

Where do young adults want opportunistic chlamydia screening services to be located?

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ABSTRACT

Background This study measured the acceptability of urine-based chlamydia screening to young adults, where young adults wanted opportunistic chlamydia screening services to be located, and by whom they wanted to be offered screening.

Methods A cross-sectional survey of 5685 university students and 400 young adult healthcare setting attendees (age: 18–29 years).

Results Ninety-six percent of males and 93% of females said that they would find it acceptable to be offered chlamydia screening. Seventy-six percent of males and 77% of females wanted to be offered screening by a doctor or nurse. Young women would prefer female staff. Most respondents preferred that screening be located in traditional healthcare settings such as General Practices, and offered by either doctors or nurses. More than 90% of respondents did not want screening services to be located in pharmacies and almost all rejected public non-health care screening settings.

Conclusions Opportunistic chlamydia screening services should be located in traditional healthcare/medical settings, and screening should be offered by doctors and nurses.

Keywords chlamydia, questionnaire, screening, survey, university student, young adult

Introduction

Chlamydia trachomatis (CT) infection is the most common bacterial sexually transmitted infection (STI) worldwide.¹ A recent review estimated prevalence rates of 4–5% for general population women under 20 years.¹ Left untreated, chlamydia causes pelvic inflammatory disease in 0–30% of infected women and can increase the risks of infertility and ectopic pregnancy (though there has recently been considerable uncertainty about the extent to which chlamydia affects fertility).¹ Chlamydia is asymptomatic in 50–88% of cases.¹ Screening programs that proactively detect and treat chlamydia are considered important mechanisms to control the infection and to prevent reproductive morbidity.²

There are two principle types of chlamydia screening program.² 'Register-based screening' uses a list to identify and invite all eligible members of a population to take a screening

test. 'Opportunistic screening' involves offering Chlamydia tests to eligible people while they are attending a service setting for reasons that are usually unrelated to their sexual health. The focus of this paper is on opportunistic screening. Recent reviews and results of a UK study have cast doubt on

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the ability of opportunistic screening (alone) to reduce chlamydia transmission and related reproductive sequelae.^{2–4} However, opportunistic screening is still considered to be an important tool in the fight against chlamydia.²

Opportunistic screening services for CT need to be located in settings that are acceptable to their target populations.⁵ Low screening uptake rates are possible if target populations do not use these settings, or refuse screening offers while using them⁵ (other reasons for low screening uptake can include embarrassment, difficulties talking about sexual health and lack of knowledge about STIs.⁶). General practices (GP) are one plausible setting type in which to locate screening services. Recent UK evidence suggests that the majority of young men and women attend GP and other primary care health services at least once a year,⁷ ensuring that screening services located in these settings would have good population coverage. However, some young adults may be deterred from attending GP settings for STI testing, for example because of concerns about stigma.⁶ Furthermore, in countries that lack free universal GP healthcare, such as Ireland, young adults may be deterred from accessing GP services because of cost.⁸ Therefore, setting diversity might be important, whereby screening is made widely available in different types of settings used by young people. Evidence on chlamydia setting preferences and acceptability, from the perspective of target populations, is a priority. To date, information on where individuals would like opportunistic chlamydia screening services to be located has been limited.^{9,10}

Ireland lacks a national chlamydia screening program, and is debating whether or not to introduce one. The Irish Health Protection Surveillance Centre commissioned a study to investigate the optimal setting(s) in which to locate opportunistic chlamydia screening services in Ireland. As part of this study, we conducted a survey of male and female university students and community healthcare setting attendees (HSA) (between 18 and 29 years of age) to examine the following questions:

- (i) What is the level of willingness of young adults in Ireland to be screened for chlamydia?
- (ii) Where do young adults want chlamydia screening services to be located (community versus specialist settings)?
- (iii) What are young adults' preferences with respect to who would offer them screening (preferences for professionals' sex and occupational type)?

Methods

A cross-sectional self-administered survey of young adults attending five community healthcare settings and one GUM

clinic in Ireland was conducted over a 2-week period in March 2009. The survey was also administered to students studying in six higher education institutions in Ireland during the same timeframe. Questions in the survey were derived from the Irish Study of Sexual Health and Relationships,¹¹ case proformas used in the English National Chlamydia Screening Program, and from an earlier exploratory qualitative study.^{12,13} Items from the questionnaire are included as an additional document; not all of the questions that respondents were asked are included. We also asked respondents a number of questions about how they would like their test results to be reported, and about their partner notification preferences; the results of those questions will be reported in a future paper. The questionnaire was not previously validated, but it was piloted with 20 university students before it was administered. We were commissioned to conduct a study on opportunistic screening; so the survey did not investigate register-based approaches. Although testing is free in most screening programs, given Ireland's economic situation and the possible lack of cost-effectiveness of screening in other countries,¹ we were interested to know whether young Irish adults would be willing to make a contribution towards the cost of a screening program; we therefore included a question in the survey about willingness to pay for screening. The students completed a web-based version of the questionnaire, which was hosted online at the website: www.surveymonkey.com. The ethics committee of the Royal College of Surgeons in Ireland approved the study. A list of items in the questionnaire is contained in Supplementary Data, Appendix S1.

Respondents were eligible to take part in the study if they were between 18 and 29 years of age. In 2008, the highest number of STIs—including chlamydia—reported to the Irish Health Protection Surveillance Centre was in the 20–29 year age group.¹⁴ We wanted to survey under 18s but received legal advice saying that we could not do this. Respondents recruited from community healthcare settings were asked by reception staff to complete hardcopy versions of the questionnaire while they waited to see healthcare professionals. Reception staffs were directed to supply questionnaires to all young adults who came into their clinics who were in the required age range. Students were sent a circular email that contained a hyperlink to the online version of the questionnaire. One of the institutions involved in the study would only send this email to a limited number of their students (on one course).

The questionnaire was accompanied by an information and consent sheet and was designed to be completed in under 8 min. The same questions were asked in both the online and hardcopy versions of the questionnaire.

The health facility responses were entered, and the survey monkey data were imported, into SPSS and data were analyzed using simple descriptive statistics: frequencies and χ^2 cross-tabulations with two-tailed tests of statistical significance. The principal independent variables were sex (male/female), age (18–22 and 23–29 years) and setting (health care facility and student intranet).

Results

Completed questionnaires were obtained from 400 HSA and 5685 students (across six educational institutions). Responses by healthcare setting were: 83 (20.8%) from an urban family planning clinic, 88 (22%) from an urban working class GP setting, 36 (9%) from an urban gay men’s health clinic, 57 (14.3%) from a rural GP, 66 (16.5%) from two urban middle class GP settings and 17.5% from an urban GUM clinic. Students were on average younger than service attendees, with 82% in the 18–22 year range compared with 36% of HSAs (Table 1). There was also a higher proportion of male respondents among students (40%) compared with HSAs (23%). Two or more sexual partners in the previous year were reported by 30% of 18–29 year old student and HSA respondents, with similar rates in young women (25%) but a greater proportion among men attending health facilities (55%) compared with male students (37%).

The vast majority of respondents (90%) indicated that they would find it acceptable to be offered a urine-based chlamydia test; and 90% of HSAs and 75% of students responded that they would take such a test if one was offered to them (Table 2). Acceptability rates became lower if payment was required, especially among students where 44% compared with 65% of HSAs would definitely take a chlamydia test if they had to pay for it. Most (around 60%) indicated that that they would like to call in to a health centre for treatment if they tested positive for chlamydia, rather than have a prescription posted out to them (22–26%).

Table 1 Respondents’ demographic profile

| | HSA, n (%) | Students, n (%) | Total, n (%) |
|-------------|-------------|-----------------|--------------|
| Age (18–22) | 144 (36) | 4650 (81.8) | 4794(78.7) |
| Age (23–29) | 256 (64) | 1035 (18.2) | 1291(21.3) |
| Average age | 23.83 Years | 20.78 Years | N/A |
| Male | 94 (23.5) | 2285 (40.2) | 2379 (39) |
| Female | 306 (76.5) | 3400 (59.8) | 3706 (61) |

Table 2 Responses of males and females to questions ‘acceptable to be asked to take a urine test for Chlamydia’, ‘would take a Chlamydia test if offered one’, ‘would take a Chlamydia test if had to pay for one’, ‘best way to receive treatment if tested positive’

| Question | Students, n (%) | HSA, n (%) | P-value (students versus healthcare), n (%) | Males, n (%) | Females, n (%) | P-value (males versus females), n (%) |
|--|-----------------|--------------|---|-------------------|-------------------|---------------------------------------|
| Acceptable to be offered a urine test for Chlamydia? | 4682 (94) | 382 (96) | Chi = 4.888; P = 0.087 | (1881) (96.2) | (3183) (92.9) | Chi = 30.811; P < 0.001 |
| Would take a Chlamydia test if offered one? | (3632) (75) | (358) (90.9) | Chi = 48.162; P < 0.001 | (1343) (72.1) | (2647) (79.3) | Chi = 36.439; P < 0.001 |
| Would take a Chlamydia test if you had to pay for one? | (2181) (43.9) | (261) (65.4) | Chi = 68.829; P < 0.001 | (767) (39.4) | (1675) (49.1) | Chi = 65.75; P < 0.001 |
| Best way to receive treatment if tested positive | | | | | | |
| Get prescription posted out | (1072) (22.3) | (103) (25.9) | Chi = 3.480; P = 0.176 | (n = 491) (26.3) | (n = 684) (20.5) | Chi = 23.419; P < 0.001 |
| Call in to healthcare centre for treatment | (2888) (60) | (233) (58.7) | | (n = 1060) (56.7) | (n = 2061) (61.6) | |
| No preference | (854) (17.7) | (61) (15.4) | | (n = 317) (17) | (n = 598) (17.9) | |

Around two-thirds (65%) of women wanted to be offered screening by a female healthcare professional, whereas most men (63%) and 34% of women had no preference (Table 3). Being offered chlamydia screening exclusively by a man was acceptable to almost no woman. Three quarters of respondents (men and women) wanted to be offered screening by a doctor, whereas 50% of males and 80% of females said that they would feel comfortable being offered screening by nurses. Only a small minority (around 10%) reported that a Pharmacist would be one of the preferred sources of a screening offer (respondents could respond 'yes' to as many of the options as they wished). Very few (in the region of 2–4%) were open to being offered screening by a receptionist or 'non-healthcare professional'. The most popular settings for chlamydia screening—with between 50 and 70% responding positively—were general practice, student health services for students, specialist STI services for students (more so for women) and family planning clinics for women. If given a choice, however, the majority of respondents indicated that they would prefer to be tested at home (~50% in all cases), even more than would prefer to be tested in a healthcare setting.

Discussion

Main findings of this study

Chlamydia screening is acceptable to young adults. Young adults want to be offered screening by doctors or nurses in traditional community healthcare settings.

What is already known on this topic

Young adults find it acceptable to be offered chlamydia testing.^{15–25} Young adults are comfortable with the idea of being offered screening in GP practices.²⁵ Reasons include familiarity with the setting and convenience.²⁶ GP settings are also thought to afford young adults protection from Chlamydia-related stigma (as other individuals would not be able to witness them being asked to take, or taking, tests).¹² As long as screening settings take adequate precautions to protect young adults' identities, however, young adults—including high risk individuals—are open to the idea of being offered screening in 'non-traditional' settings, such as pharmacies.²⁷ Where it is offered as an option, the home is often a preferred screening setting because it affords a significant degree of privacy to young adults.^{28,29}

What this study adds

This is the first large-scale study to be conducted in the Republic of Ireland on young adults' attitudes towards

opportunistic chlamydia screening. It supports previous research suggesting that young adults find it acceptable to be offered chlamydia screening. However, there were important conditions attached to the willingness to be screened. It was clear that payment would undermine the acceptability of chlamydia screening to young adults.

Most respondents were comfortable with screening services being located in primary care settings, and with taking chlamydia tests at home, which is consistent with the previous research on this topic. Respondents disliked non-healthcare settings such as beauticians and gyms and pharmacies. This latter finding contradicts UK research³⁰ that has found that pharmacies are acceptable to young adults. The survey item that investigated respondents' setting preferences asked respondents to tick all settings that were acceptable to them (options included GP and pharmacies). The fact that so few respondents ticked 'pharmacy' as a preferred option indicates that pharmacies and other 'non-traditional' healthcare settings may not be as acceptable in the Irish context as they are in the UK. A previous Irish qualitative study¹² found that young adults might be put off accepting screening from pharmacies because these settings are deemed to be too public for such a private matter as STI testing.

Two-thirds of women attending health facilities and close to half of female students wanted to be offered screening by female professionals. Close to half of female students and most men had no preference regarding screening professionals' sex; and only a tiny proportion of women wanted to be offered chlamydia screening by male professionals. These differences were statistically significant, indicating that that they are likely to reflect real and underlying differences between male and female respondents. The strong preference of both men and women for being screened by a doctor or nurse, and not being screened by non-healthcare workers (the examples we gave respondents for non-healthcare professionals were: gym instructor, beautician and receptionist working in a healthcare centre) could indicate a level of trust in traditional health professionals, which was not afforded to other types of occupations, even if those increased the availability and accessibility of screening; it could also indicate that respondents are simply more familiar with traditional healthcare of professionals. Respondents may have been unsure of how secure their test result would be with non-healthcare professionals.^{12,13} Doctors are often seen and valued for offering 'doctor-patient confidentiality',¹³ and patients associate no such agreement with receptionists or beauticians.¹³ Respondents' rejection of pharmacists as screeners may also have been an indirect rejection of the idea of being offered screening in

Table 3 Respondents preferences for particular healthcare professionals and screening settings

| Question | Students, n (%) | HSA, n (%) | P-value (students versus healthcare) | Males, n (%) | Females, n (%) | P-value (males vs. females) |
|--|-----------------|------------|--------------------------------------|--------------|----------------|-----------------------------|
| Preferred sex of professional asking client to take a Chlamydia test? | | | | | | |
| Male | 481 (9.6) | 16 (4) | Chi = 65.311; $P < 0.001$ | 483 (24.6) | 14 (.4) | Chi = 1779.711; $P < 0.001$ |
| Female | 2236 (44.7) | 260 (65.3) | | 247 (12.6) | 2249 (65.4) | |
| No preference | 2288 (45.7) | 122 (30.7) | | 1234 (62.8) | 1176 (34.2) | |
| Preferred profession of person asking client to take a Chlamydia test? | | | | | | |
| Doctor | 4381 (77.1) | 301 (75.6) | Chi = 0.355; $P = 0.552$ | 1819 (76.5) | 2863 (77.3) | Chi = 0.522; $P = 0.470$ |
| Nurse | 3981 (70) | 315 (79.1) | Chi = 14.473; $P < 0.001$ | 1278 (53.7) | 3018 (81.5) | Chi = 536.704; $P < 0.001$ |
| Receptionist | 95 (3.4) | 21 (5.3) | Chi = 3.183; $P = 0.074$ | 100 (4.2) | 116 (3.1) | Chi = 4.550; $P = 0.033$ |
| Pharmacist | 543 (9.6) | 49 (12.3) | Chi = 2.919; $P = 0.088$ | 241 (10.1) | 351 (9.5) | Chi = 0.633; $P = .426$ |
| Non-healthcare professional | 177 (3.1) | 16 (4) | Chi = 0.722; $P = 0.395$ | 110 (4.6) | 83 (2.2) | Chi = 26.006; $P < 0.001$ |
| Settings where screening services should be located | | | | | | |
| GP | 3875 (68.2) | 243 (60.7) | Chi = 9.049; $P = 0.003$ | 1524 (64.1) | 2594 (70) | Chi = 23.052; $P < 0.001$ |
| Family planning | 2779 (48.9) | 85 (21.3) | Chi = 113.430; $P < 0.001$ | 713 (30) | 2151 (58) | Chi = 457.116; $P < 0.001$ |
| GUM/STI clinic | 3189 (56.1) | 84 (21) | Chi = 183.765; $P < 0.001$ | 1106 (46.5) | 2167 (58.5) | Chi = 83.214; $P < 0.001$ |
| Gay men's health clinic | 1360 (23.9) | 32 (8) | Chi = 52.803; $P < 0.001$ | 471 (19.8) | 921 (24.9) | Chi = 20.686; $P < 0.001$ |
| Student health clinic | 3939 (69.3) | 81 (20.3) | Chi = 398.649; $P < 0.001$ | 1419 (59.6) | 2601 (70.2) | Chi = 71.279; $P < 0.001$ |
| Pharmacist | 405 (7.1) | 36 (9) | Chi = 1.687; $P = 0.194$ | 175 (7.4) | 266 (7.2) | Chi = 0.045; $P = 0.833$ |
| Where would prefer to be tested? | | | | | | |
| Home | 2565 (49.7) | 190 (48.1) | Chi = 16.516; $P = 0.001$ | 1037 (50.7) | 1718 (49.1) | Chi = 54.433; $P < 0.001$ |
| Healthcare setting | 1870 (36.3) | 174 (44.1) | | 717 (35) | 1327 (37.9) | |
| Non-healthcare setting | 220 (4.3) | 8 (2) | | 132 (6.4) | 96 (2.7) | |
| No preference | 499 (9.7) | 23 (5.8) | | 162 (7.9) | 360 (10.3) | |

more public settings.¹³ These findings on young people's preferences have important operational implications.

Although Ireland has traditionally had quite negative attitudes towards sex and sexuality, the sexual attitudes of young Irish people are now very similar to their UK counterparts.¹¹ There is nothing culturally unique about young Irish people that would prevent the results of this study being generalized to young people in other Western industrialized nations. We provide an overview of existing STI services for young adults in Ireland in a forthcoming paper.³¹

Limitations of this study

The principle limitation of the study is that of uncertain and—in the case of the student internet survey—probably low response rates. In the one setting where the second author personally recruited respondents, which was an urban working class GP setting, 141 young people were handed questionnaires and 88 were completed, giving a response rate of 62%. However, the response rate in other settings, where recruitment was done by clinic staff, may have been lower. The response rate to the internet surveys was ~3–10% depending on the institution. Higher education institutes who were involved in the study would only let us send one circular email to their students, meaning that we could not send students reminder emails in order to boost recruitment. It was impossible to find out how many students received and read our recruitment emails.

While the response rate to the survey was low, it was not completely unexpected. Internet surveys in general have low response rates.^{32,33} The low response rate also echoes the often low-uptake of screening by young adults.³⁴ A recent study of the English NCSP found that in some parts of England, only 1% of males and 3% of females aged 15–24 were being tested for chlamydia³⁵ (though this figure will also reflect low rates of young people being offered screening). Chlamydia screening uptake can be very low among university students.^{36,37} Our low response rate (particularly amongst students) is therefore neither unique in the context of internet-based research, nor in the context of chlamydia screening initiatives.

What the low response rate does suggest, however, is that study responders may have been different from study non-responders. Study respondents are likely to be individuals who are already comfortable attending healthcare settings (in the case of HSA) or highly educated young people with potentially better access to healthcare services. Study respondents' views may therefore not reflect the views of young Irish people who are less financially well-off (and who cannot afford to attend healthcare settings in Ireland), less

educated or who do not have an Irish 'medical card' entitling them to free healthcare.⁸ Limiting screening services to GP settings in Ireland on the basis of the view expressed in this study may therefore exclude from screening young Irish people who are too wealthy to obtain a medical card (and free healthcare) but not wealthy enough to be easily able to attend GP services. There is indirect evidence to suggest that study respondents are also a sexually riskier group than the general population of Irish young adults. In a 2006 nationally representative survey,¹¹ 14% of young women and 31% of young men reported two or more sexual partners in the previous year compared with 26% female and 37% of male students in this study. Since opportunistic screening in Ireland is likely to be taken up by individuals most interested in or concerned about chlamydia testing, possibly because they see themselves at risk of contracting the infection, the preferences of the young people who responded to this study would seem to be important. This study's respondents would likely be the types of people (interested in screening and sexually risky) whom an Irish opportunistic screening programme would seek to capture.

Other limitations of the study: we did not ask about respondents' ethnic and disability status; we excluded young people under eighteen years of age, because of legal advice; we did not investigate whether or not respondents lived in rural or urban areas. It may be that our definitions of non-healthcare settings and non-healthcare workers gave respondents false impressions of what we meant when we referred to these types of settings, and that if we gave alternative examples, these settings would have been more preferred.

This study helps us to address the lack of research on young men's and university students' chlamydia screening preferences.^{23,25,38} While we can only make this point tentatively, given the low response rate, the findings of this study suggest that chlamydia screening programs should focus on increasing the availability, accessibility and acceptability of traditional community healthcare settings and the healthcare professionals who staff them.

Supplementary data

Supplementary data are available at the *Journal of Public Health* online.

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