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Incentive-Based Sexually Transmitted and Blood-Borne Infections Screening in High-Income Countries: A Systematic Review

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Background: Despite increasing access to treatment and screening, rates of sexually transmitted and blood-borne infections (STBBI) continue to rise in high-income countries. The high cost of undiagnosed and untreated STBBI negatively affects individuals, health care systems, and societies. The use of monetary and nonmonetary incentives may increase STBBI screening uptake in high-income countries. Incentivized screening programs are most effective when developed specific to context and target population.

Methods: Our review was performed according to the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement and the Cochrane Handbook for Systematic Reviews of Interventions. Inclusion criteria were as follows: English language, high-income countries, primary research studies, and older than 16 years. Study quality was assessed using Joanna Briggs Institute quality assessment tools.

Results: The search yielded 6219 abstracts. Thirteen articles met the inclusion criteria. Studies took place in the United States, the United Kingdom, and Australia. Populations screened included: postsecondary and tertiary students, parolees or probationers, youth, and inner-city emergency department patients. Incentivized STBBI screened were human immunodeficiency virus (n = 5), chlamydia (n = 7), and multiple infections (n = 1). Incentives offered were monetary (cash/gift cards/not specified) (n = 10), nonmonetary (n = 1), and mixed (n = 2). Both monetary and nonmonetary incentives enhance STBBI screening in high-income countries.

Conclusion: Incentivized screening programs are most effective when developed specific to context and target population. Further research is needed to analyze incentivized screening across similar study designs and to evaluate long-term effectiveness.

Despite increasing access to treatment and screening, rates of sexually transmitted and blood-borne infections (STBBI) continue to rise in high-income countries.[1,2] In the United States, young people aged 15–24 years account for 50 percent of new STBBI each year.[3] Higher STBBI rates exist among men who have sex with men (MSM), people experiencing homelessness or incarceration, Indigenous peoples, and other minority and racialized groups.[4–7]

The high cost of undiagnosed and untreated STBBI negatively affects individuals, health care systems, and societies. To curb transmission rates and prevent complications from infection, most national public health agencies have implemented screening programs and guidelines to encourage systematic STBBI screening. While guidelines vary across Canada, the United States, the United Kingdom (UK), and Australia, yearly screening is recommended in some countries for those who are under 30 and sexually active, as well as anyone with a new sexual partner. Some guidelines recommend more frequent STBBI screening for higher-risk groups.[8–11] Despite guidelines, STBBI screening uptake remains suboptimal in several countries; for example, even after implementation of the National Chlamydia Screening Programme in the UK, only 20% of youth (29% of young women and 11% of young men) were screened for Chlamydia in 2019.[3,12]

Interventions have been developed to increase STBBI screening uptake, including providing incentives for screening.[13] Incentives may work by increasing the perceived immediate benefits of STBBI screening relative to perceived immediate risks. They may also provide positive reinforcement for engaging in the desired behavior.[14] Finally, incentives may decrease perceived stigma by providing clear external motivation for seeking screening.[15] Incentives have been shown to increase other health behaviors such as smoking cessation and immunization.[16] A systematic review published in 2014 found that incentivizing STBBI screening may be a useful tool to increase screening rates, but recommended further research in this area.[17] Given continuing increases in STBBI and evaluation of incentivized STBBI screening programs, an updated review of the efficacy of these interventions was warranted. This systematic

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review was conducted to determine if patient incentives increase STBBI screening uptake in high-income countries.

METHODS

Our review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement and guidance from the Cochrane Handbook for Systematic Reviews of Interventions.[18,19] See Figure 1 (http://links.lww.com/OLQ/A801) for the PRISMA flow diagram. The Prospero registration number is CRD42021230365.

Data Sources and Search Strategy

A systematic literature search was conducted by an experienced health sciences librarian (MK) to identify all relevant published studies. Searches were performed in the following databases: MEDLINE via OVID (1946—June 16, 2020); EMBASE via OVID (1974—June 16, 2020); PsycINFO via OVID (1806—June 16, 2020); CINAHL via EBSCOhost (1936—June 16, 2020); Scopus via Elsevier (1970—June 16, 2020); Cochrane Library via Wiley (1992—June 16, 2020).

These databases were searched using a combination of natural language vocabulary and controlled terms (subject headings) wherever they were available. Natural language terms were derived from two main concepts: 1) STBBI, STI, and STD 2) financial incentives (see Appendix 1, http://links.lww.com/OLQ/A802, for full search strategies by database). Other searches included hand searches of the reference lists and forward citation searches of articles. To increase the sensitivity of our search, publication date or language restrictions were not applied.

Inclusion and Exclusion Criteria

Articles were included if they were: peer-reviewed, written in English, published before June 2020, reflected primary research, and focused on screening. Articles were excluded if their primary focus was children and youth (younger than 16 years), results retrieval, treatment, behavioral change only, treatment adherence, or provider incentive. We excluded low and low-middle-income countries using the World Bank 2020 Classification following data extraction and synthesis.[20] Low and low-middle-income countries are reported on in a separate manuscript. One study was an online version duplicate and was excluded from the review.[21]

Quality Appraisal

All full text studies included were assessed using the Joanna Briggs Institute assessment tools.[22] No articles were excluded based on quality, although some articles were flagged. See Appendix 2 (http://links.lww.com/OLQ/A803) for details on the quality appraisal. Given the diversity of study design, population, and incentive, no study data were pooled, and a meta-analysis was not possible.

Data Extraction and Synthesis

Data were initially extracted into a spreadsheet and subsequently summarized (see Supplementary File 1, http://links.lww.com/OLQ/A804).

Patient and Public Involvement

No patient involved.

FINDINGS

Study Characteristics

Thirteen articles describing 11 distinct studies were included in the review[23–35s] (two articles reported on data collected in other included studies),[23,34s] (Supplementary File 1, http://links.lww.com/OLQ/A804).[23,35s] Five studies took place in the United States,[27,28,30,32s,34s] five were located in Australia,[23–26,33s] and 3 took place in the United Kingdom.[29,31s,35s] Populations screened included: postsecondary/tertiary students,[26,31s] parolees or probationers,[28,32s] young adults aged 15–30 years,[23–25,29,35s] inner-city emergency department patients,[27,30,34s] and attendees of sex-on-premises venues.[33s]

The majority of studies (n = 7) took place in community settings such as pharmacies,[23,24] nonhealth care community agencies or mobile screening units,[25] community settings related to parole,[28,32s] university residences,[31s] or mail-in screening.[29] Five studies took place in clinical settings such as general practitioners/primary care offices,[35s] sexual health clinics,[33s] and hospital-based clinics or emergency departments.[27,30,34s] One study employed a mix of community and clinical settings.[26]

Study Design

Four of the included studies were randomized control trials.[29,32s] Four additional studies had a control or comparison group[24,26,27,35s]; the remaining five did not have or specify a control group.[23,25,28,33s,34s] We included two studies that collected only qualitative data.[23,28]

A variety of incentive types and amounts were used throughout the studies and included monetary, nonmonetary, or a combination of both. Nine studies used monetary incentives in the form of either cash,[23–25,30,34s] or gift cards/vouchers.[28,31s,32s,35s] One study noted a monetary incentive but did not specify type and one study provided free entry to a sex-on-premises venue as a nonmonetary incentive.[27,33s] Two studies used both monetary and nonmonetary incentives.[26,29] Two studies included prize draws or lotteries.[29,35s]

Control Groups and Effect of Incentives

Nine of the studies had a control or comparison group.[24,26,27,29–32s,34s,35s] Of the nine studies that had a concurrent control or comparison group and quantitatively evaluated incentive efficacy, eight studies indicated incentives positively affect screening uptake.[24,26,27,30–32s,34s,35s] Wagner et al.'s study compared a model control group based on data collected by others.[27,30,34s] Two studies reported that the incentive groups were between 2 and 3.4 times more likely to complete human immunodeficiency virus (HIV) screening.[27,32s] Montoy et al[30] reported that $5 and $10 incentives increased screening uptake by 10.5% and 15%, respectively; $1 did not increase screening. Based on the data from Montoy et al,[30] Wagner[34s] modeled that switching from no incentive opt in screening to opt out incentivized screening could result in up to a 41% increase in new HIV diagnosis. Overall, incentive programs increased screening by 0.67% (confidence interval [0.1, 1.24], $P = 0.02$) in Zenner et al.[35s] regardless of type of incentive; in Currie et al,[26] screening increased from 22.9% (nonfinancial incentives) to 42.4% (financial incentives), although different methods of recruitment were used in each phase. Of note, Currie et al[24] did not have a control group, but instead used data from the previous year (median number of tests per month) as a comparison group, finding a 190.9% increase in screening when incentives were used. Currie et al[24] found that their cash reward yielded a higher screening participation rate than previously reported pharmacy-based studies; 93% of samples were returned, 75% of which were from unique individuals.

Studies With No Control Group

The remainder of studies in our review did not have a control or comparison group.[23,25,28,33s] Twenty-five percent of participants approached in Denton and Lichtenstein's[28] study with opt-in incentivized screening agreed to screening, with 44.2%

citing the gift card incentive as the main reason for accepting screening. Parker et al's[23] pharmacy-based incentive screening program had a 99% sample return rate with 74.6% being urine samples from unique individuals. Bowden et al[25] achieved an overall screening yield of 43.8% (range, 20–77%) using varying incentives at community events. Stevens[33s] had a low uptake of incentivized screening: of 244 cards distributed, 10 people accessed screening (4.9% response rate).

Two qualitative studies evaluated the impact of incentives on HIV screening and Chlamydia screening.[23,28] In 1 study, 44.2% of participants who accepted screening explicitly stated that they were at least partially motivated by the incentive.[28] In the second study, 60% of questionnaire respondents felt that the incentive affected their decision to have Chlamydia screening, whereas 23% of respondents said they did not.[23]

Incentive Comparison

£5 vouchers resulted in a 22.8% kit return rate, whereas entry into a £200 lottery resulted in a 2.8% kit return rate, increasing screening by 21.3% and 1.3%, respectively.[31s] Zenner et al[35s] reported that voucher schemes increased screening by 2.35%; prize draws did not significantly increase screening. Across a range of community events, cash incentives were most efficient, achieving a screening rate of nearly 24 individuals per hour.[25] Although Dolan and Rudisill[29] found no statistically significant difference among different incentive groups; as voucher value increased, individuals were less willing to take the risk of the lottery. Stevens et al.'s[33s] low response rate may indicate entry cards to sex-on-premises venues are not a significantly effective incentive; however, the initiative was low cost considering the high positivity rate (20%). Framing the offer as a potential gain, highlighting the benefits of screening (informing the participant they will receive a prize if the kit was returned) was slightly more effective (10.5% kit return rate) than loss-framing incentives, which emphasized the cost of not participating (informing the participant they will lose a prize if the kit is not returned) (7.1% kit return rate); however, it was not statistically significant ($P = 0.069$).[31s] Opt-out screening, regardless of incentive, was found to have the greatest effect on screening uptake compared with active-choice and opt-in screening.[30] Effectiveness can be further increased by adding financial incentives to an opt-out strategy, with a marginal increase to cost per diagnosis.[34s]

Context and Incentive Efficacy

Study Setting

According to Currie et al,[24] offering Chlamydia screening in pharmacies with cash incentives resulted in screening a large number of young adults in a short period; city-based pharmacies collected the majority (94.3%) of samples, as opposed to rural pharmacies. Zenner et al[35s] found that study setting had a small effect on voucher scheme efficacy, with vouchers via post or outreach responsible for the greatest increase in screening coverage. Bowden et al's[25] screening yield was higher at tertiary campuses than other venues combined, with the highest screening yield obtained at a football club.

Demographics, Socioeconomic Status, and STBBI Risk

Currie et al[24] found a 1.7:1 male-to-female ratio with incentivized screening uptake, although women had a higher positivity rate (highest among women aged 21 to 25 years). Parker et al[23] found that men were almost twice as likely as women to participate in the study. More men than women returned screening kits when a voucher incentive was offered (male, 17.6% vs female, 8.3%); nonetheless, gender was not significant in the logistic regression.[31s] In contrast, Zenner et al[35s] found that voucher schemes among 15- to 24-year-olds had a more pronounced effect in women (3.18%) compared with men (1.55%).

Saxena et al[32s] reported older age to have a weak positive effect on HIV screening; in Dolan and Rudisill,[29] younger age (15–19 years) was associated with a decreased likelihood of sample return, although this was unrelated to use of incentive. Conversely, in Parker et al,[23] cash payments had the greatest effect on women aged 21 to 24 years. Both Haukoos et al[27] and Zenner et al[35s] found age had no significant effect on incentivized screening uptake.

Dolan and Rudisill[29] reported that lower socioeconomic status was related to a decrease in sample return; however, any effect of incentives was unrelated to socioeconomic status. Dolan and Rudisill[29] also found that those who previously tested positive for Chlamydia were more likely to return samples. In Saxena et al,[32s] participants who reported living with HIV at baseline were less likely to be screened. In Haukoos et al,[27] of individuals deemed to be at risk for HIV, only 8% of high risk, 6% of moderate risk, and 12% of low-risk patients completed counseling and screening.

Single individuals were least likely to get screened and those married/living as married were 3.59 times more likely to complete screening in the 1 study that evaluated marital status and screening likelihood.[32s] Compared with White patients, African American patients were less likely to complete HIV screening after incentive use was controlled for; to a lesser extent, Hispanic patients were also less likely to complete screening than White patients.[27] Denton and Lichtenstein[28] found that Black individuals were more likely to volunteer for screening than White individuals while 50% of total participants in Saxena et al[32s] self-reported as Black ethnicity. Other studies included in our review did not examine ethnicity in regard to incentivized screening uptake.

DISCUSSION

In our systematic review of studies examining incentivized screening for STBBI in high-income countries, we found that the offer of any financial incentive resulted in an increase in screening for STBBI. Our findings provide an update to a 2014 systematic review of incentives for HIV/STI screening by Lee and colleagues,[17] who showed that incentives increased uptake of screening, particularly in nonclinical settings. Their review included four studies in middle to low income countries, which was not the focus of our review.

Establishing the location of screening sites should be guided by local epidemiology. The relative efficiency of different screening sites is an important component of the evaluation of a screening program but is reported in very few studies. According to Currie et al,[24] offering Chlamydia screening in pharmacies, especially in urban settings with cash incentives, resulted in screening a large number of young adults in a short period. There are many factors which make community pharmacies an attractive location to offer Chlamydia screening; they are conveniently located, open long hours, supervised by regulated primary healthcare providers, and no appointments are needed. Zenner et al[35s] found that study setting had only a small effect on voucher scheme efficacy, with vouchers via post or outreach responsible for the greatest increase in screening coverage.

Gender and age appear to play a role in incentivizing screening in some studies. In our review, 2 studies found that men had a higher incentivized screening uptake,[24] were more likely to participate in the study,[23] and were more likely to return screening kits.[31s] However, these differences may also be affected by age and gender.[23,35s] Two other studies found age had no significant effect on

incentivized screening uptake.[27,35s] Few studies have examined the role of ethnicity in incentivized screening.[27,28] Single individuals were least likely to get screened.[32s] This is inconsistent with a previous study which reported that nonmarital relationships are associated with a higher likelihood of HIV screening.[36s]

Financial incentives have been predicted to be more effective in motivating behavior change in the most deprived.[38s] Cash or voucher incentives were more effective than prize draws or lotteries at increasing screening. The most common incentive used across all studies was $10 in the country of study's currency.[23–26,28,30,32s,34s,35s] The larger overall effect sizes of cash/vouchers could reflect a higher perceived value of vouchers compared with prize draws, in keeping with previous literature.[39s–41s] Our findings support economic and psychological hypotheses such as incentives working to increase the short term benefits when compared with costs.[31s] They also align with findings in other areas of health promotion research such as the impact of incentives on weight loss and smoking cessation.[17,42s,43s] However, as regular, ongoing STBBI screening is recommended in most high-income countries, it is important to note that our study examined only initial screening uptake. In addition to enhancing screening, participants in one study also discussed how the incentive facilitated discussions about Chlamydia screening with peers and in the workplace.[23,45s] It is evident that context was important and almost all the studies explicitly discussed rationale for the setting in which incentivized screening was implemented, often tailored to their target population. This influenced the choices of setting up screening programs particularly in community sites. With attention to the target population, it was important to engage in peer recruitment or via word of mouth.[26] Incentives provide an opportunity to potentially increase uptake in underrepresented and high-priority groups who pose the greatest risk to public health.[44s] The majority of included studies used incentives to increase STBBI screening in target groups by selectively offering incentives to participants who met inclusion criteria (ie, young adults, parolees); however, targeted incentives can reveal a sense of unfairness for clients.[44s,45s]

Ethical concerns have been expressed about the use of incentives for STBBI screening and health-related behaviors in general, regardless of their efficacy. One of the most commonly cited concerns around incentivizing health behaviors is obtaining autonomous, informed consent and avoiding coercion.[45s] While incentives have been argued to show respect and value for the time of clients, health care providers involved in HIV care have reported concerns around the unintended consequences of incentives, and the strain they place on the therapeutic relationship, which can feel more transactional than relational and intensify power imbalances when used.[44s,46s] Incentives may also result in fragmentation of care as clients engage in care according to which clinics provide incentives.[44s]

Several policy and program recommendations were evident as part of this review. Access issues must be considered in relation to equity.[25] The effectiveness of incentives is also highly dependent on context and should be guided by local epidemiology.[25,29] Cash incentives should be considered for increasing uptake of screening.[23,28] Point-of-care screening may be particularly effective for young adults, as is using current communication technology.[26,27] Denton and Lichtenstein[28] denote that partnerships between different sectors (ie, law enforcement and health) can enhance access to screening, especially for underserved populations. In addition, diverse community sites, including pharmacies, should be considered for screening.[23,24] At other sites, such as emergency departments where high-risk patients are prevalent, intermittent screening programs may increase access to screening without increasing workflow.[24] It is critical to involve the target population in tailoring incentives to maximize efficacy of the intervention.[30] Other recommendations focused on making screening mandatory and moving from opt-in to opt-out screening or including active-choice options.[28,30,34s]

Our review also highlights some research priorities. There is an urgent need to design randomized studies that compare diverse incentives, in a variety of community settings and geographic locations.[25] It is also important to differentiate the effectiveness of targeted incentives in diverse at-risk populations.[29] Further research should also examine the effects of incentives using different magnitudes of reinforcement.[32s] Finally, future studies should assess if engagement in care, treatment, and long-term behavior changes (ie, continued regular screening) are also achieved with incentives.

The main limitation of this review is the small number of studies and associated lack of statistical power to compare findings. Given our teams composition, we were only able to review articles published in English. In addition due to the diversity of study design, population under study, and incentive used, we were unable to pool data or conduct a meta-analysis. Based on the quality assessment, all studies were included; however, some studies lacked the details necessary to engage in a comprehensive quality assessment. Further, our results cannot be generalized to middle and low-income countries as only articles conducting research in high-income countries were included. Insufficient data were available in the included studies to assess the screening positivity rates, treatment, or linkage to care, as well as to assess the limitations of diverse screening sites. Incentive amounts may not be comparable across geography and time as value depended on the currency of screening study country.

Increasing STBBI screening uptake remains both a challenge and a global priority. Our systematic review of incentive-based screening for STBBI in high-income countries identified 13 articles (11 distinct studies) and found that both monetary and nonmonetary incentives enhance STBBI screening uptake in high-income countries. Incentivized screening programs are most effective when developed based on local epidemiology and are specific to the context and target population. The heterogeneity of studies highlights the need for further research to design randomized studies that compare diverse incentives in a variety of community settings and geographic locations. Finally, given the ethical implications of incentivized care, it is essential to involve care providers and the target population when designing incentivized screening programs.

REFERENCES

1. Mohammed H, Blomquist P, Ogaz D, et al. 100 years of STIs in the UK: A review of national surveillance data. Sex Transm Infect 2018; 94:553–558.
2. Thng CCM. A review of sexually transmitted infections in Australia—considerations in 2018. Acad Forensic Pathol 2018; 8:938–946.
3. Centre for Disease Control. Sexually Transmitted Disease Surveillance 2018. Atlanta, GA: Centers for Disease Control, 2019. Available at: https://www.cdc.gov/std/stats18/STDSurveillance2018-full-report.pdf. Accessed January 2021.
4. Choudhri Y, Miller J, Sandhu J, et al. Infectious and congenital syphilis in Canada, 2010–2015. Can Commun Dis Rep 2018; 44:43–48.
5. Williams SP, Bryant KL. Sexually transmitted infection prevalence among homeless adults in the United States: A systematic literature review. Sex Transm Dis 2018; 45:494–504.
6. Public Health Agency of Canada. Summary: estimates of HIV incidence, prevalence and proportion undiagnosed in Canada, 2014. Ottawa: Public Health Agency of Canada, Centre for Communicable Diseases and Infection Control, 2015. Available at: https://www.canada.ca/en/public-health/services/publications/diseases-conditions/summary-estimates-hiv-incidence-prevalence-proportion-undiagnosed-canada-2014.html. Accessed January 2021.

7. McCree DH, Williams AM, Chesson HW, et al. Changes in disparities in estimated HIV incidence rates among black, Hispanic/Latino, and white men who have sex with men (MSM) in the United States, 2010–2015. J Acquir Immune Defic Syndr 2019; 81:57–62.
8. Public Health Agency of Canada. Canadian guidelines on sexually transmitted infections. Ottawa: Public Health Agency of Canada, 2020. Available at: https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/sexually-transmitted-infections.html. Accessed January 2021.
9. Workowski KA, Bolan GA. Sexually transmitted diseases treatment guidelines, 2015. MMWR Recomm Rep 2015; 64:1–137. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/ PMC5885289/. Accessed January 2021.
10. British Association for Sexual Health and HIV. Standards for the management of STIs. Lichfield, England: British Association for Sexual Health and HIV, 2019. Available at: https://www.bashh.org/about-bashh/publications/standards-for-the-management-of-stis/. Accessed January 2021.
11. Sexually Transmitted Infections in Gay Men Action Group (STIGMA). Australian sexually transmitted infection & HIV testing guidelines 2019 for asymptomatic men who have sex with men. Surry Hills, Australia: NSW Health, 2019. Available at: https://stipu.nsw.gov.au/wpcontent/uploads/STIGMA_Guidelines2019_Final-1.pdf. Accessed January 2021.
12. Mitchell H, Allen H, Sonubi T, et al. Sexually transmitted infections and screening for chlamydia in England, 2019. London, England: Public Health England, 2020. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/914184/STI_NCSP_report_2019.pdf. Accessed January 2021.
13. Taylor MM, Frasure-Williams J, Burnett P, et al. Interventions to improve sexually transmitted disease screening in clinic-based settings. Sex Transm Dis 2016; 43:S28–S41.
14. Gneezy U, Meier S, Rey-Biel P. When and why incentives (don't) work to modify behavior. J Econ Perspect 2011; 25:191–210.
15. Burger JM, Caldwell DF. The effects of monetary incentives and labeling on the foot-in-the-door effect: Evidence for a self-perception process. Basic Appl Soc Psychol 2003; 25:235–241.
16. Marteau TM, Ashcroft RE, Oliver A. Using financial incentives to achieve healthy behaviour. BMJ 2009; 338:b1415.
17. Lee R, Cui R, Muesig K, et al. Incentivizing HIV/STI testing: a systematic review of the literature. AIDS Behav 2014; 18:905–912.
18. Moher D, Liberati A, Tetzlaff J, et al. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS Med 2009; 6:e1000097.
19. Higgins JPT, Thomas J, Chandler J. Cochrane Handbook for Systematic Reviews of Interventions, 2nd ed. Chichester, UK: John Wiley & Sons, 2019.
20. The World Bank. World bank country and lending groups. The World Bank. Available at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups. Accessed January 2021.
21. Wagner Z, Montoy JCC, Drabo EF, et al. Incentives versus defaults: Cost-effectiveness of behavioral approaches for hiv screening. AIDS Behav 2020; 24:379–386.
22. Joanna Briggs Institute. Critical appraisal tools. Adelaide, Australia: Joanna Briggs Institute. Available at: https://jbi.global/critical-appraisal-tools. Accessed January 2021.
23. Parker RM, Bell A, Currie MJ, et al. 'Catching chlamydia': Combining cash incentives and community pharmacy access for increased chlamydia screening, the view of young people. Aust J Prim Health 2015; 21:79–83.
24. Currie MJ, Deeks LS, Cooper GM, et al. Community pharmacy and cash reward: A winning combination for chlamydia screening? Sex Transm Infect 2013; 89:212–216.
25. Bowden FJ, Currie MJ, Todkill M, et al. A pragmatic assessment of the relative efficiency of outreach chlamydia screening events conducted in non-clinical settings. BMC Public Health 2012; 12:341.
26. Currie MJ, Schmidt M, Davis BK, et al. 'Show me the money': Financial incentives increase chlamydia screening rates among tertiary students: A pilot study. Sex Health 2010; 7:60–65.
27. Haukoos JS, Witt MD, Coil CJ, et al. The effect of financial incentives on adherence with outpatient human immunodeficiency virus testing referrals from the emergency department. Acad Emerg Med 2005; 12:617–621.
28. Denton JE, Lichtenstein B. Accept or decline? Deciding factors in a voluntary HIV testing program for probationers and parolees. J Assoc Nurses AIDS Care 2018; 29:133–138.
29. Dolan P, Rudisill C. The effect of financial incentives on chlamydia testing rates: Evidence from a randomized experiment. Soc Sci Med 2014; 105:140–148.
30. Montoy JCC, Dow WH, Kaplan BC. Cash incentives versus defaults for HIV testing: A randomized clinical trial. PLoS One 2018; 13:e0199833.

For further references, please see "Supplemental References," http://links.lww.com/OLQ/A805.