

# Partner notification for sexually transmitted infections in the modern world: a practitioner perspective on challenges and opportunities

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## INTRODUCTION

Our aim is to provide a practitioner perspective on approaches to partner notification (PN)—some old, some new—which may improve the control of sexually transmitted infections (STIs), including HIV, in a variety of settings.

PN services support patients with STI/HIV in the difficult task of informing often unsuspecting partners—past or present—of their possible exposure to an STI and hence the need to seek medical care. It is an essential component of STI management and control, protecting patients from reinfection, partners from long-term tissue damage from untreated infection and the community from onward transmission. Beneficial dimensions include ethics (duty to warn), disease control (case finding) and epidemiology (identifying factors associated with STI transmission).<sup>1</sup>

## PN METHODS

Patients may inform partners themselves (patient referral) or supply details for a healthcare worker to notify the partner without disclosing their identity (provider referral). These approaches may be combined whereby a time frame is agreed for patients to inform partners before the healthcare worker notifies those who have not sought care (contract referral).

Patient referral is the method used most frequently, partly because most patients prefer to notify their own partners and also because provider referral is not available in some settings.<sup>2–3</sup> The stigma attached to STIs/HIV can, however, make informing partners traumatic: Gorbach *et al*<sup>4</sup> found that up to one third of patients failed to tell all partners because of embarrassment or fears for personal safety or reputation. Least likely to be informed are casual and ex-partners<sup>4–5</sup> who may have moved on to infect new partners. Provider referral is therefore an important service to protect patients from adverse consequences and reach partners who would not otherwise be informed, thereby improving disease intervention.

## VARIATIONS IN PRACTICE

The intensity of PN activity may vary considerably between settings, ranging from brief advice only to a more complex labour intensive process involving in-depth interactive interviews, recording partner details, provider referrals, follow-up interviews to check progress and verifying partner attendance.<sup>3</sup> Epidemiological analysis of PN data, including network mapping, may be undertaken to inform complementary prevention activities.<sup>6–7</sup>

## EVIDENCE OF EFFECTIVENESS

Intensive approaches are, unsurprisingly, correspondingly more effective.<sup>8–9</sup> In a systematic review of PN strategies, Matthews *et al*<sup>9</sup> found moderately strong evidence that provider or contract referral increases the rate of partners presenting for care and that patient referral enhanced by verbal education together with patient-centred counselling improves the rate of partners treated.

At community level, there is empiric evidence that intensive PN is associated with a reduction in prevalence of STIs.<sup>10</sup> Based on the high positivity rate among notified male partners (65%) compared with screening programmes for men (6%) in the National Chlamydia Screening Programme in England, a modelling study suggested that improving PN efficacy from 0.4 to 0.8 partners treated per case by intensifying PN efforts may be a more cost-effective case-finding strategy than increasing screening among men.<sup>11</sup>

## NEW APPROACHES TO PN

New testing, treatment and communication technologies allow innovative ways of contacting and delivering care to partners, which may be more comfortable, convenient and timely than traditional methods.

### Expedited partner therapy

Expedited partner therapy involves delivering medication or a prescription directly to the partner (s), avoiding medical examination, tests and questions that might be barriers to timely treatment. A meta-analysis of five studies found that patient-delivered partner therapy (PDPT) reduced the risk of recurrent infection in patients with chlamydia and gonorrhoea compared with patient referral, although PDPT was no more effective than supplementing patient referral with information for partners.<sup>2</sup> An alternative approach under investigation in the UK, where medication cannot be prescribed without a consultation, is Accelerated Partner Therapy, whereby partners collect medication and a sampling kit following telephone or pharmacy consultation with a prescriber.<sup>12</sup> PDPT is not recommended for groups at high risk of syphilis or HIV infection, whose members would benefit from a full sexual health screen.

### Postal home sampling

Postal home sampling kits allow partners to take their own sample in comfort and privacy. Trelle *et al*<sup>2</sup> cited two Danish trials which found that chlamydia



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home sampling, compared with office sampling, improved partner testing rates. Delaying partner treatment until home sampling results are available may, however, increase the risk of patient reinfection: a randomised control trial in Scotland comparing patient-delivered postal testing kits (PTK) with patient-delivered partner therapy (PDPT) and patient referral reported no difference in terms of patient reinfection or partner testing/treatment rates between allocated groups.<sup>13</sup> However, a substantial percentage (43%; 22/51) of partners offered PTK who were verified as tested had attended a service instead of returning the PTK. When these partners were excluded from the analysis, the odds of index reinfection was twofold higher with PTK. Similarly, more than a third of partners who confirmed receipt of PDPT (35%; 16/46) also attended a service for testing.

### Combined testing and treatment kits

Combined testing and treatment kits as in the Accelerated Partner Therapy study<sup>11</sup> may be more acceptable, given evidence that partners may wish to know whether they are infected and/or to receive treatment regardless, without delay. These may also be more efficacious in terms of STI control, allowing accurate diagnosis and notification of other partners. The public health impact of treating partners without testing, thereby missing opportunities to diagnose other infections or treat other partners, is in under investigation (Low HTA 07/42/02).

### Communication technologies

Communication technologies such as text messaging and web-based systems are increasingly used. Internet PN provides a means of notifying the increasing number of individuals exposed to an STI through internet dating sites, who may not be traceable by other means. Internet PN facilities such as inSPOT allow patients to send electronic postcards to partners without disclosing their own identity,<sup>14</sup> though more empiric evidence is needed to demonstrate efficacy. A similar system developed by Gay Men Fighting Aids allowing both patient and provider referral via four popular dating sites is currently being piloted in eight genitourinary medicine (GUM) clinics in the UK.

### THE IMPORTANCE OF FOLLOW-UP

The effectiveness of PN is commonly measured in terms of process rather than impact: customarily, the numbers of partners informed, tested, treated and/or positive for infection. Such outcomes are collected by checking clinic records or telephoning the index patient to enquire about progress with PN. Patients who have had difficulty notifying partners may appreciate a second chance to request provider referral: more than half (56%) the provider referrals for gonorrhoea were agreed to at follow-up interview in a UK study.<sup>5</sup> Follow-up patient phone calls therefore have two important functions: to facilitate PN by gentle reminder or repeated offer of assistance and to ascertain whether partners were tested and or treated to ensure measured outcomes are as accurate as possible.

Verification of partner attendance is increasingly challenging in settings where there are multiple STI screening venues without access to a centralised reporting system. In such circumstances, the number of partners with patient- or clinician-confirmed tests/treatment may be a more reliable measure of PN effectiveness than the more elusive 'clinician-confirmed' gold standard measure.

The frequent absence, in practice, of follow-up and verification is highlighted in a recent national UK audit, revealing that PN outcomes were not recorded for 41% of patients managed for

chlamydia in GUM clinics.<sup>15</sup> Barriers to PN follow-up and verification of partner attendance need to be explored further to improve effectiveness of PN and the validity of outcome measures currently used.

### SERVICE STRUCTURE AND ORGANISATION

One of the main challenges today is how best to provide efficacious cost-effective PN services for the increasing proportion of STI patients tested/treated for STIs (mostly chlamydia) in a wide range of non-specialist settings. One option is to involve staff in those services in some or all aspects of PN. The CLaSS study found practice nurses in primary care were at least as effective as GUM health advisers at eliciting partners and securing partner treatment through patient referral, with support from a research health adviser who provided training and followed up outcomes.<sup>16</sup> The added benefit and cost-effectiveness of offering provider referral to patients with chlamydia in primary care settings is under investigation through a multicentre randomised controlled trial in the UK (HTA 07/43/01).

Evidence that some primary care staff are reluctant to assume such sensitive and time consuming duties<sup>17</sup> suggests, however, that it may be difficult to engage or sustain non-specialist involvement in PN without ongoing support from specialists. This could be provided by a centralised community PN bureau, as recommended by the National Chlamydia Screening Programme, where PN specialists would be based to coordinate activities across the community to provide training, undertake provider referrals, follow-up outcomes, develop local care and referral pathways, and monitor effectiveness.<sup>18</sup> Further research is required to establish whether training and supporting large numbers of non-specialised staff to undertake PN interviews face to face at the time medication is given results in more cost-effective outcomes than management by a small team of specialists interviewing patients by phone. In Sweden, excellent PN outcomes (1.9 partners tested per case) for a large sparsely populated area were attributed to centralised contact tracing with telephone interviews performed by a small team of experienced staff.<sup>19</sup> On the other hand, non-specialist staff in some settings may have better understanding of, and rapport with, affected populations and thus be in a better position to elicit partner details and notify contacts than PN specialists. For example, community health workers trained to undertake PN played a significant part in the management of a syphilis outbreak on a Native American Reservation.<sup>20</sup> Non-clinical staff and agencies working with specific groups such as young people, sex workers or drug users might be an equally valuable resource. The role of a PN bureau would include timely responses to changes in local STI epidemiology, ensuring those best placed to undertake aspects of PN are trained and supervised as required to elicit partner details and/or trace and notify partners, follow-up progress and report outcomes. Equally important is the support of managers committed to providing the resources needed for good quality PN: without such support, in the context of competing pressures, follow-up phone calls and reporting may not be a priority. The effectiveness and efficiency of a centralised system depend upon reliable reporting from all agencies involved in PN—preferably to a central electronic database.

### EPIDEMIOLOGICAL USE OF PN DATA

Centralising the management of PN for a community makes it possible to make the best use of epidemiological intelligence gathered during the PN process. Contact tracing takes you to where the problem is, allowing real-time surveillance of

## Key messages

- ▶ A partner notification programme which includes a provider referral service and follow-up of outcomes is an essential aspect of sexually transmitted infection management and control.
- ▶ Partner testing and treatment may be expedited by patient-delivered or postal testing kits, medication or prescriptions and by communication technologies such as internet partner notification and text messaging.
- ▶ Collaboration between partner notification specialists, clinical and non-clinical community workers, managers, and commissioners is necessary to ensure the best use of local resources for partner notification and management.
- ▶ A centralised 'partner notification bureau' to manage and coordinate partner notification activities across a community may enhance effectiveness and efficiency.

transmission networks. Data routinely collected during the PN process (who? what? where? how? when?) can provide early warning of outbreaks, reveal associated trends in sexual behaviour or mixing patterns and, through analysis of sexual network phase and structure, suggest appropriate control measures.<sup>6,7</sup> For example, network analysis of syphilis cases in Sheffield, UK, revealed that heterosexual cases and contacts were identifiable and interconnected and thus responsive to management through PN, whereas men who have sex with men networks were more sporadic, with many untraceable partners met via the internet or saunas.<sup>7</sup> As a result, control efforts were expanded to include internet provider referral via dating sites and outreach screening in a local sauna used by men who have sex with men.

## CONCLUSIONS

PN makes a valuable contribution to both patient care and STI control. The challenge for the future is to improve efficacy and cost-effectiveness by combining traditional approaches of proven value (interactive interviews, provider referral, follow-up and verification of outcomes) with new technologies allowing partners to be notified, tested and treated more easily, thereby potentially reducing the discomfort and inconvenience for patients and partners and for reducing service costs. A centralised PN bureau may make the best use of local resources by bringing PN specialists together with clinical and non-clinical community workers, managers and commissioners to develop timely, efficient and cost-effective PN services tailored to the needs of the local community. Reliable reporting systems are essential to manage partner services efficiently and to provide reliable data on effectiveness.

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**Contributors** GB wrote the manuscript following email discussion with JP, who provided editorial guidance on successive drafts.

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