

## New and Traditional Notification Tools Improve Partner Notification Outcomes Among MSM with Syphilis Infection in Lima, Peru [Abstract O07.1]

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## Background

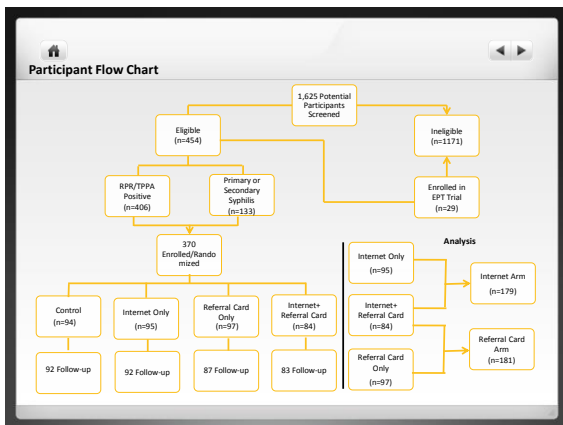
- Partner management strategies offer an opportunity to focus prevention efforts on high-risk sexual networks by re-tracing patterns of STI transmission
- Partner notification following STI diagnosis increases likelihood of testing and treatment for potentially exposed sexual partners
- Provider-based contact tracing and notification (e.g., DIS) is highly effective but often not feasible in resource-limited public health settings

## Partner Notification Technologies

- Printed referral cards previously shown effective in increasing notification rates
- Internet-based PN (e.g., inSPOT.org) offers possibility of anonymous notification and referral
  - Limited effect noted in previous studies in U.S. (Rietmeijer et al, *STD* 2011; Plant et al., *STD* 2012) though no RCTs with MSM populations completed (Kerani et al., *STD* 2011)
- Objective: To evaluate the effect of new and traditional partner notification technologies on self-reported PN among MSM/TW in Peru recently diagnosed with syphilis infection

## Study Design

- 1,625 MSM/TW screened for syphilis infection (physical exam and serologic testing) between September, 2012 and July, 2014
  - Assessment of untreated syphilis infection according to physical examination (primary or secondary infection) and/or physician analysis of serology and treatment history
- Enumeration of all recent partners and description of characteristics of 3 most recent partners
- Participants randomized to 1 of 4 arms
  - Standard PN Counseling
  - Internet PN
  - Referral Cards
  - Internet PN + Referral Cards
- Follow-up in 14-21 days to assess self-reported PN



### Participant Characteristics

|  |               | Control (N=92) | Internet PN (N=175) | Referral Card (N=170) |
|--|---------------|----------------|---------------------|-----------------------|
| Age (Median±IQR)                                 |               | 30 (24 to 35)  | 27 (23 to 32)       | 27 (23 to 34)         |
| Education  | HS Incomplete | 11 (12.1%)     | 20 (11.5%)          | 18 (10.6%)            |
|  | HS Graduate   | 24 (26.4%)     | 46 (26.3%)          | 40 (23.5%)            |
|  | University    | 56 (61.5%)     | 109 (62.3%)         | 111 (65.3%)           |
| Frequency of Internet Use                        | Daily         | 67 (73.6%)     | 130 (74.3%)         | 126 (74.1%)           |
|  | Weekly        | 17 (18.7%)     | 33 (18.9%)          | 34 (20.0%)            |
|  | <Weekly       | 7 (7.7%)       | 12 (6.9%)           | 10 (5.9%)             |
| Sexual Identity                                  | Heterosexual  | 3 (3.3%)       | 2 (1.1%)            | 1 (0.6%)              |
|  | Bisexual      | 18 (19.8%)     | 36 (20.6%)          | 42 (24.7%)            |
|  | Gay           | 65 (71.4%)     | 122 (69.7%)         | 117 (68.8%)           |
|  | Transgender   | 2 (2.2%)       | 3 (1.7%)            | 1 (0.6%)              |
| Number of Sexual Partners (30 Days) (Median±IQR) |               | 2 (1 to 5)     | 2 (1 to 4)          | 3 (1 to 5)            |

### Results: Overall Partner Notification Outcomes

|  | Control                   | Internet PN  | Referral Card  |
|--|---------------------------|--|--|
| <b>Any Partners Notified (All Participants)</b>                    | Prevalence: 53.3% (49/87) | Prevalence: 72.0% (126/175)<br>OR: 2.26 (1.33 to 3.82) | Prevalence: 68.8% (117/181)<br>OR: 1.94 (1.15 to 3.27) |
| <b>Any Partners Notified (Participants with ≥1 Recent Partner)</b> | Prevalence: 59.5% (47/79) | Prevalence: 77.4% (123/159)<br>OR: 2.33 (1.30 to 4.17) | Prevalence: 75.7% (115/152)<br>OR: 2.12 (1.18 to 3.79) |

| Proportion of Recent Partners Notified    | Control                                  | Internet PN  | Referral Card  |
|---|--|--|--|
| <b>All Partners</b><br>95% CI<br>p-value* | <b>35.3% (82/232)</b><br>(26.5 to 44.1%) | <b>57.2% (241/421)</b><br>(50.5 to 63.9%)<br>p<0.001 | <b>51.4% (240/467)</b><br>(44.7 to 58.1%)<br>p<0.001 |
| <b>Male Partners</b>                      | <b>38.0%</b><br>(28.8 to 47.1%)          | <b>60.8%</b><br>(53.2 to 68.3%)<br>p<0.001           | <b>58.4%</b><br>(50.0 to 66.7%)<br>p<0.001           |
| <b>Stable Male Partners</b>               | <b>42.8%</b><br>(23.4 to 62.3%)          | <b>73.7%</b><br>(59.4 to 88.0%)<br>p=0.01            | <b>77.1%</b><br>(63.9 to 90.2%)<br>p<0.001           |
| <b>Casual Male Partners</b>               | <b>35.3%</b><br>(10.6 to 60.1%)          | <b>49.8%</b><br>(33.3 to 66.2%)<br>p=0.16            | <b>38.9%</b><br>(26.9 to 51.0%)<br>p=0.54            |

\*Rank-sum test

### Results: Notification/Treatment Outcomes for Three Most Recent Partners

|                                | Internet PN  | Referral Card                                      |
|--------------------------------|--|--|
| <b>Partner Notified</b>        | <b>OR=1.51</b><br>(95% CI: 0.97 to 2.34)<br>p=0.07 | <b>OR=1.26</b><br>(95% CI: 0.81 to 1.95)<br>p=0.30 |
| <b>Notification Confirmed</b>  | <b>OR=1.37</b><br>(95% CI: 0.89 to 2.11)<br>p=0.16 | <b>OR=1.15</b><br>(95% CI: 0.72 to 1.85)<br>p=0.55 |
| <b>Partner Tested for STIs</b> | <b>OR=1.35</b><br>(95% CI: 0.76 to 2.40)<br>p=0.30 | <b>OR=1.19</b><br>(95% CI: 0.77 to 1.83)<br>p=0.44 |
| <b>Partner Treated for STI</b> | <b>OR=0.88</b><br>(95% CI: 0.55 to 1.40)<br>p=0.59 | <b>OR=0.92</b><br>(95% CI: 0.52 to 1.63)<br>p=0.78 |

\*Generalized Estimation Equation (GEE) model

### Limitations

- Outcomes limited to self-reported partner notification, no independent confirmation by partners
- Potential impact of social desirability bias on participant reporting
- Small size of study limits conclusions regarding differences in use of specific PN technologies in different partnership contexts

### Conclusions

- New and traditional PN technologies improve notification outcomes following syphilis diagnosis among MSM/TW in Peru
- Printed referral cards and internet-based notification systems offer inexpensive, readily accessible tools to support patient-driven notification efforts in resource-limited public health systems
- Additional research is needed to explore how specific PN technologies are used in different partnership contexts

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