



Original Research

Economic incentives for cervical cancer screening: A qualitative study of healthcare professionals' perspectives

Cristina Lumia ^{*} , Simona Fumagalli, Marianna Martinelli, Davide Ausili, Antonella Nespoli 

University of Milano-Bicocca, School of Medicine and Surgery, Monza, Italy

ARTICLE INFO

Keywords:

Economic incentives
HPV screening
Healthcare professionals
Public health
Qualitative research

ABSTRACT

Objectives: To explore and describe healthcare professionals' perspectives on the use of economic incentives to increase adherence to cervical cancer screening programmes.

Study design: An exploratory-descriptive qualitative design was adopted.

Methods: Between April and August 2025, semi-structured interviews were conducted with 24 healthcare professionals from different Italian regions involved in public health. The interview guide was developed through consensus among members of the research team, drawing on the Theoretical Framework of Acceptability. Data were transcribed verbatim and analysed thematically using NVivo version 15.

Results: The analysis identified three overarching thematic areas: 1. ethical implications of using economic incentives in public health; 2. trust-based relationships between women and healthcare professionals; and 3. pre-existing stigma associated with HPV. Participants considered economic incentives as potentially useful tools to encourage participation and reduce structural barriers, but ethically acceptable only when supporting women's health and autonomy rather than replacing intrinsic motivation or relational care. Concerns were raised regarding potential dependency on incentives, socio-economic inequalities and possible effects on trust. Educational determinants, organisational barriers to screening access, and the integration of cervical cancer screening and HPV vaccination were also highlighted; barriers to access to screenings; and the integration of screening and vaccination.

Conclusions: Economic incentives may represent an effective strategy to increase adherence to cervical cancer screening if interventions are designed with attention to ethical principles, social equity, and the socio-educational characteristics of target populations.

Project registration in open science framework: osf.io/nrqf4/overview (11/03/2025)

1. Introduction

Economic incentives are strategies used in public health to influence health-related behaviours by offering financial rewards to specific actions. Since the early 2000s, they have increasingly been incorporated into public health and behavioural interventions to support the uptake of preventive services, including screening programmes.¹ In this field, economic incentives have been applied both at the individual and system levels. For example, performance-based incentives have been shown to increase health professionals' willingness to promote non-scheduled childhood immunisations, even in contexts of limited caregiver awareness.² At the population level, incentives may also take the form of subsidies aimed at encouraging healthier lifestyle choices.³

Targeted initiatives within specific populations have provided

further insights into the effectiveness of incentive-based strategies. Economic incentives have been shown to increase HIV testing uptake among men, a group that traditionally demonstrates lower testing rates.⁴ More recently, a growing body of literature has explored the use of economic incentives to increase participation in cancer screening programmes. Incentive-based interventions may enhance screening uptake and improve the cost-efficiency of healthcare delivery, particularly in lung cancer prevention.⁵ Financial incentives can also increase participation in colorectal cancer screening, although their effectiveness appears to depend on incentive design and implementation characteristics.⁶ By contrast, their impact on breast cancer screening has been less consistent, with some studies reporting no significant changes in participation rates.⁷

Although numerous studies have investigated economic incentives

^{*} Corresponding author. School of Medicine and Surgery, University of Milano-Bicocca, Via Cadore n. 48, 20900, Monza, Italy.

E-mail address: c.lumia2@campus.unimib.it (C. Lumia).

across different types of cancer screening,^{8–11} only one recent study has specifically examined their effect on adherence to cervical cancer screening (CCS).¹² Furthermore, to the best of our knowledge, no studies have explored this topic within a European or Italian context.

2. Methods

2.1. Aim of the study

To explore and describe healthcare professionals’ perspectives on the use of economic incentives to increase adherence to cervical cancer screening programmes.

2.2. Design

An exploratory-descriptive qualitative design¹³ was used, with semi-structured interviews as the method of data collection.

2.3. Methodology

Exploratory¹⁴ and qualitative descriptive¹⁵ approaches have been discussed separately in the literature; however, a unified methodology is appropriate when the phenomenon under investigation is uncertain or insufficiently studied.¹⁶ This approach was considered suitable for the present study, as the research questions aimed to explore how economic incentives are perceived, interpreted, and experienced within specific screening settings. It enabled the identification of participants’ perspectives and relevant contextual factors shaping engagement with screening programmes, generating detailed, practice-oriented descriptions aligned with the study’s exploratory aims rather than theory-driven explanations.¹³

2.4. Inclusion and exclusion criteria

Inclusion criteria comprised midwives, nurses and physicians directly involved in counselling, public health education or clinical care related to cancer prevention and CCS. Healthcare professionals holding institutional or policy-making roles with direct involvement in the design of financial incentive schemes were excluded to minimise potential conflicts of interest.

2.5. Recruitment

Study information was disseminated through the research team’s professional networks. The invitation letter outlined the study aim, eligibility criteria and research team contact details. Approximately 50 healthcare professionals initially expressed interest. No participants were excluded based on the predefined exclusion criteria; however, several individuals did not proceed to participation or were not invited to take part once data saturation was reached. Recruitment therefore concluded with a final sample of 24 participants, all of whom provided written informed consent and completed a brief demographic questionnaire (age, gender, professional role, years of experience, and workplace setting).

Participants were informed in writing that the first author is a doctoral student with a professional background in midwifery and that the study was conducted as part of a doctoral research project on Human Papillomavirus (HPV) and cervical cancer screening. Participant characteristics are reported in Table 1.

2.6. Data collection

Data were collected from April to August 2025 via semi-structured individual interviews. Interviews were conducted online by the first author, who also took handwritten notes during the sessions to capture non-verbal cues and contextual details complementing the verbal data.

Table 1
Characteristics of the participants (N = 24).

Characteristic	Range (mean) or n (%)
Profession (midwife/nurse/physicians)	24
midwife	11 (45.8%)
nurse	10 (41.7%)
physicians	3 (12.5%)
Age (years)	22–48 (31.9)
Gender (female/male)	
female	22 (91.7%)
male	2 (8.3%)
Current workplace	
Public hospital	11 (45.8%)
Academic	4 (16.7%)
Local service	4 (16.7%)
Private hospital	2 (8.3%)
Highest educational qualification	1 (4.2%)
Highest educational qualification	
Bachelor’s degree	10 (41.7%)
Master’s degree	14 (58.3%)
Duration of interview (min:sec)	12:21–53:38 (Mean: 23:05)

An interview guide was used to ensure consistency across interviews (Supplementary 1). The guide was developed collaboratively by the research team and informed by the Theoretical Framework of Acceptability (TFA)¹⁷ to sensitise the exploration of determinants of behaviour and perceptions of acceptability related to economic incentives for CCS, without constraining participants’ responses. Interviews were audio-recorded with participants’ consent, then transcribed verbatim by the first author. Transcripts and findings were not sent to participants for feedback.

2.7. Data analysis

An inductive thematic analysis was conducted following Braun and Clarke’s methodology,¹⁸ supported by NVivo version 15. Audio recordings were reviewed to verify transcript accuracy, and transcripts were read repeatedly for data familiarisation. Initial codes were generated inductively by the first and last authors, with reflexive notes documented throughout the process. Codes were then compared, refined and grouped into broader categories, from which themes were developed. Only after this inductive analytic phase were the resulting themes mapped onto the constructs of the TFA¹⁷ to support interpretation and enhance analytic transparency.

Analysis was iterative and involved ongoing discussion among all authors until consensus was reached on the final thematic structure. Data saturation was achieved when no new codes or themes emerged.

Participant quotations are identified using the following abbreviations: MID (midwives), NUR (nurses) and P (physicians). The study was reported in accordance with the COREQ checklist.

2.8. Rigor and reflexivity

Rigor was ensured through a systematic and transparent analytic process. Thematic categories were grounded in participants’ accounts and supported by illustrative quotations. Dependability was supported through detailed reporting of the study design, recruitment, data collection and analysis, with coding decisions discussed and agreed upon by the authors. Transferability was facilitated by providing detailed descriptions of participant characteristics, professional backgrounds and the Italian cervical screening context, enabling readers to assess the applicability of findings to other settings. Reflexivity was actively practised throughout the study. The first author, with experience in cervical cancer screening, conducted all interviews and maintained reflexive notes to monitor assumptions and positionality.

The research team included members with diverse expertise in midwifery, nursing and public health, all experienced in qualitative research. None of the authors had hierarchical or supervisory

relationships with participants, minimising the risk of response bias.

3. Results

Participants identified several potential economic incentives to promote adherence to CCS, emphasising that these should be minimal and symbolic, aimed at facilitating access and participation rather than providing direct financial remuneration (Table 2). Suggested incentives varied according to the wide age range of women invited for CCS, reflecting differing needs and expectations among younger and older populations.

Beyond these pragmatic considerations, three major interpretive themes were developed through the analysis: (1) ethical implications of using economic incentives in public health; (2) trust-based relationships between women and healthcare professionals; and (3) pre-existing stigma associated with HPV. The first theme included two subthemes: potential dependency on incentives and socio-economic inequalities. The second theme encompassed interactions with political institutions. The third theme comprised three subthemes: educational determinants, barriers to accessing screening services, and the integration of cervical cancer screening and HPV vaccination. An overview of themes and subthemes is presented in Fig. 1, while participant quotations supporting findings are provided in Table 3.

3.1. Ethical implications of using economic incentives in public health

Participants frequently referred to the ethical implications of introducing economic incentives into preventive health programmes. While some considered incentives as potentially useful tools to encourage participation, others questioned their ethical legitimacy and compatibility with principles of equity and self-determination. Incentives were regarded as ethically acceptable only when supporting women's health and autonomy, rather than replacing intrinsic motivation or promoting a transactional model of care.

3.1.1. Potential dependency on incentives

Professionals expressed concerns that economic incentives might foster dependency or weaken intrinsic motivation for preventive behaviours. There was apprehension that screening could be perceived primarily as a reward-based activity rather than as a personal health responsibility, potentially reinforcing external rather than awareness-driven motivations.

3.1.2. Socio-economic inequalities

Participants discussed how economic incentives could inadvertently reproduce or exacerbate existing social inequalities. Equity emerged as a central concern, with emphasis on fair allocation to avoid discrimination or the stigmatisation of specific socio-economic groups. While some viewed incentives as potentially effective in engaging women from disadvantaged backgrounds, others warned that selective targeting could increase perceptions of unfairness or paternalism. These discussions reflected awareness of structural disparities related to income,

employment and regional context within the country.

3.2. Trust-based relationships between women and healthcare professionals

Professionals highlighted that adherence to screening programmes is strongly influenced by trust-based relationships between women and healthcare professionals. Several expressed concern that the introduction of economic incentives could undermine trust by shifting attention away from communication, education and empowerment towards a transactional approach.

Some professionals feared that incentives might reduce their role to promoting a service rather than delivering high-quality care. Others, however, suggested that incentives could remain compatible with a trust-based approach if used to support - rather than replace - relational and educational engagement.

3.2.1. Interaction with political institutions

Institutional credibility was identified as a key determinant of public trust and acceptability. Participants noted that incentives introduced or endorsed by national or regional authorities were more likely to be perceived as legitimate. At the same time, healthcare professionals were recognised as representatives of institutions at the local level, acting as intermediaries between political decisions and community practice.

3.3. Pre-existing stigma associated with HPV infection

Participants emphasised that cultural and social perceptions surrounding HPV infection continue to influence women's willingness to participate in screening. HPV's association with sexual transmission was described as a persistent source of stigma, particularly in more conservative or religious contexts.

Cervical cancer screening was frequently compared with breast cancer screening, which was perceived as more socially accepted and visible in public discourse. This difference was attributed to the moral connotations associated with sexually transmitted infections, influencing both women's attitudes and healthcare professionals' communication strategies.

3.3.1. Educational determinants

Professionals stressed that economic incentives should complement, rather than undermine, educational interventions. Incentives were seen as potentially useful only when integrated with health education aimed at increasing awareness, personal responsibility and understanding of prevention. Clear communication and active involvement of healthcare professionals were considered essential to reinforce the preventive rationale of screening.

3.3.2. Barriers to access to screening

Participants discussed several organisational and practical barriers limiting screening participation, including telephone-based appointment systems, rigid scheduling and limited use of digital technologies. These barriers were perceived as particularly restrictive for women balancing work and family responsibilities. The absence of workplace policies supporting preventive health behaviours was also highlighted, with suggestions that flexible hours or paid leave could improve access.

3.3.3. Integration of screening and vaccination

Professionals discussed integrating cervical cancer screening and HPV vaccination within a life-course prevention perspective. Integration was mainly understood as coordination and communication between programmes, ensuring that individuals receiving HPV vaccination are informed about the need for future screening given the limited genotype coverage of current vaccines.

Some participants mentioned shared information systems or coordinated invitations across the life course. However, concerns were raised

Table 2

List of economic incentives proposed by participants.

Proposed types of economic incentives
Sanitary pads, tampons or reusable menstrual pads (like cups)
Discounts for social events, tickets for concerts or museum
Tickets for flights, trains, bus or public transports
Gift cards for beauty routine, skin care, SPA or haircare professionals
Amazon or Zalando voucher
Access to sporting events or gyms
Laundromat or discounts/voucher for grocery/market shopping
Various contraceptive methods, including oral pills, condoms or intrauterine devices
Fuel vouchers
Breakfast or lunch free after the screening

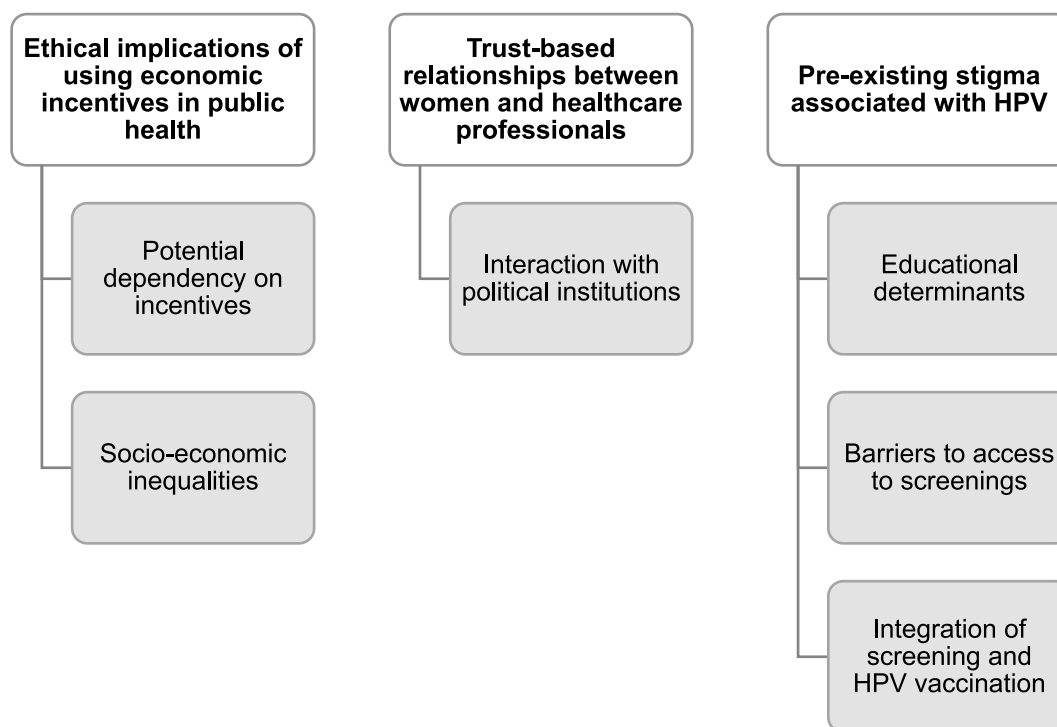


Fig. 1. Themes and sub-themes.

that linking screening and vaccination too closely could create confusion or mistrust if perceived as interchangeable or outside recommended age pathways. These views emphasised the need for clear, age-appropriate communication to ensure that combined prevention strategies are perceived as complementary rather than coercive.

4. Discussion

Findings from this exploratory study suggest that improving adherence requires a multifaceted approach integrating ethical acceptability, relational trust and educational empowerment. Economic incentives were viewed as potentially supportive tools, but only when embedded within a broader preventive framework rather than used as stand-alone strategies. Interestingly, participants appeared to focus predominantly on organisational, ethical, and institutional dimensions of screening participation, while comparatively less attention was directed toward women's lived experiences, underlying motivations, and decision-making processes related to prevention. This observation may itself reflect a broader tendency within healthcare systems to prioritise structural and programmatic approaches over experiential understandings of preventive behaviours. Future research directly involving women could therefore provide important insights into how trust, stigma, prior experiences with HPV vaccination, and perceptions of preventive care shape long-term engagement with cervical cancer prevention pathways.

Findings revealed ambivalent attitudes: while participants recognised the potential of economic incentives to enhance access and reduce socio-economic barriers, they also expressed ethical concerns and highlighted the importance of trust, education and institutional trustworthiness. This ambivalence reflects ongoing debates in public health ethics regarding the acceptability of financial incentives.¹⁹ Although positive effects have been reported for specific behavioural interventions, concerns persist around autonomy, equity and the potential commercialisation of health behaviours.^{20,21}

Participants emphasised that incentives should remain symbolic rather than substantial, supporting access and participation without replacing intrinsic motivation. This aligns with evidence suggesting that

incentive-based interventions are more effective when perceived as empowering rather than coercive.^{22,23} The emphasis on ethical balance²⁴ further illustrates how professionals situate incentives within a broader framework of preventive care, viewed as a relational and communicative process rather than a transactional one. The perception that incentives could commercialise prevention²⁵ reinforces the centrality of trust in professional-patient relationships, consistent with literature identifying trust as fundamental to preventive care and patient involvement.²⁶

Participants also discussed the risk that poorly designed incentives⁴ could exacerbate existing socio-economic inequalities, particularly if targeted selectively or framed in a way that portrays disadvantaged groups as passive recipients. At the same time, incentives were considered potentially useful in reducing structural barriers faced by low-income or marginalised populations.²⁷

Institutional and political trust emerged as a key determinant of acceptability. Participants noted that initiatives supported by national or regional authorities were more likely to be perceived as credible, whereas locally implemented programmes without institutional endorsement risked limited uptake. This reinforces the role of healthcare professionals as intermediaries between policy and community practice, in line with evidence highlighting the importance of institutional trust for screening participation.²⁸

Participants stressed that incentives should be combined with health education to strengthen awareness, self-responsibility and health literacy. Structural barriers - including limited digital access, inflexible appointment systems and insufficient workplace support - were frequently reported, echoing international evidence on the impact of organisational constraints on screening uptake.²⁹ The discussion on integrating CCS with vaccination reflected a preventive rationale based on continuity of care, although concerns were raised about potential resistance among women sceptical of vaccination. These divergent views highlight the need for clear communication strategies³⁰ that support women's autonomy and address misconceptions related to both screening and vaccination.

Table 3
Participant quotations supporting themes and subthemes.

Themes and Sub-themes	Quotes
1. Ethical implications of using economic incentives in public health	"I wondered whether it was ethical or not, but I see it as ethical because I'm not really paying you - I'm not giving something for my own benefit, but for your health". (NUR07) "Screening itself is already an incentive. The fact that we offer such an important preventive opportunity for free should be enough. If women still don't participate, there must be deeper reasons". (MID01)
1.1 Potential dependency on incentives	"From a professional point of view, it would feel almost inappropriate. If the idea doesn't stay with you - that in five years, you'll have to get screen again - then the effect is lost. It should be something that spreads naturally". (MID04) "It depends whether our goal is to patch the problem now or to build real motivation for the future. The risk is that no one will do anything anymore without receiving something in return." (MID11)
1.2 Socio-economic inequalities	"If incentives are given to everyone equally, that's fine, but if they are offered only to certain social groups, it sends the wrong message. It would seem as if you're trying to reach those who can only be persuaded in this way". (MID09) "It's always the women in more disadvantaged social settings who tend to neglect their health a bit, so an incentive could help in those cases." (MID02). "There is a difference between every situation. For example, between a woman with four children who doesn't work and a woman with a good job - incentives are not equally necessary, and this shows another kind of discrepancy." (P03) "It could even work like the Italian suspended coffee - you leave it for someone who needs it more than you do." (MID08)
2. Trust-based relationships between women and healthcare professionals	"Giving incentives interrupts what should be part of our job - communication, building trust, and empowering women. If I just give you a voucher to do the screening instead of spending time explaining why it matters, I'm not really taking care of you." (NUR04) "If a woman comes to me only because she knows she'll get a voucher, she doesn't really care - It's like turning into a salesperson rather than a professional". (NUR05)
2.1 Interaction with political institutions	"It's a matter of credibility - if I see that a message comes from the local Government rather than from my community service, I tend to pay more attention to it." (NUR07) "If it's done by the Ministry of Health, it increases people's trust in the system and in its ability to take care of society". (MID06) "The healthcare professional should act as a bridge between the screening programme and the person who needs to take part." (NUR04)
3. Pre-existing stigma associated with HPV infection	"We live in a very Catholic country; the idea of sexual transmission still frightens people." (MID01) "Breast cancer scares more because people talk about it more. Socially talking: if you have breast cancer you are unlucky, but if you have cervical cancer, you asked for it, because of your sexual habits." (P01)
3.1 Educational determinants	"My concern is that incentives might reduce people's sense of responsibility. Incentives are fine, but they should go hand in hand with education, helping women understand that screening is important for their own health, not just because they get something in return." (NUR03) "HPV-related cancer exists, and when it's diagnosed late, it's hard to treat. I wish women would join the screening pathway understanding why it matters." (MID05) "People are not well informed about their own health - most of the time, they only worry when they already have symptoms and not before." (P01) "In the end, it's a benefit for the Healthcare System too: if more people adhere to screening, we detect diseases earlier and spend less on treatment. It's a benefit for both the patient and public healthcare." (MID10)
3.2 Barriers to access to screenings	"It's not immediate. Right now, you often still have to call, wait for someone to answer, find the time, reschedule ... if there were an app where you could manage it yourself, it would be simpler." (MID07) "Taking time off for screening isn't paid, or you have to use your vacation days or lunch break. Companies should plan specific times when women can attend without causing problems at work." (NUR06)
3.3 Integration of screening and vaccination	"Combining the two makes sense, especially for younger women, where studies show greater efficacy. You come once, I explain everything, and you see that both screening and vaccination move in the same direction - prevention." (MID04) "If they even pay me to do it, it feels like something's wrong. You don't skip vaccination because you don't have time - you skip it because you don't believe in it." (MID02) "In my experience, the women who don't get vaccinated are often the same ones who don't attend screening or pay little attention to prevention in general." (NUR10)

4.1. Limitations and strengths

This study has several limitations. First, participation was voluntary and based on self-selection, which may have resulted in the inclusion of healthcare professionals who were particularly motivated or interested in health prevention, potentially limiting the range of perspectives on economic incentives. In addition, as the study explored healthcare professionals' perspectives, the findings do not capture women's direct experiences or views regarding incentive-based interventions. Second, the study was conducted within a single national context; therefore, the transferability of findings to other healthcare systems should be interpreted with caution.

Despite these limitations, the study also has notable strengths. To our knowledge, this is the first study to explore healthcare professionals' perspectives on economic incentives for cervical cancer screening within an Italian healthcare setting. The use of a theory-informed interview guide enhanced the conceptual coherence of data collection, while a rigorous thematic analysis supported the transparency and trustworthiness of the findings.

4.2. Implications for practice, policy and research

Policymakers should consider designing incentive-based

interventions that are moderate in value, transparent in purpose, and embedded within comprehensive programmes aimed at reducing inequities and improving adherence. Future research could explore women's perspectives on incentive-based interventions and examine how trust, stigma and motivation interact across different socio-economic contexts.

4.3. Conclusion

The findings from this study suggest that economic incentives may contribute to improving participation in cervical cancer screening, but their effectiveness is contingent upon ethical alignment, relational trust, and educational integration. Incentives ought to improve, not replace, health promotion and empowerment. Healthcare systems aiming to improve preventive adherence face the challenge of formulating solutions that respect autonomy, mitigate disparities, and strengthen the ethical and relational basis of care.

Ethical approval

The research was conducted in accordance with the principles of the Declaration of Helsinki. Ethical approval was obtained from the Ethics Committee of the University of Milano-Bicocca, Italy (protocol n. 935-

0159495). All participants were provided with written information regarding the study's aims, its voluntary nature, and the protocols for data protection. They were notified that participation was completely voluntary and that they might withdraw their consent at any moment without the necessity of justification or consequences. Informed written consent was acquired from all participants before the interviews. Participants were advised that assistance services were available in the event of any discomfort following their participation.

Funding

This research received editorial support through a *Laura Bassi Editorial Grant* awarded to the first author (CL) by Editing Press LLC, which covered partial costs of language editing and manuscript preparation. The funding sources had no influence on the study process at any phase. No other specific funding was received for this research.

Declaration of competing interest

Nothing to declare.

Acknowledgments

The authors would like to express their sincere gratitude to all the midwives, nurses and physicians who generously shared their time, experiences, and perspectives.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.puhe.2026.106385>.

References

- Hahn RW. The impact of economics on environmental policy. *J Environ Econ Manag*. 2000;39(3):375–399. <https://doi.org/10.1006/jeem.1999.1119>.
- Cheng J, Lin S, Wu C, et al. What influences health Professionals' Recommendations for Non-Scheduled Childhood Vaccinations? A Qualitative Study of Health Professionals' perspectives in three provinces of China. *Vaccines (Basel)*. 2021;9(12):1433. <https://doi.org/10.3390/vaccines9121433>.
- Vlaev I, King D, Darzi A, Dolan P. Changing health behaviours using financial incentives: a review from behavioural economics. *BMC Public Health*. 2019;19(1):1059. <https://doi.org/10.1186/s12889-019-7407-8>.
- Ndyabakira A, Getahun M, Byamukama A, et al. Leveraging incentives to increase HIV testing uptake among men: qualitative insights from rural Uganda. *BMC Public Health*. 2019;19(1):1763. <https://doi.org/10.1186/s12889-019-8073-6>.
- Kim DD, Cohen JT, Wong JB, et al. Targeted incentive programs for lung cancer screening can improve population health and economic efficiency. *Health Aff*. 2019;38(1):60–67. <https://doi.org/10.1377/hlthaff.2018.05148>.
- Gupta S, Miller S, Koch M, et al. Financial incentives for promoting colorectal cancer screening: a randomized, comparative effectiveness trial. *Am J Gastroenterol*. 2016;111(11):1630–1636. <https://doi.org/10.1038/ajg.2016.286>.
- Kiran T, Wilton AS, Moineddin R, et al. Effect of payment incentives on cancer screening in Ontario primary care. *Ann Fam Med*. 2014;12(4):317–323. <https://doi.org/10.1370/afm.1664>.
- Mehta SJ, Reitz C, Niewood T, et al. Effect of behavioral economic incentives for colorectal cancer screening in a randomized trial. *Clin Gastroenterol Hepatol*. 2021;19(8):1635–1641.e1. <https://doi.org/10.1016/j.cgh.2020.06.047>.
- Mehta SJ, Pepe RS, Gabler NB, et al. Effect of financial incentives on patient use of mailed colorectal cancer screening tests: a randomized clinical trial. *JAMA Netw Open*. 2019;2(3), e191156. <https://doi.org/10.1001/jamanetworkopen.2019.1156>. Erratum in: *JAMA Netw Open*. 2019;2(4):e193771. doi: 10.1001/jamanetworkopen.2019.3771.
- Litaker JR, Tamez N, Durkalski W, Taylor R. A cue-to-action pilot project to increase screening mammography. *Am J Manag Care*. 2021;27(2):e48–e53. <https://doi.org/10.37765/ajmc.2021.88589>.
- Merrick EL, Hodgkin D, Horgan CM, et al. Testing novel patient financial incentives to increase breast cancer screening. *Am J Manag Care*. 2015;21(11):771–779.
- Choudhury HK, Borah RK. Can financial incentives encourage women to participate in a cervical cancer screening programme? Evidence from a randomized controlled trial analysis. *J Cancer Policy*. 2022;32, 100324. <https://doi.org/10.1016/j.jcpo.2022.100324>.
- Hunter D, McCallum J, Howes D. Defining exploratory–descriptive qualitative (EDQ) research and considering its application to healthcare. *J Nurs Health Care*. 2019;4(1).
- Stebbins RA. *Exploratory Research in the Social Sciences*. London: Sage Publications; 2001.
- Sandelowski M. Whatever happened to qualitative description? *Res Nurs Health*. 2000;23(4):334–340.
- Lederman RP. Comparative and consistent approaches to exploratory research. *Am J Matern Child Nurs*. 1993;18(2):107.
- Sekhon M, Cartwright M, Francis JJ. Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. *BMC Health Serv Res*. 2017;17:88. <https://doi.org/10.1186/s12913-017-2031-8>.
- Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101.
- Giles EL, Sniehotta FF, McColl E, Adams J. Acceptability of financial incentives for health behaviour change to public health policymakers: a qualitative study. *BMC Public Health*. 2016;16:989. <https://doi.org/10.1186/s12889-016-3646-0>.
- Oliver A. Can financial incentives improve health equity? *BMJ*. 2009;339, b3847. <https://doi.org/10.1136/bmj.b3847>.
- Vlaev I, King D, Darzi A, Dolan P. Changing health behaviors using financial incentives: a review from behavioral economics. *BMC Public Health*. 2019;19(1):1059. <https://doi.org/10.1186/s12889-019-7407-8>.
- Schneider FH, Campos-Mercade P, Meier S, et al. Financial incentives for vaccination do not have negative unintended consequences. *Nature*. 2023;613(7944):526–533. <https://doi.org/10.1038/s41586-022-05512-4>.
- Bartholomew T, Colleoni M, Schmidt H. Financial incentives for breast cancer screening undermine informed choice. *BMJ*. 2022;376, e065726. <https://doi.org/10.1136/bmj-2021-065726>.
- Lunze K, Paasche-Orlow MK. Financial incentives for healthy behavior: ethical safeguards for behavioral economics. *Am J Prev Med*. 2013;44(6):659–665. <https://doi.org/10.1016/j.amepre.2013.01.035>.
- Zha P, Qureshi R, Porter S, Zhang C. Adverse childhood experiences, preventive care utilization, and patient–nurse trust relationship among sexual and gender minority individuals. *Nurs Res*. 2023;72(6):439–446. <https://doi.org/10.1097/NNR.0000000000000682>.
- Tambor M, Pavlova M, Golinowska S, et al. Financial incentives for a healthy life style and disease prevention among older people: a systematic literature review. *BMC Health Serv Res*. 2016;16(Suppl 5):426. <https://doi.org/10.1186/s12913-016-1517-0>. Suppl 5.
- Poluektova O, Robertson DA, Papadopoulos A, Lunn PD. Trust in cervical screening and attributions of blame for interval cancers following a national controversy. *Br J Health Psychol*. 2024;29(3):788–813. <https://doi.org/10.1111/bjhp.12727>.
- Aguiar-Ibáñez R, Mbous Y, Sharma S, et al. Barriers to cancer screening uptake and approaches to overcome them: a systematic literature review. *Front Oncol*. 2025;15, 1575820. <https://doi.org/10.3389/fonc.2025.1575820>.
- Wirtz C, Mohamed Y, Engel D, et al. Integrating HPV vaccination programs with enhanced cervical cancer screening and treatment, a systematic review. *Vaccine*. 2022;40(Suppl 1):A116–A123. <https://doi.org/10.1016/j.vaccine.2021.11.013>.
- Fu Y, He Y, Wang Z, Sun J. Strategies, barriers, and facilitators for healthcare professionals to recommend HPV vaccination: a systematic review. *Vaccines (Basel)*. 2025;13(4):402. <https://doi.org/10.3390/vaccines13040402>.