

# *A Systematic Review of HIV Partner Counseling and Referral Services: Client and Provider Attitudes, Preferences, Practices, and Experiences*

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**Objectives:** The objectives of this study were to understand client and provider attitudes, experiences, and practices regarding HIV partner notification in the United States and to help identify future research and program needs.

**Goals:** The goals of this study were to synthesize the literature reporting client and provider attitudes, experiences, and practices and to identify potential negative effects of HIV partner notification.

**Study Design:** This study consisted of a systematic qualitative review.

**Results:** Clients were willing to self-notify partners and participate in provider notification, and few reported negative effects. The majority of healthcare providers were in favor of HIV partner notification; however, they did not consistently refer index clients to HIV partner notification programs.

**Conclusion:** Considering that clients have positive attitudes toward self- and provider referral, local HIV prevention programs need to ensure that all HIV-positive clients are offered partner notification services. Additional research is needed to assess the potential risks of notifying partners and to identify effective techniques to improve client and provider participation.

LOCAL AND STATE PUBLIC health programs use HIV partner notification as an essential part of an HIV prevention approach known as partner counseling and referral services (PCRS).<sup>1</sup> As an important component of the U.S. Centers for Disease Control and Prevention (CDC) *Advancing HIV Prevention Initiative*, PCRS is a comprehensive HIV prevention and treatment strategy that informs sex and needle-sharing partners of HIV-positive patients

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about their potential exposure to HIV;<sup>2</sup> helps these partners gain earlier access to individualized counseling, HIV testing, medical evaluation, and other services; and assists persons newly diagnosed with HIV to receive prompt medical care to maximize the benefits of life-saving antiretroviral therapy.<sup>1,3–11</sup>

PCRS programs notify partners potentially exposed to HIV through four referral strategies: client referral, provider referral, contract referral, and dual referral. For client referral, also known as patient or self-referral, an HIV-positive client (i.e., index patient) informs his or her sex or needle-sharing partners about their possible exposure to HIV. With provider referral, a health service provider (e.g., physician, nurse, counselor, or disease intervention specialist) collects partner contact information from the index patient and then notifies these partners. Contract referral is a combination of the client and provider referral strategies, in which the index patient agrees to notify his or her partners within an established time period. After that time, the provider will then notify any partners not contacted by the client. Finally, dual referral involves both the client and provider notifying the client's partners together.<sup>10</sup>

The use and efficacy of partner notification for HIV-positive clients has been extensively debated.<sup>4,5,12,13</sup> Early critics questioned the ethical nature of partner notification, citing concerns over client rights and confidentiality issues, especially in light of the heavy stigma associated with HIV/AIDS.<sup>8,14</sup> Opponents were also concerned that partner notification may put the infected individual at risk for negative and harmful reactions from informed partners.<sup>8</sup> Proponents saw partner notification as a means to help partners learn of their status early, reduce risk behaviors, and gain early access to services and treatment.<sup>1,2,4,6,7,9,15</sup>

Results from past literature reviews suggest HIV partner notification can effectively identify undiagnosed HIV-positive persons who are unaware of their serostatus, and PCRS programs contact and test more partners through the provider referral approach than client referral.<sup>6,16–19</sup> PCRS is also a cost-effective approach for identifying high-risk individuals for HIV services and treatment.<sup>20–22</sup> Although the evidence shows HIV partner notification is a cost-effective strategy for reaching and testing high-risk indi-

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viduals, little is known about clients' and providers' attitudes and experiences regarding partner notification.<sup>6,8,13,16,17</sup> Considering the success of PCRS depends on the cooperation of both clients and providers, it is essential to understand both clients' and providers' perspectives and experiences with HIV partner notification.<sup>14</sup>

To this end, we performed a systematic qualitative literature review to accomplish the following goals. First, we summarized reports of clients' attitudes, preferences, choices, and experiences regarding partner notification, particularly the client and provider referral strategies, because few studies have examined the contract and dual referral strategies. Second, because concerns have been raised about the potential negative effects of PCRS,<sup>1,3,4,8,9,14,16</sup> we review reports addressing whether index patients experienced negative outcomes (e.g., physical, emotional, or sexual abuse; dissolution of relationship with primary partner; emotional trauma) as a result of participating in partner notification. Finally, we examined reports of the attitudes and practices of healthcare professionals who conduct partner notification or refer clients to PCRS. Specifically, this review addresses the following questions:

1. Would potential clients be willing to self-notify partners?
2. Would potential clients be willing to have health service providers notify their partners?
3. Do actual clients choose to use provider referral to notify their partners?
4. Are partners comfortable or receptive to being contacted through provider referral?
5. What types of perceived barriers prevent potential clients from participating in partner notification?
6. Do index patients experience negative effects as a result of partner notification?
7. Are providers in favor of partner notification?
8. Do providers believe partner notification is effective?
9. How are providers conducting partner notification and related services?

## Methods

As part of the HIV/AIDS Prevention Research Synthesis (PRS) project initiated by the CDC, we performed a systematic search of the scientific literature from 1988–2004 by using automated and manual search methods to identify relevant published reports on PCRS. The automated method included a comprehensive search of electronic bibliographic databases, including AIDSLINE (1988 to discontinuation in December 2000), EMBASE, MedLine, PsycINFO, CINHALL, SocioFile, and the Science Citation and Social Sciences Citation indexes (January 1998 to December 2004). We crossreferenced standardized search terms (i.e., key words and Medical Subject Heading terms) reflecting two areas: 1) HIV or sexually transmitted disease (STD), and 2) partner notification and contact tracing. The manual search methods included handsearching of over 40 relevant journals, identifying additional citations by reviewing the references of all pertinent reports, and contacting researchers to identify current and ongoing research.

A study was included in this review if it met all the following criteria: 1) conducted in the United States; 2) focused on HIV partner notification; and 3) provided original data on client or provider attitudes, preferences, or practices, or negative effects of HIV partner notification. Identified reports were screened by two independent reviewers for eligibility. Once the eligible studies were identified, standard qualitative research methods were used to collect pertinent data.<sup>23</sup> Qualitative themes that addressed the proposed study questions were established by the authors of this

review to facilitate content analysis of the data. Two reviewers worked independently to abstract the relevant client and provider data using spreadsheets that contained each research question. After data were abstracted, discrepancies regarding the criteria, data, and coding were resolved by the reviewers.

## Results

The systematic search procedures identified 180 unique studies related to partner notification, with 25 of these studies meeting the review's eligibility criteria (Table 1). The studies included in this review were conducted between 1985 and 2002 at a variety of locations, including 16 states and the District of Columbia. Three studies were nationwide surveys.<sup>24–26</sup> Sixteen studies provided information on clients' HIV partner notification attitudes, preferences, and choices.<sup>3,4,8,12,13,27–37</sup> These studies collected client data from various populations, including men who have sex with men (MSM), women, heterosexual men, blacks, Latino/as, whites, and injection drug users (IDUs). More specifically, the majority of participants in 13 studies were men, with eight studies comprised of predominantly gay or bisexual men. In nine studies, more than half of the participants were ethnic minorities and in 10 studies the majority of participants were HIV-positive. Client data include information collected from index patients and partners who had participated in PCRS and HIV-positive or negative participants who have no direct experience with PCRS (i.e., potential clients). Seven studies provided data on negative outcomes resulting from partner notification.<sup>8,29,31,38–41</sup> Seven studies reported data on providers' partner notification attitudes and practices.<sup>8,14,24–26,41,42</sup> Provider data were collected from HIV and STD counselors, hospital counselors, physicians, physicians' assistants, nurses, social workers, and psychologists who either conduct PCRS or provide direct services to HIV-positive clients.

### *Would Potential Clients Be Willing to Self-Notify Partners?*

Four studies<sup>4,8,12,27</sup> report that the majority (55–97%) of participants indicate they would be willing to participate in client referral (i.e., self-notify a partner) if they tested positive for HIV (Table 2A). Client data were collected from a variety of participants, including MSM, women, IDUs, other substance users both in and out of treatment, and STD clinic patients. Although willingness to self-notify did not appear to vary by participants' gender, sexual orientation, or drug use history, one study reported that active drug users indicated they would be more reluctant to notify sex partners than drug users in treatment.<sup>8</sup>

A key factor that may influence respondents' willingness to self-notify is the type of relationship they have with their partners. A study of out-of-treatment drug users<sup>4</sup> indicated that participants would be most willing to self-notify their close drug-using friends (72%) and sex partners (71%) and their casual drug-using friends (67%). However, only 55% would be willing to self-notify their casual sex partners. Another study reported that former and current drug users would be more willing to self-notify their main sex and needle-sharing partners than casual partners.<sup>8</sup> These results suggest that potential PCRS clients may be more willing to self-notify their main sex and needle-sharing partners and are more reluctant to self-notify casual partners.

### *Would Potential Clients Be Willing to Have Health Service Providers Notify Their Partners?*

It appears that most potential PCRS clients would be willing to participate in provider referral (Table 2B).<sup>12,27–29</sup> However, participants' willingness to use provider referral varied according to their sexual orientation and drug use history. One study<sup>12</sup> reports that

TABLE 1. Study Description (25 studies)

First Author, Year	Location (study date)	(Sample Size) Target Population	Age (yrs)	Gender	Sexual Orientation	Ethnicity	HIV-Positive	IDU
American Health Consultants, 1995 <sup>37†</sup>	Berks County, PA (1993–1994)	(N = 124) Needle-sharing and sex partners network	Range = 16–60	—	—	89% W, 5% H, 3% AA	35%	—
Bredfeldt, 1991 <sup>24‡</sup>	Nationwide (1989)	(N = 757) Family doctors	—	—	—	—	—	—
Bresolin, 1990 <sup>25‡</sup>	Nationwide (1988)	(N = 500) General practitioners (n = 97); family practitioners (n = 108); internal medicine (78); pediatricians (n = 121); OB/GYN (n = 96)	—	—	—	—	—	—
Carballo-Dieguez, 2002 <sup>12†</sup>	New York, NY (2000)	(N = 1372) STD clinic patients seeking HIV testing	Mean = 30; range = 14–74	51% male, 49% female, <1% transgender	Sexual active men only: 18% MSM	46% AA, 27% H, 18% W, 4% O, 2% UK, 2% AS/AI	6%	—
Crystal, 1990 <sup>14‡</sup>	New Jersey (1988–1999)	(N = 48) HIV counselors	—	—	—	—	—	—
DePhillippis, 1992 <sup>27†</sup>	Philadelphia, PA (NR)	(N = 196) Methadone-maintained clinic patients	Mean = 39; SD = 6	89% male	—	57% AA, 40% W, 2% H	1%	100% IDU in treatment
Dimas, 1989 <sup>3†</sup>	Colorado, New York, Ohio, Oregon (NR)	(N = 399) STD clinic patients	—	—	—	—	—	—
Dye, 1999 <sup>42‡</sup>	Syracuse, NY (1998)	(N = 11) Physicians who treat HIV-positive patients	—	—	—	—	—	—
Golden, 2003 <sup>28†</sup>	Seattle and King County, WA (2000)	(N = 95) HIV-positive patients and reported HIV-positive individuals	12% <30, 26% 30–34, 27% 35–39, 35% ≥40	94% male	86% MSM	65% W, 16% AA, 12% H, 5% O, 2% UK	100%	23% history of IDU
Hoffman, 1998 <sup>4†</sup>	Washington, DC (1996)	(N = 53) Out-of-treatment crack cocaine and/or injecting drug users	—	55% male	—	—	—	—
Hoxworth, 2002 <sup>38*</sup>	Denver, CO (1998–2000)	(N = 165) HIV-positive patients; partners contacted by notification programs; HIV-negative patients	—	72% male	60% homosexual/bisexual	64% W, 16% AA, 16% H, 4% O	51%	—
Jones, 1990 <sup>29†‡</sup>	South Carolina (1988–1989)	(N = 132) Partners previously notified through local PCRS	Median = 28; range = 15–71	78% male	73% homosexual/bisexual	78% AA, 21% W, 1% O	23%	7%
Jordan, 1998 <sup>39*</sup>	Los Angeles, CA (1994–1995)	(N = 85) HIV-positive female patients	—	100% female	—	—	100%	—
Kissing, 2002 <sup>40*</sup>	New Orleans, LA (4/98–12/02)	(N = 157; 76 HIV-positive) HIV-positive patients and patients diagnosed with syphilis who participated in partner notification	60.5% >30	HIV-positive: 57.9% male	HIV-positive: 22.4% homosexual/bisexual	HIV-positive: 90.8% AA, 9.2% O	HIV-positive: 100%	0.30%

(Continues)

TABLE 1. (Continued)

First Author, Year	Location (study date)	(Sample Size) Target Population	Age (yrs)	Gender	Sexual Orientation	Ethnicity	HIV-Positive	IDU
Lee, 1990 <sup>30†</sup>	Kansas city, MO (1989)	(N = 139) HIV-positive STD clinic patients	—	93% male	At least 72.2% homosexual/bisexual	63% AA, 33% W, 4% H	100%	13%
Levy, 1998 <sup>31*†</sup>	Chicago, IL (NR)	(N = 63) HIV-positive injecting drug users	—	73% male	—	73% AA, 15% H, 12% UK, 1% W	100%	100%
Maier, 2000 <sup>32†</sup>	Newark, NJ; Miami, FL	(N = 490) HIV-positive female STD clinic patients	Median = 26.5; range = 18–59	100% female	—	78% AA, 16% H, 6% O	100%	—
MMWR, 1988 <sup>33†</sup>	Virginia (9/86–12/87)	(N = 479) HIV-positive STD clinic patients	—	—	—	—	100%	—
Pavia, 1993 <sup>13†</sup>	Utah (10/88–9/90)	(N = 308) All reported individuals diagnosed with HIV	Mean = 32	89% male	Males only: 68% MSM	84% W, 8% AA, 7% H, 1% UK	100%	18%
Rogers, 1998 <sup>8*††</sup>	Brooklyn, NY (1995)	(N = 25) IDUs; (N = 23) hospital or STD clinic counselors	Range = 20–40 (IDUs)	76% male (IDU) 70% male (Counselors)	Unclear	IDU: 72% AA, 20% W, 8% H	IDU: 100%	100%
Rothenberg, 1995 <sup>41*†</sup>	Baltimore, MD (1993)	(N = 136) Physicians, physician assistants, psychologist, social workers, nurses, and other health care providers who see HIV positive female patients	—	—	—	—	—	—
Rutherford, 1991 <sup>34†</sup>	San Francisco, CA (1985–1987)	(N = 280) Heterosexual or bisexual AIDS patients reported to health department, mothers of infants with AIDS and partners	Mean = 40 (index) Mean = 31 (partners)	88% male (index) 80% female (partners)	63% MSM (index) 53% MSM (partners)	61% W (index) 60% W (partners)	100% (Index) 5% (partners)	18.5% (index and partners)
Schwarz, 2001 <sup>35†</sup>	San Francisco, CA (9/98–12/99)	(N = 158) HIV-positive patients from HIV counseling and testing sites	—	—	—	—	100%	—
Spencer, 1993 <sup>36†</sup>	Colorado (1998)	(N = 231) HIV-positive index patients	—	84% male	Males only: 65% homosexual; 25% bisexual	69% W, 14% H, 14% AA, 1% O	100%	27%
St. Lawrence, 2002 <sup>26†</sup>	Nationwide (NR)	(N = 4,226) Physicians who specialized in obstetric/ gynecology, internal medicine, general or family practice, emergency medicine, or pediatrics	Mean = 46.2	72% male	—	81% W, 13% AS, 5% H, 4% AA 1 < % PI	—	—

\*Negative effect data.

†Client data.

‡Provider data.

Dashed line indicates data not reported.

IDU indicates injection drug user; AA = African American; AS = Asian; AI = American Indian; H = Hispanic; PI = Pacific Islander; O = other; STD = sexually transmitted disease; U = unknown; W = white; MSM = men who have sex with men; SD = standard deviation; NR = not reported; PCRS = partner counseling and referral services.

TABLE 2. Client Attitude, Experience, and Negative Effect Data

**A. Would potential clients be willing to self-notify?**

DePhilippis, 1992 <sup>27</sup>	73% would inform their partner personally
Rogers, 1998 <sup>8</sup>	Drug users in treatment were willing to self-notify partners; active drug users generally expressed a reluctance to notify sex partners
Hoffman, 1998 <sup>4</sup>	Preference to self-disclose by partner type: close drug-using friend: 72%; casual drug-using friends: 67%; close sex partners: 71%; casual sex partners: 55%
Carballo-Dieiguez, 2002 <sup>12</sup>	Willing to self-notify partner: MSM: 97%; men who have sex with women (MSW): 96%; women who have sex with men (WSM): 94%; drug users: 97%

**B. Would clients be willing to have health service providers notify their partners?**

Jones, 1990 <sup>29</sup>	Many respondents said they prefer to self-notify current partners and have health department (HD) notify past partners
DePhilippis, 1992 <sup>27</sup>	87% willing to disclose at-risk partner to health authorities; when patients asked if they would prefer to personally inform or have the HD inform their partner: 65% choose either option; 22% choose contact tracing; 8% inform personally; 5% rejected both options
Rogers, 1998 <sup>8</sup>	50% of participants would refuse to participate in partner notification if a counselor was to notify
Hoffman, 1998 <sup>4</sup>	Preference to have outreach worker notify by partner type: close drug-using friend (4%); casual drug-using friends (4%); close sex partners (2%); casual sex partners (14%)
Carballo-Diegues, 2002 <sup>12</sup>	Willing to give partner info to health department: MSM: 80%; MSW: 92%; WSM: 89%; drug users: 85%
Golden, 2003 <sup>28</sup>	79% would be willing to speak to healthcare or public health provider about partner notification

**C. General support of partner notification**

Dimas, 1989 <sup>3</sup>	88% believed that health officials should inform the partner if they learn that the partner has been exposed to HIV; 91% of respondents believed that an index patient should tell his or her sexual partner of the patient's infection
Jones, 1990 <sup>29</sup>	92% said the health department should continue notifying people exposed
DePhilippis, 1992 <sup>27</sup>	87% support contact tracing of HIV-positives
Maher, 2000 <sup>32</sup>	78% believed that the health department should inform sex partners that they may have been exposed to an STD or HIV
Golden, 2003 <sup>28</sup>	84% strongly or somewhat agreed that the health department should routinely offer everyone with HIV help in notifying their partners

**D. Do actual clients choose to use provider referral to notify their partners?**

MMWR, 1988 <sup>33</sup>	59% chose provider referral
Lee, 1990 <sup>30</sup>	Only a few clients assisted in notifying their contacts with the overwhelming majority requesting the health department undertake this task (% not reported)
Rutherford, 1991 <sup>34</sup>	9% of index patients refused to participate in provider referral
Spencer, 1993 <sup>36</sup>	73.4% of clients requested that DIS refer one or more of their partners; clients choose provider referral to notify 75.3% partners
Pavia, 1993 <sup>13</sup>	Of 308 index patients, 21% declined to name any partners for provider referral
AHC, 1995 <sup>37</sup>	Approximately 20% of clients chose to self-notify partners, whereas the rest requested the health department contact partners
Levy, 1998 <sup>31</sup>	82% choose the outreach team to inform at least one of their partners; 71% of partners notified by outreach team

Schwarcz, 2001<sup>35</sup> 32% agreed to self-notify partner; 5% agreed to meet with PCRS counselor

**E. Are partners receptive to being contacted through provider referral?**

Jones, 1990 <sup>29</sup>	87% thought the health department did the right thing by informing them; 77% said being told was helpful
DePhilippis, 1992 <sup>27</sup>	84% said they would want to be reported to health authorities by seropositive partner
Carballo-Diegues, 2002 <sup>12</sup>	53% were comfortable or neutral being contacted by the health department; 75% were comfortable or neutral being contacted by partner

**F. Barriers: fear of negative effects**

Rothenberg, 1995 <sup>41</sup>	Top four reasons that providers thought patients resisted notification were: fear of abandonment, loss of emotional support, emotional abuse, and physical violence
Hoffman, 1998 <sup>4</sup>	Percent that feared being harmed by: close drug-using friend (2%); casual drug-using friends (19%); close sex partners (10%); casual sex partners (31%)
Rogers, 1998 <sup>8</sup>	Participants were worried about partner's reaction; women feared violence as a result of partner notification
Maher, 2000 <sup>32</sup>	24% responded "yes" when asked "If you had HIV, would you have any fear about telling your partner?"

**G. Barriers: concerns about confidentiality**

Dimas, 1989 <sup>3</sup>	80% believed that index patients would be compelled to disclose the names of their sexual partners to the health department; 44% believed that the patient's own name would be disclosed
AHC, 1995 <sup>37</sup>	After HIV-positive patients verified their names were not shared with partners, they provided info on an additional 58 partners
Maher, 2000 <sup>32</sup>	71% incorrectly responded "true" to "The law requires someone who has an STD or HIV to give the health department the names of his/her sex partners so that the HD can warn them"
Golden, 2003 <sup>28</sup>	42% of respondents were more likely to provide names for contract tracing if they could do so anonymously

**H. Do index patients experience any negative effects from partner notification?**

Jones, 1990 <sup>29</sup>	7% said notifying partner was harmful (caused fear and depression of unknown future and fear of loss of confidentiality)
Rothenberg, 1995 <sup>41</sup>	Providers reported that 8% of their patients experienced physical violence after disclosure to partners, 23% were emotionally abused after notification, and 19% of the patients were abandoned
Jordan, 1998 <sup>39</sup>	None of the women in this study reported physical abuse after notifying male partners

(Continues)

TABLE 2. Continued

Levy, 1998 <sup>31</sup>	No reports of violence or suicide attributable to partner notification
Rogers, 1998 <sup>8</sup>	Of the four drug users in treatment who had experience with partner notification services, all four found it to be an anxiety-provoking or traumatic experience
Hoxworth, 2002 <sup>38</sup>	None of the dissolutions that occurred after partner notification were reported to be caused by the partner notification experience
Kissinger, 2002 <sup>40</sup>	Overall prevalence of emotional and physical abuse decreased after notification (HIV-positive and syphilis); partnership were less likely to dissolve if they had complete PCRS

MSM indicates men who have sex with men; STD = sexually transmitted disease; DIS = disease intervention specialist; PCRS = partner counseling and referral services.

fewer MSM (80%) were willing to provide their partners' contact information to the health department for provider referral than women (89%) or heterosexual men (92%). In a study of HIV-positive patients, most of whom were MSM, approximately 79% of the participants stated they would disclose their partners' names to at least one type of provider.<sup>28</sup> More respondents were willing to provide partner information to a doctor (64%) or social worker/case manager (62%) than to health department personnel (48%) or a member from the gay community (45%). These differences may indicate a preference to work with familiar and trusted providers as opposed to seeking "outside" assistance from providers whom many index patients believe will not maintain confidentiality.<sup>28</sup>

Drug users' willingness to participate in provider referral is more varied. Two studies<sup>12,27</sup> reported that the majority (85% and 87%) of substance users would provide partner contact information to the health department, whereas two other studies<sup>4,8</sup> indicated that drug users were more reluctant to have a provider notify their partners. In particular, only 2% to 14% of drug users in Hoffman et al's study reported a preference to have an outreach worker notify their partners. These data probably underestimate willingness to use provider referral because the survey questions required participants to select one referral method over the other. In addition, the authors noted that the community outreach workers could have been perceived as a threat to the participants' confidentiality.<sup>4</sup>

Although people's willingness to participate in provider referral varies, they do generally support PCRS programs. Most respondents (78–92%) from five studies believed that health departments should provide partner notification programs or assist in informing potentially exposed partners (Table 2C).<sup>3,27–29,32</sup>

#### *Do Actual Clients Choose to Use Provider Referral to Notify Their Partners?*

Data from seven studies<sup>13,30,31,33,34,36,37</sup> report that the majority of PCRS clients (59–82%) used provider referral to notify one or more of their partners (Table 2D). Data were collected from a variety of HIV-positive clients who actually participated in PCRS, including ethnic minorities, MSM, women, and injection and other drug users. Five of these studies<sup>30,31,33,36,37</sup> report that more clients chose to use provider referral instead of self-referral to notify their partners. Furthermore, two studies<sup>31,36</sup> report that clients chose to notify the majority (71–75%) of their partners through provider referral. Although most studies report that index patients chose provider referral over client referral, one study<sup>35</sup> of MSM in San Francisco reported that fewer index patients agreed to notify partners through provider referral (5%) than self-referral (32%). Such a finding suggests potential regional and cultural differences in partner notification preferences across various communities.

Index patients' choice of referral method may be influenced by other factors, including their relationship with their partners, drug use history, and sexual orientation. In one study, IDUs were significantly more likely to name partners for provider referral than

other index patients, including heterosexuals and MSM.<sup>13</sup> Levy and Fox note that although most (82%) IDU clients chose provider referral for notifying at least one partner, these clients chose to self-notify 72% of their significant others.<sup>31</sup>

#### *Are Partners Receptive to Being Contacted Through Provider Referral?*

The majority (53–87%) of participants in three studies,<sup>12,27,29</sup> which included MSM and former or current IDUs, either wanted to be notified or were comfortable with a healthcare provider notifying them (Table 2E). According to one study,<sup>12</sup> partners were more comfortable being notified by the index patient (75%) than a provider (53%). Such data may indicate respondents' desire for their partners to notify them instead of a stranger.

#### *What Types of Perceived Barriers Prevent Potential Clients From Participating in Partner Notification?*

Several studies report that clients are often hesitant to participate in partner notification for fear of negative partner reactions (i.e., abuse or abandonment)<sup>4,8,32,41</sup> or that their confidentiality will be compromised (Table 2F, G).<sup>3,28,32,37</sup> Female clients expressed concern that their partners may react violently on being notified and therefore refused to participate in PCRS.<sup>4,8,41</sup> Hoffman et al<sup>4</sup> reports that more participants feared being harmed by casual partners as opposed to close partners. In other cases, concerns and misconceptions about confidentiality may potentially prevent potential clients from participating in partner notification services.<sup>3,28,32,37</sup> Participants from two studies<sup>3,32</sup> believed that they would be forced to disclose partners' names to the health department or providers would reveal their identities to their partners. One study<sup>37</sup> reported that index patients provided more partner names for provider referral after they confirmed that the health department would maintain their confidentiality, supporting that concerns about confidentiality played a role in their willingness to participate.

#### *Do Index Patients Experience Negative Effects From Partner Notification?*

Seven studies<sup>8,29,31,38–41</sup> included in this review explored whether index patients experienced negative effects (e.g., physical, emotional, or sexual abuse; dissolution of relationship with primary partner; emotional trauma) resulting from participation in partner notification (Table 2H). The physicians interviewed in Rothenberg et al's study<sup>41</sup> reported that 23% of their patients were emotionally abused, 19% were abandoned, and 8% were physically abused after their partners were notified. However, five studies collecting client data indicate that clients self-reported few negative experiences.<sup>29,31,38–40</sup> In fact, two studies<sup>38,40</sup> found that relationships did not dissolve as a result of partner notification and one study<sup>40</sup> reported that the overall rates of emotional and physical abuse declined.

TABLE 3. Provider Attitude and Experience Data

**A. Are providers in favor of partner notification?**

Crystal, 1990 <sup>14</sup>	77% of HIV counselors stated that they were positive or very positive about New Jersey's Notification Assistance Program (NAP)
Bresolin, 1990 <sup>25</sup>	68% endorsed mandatory contact tracing for all HIV-positive patients
Bredfeldt, 1991 <sup>24</sup>	98% believed the health department should track sex partners of HIV-positive patients
Rothenberg, 1995 <sup>41</sup>	For consenting patients, 67% of providers opposed disclosure when there was strong chance of violence vs 8% who opposed if no violence was possible; for nonconsenting patients, 45% of providers opposed disclosure, even if no threat of violence; 80% of providers opposed disclosure when violence was likely and patients did not consent
Rogers, 1998 <sup>8</sup>	100% agreed that they are comfortable conducting partner notification only with index clients who are participating voluntarily, motivated, and prepared for potential consequences
Dye, 1999 <sup>42</sup>	82% supported enhanced partner notification programs in Syracuse

**B. Do providers believe PCRS is effective?**

Crystal, 1990 <sup>14</sup>	19% of HIV counselors believe that NAP was not working as a result of clients' unwillingness to provide contact names out of fear, mistrust, or a code of conduct among IDUs
Rothenberg, 1995 <sup>41</sup>	72–80% of providers thought partner notification was somewhat effective at 1) reducing the spread of HIV; 2) providing testing and counseling for those at risk; 3) providing treatment to HIV-positives; 10–17% thought partner notification was very effective
Rogers, 1998 <sup>8</sup>	Counselors quoted a success rate at getting partners referred to the clinic of between 50% and 90%; 80% of the STD counselors felt that they had more success when partner notification was conducted by the counselor rather than leaving it up to the index client

**C. How are providers conducting partner notification and related services?**

Crystal, 1990 <sup>14</sup>	57% of HIV counselors routinely presented NAP as the preferable mode of notification; 84% of the counselors helped prepare their seropositive clients to notify their contacts
Rothenberg, 1995 <sup>41</sup>	85% of providers encouraged patients to inform partners; 34% of providers assisted women in informing their partners
Dye, 1999 <sup>42</sup>	45% had referred a patient to the state's Partner Notification Assistance Program; 82% encouraged their patients with HIV to talk to their contacts about their risk of transmission
St. Lawrence, 2002 <sup>26</sup>	34% instructed patients to notify the health department (HD) and provide them with partner information; 56.4% reported patient name to the HD; 15.8% sent partner information to the HD; 88% instructed patients to tell partners to seek care for diagnosis and treatment

PCRS indicates partner counseling and referral services; IDUs = injection drug users; STD = sexually transmitted disease.

*Are Providers in Favor of Partner Notification?*

According to four studies,<sup>14,24,25,42</sup> the majority (68–98%) of providers, which include general practitioners and HIV counselors, are in favor of partner notification and have positive attitudes toward specific PCRS programs (Table 3A). Two additional studies examined how the issues of clients' consent and the threat of violence influence providers' attitudes toward partner notification.<sup>8,41</sup> Data from these studies indicate that providers are more likely to favor partner notification (92% and 100%) only if their clients are fully willing to participate and are not at risk for abuse.

*Do Providers Believe Partner Counseling and Referral Services Is Effective?*

It is plausible that providers' approval of PCRS may be influenced by their perceptions of its overall effectiveness. Data from three studies<sup>8,14,41</sup> indicate that providers think partner notification is effective (Table 3B). Rothenberg et al<sup>41</sup> report that 82% to 97% of physicians believed that HIV partner notification is somewhat or very effective in: 1) reducing the spread of HIV infection, 2) providing testing and counseling to people at risk for infection, and 3) providing treatment to infected people. In New Jersey, 81% of HIV counselors surveyed believed the state's Notification Assistance Program was working.<sup>14</sup> STD counselors from Roger's et al's study<sup>8</sup> reported having a 50% to 90% success rate of getting partners referred to the clinic. In addition, these counselors believed PCRS was more effective if it was conducted by a provider rather than the index patient.

*How Are Providers Conducting Partner Notification and Related Activities?*

Data from four studies<sup>14,26,41,42</sup> indicate that providers, including physicians, HIV counselors, and other health professionals, are inconsistent in referring HIV-positive patients and clients to PCRS, reporting index cases to the health department, and providing assistance with partner notification (Table 3C). In two studies,<sup>26,42</sup> less than half of the physicians surveyed referred their HIV-positive patients to a PCRS program. Similarly, another study<sup>14</sup> reported that 57% of HIV counselors routinely recommended the state's Notification Assistance Program to persons newly infected with HIV for PCRS. In general, the majority (82–88%) of health providers encouraged their clients to disclose their serostatus to their partners.<sup>26,41,42</sup> However, the degree to which providers assisted clients in notifying partners varied. Rothenberg et al<sup>41</sup> reported that only 34% of healthcare providers assisted female index clients with informing their partners. In another study,<sup>14</sup> 84% of HIV counselors helped prepare their clients for notifying their partners. Although such discrepancies may reflect the different roles of the providers surveyed or training and procedures in a specific site, they still highlight the fact that many HIV-positive clients are not receiving PCRS.

**Discussion**

This report provides a comprehensive, systematic review of studies that examined client and provider attitudes, preferences, choices, experiences, and practices regarding HIV partner notification. Overall, it appears that index patients and people seeking

HIV testing have favorable attitudes toward partner notification and are generally in favor of using either client or provider referral methods. The majority of notified partners were comfortable being contacted through either referral method, although partners may have preferred the index patient contacting them as opposed to a health provider.

There are several factors that can affect clients' attitudes and choices of partner notification methods. Although potential and actual clients may have similar attitudes toward either notification method, more index patients typically chose provider referral as their preferred notification method. It is possible that more index patients chose provider referral because it shifts the notification burden away from the index patients and allows them to maintain their anonymity from notified partners.<sup>31</sup> Clients are, however, more willing to personally notify primary sex and drug partners. One plausible explanation why participants are more willing to self-notify their main partners is the result of sharing a strong emotional connection with these partners and feeling personally responsible for their partners' health. It is also possible that they simply do not know their casual partners' contact information. In addition, clients' attitudes and choices toward a particular notification method vary according to their own risk behaviors. MSM and drug users may have different preferences that PCRS needs to address. MSM may be less willing to provide partner information as a result of a general mistrust of public health authorities.<sup>12,13,43</sup> Some drug users may be unwilling to provide partners' names because they are engaging in an illegal activity and fear their partners would face legal ramifications.<sup>8,14,31</sup>

This review also identified two primary barriers that can deter clients from participating in partner notification. One such barrier is clients' concerns about the PCRS process, particularly regarding client confidentiality. It appears that clients are more willing to participate in PCRS and provide partners' contact information when they believe that their confidentiality will be maintained. The fear of negative effects, including abuse, stigmatization, and abandonment, resulting from PCRS is another major barrier to client participation in PCRS. Although some clients do experience negative effects as a result of PCRS, the studies included in this review suggest these events are rarely reported. However, few studies have specifically examined negative outcomes and assessed levels of abuse before notification. Index patients who are in abusive relationships may very well experience physical violence after notifying their partners, but such abuse could be the result of the relationship itself rather than the partner notification process.<sup>31</sup> Further research is needed to assess whether participation in structured PCRS programs increases index patients' risk of experiencing abuse, relationship dissolution, and other psychosocial outcomes. In addition, future studies can explore which HIV partner notification method is more effective in preventing such negative outcomes.

Providers, including physicians and HIV counselors, are in favor of notifying partners potentially exposed to HIV. Although providers perceive PCRS as an effective tool in fighting the HIV epidemic, the literature suggests inconsistencies in how they conduct PCRS, refer clients to PCRS services, and provide other related activities. There are also clear gaps in providers' practice and knowledge of partner notification services and responsibilities. Such gaps can lead to unnecessary delays in the testing, counseling, and timely treatment of high-risk and exposed partners, whereby they continue to practice risky behaviors unaware of their own (as well as their partners') potential risk.

There are several limitations regarding this review's findings. One concern is that many studies collected data from clients who volunteered to receive testing or participate in HIV partner noti-

fication. Such sampling bias may provide more favorable response and thus may not be generalizable to a more high-risk population.<sup>4</sup> Some studies<sup>3,4,8,12,27,28,32</sup> in the review proposed hypothetical questions to participants who never sought HIV testing or had not participated in partner notification. We included such data to help address the external validity concerns given that this population may participate in PCRS in the future. Few studies included in this review provided PCRS process data regarding the content and delivery of PCRS; thus, we cannot provide a more detailed assessment of how the PCRS process itself is related to clients' attitudes and acceptance of partner notification. Finally, this review did not examine newer forms and uses of HIV partner notification, including Internet-based notification and social network identification.<sup>19,44–46</sup> Further research is needed to examine clients' and providers' perceptions of these approaches.

### Conclusions

This review's findings indicate that HIV partner notification is acceptable to most clients and providers. Considering that index patients want to use both client and provider referral approaches to inform various partners, PCRS programs can best serve their clients by offering both strategies.<sup>8,12</sup> In addition, PCRS counselors should provide clients with the education, skills, and assistance necessary to self-notify their partners.<sup>4,31</sup> Given that misconceptions remain about PCRS, particularly with regard to confidentiality, providers should educate their clients to clarify any misunderstanding.<sup>1</sup> Because there may be regional or cultural differences among PCRS clients, particularly among MSM, women, and IDUs, PCRS programs could greatly benefit from collecting process data regarding these index patients' and their partners' experiences with PCRS. Such data can assist PCRS programs in tailoring their services to specific types of clients to increase participation.<sup>3,6</sup>

Furthermore, there are inconsistent service practices and clear referral gaps between general physicians and PCRS programs. As such, HIV-positive patients may not be referred to PCRS or counseled about partner notification by health professionals who provide HIV testing. Providers who conduct HIV testing need to collaborate with local and state PCRS programs to ensure that PCRS is offered to all patients diagnosed with HIV. Education and training is also needed to inform both public and private providers to increase their awareness of PCRS programs and related policies and to improve service delivery. Finally, although it appears that few index patients experience negative outcomes resulting from partner notification, providers need adequate training to correctly assess and address their clients' risk for abuse when conducting PCRS procedures.<sup>1,4,16,41</sup>

As this review has shown, most clients and providers have positive attitudes toward PCRS and are willing to participate in HIV partner notification. Although studies have indicated that partner notification, particularly provider referral, is effective in encouraging at-risk individuals to seek HIV counseling and testing,<sup>6,16,17,19</sup> there are still knowledge gaps in understanding *how* to implement and deliver PCRS. In other words, research needs to focus on improving the operation and delivery of PCRS to increase its acceptability and use among clients and providers. All of the aforementioned actions can enhance both client and provider willingness to participate in HIV partner notification and ultimately increase the overall effectiveness of PCRS to identify, counsel, and test potentially exposed partners.

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