauma-informed strategies for cervical cancer screening.

| Before | During | After |
|---|---|---|
| • Assume patient has experienced some sort of trauma or screen for impacts of past trauma<br>• Consider the value of the procedure to the patient to avoid unnecessary intrusion or retraumatization<br>• Promote a sense of safety, trust, and dignity<br>• Encourage continuity of care with same provider to establish familiarity and relationship<br>• Acknowledge and prioritize patient's health goals and preferences<br>• Educate and counsel on cervical cancer risk factors and screening for prevention | • Use open-ended questions to explore reasons behind refusals<br>• Emphasize and affirm that it is her choice to give consent<br>• Explain Pap procedure and show tools before and/or during exam so they know what to expect<br>• Ask patient how to make procedure less uncomfortable<br>• Offer choice of provider gender to conduct Pap<br>• Offer female chaperone (nurse, medical assistant, case manager)<br>• Reiterate patient privacy<br>• Offer calming/comforting distractions during exam (e.g. music, video, talking about other things)<br>• Promote patient control (autonomy) to slow, pause, or stop exam | • Keep open appointments for patients to return if they decline initially or postpone<br>• Empower her in other aspect of health goals<br>• Tailor results communication and counseling to support her for follow-up care or to promote repeat screening as needed |

# Screening Algorithm