



Report: Living Evidence Repository and Evidence Maps on Human Papillomavirus Vaccines Delivery

Version 2.0

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Contributions

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Background and Objectives

Despite the proven efficacy of the human papillomavirus (HPV) vaccines in preventing cervical and other cancers, global coverage remains suboptimal. Challenges in HPV vaccine delivery, accessibility, effectiveness, feasibility, equity and vaccine hesitancy persist across various regions, especially in low- and middle-income countries (1,2). This living repository of evidence on HPV vaccine delivery and the evidence maps based on the repository are developed collaboratively to reflect the priorities of the HPV Living Evidence Partnership community ([HPV Living Evidence Partnership](#)). The repository will be continually updated. Based on current funding, we anticipate that the last update will be in early 2027.

- **Goal:** To provide a comprehensive HPV vaccine delivery evidence repository, and maps that identify available evidence and implementation gaps, with the goal of informing policy change and guiding strategic decision-making.
- **Objectives:**
 1. Identify and describe evidence on HPV vaccine delivery and (not screening or disease burden), and evidence that informs planning, implementation, and coordination.
 2. Highlight gaps in research and practice to guide future studies and interventions.
 3. Support policymakers, public health practitioners, and researchers with an organised repository of evidence.

Scope

This repository focuses exclusively on evidence related to the delivery of HPV vaccination in low- and middle-income countries.

Thematic focus:

- Delivery strategies (e.g., school-based, outreach, facility-based)
- Health systems readiness, training and infrastructure

- Demand generation and communication
- Monitoring and data systems for HPV vaccine delivery
- Coordination and implementation structures
- Equity and gender within delivery contexts, including barriers to delivery to, for example, adolescent girls or marginalised groups
- Vaccine choice

Geographical focus:

- Low and middle-income countries

1. Study types

Inclusion

The repository includes all empirical study designs, including but is not limited to:

- Surveys/cross-sectional studies
- Case studies
- Systematic reviews
- Narrative reviews
- Review of reviews
- Evidence maps
- Cohort studies
- Qualitative studies
- Modeling studies
- Impact evaluations
- Costing studies
- Randomised trials
- Pre-post studies
- Implementation research

Exclusion

- Opinion pieces without empirical data, for example, editorials.

2. Publication status

Inclusion

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

Exclusion

- Press releases
- Abstracts
- Ongoing studies

3. Topics

Inclusion

- Delivery strategies (e.g., school-based, outreach, facility-based)
- Health systems readiness, training and infrastructure
- Demand generation and communication
- Monitoring and data systems for HPV vaccine delivery
- Coordination and implementation structures

- Equity and gender within delivery contexts, including barriers to delivery to, for example, adolescent girls or marginalised groups
- Vaccine choice, including efficacy, safety

Exclusion

- Studies focusing only on disease burden or HPV prevalence/incidence data
- Studies solely focused on screening or treatment of cervical cancer

4. Participants

Inclusion

- Girls - all ages
- Boys - all ages
- Parents
- Healthcare workers
- Interest holders

Exclusion

- None

5. Geographical scope

Inclusion

- Low and middle income countries

Exclusion

- High income countries

6. Language

Inclusion

- English
- French

Exclusion

- Languages other than English and French

Methodology

1. Search Strategy

We searched the following databases: Google Scholar, iris.who.int, globalindexmedicus.net, OpenAlex, PubMed, nitag-resource.org/compendium/hpv and Technet-21

For objective 1: (("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("delivery strateg*" OR "implementation strateg*" OR "vaccination program*" OR "service delivery" OR "health system*" OR "school-based vaccination" OR "community-based vaccination" OR "outreach program*") AND ("LMIC" OR "low- and middle-income countr*" OR "developing countr*" OR "Sub-Saharan Africa" OR "South Asia"))

For objective 2: (("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("research gap*" OR "evidence gap*" OR "implementation gap*" OR "knowledge gap*" OR "barriers" OR "challenges" OR "lessons learned" OR "unmet need*") AND ("LMIC" OR "low- and middle-income countr*" OR "developing countr*" OR "Sub-Saharan Africa" OR "South Asia"))

For objective 3: (("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("policy" OR "guideline*" OR "recommendation*" OR "best practice*"))

OR "program evaluation" OR "implementation outcome*" OR "equity" OR "gender" OR "demand generation" OR "communication strateg*" OR "monitoring system*" OR "program sustainability" OR "vaccine uptake") AND ("LMIC" OR "low- and middle-income countr*" OR "developing countr*" OR "Sub-Saharan Africa" OR "South Asia"))

French Search Strings

1. (Vaccin contre le HPV OR Vaccin contre le VPH OR vaccin contre le virus du papillome humain OR vaccin contre le cancer du col de l'utérus) AND (livraison OR planification OR mise en œuvre OR coordination OR déploiement OR campagne) NOT (dépistage du cancer OR fardeau de la maladie OR choix vaccinal)

2. "Vaccination contre le VPH" OR "Vaccin contre le VPH"

3. VACCIN VPH filetype:pdf

The updated searches covered from August, 2025 to December, 2025.

Please see Appendix 1 for the full search strategies.

4. Screening

We did an initial screening by title/abstract; eligible references were then screened based on the full text.

Differences in screening were reconciled and decisions made by a third reviewer where required. Percentage agreement was on average 87.69% with a range (76.92% to 96.77%) for the screened records.

Initial screening by title/abstract.

References identified through the search were imported into EPPI Reviewer, a web-based software program for managing and analysing data in all types of systematic reviews (3). Duplicate records were automatically identified through the built-in deduplication algorithm to ensure only unique references proceed to the screening stage. References with missing abstracts were identified, and missing abstracts were added manually where available.

An initial subset (10%) of references (79) was double-screened by pairs of human reviewers to ensure consistency in the screening criteria and guidance. A further 30% of records was double-screened to serve as a "ground truth" dataset to compare to the performance of the LLM

The prompt from v1 of the map was applied to 10% groups of records that had been double-screened by reviewers and performance in terms of recall, the ability of the model to identify true positives, was assessed. The prompts were iteratively developed and tested on the manually screened records in groups of 10% up to 40% to ensure their accuracy and alignment with the human decisions. When acceptable and consistent recall, between 95-100%, was achieved, the LLM was applied to all unscreened records. A 10% check by an expert reviewer was done on the records only screened by the LLM to ensure that a high recall persisted.

The final prompt used for screening using LLM model GPT-4.1 was "is_about_HPV_vaccine_delivery_uptake_or_perceptions: boolean // Return true if this record reports a primary empirical study about HPV vaccine delivery, uptake, or acceptance, published in English or French.

Eligible studies include those on:

- delivery strategies (e.g., school-based delivery, outreach, facility-based delivery, single-dose vs. multi-dose delivery, integration with other programmes);
- uptake, acceptance, or awareness (e.g., barriers and facilitators, parental or provider perceptions, community attitudes, gender and equity issues);
- health system readiness and capacity (e.g., infrastructure, workforce training, coordination, physician recommendations);
- economic and logistical aspects (e.g., vaccine cost-effectiveness, affordability, financing, monitoring and evaluation of programmes).
- grey literature reports from reputable sources (e.g., WHO, UNICEF, GAVI)

Return false if the study is primarily about HPV or cervical cancer screening/testing, treatment or prevalence rather than vaccination, if it is an editorial/commentary/opinion piece. "

All references screened using the LLM were checked by a human reviewer to evaluate the accuracy of the LLM results. All included references by the human reviewers and the LLM were then screened at the full text level.

Please see appendix 2 for coding tools.

Full-text screening

We retrieved full texts for references included at the title/abstract level from the Zotero plugin to the EPPI Reviewer software; any full texts not found were searched for and added manually where available.

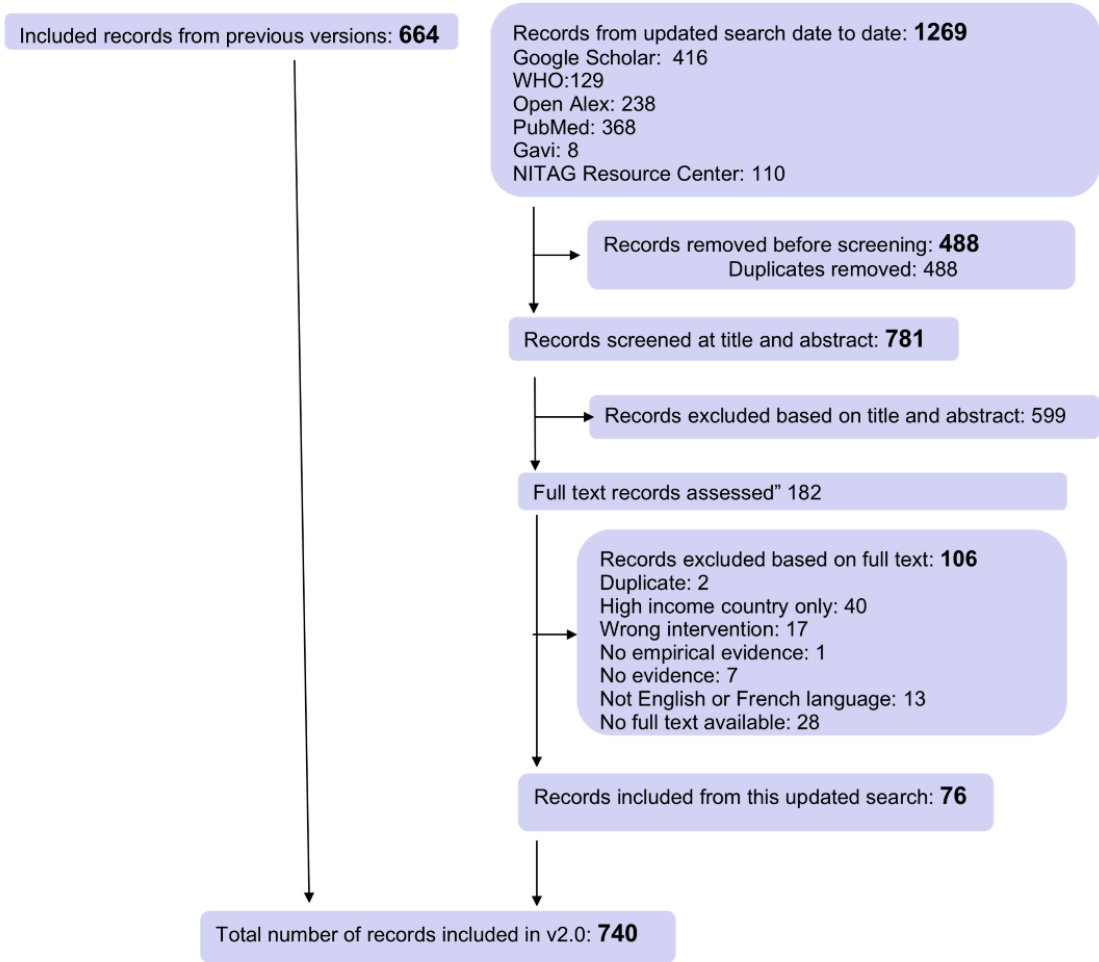
Items were screened on full text by groups of individual reviewers with a second reviewer checking all coding decisions. Any disagreement was solved by discussion or by involving a third reviewer. Automation was not used for full-text screening, and references included at the full-text screening progressed to data extraction.

5. Data extraction

Data extraction occurred automatically within EPPI Reviewer by creating individual LLM prompts for each code (see Appendix 2). We extracted data using model GPT-4.1., 20% of the records with extracted data were double checked by humans. An expert reviewer double coding a select number of records to ensure consistency across human reviewers. Data were extracted on the following variables: Country or regional focus, Continent, World Bank Region, WHO Region, UNICEF Region, World Bank Income Group, Thematic Focus, Study Design, Vaccine Schedule, Delivery dose, Special Populations, Age, Sex, Delivery strategy, Delivery location, Delivery cadre, Communication and Social Mobilisation, Vaccine Logistics, Monitoring Evaluation, Equity and Access, Governance and Financing and Vaccine Types. For more details on the coding tools please see appendix 2.

Results

We identified 1,269 new records for version 2 of the repository. After screening we included 76 new records.



Data Synthesis:

- Using EPPI Mapper, we created a matrix linking thematic focus with the World Bank region.
- The evidence map is interactive. We added filters: World Bank income groups, UNCIF and WHO regions, study design, special populations, delivery dose and country. We embedded hyperlinks within the maps connecting users directly with research papers and other sources of evidence.
- We will regularly incorporate new records into the maps. The planned cadence is currently monthly.

References

1. Aggarwal S, Agarwal P, Gupta N. A comprehensive narrative review of challenges and facilitators in the implementation of various HPV vaccination programs worldwide. *Cancer Med.* 2024 Feb;13(3):e6862. doi: 10.1002/cam4.6862. Epub 2024 Jan 11. PMID: 38213086; PMCID: PMC10911072.
2. Rosser EN, Wysong MD, Rosen JG, Limaye RJ, Park S. HPV Vaccine Delivery Strategies to Reach Out-of-School Girls in Low- and Middle-Income Countries: A Narrative Review. *Vaccines.* 2025; 13(5):433. <https://doi.org/10.3390/vaccines13050433>
3. Thomas, J., Graziosi, S., Brunton, J., Ghouze, Z., O'Driscoll, P., & Bond, M. & Koryakina, A. (2023). EPPI-Reviewer: advanced software for systematic reviews, maps and evidence synthesis. EPPI Centre, UCL Social Research Institute, University College London

Appendix 1

Search strategies and results

Objective 1: Identify and describe evidence on HPV vaccine delivery and (not screening or disease burden), and evidence that informs planning, implementation, and coordination.

On the 07/08/2025 to 27/12/2025

Database/Source	Search Terms	Search Tips/Filters	Hits
Google Scholar	HPV -prevalence -incidence -treatment -choice -disease -burden -cancer -screening -America -Europe -Australia		416
https://iris.who.int/ https://www.globalindexmedicines.net	1. (("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("delivery strateg*" OR "implementation strateg*" OR "vaccination program*" OR "vaccination campaign planning" OR rollout OR coordination "service delivery" OR "health system*" OR "school-based vaccination" OR "community-based vaccination" OR "outreach program*")) AND		1. 21 2. 26

Database/Source	Search Terms	Search Tips/Filters	Hits
	<p>("LMIC" OR "low- and middle-income countr*" OR "developing countr*" OR "Sub-Saharan Africa" OR "South Asia"))</p> <p>2. hpv AND (type_of_study:("risk_factors_studies" OR "diagnostic_studies" OR "observational_studies" OR "etiology_studies" OR "prognostic_studies" OR "guideline" OR "qualitative_research" OR "clinical_trials" OR "evaluation_studies" OR "health_economic_evaluation" OR "systematic_reviews" OR "health_technology_assessment")) AND (year_cluster:[2025 TO 2025])</p>		
OpenAlex	<p>(HPV vaccine OR Human Papillomavirus vaccine OR cervical cancer vaccine) AND (delivery OR planning OR implementation OR coordination OR rollout OR campaign) NOT (cancer</p>		171

Database/Source	Search Terms	Search Tips/Filters	Hits
	screening OR disease burden OR vaccine choice)		
Pubmed	(("Papillomavirus Vaccines"[MeSH] OR "HPV vaccine"[tw] OR "human papillomavirus vaccine"[tw] OR "cervical cancer vaccine"[tw]) AND ("Immunization Programs"[MeSH] OR "vaccination"[MeSH] OR "vaccine delivery"[tw] OR "vaccine strategy"[tw] OR "vaccination program"[tw] OR "immunization strategy"[tw] OR "delivery model"[tw] OR "delivery approach"[tw] OR "vaccine rollout"[tw] OR "outreach program"[tw] OR "vaccination campaign planning"[tw] OR rollout[tw] OR coordination[tw]) AND ("Adolescent"[MeSH] OR "youth"[tw] OR "teenagers"[tw] OR "girls aged 9-14"[tw] OR "school-aged children"[tw] OR "students"[tw] OR "female adolescents"[tw] OR "caregivers"[tw] OR "parents"[tw] OR "school personnel"[tw] OR "teachers"[tw] OR "health personnel"[MeSH] OR "nurses"[tw] OR "community health workers"[tw]) AND		246

Database/Source	Search Terms	Search Tips/Filters	Hits
	("Program Evaluation"[MeSH] OR "Vaccination Coverage"[MeSH] OR "uptake"[tw] OR "effectiveness"[tw] OR "acceptability"[tw] OR "reach"[tw] OR "participation"[tw] OR "completion"[tw])		
Total for objective 1			880

Objective 2: Highlight gaps in research and practice to guide future studies and interventions.

Database/Source	Search Terms	Search Tips/Filters	Hits
https://iris.who.int/	("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("research gap*" OR "knowledge gap*" OR "evidence gap*" OR "research need*" OR "challenge*" OR "barrier*" OR "limitation*" OR "understudied" OR "unexplored" OR "future research") AND ("high-burden setting" OR "conflict-affected area" OR "urban slum" OR "remote rural" OR "weak health infrastructure" OR "vaccine hesitancy" OR "gender norms" OR "cultural resistance" OR "community trust" OR "rumor" OR "misinformation" OR "religious opposition" OR "health worker confidence" OR "digital readiness" OR "cold chain reliability" OR "1-dose schedule" OR "catch-up vaccination" OR "missed opportunity vaccination" OR "equity in coverage" OR "cost per fully vaccinated girl" OR "disease burden reduction" OR "DALYs averted" OR "QALYs gained" OR "lives saved")		35

Database/Source	Search Terms	Search Tips/Filters	Hits
OpenAlex	(("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("research gap*" OR "evidence gap*" OR "implementation gap*" OR "knowledge gap*" OR "barriers" OR "challenges" OR "lessons learned" OR "unmet need*")) AND ("LMIC" OR "low- and middle-income countr*" OR "developing countr*" OR "Sub-Saharan Africa" OR "South Asia"))		32
Pubmed	("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("research gap*" OR "knowledge gap*" OR "evidence gap*" OR "research need*" OR "challenge*" OR "barrier*" OR "limitation*" OR "understudied" OR "unexplored" OR "future research") AND ("high-burden setting" OR "conflict-affected area" OR "urban slum" OR "remote rural" OR "weak health infrastructure" OR "vaccine hesitancy" OR "gender norms" OR "cultural resistance" OR "community trust" OR "rumor" OR		90

Database/Source	Search Terms	Search Tips/Filters	Hits
	"misinformation" OR "religious opposition" OR "health worker confidence" OR "digital readiness" OR "cold chain reliability" OR "1-dose schedule" OR "catch-up vaccination" OR "missed opportunity vaccination" OR "equity in coverage" OR "cost per fully vaccinated girl" OR "disease burden reduction" OR "DALYs averted" OR "QALYs gained" OR "lives saved")		
Total 2			157

Objective 3: Support policymakers, public health practitioners, and researchers with an organized repository of evidence.

Database/Source	Search Terms	Search Tips/Filters	Hits
https://iris.who.int/	(("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("policy" OR "guideline*" OR "recommendation*" OR "best practice*" OR "program evaluation" OR "implementation outcome*" OR "equity" OR "gender" OR "demand generation" OR "communication strateg*" OR "monitoring system*" OR "program sustainability" OR "vaccine uptake") AND ("LMIC" OR "low- and middle-income countr*" OR "developing countr*" OR "Sub-Saharan Africa" OR "South Asia"))		21
OpenAlex	(("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("policy" OR "guideline*" OR "recommendation*" OR "best practice*" OR "program evaluation" OR "implementation outcome*" OR "equity" OR "gender" OR "demand generation" OR "communication strateg*" OR "monitoring system*" OR "program sustainability" OR "vaccine uptake")		35

Database/Source	Search Terms	Search Tips/Filters	Hits
	AND ("LMIC" OR "low- and middle-income countr*" OR "developing countr*" OR "Sub-Saharan Africa" OR "South Asia"))		
Pubmed	<p>1. (("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("policy" OR "guideline*" OR "recommendation*" OR "best practice*" OR "program evaluation" OR "implementation outcome*" OR "equity" OR "gender" OR "demand generation" OR "communication strateg*" OR "monitoring system*" OR "program sustainability" OR "vaccine uptake") AND ("LMIC" OR "low- and middle-income countr*" OR "developing countr*" OR "Sub-Saharan Africa" OR "South Asia"))</p> <p>2. ("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination") AND ("school-based delivery" OR</p>		<p>1. 24</p> <p>2. 8</p>

Database/Source	Search Terms	Search Tips/Filters	Hits
	<p>"facility-based delivery" OR "outreach clinics" OR "mobile clinics" OR "hybrid delivery" OR "mass campaigns" OR "1-dose schedule" OR "2-dose schedule" OR "3-dose schedule" OR "catch-up vaccination" OR "missed opportunity vaccination" OR "series completion reminder" OR "community engagement" OR "social mobilization" OR "peer education" OR "SMS reminders" OR "media campaigns" OR "health education in schools" OR</p> <p>3. "policy mandates" OR "domestic financing" OR "Gavi support" OR "donor transition" OR "intersectoral partnership" OR "health system integration") AND ("high-burden setting" OR "conflict-affected area" OR "urban slum" OR "remote rural" OR "decentralized governance" OR "weak health infrastructure" OR "vaccine hesitancy" OR</p>		

Database/Source	Search Terms	Search Tips/Filters	Hits
	<p>"gender norms" OR "cultural resistance" OR "cervical cancer incidence" OR "HPV prevalence" OR "adolescent health platforms" OR "community trust" OR "social influencers" OR "health worker confidence" OR "digital readiness" OR "cold chain reliability" OR "school collaboration") AND ("coverage" OR "first-dose uptake" OR "completion rate" OR "dropout rate" OR "timeliness" OR "equity in coverage" OR "vaccine acceptance" OR "cost per fully vaccinated girl" OR "system efficiency" OR "disease burden reduction" OR "lives saved" OR "DALYs averted" OR "QALYs gained" OR "program sustainability" OR "policy implication*" OR "practice implication*" OR "recommendation*" OR "guideline*")</p>		

Database/Source	Search Terms	Search Tips/Filters	Hits
Total 3			88

TOTALa: Total 1 + Total 2 + Total 3: 880+157+88 =1,125

Additional searches

Site	Search string	Hits
Technet-21	("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination")	0
GAVI	("HPV vaccine" OR "human papillomavirus vaccine" OR "HPV vaccination")	8
WHO	(Human Papillomavirus Vaccine)	8
NITAG Resource Center	https://www.nitag-resource.org/compendium/hpv	110
Total 4		126

GRAND TOTAL: TOTALa + Total 4 = 1,269

Appendix 2

Coding tools

Screening on T&A

- Include on Title and Abstract
is_about_HPВ_vaccine_delivery_uptake_or_perceptions: boolean // Return true if this record reports a primary empirical study about HPV vaccine delivery, uptake, or acceptance, published in English or French.
-
- Eligible studies include those on:
 - - delivery strategies (e.g., school-based delivery, outreach, facility-based delivery, single-dose vs. multi-dose delivery, integration with other programmes);
 - - uptake, acceptance, or awareness (e.g., barriers and facilitators, parental or provider perceptions, community attitudes, gender and equity issues);
 - - health system readiness and capacity (e.g., infrastructure, workforce training, coordination, physician recommendations);
 - - economic and logistical aspects (e.g., vaccine cost-effectiveness, affordability, financing, monitoring and evaluation of programmes).
 - - grey literature reports from reputable sources (e.g., WHO, UNICEF, GAVI)
-
- Return false if the study is primarily about HPV or cervical cancer screening/testing, treatment or prevalence rather than vaccination, if it is an editorial/commentary/opinion piece.
- EXCLUDE on title & abstract
- Rationale
justification: string // Outline why this study is, or is not, about HPV vaccines.

Screen on Full Text

- EXCLUDE duplicate
- EXCLUDE on date
- EXCLUDE on country
- EXCLUDE on target group
- EXCLUDE on intervention
- EXCLUDE on evidence
- EXCLUDE on language
- EXCLUDE not empirical
- EXCLUDE no full text available
- INCLUDE on full study

Data extraction (HPV)

- Country or regional focus
 - Afghanistan
participants_from_Afghanistan: boolean // return true if participants were located in Afghanistan
 - Albania
participants_from_Albania: boolean // return true if participants were located in Albania
 - Anguilla
participants_from_Anguilla: boolean // return true if participants were located in Anguilla
 - Argentina
participants_from_Argentina: boolean // return true if participants were located in Argentina
 - Armenia
participants_from_Armenia: boolean // return true if participants were located in Armenia
 - Australia
participants_from_Australia: boolean // return true if participants were located in Australia
 - Austria
participants_from_Austria: boolean // return true if participants were located in Austria
 - Bangladesh
participants_from_Bangladesh: boolean // return true if participants were located in Bangladesh
 - Belgium
participants_from_Belgium: boolean // return true if participants were located in Belgium
 - Belize
participants_from_Belize: boolean // return true if participants were located in Belize
 - Benin
participants_from_Benin: boolean // return true if participants were located in Benin
 - Bhutan
participants_from_Bhutan: boolean // return true if participants were located in Bhutan
 - Bolivia
participants_from_Bolivia: boolean // return true if participants were located in Bolivia
 - Bosnia & Herzegovina
participants_from_Bosnia_and_Herzegovina: boolean // return true if participants were located in Bosnia and Herzegovina
 - Botswana
participants_from_Botswana: boolean // return true if participants were located in Botswana

- Brazil
participants_from_Brazil: boolean // return true if participants were located in Brazil
- Burkina Faso
participants_from_Burkina_Faso: boolean // return true if participants were located in Burkina Faso
- Burundi
participants_from_Burundi: boolean // return true if participants were located in Burundi
- Cabo Verde
participants_from_Cabo_Verde: boolean // return true if participants were located in Cabo Verde
- Cambodia
participants_from_Cambodia: boolean // return true if participants were located in Cambodia
- Cameroon
participants_from_Cameroon: boolean // return true if participants were located in Cameroon
- Canada
participants_from_Canada: boolean // return true if participants were located in Canada
- Central African Republic
participants_from_Central_African_Republic: boolean // return true if participants were located in the Central African Republic
- Chad
participants_from_Chad: boolean // return true if participants were located in Chad
- Chile
participants_from_Chile: boolean // return true if participants were located in Chile
- China
participants_from_China: boolean // return true if participants were located in China
- Colombia
participants_from_Colombia: boolean // return true if participants were located in Colombia
- Comoros
participants_from_Comoros: boolean // return true if participants were located in Comoros
- Côte d'Ivoire
participants_from_Côte_d'Ivoire: boolean // return true if participants were located in Côte d'Ivoire
- Democratic Republic of the Congo
participants_from_Democratic_Republic_of_the_Congo: boolean // return true if participants were located in the Congo
- Djibouti
participants_from_Djibouti: boolean // return true if participants were located in Djibouti

- Dominica
participants_from_Dominica: boolean // return true if participants were located in Dominica
- Dominican Republic
participants_from_the_domincian_republic: boolean // return true if participants were located in the Dominican Republic
- Ecuador
participants_from_Ecuador: boolean // return true if participants were located in Ecuador
- Egypt
participants_from_Egypt: boolean // return true if participants were located in Egypt
- El Salvador
participants_from_El_Salvador: boolean // return true if participants were located in El Salvador
- Eritrea
participants_from_Eritrea: boolean // return true if participants were located in Eritrea
- Eswatini
participants_from_Eswatini: boolean // return true if participants were located in Eswatini
- Ethiopia
participants_from_Ethiopia: boolean // return true if participants were located in Ethiopia
- Fiji
participants_from_Fiji: boolean // return true if participants were located in Fiji
- Finland
participants_from_Finland: boolean // return true if participants were located in Finland
- France
participants_from_France: boolean // return true if participants were located in France
- Gambia
participants_from_Gambia: boolean // return true if participants were located in Gambia
- Georgia
participants_from_Georgia: boolean // return true if participants were located in the country of Georgia
- Germany
participants_from_Germany: boolean // return true if participants were located in Germany
- Ghana
participants_from_Ghana: boolean // return true if participants were located in Ghana
- Guatemala
participants_from_Guatemala: boolean // return true if participants were located in Guatemala
- Guinea
participants_from_Guinea: boolean // return true if participants were located in Guinea

- Guinea-Bissau
participants_from_Guinea_Bissau: boolean // return true if participants were located in Guinea-Bissau
- Grenada
- Guyana
participants_from_Guyana: boolean // return true if participants were located in Guyana
- Haiti
participants_from_Haiti: boolean // return true if participants were located in Haiti
- Honduras
participants_from_Honduras: boolean // return true if participants were located in Honduras
- Hong Kong
participants_from_Hong_Kong: boolean // return true if participants were located in Hong Kong
- Iceland
participants_from_Iceland: boolean // return true if participants were located in Iceland
- India
participants_from_India: boolean // return true if participants were located in India
- Indonesia
participants_from_Indonesia: boolean // return true if participants were located in Indonesia
- Iran
participants_from_Iran: boolean // return true if participants were located in Iran
- Ireland
participants_from_Ireland: boolean // return true if participants were located in Ireland
- Italy
participants_from_Italy: boolean // return true if participants were located in Italy
- Jamaica
participants_from_Jamaica: boolean // return true if participants were located in Jamaica
- Kazakhstan
participants_from_Kazakhstan: boolean // return true if participants were located in Kazakhstan
- Kenya
participants_from_Kenya: boolean // return true if participants were located in Kenya
- Kiribati
participants_from_Kiribati: boolean // return true if participants were located in Kiribati
- Kosovo
participants_from_Kosovo: boolean // return true if participants were located in Kosovo
- Lao PDR
participants_from_Lao_PDR: boolean // return true if participants were located in Lao PDR

- Lebanon
participants_from_Lebanon: boolean // return true if participants were located in Lebanon
- Lesotho
participants_from_Lesotho: boolean // return true if participants were located in Lesotho
- Liberia
participants_from_Liberia: boolean // return true if participants were located in Liberia
- Madagascar
participants_from_Madagascar: boolean // return true if participants were located in Madagascar
- Malaysia
participants_from_Malaysia: boolean // return true if participants were located in Malaysia
- Malawi
participants_from_Malawi: boolean // return true if participants were located in Malawi
- Mali
participants_from_Mali: boolean // return true if participants were located in Mali
- Mauritania
participants_from_Mauritania: boolean // return true if participants were located in Mauritania
- Mauritius
participants_from_Mauritius: boolean // return true if participants were located in Mauritius
- Mexico
participants_from_Mexico: boolean // return true if participants were located in Mexico
- Moldova
participants_from_Moldova: boolean // return true if participants were located in Moldova
- Mongolia
participants_from_Mongolia: boolean // return true if participants were located in Mongolia
- Morocco
participants_from_Morocco: boolean // return true if participants were located in Morocco
- Mozambique
participants_from_Mozambique: boolean // return true if participants were located in Mozambique
- Myanmar
participants_from_Myanmar: boolean // return true if participants were located in Myanmar
- Namibia
participants_from_Namibia: boolean // return true if participants were located in Namibia

- Nepal
participants_from_Nepal: boolean // return true if participants were located in Nepal
- Netherlands
participants_from_the_Netherlands: boolean // return true if participants were located in the Netherlands
- New Zealand
- Nicaragua
participants_from_Nicaragua: boolean // return true if participants were located in Nicaragua
- Niger
participants_from_Niger: boolean // return true if participants were located in Niger
- Nigeria
participants_from_Nigeria: boolean // return true if participants were located in Nigeria
- Norway
participants_from_Norway: boolean // return true if participants were located in Norway
- Pakistan
participants_from_Pakistan: boolean // return true if participants were located in Pakistan
- Palestine
participants_from_Palestine: boolean // return true if participants were located in Palestine or the Palestinian governorates
- Paraguay
participants_from_Paraguay: boolean // return true if participants were located in Paraguay
- Philippines
participants_from_the_Philippines: boolean // return true if participants were located in the Philippines
- Peru
participants_from_Peru: boolean // return true if participants were located in Peru
- Republic of Sudan
participants_from_the_Republic_of_Sudan: boolean // return true if participants were located in the Republic of Sudan
- Russia
participants_from_Russia: boolean // return true if participants were located in Russia
- Rwanda
participants_from_Rwanda: boolean // return true if participants were located in Rwanda
- S.t Lucia
participants_from_Saint_Lucia: boolean // return true if participants were located in Saint Lucia
- St. Vincent and the Grenadines
participants_from_Saint_Vincent_and_the_Grenadines: boolean // return true if participants were located in Saint Vincent and the Grenadines

- Sao Thorne
participants_from_Sao_Thorne: boolean // return true if participants were located in Sao Thorne
- Senegal
participants_from_Senegal: boolean // return true if participants were located in Senegal
- Serbia
participants_from_Serbia: boolean // return true if participants were located in Serbia
- Seychelles
participants_from_Seychelles: boolean // return true if participants were located in Seychelles
- Sierra Leone
participants_from_Sierra_Leone: boolean // return true if participants were located in Sierra Leone
- Solomon Islands
participants_from_Solomon_Islands: boolean // return true if participants were located in the Solomon Islands
- Somalia
participants_from_Somalia: boolean // return true if participants were located in Somalia
- South Africa
participants_from_South_Africa: boolean // return true if participants were located in South Africa
- South Sudan
participants_from_South_Sudan: boolean // return true if participants were located in South Sudan
- Sri Lanka
participants_from_Sri_Lanka: boolean // return true if participants were located in Sri Lanka
- Sweden
participants_from_Sweden: boolean // return true if participants were located in Sweden
- Taiwan
participants_from_Taiwan: boolean // return true if participants were located in Taiwan OR if primary studies in systematic reviews were conducted in Taiwan
- Tajikstan
participants_from_Tajikstan: boolean // return true if participants were located in Tajikstan
- Tanzania
participants_from_Tanzania: boolean // return true if participants were located in Tanzania
- Thailand
participants_from_Thailand: boolean // return true if participants were located in Thailand

- Togo
participants_from_Togo: boolean // return true if participants were located in Togo
- Tonga
participants_from_Tonga: boolean // return true if participants were located in Tonga
- Tunisia
participants_from_Tunisia: boolean // return true if participants were located in Tunisia
- Türkiye
participants_from_Turkey: boolean // return true if participants were located in Turkey or Türkiye
- Uganda
participants_from_Uganda: boolean // return true if participants were located in Uganda
- UK
participants_from_United_Kingdom: boolean // return true if participants were located in the United Kingdom
- Ukraine
participants_from_Ukraine: boolean // return true if participants were located in Ukraine
- United States
participants_from_the_United_States: boolean // return true if participants were located in the United States
- Uzbekistan
participants_from_Uzbekistan: boolean // return true if participants were located in Uzbekistan
- Vietnam
participants_from_Vietnam: boolean // return true if participants were located in Vietnam
- Yemen
participants_from_Yemen: boolean // return true if participants were located in Yemen
- Zambia
participants_from_Zambia: boolean // return true if participants were located in Zambia
- Zimbabwe
participants_from_Zimbabwe: boolean // return true if participants were located in Zimbabwe
- Multiple countries
Multiple_countries: boolean // return true if this study included participants from multiple countries
- Global
participants_from_all_over_the_world: boolean // return true if participants were located all over the world
- Other high income countries
- Continent
 - Africa
study_undertaken_in_Africa: boolean // return true if this study was undertaken in any African country

- Asia
study_undertaken_in_Asia: boolean // return true if this study was undertaken in any Asian country
- Europe
study_undertaken_in_Europe: boolean // return true if this study was undertaken in any European country
- Latin America and the Caribbean
study_undertaken_in_Latin_America_and_the_Caribbean: boolean // return true if this study was undertaken in any Latin American or Caribbean country
- North America
study_undertaken_in_North_America: boolean // return true if this study was undertaken in any North American country
- Oceania
study_undertaken_in_Oceania: boolean // return true if this study was undertaken in any Oceanian country
- World Bank Region
 - Sub-Saharan Africa
study_undertaken_in_Sub_Saharan_Africa: boolean // return true if this study was undertaken in any country in Sub Saharan Africa
 - East Asia & Pacific
study_undertaken_in_East_Asia_or_the_Pacific: boolean // return true if this study was undertaken in any country in East Asia or the Pacific
 - Europe & Central Asia
study_undertaken_in_Europe_or_Central_Asia: boolean // return true if this study was undertaken in any European or Central Asian country
 - South Asia
study_undertaken_in_South_Asia: boolean // return true if this study was undertaken in any country in South Asia
 - Middle East, North Africa, Afghanistan & Pakistan
study_undertaken_in_the_Middle_east_North_Africa_Afghanistan_or_Pakistan: boolean // return true if this study was undertaken in at least one country in the Middle East, North Africa, Afghanistan or Pakistan
 - Latin America and the Caribbean
study_undertaken_in_Latin_America_and_the_Caribbean: boolean // return true if this study was undertaken in any Latin American or Caribbean country
 - North America
study_undertaken_in_North_America: boolean // return true if this study was undertaken in any North American country
- WHO Region
 - African Region
african_region: boolean // return true only if this study is about or the participants are from any of the following countries: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo,

Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, South Sudan, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe

- Eastern Mediterranean Region

*eastern_mediterranean_region: boolean // return true only if this study is about or the participants are from any of the following countries: Afghanistan, Bahrain, Djibouti, Egypt, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, West Bank and Gaza Strip (*Non-Member area), Yemen*

- European Region

european_region: boolean // return true only if this study is about or the participants are from any of the following countries: Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Türkiye, Turkmenistan, Ukraine, United Kingdom of Great Britain and Northern Ireland, Uzbekistan

- Region of the Americas

*americas_region: boolean // return true only if this study is about or the participants are from any of the following countries: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico (*Associate WHO Member State), Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, United States of America, Uruguay, Venezuela (Bolivarian Republic of)*

- South-East Asia Region

south_east_asia_region: boolean // return true only if this study is about or the participants are from any of the following countries: Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste

- Western Pacific Region

*western_pacific_region: boolean // return true only if this study is about or the participants are from any of the following countries: Australia, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, Japan, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Tokelau (*Associate WHO Member State), Tonga, Tuvalu, Vanuatu, Viet Nam*

- UNICEF Region

- East Asia and Pacific
east_asia_and_pacific: boolean // return true only if this study is about or the participants are from any of the following countries: Australia; Brunei Darussalam; China; Cook Islands; Fiji; Indonesia; Japan; Cambodia; Kiribati; Lao People's Democratic Republic; Malaysia; Marshall Islands; Micronesia (Federated States of); Democratic People's Republic of Korea; Myanmar; Nauru; Mongolia; New Zealand; Niue; Palau; Philippines; Republic of Korea; Samoa; Papua New Guinea; Singapore; Solomon Islands; Thailand; Timor-Leste; Tokelau; Tonga; Tuvalu; Vanuatu; Viet Nam
- Eastern and Southern Africa
eastern_and_southern_africa: boolean // return true only if this study is about or the participants are from any of the following countries: Angola; Botswana; Burundi; Comoros; Djibouti; Eritrea; Ethiopia; Eswatini; Madagascar; Kenya; Mozambique; Malawi; Lesotho; Mauritius; Namibia; Rwanda; Sudan; Seychelles; Somalia; South Africa; South Sudan; Uganda; United Republic of Tanzania; Zambia; Zimbabwe
- Europe and Central Asia
europa_and_central_asia: boolean // return true only if this study is about or the participants are from any of the following countries: Andorra; Austria; Belgium; Cyprus; Czechia; Denmark; Estonia; Finland; France; Germany; Greece; Holy See; Hungary; Iceland; Ireland; Italy; Latvia; Liechtenstein; Lithuania; Luxembourg; Malta; Monaco; Netherlands (Kingdom of the); Norway; Poland; Portugal; San Marino; Slovakia; Slovenia; Spain; Sweden; Switzerland; United Kingdom; Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; Croatia; Georgia; Kazakhstan; Kyrgyzstan; Republic of Moldova; Montenegro; North Macedonia; Romania; Russian Federation; Serbia; Tajikistan; Türkiye; Turkmenistan; Ukraine; Uzbekistan
- Latin America and Caribbean
latin_america_and_caribbean: boolean // return true only if this study is about or the participants are from any of the following countries: Anguilla; Antigua and Barbuda; Argentina; Bahamas; Barbados; Belize; Bolivia (Plurinational State of); Brazil; British Virgin Islands; Chile; Colombia; Costa Rica; Cuba; Dominica; Dominican Republic; Ecuador; El Salvador; Guyana; Grenada; Guatemala; Honduras; Haiti; Jamaica; Mexico; Montserrat; Nicaragua; Panama; Paraguay; Peru; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Suriname; Trinidad and Tobago; Turks and Caicos Islands; Uruguay; Venezuela (Bolivarian Republic of)
- Middle East and North Africa
middle_east_and_north_africa: boolean // return true only if this study is about or the participants are from any of the following countries: Algeria; Bahrain; Egypt; Iran (Islamic Republic of); Iraq; Israel; Jordan; Kuwait; Lebanon; Libya; Morocco; Oman; Qatar; Saudi Arabia; State of Palestine; Syrian Arab Republic; Tunisia; United Arab Emirates; Yemen
- North America
north_america: boolean // return true only if this study is about or the participants are from any of the following countries: Canada; United States
- South Asia
south_asia: boolean // return true only if this study is about or the participants are from

any of the following countries: Afghanistan; Bangladesh; Bhutan; India; Sri Lanka; Maldives; Nepal; Pakistan

- West and Central Africa

west_and_central_africa: boolean // return true only if this study is about or the participants are from any of the following countries: Benin; Burkina Faso; Cabo Verde; Cameroon; Central African Republic; Chad; Congo; Côte d'Ivoire; Democratic Republic of the Congo; Equatorial Guinea; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Liberia; Mali; Mauritania; Niger; Nigeria; Sao Tome and Principe; Senegal; Sierra Leone; Togo
Benin; Burkina Faso; Cabo Verde; Cote d'Ivoire; Cameroon; Central African Republic; Democratic Republic of the Congo; Congo; Equatorial Guinea; Guinea; Gambia; Gabon; Guinea-Bissau; Ghana; Liberia; Mali; Niger; Mauritania; Nigeria; Senegal; Sierra Leone; Sao Tome and Principe; Chad; Togo

- World Bank Income Group

- Low Income Country

focused_on_low_income_countries: boolean // return true only if this study is about or the participants are from any of the following countries: Afghanistan, Burkina Faso, Burundi, Central African Republic, Chad, Democratic Republic of Congo, Eritrea, Gambia, The Guinea-Bissau, Democratic People's Public of Korea, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Sierra Leone, Somalia, South Sudan, Sudan, Syrian Arab Republic, Togo, Uganda, Yemen

- Lower-Middle Income Country

participants_from_lower_middle_income_countries: boolean // return true only if this study is about or the participants are from any of the following countries: Angola, Bangladesh, Benin, Bhutan, Bolivia, Cambodia, Cameroon, Comoros, Republic of Congo, Côte d'Ivoire, Djibouti, Egypt, Arab Republic, Eswatini, Ethiopia, Ghana, Guinea, Haiti, Honduras, India, Jordan, Kenya, Kiribati, Kyrgyz Republic, Lao PDR, Lebanon, Lesotho, Mauritania, Micronesia, Morocco, Myanmar, Namibia, Nepal, Nicaragua, Nigeria, Pakistan, Papua New Guinea, the Philippines, São Tomé and Príncipe, Senegal, Solomon Islands, Sri Lanka, Tajikistan, Tanzania, Timor-Leste, Tunisia, Uzbekistan, Vanuatu, Vietnam, West Bank and Gaza, Zambia, or Zimbabwe

- Upper-Middle Income Country

focused_on_upper_middle_income_countries: boolean // return true only if this study is about or the participants are from any of the following countries: Albania, Algeria, Argentina, Armenia, Azerbaijan, Belarus, Belize, Bosnia and Herzegovina, Botswana, Brazil, Cabo Verde, China, Colombia, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Fiji, Gabon, Georgia, Grenada, Guatemala, Indonesia, Iran, Islamic Rep., Iraq, Jamaica, Kazakhstan, Kosovo, Libya, Malaysia, Maldives, Marshall Islands, Mauritius, Mexico, Moldova, Mongolia, Montenegro, North Macedonia, Paraguay, Peru, Samoa, Serbia, South Africa, St. Lucia, St. Vincent and the Grenadines, Suriname, Thailand, Tonga, Türkiye, Turkey, Turkmenistan, Tuvalu, or Ukraine.

- High Income Country

focused_on_high_income_countries: boolean // return true only if this study is about or the participants are from any of the following countries:

American Samoa, Andorra, Antigua and Barbuda, Aruba, Australia, Austria, the Bahamas, Bahrain, Barbados, Belgium, Bermuda, British Virgin Islands, Brunei Darussalam, Bulgaria, Canada, Cayman Islands, Channel Islands, Chile, Costa Rica, Croatia, Curaçao, Cyprus, Czechia, Denmark, Estonia, Faroe Islands, Finland, France, French Polynesia, Germany, Gibraltar, Greece, Greenland, Guam, Guyana, Hong Kong SAR, Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, South Korea, Kuwait, Latvia, Liechtenstein, Lithuania, Luxembourg, Macao SAR, Malta, Monaco, Nauru, Netherlands, New Caledonia, New Zealand, Northern Mariana Islands, Norway, Oman, Palau, Panama, Poland, Portugal, Puerto Rico, Qatar, Romania, Russian Federation, San Marino, Saudi Arabia, Seychelles, Singapore, Sint Maarten, Slovak Republic, Slovenia, Spain, St. Kitts and Nevis, St. Martin (French part), Sweden, Switzerland, Taiwan, Trinidad and Tobago, Turks and Caicos Islands, United Arab Emirates, United Kingdom, United States, Uruguay, or the Virgin Islands.

- Thematic Focus
 - Acceptability of HPV vaccine by patients
about_patient_acceptance_of_or_attitude_towards_HPV_vaccination: boolean // return true if this study is about patient acceptance of or their attitude towards HPV vaccination
 - Acceptability of HPV vaccination by parents
about_parent_acceptance_of_or_attitude_towards_HPV_vaccination: boolean // return true if this study is about parental acceptance of or their attitude towards HPV vaccination
 - Acceptability of HPV vaccine by health care workers
about_healthcare_worker_acceptance_of_or_attitude_towards_HPV_vaccination: boolean // return true if this study is about healthcare worker acceptance of or their attitude towards HPV vaccination
 - Vaccine Efficacy and Effectiveness
is_about_HPV_vaccine_efficacy_and_effectiveness: boolean // return true if this study focuses on HPV vaccine efficacy and effectiveness
 - Vaccine Introduction and Implementation in LMICs
is_about_HPV_vaccine_introduction_and_implementation_in_LMICs: boolean // return true if this study focuses on HPV Vaccine Introduction and Implementation in Low- and middle-income countries
 - Cost and Cost-Effectiveness of Vaccination Programs
is_about_cost_and_cost_effectiveness_of_HPV_vaccination_programs: boolean // return true if this study focuses on the cost and/or cost-effectiveness of HPV vaccination programs
 - Impact & equity of vaccination
is_about_impact_and_equity_of_HPV_vaccination: boolean // return true if this study focuses on the impact and equity of HPV vaccination
 - Single-dose HPV vaccination
is_about_single_dose_HPV_vaccination: boolean // return true if this study focuses on single dose HPV vaccination

- Vaccine types & development
is_about_vaccine_types_and_development: boolean // return true if this study focuses on vaccine types and development
- Monitoring & evaluation of vaccination programs
is_about_monitoring_and_evaluation_of_vaccination_programs: boolean // return true if this study focuses on the monitoring and evaluation of vaccination programs
- Study design
 - Modeling study
is_a_modeling_study: boolean // return true if this study is a modeling study, for example transmission-dynamic, cost-effectiveness. Return false if this is any type of evidence synthesis, such as a systematic review, meta-analysis or scoping review.
 - Clinical trials
is_a_clinical_trial: boolean // return true if this study is a clinical trial, for example a randomized controlled trial, immunobridging or cohort study. Return false if this is any type of evidence synthesis, such as a systematic review, meta-analysis or scoping review.
 - Costing study
is_a_costing_study: boolean // return true if this study is a costing study, for example microcosting or operational research. Return false if this is any type of evidence synthesis, such as a systematic review, meta-analysis or scoping review.
 - Prevalence study
is_a_prevalence_study: boolean // return true if this study is a prevalence study, for example a cross-sectional study. Return false if this is any type of evidence synthesis, such as a systematic review, meta-analysis or scoping review.
 - Descriptive observational study
is_a_descriptive_observational_study: boolean // return true if this study is a descriptive observational study
 - Systematic reviews and meta-analyses
is_an_evidence_synthesis: boolean // return true if this is a form of evidence synthesis, for example a systematic review, scoping review, meta-analysis, mapping review or evidence gap map
 - Qualitative study
is_a_qualitative_study: boolean // return true if this is a qualitative study, for example using interviews, focus groups or thematic analysis. Return false if this is any type of evidence synthesis, such as a systematic review, meta-analysis or scoping review.
 - Analysis of surveillance data
is_an_analysis_of_surveillance_data: boolean // return true if this study is an analysis of surveillance data
 - Proficiency testing program
is_a_proficiency_testing_program: boolean // return true if this is a proficiency testing program
 - Use of administrative and registry data
uses_administrative_and_registry_data: boolean // return true if this study uses administration and/or registry data

- Vaccine Schedule
 - Dose Schedule
dose_schedule_discussed: boolean // return true if this study reports a recommended number and timing of HPV vaccine doses (e.g., 2-dose vs. 1-dose).
 - Catch-up Strategies
catch_up_strategies_used: boolean // return true if this study targets older cohorts or missed girls outside the recommended age range for HPV vaccination
- Delivery Dose
 - Single dose
single_vaccine_dose: boolean // return true if participants were given a single dose of a HPV vaccine
 - Multi-dose
multi_vaccine_dose: boolean // return true if participants were given multiple doses of a HPV vaccine
- Special Populations
Subgroups requiring tailored strategies
 - Out-of-school girls
study_targeted_out_of_school_girls: boolean // return true if this study targeted girls not attending school
 - Hard to reach populations
study_targeted_hard_to_reach_populations: boolean // return true if this study targeted hard to reach populations
 - HIV positive adolescents
study_targeted_HIV_positive_adolescents: boolean // return true if this study targeted HIV positive adolescents
 - Medical physicians
participants_are_medical_professionals: boolean // Return true if this study includes participants who are medical professionals, for example doctors, paediatricians or health care workers
 - Medical students
participants_are_medical_students: boolean // Return true if this study includes participants who are medical students
 - Parents
parents_are_participants: boolean // Return true if the participants of this study are parents.
 - Researchers/Academics
academics_are_participants: boolean // Return true if the participants in this study were academics.
 - NGO workers
NGO_workers_are_participants: boolean // Return true if the participants in this study included national governmental organisation workers, for example the World Health Organisation, or UNICEF.

- Policymakers
policymakers_are_participants: boolean // Return true if the participants in this study included policymakers, such as for national governments
- Age of study participants
 - 21 or over
participants_aged_21_or_over: boolean // return true if participants in this study included people aged 21 or over
 - 9 year olds
9_year_old_participants: boolean // return true if participants in this study included 9 year olds. Return false if participants_are_medical_professionals is true.
 - 10 year olds
10_year_old_participants: boolean // return true if participants in this study included 10 year olds. Return false if participants_are_medical_professionals is true.
 - 11 year olds
11_year_old_participants: boolean // return true if participants in this study included 11 year olds. Return false if participants_are_medical_professionals is true.
 - 12 year olds
12_year_old_participants: boolean // return true if participants in this study included 12 year olds. Return false if participants_are_medical_professionals is true.
 - 13 year olds
13_year_old_participants: boolean // return true if participants in this study included 13 year olds. Return false if participants_are_medical_professionals is true.
 - 14 year olds
14_year_old_participants: boolean // return true if participants in this study included 14 year olds. Return false if participants_are_medical_professionals is true.
 - 15 year olds
15_year_old_participants: boolean // return true if participants in this study included 15 year olds. Return false if participants_are_medical_professionals is true.
 - 16 year olds
16_year_old_participants: boolean // return true if participants in this study included 16 year olds. Return false if participants_are_medical_professionals is true.
 - 17 year olds
17_year_old_participants: boolean // return true if participants in this study included 17 year olds. Return false if participants_are_medical_professionals is true.
 - 18 year olds
18_year_old_participants: boolean // return true if participants in this study included 18 year olds. Return false if participants_are_medical_professionals is true.
 - 19 year olds
19_year_old_participants: boolean // return true if participants in this study included 19 year olds
 - 20 year olds
20_year_old_participants: boolean // return true if participants in this study included 20 year olds
- Sex

- Male
study_included_males: boolean // return true if this study included male participants
- Female
study_included_females: boolean // return true if this study included female participants
- Delivery strategy
 - Routine delivery
routine_vaccination_delivery: boolean // return true if vaccination delivery was via health system mechanisms integrated into the national immunisation schedule.
 - Campaign delivery
campaign_delivery: boolean // return true if this study used a specific campaign. A campaign is a time-limited intensive immunization activity or activities targeting a defined group, often to introduce HPV vaccine or boost coverage (for example PIRI, BCU, nOPV campaigns)
 - Mixed strategy
mixed_delivery_strategy: boolean // return true is this study used a combination of routine and campaign strategies in a phased or integrated format.
- Delivery location
 - School-based
primary_delivery_strategy_was_only_in_schools: boolean // return true if the primary delivery strategy of HPV vaccine was only undertaken within educational institutions, typically targeting in-school girls and boys.
 - Health facility-based
primary_delivery_strategy_was_only_in_health_facilities: boolean // return true if the primary delivery strategy of HPV vaccine was only undertaken in health facilities, such as clinics, hospitals, or other formal healthcare settings.
 - Outreach/mobile
primary_delivery_strategy_was_outreach: boolean // return true if the primary delivery strategy of HPV vaccine was undertaken by outreach or through mobile teams to reach populations not easily accessed via static sites.
 - Community-based
vaccine_given_at_community_sites: boolean // return true if this study reports that HPV vaccine was administered at community sites (for example in churches, markets, community centres).
 - Schools + Outreach
primary_delivery_strategy_was_in_schools_and_outreach: boolean // return true if the primary delivery strategy of HPV vaccine was undertaken using a combination of schools and outreach
 - Schools + child health days
primary_delivery_strategy_was_in_schools_and_child_health_days: boolean // return true if the primary delivery strategy of HPV vaccine was undertaken using a combination of schools and child health days
 - School + health facility
primary_delivery_strategy_was_in_schools_and_health_facilities: boolean // return true

if the primary delivery strategy of HPV vaccine was undertaken using a combination of schools and health facilities

- School, health facility + outreach
primary_delivery_strategy_was_in_schools_health_facilities_and_outreach: boolean // return true if the primary delivery strategy of HPV vaccine was undertaken using a combination of schools, health facilities and outreach
- Integration into the health care service
primary_delivery_strategy_was_integration_into_the_health_care_service: boolean // return true if the primary delivery strategy of HPV vaccine was only by integrating it into the health care service
- Delivery cadre
 - Health workers
health_workers_were_responsible_for_delivery: boolean // return true if this study reports that health workers were responsible for vaccine administration, such as nurses, midwives or other medical staff.
 - Community Health Workers
community_health_workers_were_responsible_for_delivery: boolean // return true if this study reports that community health workers (CHWs) were responsible for vaccine administration, who are non-formal health actors trained to support immunisation efforts in communities.
 - Teachers/Volunteers
teachers_or_volunteers_were_responsible_for_delivery: boolean // return true if this study reports that teachers or volunteers were responsible for vaccine administration, who are non-health professionals assisting with logistics, mobilisation, or monitoring.
- Communication & Social Mobilisation
 - Community Engagement
community_engagement: boolean // return true if this study reports activities that inform, educate, and mobilize communities to support HPV vaccination. Includes dialogue structure, meetings, TV, and radio programs.
 - Demand Generation
demand_generation: boolean // return true if this study reports using strategies to increase vaccine uptake (e.g., SBCC campaigns, parental consent drives).
 - Misinformation Management
misinformation_management: boolean // return true if this study reports using approaches to detect, monitor, and respond to vaccine hesitancy and misinformation.
- Vaccine Logistics
 - Cold Chain & Supply
cold_chain_and_supply_reported: boolean // return true if this study reported using systems for storing and transporting vaccines at appropriate temperatures and tracking stock levels.
 - Wastage Management
wastage_management_reported: boolean // return true if this study reports using strategies to reduce unused or spoiled vaccines (e.g., multi-dose vial policy).

- Microplanning
microplanning_reported: boolean // return true if this study reports local-level planning of vaccination activities (e.g., scheduling, site mapping).
- Monitoring Evaluation
 - Coverage Monitoring
used_coverage_monitoring: boolean // return true if this study used systems to track vaccination coverage, dropout, and completion rates.
 - Adverse Event Monitoring
adverse_event_monitoring_used: boolean // return true if this study conducted surveillance of post-vaccination side effects (AEFI).
 - Data Quality Audits
data_quality_audits_conducted: boolean // return true if this study reported conducting data quality audits, which are reviews to assess the accuracy, completeness, and timeliness of immunization data.
- Equity & Access
 - Gender Considerations
gender_considered: boolean // return true if this study reported ensuring equitable gender access and addressing gender-specific barriers.
 - Socioeconomic Barriers
considered_socioeconomic_barriers: boolean // return true if this study reported addressing socioeconomic barriers to vaccination, such as affordability, transportation, caregiver literacy, etc.
 - Geographic Barriers
geographic_barriers_considered: boolean // return true if this study reports considering geographic barriers, such as remote or insecure areas that limit vaccine access.
- Governance & Financing
 - Government Leadership
government_leadership_involved: boolean // return true if this study reports that government leadership was involved, such as the Ministry of Health or national bodies overseeing vaccine introduction, scale-up, and policy.
 - Financing Mechanisms
financing_mechanisms_reported: boolean // return true if this study reports domestic or donor funding for HPV delivery (e.g., GAVI support, basket funding).
 - Partner Coordination
partner_coordination_involved: boolean // return true if this study reports collaboration between stakeholders (e.g., GAVI, UNICEF, NGOs)
- Vaccine Types
 - Cecolin
cecolin_is_vaccine: boolean // return true if participants were given Cecolin
 - Cervarix
cervarix_is_vaccine: boolean // return true if participants were given Cervarix
 - Gardasil-4
Gardasil4_is_vaccine: boolean // return true if participants were given Gardasil-4

- Gardasil-9
gardasil9_is_vaccine: boolean // return true if participants were given Gardasil-9