Leveraging Traditional and Religious Leaders in Delivery Design and Demand Generation: Report for a living systematic review (Version 1.0, September 2026)

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Authors, roles and CRediT contributions

Name	Affiliation	Contribution	Conflict of interest
Britta Tendal Jeppesen	Future Evidence Foundation	Conceptualisation, methodology and supervision	None
Melissa Bond	EPPI Centre, UCL	Methodology, Writing – review and editing	None
Ailbhe Finnerty Mutlu	EPPI Centre, UCL	Methodology, Writing – review and editing	None
Mikey Rosato	Future Evidence Foundation	Writing and project administration	None
Promise Nduku	Elevate Evidence Hub	Conceptualisation, Methodology, Writing - Review and editing	None
Nothando Mkhwanazi	Elevate Evidence Hub	Writing – Review and editing	None
John Ategeka	Elevate Evidence Hub	Conceptualisation, Methodology, Writing - Review and editing	None
Lydia Tabane	Elevate Evidence Hub	Writing – Review and editing	None
Caroline Otike	The Research and Evaluation Centre	Writing – Review and editing	None
Howard White	The Research and Evaluation Centre	Conceptualisation, Methodology, Writing - Review and editing	None
Minyahil Tadesse	Armauer Hansen Research Institute (AHRI), Ethiopia	Writing – Review and editing	None
Adolphus Trokon Clarke	Liberia Ministry of Health	Writing – Review and editing	None
Julia Guerette	VillageReach	Writing - Review and	None

		editing	
Balkiss Abdelmoula	MENA Coalition for HPV Elimination	Writing – Review and editing	None
Manikanda Nesan	Isaac Centre for Public Health	Writing – Review and editing	None
Deogratias Munube	Makerere University, Uganda	Writing – Review and editing	None
Endashaw Nadew	Ethiopia Ministry of Health	Writing – Review and editing	None
Kamran Khan	JHPIEGO	Writing – Review and editing	None
Rabecca Chitundu	Centre for Infectious Disease Research in Zambia (CIDRZ)	Writing – Review and editing	None
Noreen Zafar	Girls and Women Health Initiative	Writing – Review and editing	None
Anumegha Bhatnagar	Girl Effect	Writing – Review and editing	None
Huma Khawar	Journalist	Writing – Review and editing	None
Surangani Abeyesekera	UNICEF	Writing – Review and editing	None

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Conflicts of interests

None

Abstract

Background: Human papillomavirus (HPV) vaccination is highly effective in preventing cervical cancer, yet uptake in many low- and middle-income countries (LMICs) remains constrained by logistical, social, cultural and behavioural barriers. Traditional and religious leaders may influence vaccine acceptance, community trust and access because of their authority, legitimacy and roles in shaping social norms. However, the effectiveness of deliberately engaging these leaders in HPV vaccine delivery and demand-generation strategies, and the conditions under which such engagement facilitates or impedes implementation, remain uncertain.

Objectives: This living systematic review assessed the effects of engaging traditional and religious leaders in the design and delivery of HPV vaccine demand-generation activities on vaccination uptake, completion, acceptance and equity in LMICs. Secondary objectives were to examine variation in effects by intervention design and context and to identify barriers and facilitators influencing implementation and outcomes.

Methods: We searched ten academic databases, 12 organisational and grey-literature sources, and supplementary sources, including the ALIVE HPV Living Evidence Repository and Google. Initial searches were conducted between June and July 2026, with supplementary searches in September 2026. Eligible studies were published from 2000 onwards, conducted in LMICs, and examined HPV vaccination interventions that deliberately involved traditional or religious leaders in co-design, consultation, mobilisation, communication, advocacy, endorsement, health education, decision-making or implementation support. Quantitative, qualitative and mixed-methods primary studies were eligible. Two reviewers independently screened titles, abstracts and full texts. Quantitative studies were assessed using a domain-based risk-of-bias approach adapted from ROBINS-I, while qualitative studies were assessed using CASP. Given substantial heterogeneity and the absence of comparable leader-specific counterfactual effect estimates, findings were synthesised narratively rather than through meta-analysis.

Results: Searches identified 10,226 records, of which 7,113 remained after removing 3,113 duplicates. Following title and abstract screening, 249 full texts were assessed, and eight studies were included. Seven reported quantitative outcomes and three contributed qualitative evidence, with two contributing to both syntheses. Studies were conducted in Cameroon, Nigeria, Ethiopia, South Africa and Bhutan; seven were from sub-Saharan Africa. Traditional and religious leaders most commonly provided

endorsement or support, mobilisation, consultation, messaging and communication, and health education. Some multicomponent programmes involving leaders reported high vaccination uptake or completion rates. However, none of the included quantitative studies compared an otherwise comparable vaccination intervention with leader engagement against one without leader engagement, meaning that the observed programme outcomes cannot be causally attributed to leaders. Five single-arm or descriptive studies were judged at critical overall risk of bias and two non-randomised evaluations at serious risk of bias. Qualitative evidence suggested that leader endorsement, trusted communication, community mobilisation, authorisation of vaccination activities and practical support could facilitate implementation, whereas leader opposition, misinformation, vaccine-safety concerns and refusal to permit vaccination activities could impede delivery.

Conclusions: Traditional and religious leaders appear to occupy potentially important implementation roles in HPV vaccination programmes, particularly through endorsement, mobilisation, trusted communication, community access and practical support. However, the current evidence base does not establish whether engaging these leaders independently improves HPV vaccination awareness, acceptance, uptake, completion or equity. More rigorous evaluations using leader-specific counterfactual designs are required to estimate their incremental contribution and determine how effects vary across settings and intervention approaches. Qualitative findings nevertheless provide useful evidence on mechanisms and implementation conditions that programme planners should consider when engaging with influential community authorities.

Living systematic review status: This review will remain in living mode through the planned maintenance period ending in February 2027; no predefined evidence-based retirement trigger has yet been established.

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Introduction

Rationale

Cervical cancer remains a devastating global health challenge, accounting for an estimated 661,021 new cases and 348,189 deaths globally in 2022 alone (Bray et al., 2024). This health burden is characterised by distinct global inequality. While high-income regions such as North America, Australia/New Zealand and Western Asia have declining rates of cervical cancer due to reliable screening and vaccination, the highest mortality rate is concentrated in sub-Saharan Africa and Melanesia, with some countries experiencing sharp increases in prevalence (WHO Regional Office for Africa, 2023). Often described as the ‘disease of the poor’, cervical cancer disproportionately affects women in settings with limited resources, where clinical interventions are sparse and preventive measures remain out of reach for the most marginalised (Knaul et al., 2019).

In the most isolated and marginalised communities of low- and middle-income countries (LMICs), structural and social barriers often obstruct access to preventive measures. A Cochrane review found that traditional and religious leaders can either increase or decrease acceptance of the human papillomavirus (HPV) vaccine (Cooper et al., 2025). Clinical availability, therefore, does not necessarily translate into cultural accessibility. Traditional and religious institutions offer a proven yet underutilised solution to these barriers by serving as primary frameworks for community communication, governance, and social legitimacy. To understand the role of these organised social establishments in addressing vaccine inequity, hesitancy, and non-conformity, we must define them by their dual capacity for administration and social influence (Logan, 2013).

In the African context, traditional leadership is a sophisticated system that is both symbolic and administrative. These authorities serve as an important administrative hub for rural communities, going beyond their ceremonial role. From managing communal resources to verifying residency for social grants and facilitating access to various social services, traditional institutions fill gaps where the formal state presence is thin (Delius, 2008; Comaroff & Comaroff, 2018). Customary institutions also act as the legitimising authority for a dynamic ecosystem of community actors. Home-based caregivers who provide essential health services to those who cannot readily access clinics are not formal traditional authorities themselves, yet they frequently operate only through the sanctioned authority and cooperation of the traditional leader (Moshabela et al., 2016). These customary institutions typically (but not exclusively) centre men in their overt structures, with older male title-holders governing them and operating on power imbalances. Community health intermediaries, who are predominantly women, must negotiate access to adolescent female vaccine recipients through a governing layer of

male elders who police local sexual and reproductive health norms (Chigbu et al., 2023).

In a number of West African customary systems, particularly among the Akan/Asante and Krobo communities in Ghana, female traditional leaders, commonly referred to as 'Queen Mothers', 'ohemaa/obahemaa' or 'manye', are not merely informal advisors but recognised office holders with their own stools, courts, constituencies and lines of authority. Scholarship on Asante chieftaincy describes queen mothers as female leaders who function in parallel with chiefs in dual-gender political systems, while work on Akan succession shows that the ohemaa can be central to nominating a royal for enrolment, though her role in destoolment varies by customary area and may be exercised with kingmakers rather than unilaterally (Stoeltje, 1997; Asaanful, 2019). This review recognises that customary governance is not entirely monolithic; these male-dominated structures are frequently mediated by covert female power networks, including institutional figures such as ‘Queen Mothers’ or paternal female advisors, i.e. Rakgadi/Makhadzi (Oomen, 2005). Contemporary evidence shows that queen mothers are active in community development, women's and children's welfare, and health-related mobilisation. For instance, studies of Ghanaian queen mothers document their roles in children’s education, women’s rights, and community planning and development, while the Manya Krobo Queen Mothers Association has been described as a credible community actor in HIV/AIDS awareness, mobilisation, partnership building, and vulnerability reduction (Brown, 2011; Boateng, 2017). While these internal dynamics strongly influence community consensus, the review focuses primarily on formal institutional gatekeepers to maintain analytical manageability. The role of traditional leaders varies across Africa. Nonetheless, in other parts of the continent (such as in Uganda, Malawi and Nigeria), where traditional leaders may have less formal administrative responsibility, their role in influencing the behaviour and the social acceptance of rural populations remains the primary determinant of an intervention’s success (Baldwin, 2016; Cammack et al., 2007; Englebert, 2000; Vaughan, 2006). The review will therefore not assume that engagement must always proceed first through male chiefs or elders. Instead, it will code the gender, title, level of authority and customary functions of the leader engaged, including whether women traditional leaders hold formal decision-making, advisory, mobilisation or gatekeeping roles within the intervention.

Outside the African context, evidence shows that the role of traditional leaders has been formally incorporated into local governance structures. For example, in India the ‘Sarpanch’ (known by different names in different parts of the country, such as 'Pradhan' and 'Mukhiya') is the elected leader of the Gram Panchayat (village council) as part of a village governance system based on a council of elders dating back thousands of years (Mathew, 2000; Palanithurai, 2008). One example from East Asia is the village

assembly (Sangguniang Barangay) in the Philippines. The modern barangay system elects a Barangay Captain (Punong Barangay) and is based on the pre-colonial village governance system that operated under a chief or ‘Datu’ (Bueno, 2013; Rojo, 2002). In China, village-level governance combines the Party's role with traditional leaders represented by elders of local clans or du lao (Tsai, 2007; Xu & Yao, 2015). Across all three contexts, the vast regional diversity introduces a critical linguistic and methodological consideration for this review: in empirical literature, customary leaders are often reported solely by their locally recognised titles rather than by generic administrative terms. This specificity is increasingly prominent in contemporary co-produced or decolonial research, where investigators deliberately utilise indigenous appellations out of institutional respect and as a practice of epistemic justice.

Drawing on Baldwin’s (2020) conceptualisation, this project defines traditional leadership as an institution in which authority derives from customary conventions and hereditary legitimacy. Traditional institutions are not undifferentiated systems of governance. Instead, these institutions exist in a state of legal hybridity, with the extent of recognition and incorporation into formal governance structures varying across regions and countries. Internal institutional power dynamics frequently face contestation, national courts redefine them, or local government acts integrate them (Oomen, 2005). Across various LMIC contexts, this dynamism creates a complex political landscape in which traditional councils, often comprising both hereditary figures and community representatives, must navigate shifting legal recognition while maintaining their local symbolic authority. This dynamism does not diminish traditional leadership's capacity to mobilise collective action in ways that formal states cannot match.

Alongside traditional institutions, religious leadership serves as a foundational institution that shapes shared norms and ethics. Melillo et al. (2022) noted that religious leaders can influence vaccination uptake. For example, mechanisms such as facilitating communication, improving access to resources, and shaping followers’ beliefs can influence uptake of polio, HPV, and COVID-19 vaccines. Conversely, vaccine hesitancy also often arises from religious beliefs and the perceived spiritual safety of medical interventions. The issue becomes more complicated when religious and ideological doctrines are conflated with vaccines as a mechanism for Western control. This highlights a critical point: a vaccine may be physically available in a clinic but remain socially inaccessible if local governing structures have not legitimised its presence within the community’s moral framework (Richard & Synthia, 2026).

Pfeiffer et al. (2002, 2011) suggest that while global definitions of religious leaders often focus on formal clergy – priests, imams, or bishops – they may overlook other important roles. However, in many African LMICs, this definition must be Africanised to include leaders of African Initiated Churches (AICs), such as the Zion Christian Church (ZCC),

and practitioners of African spirituality, including traditional healers. These figures often serve as the primary point of medical and spiritual contact. Anderson (2018, 2023) observes that within AICs, healing theology holds that spiritual and physical well-being are inseparable. In this integrated approach, the church functions as a holistic health system in which spiritual practices, such as using blessed elements or adhering to physical disciplines, are considered active medical interventions. Consequently, religious institutions operate extensive non-state social safety nets and possess a unique faith-based legitimacy that can reshape how people access health care through sermons and community counselling (Olivier et al., 2015). For this review, religious leadership is defined not merely by ecclesiastical title but by the authority to mediate between the spiritual and the physical, thereby determining the cultural safety of vaccines like the HPV vaccine.

The same logic of broadening definitions of religious leadership applies across Asian contexts, where Buddhist monastic orders (Sangha) operate as comprehensive parallel institutions that are not limited to 'traditional and religious affairs' but transcend these domains and extend into the state. In Thailand, the Sangha functions as a fully developed administrative system with legislative, executive and judicial branches that mirror secular governance structures at every level: regional, provincial, district and village (Kyaw, 1984). This integration with secular governance extends to public health: the Thai government has established a National Sangha Health Charter, issued monks national identification cards for universal healthcare access, and trained nursing monks through the Ministry of Public Health (National Health Commission Office, 2013; Yamada et al., 2025). In Bangladesh, the United Nations Population Fund (UNFPA) has formally partnered with thousands of imams as community health advocates, recognising their unique grassroots position to influence maternal and reproductive health outcomes (UNFPA, 2006).

In China, Traditional Chinese Medicine (TCM) remains widely practised and is often the preferred channel for health-seeking behaviour among many populations (Lau et al., 2001). Within the Chinese healthcare framework, TCM is institutionalised as complementary medicine alongside Western clinical practices, with both paradigms collaborating at all levels of the health system (Zhang et al., 2025). However, contrary to assumptions that institutional integration eliminates opposition, multiple studies have identified a robust association between TCM preference and vaccine hesitancy (Lan & Jin, 2024; Zhang et al., 2025). Because TCM practitioners nonetheless function as the primary, trusted point of medical and community contact for many populations (Lau et al., 2001), they occupy an influential gatekeeping role, making them crucial pathways for legitimising public health interventions and also potential sources of hesitancy (Lan & Jin, 2024).

What unites these religious figures across both continents is that they operate within deeply male-centred frameworks that ultimately govern clinical interventions aimed at women, determining whose voice is heard, whose body is accessed, and which interventions move forward or stall (Arguedas et al., 2025; Dube & Chirongoma, 2025). However, male authority often operates alongside authorised female actors. Traditional birth attendants (TBAs), for example, can play an important role because of their direct engagement in sexual and reproductive health and rights and simply because (unlike nearly all traditional and religious leaders) they are women. Research from Uganda confirms that men actively seek and trust TBA services, and TBAs, in turn, become allies with women in influencing male decision-makers to provide the resources needed for maternity care (Turinawe et al., 2016). The same caution applies to traditional leadership: while many village councils and religious hierarchies are male-dominated, some customary systems include formally recognised women leaders, such as queen mothers, whose authority may be central to community legitimacy and whose omission could weaken intervention design. Traditional leaders and village councils are typically male elders; religious leaders are usually male, and in most religions exclusively so (Dube & Chirongoma, 2025). Messaging via these channels therefore occurs within the broader context of the dominant ideology of sexual and reproductive health and rights promoted by these leaders, which may affect how messages are conveyed and received.

HPV vaccination is highly effective in preventing cervical cancer (Dorji et al., 2021; Han et al., 2025), yet uptake in LMICs remains suboptimal due to intersecting systemic, logistical, and social barriers (Waheed et al., 2023). These barriers range from supply chain constraints and inadequate infrastructure to school absenteeism and challenges in ensuring multi-dose adherence (Aggarwal et al., 2024). Furthermore, persistent vaccine hesitancy, driven by gaps in health literacy and entrenched cultural norms, continues to hinder progress (Omohwovo et al., 2025). In some contexts, this hesitancy is exacerbated by historical medical trauma; for instance, the legacy of coercive sterilisation programs in India has fostered deep-seated suspicion toward clinical reproductive health initiatives, creating a significant, long-term barrier to HPV vaccine acceptance (Sur, 2021). Traditional and religious leaders can play an important role in shaping trust, social norms, and community behaviour around HPV vaccination. However, their effects likely vary across settings depending on the specific socio-cultural context and the health system's capacity to deliver the vaccine, especially in hard-to-reach populations. This protocol reviews evidence on whether, how, and under what conditions traditional and religious leaders can support HPV vaccine delivery and demand generation in LMICs.

Although the review focuses on traditional and religious leaders, it also recognises that HPV vaccine delivery and demand generation often depend on their interactions with

health workers. Health workers are included only where their role is linked to, coordinated with, or helps explain traditional or religious leader engagement; the review will not assess health-worker-only interventions as a separate intervention category (Bakare et al., 2024; UNICEF Europe and Central Asia Regional Office, 2024). The expanded scope reflects the reality that community legitimacy and clinical delivery depend on each other. Traditional and religious leaders may shape whether HPV vaccination is perceived as culturally, morally, and socially acceptable, while health workers often provide the technical recommendation, counselling, vaccination service, recording, and follow-up through which acceptance translates into uptake and completion. This interaction is therefore examined as an implementation feature of traditional and religious leaders' engagement, rather than as a separate review of health worker-only interventions.

Objectives

Primary Research Question

To assess the effects of engaging traditional and religious leaders in designing HPV vaccine delivery and demand-generation activities on uptake, completion, acceptance, and equity in LMICs.

Secondary Research Questions

1. To examine the extent to which effect estimates vary by intervention design, context, and substantive, methodological, and extrinsic study characteristics.

2. To assess the barriers and facilitators influencing the intervention's implementation and effects.

Methods

Eligibility criteria

Study types

Inclusion

- Randomised controlled trials
- Case studies

- Cross-sectional studies
- Surveys
- Qualitative studies
- Mixed-methods studies
- Controlled before-and-after studies
- Difference-in-differences
- Regression discontinuity
- Natural experiments
- Propensity score matching

Exclusion

- Opinion pieces
- Framework/conceptual
- Commentaries
- Editorials
- Policy analyses
- Methodological studies and guidelines
- Protocols

Publication status

Inclusion

- Peer-reviewed journal articles
- Preprints
- Working papers
- Government reports
- NGO or donor reports
- Technical briefs
- Theses/dissertations
- Unpublished data/evaluations

Exclusion

- Press releases
- Abstracts
- Ongoing studies

Concepts

Inclusion

- Co-design of HPV vaccine delivery programmes involving traditional and religious leaders

- Community sensitisation and mobilisation involving traditional and religious leaders
- Communication through messaging, sermons, and mass media
- Outreach campaign strategies, such as community meetings
- Collaborative delivery of HPV vaccine programmes
- Advocacy and endorsement of HPV vaccine programmes
- Addressing misinformation
- Addressing vaccine hesitancy
- Partnerships with health departments or local NGOs
- Interventions in which healthcare workers collaborate with, are supported by, or operate through traditional or religious leaders, faith-based organisations, customary institutions or community authority structures in HPV vaccine delivery design or demand-generation activities

Exclusion

- Studies that do not include traditional or religious leader interventions
- Studies that focus on non-HPV vaccine programs
- Studies on HPV vaccine efficacy, safety, or immunogenicity, such as preclinical or clinical trials
- Studies on reproductive health that do not include HPV vaccination
- Health-worker-only interventions, including studies focused solely on provider recommendation, provider knowledge, clinical counselling, health-worker training or service delivery, unless these are explicitly linked to traditional or religious leader engagement

Participants

Inclusion

- Adolescents eligible for vaccination, including boys and girls
- Traditional leaders such as Kings, village chiefs, clan heads, and traditional healers
- Religious leaders such as priests, pastors, catechists, Reverends, and Bishops, imams, and sheikhs
- Parents and caregivers
- Healthcare stakeholders such as nurses, doctors, and immunisation officers who work with traditional and religious leaders
- Healthcare leaders who work with traditional and religious leaders

Exclusion

- Individuals not involved in HPV vaccine programmes

Geographical scope

Inclusion

- Low- and middle-income countries based on the World Bank's fiscal year 2026 (base data for calendar year 2024), World Bank Country and Lending Groups – World Bank Data Help Desk
- Venezuela and Ethiopia will also be included, even though they are currently unclassified

Exclusion

- High-income countries only

Language

Inclusion

- English

Exclusion

- Languages other than English

Year

Inclusion

- Studies published from 2000 (GAVI strategy 1.0)

Exclusion

- Studies published before 2000

Information sources

We developed a comprehensive search strategy in collaboration with an information specialist. The search strategy aimed to locate both published and unpublished studies from 2000 onwards, the year the HPV vaccine was introduced. Searches were performed in the following electronic databases: [Medline, Embase, CINAHL, Centre for Agricultural Bioscience International (CABI), Scopus, Web of Science (Social Science Citation Index, Science Citation Index Expanded, Emerging Sources Citation Index), PsycINFO, EconLit, Africa Wide Information, and Education Resources Information Centre (ERIC)]. The search combined MeSH terms (controlled vocabulary) with

free-text keywords to account for evolving terminology in research on how traditional and religious leaders shape HPV vaccination. The strategy used truncation, wildcards, and proximity operators where supported, and it was adapted for each database. The search strategy included terms for the HPV vaccine, traditional and religious leaders, faith communities, healthcare workers, and LMICs. Appendix 1 presents this strategy, and Table A3 provides a comprehensive list of academic and grey literature sources for this review.

We conducted a grey literature search of umbrella organisations with broad knowledge repositories. These organisations included the World Bank Knowledge Hub, World Bank Documents and Reports, UNICEF, and UNESCO, as well as evidence repositories such as the International Initiative for Impact Evaluation (3ie) Development Evidence Portal (DEP) and Cochrane Collaboration Library, as well as specialised organisations, which also featured WHO IRIS, PATH, MSI Reproductive Choices (formerly Marie Stopes), Girl Effect, and UNFPA. We also searched ALIVE's HPV Living Evidence Repository and Google as complementary searches after identifying the thin evidence base during the initial searches. Appendix 1 presents a comprehensive list of academic and grey literature sources, along with the search results for each.

Search strategy

We developed a comprehensive search strategy to identify both published and unpublished studies from 2000 onwards, in consultation with a search specialist. The search included controlled vocabulary and free text terms for HPV vaccination, traditional and religious leaders, faith communities, health care workers, and low- and middle-income countries (LMICs). Where available, we used truncation, wildcards, and proximity operators and adapted the strategy to each database's syntax and functionality.

We conducted initial searches between June and July 2026 across ten academic databases, including MEDLINE, Embase, CINAHL, CABI, Scopus, Web of Science, PsycINFO, EconLit, Africa-Wide Information, and ERIC. We complemented these searches with 12 organisational websites and evidence repositories, including the World Bank, UNICEF, UNESCO, 3ie Development Evidence Portal, Cochrane Library, Gavi, WHO IRIS, PATH, MSI Reproductive Choices, Girl Effect and UNFPA. In September 2026, we conducted additional searches of the ALIVE HPV Living Evidence Repository and Google. As stated above, Appendix 1 shows the full search strategy per source (search strings, filters and limits, execution date and source-specific hit count)

Screening process

Title and abstract screening

We collated all identified citations from the searches and uploaded them into EPPI Reviewer 6. After removing duplicates, two reviewers independently screened all titles and abstracts based on predefined inclusion and exclusion criteria. Reviewing was blinded (the reviewers did not know the decisions of the other reviewers until they had finished their screening). If the two reviewers disagreed, they discussed the record; if they did not reach consensus, a Principal Investigator (PI) adjudicated.

Protocol deviation. The proposed protocol suggested that, after high inter-reviewer agreement was achieved, a proportion of records would be single-screened with a 10% verification check, and that Large Language Models (LLMs) embedded in EPPI Reviewer would be developed and validated for potential use in screening. The baseline review did not take this approach. Two human reviewers independently screened all title and abstract records, and no screening decisions were made by a single reviewer or by an LLM alone.

Full-text screening

Two reviewers independently reviewed the full text of all records retained after title and abstract screening. Full-text screening was also blinded, with reviewers making their eligibility decisions independently before comparing judgements. Reviewers discussed disagreements and, when they could not reach consensus, referred them to a PI for adjudication. We recorded and reported reasons for exclusion at the full-text stage in the PRISMA flow diagram.

Data collection process

We extracted data using a standardised data extraction form (see appendix 2). One reviewer extracted data from each included study, and a second reviewer independently checked the data for accuracy and completeness. We also checked the extracted data against the original publications using OpenAI's ChatGPT (GPT-5.6 Sol) to identify potential extraction errors, inconsistencies in reported numerical values, and discrepancies in outcome definitions, sample sizes, and effect estimates. Where possible, human reviewers reviewed and resolved identified discrepancies and documented and retained inconsistencies that could not be resolved as reported in the original studies. All final extraction decisions were overseen by a human reviewer.

Data items

We extracted data on the following areas, with further details provided in Appendix 2.

- Characteristics of the intervention and place of delivery: programme name, intervention components, duration, and delivery setting (e.g., schools, communities, health facilities, and religious institutions).
- Characteristics of the target population, including age, gender, school attendance status (in- or out-of-school), socioeconomic status, and other relevant demographic characteristics.
- Comparison of HPV vaccination activities or usual care, alternative intervention approaches, or no comparator as appropriate.
- Outcomes: HPV vaccine uptake, dose completion, awareness, knowledge, acceptance, intention to vaccinate, perceived vaccine safety, trust, reduction of misinformation, equity, costs, and sustainability where reported.
- Engagement with traditional and religious leaders: type of leader, level of authority, and specific roles in programme co-design, consultation, formal decision-making, mobilisation, advocacy, messaging/communication, health education, endorsement, and implementation support.
- Outcome data and effect estimates: frequencies, proportions, sample sizes for intervention and comparison groups, adjusted odds ratios, standardised mean differences (SMDs), 95% confidence intervals and P-values where applicable. For interrupted time series studies, we extracted reported changes in vaccination coverage and associated estimates.
- Barriers and facilitators to programme participation: factors affecting the engagement and participation of (i) traditional and religious leaders, (ii) health workers, (iii) eligible girls, including in-school and out-of-school girls and (iv) parents and carers.
- Barriers and facilitators to program implementation: Contextual, organisational, cultural and operational factors that influence the design, delivery and implementation of HPV vaccination interventions.
- Barriers and facilitators to achieving outcomes: Factors influencing vaccination awareness, acceptance, uptake and completion, including access to vaccination services, community trust, misinformation and social norms
- Gender and equity considerations: The degree to which the intervention design and implementation incorporated gender-responsive and equity-informed approaches, including consideration of school attendance, age, socio-economic status, and other characteristics associated with differential access to HPV vaccination.

Study risk-of-bias assessment

We assessed the risk of bias in the included quantitative studies using a domain-based appraisal tool adapted from the Cochrane risk-of-bias approach for randomised and non-randomised studies, specifically drawing on the ROBINS-I framework for non-randomised studies of interventions (Sterne et al., 2016). This adapted approach has previously been used in international development systematic reviews (Stewart et al., 2015; Rebelo Da Silva et al., 2017) and was subsequently applied in systematic reviews of behavioural science interventions in development and environmental settings (Ategeka et al., 2022) and coastal and terrestrial water-sector interventions in developing countries (Ategeka et al., 2024). Two reviewers independently appraised the studies and resolved disagreements through discussion or consultation with a third reviewer. We presented the results in summary tables to support interpretation of the findings and overall confidence in the evidence base. The domain-based risk of bias tool covers six indicators of trustworthiness: selection bias, confounding bias, bias due to departures from applied interventions, bias due to missing data, bias due to outcome measurement, and bias due to selection of reported results. For each study, we assigned a low, moderate, high, or critical risk-of-bias rating for each domain, enabling a transparent calculation of the overall risk-of-bias score. We appraised qualitative studies using the CASP tool (Critical Appraisal Skills Programme, 2024). The appraisal assessed the following areas: the statement of the research aims, the appropriateness of the methodology, the appropriateness of the research design, the appropriateness of recruitment and sampling, the appropriateness of data collection, the relationship between researchers and participants, ethical considerations, the rigour of data analysis, the statement of findings, and the research value. Each domain was rated as 'Yes', 'No', or 'can’t tell', with supporting page references or quotations recorded for transparency.

Effect measures

For Question 1, we reported the quantitative outcome measures presented in the included studies (e.g., adjusted odds ratios [AORs] with 95% confidence intervals [CIs] and, where sufficient information was available, author-calculated corresponding standardised mean differences (SMDs) with 95% CIs). However, no included study estimated a leader-specific causal effect using a counterfactual comparison between an otherwise comparable vaccination intervention that leveraged traditional or religious leaders and one that did not. Azale et al. (2026) provided comparative estimates for an enhanced multicomponent demand-generation package versus comparison districts, and Njoh et al. (2025) assessed changes over time in a national multicomponent

programme; neither study isolated leader engagement in their analyses. We therefore treated these as programme-level estimates rather than as effects of leveraging leaders. For studies without comparative estimates, we reported frequencies, proportions and vaccination coverage. Given the lack of robust counterfactual-based study designs for the intervention of interest, as well as the heterogeneity in study designs, outcome measures, and available effect estimates, we conducted a narrative synthesis rather than a meta-analysis. We reported effect estimates and descriptive results separately and did not report SMD when unavailable. No quantitative effect measures were used. Qualitative findings for Question 2 were synthesised thematically.

Synthesis methods

We grouped studies for synthesis by review question and reported their outcomes. Seven studies reported quantitative outcomes relevant evidence to the primary research on the effects of leveraging leaders on HPV vaccination awareness, acceptance, intention to vaccinate, uptake and completion. Three studies provided qualitative evidence for secondary research question 2 on barriers and facilitators related to traditional and religious leader engagement: Egbon et al. (2022), Haddison et al. (2025), and Kubura et al. (2025). Egbon et al. (2022) and Haddison et al. (2025) addressed the quantitative outcome synthesis and the qualitative barriers-and-facilitators synthesis. Where reported, we organised quantitative findings by outcome, age, school attendance, intervention and comparison group, or delivery setting. Where available, we presented adjusted odds ratios (AORs), calculated standardised mean differences (SMDs), and 95% confidence intervals (CIs), and retained study-reported frequencies, proportions, and effect estimates. These estimates were treated as programme-level results because no included study provided a counterfactual comparison that isolated leader engagement. We checked reported data discrepancies against original publications and noted inconsistencies we could not resolve, rather than resolving them through assumptions.

We summarised study characteristics using frequencies of unique studies (n=8) and presented them in descriptive figures. We summarised the number of outcomes and population subgroups extracted from each study by counting each study once per relevant category. For characteristics with multiple responses (e.g., leader roles, delivery channels, and outcomes measured), a study could contribute to more than one category, so category totals could exceed eight. We tabulated quantitative results for each outcome and subgroup in a table with separate rows for each outcome and subgroup. The differing designs, intervention components, target populations, vaccination schedules, and outcome measures of the studies, and critically the absence

of any comparison of an otherwise comparable vaccination intervention with leader engagement versus without leader engagement, necessitated a narrative synthesis. The synthesis outlined patterns in outcomes by population subgroup and delivery setting and categorised qualitative findings by barriers and facilitators to leader participation, community acceptance, and programme implementation. We did not perform a meta-analysis of leader effectiveness because there were no comparable leader-specific effect estimates to pool. We also did not conduct a formal statistical test for heterogeneity or sensitivity analyses.

Methods specific to the living mode: Because this edition is the first version of this living systematic review, the synthesis includes all eligible studies at the current search cut-off. We did not use cumulative analyses, comparisons with a previous version, or other analytical methods for the living mode.

Reporting bias assessment

For eligible studies, we assessed the risk of bias due to missing data under the domain “bias due to missing/incomplete data (attrition).” This domain considered the completeness of outcome data, reasons for missing data, and differences between participants who remained in the study and those who attrited or were lost to follow-up. We also assessed whether we excluded outcomes with missing/incomplete data from the analysis.

Certainty assessment

For this version of the review, no formal certainty-of-evidence assessments (e.g. GRADE) were performed. We synthesised evidence narratively because of heterogeneity in study designs and outcomes and, more fundamentally, the absence of leader-specific comparative effect estimates. Because no included study was designed to estimate the causal effect of leveraging traditional or religious leaders using an appropriate counterfactual, certainty in the effectiveness of leader engagement could not be established.

Living mode parameters

After completing this base review, this review will move to living mode, with searches, screening, data extraction, appraisal, and synthesis updated according to the agreed maintenance plan. There is a proposal to broaden the scope of subsequent versions from HPV vaccination to all vaccines, with the intention of drawing on a wider evidence base on traditional and religious leader engagement to generate transferable insights

for HPV vaccination policy and practice. If approved through the relevant review governance processes, this scope amendment will be implemented as part of the first living update. The review questions, eligibility criteria, search strategy, screening criteria, data extraction framework and synthesis approach will be revised accordingly and detailed in an updated version of the protocol. The current HPV-focused evidence base will remain clearly identifiable, and evidence added under the broadened scope will be documented separately through version control and update notes. The planned maintenance period is extended to February 2027, with update timing to be further refined in consultation with Alive, eBASE Africa, and the relevant Tactical Group.

Search: Updated searches are planned for 1 December 2026 to 15 January 2027, excluding the December holiday period. If the proposed scope expansion is approved, these searches will use revised search strategies designed to identify evidence on traditional and religious leader engagement across all vaccination programmes, rather than HPV vaccination alone. We will search academic databases, organisational repositories, and supplementary sources used in the base review, and we will consider additional sources as required by the broader vaccine scope. Searches will capture evidence published or made available since the previous search, while the broadened search strategy will also be applied retrospectively as necessary to identify eligible evidence on other vaccines that the HPV-specific base search would not have captured. Dates of the searches, sources, results and any amendments to search strategies will be documented.

Screening, data collection, risk-of-bias assessment, analysis, certainty assessment, publication: New records will be de-duplicated, screened by title and abstract and assessed for eligibility by full text using the methods used in the base review. Screening will take place as part of the living update, and data extraction will be finalised by 5 February 2027. Studies newly included will undergo the same extraction, coding and applicable risk of bias assessment procedures as the base review.

The synthesis will be updated if new eligible studies offer sufficient evidence to strengthen or change the findings in a meaningful way. In areas of intervention or outcome with limited existing evidence, a single new study may trigger an analytical update, whereas in areas with a larger evidence cluster, further updates may occur once a meaningful body of additional evidence has accumulated. Decisions on substantive updates will be taken in consultation with the relevant Tactical Group. New evidence that becomes available will be incorporated into narrative or quantitative synthesis, as appropriate, and the feasibility of a formal certainty assessment will be reassessed. Even if the new evidence does not justify a complete analytical update, the surveillance findings will still be recorded and summarised.

The updated review report is expected to be submitted on 26 February 2027. The main review will be the definitive version, with substantive updates, version control and update notes documenting changes in methods, the evidence base and conclusions.

Retirement plan: There is no predefined evidence-based retirement trigger at this time. The review is planned to remain in living mode throughout the maintenance period ending in February 2027. Given the proposed broadening of scope, the first living update will also provide an opportunity to assess whether evidence from other vaccination programmes materially strengthens understanding of traditional and religious leader engagement and its relevance to HPV vaccination. Any decision to continue or retire the review after this period will require agreement through the relevant review governance processes and will be documented in a subsequent version.

Results

Study selection

We conducted academic, organisational website and grey literature searches in June and July 2026. The evidence base in the initial searches was thin, so we conducted further searches in September 2026 on the Alive repository and Google, as well as backward and forward searches of key systematic reviews. The PRISMA diagram shows that our search strategy identified 10,226 studies. These came from 24 sources: 10 academic databases (8,573 citations), 12 organisational and grey literature sources (1,645 citations), and Google (8). The organisational website and grey literature sources yielded 1,645 hits from the 12 websites, using key search terms that we repeated according to each website's functionality. For websites with a citation export function, we followed the recommendations of Haddaway et al. (2015)[1] and purposefully screened the first 1,000 articles from each website, resulting in 1,645 relevant citations. We imported all search hits into EPPI Reviewer 6 for data storage and management. We manually entered only the hits identified as relevant after the first screening into EPPI Reviewer 6.

After removing 3,113 duplicates from the 10,226 records identified through academic and grey literature searches (Figure 2), 7,113 records remained for title and abstract screening. We excluded most studies at the title and abstract screening stage for non-relevance to the topic (n=6,865). We identified 249 studies for full-text review after screening all records at the title and abstract stage.

[1] Haddaway et al. (2015) recommend limiting grey literature searches to the first 200–300 results. However, we screened the first 1,000 results to ensure a more comprehensive search and maximise the identification of relevant grey literature.

We then obtained the remaining 249 studies in full text and screened them against our inclusion criteria. After this screening, we excluded an additional 244 studies. The main reason for full-text exclusion was the lack of a deliberate, relevant intervention (n=198); for example, studies that did not deliberately engage traditional or religious leaders in HPV vaccination interventions. We also excluded studies of irrelevant publication status or type (n = 15). We excluded 12 studies because of country (not LMIC), five because of population, three because of irrelevant study design (not a primary study) and one because of irrelevant vaccine type. We identified two duplicate studies and excluded two for language. We excluded three studies because full texts were unavailable.

The SR included 8 studies: 7 reported quantitative outcomes relevant to the primary research question, and 3 provided qualitative evidence for secondary research question 2. Two studies contributed to both syntheses. None of the seven quantitative studies used a counterfactual that compared a vaccination intervention leveraging traditional or religious leaders with an otherwise comparable intervention without such leader engagement. Appendices 4 and 5 present a reference list of included and excluded studies (with reasons), respectively.

Study characteristics

This section describes the characteristics of the eight included studies, including the geographical distribution, intervention characteristics, types and roles of engagement of traditional and religious leaders, target populations, study designs and outcomes measured. Table 1 presents the characteristics of the seven studies reporting quantitative outcomes relevant to the primary research question, and Table 2 presents the characteristics of the qualitative implementation study, Kubura et al. (2025). Question 2 had qualitative findings fromSecondary research question 2 had qualitative findings from three studies (Egbon et al., 2022; Haddison et al., 2025; Kubura et al., 2025). Therefore, Egbon et al. (2022) and Haddison et al. (2025) contributed to both syntheses. Of the seven studies reporting quantitative outcomes, five were single-arm or descriptive programme implementation studies, one was a non-randomised cross-sectional comparison of an enhanced multicomponent demand-generation package, and one was an ecological interrupted time-series analysis of a national multicomponent programme. None was designed to isolate the incremental effect of leader engagement through a leader-engagement versus no-leader-engagement counterfactual.

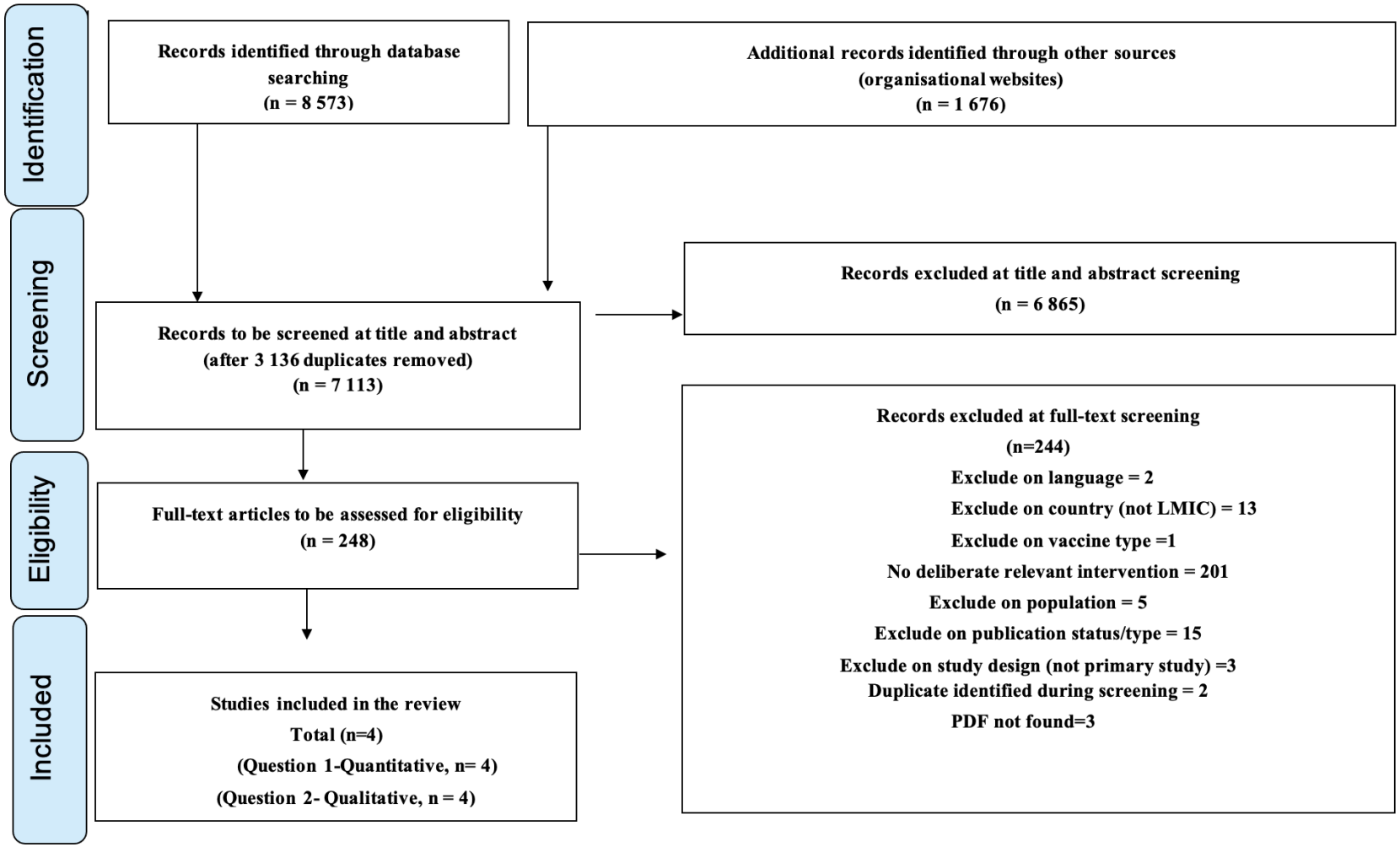


Figure 1. PRISMA diagram.

Geographic distribution

The eight studies were conducted in five countries (Figure 2). Cameroon contributed three studies (37.5%), Nigeria two (25.0%), and Ethiopia, South Africa and Bhutan one each (12.5%). Azale et al. (2026) is counted under Ethiopia. Seven studies were conducted in Sub-Saharan Africa and one in South Asia (Figure 3). Six studies were classified as lower-middle-income settings (75.0%), one as low-income (12.5%), and one as upper-middle-income (12.5%), as shown in Figure 4 below.

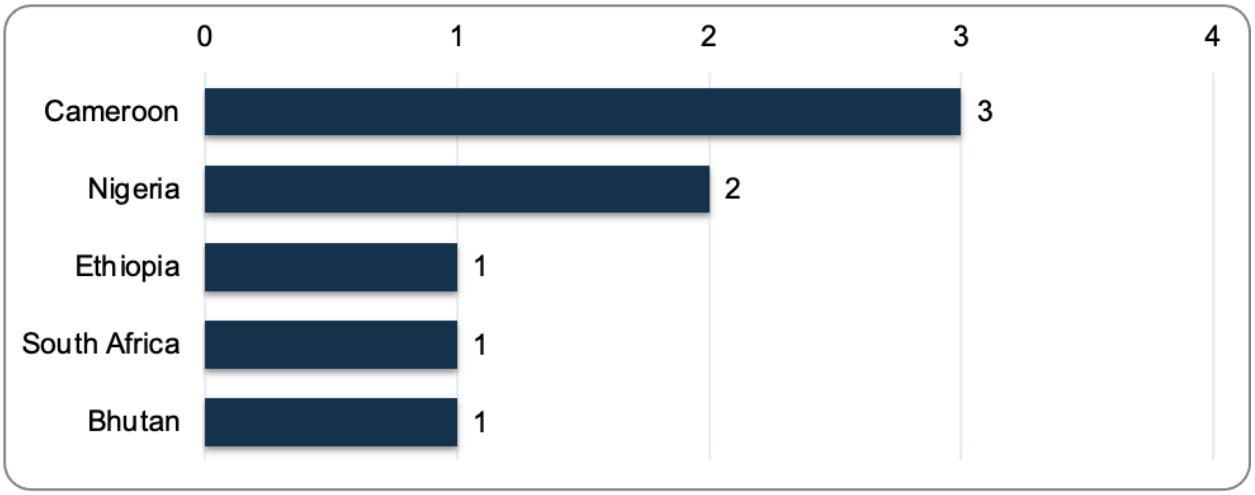


Figure 2. Geographical distribution by country.

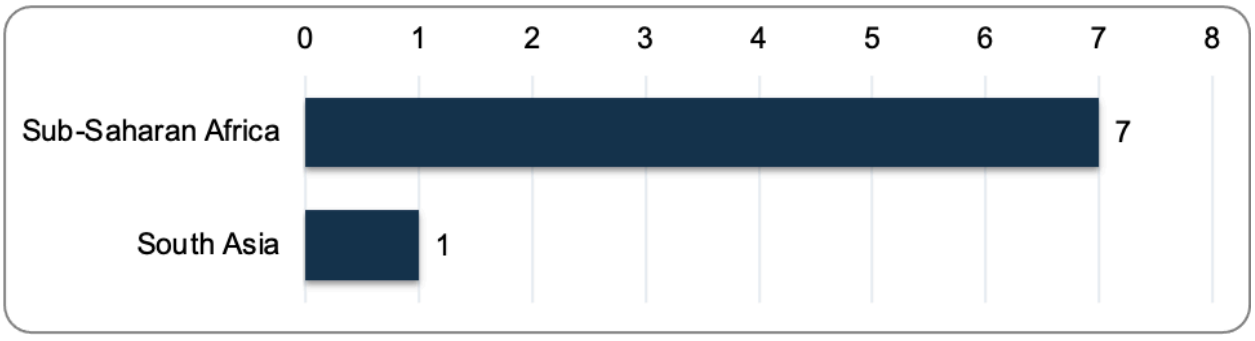


Figure 3. World Bank region.

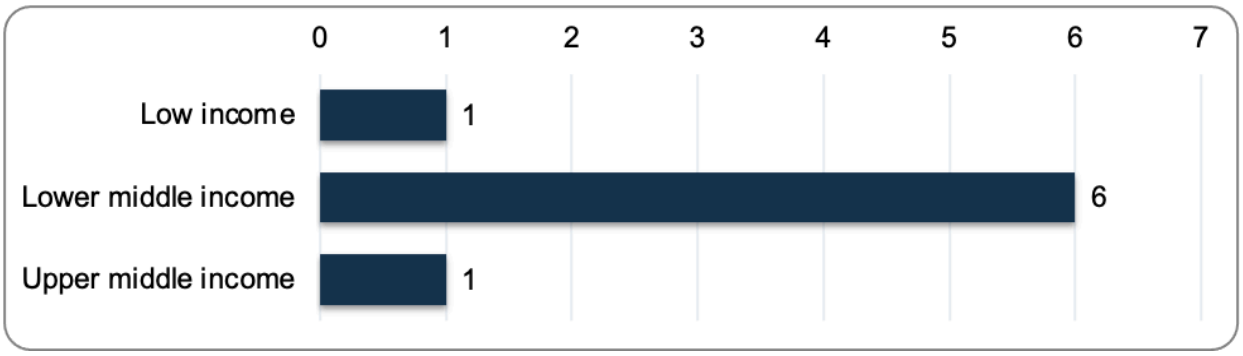


Figure 4. World Bank income classification.

Types of traditional and religious leaders

Traditional or community leaders and religious leaders were the most represented leadership types, with seven of the eight included studies (7/8). In one study, Dorji et al. (2015) separately identified royal leadership as the least frequently reported leadership category (Figure 5).

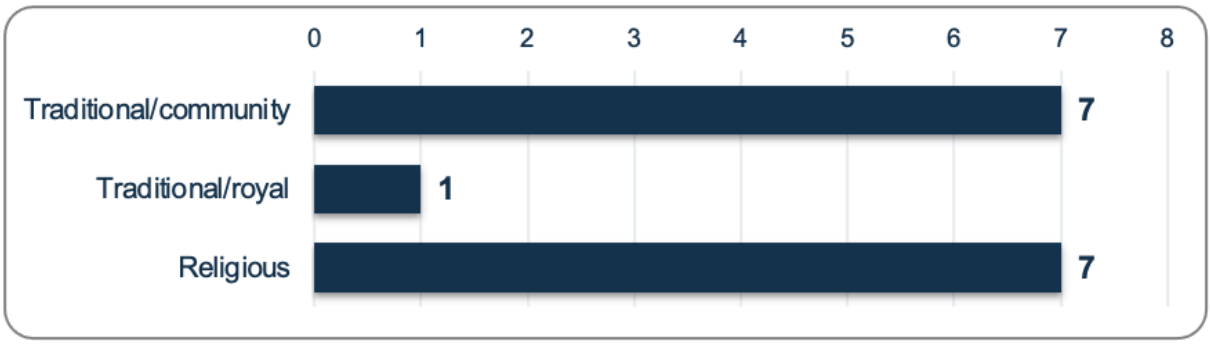


Figure 5. Types of leader engaged/involved.

Roles of traditional and religious leader engagement

Leader roles varied across interventions (Figure 6). The most common role reported in six studies was endorsement, approval or support (6/8). Mobilisation and consultation were reported in five studies (5/8), messaging and communication in four studies (4/8) and health education in three studies (3/8). Advocacy and formal decision-making were the least frequently reported roles, reported in one study (1/8). Three studies reported other forms of engagement (3/8). Leaders often had more than one role within the same intervention. Ogembo et al. (2014) reported that traditional and religious leaders approved vaccination activities in villages and churches after consultations.

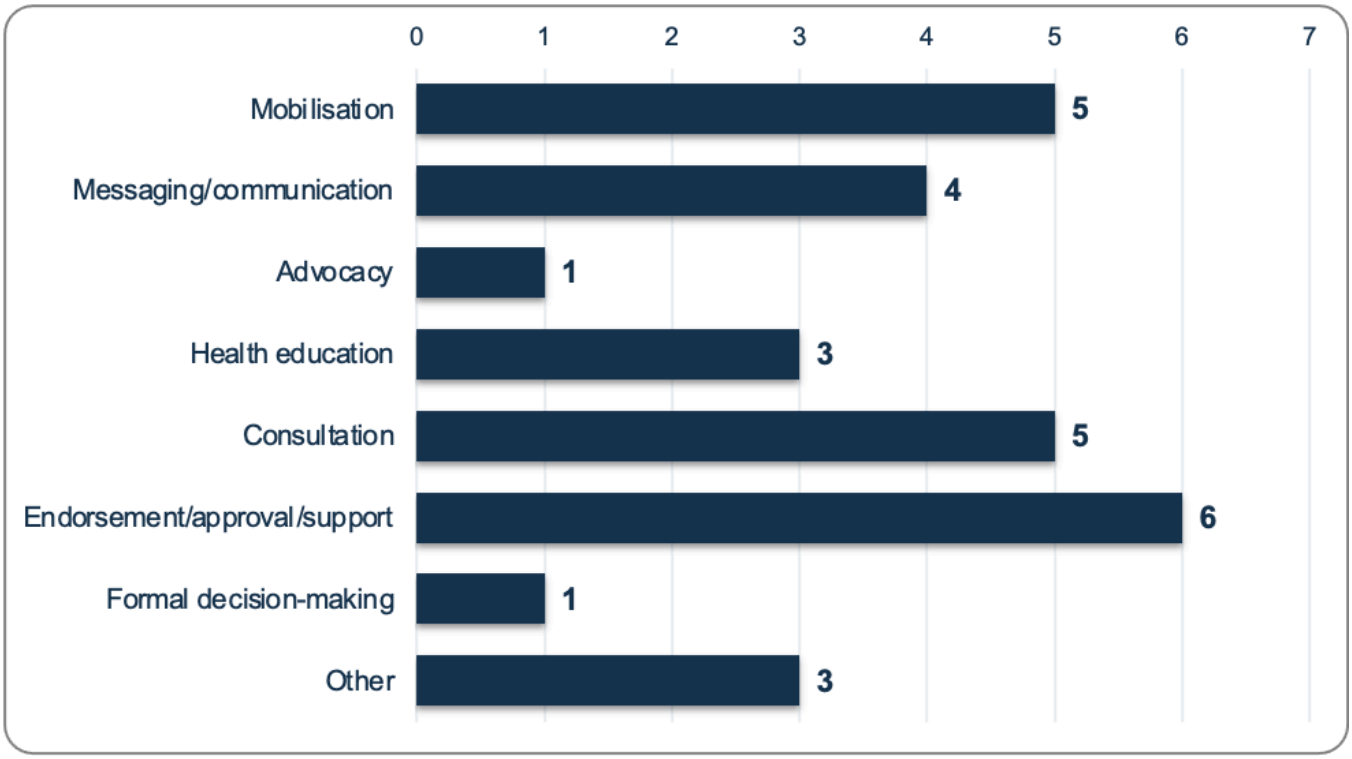


Figure 6. Leader engagement roles.

Table 1: Study characteristics

Study	Context setting	Target population, age & school attendance	Intervention	Leader engagement role / level of authority	Study design and intervention duration	Relevant outcomes assessed
Azale et al. (2026)	**Country:** Ethiopia **Region:** Sub-Saharan Africa **World Bank income classification:** low-income country. **Detailed location:** Jigjiga and Derashe intervention districts; Gode and Kolango Zuria comparison districts (Somali and South Ethiopia regions). **Setting:** Mixed rural/urban.	In-school and out-of-school girls aged 9–14 years and their primary carers aged ≥18 years. **Sample:** Caregivers: 950 (T=480, C=470). Girls: 1,134 (T=573, C=561).	**Multicomponent.** Enhanced multi-channel HPV MAC demand generation: peer-led school education; HEW/volunteer household visits and community dialogues; local radio/TV, mobile announcements, posters and banners.	**Components:** **Mobilisation; messaging/communication; advocacy; health education.** **Details:** Local religious and community leaders acted as vaccine advocates within community outreach. Religious leaders taught and reminded congregants to send girls aged 9–14 for vaccination, encouraged uptake and reinforced school and health extension worker messaging. Caregivers identified community and religious influencers among their vaccine information sources.	A non-randomised cross-sectional convergent mixed-methods evaluation was conducted in 2 intervention and 2 comparison districts, with standard national MoH activities. The four-week enhanced package was implemented in November 2024 and will continue through the one-week campaign. **Follow-up:** 2 months after the campaign.	-HPV vaccine awareness (caregivers, girls) - Vaccination-site awareness - Perceived HPV vaccine acceptance, importance and safety - Intention to Vaccinate - Uptake (all and out-of-school girls).

Study	Context setting	Target population, age & school attendance	Intervention	Leader engagement role / level of authority	Study design and intervention duration	Relevant outcomes assessed
Moodley et al. (2013)	**Country:** South Africa **Region:** Sub-Saharan Africa **World Bank income classification:** Upper middle income. **Detailed location:** Zululand District, KwaZulu-Natal; 31 primary schools in Nongoma and Ceza. **Setting:** Mixed rural/urban.	In-school female learners in Grades 4–5; target age 9–12 years (vaccinated participants aged 7–14 years). **Sample:** 963 female learners, no control group (Ceza 423; Nongoma 540).	**Multicomponent.** School-based three-dose Gardasil vaccination by school health teams; prior stakeholder information sessions, healthcare-worker training, learner education and parent leaflets.	**Components:** **Consultation;** **Stakeholder acceptance.** **Supporting details:** Community and religious leaders, traditional leaders and traditional healers attended pre-implementation information sessions. The programme sought the acceptance of key stakeholders before vaccination commenced; the sheet does not describe an additional direct leader delivery role.	Single-arm demonstration project; no control group. Three-dose delivery: 7 March–17 October 2011. **Follow-up**: 7 months (through dose 3).	Uptake: - Doses 1 and 2 - Three-dose completion (overall, Ceza, Nongoma).

Study	Context setting	Target population, age & school attendance	Intervention	Leader engagement role / level of authority	Study design and intervention duration	Relevant outcomes assessed
Egbon et al. (2022)	**Country:** Nigeria **Region:** Sub-Saharan Africa **World Bank income classification:** Lower middle income **Detailed location:** Girls Science Secondary College, Yauri, Kebbi State. **Setting:** Rural.	In-school female secondary students aged 9–18 years. **Sample**: 100 vaccinated girls; no control group (70 aged 9–14; 30 aged 15–18)	**Multicomponent:** School-based Cervarix vaccination by trained nurses, preceded by community mobilisation and meetings with the Emir, parents, PTA, school staff and education representatives.	**Components:** **Consultation; endorsement or approval or support.** **Details:** The programme team sensitised the Emir of Yauri, a traditional and religious leader, about the pilot. He provided community approval and support; the extraction notes the authors' view that the project would probably have failed without his approval.	Descriptive cross-sectional evaluation of a school-based pilot; no control group. February–July 2020 **Follow-up:** 6 months for scheduled completion; 9 months through catch-up.	Uptake: -Dose 1 - Schedule completion within 6 months (overall; ages 9–14 and 15–18); -Leader-related barriers/facilitators.
Ogembo et al. (2014)	**Country:** Cameroon **Region:** Sub-Saharan Africa **World Bank income classification:** Lower middle income **Detailed location:**	Primarily girls aged 9–13 years; some older girls vaccinated. In-school and out-of-school. **Sample**: Eligible population: not reported; 6,851 girls received dose 1; no control group.	**Multicomponent:** CBCHS HPV vaccination demonstration: multilingual education; Gardasil in clinics, schools, churches, homes and community/mobility mother–daughter sessions; peer	**Components:** **Mobilisation (vaccine promotion); formal decision-making after receiving an explanation; consultation; and endorsement.** **Supporting details:** CBCHS nurses explained vaccine benefits, safety and risks to Fons and pastors before they allowed vaccination in villages and	This was a single-arm demonstration/implementation project with no control group. March 2010–November 2012. **Follow-up:** 6 months	- Uptake: First-dose -Three-dose completion (overall; ages 9–13 and ≥14) -Mother–daughter outreach uptake.

Study	Context setting	Target population, age & school attendance	Intervention	Leader engagement role / level of authority	Study design and intervention duration	Relevant outcomes assessed
	Yaoundé, North West and South West Regions. **Setting:** Mixed urban/rural.		tracking for follow-up doses.	churches. Fons strongly promoted the vaccine in their domains; support from Fons and pastors, including peer tracking, was reported to facilitate uptake and continued vaccination.		
Njoh et al. (2025)	**Country:** Cameroon; **Region:** Sub-Saharan Africa **World Bank income classification:** Lower middle income **Detailed location:** Nationwide: 10 administrative regions and 205 health districts. **Setting:** Mixed urban/rural.	Initially, the programme targeted nine-year-old girls, but from January 2023, it also included nine-year-old boys and reached girls aged 9–13. In-school and out-of-school. **Sample**: Not reported	**Multicomponent:** National HPV programme: intensified communication/ Community engagement; gender-neutral single-dose vaccination; periodic intensification of routine immunisation across facilities, schools, community sites and homes.	**Components:** **Mobilisation; messaging/communication; consultation; endorsement/support.** **Details:** Health staff sensitised community leaders and traditional rulers in workshops and community sessions; community representatives then mobilised eligible adolescents. Engagement sessions with religious representatives, including Catholics and Muslims, addressed questions and secured commitment. Religious leaders supported advocacy and vaccination communication through religious gatherings and other channels.	Ecological secondary analysis with interrupted time-series segmented regression; no concurrent control. Monthly data from October 2020 to December 2023; intensified communication from August 2022 to December 2023; gender-neutral single-dose strategy in 2023; PIRI March–June 2023. **Follow-up:** 39 months of monthly programme	-Uptake: First-dose uptake (nine-year-old girls; national).

Study	Context setting	Target population, age & school attendance	Intervention	Leader engagement role / level of authority	Study design and intervention duration	Relevant outcomes assessed
Dorji et al. (2015)	**Country:** Bhutan **Region:** South Asia **World Bank income classification:** Lower middle income. **Detailed location:** National programme across a pilot in 21 Paro District schools **Setting:** Urban and rural areas	In-school and out-of-school girls aged 12–18 years (routine age 12; catch-up ages 13–18). **Sample:** National target: 48,674; no control group. Reported age targets: 6,706 (12 years) and 41,698 (13–18 years).	**Multicomponent:** National quadrivalent HPV vaccination programme: school-based three-dose schedule; facility/outreach access for out-of-school girls; public information, district advocacy meetings and national launch.	**Components:** **Endorsement; Other – programme initiation / formal national launch.** **Details:** The Royal Grand Queen Mother requested support for cervical cancer prevention, initiated the partnership and formally launched the national HPV vaccination campaign. District health officers included village leaders in advocacy meetings; they did not report subsequent activities.	An observational descriptive national implementation study assessed administrative coverage; it included no concurrent control or pre/post leader comparison. National campaign launched 5 May 2010; three-dose rounds were held in May, July and November 2010. **Follow-up:** 6 months for dose 3; annual coverage through 2014 (not individual follow-up).	-Coverage: Three-dose coverage for all girls aged 12 years and 13–18 years from 2010 to 2014.

Study	Context setting	Target population, age & school attendance	Intervention	Leader engagement role / level of authority	Study design and intervention duration	Relevant outcomes assessed
Haddison et al. (2025)	**Country:** Cameroon **Region:** Sub-Saharan Africa **World Bank income classification:** **L**ower middle income **Detailed location:** Saa Health District, Centre Region (11 health areas). **Setting:** Rural.	Adolescents aged 9–13 years, girls and boys; primarily in-school, with out-of-school adolescents reached via outreach/facilities. **Sample:** District estimated eligible: 8,465; operational target: 853; vaccinated: 1,321; no control group.	**Multicomponent:** District-led, single-dose Gardasil PIRI campaign: stakeholder advocacy, community education, school vaccination and supplemental facility/door-to-door delivery.	**Components:** **Mobilisation; messaging/communication; endorsement; and health education.** Health area chiefs shared campaign information with religious and traditional leaders; churches and mosques announced vaccination. Catholic churches allowed vaccinators to engage congregants, and some priests independently educated congregations about cancer. Traditional leaders had no specific active role; they were only informed.	A single-arm observational PIRI implementation evaluation using registers/DHIS2, with no concurrent control or formal pre/post comparison. Campaign 9–25 May 2023. **Follow-up:** <1 month (17-day campaign); no post-campaign follow-up.	- Single-dose HPV vaccination uptake/coverage (overall, boys and by delivery site); -Leader-related barriers and facilitators.

Table 2. Characteristics of the qualitative study

Study	Country, World Bank region/income & setting	Study design, comparator & intervention duration	Target population, age & school attendance	Intervention	Leader engagement role / level of authority
Kubura et al. (2025)	**Country:** **Region:** **World Bank income classification:** **Detailed location:** **Setting:** Nigeria; Sub-Saharan Africa; lower middle income. Nine Phase II states: Cross River, Edo, Delta, Kogi, Kwara, Plateau, Ekiti, Ebonyi and Katsina (five geopolitical zones). Mixed urban, rural and hard-to-reach.	Qualitative implementation study (purposively selected KIIs and IDIs; thematic analysis); no comparator. Phase II launched in May 2024; interviews over nine days in November 2024. **Sample:** The study targeted 140 interview participants (30 KIIs; 110 IDIs), but did not report how many completed the interviews.	Programme target: in-school and out-of-school girls aged 9–14 years. Study participants: implementation/ health-system stakeholders and civil society representatives with direct programme knowledge.	Nigeria HPV Vaccine Introduction Programme, Phase II / MAC: single-dose HPV vaccine; expanded Technical Working Group (TWG) with leader advocacy, community mobilisation, sensitisation, and outreach via schools, communities, facilities, and religious venues. Post-implementation interviews in November 2024; no long-term follow-up.	**Mobilisation, messaging/communication, consultation, endorsement, health education, and other activities included participation in the expanded TWG, as well as logistical and security support.** **Details:** Traditional rulers (including Odionweres and Enogies) provided local advocacy and mobilisation. Religious leaders joined the expanded TWG; programme teams visited traditional and religious leaders to explain vaccination and address misconceptions. Rulers provided palaces and local vigilantes to support teams, and teams used churches, mosques and Quranic schools for awareness and vaccination outreach.

Risk of bias in studies

We assessed the risk of bias in each included non-randomised quantitative study based on predefined features of study design, conduct, analysis, and reporting. Among the eight included studies, we assessed the risk of bias for seven non-randomised programme evaluations and the CASP tool for the only included qualitative study. Figure 7 summarises the risk-of-bias assessment for the seven included non-randomised evaluations and categorises them by domain. We judged two non-randomised impact evaluations and five single-arm implementation studies as having an overall serious risk of bias and a critical risk of bias, respectively. We identified a critical risk of bias in the five non-randomised implementation studies, mainly due to confounding. We critically assessed one qualitative study (Kubura et al. 2025) included in the review using the CASP tool. We judged this study to be methodologically sound. The study demonstrated clear aims, appropriate qualitative methods and data analysis. Appendix 3 presents the results of this assessment. However, the study had limitations, especially limited representation of community members, including religious leaders, who participated in the HPV vaccine introduction. Overall, the study provided clear evidence of leader engagement; however, interpret it with caution when linking leader engagement to increased vaccine uptake.

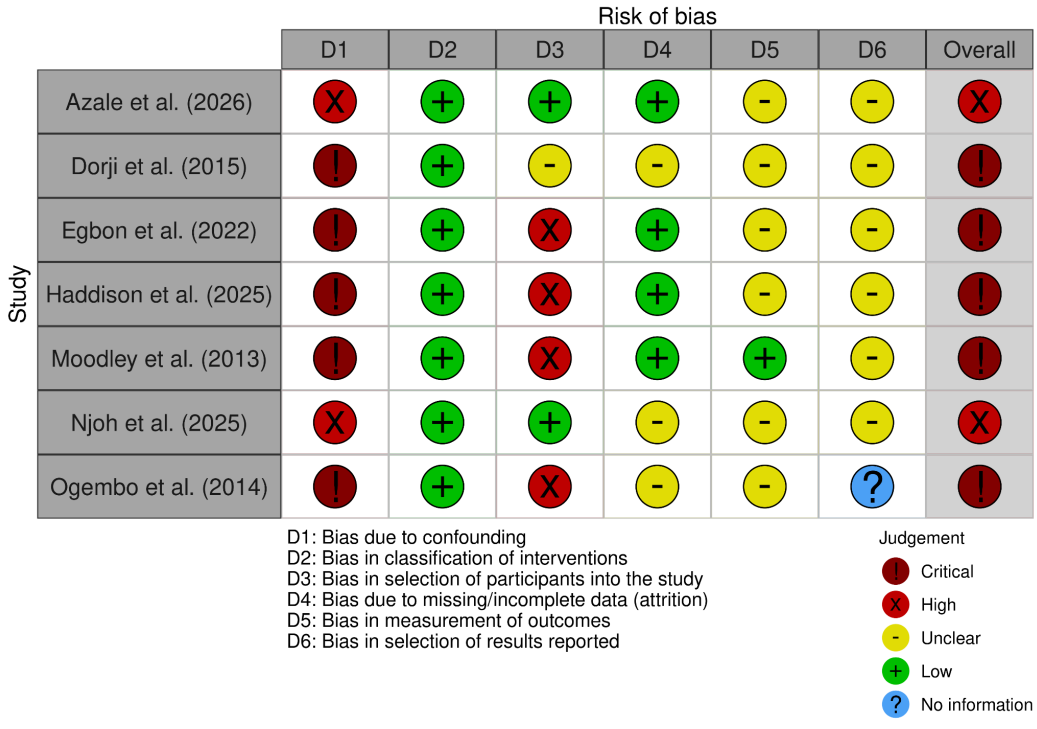


Figure 7: Risks of bias assessment of included quantitative studies

Results of individual studies

Table 2 presents the quantitative results of the seven studies reporting outcomes relevant to the primary research question. When applicable, results are presented separately for subgroups of outcomes and populations. Outcomes included awareness, acceptance, intention to vaccinate, and uptake and completion of HPV vaccination. For each study and outcome, we present original summary statistics and effect estimates, including adjusted odds ratios (AORs) and 95% confidence intervals (CIs), as well as standardised mean differences (SMDs) and associated 95% CIs where available. For studies without comparative effect estimates, we report frequencies, proportions, and vaccination coverage. Where available, we also present results by relevant population characteristics, such as school attendance status and age group. Each result includes a plain-language summary of what was observed. No study compared a vaccination intervention that included leader engagement with one that did not, so these results should be interpreted as programme-level outcomes rather than as estimates of the causal effect of leveraging traditional or religious leaders.

Results of syntheses

Primary research question: the effects of engaging traditional and religious leaders in designing HPV vaccine delivery and demand-generation activities on uptake, completion, acceptance, and equity in LMICs.

Seven studies reported quantitative outcomes relevant to the primary research question, while Egbon et al. (2022), Haddison et al. (2025), and Kubura et al. (2025) provided qualitative findings for secondary research question 2. All evaluated multicomponent HPV vaccination programmes involving traditional or religious leaders alongside health workers, educators and other stakeholders. Five quantitative studies were either single-arm or descriptive programme evaluations. Azale et al. (2026) compared an enhanced multicomponent demand-generation package with comparison districts, while Njoh et al. (2025) used interrupted time-series analysis to assess changes in a national multicomponent programme. Neither comparative design isolated leader engagement, and no included study compared an otherwise comparable vaccination programme with leader engagement against one without it. We therefore synthesised programme-level findings narratively. The review can describe outcomes observed in programmes that included leaders, but it cannot determine whether leader engagement caused the observed differences or changes. We synthesised findings narratively by outcome, presenting study-level estimates and available 95% confidence intervals (CIs) in the outcome results table (Table 2).

Awareness of the HPV vaccine

One quantitative study, by Azale et al. (2026), reported on HPV vaccine awareness. In Ethiopia, the intervention included school-based education, home visits, community dialogues, and advocacy by religious and community leaders. Religious leaders encouraged their congregants to take eligible girls for vaccination and reinforced messages from teachers and health extension workers. Carers in intervention districts were more aware than those in comparison districts (88% vs 63%; adjusted odds ratio [AOR] 4.42, 95% CI 3.06–6.39), as were girls aged 9–14 years (89% vs 69%; AOR 7.63, 95% CI 3.49–16.67). Carergivers were also more aware of vaccination sites (88% vs. 76%). Awareness was therefore higher in districts receiving the enhanced multicomponent package, which included leader advocacy, but the comparison was not designed to isolate leader engagement and the observed difference cannot be attributed specifically to traditional or religious leaders.

HPV vaccine acceptance, perceptions and intention to vaccinate

One quantitative study, Azale et al. (2026), reported these outcomes. The intervention included mobilisation, messaging, advocacy and health education with religious and community leaders as vaccine advocates. Carer acceptance was higher in intervention areas (95% vs 89%), as was the proportion of carers who considered vaccination critical (88% vs 77%). Among girls, 84.82% in intervention areas felt the vaccine was moderately or very safe, compared with 66.50% in comparison areas. Perceived importance was 89.53% vs. 76.30%. Unvaccinated girls in intervention areas had a higher intention to receive the vaccine (89% vs. 67%; 75% overall). These findings show more favourable attitudes and intentions toward vaccination in areas receiving the enhanced package, but they do not identify the contribution of leader engagement within that package, which included leader advocacy and community-based communication (Table 2).

HPV vaccination uptake

Six quantitative studies reported first-dose uptake or vaccination coverage. Azale et al. (2026) reported a higher uptake for girls in the intervention districts of Ethiopia (81% versus 62%; AOR 4.07, 95% CI 2.29-7.23). Religious and community leaders reached out in the community and spoke with carers to promote vaccination. However, coverage was lower in out-of-school girls than in-school girls (about 33% versus 85%). Moodley et al. (2013) found that first-dose take-up was 960/963 (99.7%) in a South African school-based programme. The team conducted pre-implementation information sessions with community, traditional, and religious leaders, as well as traditional healers, to secure stakeholder buy-in. In the pilot conducted in Nigeria by Egbon et al. (2022), which involved 100 girls, all of them received dose 1. The Emir of Yauri approved and supported this dose after consultation. In Cameroon, Ogembo et al.

(2014) reported 6,851 first-dose recipients, including 2,229 daughters reached through mother-daughter outreach. Fons and pastors encouraged vaccination, enabled vaccine delivery in villages and churches, and supported follow-up activities.

In Cameroon's national programme, first-dose coverage among nine-year-old girls increased from 20% in 2022 to 57% in 2023, following intensified community engagement, changes to the vaccination schedule, and revised delivery strategies (Njoh et al., 2025). Workshops and community sessions involved traditional rulers, community leaders, and community representatives who mobilised eligible adolescents for vaccination. Religious leaders supported advocacy and vaccination messaging through religious congregations and other channels. Haddison et al. (2025) showed that 1,321 adolescents were vaccinated during a district campaign, which was 154% of its operational target but 15.6% of the estimated eligible district population. Of the vaccinated, 646 (48.9%) were boys. Vaccination occurred through schools (1,161, 88%), door-to-door delivery (129, 9.7%), and health facilities (31, 2.3%). Health area chiefs briefed traditional and religious leaders on the campaign; churches and mosques announced vaccination activities, and some Catholic priests independently educated congregations about cancer. Traditional leaders were informed but not reported to have taken a particular active delivery role.

HPV vaccination completion

Four quantitative studies reported completion. Moodley et al. (2013) reported total second-dose uptake of 943/963 (97.9%) and three-dose completion of 938/963 (97.8%) in a school-based programme that involved consultation with community, traditional, and religious leaders before implementation. In Ceza, the completion rate was 411/423 (98.1%), and in Nongoma, 527/540 (97.6%). Egbon et al. (2022) reported that 67/100 girls (67%) completed their schedule within six months: 42/70 (60%) among girls aged 9–14 years and 25/30 (83%) among those aged 15–18 years. COVID-19-related school closures disrupted follow-up, but the programme later resumed vaccinating girls who had not completed their schedules (Ogembo et al., 2014). Completion of three doses was 5,796/6,851 (84.6%), with 86.1% completion among girls aged 9–13 years and 81.6% among older girls. Fons and pastors supported vaccine promotion, authorised vaccination in community and religious venues, and participated in activities to promote ongoing vaccination. In Bhutan, the 2010 national three-dose coverage was 43,863/48,674 (90%); the completion rate was approximately 100% among 12-year-olds and 89% among girls aged 13–18 years (Dorji et al., 2015). The Royal Grand Queen Mother initiated the partnership and officially launched the campaign, while village leaders participated in district advocacy meetings. Subsequently, coverage among 12-year-olds was 59%, 67% and 68% during 2011–2013, increasing to 94% after

resumption of school-based delivery in 2014 (Table 2). These completion estimates describe outcomes of multicomponent programmes involving leaders; however, none of the included completion studies had a counterfactual that would allow completion outcomes to be attributed to leader engagement.

Secondary research question 1: the extent to which effect estimates vary by intervention design, context, and substantive, methodological, and extrinsic study characteristics

This question could not be answered in this version of the review. No included study provided a leader-specific causal effect estimate based on a counterfactual comparison of an intervention that leveraged traditional or religious leaders with an otherwise comparable intervention that did not. The comparative estimates available from Azale et al. (2026) and the interrupted time-series estimates from Njoh et al. (2025) relate to broader multicomponent programmes or programme changes rather than to leader engagement itself. Consequently, there were no comparable leader-specific effect estimates across studies with which to examine variation by intervention design, context, or study characteristics.

Table 2: Results of individual studies

Study name	Outcome measured / subgroup	Study-reported effect estimate and SMD[2] (95% CI)	Summary of effect
Azale et al. (2026)	HPV vaccine awareness-caregivers	Intervention: 423/480 (88%); comparison: 296/470 (63%) **AOR** 4.42 (95% CI 3.06–6.39) **SMD**: 0.805 (95% CI 0.622–0.989)	Caregivers in intervention areas had higher observed HPV vaccine awareness than those in comparison areas.
	HPV vaccine awareness – girls aged 9–14	Intervention: 89%; comparison: 69% AOR 7.63 (95% CI 3.49–16.67) **SMD**: 0.712 (95% CI 0.537–0.886)	Girls in intervention areas had higher observed HPV vaccine awareness than girls in comparison areas.
	Awareness of vaccination sites -caregivers	Intervention: 424/480 (88%); comparison: 358/470 (76%) **SMD**: 0.463 (95% CI 0.272–0.654)	Awareness of where to obtain HPV vaccination was higher among caregivers in intervention areas.
	HPV vaccine acceptance – caregivers	Intervention: 455/480 (95%); comparison: 417/470 (89%) **SMD**: 0.471 (95% CI 0.194–0.747)	More caregivers in intervention areas believed that girls should receive HPV vaccination.
	Perceived importance – caregivers	Intervention: 422/480 (88%); comparison: 363/470 (77%)	More caregivers in intervention areas considered HPV vaccination very important.

[2] SMD=standardised mean difference, author calculated.

Study name	Outcome measured / subgroup	Study-reported effect estimate and SMD[2] (95% CI)	Summary of effect
		SMD: 0.432 (95% CI 0.240–0.625)	
	Perceived vaccine safety – girls aged 9–14	Intervention: 84.82% (486/573); comparison: 66.50% (373/561) **SMD**: 0.591 (95% CI 0.432–0.750)	Girls in intervention areas more frequently rated the HPV vaccine as moderately or very safe.
	Perceived importance – girls aged 9–14	Intervention: 89.53%; comparison: 76.30% **SMD**: 0.539 (95% CI 0.356–0.721)	Girls in intervention areas more frequently regarded HPV vaccination as moderate or critical.
	Intention to vaccinate – unvaccinated girls aged 9–14	Overall: 245 (75%) intended to receive the vaccine; intervention: 101 (89%); comparison: 144 (67%) **SMD**: N/A	Among unvaccinated girls, intention to receive the HPV vaccine was higher in intervention areas (89%) than in comparison areas (67%).
	HPV vaccine uptake – girls aged 9–14	Intervention: 462/573 (81%); comparison: 345/561 (62%) **AOR** 4.07 (95% CI 2.29–7.23) **SMD**: 0.529 (95% CI 0.381–0.678)	HPV vaccination uptake was higher among girls in intervention areas than in comparison areas.

Study name	Outcome measured / subgroup	Study-reported effect estimate and SMD[2] (95% CI)	Summary of effect
	HPV vaccine uptake – out-of-school girls aged 9–14	Overall out-of-school uptake: 95/298 (32%); intervention areas: 99 (46%); comparison areas: 49 (25%) **SMD**: N/A	Among out-of-school girls, intervention areas reported higher observed HPV vaccine uptake than comparison areas.
Moodley et al. (2013)	Dose 1 uptake – overall (Ceza + Nongoma)	960/963 (99.69%)	Almost all participating girls received the first dose. This was a single-arm programme.
	Dose 2 uptake – overall (Ceza + Nongoma)	943/963 (97.92%)	Most participating girls received the second dose.
	Three-dose completion overall (Ceza + Nongoma)	938/963 (97.81%)	Most participating girls received the third dose and completed the series.
	Dose 1 uptake - Ceza	423/423 (100%)	All participating girls in Ceza received the first dose.
	Dose 2 uptake-Ceza	416/423 (98.35%)	Most participating girls in Ceza received the second dose.
	Three-dose completion – Cez	411/423 (98.09%)	Most participating girls in Ceza received the third dose.
	Dose 1 uptake - Nongoma	537/540 (99.44%)	Almost all participating girls in Nongoma received the first dose.
	Dose 2 uptake – Nongoma	527/540 (97.59%)	Most participating girls in Nongoma received the second dose.

Study name	Outcome measured / subgroup	Study-reported effect estimate and SMD[2] (95% CI)	Summary of effect
	Three-dose completion – Nongoma	527/540 (97.59%)	Most participating girls in Nongoma received the third dose.
Egbon et al. (2022)	Dose 1 uptake – girls aged 9–18	100/100 (100%)	All 100 participating girls received the first vaccine dose. This was a single-arm pilot.
	Schedule completion within six months – all girls	67/100 (67%)	Two-thirds of participating girls completed their vaccine schedule within six months; school closures disrupted completion.
	Second-dose completion within six months – girls aged 9–14	42/70 (60%)	Six in ten girls aged 9–14 completed the required second dose within six months.
	Three-dose completion within six months – girls aged 15–18	25/30 (83%)	Approximately eight in ten girls aged 15–18 completed the three-dose schedule within six months.
Ogembo et al. (2014)	First-dose uptake – all vaccinated girls	6,851 girls received dose 1.	The demonstration project vaccinated 6,851 girls with dose 1; it did not report the total eligible population.
	Three-dose completion – all first-dose recipients	5796/6851 (84.6%)	Most girls who received dose 1 completed the full three-dose series.

Study name	Outcome measured / subgroup	Study-reported effect estimate and SMD[2] (95% CI)	Summary of effect
	Three-dose completion – girls aged 9–13	86.1%	Three-dose completion among girls aged 9–13 was reported as 86.1%; no comparator was used.
	Three-dose completion – girls aged 14+	81.6%	Three-dose completion among older girls was reported as 81.6%.
	First-dose uptake – mother–daughter outreach	2,229 daughters received dose 1; 3,452 mothers were screened (distinct populations).	Through mother–daughter outreach, 2,229 daughters received their first dose while their mothers were screened.
Njoh et al. (2025)	First-dose uptake-nine-year-old girls nationally	2022: 20% (83,406 vaccinated); 2023: 57% (249,594 vaccinated).	National first-dose coverage rose between the 2022 and 2023 reporting periods, during a multicomponent programme. Leader engagement was not isolated.
Dorji et al. (2015)	Three-dose coverage – all girls, 2010	43863/48674 (90%)	The 2010 national campaign reported about 90% third-dose coverage; it had no control group.

Study name	Outcome measured / subgroup	Study-reported effect estimate and SMD[2] (95% CI)	Summary of effect
	Three-dose coverage – 12-year-old girls, 2010–2014	6679/6706 (100%) 12-year-old third-dose coverage, 2011–2014: 59%, 67%, 68%, 94%, respectively.	Reported coverage among 12-year-olds was high during the 2010 school-based campaign, lower during subsequent health-centre delivery, and higher after school delivery resumed in 2014.
	Three-dose coverage – girls aged 13–18, 2010	37184/41698 (89%)	The 2010 catch-up campaign reported 89% third-dose coverage among girls aged 13–18, without a comparator.
Haddison et al. (2025)	Single-dose HPV vaccination uptake/coverage – adolescents aged 9–13	1,321/8,465 (15.6%); 154% of operational target (853). **SMD**: N/A	Coverage was 15.6% of the estimated eligible population (8,465).

Research question 3: Assess the barriers and facilitators influencing the intervention's implementation and effects.

Barriers and Facilitators

Three studies, Egbon et al. (2022), Haddison et al. (2025) and Kubura et al. (2025), contributed qualitative findings on barriers and facilitators associated with traditional and religious leader engagement in HPV vaccination programmes. These findings were organised narratively around leader participation, community acceptance and programme implementation. The three studies identified facilitators of access, such as leader approval and trusted communication, but also showed that leaders could restrict access and reinforce hesitancy. The synthesis focused on findings related to leader approval and endorsement, trusted communication, mobilisation, and leaders' influence on access to vaccination activities.

The facilitators

Leader endorsement and approval. Leaders' endorsement facilitated programme entry and local acceptance. In Nigeria, Egbon et al. (2022) reported consulting and sensitising the traditional and religious leader, the Emir of Yauri, before the school-based pilot. He approved and supported the programme, which was vital for community acceptance, and the authors considered him the programme's most important gatekeeper. They said the pilot *"would have probably failed"* without his help. In Cameroon, Haddison et al. (2025) found that Catholic religious authorities moved from opposing HPV vaccination to permitting campaign announcements and access by vaccinators, which the study linked to increased community acceptance.

Trusted communication and community mobilisation

Existing leaders' ties with their communities provided a way to disseminate vaccination messages and address concerns. Churches and mosques announced vaccination activities, and some Catholic priests independently educated their congregations about cancer (Haddison et al. 2025). Kubura et al. (2025) identified local advocates and mobilisers, including traditional rulers such as Odionweres and Enogies. The expanded Technical Working Group also included religious leaders, and advocacy visits explained vaccination and countered misconceptions among traditional and religious leaders. The study found that local influencers, including traditional leaders, had "boosted trust".

Practical support included permission to use community spaces. Leaders provided access to venues and resources for the programme. In some environments, traditional rulers opened their palaces and provided local vigilantes to help the vaccination teams (Kubura et al., 2025). Awareness and vaccination outreach took place in religious institutions like churches, mosques, and Quranic schools. Likewise, Haddison et al. (2025) found that Catholic churches allowed vaccinators to engage with congregants during services. The team was able to return to provide follow-up vaccination after the original schedule was disrupted thanks to the Emir's continued support and community buy-in (Egbon et al. 2022).

Barriers

Leader opposition and refusal to authorise vaccination could hinder programme implementation. If leaders oppose vaccination, their authority could hinder programme implementation. Haddison et al. (2025) reported that the Vicar General of the local Catholic diocese initially prohibited Catholic churches and schools from distributing information about the HPV vaccine or from allowing access to vaccination providers. Some community and religious leaders refused to permit vaccination in their areas (Kubura et al., 2025). One church leader reportedly advised members to avoid the vaccine. The results suggest that opposition from leaders may limit community access to the programme and its delivery.

Misinformation and vaccine hesitancy around leaders. Kubura et al. (2025) reported resistance from some religious leaders amid misinformation on vaccine safety and fertility. In some communities, leaders discourage community members from getting the vaccine, which could be a barrier to uptake due to their influence. Similarly, Haddison et al. (2025) reported initial religious opposition amid concerns about infertility and vaccine safety. Continued engagement and shifts in position by religious institutions could help vaccination messages reach congregants. These findings emphasise the importance of early leader involvement and addressing concerns before programme implementation.

Overall, the qualitative findings suggest that traditional and religious leaders could facilitate HPV vaccination through endorsement, trusted communication, community mobilisation, authorisation of vaccination activities and practical support. In contrast, resistance or denial of access may impede these activities. Their contribution depended on their acceptance and support of the programme, as well as on the exercise of their authority. These findings help to explain the possible contribution of leader engagement to the observed outcomes of multicomponent programmes but do not establish its independent effect.

Reporting biases

We did not conduct formal tests for reporting bias because results were missing. Given the small number of included studies and heterogeneity in study design and reported outcomes, we synthesised findings narratively rather than through meta-analysis. Hence, no statistical tests for publication bias (e.g. funnel plot asymmetry) were performed. Missing results mean that reporting bias cannot be ruled out.

Certainty of evidence

The outcomes included in this review did not have formal certainty-of-evidence assessments completed. Evidence was synthesised narratively, taking into account study design, methodological limitations, consistency of findings and availability of comparative evidence. Therefore, no formal certainty ratings are provided, and the findings should be interpreted in light of the limitations of the contributing studies. More importantly, no included study produced a leader-specific causal effect estimate from a counterfactual comparison of leader engagement versus no leader engagement; consequently, certainty in the effectiveness of leveraging traditional or religious leaders could not be established.

Discussion

Interpretation

This review identified eight studies in which traditional and/or religious leaders were involved in HPV vaccination programmes in low- and middle-income countries (LMICs). Seven studies reported quantitative outcomes, and three studies provided qualitative evidence, with two studies contributing to both synthesises. Some multicomponent programmes involving leaders reported high vaccination uptake or completion, and one comparative programme evaluation reported higher awareness, acceptance and uptake in intervention districts. However, these observations do not constitute causal evidence that leveraging traditional or religious leaders improved vaccination outcomes. Crucially, none of the included studies used a counterfactual design that compared an intervention with leader engagement to an otherwise comparable intervention without leader engagement.

For example, Azale et al. (2026) reported higher vaccination coverage in the intervention districts than in the comparison districts in Ethiopia (81% vs 62%; adjusted odds ratio (AOR) 4.07, 95% confidence interval [CI] 2.29–7.23), but the contrast was between an enhanced multicomponent demand-generation package and comparison

districts, not between leader engagement and no leader engagement. In Cameroon, Njoh et al. (2025) reported a rise in national first-dose coverage among nine-year-old girls, from 20% in 2022 to 57% in 2023, during a period when multiple programme components changed simultaneously. But these programmes combined leader engagement with other communication, service delivery and changes to the vaccination schedule. The remaining quantitative studies were single-arm or descriptive programme evaluations. Therefore, the observed differences, changes and high coverage or completion rates cannot be causally attributed to traditional or religious leaders. The primary effectiveness question can only be addressed descriptively in this version of the review.

Secondary research question 1 could not be answered because the review identified no leader-specific causal effect estimates that could be compared across intervention designs, contexts, or study characteristics. This is a limitation of the available evidence rather than an absence of relevant programme descriptions.

The qualitative evidence provides insight into possible implementation pathways through which leaders may facilitate or hinder vaccination programmes. Egbon et al. (2022) noted that the Emir of Yauri was important to the feasibility of a school-based pilot. Haddison et al. (2025) described how a change in the position of Catholic religious authorities permitted vaccine announcements and access to congregants. Kubura et al. (2025) identified traditional rulers and religious leaders as contributing to advocacy, mobilisation, trusted communication and practical implementation support. could restrict vaccination activities or reinforce hesitancy. These findings are relevant to secondary research question 2 on barriers and facilitators, but they should not be interpreted as evidence that leader engagement caused changes in vaccination outcomes.

These results are consistent with other evidence on HPV vaccination. Oketch et al. (2023) conducted a systematic review and meta-analysis of communication strategies in sub-Saharan Africa, focusing on approaches that involve community leaders, healthcare workers, and other trusted messengers. Similarly, Kutz et al. (2023) identified facilitators such as community engagement, access to accurate information and ease of access to vaccination services. However, these wider reviews also do not show the independent contribution of traditional or religious leaders in the outcomes seen in this review.

One significant finding relates to equity. In Ethiopia, Azale et al. (2026) found that out-of-school girls had significantly lower vaccination rates. This finding highlights an equity gap in the reach of a multicomponent programme, but it does not establish whether leader engagement reduced or contributed to that gap. This difference is particularly relevant to the World Health Organization’s goal of reaching 90% of girls fully vaccinated against HPV by age 15 by 2030 (WHO, 2020).

Limitations of the evidence

The evidence base was small, with eight studies from five countries: Bhutan, Cameroon, Ethiopia, Nigeria and South Africa. “Seven studies were carried out in sub-Saharan Africa, three in Cameroon and two in Nigeria. Only one study took place in Asia, and none of the included studies represented Latin America and the Caribbean. Therefore, the findings may not reflect differences in leadership structures, religious institutions, vaccination systems, and sociocultural contexts across the broader LMIC population.

A major methodological limitation was the absence of counterfactual-based impact evaluations designed to estimate the effect of leveraging traditional or religious leaders. Five of the seven quantitative studies were single-arm or descriptive programme implementation studies without a concurrent comparator. Azale et al. (2026) compared an enhanced multicomponent package with comparison districts, and Njoh et al. (2025) used interrupted time-series analysis of a national multicomponent programme; neither study contrasted leader engagement with no leader engagement while keeping the other intervention components sufficiently comparable. Accordingly, none of the included quantitative studies could isolate the incremental or causal effect of traditional or religious leader engagement on awareness, acceptance, intention, uptake, completion or equity.

All seven non-randomised quantitative studies were formally assessed using an adapted version of the Cochrane risk of bias ROBINS assessment tool. Two non-randomised programme evaluations were judged at serious overall risk of bias and five single-arm or descriptive implementation studies at critical overall risk of bias. The review did not formally rate the certainty of evidence. A meta-analysis of the effectiveness of leader engagement was not possible because there were no comparable leader-specific effect estimates to pool; heterogeneity in study designs, populations, intervention components, and outcome measures further restricted the quantitative synthesis. This absence of leader-specific effect estimates also meant that secondary research question 1, which sought to examine variation in effects by intervention design, context and study characteristics, could not be answered.

Outcome measurement was also highly varied. Studies reported awareness, acceptance, intention, first-dose uptake, or completion across different populations, denominators, vaccination schedules, and follow-up periods. Some studies reported coverage among programme participants, while others used estimates of eligible populations. For example, Haddison et al. (2025) reported 154% coverage of the

operational target but only 15.6% coverage of the estimated eligible district population, demonstrating the importance of denominator selection. Differences between the historical three-dose programmes and the more recent single-dose programmes further limited direct comparisons of completion rates.

The evidence on equity and implementation was equally sparse. Several programmes included both in-school and out-of-school populations, but few reported outcomes in sufficient detail to assess differences in reach. Evidence was limited on boys, other population subgroups and longer-term outcomes. The three studies that contributed qualitative findings provided helpful insights into how leaders may facilitate or impede programme implementation, but their findings may not be transferable to settings with different leadership arrangements or community relationships. These qualitative findings can inform understanding of mechanisms and implementation, but they cannot establish the magnitude or causal effect of leader involvement on vaccination outcomes.

Limitations of the review process

The review searched academic databases, organisational repositories and other sources. However, it may have missed some relevant evidence. Database indexing or search terms may not consistently capture the variety of institutional, cultural and local language terms used to refer to traditional and religious leaders. Search functionality, indexing, and the accessibility of unpublished programme reports also create differences in searches of organisational websites. Appendix 1 describes the search strategy and the exact results for each source, but the possibility of missing studies cannot be excluded.

The review drew on information from published reports and available programme documents. Descriptions of leader roles and intervention components were incomplete, and data extraction and synthesis were limited. AI-assisted verification of extracted information may help to spot discrepancies but cannot replace human verification against original reports and can itself introduce errors.

No meta-analysis of the effectiveness of leader engagement could be conducted because the evidence base did not provide comparable leader-specific effect estimates. Differences in study designs, intervention components and outcomes further prevented formal statistical investigation of heterogeneity and sensitivity analysis. Narrative synthesis enabled the exploration of programme-level findings across outcomes and contexts but did not generate a pooled estimate of the effect of leveraging leaders. The absence of formal certainty assessments also limits the strength of conclusions the evidence can support.

Limitations related to the mode of living may also affect the findings. The iterative searching, screening, extraction, appraisal, and synthesis required to maintain this review will consume resources, especially as new HPV vaccination programmes and implementation studies emerge. Delays between identifying new records and including eligible findings mean the published version may not reflect all available evidence at a given time. The review must include clearly documented search dates, update status and records pending inclusion. PRISMA-LSR suggests reporting changes to methods and findings across versions separately to ensure transparency and reproducibility (Akl et al., 2024).

Implications and future plans

Implications for practice and policy

The findings identify potential implementation roles for traditional and religious leaders in vaccination programmes, including endorsement, trusted communication, community mobilisation, facilitating access to vaccination venues and practical implementation support. However, the review did not identify robust counterfactual-based impact evaluations capable of estimating the causal effect of leveraging leaders. No included study compared an otherwise comparable vaccination intervention with leader engagement against one without leader engagement. The current evidence therefore cannot establish whether leveraging traditional or religious leaders improves vaccination outcomes and cannot conclusively inform practice or policy decisions about the effectiveness of leader engagement as a strategy.

Programme planners may consider the reported barriers and facilitators when designing or adapting vaccination strategies, particularly the importance of early engagement, addressing leaders' concerns, and securing community access. These findings should be treated as context-specific implementation insights rather than evidence of effectiveness. It is also unclear whether the findings apply to other vaccines, as this review includes only studies on HPV vaccination. The proposed extension of the review to all vaccines may identify a broader body of evidence, including potentially more rigorous counterfactual evaluations, with which to assess whether and under what conditions leader engagement affects vaccination outcomes and whether those insights are transferable to HPV vaccination.

The qualitative findings are useful for generating hypotheses about the mechanisms and implementation conditions through which traditional and religious leaders may influence vaccination programmes. However, they should not be presented as evidence that leader engagement independently improves awareness, acceptance, uptake, completion or equity.

Implications for future research

More rigorous impact evaluations are needed to determine the effectiveness of leader engagement as distinct from other programme components. Future studies should use an explicit leader-specific counterfactual wherever feasible, for example, by comparing an intervention that includes traditional or religious leader engagement with an otherwise comparable intervention that does not, or by using robust quasi-experimental designs that can isolate the incremental contribution of leader engagement. Studies should clearly describe the types of leaders involved, their roles, the intensity and timing of engagement, other intervention components, and prespecified vaccination outcomes. Such designs would enable future versions of this review to address both the primary effectiveness question and secondary research question 1 on variation in leader effects across interventions and contexts. Qualitative research should continue alongside impact evaluations to explain mechanisms, barriers and facilitators.

Planned changes to methods: We propose extending the scope of the review to all vaccines, rather than only HPV vaccination, to access a larger evidence base on the engagement of traditional and religious leaders to develop knowledge that informs HPV vaccination policy and practice. If this amendment is agreed, it will require corresponding revisions to the review questions, eligibility criteria, search strategies and data extraction framework. The expanded review will continue to use a mixed-methods approach, combining quantitative evidence by vaccine type and outcome where appropriate and qualitative evidence on barriers and facilitators to implementation. The relevance and transferability of findings from other vaccination programmes to HPV vaccination will be considered in the light of differences in target populations, vaccination schedules, delivery platforms and sociocultural contexts. The proposed amendment will be discussed with the relevant review governance structures and, if approved, will be captured in the updated protocol and methods log. Evidence submitted under the expanded scope will be distinguishable from the results of the current HPV-focused version. Within the broadened scope, studies will also be classified according to whether they provide a leader-specific counterfactual; studies capable of estimating the incremental effect of leader engagement will be distinguished from descriptive programme studies in the effectiveness synthesis.

Retirement: This review will be continued live. The thinness of the evidence and its methodological limitations necessitate the continued identification and synthesis of new studies. The current maintenance plan runs until February 2027, and any continuation beyond this point will be decided through the agreed review governance processes.

Other information

Availability of data, code and materials

The data/extraction form is available in the Appendix section, and the Excel version of the form, which includes extracted data for the included studies, is available upon request. This is also the data that was used for all analyses, including the coding tool/taxonomy used. Any other materials used in the review can be made available on request.

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Appendices

Appendix 1: Full search strategies for each database/source, including filters/limits, hit counts, and the date each was executed.

Search summary

Table 1. Academic databases

Database Name	Platform	Date of search	Number of results
MEDLINE via PubMed	PubMed	June 27, 2026	1633
Embase	Embase	July 2, 2026	4006
CINAHL	EBSCO	July 1, 2026	281
Centre for Agricultural Bioscience International (CABI)	CABI Digital Library	July 1, 2026	464
Scopus	Elsevier	June 27, 2026	662
Web of Science (Social Science Citation Index, Science Citation Index Expanded, Emerging Sources Citation Index)	Web of Science	June 27, 2026	1204
PsycINFO	APA PsycINFO	June 27, 2026	200
EconLit	EBSCO	July 1, 2026	2
Africa Wide Information	EBSCO	July 6, 2026	326
Education Resources Information Center (ERIC)	EBSCO	June 27, 2026	54
Total results from all databases			**8832**

Table 2. Organisational websites

Website Name	**Date of search**	**Number of results**
World Bank Knowledge Hub	June 30, 2026	5
World Bank Documents and Reports	July 3, 2026	3
UNICEF	June 30, 2026	0
UNESCO	January 7, 2026	0
Development Evidence Portal (DEP)	1 July 2026	25
Cochrane Collaboration Library	July 4, 2026	1585
Gavi, the Vaccine Alliance	July 8, 2026	6
WHO IRIS	July 6, 2026	1
PATH	July 7, 2026	20
MSI Reproductive Choices (formerly Marie Stopes)	June 7, 2026	0
Girl Effect	July 12, 2026	0
UNFPA	February 7, 2026	0
Total results from all organisational websites		1 645

Table 3. Registers and search engines

Register Name	Date of search	Number of potential results
HPV Living Evidence Repository by ALIVE (Alliance for Living Evidence)	September 10, 2026	0[3]
Google	September 10-11, 2026	8
Total registers and search engines		**8**

Searches

Database name: MEDLINE
Platform: OVID
Date searched: June 27, 2026
Number of results: 1633

1 HPV vaccine	exp Papillomavirus Infections/ OR exp Human Papillomavirus Viruses/ OR Human Papillomavirus Recombinant Vaccine Quadrivalent, Types 6, 11, 16, 18/ OR (("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*)).ti,ab,kf,ot,oa.	61718
2 Traditional and religious leaders	exp Religious personnel/ OR Traditional Medicine Practitioners/ OR (((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) adj2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram	567649

[3]

	pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant).ti,ab,kf,ot,oa.	
3 Language-specific terms	(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt).ti,ab,kf,ot,oa.	12923
4 Faith community	(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) adj2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*).ti,ab,kf,ot,oa.	21882
5	exp Health personnel/ OR (((health* OR medical OR clinical) adj (worker* OR personnel OR professional* OR staff OR	2185532

Healthcare workers	practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*).ti,ab,kf,ot,oa.	
6	2 OR 3 OR 4 OR 5	2743277
7 LMICs	(afghanistan or albania or algeria or angola or argentina or armenia or armenian or azerbaijan or bahrain or bangladesh or republic of belarus or belarus or byelarus or belorussia or byelorussian or belize or british honduras or benin or dahomey or bhutan or bolivia or "bosnia and herzegovina" or bosnia or herzegovina or botswana or bechuanaland or brazil or brasil or burkina faso or burkina fasso or upper volta or burundi or urundi or cabo verde or cape verde or cambodia or kampuchea or khmer republic or cameroon or cameron or cameroun or central african republic or ubangi shari or chad or china or colombia or comoros or comoro islands or iles comores or mayotte or democratic republic of the congo or democratic republic congo or congo or zaire or "cote d'ivoire" or "cote d' ivoire" or cote divoire or cote d ivoire or ivory coast or cuba or cyprus or djibouti or french somaliland or dominica or dominican republic or ecuador or egypt or united arab republic or el salvador or equatorial guinea or spanish guinea or eritrea or eswatini or swaziland or ethiopia or fiji or gabon or gabonese republic or gambia or "georgia (republic)" or georgian or ghana or gold coast or grenada or guatemala or guinea or guinea bissau or british guiana or haiti or hispaniola or honduras or india or indonesia or timor or iran or iraq or isle of man or jamaica or jordan or kazakhstan or kazakh or kenya or north korea or south korea or korea or kosovo or kyrgyzstan or kirghizia or kirgizstan or kyrgyz republic or kirghiz or laos or lao pdr or "lao people's democratic republic" or lebanon or lebanese republic or lesotho or basutoland or liberia or libya or libyan arab jamahiriya or republic of north macedonia or macedonia or madagascar or malagasy republic or malawi or nyasaland or malaysia or malay federation or malaya federation or maldives or indian ocean islands or indian ocean or mali or micronesia or federated states of micronesia or kiribati or marshall islands or northern mariana islands or palau or tuvalu or mauritania or mauritius or mexico or moldova or moldovian or mongolia or montenegro or morocco or ifni or mozambique or portuguese	2585017

	east africa or myanmar or burma or namibia or nepal or netherlands antilles or nicaragua or niger or nigeria or muscat or pakistan or papua new guinea or new guinea or paraguay or peru or philippines or philipines or phillipines or phillippines or rwanda or ruanda or samoa or pacific islands or polynesia or samoan islands or navigator island or navigator islands or "sao tome and principe" or saudi arabia or senegal or serbia or seychelles or sierra leone or melanesia or solomon island or solomon islands or norfolk island or norfolk islands or somalia or south africa or south sudan or sri lanka or ceylon or saint lucia or "st. lucia" or "saint vincent and the grenadines" or saint vincent or "st. vincent" or grenadines or sudan or suriname or surinam or dutch guiana or netherlands guiana or syria or syrian arab republic or tajikistan or tadjikistan or tadzhikistan or tadzhik or tanzania or tanganyika or thailand or siam or timor leste or east timor or togo or togolese republic or tonga or tunisia or turkey or turkmenistan or turkmen or uganda or ukraine or uzbekistan or uzbek or vanuatu or new hebrides or venezuela or vietnam or viet nam or middle east or west bank or gaza or palestine or yemen or zambia or zimbabwe or northern rhodesia or global south or africa south of the sahara or sub-saharan africa or subsaharan africa or africa, central or central africa or africa, northern or north africa or northern africa or magreb or maghrib or sahara or africa, southern or southern africa or africa, eastern or east africa or eastern africa or africa, western or west africa or western africa or west indies or indian ocean islands or caribbean or central america or latin america or "south and central america" or south america or asia, central or central asia or asia, northern or north asia or northern asia or asia, southeastern or southeastern asia or south eastern asia or southeast asia or south east asia or asia, western or western asia or europe, eastern or east europe or eastern europe or developing country or developing countries or developing nation? or developing population? or developing world or less developed countr* or less developed nation? or less developed population? or less developed world or lesser developed countr* or lesser developed nation? or lesser developed population? or lesser developed world or under developed countr* or under developed nation? or under	

	developed population? or under developed world or underdeveloped countr* or underdeveloped nation? or underdeveloped population? or underdeveloped world or middle income countr* or middle income nation? or middle income population? or low income countr* or low income nation? or low income population? or lower income countr* or lower income nation? or lower income population? or underserved countr* or underserved nation? or underserved population? or underserved world or under served countr* or under served nation? or under served population? or under served world or deprived countr* or deprived nation? or deprived population? or deprived world or poor countr* or poor nation? or poor population? or poor world or poorer countr* or poorer nation? or poorer population? or poorer world or developing econom* or less developed econom* or lesser developed econom* or under developed econom* or underdeveloped econom* or middle income econom* or low income econom* or lower income econom* or low gdp or low gnp or low gross domestic or low gross national or lower gdp or lower gnp or lower gross domestic or lower gross national or lmic or lmics or third world or lami countr* or transitional countr* or emerging economies or emerging nation?).ti,ab,hw	
8 LMICs	(afghan or afghans or afghani or albanian? or algerian? or american samoan? or angolan? or antiguan? or barbudan? or argentine? or argentinian? or argentinean? or armenian? or azerbaijani? or bahraini? or bangladeshi? or bangalees or bajan? or belarusian? or byelorussian? or belizean? or beninese? or bhutanese or bolivian? or bosnian? or botswana or batswana or brazilian? or brasilian? or bulgarian? or burkinabe or burkinese or burundian? or cape verdean? or cabo verdean? or cambodian? or khmer or cameroonian? or central african? or chadian? or chilean? or chinese or colombian? or comorian? or congolese or costa rican? or ivorian? or croatian? or cuban? or cypriot? or czech? or djiboutian? or dominican? or ecuadorian? or egyptian? or salvadoran? or equatorial guinean? or equatoguinean? or eritrean? or estonian? or swazi? or swati? or ethiopian? or fijian or gabonese or gabonaise or gambian? or georgian? or ghanaian? or gibraltarian? or greek? or grenadian? or guamanian? or guatemalan? or guinean? or bissau guinean?	1598448

	or guyanese or haitian? or honduran? or indian? or indonesian? or iranian? or iraqian? or iraqi? or manx or jamaican? or jordanian? or kazakhstani? or kenyan? or kirabati or kirabatian? or north korean? or kosovar? or kosovan? or kyrgyz* or lao or laotian? or latvian? or lebanese or lesothan? or lesothonian? or mosotho or basotho or liberian? or libyan? or lithuanian? or macanese or macedonian? or malagasy or madagascan? or malawian? or malaysian? or maldivian? or malian? or maltese or marshallese? or mauritanian? or mauritian? or mexican? or micronesian? or moldovan? or mongolian? or mongol or montenegrin? or moroccan? or mozambican? or burmese or myanma or namibian? or nauruan? or nepali or nepalese or netherlands antillean? or nicaraguan? or nigerien? or nigerian? or northern mariana islander? or mariana? or omani? or pakistani? or palauan? or papua new guinean? or paraguayan? or peruvian? or philippine? or philipine? or phillipine? or phillippine? or filipino? or filipina? or rwandan? or rwandese or ruandan? or ruandese or samoan? or sao tomean? or santomean? or saudi arabian? or saudi? or senegalese or serbian? or montenegrin? or seychellois or seychelloise? or sierra leonean? or slovak? or slovene? or solomon islander? or somali? or south african? or south sudanese or sri lankan? or ceylonese or saint lucian? or vincentian? or sudanese or surinamese? or syrian? or tajik? or tajikistani? or tanzanian? or tanganyikan? or thai or timorese? or togolese or tongan? or trinidadian? or tobagonian? or tunisian? or turk? or turkish or turkmen? or tuvaluan? or ugandan? or ukrainian? or uruguayan? or uzbek? or vanuatu* or venezuelan? or vietnamese or yemeni? or yemenite? or yemenese or zambian? or zimbabwean? or african? or asian? or pacific islander? or latin american? or central american? or south american? or caribbean? or west indian? or iberoamerican? or middle eastern?).ti,ab,hw	
9 LMICs	7 OR 8	3421655
10	1 AND 6 AND 9	1653

11 Publication date	2000-present	1633

Database name: Scopus
Platform: Elsevier
Date searched: June 27, 2026
Number of results: 662

1 HPV vaccine	TITLE-ABS(("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*)) OR AUTHKEY(("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*))	27368
2 Traditional and religious leaders	TITLE-ABS(((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) W/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant) OR AUTHKEY(((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) W/2 (leader* OR chief* OR head OR heads	**1,157,371**

	OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant)	
3 Language-specific terms	TITLE-ABS(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt) OR AUTHKEY(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR	**41,825**

	Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)	
4 Faith communit y	TITLE-ABS(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) W/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*) OR AUTHKEY(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) W/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)	**229,001**
5 Healthcar e workers	TITLE-ABS(((health* OR medical OR clinical) W/0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*) OR AUTHKEY(((health* OR medical OR clinical) W/0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)	**2,484,232**
6	2 OR 3 OR 4 OR 5	**3,812,271**

7 LMICs	TITLE-ABS-KEY(afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d'ivoire" OR "cote d' ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines	**42,677**

	OR phillipines OR phillippines OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*" OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income	

	nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR "deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging economies" OR "emerging nation*)	
8 LMICs	TITLE-ABS-KEY(afghan OR afghans OR afghani OR albanian* OR algerian* OR "american samoan*" OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR bhutanese OR bolivian* OR bosnian* OR botswana OR batswana OR brazilian* OR brasilian* OR bulgarian* OR burkinabe OR burkinese OR burundian* OR "cape verdean*" OR "cabo verdean*" OR cambodian* OR khmer OR cameroonian* OR "central african*" OR chadian* OR chilean* OR chinese OR colombian* OR comorian* OR congolese OR "costa rican*" OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR	**4,739,010**

	honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new guinean*" OR paraguayan* OR peruvian* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*")	
9 LMICs	7 OR 8	**4,763,222**

10	1 AND 6 AND 9	667
11 Publication date	2000-present	662

Database name: Web of Science Core Collection (Social Science Citation Index (SSCI), Science Citation Index Expanded (SCI-Expanded), Emerging Sources Citation Index (ESCI))

Platform: Clarivate

Date searched: June 27, 2026

Number of results: 1204

1 HPV vaccine	TS=(("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*))	29122
2 Traditional and religious leaders	TS=(((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant)	990745

3 Language-specific terms	TS=(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)	29671
4 Faith community	TS=(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) NEAR/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)	114024
5 Healthcare workers	TS=(((health* OR medical OR clinical) NEAR/0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)	1735345
6	2 OR 3 OR 4 OR 5	2809770
7 LMICs	TS=(afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland	5170783

	OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d'ivoire" OR "cote d' ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR phillippines OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR	

	ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*" OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR	

	"deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging economies" OR "emerging nation*")	
8 LMICs	TS=(afghan OR afghans OR afghani OR albanian* OR algerian* OR "american samoan*" OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR bhutanese OR bolivian* OR bosnian* OR botswana OR batswana OR brazilian* OR brasilian* OR bulgarian* OR burkinabe OR burkinese OR burundian* OR "cape verdean*" OR "cabo verdean*" OR cambodian* OR khmer OR cameroonian* OR "central african*" OR chadian* OR chilean* OR chinese OR colombian* OR comorian* OR congolese OR "costa rican*" OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR	3345206

	libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new guinean*" OR paraguayan* OR peruvian* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*")	
9 LMICs	7 OR 8	 6986080
10	1 AND 6 AND 9	1215
11 Publicatio n date	2000-present	 1204

Database name: APA PsycINFO
Platform: EBSCOHost
Date searched: June 27, 2026
Number of results: 200

1 HPV vaccine	(DE "Human Papillomavirus" OR XB("human papillomavirus*" OR "human papilloma virus*" OR hpv*) OR KW("human papillomavirus*" OR "human papilloma virus*" OR hpv*)) AND (DE "Vaccination" OR XB(vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*) OR KW(vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*))	2047
2 Traditional and religious leaders	DE "Religious Personnel" OR DE "Clergy" OR DE "Lay Religious Personnel" OR DE "Nuns" OR DE "Seminarians" OR DE "Chaplains" OR DE "Ministers (Religion)" OR DE "Priests" OR DE "Rabbis" OR XB(((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) N2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant) OR KW(((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) N2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR	**95,946**

	elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant)	
3 Language-specific terms	XB(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt) OR KW(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR	**1,813**

	Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)	
4 Faith community	XB(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) N2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*) OR KW(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) N2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)	**33,335**
5 Healthcare workers	DE "Medical Personnel" OR DE "Nurses" OR DE "Physicians" OR DE "Nurse Practitioners" OR DE "Public Health Service Nurses" OR DE "School Nurses" OR DE "Family Physicians" OR DE "General Practitioners" OR DE "Gynecologists" OR DE "Obstetricians" OR DE "Pediatricians" OR XB(((health* OR medical OR clinical) N0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*) OR KW(((health* OR medical OR clinical) N0 (worker* OR personnel OR professional* OR staff OR practitioner* OR	**446,236**

	provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)	
6	S2 OR S3 OR S4 OR S5	**558,255**
7 LMICs	TX(afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d'ivoire" OR "cote d' ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR	**802,956**

	burma OR namibia OR nepal OR "netherlands antilles" OR nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR phillippines OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*"	

	OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR "deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging economies" OR "emerging nation*")	
8 LMICs	TX(afghan OR afghans OR afghani OR albanian* OR algerian* OR "american samoan*" OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR bhutanese OR bolivian* OR bosnian* OR botswana OR batswana OR brazilian* OR brasilian* OR bulgarian* OR burkinabe OR burkinese OR burundian* OR "cape verdean*" OR "cabo verdean*" OR cambodian* OR khmer OR cameroonian* OR "central african*" OR chadian* OR chilean* OR chinese OR colombian* OR comorian* OR congolese OR "costa rican*" OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR	**618,332**

	ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new guinean*" OR paraguayan* OR peruvian* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*")	

9 LMICs	S7 OR S8	**1,067.023**
10	S1 AND S6 AND S9	200
11 Publicatio n date	2000-present	200

Database name: Education Resources Information Center (ERIC)
Platform: ProQuest
Date searched: June 27, 2026
Number of results: 54

1 HPV vaccine	TITLE,ABSTRACT,IF(("human papillomavirus*" OR "human papilloma virus*" OR hpv*)) AND (MAINSUBJECT.EXACT.EXPLODE("Immunization Programs") OR TITLE,ABSTRACT,IF(vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*))	170
2 Traditiona l and religious leaders	MAINSUBJECT.EXACT.EXPLODE("Clergy") OR TITLE,ABSTRACT,IF(((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR	**70,672**

	archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant)	
3 Language-specific terms	TITLE,ABSTRACT,IF(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)	**2,765**
4 Faith communit y	MAINSUBJECT.EXACT.EXPLODE("Churches") OR TITLE,ABSTRACT,IF(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) NEAR/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)	**10,065**
5 Healthcar e workers	MAINSUBJECT.EXACT.EXPLODE("Health Personnel") OR TITLE,ABSTRACT,IF(((health* OR medical OR clinical) NEAR/0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)	**61,727**

6	[S2] OR [S3] OR [S4] OR [S5]	**140,485**
7	[S1] AND [S6]	54
8 Publication date	2000-present	54

Database name: CINAHL
Platform: EBSCO
Date searched: July 1, 2026
Number of results: 281

1 HPV vaccine	XB (("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*))	7,882
2 Traditional and religious leaders	XB(((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant)	73,900

3 Language-specific terms	XB (Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)	2,823
4 Faith community	XB (church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) NEAR/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)	11,621
5 Healthcare workers	XB (((health* OR medical OR clinical) N0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)	1,092,177
6	S5 OR S4 OR S3 OR S2	1,159,194
7 LMICs	XB (afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland	438,794

	OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d'ivoire" OR "cote d' ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR phillippines OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR	

	ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*" OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR	

	"deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging economies" OR "emerging nation*")	
8 LMICs	XB (afghan OR afghans OR afghani OR albanian* OR algerian* OR "american samoan*" OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR bhutanese OR bolivian* OR bosnian* OR botswana OR batswana OR brazilian* OR brasilian* OR bulgarian* OR burkinabe OR burkinese OR burundian* OR "cape verdean*" OR "cabo verdean*" OR cambodian* OR khmer OR cameroonian* OR "central african*" OR chadian* OR chilean* OR chinese OR colombian* OR comorian* OR congolese OR "costa rican*" OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR	361,350

	libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new guinean*" OR paraguayan* OR peruvian* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*")	
9 LMICs	S8 OR S7	664,425
10 Final search	S6 AND S1 AND S9	281

Database name: Embase
Platform: Embase
Date searched: July 2, 2026
Number of results: 4006

1 HPV vaccine	('human papillomavirus*' OR 'human papilloma virus*' OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*)	42,592
2 Traditional and religious leaders	((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR 'faith leader*' OR 'faith-based leader*' OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR 'pastors'/exp OR pastors OR catechist* OR reverend* OR sheikh* OR 'clergy'/exp OR clergy OR 'cleric'/exp OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR 'council of elders' OR 'gram pradhan' OR 'gram panchayat' OR sarpanch OR mukhiya OR 'village assembly' OR 'sangguiniang barangay' OR 'barangay council' OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR 'medicine man'/exp OR 'medicine man' OR matai OR sadhu OR mahant	13,187,535
3 Faith community	church* OR 'mosque'/exp OR mosque OR 'temple'/exp OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) NEAR/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*	350,635
4 Healthcare workers	((health* OR medical OR clinical) NEAR/0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*	6,597,120
5	#2 OR #3 OR #4	17,838,637

6 LMICs	'afghan'/exp OR afghan OR 'afghans'/exp OR afghans OR afghani OR albanian* OR algerian* OR 'american samoan*' OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR 'bhutanese'/exp OR bhutanese OR bolivian* OR bosnian* OR 'botswana'/exp OR botswana OR 'batswana'/exp OR batswana OR brazilian* OR brasilian* OR bulgarian* OR 'burkinabe'/exp OR burkinabe OR burkinese OR burundian* OR 'cape verdean*' OR 'cabo verdean*' OR cambodian* OR khmer OR cameroonian* OR 'central african*' OR chadian* OR chilean* OR 'chinese'/exp OR chinese OR colombian* OR comorian* OR 'congolese'/exp OR congolese OR 'costa rican*' OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR 'equatorial guinean*' OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR 'fijian'/exp OR fijian OR 'gabonese'/exp OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR 'bissau guinean*' OR 'guyanese'/exp OR guyanese OR haitian* OR honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR 'north korean*' OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR 'lebanese'/exp OR lebanese OR lesothan* OR lesothonian* OR mosotho OR 'basotho'/exp OR basotho OR liberian* OR libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR 'maltese'/exp OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR 'mongol'/exp OR mongol OR moroccan* OR mozambican* OR 'burmese'/exp OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR 'nepalese'/exp OR nepalese OR 'netherlands antillean*' OR nicaraguan* OR nigerien* OR nigerian* OR 'northern mariana islander*' OR mariana* OR	6,328,463

	omani* OR pakistani* OR palauan* OR 'papua new guinean*' OR paraguayan* OR peruvian* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR 'rwandese'/exp OR rwandese OR ruandan* OR ruandese OR samoan* OR 'sao tomean*' OR santomean* OR 'saudi arabian*' OR saudi* OR 'senegalese'/exp OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR 'sierra leonean*' OR slovak* OR slovene* OR 'solomon islander*' OR somali* OR 'south african*' OR 'sri lankan*' OR ceylonese OR 'saint lucian*' OR vincentian* OR 'sudanese'/exp OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR 'thai'/exp OR thai OR timorese* OR 'togolese'/exp OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR 'turkish'/exp OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR 'vietnamese'/exp OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR 'pacific islander*' OR 'latin american*' OR 'central american*' OR 'south american*' OR caribbean* OR 'west indian*' OR iberoamerican* OR 'middle eastern*'	
7 Final search	#1 AND #5 AND #6	4,006

Database name: Centre for Agricultural Bioscience International (CABI)
Platform: CABI Digital Library
Date searched: July 1, 2026
Number of results: 464

1 HPV vaccine	ab:((("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*)))	11713

2 Traditional and religious leaders	ab:((((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant))	288,960
3 Language-specific terms	(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR	200,885

	Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)	
4 Faith community	(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) NEAR/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)	35,821
5 Healthcare workers	ab:((((health* OR medical OR clinical) NEAR/0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*))	268,545

6	(ab:((((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant))) OR ((Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)) OR	771,416

	((church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) NEAR/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)) OR (ab:((((health* OR medical OR clinical) NEAR/0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)))	

7 LMICs	ab:((afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d'ivoire" OR "cote d' ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR	5,764

	nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR phillippines OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under	

	developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*" OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR "deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging economies" OR "emerging nation*"))	

8 LMICs	ab:((afghan OR afghans OR afghani OR albanian* OR algerian* OR "american samoan*" OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR bhutanese OR bolivian* OR bosnian* OR botswana OR batswana OR brazilian* OR brasilian* OR bulgarian* OR burkinabe OR burkinese OR burundian* OR "cape verdean*" OR "cabo verdean*" OR cambodian* OR khmer OR cameroonian* OR "central african*" OR chadian* OR chilean* OR chinese OR colombian* OR comorian* OR congolese OR "costa rican*" OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new guinean*" OR paraguayan* OR peruvian* OR philippine*	1,702,665

	OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*"))	

9 LMICs	(ab:((afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d'ivoire" OR "cote d' ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR	1,705,821

	nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR phillippines OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under	

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	cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new guinean*" OR paraguayan* OR peruvian* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan*	

	OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*")))	

10 Final search	(ab:((("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*)))) AND ((ab:((((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant))) OR ((Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR	464

	Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)) OR ((church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) NEAR/2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)) OR (ab:((((health* OR medical OR clinical) NEAR/0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)))) AND ((ab:((afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d’ivoire" OR "cote d’ ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz	

	republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR phillippines OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR	

	"south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*" OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR "deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging	

	economies" OR "emerging nation*"))) OR (ab:((afghan OR afghans OR afghani OR albanian* OR algerian* OR "american samoan*" OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR bhutanese OR bolivian* OR bosnian* OR botswana OR batswana OR brazilian* OR brasilian* OR bulgarian* OR burkinabe OR burkinese OR burundian* OR "cape verdean*" OR "cabo verdean*" OR cambodian* OR khmer OR cameroonian* OR "central african*" OR chadian* OR chilean* OR chinese OR colombian* OR comorian* OR congolese OR "costa rican*" OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new	

	guinean*" OR paraguayan* OR peruvian* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*"))))	

Database name: EconLit

Platform: EBSCO

Date searched: July 1, 2026

Number of results: 2

1 HPV vaccine	AB (("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*))	41
2 Traditional and religious leaders	AB (((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR	15,516

	"gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant)	
3 Language-specific terms	(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)	4,246
4 Faith community	(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) N2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)	7,069
5 Healthcare workers	(((health* OR medical OR clinical) N0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)	11,960
6	S5 OR S4 OR S3 OR S2	38,073

7 LMICs	(afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d'ivoire" OR "cote d' ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR phillippines	434,050

	OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*" OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income	

	nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR "deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging economies" OR "emerging nation*")	
8 LMICs	(afghan OR afghans OR afghani OR albanian* OR algerian* OR "american samoan*" OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR bhutanese OR bolivian* OR bosnian* OR botswana OR batswana OR brazilian* OR brasilian* OR bulgarian* OR burkinabe OR burkinese OR burundian* OR "cape verdean*" OR "cabo verdean*" OR cambodian* OR khmer OR cameroonian* OR "central african*" OR chadian* OR chilean* OR chinese OR colombian* OR comorian* OR congolese OR "costa rican*" OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR	306,065

	honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new guinean*" OR paraguayan* OR peruvian* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*")	
9 LMICs	S7 OR S8	526,338
10 Final search	S1 AND S6 AND S9	2

Database name: Africa Wide Information
Platform: EBSCO
Date searched: July 6, 2026
Number of results: 326

1 HPV vaccine	AB (("human papillomavirus*" OR "human papilloma virus*" OR hpv*) AND (vaccin* OR shot* OR injection* OR jab* OR dose* OR booster* OR immunization* OR immuniz* OR immunisation* OR immunis* OR inoculat*))	9,144
2 Traditional and religious leaders	AB (((traditional OR village* OR trib* OR clan* OR religious OR church OR spiritual OR faith) NEAR/2 (leader* OR chief* OR head OR heads OR healer* OR headman OR headmen OR headwoman OR headwomen OR headperson OR elder OR elders)) OR "faith leader*" OR "faith-based leader*" OR king* OR queen* OR priest* OR imam* OR bishop* OR pastor OR pastors OR catechist* OR reverend* OR sheikh* OR clergy OR cleric OR rabbi* OR deacon* OR minister* OR chaplain* OR "council of elders" OR "gram pradhan" OR "gram panchayat" OR sarpanch OR mukhiya OR "village assembly" OR "sangguiniang barangay" OR "barangay council" OR shaman* OR sangoma* OR inyanga* OR babalawo OR dibia OR marabout* OR mullah* OR mufti* OR ayatollah* OR ulema OR ulama OR qadi OR archbishop* OR cantor* OR monk* OR nun* OR guru* OR swami* OR pandit* OR pujari* OR granthi* OR lama* OR rinpoche* OR bonze* OR sultan* OR oba OR emir* OR "medicine man" OR matai OR sadhu OR mahant)	85,735

3 Language-specific terms	(Ikosi OR Kumkani OR "Inkosi Enkhulu" OR Morena OR "Morena e Moholo" OR "Kgosi Kgolo" OR "Hosi Nkhulu" OR Ngwenyama OR "Hosi Enkulu" OR Inkosi OR Inkosi OR Kgoshi OR Morena OR Kgosi OR Hosi OR Sikhulu OR Hosi OR Umnumzana OR Induna OR Morenana OR "Monga-motse" OR Kgosana OR Vhothovhele OR Vhamusanda OR Umnumzane OR Ndhuna OR Inyanga OR Isangoma OR Igqirha OR Ixwele OR Isangoma OR Ngaka OR Matwetwe OR Nanga OR Maine OR Indaba OR Lekgotla OR Mambo OR Mfumu OR Omukwaniilwa OR Ishe OR Mfumu OR Omusamane OR "N'anga" OR "Sing'anga" OR Ombapala OR Mambo OR Oba OR Eze OR Igwe OR Obi OR Asantehene OR Nana OR Ishe OR Oloye OR Ichie OR "N'anga" OR Babalawo OR Dibia OR Okomfo OR Kabaka OR Sultan OR Mfalme OR Mokonzi OR Katikkiro OR Mwenyekiti OR Mokinzi OR Omusawo OR Mganga OR Nganga OR Amghar OR Ameqran OR Amenokal OR Malik OR Amghar OR Ameqran OR Amghar OR Shaykh OR Qaid OR Tajmaat OR Ameni OR Ameney OR "Majlis al-Hukama" OR "Jama'a" OR Amessan OR Amessan OR "Tabib taqlidi" OR Mrabt)	3,275
4 Faith community	(church* OR mosque OR temple OR ((religion* OR religious OR faith* OR spiritual OR spirituality) N2 (communit* OR organization* OR organisation* OR group* OR network* OR association* OR institution* OR actor* OR representative*)) OR congregation* OR parish* OR parishioner* OR masjid* OR synagogue* OR gurdwara*)	13,482
5 Healthcare workers	(((health* OR medical OR clinical) N0 (worker* OR personnel OR professional* OR staff OR practitioner* OR provider*)) OR physician* OR doctor* OR clinician* OR nurs* OR midwi*)	1,267,081
6	S5 OR S4 OR S3 OR S2	1,344,830

7 LMICs	(afghanistan OR albania OR algeria OR angola OR argentina OR armenia OR armenian OR azerbaijan OR bahrain OR bangladesh OR belarus OR byelarus OR belorussia OR byelorussian OR belize OR benin OR dahomey OR bhutan OR bolivia OR "bosnia and herzegovina" OR bosnia OR herzegovina OR botswana OR bechuanaland OR brazil OR brasil OR "burkina faso" OR "burkina fasso" OR burundi OR urundi OR "cabo verde" OR "cape verde" OR cambodia OR kampuchea OR cameroon OR cameron OR cameroun OR "central african republic" OR "ubangi shari" OR chad OR china OR colombia OR comoros OR "comoro islands" OR "iles comores" OR mayotte OR congo OR "cote d'ivoire" OR "cote d' ivoire" OR "cote divoire" OR "cote d ivoire" OR "ivory coast" OR cuba OR cyprus OR djibouti OR "french Somaliland" OR dominica OR "dominican republic" OR ecuador OR egypt OR "united arab republic" OR "el salvador" OR eritrea OR eswatini OR swaziland OR ethiopia OR fiji OR gabon OR "gabonese republic" OR gambia OR "georgia (republic)" OR georgian OR ghana OR "gold coast" OR grenada OR guatemala OR guinea OR "british guiana" OR haiti OR hispaniola OR honduras OR india OR indonesia OR timor OR iran OR iraq OR "isle of man" OR jamaica OR jordan OR kazakhstan OR kazakh OR kenya OR "north korea" OR kosovo OR kyrgyzstan OR kirghizia OR kirgizstan OR "kyrgyz republic" OR kirghiz OR laos OR "lao pdr" OR "lao people's democratic republic" OR lebanon OR "lebanese republic" OR lesotho OR basutoland OR liberia OR libya OR "libyan arab Jamahiriya" OR macedonia OR madagascar OR "malagasy republic" OR malawi OR nyasaland OR malaysia OR "malay federation" OR "malaya federation" OR maldives OR "indian ocean islands" OR "indian ocean" OR mali OR micronesia OR kiribati OR "marshall islands" OR "northern mariana islands" OR palau OR tuvalu OR mauritania OR mauritius OR mexico OR moldova OR moldovian OR mongolia OR montenegro OR morocco OR ifni OR mozambique OR "portuguese east africa" OR myanmar OR burma OR namibia OR nepal OR "netherlands antilles" OR	509,064

	nicaragua OR niger OR nigeria OR muscat OR pakistan OR "papua new guinea" OR "new guinea" OR paraguay OR peru OR philippines OR philipines OR phillipines OR phillippines OR rwanda OR ruanda OR samoa OR "pacific islands" OR polynesia OR "samoan islands" OR "navigator island" OR "navigator islands" OR "sao tome and principe" OR "saudi arabia" OR senegal OR serbia OR seychelles OR "sierra leone" OR melanesia OR "solomon island*" OR "norfolk island*" OR somalia OR "south africa" OR "sri lanka" OR ceylon OR "saint lucia" OR "st. lucia" OR "saint vincent" OR "st. vincent" OR grenadines OR sudan OR suriname OR surinam OR "dutch guiana" OR "netherlands guiana" OR syria OR "syrian arab republic" OR tajikistan OR tadjikistan OR tadzhikistan OR tadzhik OR tanzania OR tanganyika OR thailand OR siam OR "timor leste" OR "east timor" OR togo OR "togolese republic" OR tonga OR tunisia OR turkey OR turkiye OR turkmenistan OR turkmen OR uganda OR ukraine OR uzbekistan OR uzbek OR vanuatu OR "new hebrides" OR venezuela OR vietnam OR "viet nam" OR "middle east" OR "west bank" OR gaza OR palestine OR yemen OR zambia OR zimbabwe OR "global south" OR africa south of the sahara OR sub-saharan africa OR subsaharan africa OR africa OR magreb OR maghrib OR sahara OR "west indies" OR caribbean OR "central america" OR "latin america" OR "south and central america" OR "south america" OR "asia, central" OR "central asia" OR "asia, northern" OR "north asia" OR "northern asia" OR "asia, southeastern" OR "southeastern asia" OR "south eastern asia" OR "southeast asia" OR "south east asia" OR "asia, western" OR "western asia" OR "europe, eastern" OR "east europe" OR "eastern europe" OR "developing country" OR "developing countries" OR "developing nation*" OR "developing population*" OR "developing world" OR "less developed countr*" OR "less developed nation*" OR "less developed population*" OR "less developed world" OR "lesser developed countr*" OR "lesser developed nation*" OR "lesser developed population*" OR "lesser developed world" OR "under developed countr*" OR "under	

	developed nation*" OR "under developed population*" OR "under developed world" OR "underdeveloped countr*" OR "underdeveloped nation*" OR "underdeveloped population*" OR "underdeveloped world" OR "middle income countr*" OR "middle income nation*" OR "middle income population*" OR "low income countr*" OR "low income nation*" OR "low income population*" OR "lower income countr*" OR "lower income nation*" OR "lower income population*" OR "underserved countr*" OR "underserved nation*" OR "underserved population*" OR "underserved world" OR "under served countr*" OR "under served nation*" OR "under served population*" OR "under served world" OR "deprived countr*" OR "deprived nation*" OR "deprived population*" OR "deprived world" OR "poor countr*" OR "poor nation*" OR "poor population*" OR "poor world" OR "poorer countr*" OR "poorer nation*" OR "poorer population*" OR "poorer world" OR "developing econom*" OR "less developed econom*" OR "lesser developed econom*" OR "under developed econom*" OR "underdeveloped econom*" OR "middle income econom*" OR "low income econom*" OR "lower income econom*" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami countr*" OR "transitional countr*" OR "emerging economies" OR "emerging nation*")	

8 LMICs	(afghan OR afghans OR afghani OR albanian* OR algerian* OR "american samoan*" OR angolan* OR antiguan* OR barbudan* OR argentine* OR argentinian* OR argentinean* OR armenian* OR azerbaijani* OR bahraini* OR bangladeshi* OR bangalees OR bajan* OR belarusian* OR byelorussian* OR belizean* OR beninese* OR bhutanese OR bolivian* OR bosnian* OR botswana OR batswana OR brazilian* OR brasilian* OR bulgarian* OR burkinabe OR burkinese OR burundian* OR "cape verdean*" OR "cabo verdean*" OR cambodian* OR khmer OR cameroonian* OR "central african*" OR chadian* OR chilean* OR chinese OR colombian* OR comorian* OR congolese OR "costa rican*" OR ivorian* OR croatian* OR cuban* OR cypriot* OR czech* OR djiboutian* OR dominican* OR ecuadorian* OR egyptian* OR salvadoran* OR "equatorial guinean*" OR equatoguinean* OR eritrean* OR estonian* OR swazi* OR swati* OR ethiopian* OR fijian OR gabonese OR gabonaise OR gambian* OR georgian* OR ghanaian* OR gibraltarian* OR greek* OR grenadian* OR guamanian* OR guatemalan* OR guinean* OR "bissau guinean*" OR guyanese OR haitian* OR honduran* OR indian* OR indonesian* OR iranian* OR iraqian* OR iraqi* OR manx OR jamaican* OR jordanian* OR kazakhstani* OR kenyan* OR kirabati OR kirabatian* OR "north korean*" OR kosovar* OR kosovan* OR kyrgyz* OR lao OR laotian* OR latvian* OR lebanese OR lesothan* OR lesothonian* OR mosotho OR basotho OR liberian* OR libyan* OR lithuanian* OR macanese OR macedonian* OR malagasy OR madagascan* OR malawian* OR malaysian* OR maldivian* OR malian* OR maltese OR marshallese* OR mauritanian* OR mauritian* OR mexican* OR micronesian* OR moldovan* OR mongolian* OR mongol OR montenegrin* OR moroccan* OR mozambican* OR burmese OR myanma OR namibian* OR nauruan* OR nepali OR nepalese OR "netherlands antillean*" OR nicaraguan* OR nigerien* OR nigerian* OR "northern mariana islander*" OR mariana* OR omani* OR pakistani* OR palauan* OR "papua new guinean*" OR paraguayan* OR peruvian* OR philippine*	419,217

	OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR rwandan* OR rwandese OR ruandan* OR ruandese OR samoan* OR "sao tomean*" OR santomean* OR "saudi arabian*" OR saudi* OR senegalese OR serbian* OR montenegrin* OR seychellois OR seychelloise* OR "sierra leonean*" OR slovak* OR slovene* OR "solomon islander*" OR somali* OR "south african*" OR "sri lankan*" OR ceylonese OR "saint lucian*" OR vincentian* OR sudanese OR surinamese* OR syrian* OR tajik* OR tajikistani* OR tanzanian* OR tanganyikan* OR thai OR timorese* OR togolese OR tongan* OR trinidadian* OR tobagonian* OR tunisian* OR turk* OR turkish OR turkmen* OR tuvaluan* OR ugandan* OR ukrainian* OR uruguayan* OR uzbek* OR vanuatu* OR venezuelan* OR vietnamese OR yemeni* OR yemenite* OR yemenese OR zambian* OR zimbabwean* OR african* OR asian* OR "pacific islander*" OR "latin american*" OR "central american*" OR "south american*" OR caribbean* OR "west indian*" OR iberoamerican* OR "middle eastern*")	
9 LMICs	S7 OR S8	770,828
10 Final search	S1 AND S6 AND S9	326

Appendix 2: Data extraction/coding tools.

Description	**Question**
Publication author	*Surname of the first author*
Publication date	*Year when the study was published*
Publication type	*What type of publication is it?*
Funding agency	*Who funded the intervention/study?*

Country	*Select*
Detailed location	*Describe the location where the study took place*
World Bank region	*Select region(s) in which the study was conducted according to the World Bank.*
World Bank income category	*Select the World Bank income classification of the country at the time of the study*
Study design	*Choose the type of study design*
Program name	*Name of the program as reported by the author/s*
Program description	*Short description of the program*
Description of the intervention	*Describe the intervention*
Number of intervention components	*Select the number of components of the intervention*
Description of the intervention components	*Brief description of intervention components*
Type of leader/institution/organisation involved in the intervention	☐ *Traditional* ☐ *Religious* ☐ *Faith-based organisation/NGO* ☐ *Healthcare worker* ☐ *Other*
Gender	☐ *Male* ☐ *Female*
Type of traditional leader engaged	*Specify the type of traditional leader engaged*
Type of religious leader engaged	*Specify the type of religious leader engaged*
Type of Faith-based organisation/NGO involved	*Specify Faith-based organisation/NGO involved/engaged*

Traditional, religious leader or faith-based organisation/NGO engagement role	*Leader engagement role/Level of authority within the intervention.* ☐ *Vaccine delivery program co-design* ☐ *Mobilisation* ☐ *Formal decision-making* ☐ *Messaging/communication* ☐ *Consultation* ☐ *Vaccination delivery* ☐ *Endorsement* ☐ *Health education* ☐ *Other*
Health-worker linkage to traditional or religious leader engagement	*Record whether the health worker role was explicitly linked to traditional or religious leader engagement, and describe the nature of this linkage.*
Nature of collaboration with traditional or religious leaders	*Describe how health workers collaborated with traditional or religious leaders, faith-based organisations, customary institutions or other community authority structures.*
Health-worker functions within the intervention	*Select and describe any health-worker functions reported: training, counselling, technical information, vaccination services, referral, follow-up, misinformation response, or other relevant activities.*
Influence of health-worker and leader interaction on outcomes or implementation	*Extract whether and how the interaction between health workers and traditional or religious leaders influenced trust, acceptance, uptake, completion, equity or implementation.*
Intervention target group	*Describe the group that received the intervention*
Target population's living environment	*Select the target population's living environment* ☐ *Rural* ☐ *Urban*

	☐ *Mixed*
Target population gender	*Select the gender-targeted population* ☐ *Male* ☐ *Female*
Target population age	*Indicate the age*
Target population school attendance status	☐ *Attend school* ☐ *Out of school*
Income of the target population	*Indicate the target population income*
Delivery location of the intervention	*Select the delivery location of the intervention* ☐ *School* ☐ *Community* ☐ *Health facility* ☐ *Mobile/outreach* ☐ *Other*
Intervention start and end date	*When did the intervention start and end*
Period of follow-up	*From the start of the intervention, how long was the follow-up period?*
Comparison	*What was the comparison group?*
Consideration of equity	*Has the study considered any form of equity?*
Equity dimension	*What dimension does the study consider?*
Cost	*Report any cost data provided or comments on cost effectiveness of the Intervention, include the authors' comments on cost data even if quantifications are not provided.*

Outcome type	*Define the outcome(s)* ☐ *Uptake* ☐ *Completion* ☐ *Acceptance* ☐ *Equity* ☐ *Trust* ☐ *Misinformation reduction* ☐ *Intention to vaccinate* ☐ *Other*
Methods	*Description of how the outcome was estimated*
Were there any differences in the measurement of this outcome between the treatment group participants and the comparison group?	☐ *Yes* ☐ *No*
Was the effect significant?	☐ *Yes* ☐ *No*
Treatment sample size	*Input a numerical value*
Control sample size	*Input a numerical value*
Type of outcome measure	☐ *Continuous* ☐ *Dichotomous*
The questions below are applicable to continuous outcomes	
Treatment group mean	*Input a numerical value*
Comparison group mean	*Input a numerical value*
Treatment group standard deviation	*Input a numerical value*
Comparison group standard deviation	*Input a numerical value*
Treatment group standard error	*Input a numerical value*
Comparison group standard error	*Input a numerical value*

T-value from the independent t-test	*Input a numerical value*
The questions below are applicable to dichotomous outcomes	
Number of participants in the treatment group who experienced a change	*Input a numerical value*
Number of participants in the comparison group who experienced a change	*Input a numerical value*
Proportion of the treatment group who experienced a change	*Input a numerical value*
Proportion of the comparison group who experienced a change	*Input a numerical value*
Adjustment of proportions	☐ *Yes* ☐ *No*
Log odds ratio	*Input a numerical value*
Standard error of the log odds ratio	*Input a numerical value*
Log odds ratio adjusted?	☐ *Yes* ☐ *No*
The questions below are applicable to regression data	
Regression coefficient (beta)	*Input a numerical value*
Standard error of beta	*Input a numerical value*
CI (lower bound) of beta	*Input a numerical value*
CI (upper bound) of beta	*Input a numerical value*
T stat	*Input a numerical value*
P value	*Input a numerical value*
Source of the data	*Include source of the data: Table, row, column and page number*

Barriers and facilitators	
Facilitators	*a) Short copied passage from text with page number* *b) Summarised in own words*
Barriers	*a) Short copied passage from text with page number* *b) Summarised in own words*

Appendix 3: Risk-of-bias assessment for the qualitative study using the CASP tool.

Paper Title:	Stakeholders' perspectives on lessons learnt from HPV mass vaccination in Nigeria
Author:	Kubura et al. (2025)
Web Link:	https://pmc.ncbi.nlm.nih.gov/articles/PMC12462204/
Appraisal Date:	September 19, 2026

Section A Are the results valid?	
1. Was there a clear statement of the aims of the research?	☐Yes ☐ No ☐ Can't Tell **Yes:** This research aims to explore the strategies deployed during the HPV vaccination project, the challenges faced, the measures taken to overcome them, and the achievements and innovative practices deployed at the state level during the program. Additionally, the study seeks to provide policy recommendations that could enhance the effectiveness of future health interventions and vaccine introduction programs in Nigeria.
CONSIDER: ● *what was the goal of the research?* ● *why was it thought important?* ● *its relevance*	

2. Is a qualitative methodology appropriate?	☐Yes ☐ No ☐ Can't Tell **Yes:** The qualitative approach was chosen because it can elicit rich, descriptive data and support an in-depth understanding of the experiences, practices, and insights of stakeholders involved in the vaccine introduction.
CONSIDER: • *If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants* • *Is qualitative research the right methodology for addressing the research goal?*	
3. Was the research design appropriate to address the aims of the research?	☐Yes ☐ No ☐ Can't Tell **Yes:** The study targeted 140 participants: 30 for Key Informant Interviews (KIIs) and 110 for In-Depth Interviews (IDIs).
CONSIDER: • *if the researcher has justified the research design (e.g., have they discussed how they decided which method to use)*	
4. Was the recruitment strategy appropriate to the aims of the research?	☐Yes ☐ No ☐ Can't Tell **Yes:** Participants were selected through purposive sampling to ensure representation across all administrative levels involved in the HPV vaccine phase 2 introduction. The selection criteria were designed to include stakeholders with direct knowledge and rich insights into the vaccine campaign. The sample comprised individuals from national, state, local government areas (LGA), and ward levels. At the national level, 3 officers who oversaw the vaccine introduction campaign. At the state level, the participants included 3 high-level officers from the State Primary Healthcare Board/Agency, 3 officers each at the LGA and ward levels, and 2 Civil Society Organisation (CSO) representatives from each of the nine states. However, other members of the Technical Working Group (TWG) that oversaw the HPV vaccine introduction campaign, such as religious leaders, were not included as participants.
CONSIDER: • *If the researcher has explained how the participants were selected*	

● *If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study* ● *If there are any discussions around recruitment (e.g. why some people chose not to take part)*	
5. Was the data collected in a way that addressed the research issue?	☐Yes ☐ No ☐ Can't Tell **Yes:** The study targeted 140 participants: 30 for Key Informant Interviews (KIIs) and 110 for In-Depth Interviews (IDIs). The authors carefully selected these participants for their rich insights during implementation, ensuring comprehensive coverage of the study objectives.
CONSIDER: ● *If the setting for the data collection was justified* ● *If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)* ● *If the researcher has justified the methods chosen* ● *If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide)* ● *If methods were modified during the study. If so, has the researcher explained how and why* ● *If the form of data is clear (e.g. tape recordings, video material, notes etc.)* ● *If the researcher has discussed saturation of data*	
6. Has the relationship between researcher and participants been adequately considered?	☐Yes ☐ No ☐ Can't Tell **Yes:** Reflexivity was integrated into every stage of the research process to assess the researchers' impact on data collection, analysis, and interpretation. The multidisciplinary team, including public health professionals, qualitative researchers, statisticians, independent researchers, and experts in vaccination campaigns, engaged in systematic reflexivity practices.
CONSIDER: ● *If the researcher critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location* ● *How the researcher responded to events during the study and whether they considered the implications of any changes in the research design*	
Section B: What are the results?	

7. Have ethical issues been taken into consideration?	☐Yes ☐ No ☐ Can't Tell **Yes:** The National Health Research Ethics Committee (NHREC) reviewed and approved the study protocol. The study upheld confidentiality and data protection measures.
CONSIDER: • *If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained* • *If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)* • *If approval has been sought from the ethics committee*	
8. Was the data analysis sufficiently rigorous?	☐Yes ☐ No ☐ Can't Tell **Yes:** The research team transcribed participants' audio responses verbatim. The research team developed a codebook, and imported the transcripts into Dedoose for coding and analysis. Thematic analysis was employed to identify patterns and insights from the data; an initial coding was conducted in Dedoose to identify meaningful units of information, which were then grouped into broader categories within the software. Relationships between categories were examined to form overarching themes.
CONSIDER: • *If there is an in-depth description of the analysis process* • *If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data* • *Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process* • *If sufficient data are presented to support the findings* • *To what extent contradictory data are taken into account* • *Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation*	
9. Is there a clear statement of findings?	☐Yes ☐ No ☐ Can't Tell **Yes:** The campaign successfully raised awareness and increased vaccination coverage across the nine targeted states. Effective strategies included leveraging cultural sensitivity, utilising trained health workers, and employing data-driven micro plans to address logistical challenges. Despite these successes, we encountered significant challenges. Vaccine hesitancy

	fueled by misinformation about sterility, limited resources, security concerns, and difficulties accessing remote areas posed barriers to achieving wider coverage
CONSIDER: ● *If the findings are explicit* ● *If there is adequate discussion of the evidence both for and against the researcher's arguments* ● *If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)* ● *If the findings are discussed in relation to the original research question*	
Section C: Will the results help locally?	
10. How valuable is the research?	☐Yes ☐ No ☐ Can't Tell Yes: The findings highlight critical lessons for future vaccination programs. Early planning, proactive social mobilisation, effective rumour management, and leveraging community networks were instrumental in enhancing vaccine acceptance and coverage. These strategies serve as a model for overcoming barriers to public health interventions and should be prioritised in future efforts to improve HPV and other vaccination programs in Nigeria.
CONSIDER: • *If the researcher discusses the contribution the study makes to existing knowledge or understanding (e.g., do they consider the findings in relation to current practice or policy, or relevant research-based literature* • *If they identify new areas where research is necessary* • *If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used*	

APPRAISAL SUMMARY: *List key points from your critical appraisal that need to be considered when assessing the validity of the results and their usefulness in decision-making.*		
Positive/methodologically sound	**Negative/relatively poor methodology**	**Unknowns**
Detailed and relevant research aims Sound qualitative research methods employed	Perspectives largely limited to implementers Religious leaders were not involved as participants, and yet they were part of the vaccine introduction team.	It's unclear how many potential participants declined to participate in the study.

Purposive sampling including people at different levels The use of verbatim quotes is sound The study was approved.	Causal language about the programme's impact on increasing coverage exceeds what a qualitative study can establish.	

Appendix 4: Full list of included studies with citations.

Azale, T. et al. (2026) “Bridging the gap: disparities in HPV vaccine uptake between in-school and out-of-school girls following a demand generation intervention in Ethiopia: a cross-sectional study,” Vaccines, 14(5), p. 405. Available at: https://doi.org/10.3390/vaccines14050405.

Dorji, T. et al. (2015) “Introduction of a national HPV vaccination program into Bhutan,” Vaccine, 33, pp. 3726–3730. Available at: https://doi.org/10.1016/j.vaccine.2015.05.078.

Egbon, M. et al. (2022) “Challenges and lessons from a school-based human papillomavirus (HPV) vaccination program for adolescent girls in a rural Nigerian community,” BMC Public Health, 22, p. 1611. Available at: https://doi.org/10.1186/s12889-022-13975-3.

Haddison, E.C. et al. (2025) “Overcoming HPV vaccine hesitancy: insights from a successful school-based vaccination campaign in the Saa health district of Cameroon,” BMC Infectious Diseases, 25, p. 465. Available at: https://doi.org/10.1186/s12879-025-10864-z.

Kubura, D. et al. (2025) “Stakeholders’ perspectives on lessons learnt from HPV mass vaccination in Nigeria,” BMC Public Health, 25, p. 3062. Available at: https://doi.org/10.1186/s12889-025-24418-0.

Moodley, I. et al. (2013) “High uptake of Gardasil vaccine among 9–12-year-old schoolgirls participating in an HPV vaccination demonstration project in KwaZulu-Natal, South Africa,” South African Medical Journal, 103(5), pp. 318–321. Available at: https://doi.org/10.7196/SAMJ.6414.

Njoh, A.A. et al. (2025) “Overcoming challenges and achieving high HPV vaccination uptake in Cameroon: lessons learned from a gender-neutral and single-dose program and community engagement,” BMC Public Health, 25, p. 1696. Available at: https://doi.org/10.1186/s12889-025-22776-3.

Ogembo, J.G. et al. (2014) “Achieving high uptake of human papillomavirus vaccine in Cameroon: lessons learned in overcoming challenges,” Vaccine, 32, pp. 4399–4403. Available at: https://doi.org/10.1016/j.vaccine.2014.06.064.

Appendix 5. Full list of excluded studies, with reasons

No deliberate relevant intervention (HPV programme and traditional, religious leaders with healthcare workers

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