



Delivering HIV/STI test results over the phone and through text messaging

? Questions

What does the literature say about giving HIV and STI results over the phone or through text messaging?

🔑 Key take-home messages

- The ability to promptly notify people who test positive for HIV or other STIs may slow the spread of new infections (1).
- Telephones and mobile technologies could be cost-effective ways to facilitate rapid communication and information sharing between health care providers and clients, thereby improving patient care (2).
- Findings regarding the acceptability of and preferences for receiving STI test results over the phone or through text messaging are mixed. In some studies, people found it acceptable -- and in some cases preferable -- to receiving test results by phone or text (3-5); in others, some people still preferred face-to-face contact with a provider (6-8).
- In studies that tested different methods of notifying people about test results, clients contacted about STI test results through text messages tended to receive treatment within a shorter time than those contacted by other means (3;4).

! The issue and why it's important

Sexually transmitted infections (STIs) are a significant and increasing public health concern in Canada (1). Over the last two decades, rates of chlamydia, gonorrhea and syphilis have been steadily rising. While HIV rates have remained relatively stable over the last decade, some sub-populations including men who have sex with men and intravenous drug users account for a disproportionate number of new infections (1). The ability to promptly notify people when they test positive and link them to treatment is key to slowing the spread of HIV and other STIs (3;5).

References

1. Public Health Agency of Canada. Infectious disease—the never-ending threat. 2013. Ref Type: Generic
2. Tripathi A, Duffus WA, Kissinger P, Brown TJ, Gibson JJ, Mena LA. Delivering laboratory results by text message and e-mail: a survey of factors associated with conceptual acceptability among STD clinic attendees. *Telemedicine Journal & E-Health* 2012 September;18(7):500-6.
3. Rodriguez-Hart C, Gray I, Kampert K, White M, Wolfe C, Wilson M et al. Just text me! Texting sexually transmitted disease clients their test results in Florida, February 2012-January 2013. *Sexually Transmitted Diseases* 2015;42(3):162-7.
4. Menon-Johansson AS, McNaught F, Mandalia S, Sullivan AK. Texting decreases the time to treatment for genital Chlamydia trachomatis infection. *Sexually Transmitted Infections* 2006;82(1):49-51.
5. Bailey S, Scalley B, Gilles M. Text 2 treat - using SMS to recall clients for treatment. *International Journal of STD & AIDS* 2014 December;25(14):1038-40.

Traditional methods of notifying people about STI test results include phone calls encouraging clients to return to clinics to get their test results and counselling and linkage to treatment (3;6). In the last few years, in response to increased rates of STIs, more clinics are using telephone and mobile technologies – both to get people into care more quickly and to make more effective use of clinic resources. As people have become more comfortable with these technologies, mobile phones have been used for various health-related purposes, such as sending health education messages, prompting individuals to take their medication or reminding them of appointments (3).

The use of telephones and text messaging may be cost-effective ways to facilitate communication between health care providers and patients – including sharing test results, thereby improving patient care (2). Although an increasing number of cases of STIs are being reported among middle-aged and older adults, young Canadians have the highest reported rates of STIs. Because a large proportion of young people own a mobile phone and use text messaging, these technologies are a promising method of communicating health-related information with this group (7), however, it's important to understand both the benefits and risks of delivering test results using these technologies.

What we found

Preference and acceptability of delivering test results via phone and text messaging

Most published studies looked at the acceptability and preference of receiving STI test results over the phone or through text messaging without testing these methods. Findings from these studies were mixed.

- An American study (2) surveyed 2,719 clinic attendees about the factors associated with the acceptability of receiving STI lab results via text messaging and email. More than 70% of participants had internet access at home and 80% reported sending or receiving text messages daily. More participants (50%) preferred to receive laboratory results by text message (50%) than email (42%) regardless of whether the test results are positive or negative. Receiving test results by phone was more acceptable with participants who were younger and who used text messaging daily. It was less acceptable for people who were female and had college-level education. Participants were also supportive of receiving both positive and negative results over the phone.
- An Irish study (8) surveyed a total of 6,085 young adults aged 18-29 about how they preferred to receive chlamydia test results. Calls to mobile phones were the preferred way to receive positive test results, followed by email. Text messages

6. Lim MS, Hocking JS, Hellard ME, Aitken CK. SMS STI: a review of the uses of mobile phone text messaging in sexual health. *International Journal of STD & AIDS* 2008;19(5):287-90.

7. Reed JL, Huppert JS, Taylor RG, Gillespie GL, Byczkowski TL, Kahn JA et al. Improving sexually transmitted infection results notification via mobile phone technology. *Journal of Adolescent Health* 2014 November;55(5):690-7.

8. Brugha R, Balfe M, Conroy RM, Clarke E, Fitzgerald M, O'Connell E et al. Young adults' preferred options for receiving chlamydia screening test results: a cross-sectional survey of 6085 young adults. *International Journal of STD & AIDS* 2011;22(11):635-9.

9. Knussen C, Flowers P. Notification of syphilis test results by telephone: acceptability ratings in a community-based sample of Scottish gay men. *International Journal of STD & AIDS* 2007 December;18(12):827-8.

10. Brown L, Copas A, Stephenson J, Gilleran G, Ross JD. Preferred options for receiving sexual health screening results: a population and patient survey. *International Journal of STD & AIDS* 2008 March;19(3):184-7.

11. Labacher L, Mitchell C. Talk or text to tell? How young adults in Canada and South Africa prefer to receive STI results, counseling, and treatment updates in a wireless world. *Journal of Health Communication* 2013;18(12):1465-76.

12. Martin L, Knight V, Read PJ, McNulty A. Clients' preferred methods of obtaining sexually transmissible infection or HIV results from Sydney Sexual Health Centre. *Sexual Health* 2013 March;10(1):91-2.

and calls to landlines were the least popular options for notification. Findings suggest that younger adults may place value on more private/secure forms of communication.

- In a Scottish study, (9) 150 male clients of gay venues were surveyed to compare the acceptability of three methods of learning of syphilis test results including: a call to a mobile phone, a call to a home phone or a patient phoning in for test results. Participants found phoning in for results was more acceptable (60%) than a call to a mobile phone (37%) or a home phone (26%). The authors suggest that having patients initiate test result notification may ensure that patients are in a position, both physically and psychologically, to learn test results.

Preference for face-to-face provider contact

While some studies showed acceptability and preference for receiving STI test results over the phone and through text messaging, other studies found that some people still prefer face-to-face contact with a provider.

- In a U.K. study (10) of 202 genitourinary medicine patients and 542 potential future patients between the ages of 16 and 25, telephone (40%) and face-to-face (41%) were the most popular methods for receiving STI test results (excluding HIV), while less than 5% of participants said their first choice for receiving test results was by mobile telephone, text messaging, email or the internet. In addition, 58% of respondents felt it unacceptable to only be notified if their test results were positive.
- A study (11) that surveyed 183 Canadian university students on how they preferred to be in contact with doctors or nurses when receiving STI test results found that participants preferred to communicate with health professionals face-to-face at a health clinic rather than by phone, text message, email or other forms of social media. All students also preferred to talk face-to-face with health professionals when receiving STI test results, post-result counselling and STI-related information.
- An Australian-based study (12) found that participants preferred to receive negative STI and negative HIV test results by text messages, phone call and in-person appointments. They also preferred the in-person option for receiving positive STI and HIV test results.

13. Tsu RC, Burm ML, Gilhooly JA, Sells CW. Telephone vs. face-to-face notification of HIV results in high-risk youth. *Journal of Adolescent Health* 2002;30(3):154-60.

14. Conway DP, Healey LM, Rauwendaal E, Templeton DJ, Davies SC. Providing HIV-negative results to low-risk clients by telephone. *Sexual Health* 2012 May;9(2):160-5.

15. Schulter W, Judson FN, Baro'n AE, McGill W, Marine W, Douglas JM. Usefulness of Human Immunodeficiency Virus Post-Test Counselling by Telephone for Low-Risk Clients of an Urban Sexually Transmitted Disease Clinic. *Sexually Transmitted Diseases* 1996;190-7.

16. Tsu RC, Burm ML, Gilhooly JA, Sells CW. Telephone vs. face-to-face notification of HIV results in high-risk youth. *Journal of Adolescent Health* 2002;30(3):154-60.

17. Lim MS, Vella A, Sacks-Davis R, Hellard ME. Young people's comfort receiving sexual health information via social media and other sources. *International Journal of STD & AIDS* 2014 December;25(14):1003-8.

While some clients prefer receiving STI results over the phone or through text messages, others prefer traditional face-to-face methods of STI test result notification. This is particularly dependent on the STI and outcome of the test.

Studies that test HIV/STI notification

Three studies that tested different methods of STI notification found overall support among participants for telephone notification of STI results.

- In an American study (13) that aimed to increase the number of homeless youth who receive HIV test results and post-test counseling, 351 youth were randomized into face-to-face posttest counselling or telephone notification. Overall, 48% of all youth followed-up to receive test results and post-test counselling. Irrespective of age, race, history of previous HIV testing and high-risk behaviours, those given the option of telephone notification were significantly more likely to receive their results than those assigned to face-to-face notification.
- In an Australian study (14) that piloted delivering HIV-negative test results by telephone to low-risk clients attending a sexual health service, 405 of 763 clients tested enrolled in the study. Of the 86% of enrolled participants who received their HIV test result over the phone within 30 days, 97% were satisfied with having their results delivered by phone and 93% preferred to receive their next HIV test result via telephone.
- An American study (7) that tested the effectiveness of a notification system using mobile phone and STI information cards with 2,536 patients. Those who had a positive test result were either called, received a text message or were called and texted. Patients were also given an information card with or without a phone number to obtain results. The information card and texting alone were not successful ways to notify patients; however females were more effectively notified using a call

and text message, compared to call only. There were no significant effects for men.

- An American study conducted (15) in the mid-90s aimed to determine the usefulness of providing HIV post-test counselling by telephone to low risk clients. HIV post-test counselling rates were evaluated among clients of a STI clinic between January 1990 and 1994. Low-risk HIV clients were given the option of obtaining HIV negative results over the phone. The introduction of post-test counselling over the telephone led to more low-risk clients obtaining post-test counselling.
- Another American study (16) aimed to increase HIV testing and post-test counselling in a group of 351 high-risk homeless youth. Youth were randomized to either receive test results and post-test counselling either over the phone or in a face-to-face format. Youth were more likely to receive their test results if given the option of phone notification (OR: 2.3; 95% CI = 1.49-3.5), even after controlling for age, race, history of previous HIV testing and presence of risk behaviour.

Delivering test results by text messaging reduces time to treatment

Many studies that tested different methods of notifying people of their test results found that clients contacted about their STI test results through text messages received treatment within a shorter timeframe than those contacted through other means.

- A Florida-based STI program began providing test results through text messaging in 2011 (3). Between February 2012 and January 2013, 52% of 10,272 clients accepted the option of receiving test results by text message. Those who received positive results for chlamydia and gonorrhoea by text messages received treatment on average within five days compared to seven days for those who did not receive text messages. A significantly greater number of those who received texts (88%) were treated

within 10 days compared to those who did not receive texts (80%).

- A U.K.-based study (4) that assessed the effectiveness of a text message STI notification service within an inner London sexual health clinic, collected and compared diagnoses, time to diagnosis, and time to treatment for patients receiving text messages with a matched standard recall group. Over a six-month period, the clinic sent 952 text messages. Compared to the standard recall group, the number of days to diagnosis as well as the median time to treatment were significantly shorter in the text message group.
- An Australian study quantified the time between recall of clients via text-messaging and their directly observed treatment. (5) Between June 2012 and May 2013, among the 64 clients with chlamydia were recalled for treatment using text message, 60 responded with a text message -- with 54 responding the same day they were contacted. All clients were treated for their infection with 46 participants having directly-observed treatment within one day of being informed of their results by text message.

A New Zealand-based study (17) compared time to treatment in 293 patients notified by text messages and 303 historic controls notified by landline and mobile phone calls and found no difference in length of time to receive treatment

based on method of notification.



What We Did

We searched Medline using a combination of [text terms (HIV or Sexually Transmitted Disease* or Sexually Transmitted Infection* or STD* or STI or STIs) or MeSH term Sexually Transmitted Diseases] AND [text terms (test* result* or inform* or receiv* adj5 result* or screening or diagnos*) or MeSH term Diagnosis] AND [text terms (phone* or telephone* or texting or SMS) or MeSH terms (Cell Phones or Telephone or Text Messaging)]. Fifteen papers were included in this review – included studies had sample sizes ranging from 183 to over 10,000 participants. Reference lists of included papers and “similar articles in PubMed” also were searched. All searches were conducted on December 14, 2015. Results were limited to English articles published from 2005 to present in high income countries.



Factors That May Impact Local Applicability

A majority of studies included in this review were conducted in the United States, United Kingdom and Australia. Regional differences compared to the Canadian context must be considered when interpreting the results.

Rapid Response: Evidence into Action

The OHTN Rapid Response Service offers quick access to research evidence to help inform decision making, service delivery and advocacy. In response to a question from the field, the Rapid Response Team reviews the scientific and grey literature, consults with experts, and prepares a brief fact sheet summarizing the current evidence and its implications for policy and practice.

Suggested Citation

Rapid Response Service. Delivering HIV/STI test results over the phone and through text messaging. Toronto, ON: Ontario HIV Treatment Network; April 2016. Updated July 2016.

Prepared by

Sanjana Mitra
Jason Globerman

Program Leads / Editors

Jason Globerman
Jean Bacon
Sean B. Rourke

Contact

rapidresponse@ohntn.on.ca

For more information visit

www.ohntn.on.ca/rapid-response-service



ONTARIO
HIV TREATMENT
NETWORK

Ontario HIV Treatment Network
1300 Yonge Street, Suite 600
Toronto ON M4T 1X3
www.ohntn.on.ca