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Human Papillomavirus and Related Diseases Report

WORLD

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Abbreviations

Table 1: Abbreviations

Abbreviation	Full term
HPV	Human papillomavirus
HPV Information Centre	ICO/IARC Information Centre on HPV and Cancer
GW	Genital warts
RRP	Recurrent respiratory papillomatosis
SIL	Squamous intraepithelial lesions
LSIL	Low-grade cervical lesions
HSIL	High-grade cervical lesions
ICC	Invasive cervical cancer
CIS	Carcinoma in situ
CIN	Cervical intraepithelial neoplasia
AIN2/3	Anal intraepithelial neoplasia of grade 2 and/or 3
VIN 2/3	Vulvar intraepithelial neoplasia of grade 2 and/or 3
VaIN 2/3	Vaginal intraepithelial neoplasia of grade 2 and/or 3
PeIN 2/3	Penile intraepithelial neoplasia of grade 2 and/or 3
95% CI	95% confidence interval
N	Number of cases tested
HPV Prev	HPV prevalence
ASR	Age-standardised rate
MSM	Men who have sex with men
Non MSM	Heterosexual men
SCC	Squamous cell carcinomas
STI	Sexually transmitted infections
HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency syndrome
TS	Type specific
EIA	Enzyme immunoassay
RLBM	Reverse line blotting method
RFLP	Restriction fragment length polymorphism
RHA	Reverse hybridisation assay
RLH	Reverse line hybridisation
LiPA	Line probe assay
SBH	Southern blot hybridisation
ISH	In situ hybridisation
MABA	Micro array-based assay
LBA	Line blot assay
HC2	Hybrid Capture 2
SAT	Suspension array technology
PCR	Polymerase chain reaction
SPF	Short primer fragment
q-PCR	Quantitative polymerase chain reaction
RLBH	Reverse line blot hybridisation
RT-PCR	Real-time polymerase chain reaction
DBH	Dot blot hybridisation
HR	High risk
DSA	Direct sequence analysis
MAA	Microchip array assay

Executive summary

Human papillomavirus (HPV) infection is now a well-established cause of cervical cancer and there is growing evidence of HPV being a relevant factor in other anogenital cancers (anus, vulva, vagina and penis) as well as head and neck cancers. HPV types 16 and 18 are responsible for about 70% of all cervical cancer cases worldwide. HPV vaccines that prevent HPV 16 and 18 infections are now available and have the potential to reduce the incidence of cervical and other anogenital cancers.

This report provides key information for the World on: cervical cancer; other anogenital cancers and head and neck cancers; HPV-related statistics; factors contributing to cervical cancer; cervical cancer screening practises; HPV vaccine introduction; and other relevant immunization indicators. The report is intended to strengthen the guidance for health policy implementation of primary and secondary cervical cancer prevention strategies in the region.

The World has a population of 2869.0 million women aged 15 years and older who are at risk of developing cervical cancer. Current estimates indicate that every year 569,847 women are diagnosed with cervical cancer and 311,365 die from the disease. Cervical cancer ranks* as the 4th most frequent cancer among women in the World.

* Ranking of cervical cancer incidence to other cancers among all women according to highest incidence rates (ranking 1st) excluding non-melanoma skin cancer. Ranking is based on crude incidence rates (actual number of cervical cancer cases). Ranking using age-standardized rate (ASR) may differ.

Table 2: Key statistics in the World and its regions

	World	High income	Low and middle income	Upper middle income	Lower middle income	Low income
Population						
Women at risk for cervical cancer (Female population aged ≥15 yrs) in millions	2,869.0	529.2	2,338.7	1,053.1	1,060.2	225.3
Burden of cervical cancer and other HPV-related cancers						
Annual number of new cervical cancer cases	604,127	71,624	532,239	247,840	236,828	47,571
Annual number of cervical cancer deaths	341,831	29,307	312,373	133,105	146,198	33,070
Standardized incidence rates per 100,000 population:						
Cervical cancer	13.3	8.40	14.8	12.8	16.9	23.8
Anal cancer						
Men	0.49	0.74	0.41	0.30	0.54	0.60
Women	0.58	1.24	0.38	0.35	0.41	0.46
Vulva cancer	0.85	1.56	0.60	0.56	0.62	0.88
Vaginal cancer	0.36	0.33	0.36	0.23	0.57	0.45
Penile cancer	0.80	0.66	0.83	0.65	1.15	0.64
Oropharyngeal cancer						
Men	1.79	3.28	1.36	0.97	2.07	0.58
Women	0.40	0.80	0.28	0.22	0.40	0.17
Oral cavity cancer						
Men	5.96	6.28	5.80	2.73	10.5	2.24
Women	2.28	2.51	2.19	1.30	3.61	1.44
Laryngeal cancer						
Men	3.59	3.70	3.55	3.20	4.25	1.99
Women	0.49	0.63	0.46	0.38	0.59	0.32
Burden of cervical HPV infection						
Prevalence (%) of HPV 16 and/or HPV 18 among women with:						
Normal cytology	3.9	-	-	-	-	-
Low-grade cervical lesions (LSIL/CIN-1)	51.9	-	-	-	-	-
High-grade cervical lesions (HSIL/ CIN-2 / CIN-3 / CIS)	25.8	-	-	-	-	-
Cervical cancer	69.4	-	-	-	-	-

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1 Introduction

Figure 1: World geographical regions



The HPV Information Centre aims to compile and centralize updated data and statistics on HPV and HPV-related cancers. This report aims to summarize the data available to fully evaluate the burden of disease in the World and to facilitate stakeholders and relevant bodies of decision makers to formulate recommendations on the prevention of cervical cancer and other HPV-related cancers. Data include relevant cancer statistic estimates, epidemiological determinants of cervical cancer such as demographics, socioeconomic factors, risk factors, burden of HPV infection in women and men, and cervical screening and immunization practices. The report is structured into the following sections:

Section 2, Demographic and socioeconomic factors. This section summarizes the sociodemographic profile of the World. For analytical purposes, the World is divided into five regions: Africa, the Americas, Asia, Europe and Oceania (Figure 1).

Section 3, Burden of HPV related cancers. This section describes the current burden of invasive cervical cancer and other HPV-related cancers in the World with estimates of prevalence, incidence and mortality rates. Information in other HPV-related cancers includes other anogenital cancers (anus, vulva, vagina, and penis) and head and neck cancers (oral cavity, oropharyngeal, and larynx).

Section 4, HPV related statistics. This section reports on prevalence of HPV and HPV type-specific distribution in the World, in women with normal cytology, precancerous lesions and invasive cervical cancer. In addition, the burden of HPV in other anogenital cancers (anus, vulva, vagina, and penis), head and neck cancers (oral cavity, oropharynx, and larynx) and men are presented.

Section 5, Factors contributing to cervical cancer. This section describes factors that can modify

the natural history of HPV and cervical carcinogenesis such as smoking, parity, oral contraceptive use and co-infection with HIV.

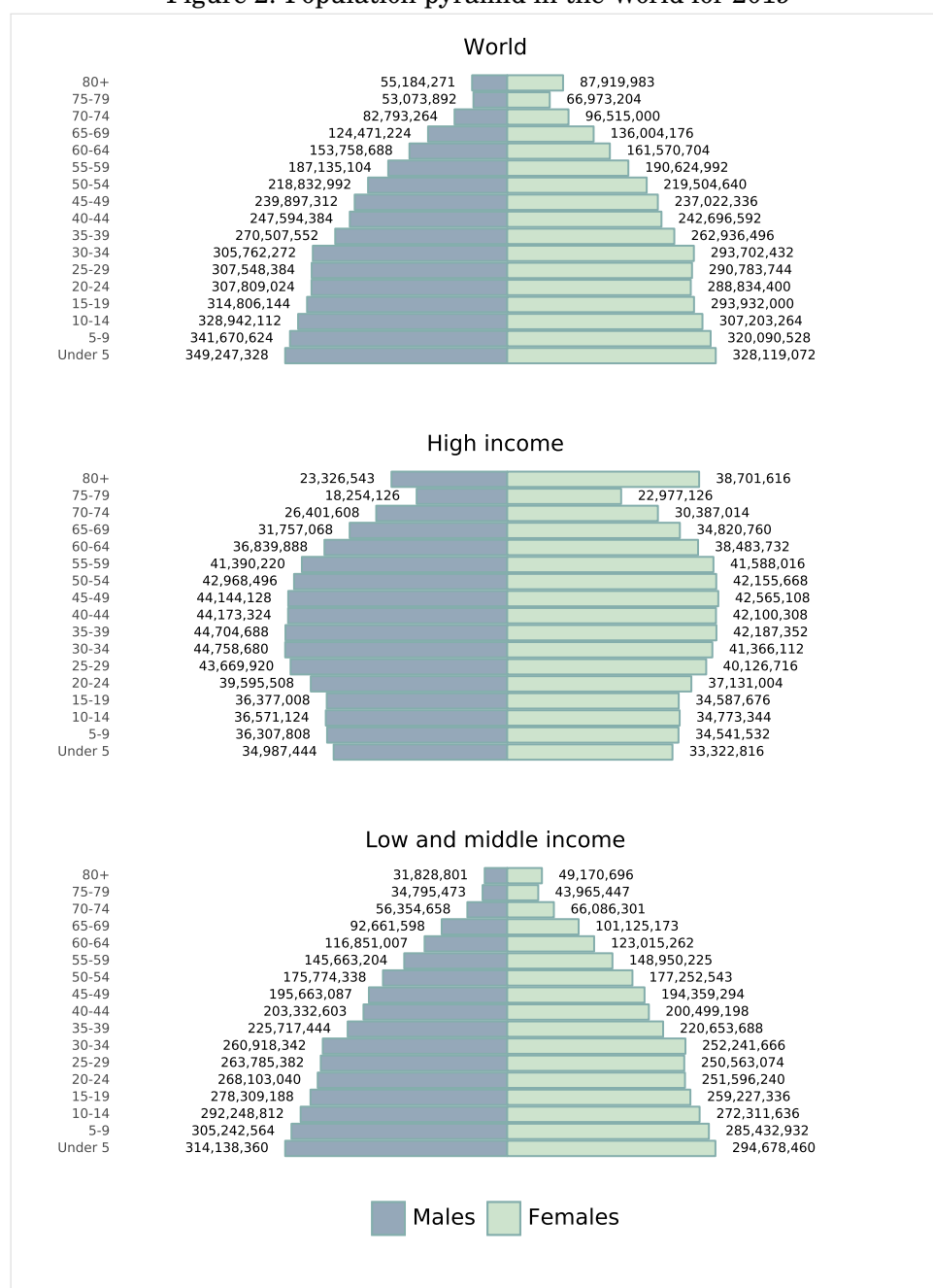
Section 6, Sexual behaviour and reproductive health indicators. This section presents sexual and reproductive behaviour indicators that may be used as proxy measures of risk for HPV infection and anogenital cancers, such as age at first sexual intercourse, average number of sexual partners, and anal intercourse among others.

Section 7, HPV preventive strategies. This section presents preventive strategies that include basic characteristics and performance of cervical cancer screening status, status of HPV vaccine licensure introduction, and recommendations for national immunization programmes.

Section 8, Protective factors for cervical cancer. This section presents the prevalence of male circumcision and condom use.

2 Demographic and socioeconomic factors

Figure 2: Population pyramid in the World for 2019



Data accessed on 15 Jul 2019

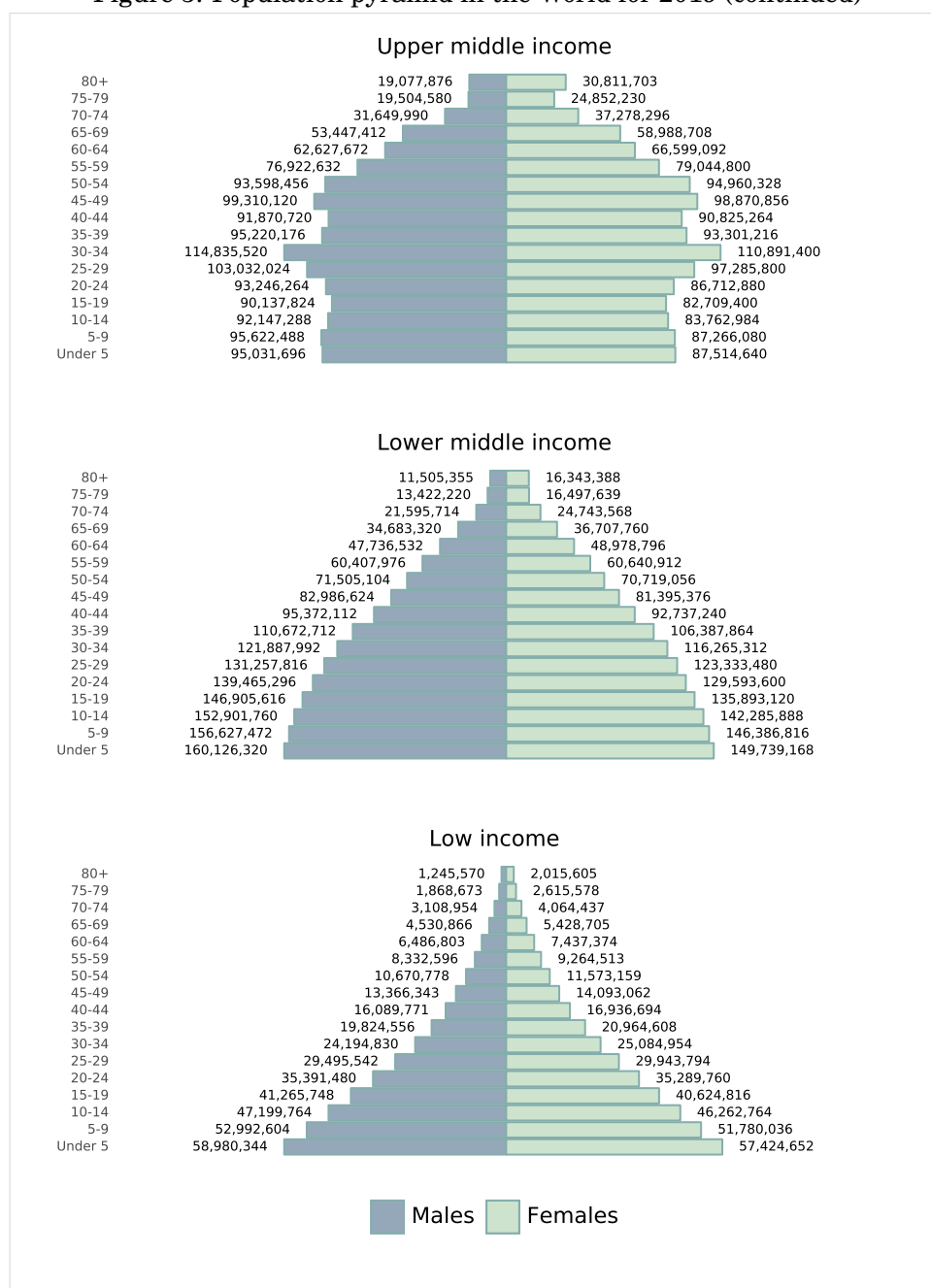
Please refer to original source for methods of estimation.

Year of estimate: 2019

Data Sources:

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1. [Accessed on July 15, 2019].

Figure 3: Population pyramid in the World for 2019 (continued)



Data accessed on 15 Jul 2019

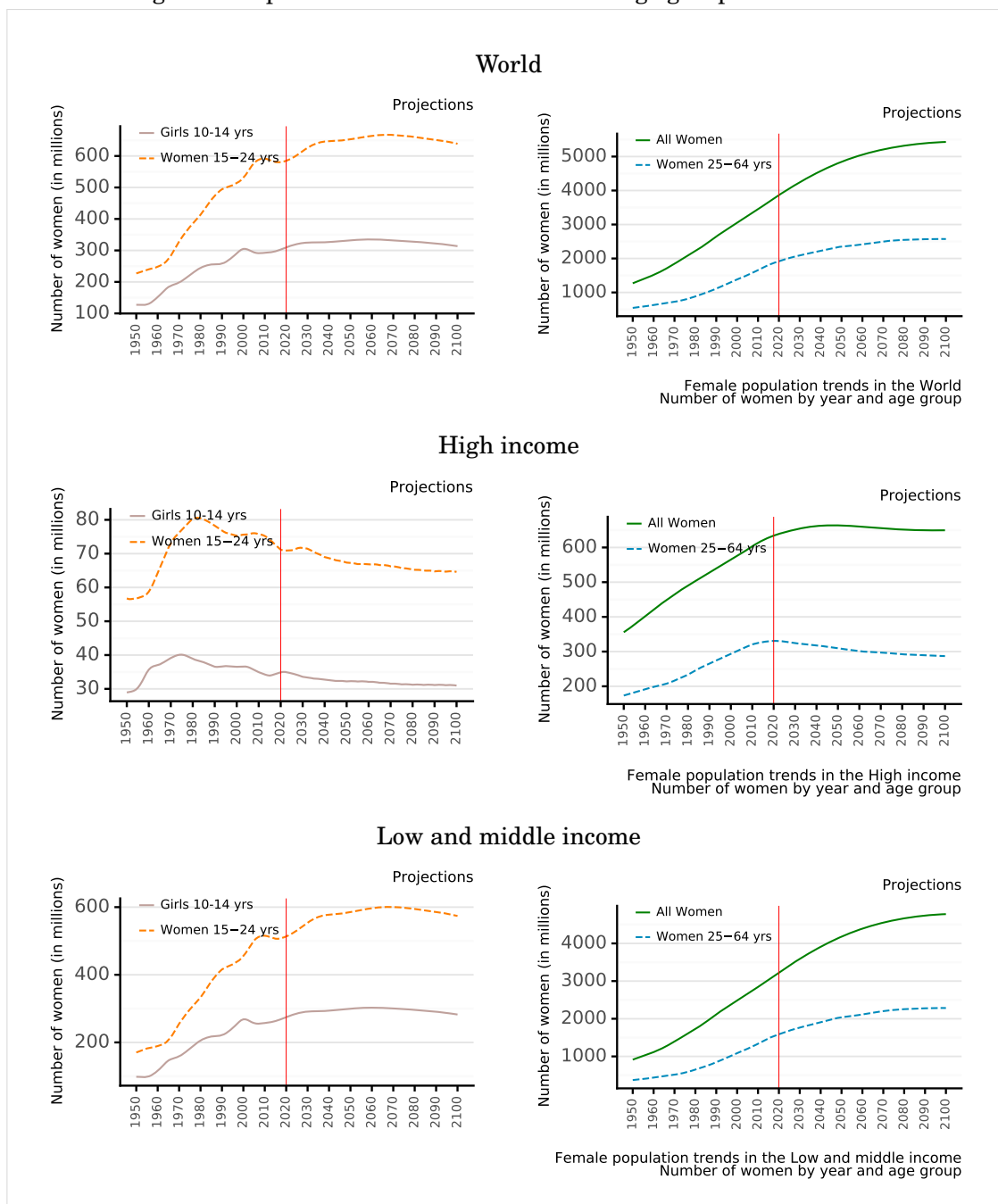
Please refer to original source for methods of estimation.

Year of estimate: 2019

Data Sources:

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1. [Accessed on July 15, 2019].

Figure 4: Population trends in four selected age groups in the World



Data accessed on 15 Jul 2019

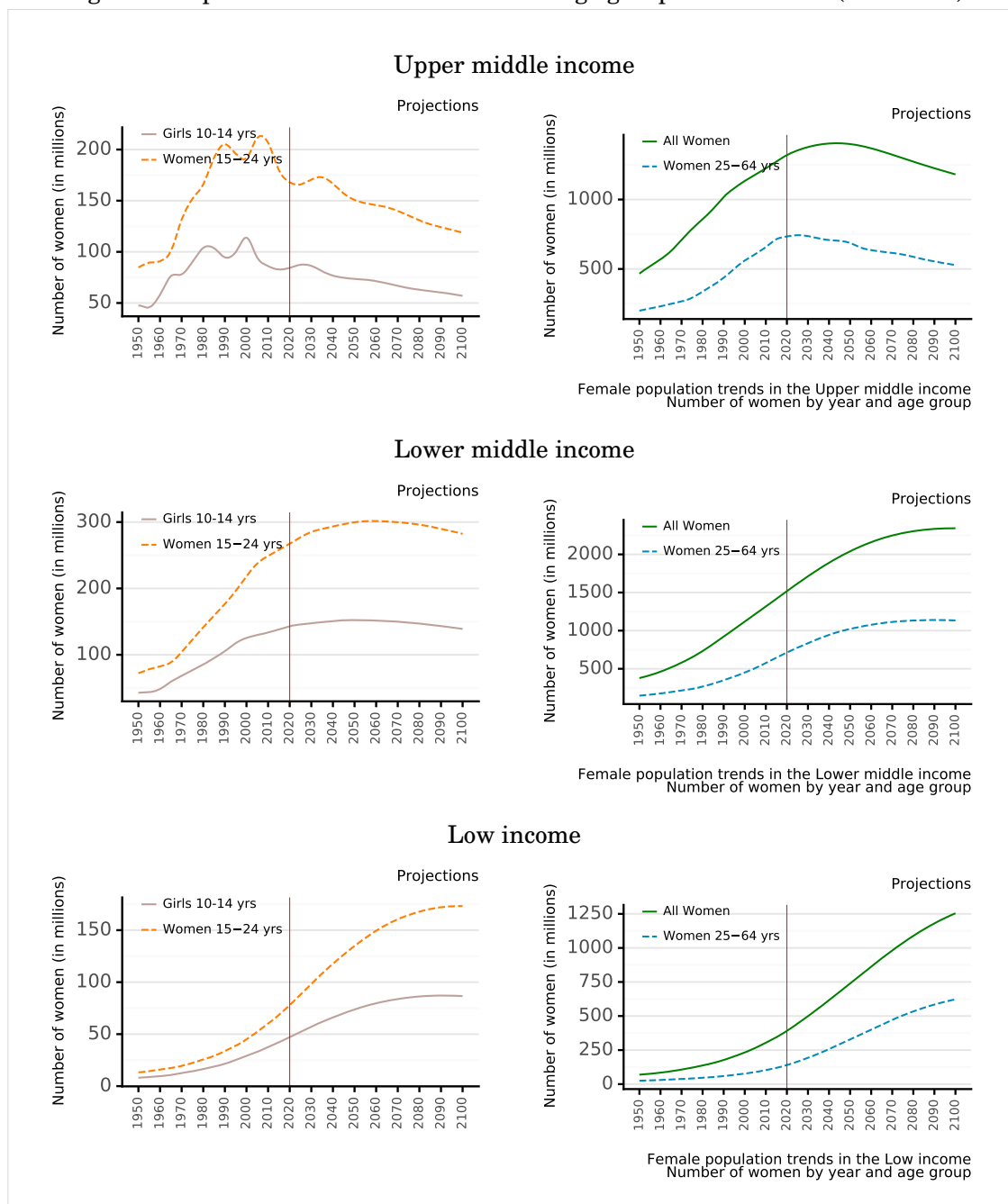
Please refer to original source for methods of estimation.

Year of estimate: 2019

Data Sources:

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1. [Accessed on July 15, 2019].

Figure 4: Population trends in four selected age groups in the World (continued)

**Data accessed on 15 Jul 2019**

Please refer to original source for methods of estimation.

Year of estimate: 2019

Data Sources:

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1. [Accessed on July 15, 2019].

Table 3: World population estimates (in millions), 2019

Region Country	Males			Females		
	10-14 years	15+ years	Total	10-14 years	15+ years	Total
World	328.94	2869.17	3889.03	307.2	2869.02	3824.43
High income	36.57	518.36	626.23	34.77	529.18	631.82
Low and middle income	292.25	2349.76	3261.39	272.31	2338.71	3191.13
Upper middle income	92.15	1044.48	1327.28	83.76	1053.13	1311.68
Lower middle income	152.9	1089.4	1559.06	142.29	1060.24	1498.65
Low income	47.2	215.87	375.05	46.26	225.34	380.8
Africa	78.63	384.52	653.51	76.71	393.05	654.55
Eastern Africa	27.69	122.9	215.28	27.28	127.96	218.62
Middle Africa	11.24	47.23	86.97	11.15	48.17	87.34
Northern Africa	11.66	81.0	121.48	11.11	81.74	120.3
Southern Africa	3.15	22.8	32.79	3.1	24.05	33.84
Western Africa	24.88	110.6	196.99	24.07	111.13	194.45
Americas	50.47	533.15	681.71	48.45	557.29	699.62
Caribbean	1.79	16.06	21.4	1.72	16.81	21.93
Central America	8.22	62.29	87.02	7.88	66.9	90.56
Northern America	11.82	147.21	181.45	11.31	152.4	185.15
South America	16.83	160.39	210.38	16.24	168.78	216.82
Asia	189.6	1783.65	2353.47	172.46	1726.75	2247.91
Central Asia	3.25	24.84	36.25	3.1	26.14	36.96
Eastern Asia	50.78	699.66	852.92	44.07	685.02	819.69
South-Eastern Asia	28.32	244.21	330.67	26.78	249.48	331.34
Southern Asia	94.73	710.78	989.49	86.61	672.96	928.72
Western Asia	12.52	104.14	144.14	11.91	93.14	131.19
Europe	20.41	299.11	360.71	19.33	328.14	386.47
Eastern Europe	8.02	112.63	138.02	7.62	131.34	155.42
Northern Europe	3.13	42.7	52.22	2.99	44.49	53.55
Southern Europe	3.98	63.42	74.45	3.74	67.63	78.0
Western Europe	5.29	80.36	96.02	4.98	84.68	99.5
Oceania	1.65	15.95	21.09	1.56	16.19	21.04
Australia & New Zealand	0.97	11.93	14.9	0.92	12.26	15.08
Melanesia	0.62	3.59	5.57	0.58	3.5	5.35
Micronesia	0.03	0.19	0.27	0.03	0.19	0.27
Polynesia	0.03	0.24	0.34	0.03	0.24	0.34

Data accessed on 15 Jul 2019

Please refer to original source for methods of estimation.

Year of estimate: 2019

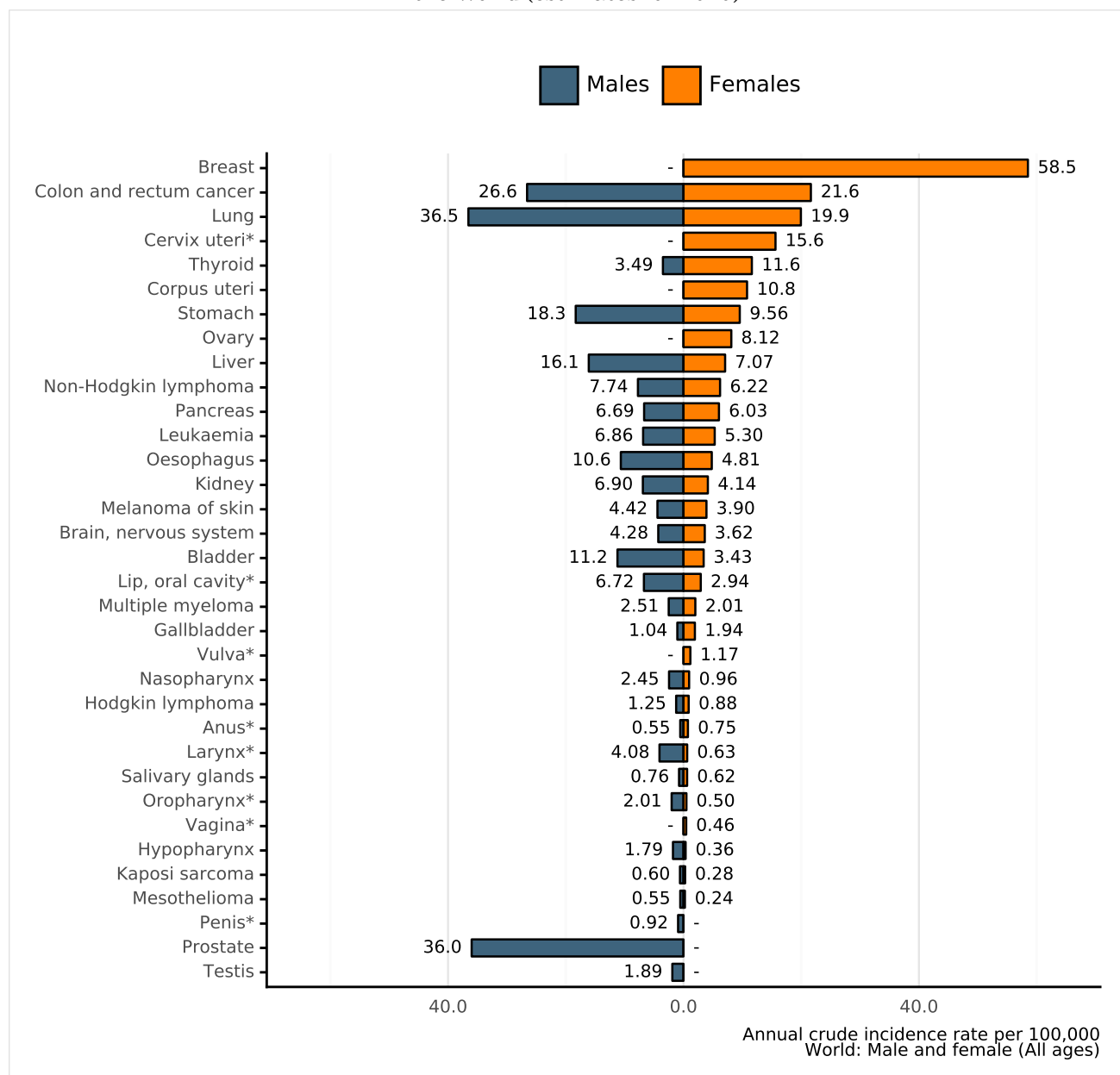
Data Sources:

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1. [Accessed on July 15, 2019].

3 Burden of HPV related cancers

3.1 HPV related cancers incidence

Figure 5: Comparison of HPV related cancers incidence to other cancers in men and women of all ages in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

Non-melanoma skin cancer is not included

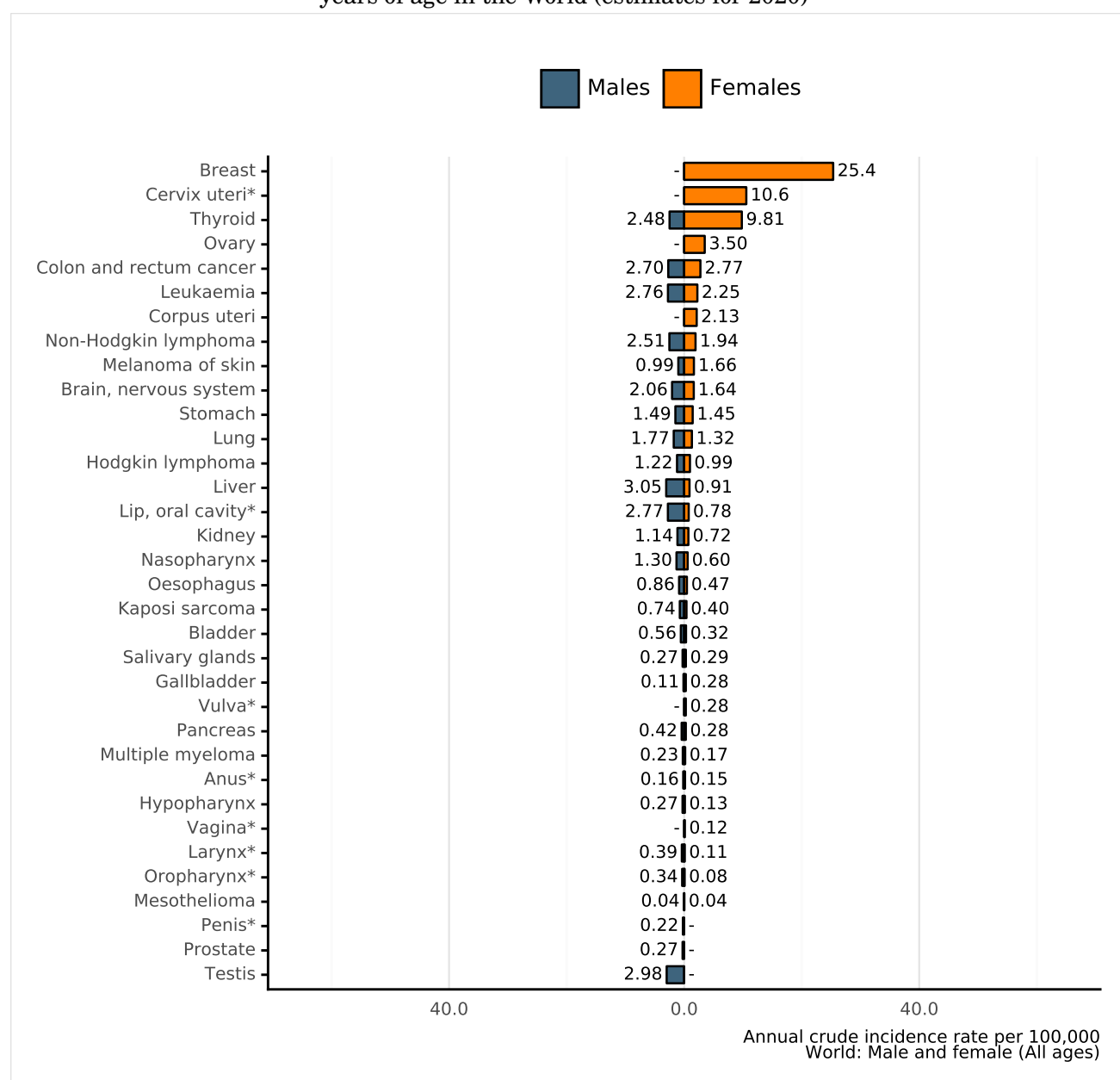
Rates per 100,000 men per year.

Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 6: Comparison of HPV related cancers incidence to other cancers among men and women 15-44 years of age in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

Non-melanoma skin cancer is not included

Rates per 100,000 men per year.

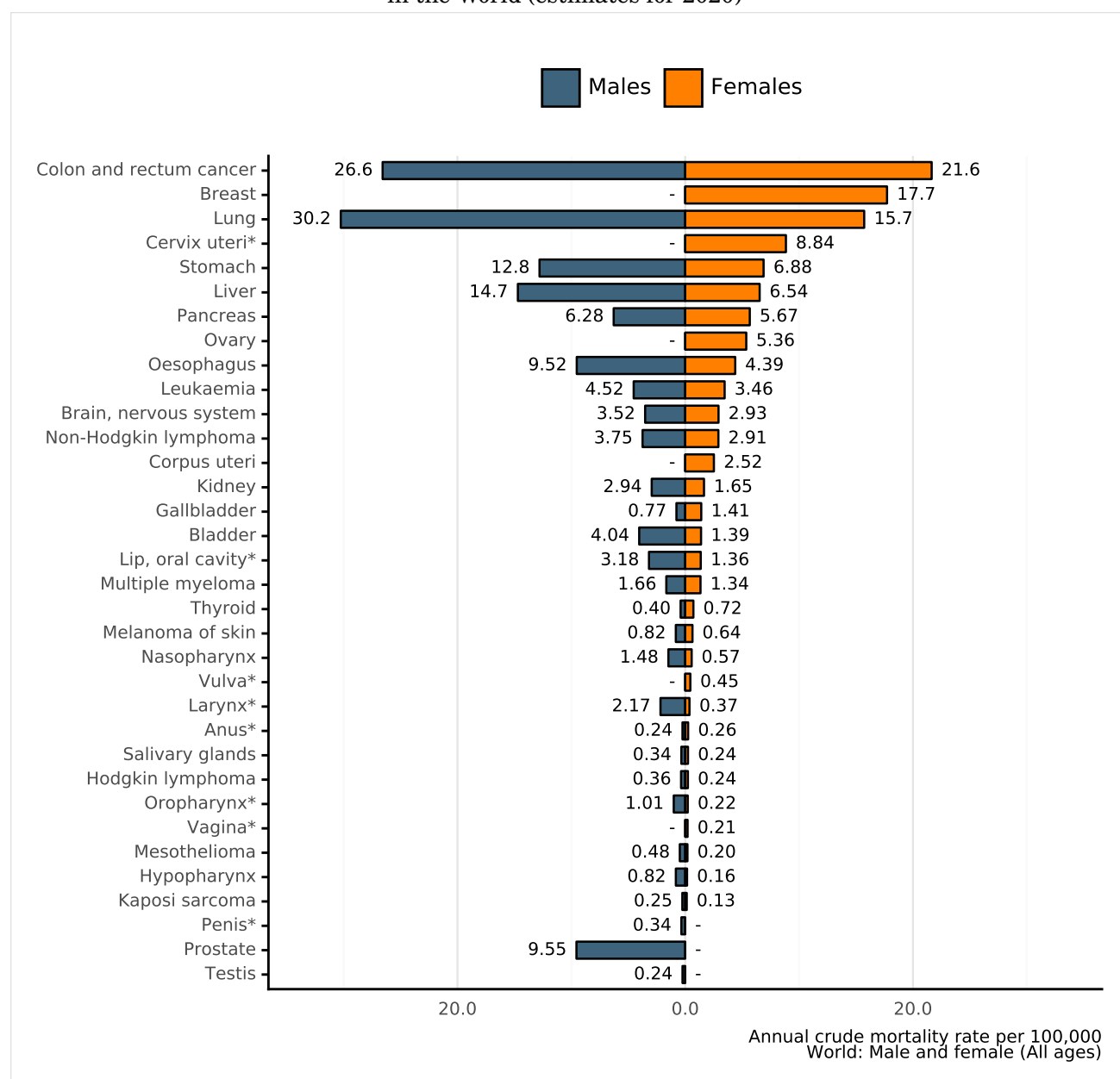
Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.2 HPV related cancers mortality

Figure 7: Comparison of HPV related cancers mortality to other cancers in men and women of all ages in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

Non-melanoma skin cancer is not included

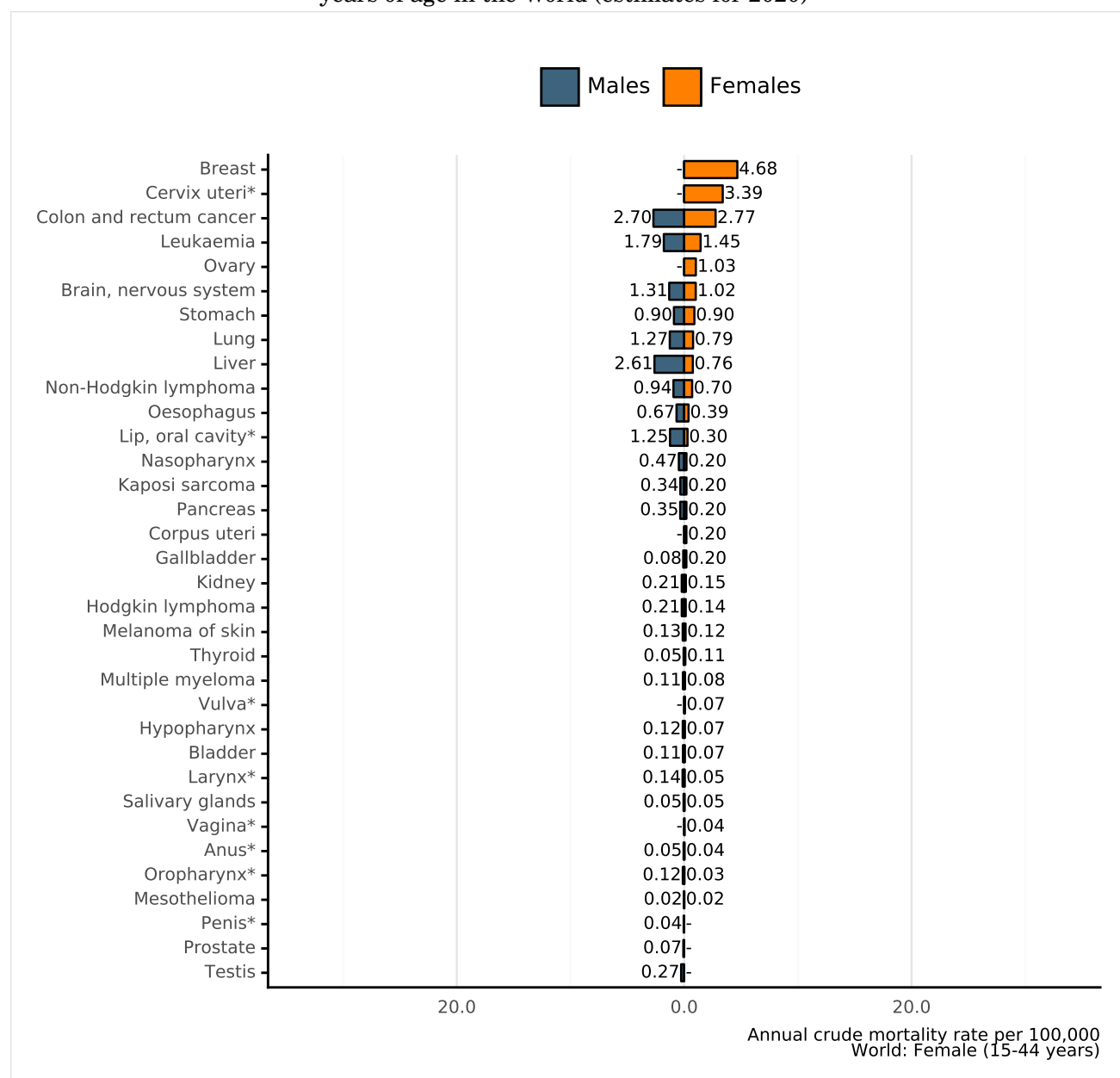
Rates per 100,000 men per year.

Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 8: Comparison of HPV related cancers mortality to other cancers among men and women 15-44 years of age in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

Non-melanoma skin cancer is not included

Rates per 100,000 men per year.

Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.3 Cervical cancer

Cancer of the cervix uteri is the 4th most common cancer among women worldwide, with an estimated 604,127 new cases and 341,831 deaths in 2020. Worldwide, mortality rates of cervical cancer are substantially lower than incidence with a ratio of mortality to incidence to 57% (GLOBOCAN 2020). The majority of cases are squamous cell carcinoma followed by adenocarcinomas. (*Vaccine 2006, Vol. 24, Suppl 3; Vaccine 2008, Vol. 26, Suppl 10; Vaccine 2012, Vol. 30, Suppl 5; IARC Monographs 2007, Vol. 90*)

This section describes the current burden of invasive cervical cancer in the World and in comparison to geographic region, including estimates of the annual number of new cases, deaths, incidence, and mortality rates.

3.3.1 Cervical cancer incidence

Key Stats.

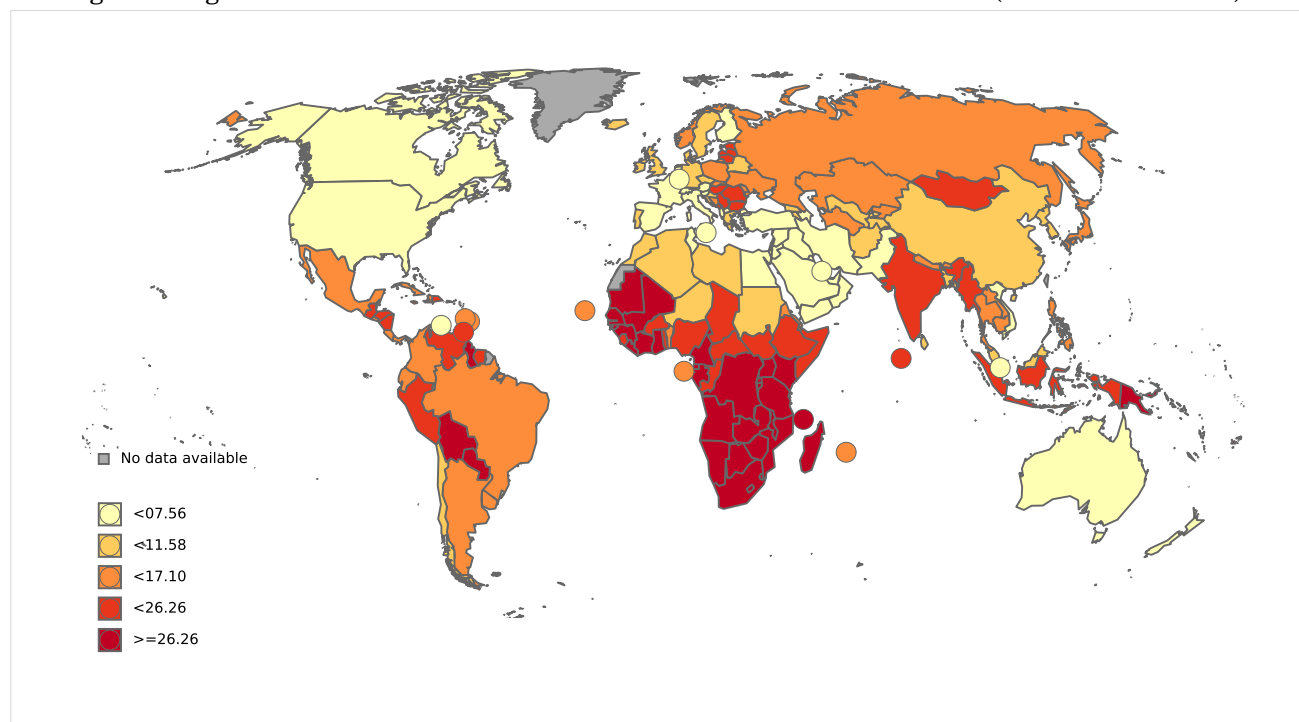
About **604,127 new cervical cancer cases** are diagnosed **annually** in the **World** (estimations for 2020).

Cervical cancer **ranks* as the 4th leading cause** of female cancer in the **World**.

Cervical cancer is the **2nd most common** female cancer in **women aged 15 to 44 years in the World**.

* Ranking of cervical cancer incidence to other cancers among all women according to highest incidence rates (ranking 1st) excluding non-melanoma skin cancer. Ranking is based on crude incidence rates (actual number of cervical cancer cases). Ranking using age-standardized rate (ASR) may differ.

Figure 9: Age-standardised incidence rates of cervical cancer in the World (estimates for 2020)

**Data accessed on 27 Jan 2021**

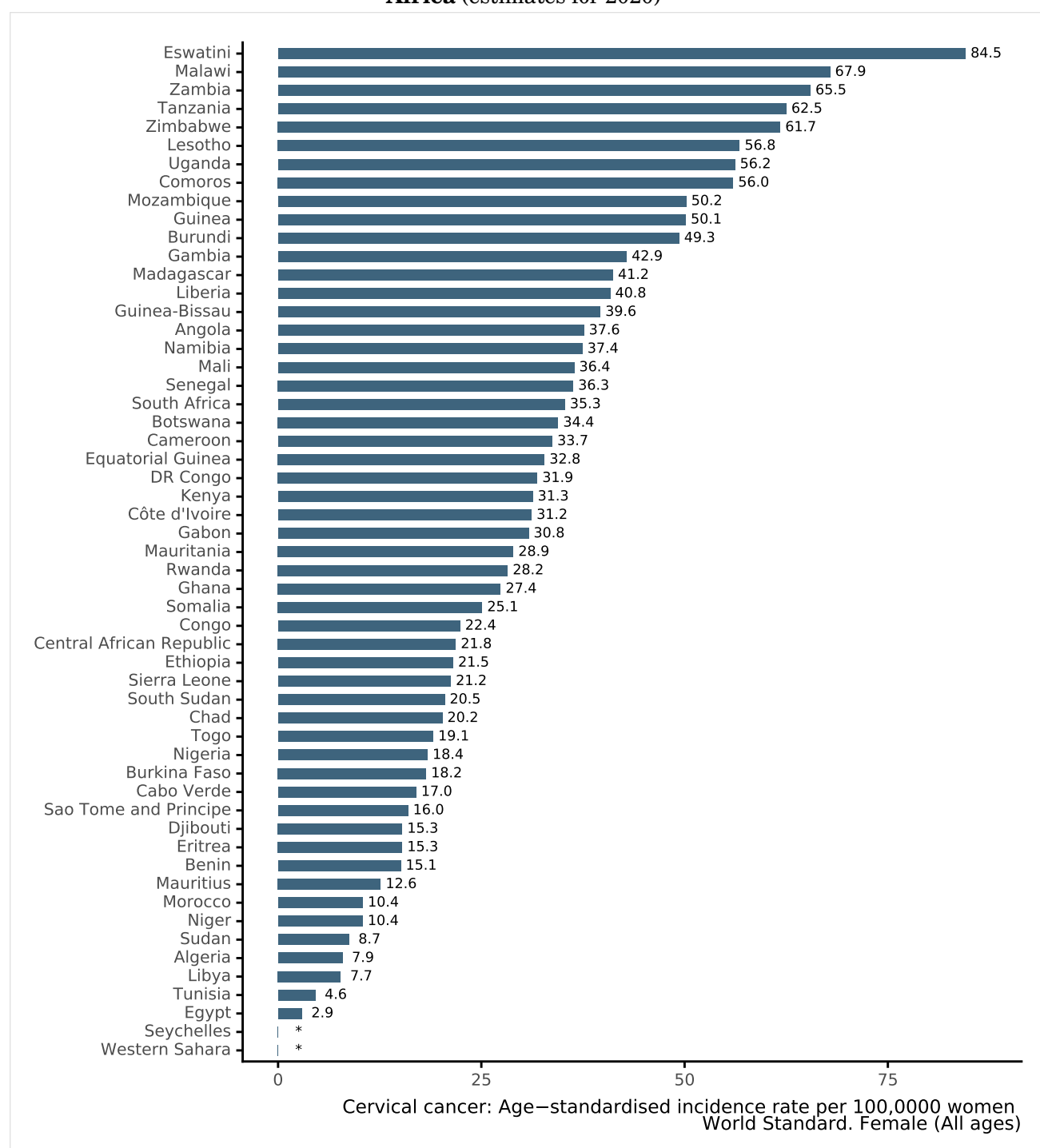
For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 10: Age-standardised incidence rate of cervical cancer cases attributable to HPV by country in **Africa** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

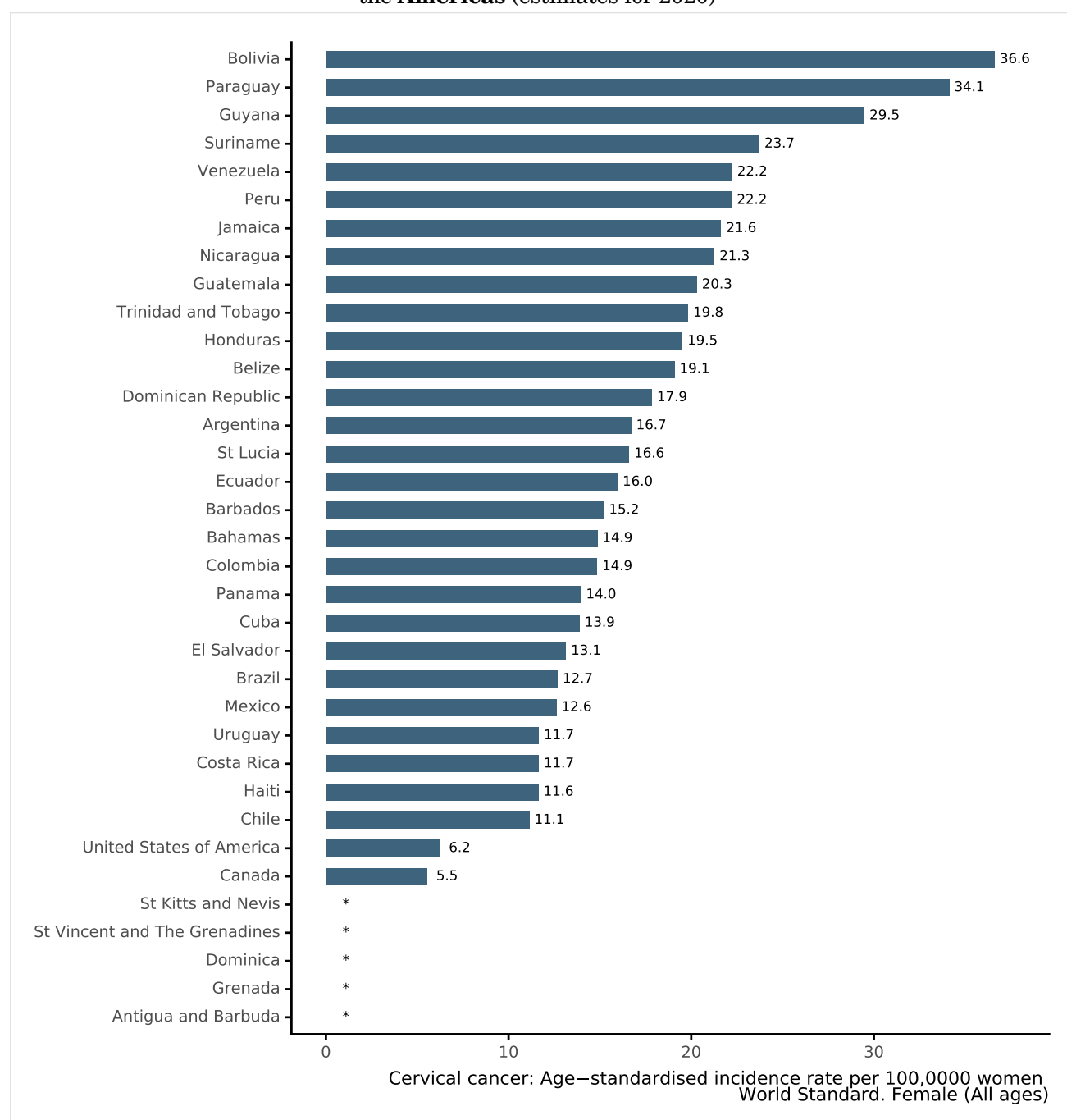
^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 11: Age-standardised incidence rate of cervical cancer cases attributable to HPV by country in the **Americas** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

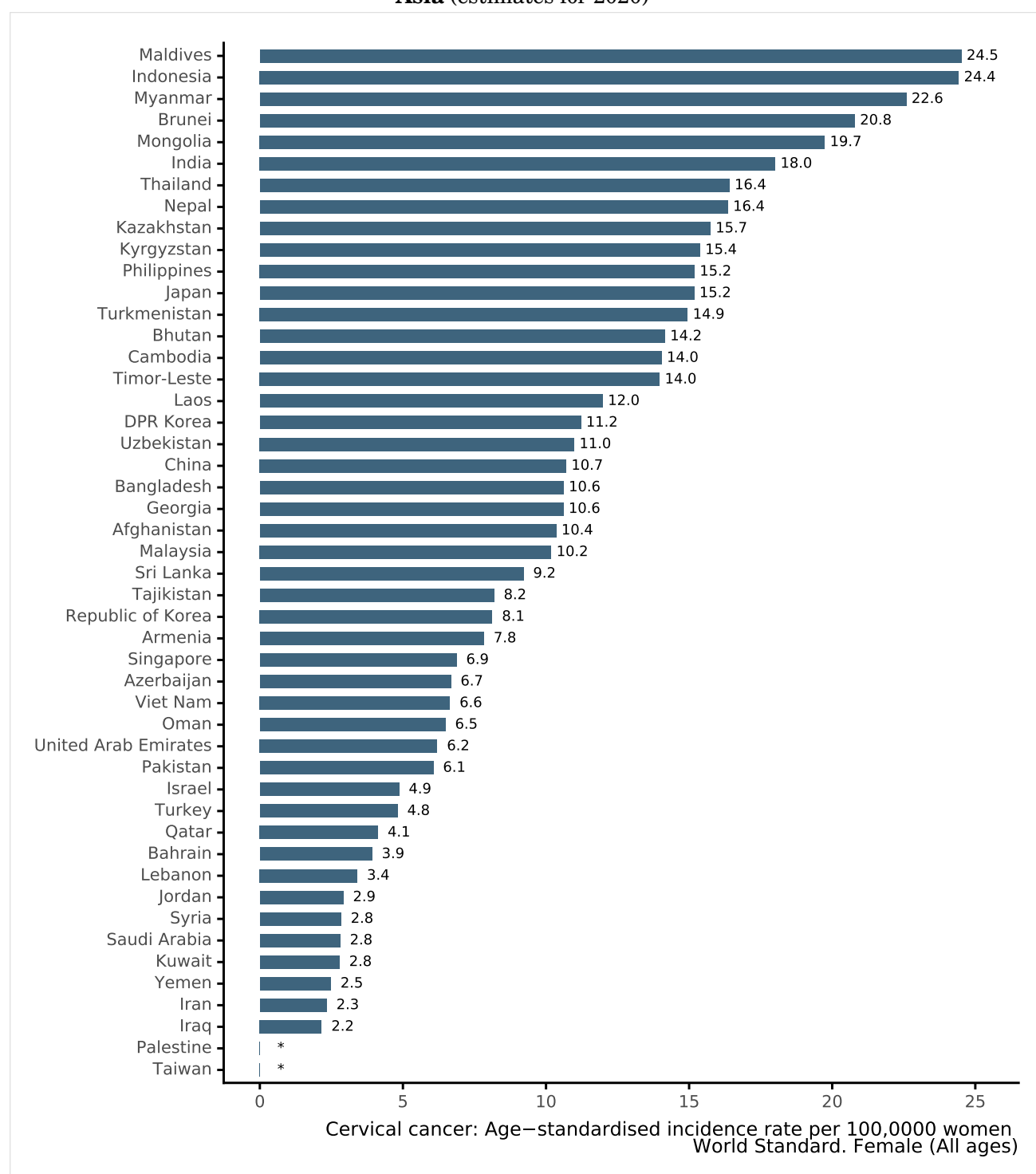
^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 12: Age-standardised incidence rate of cervical cancer cases attributable to HPV by country in **Asia** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

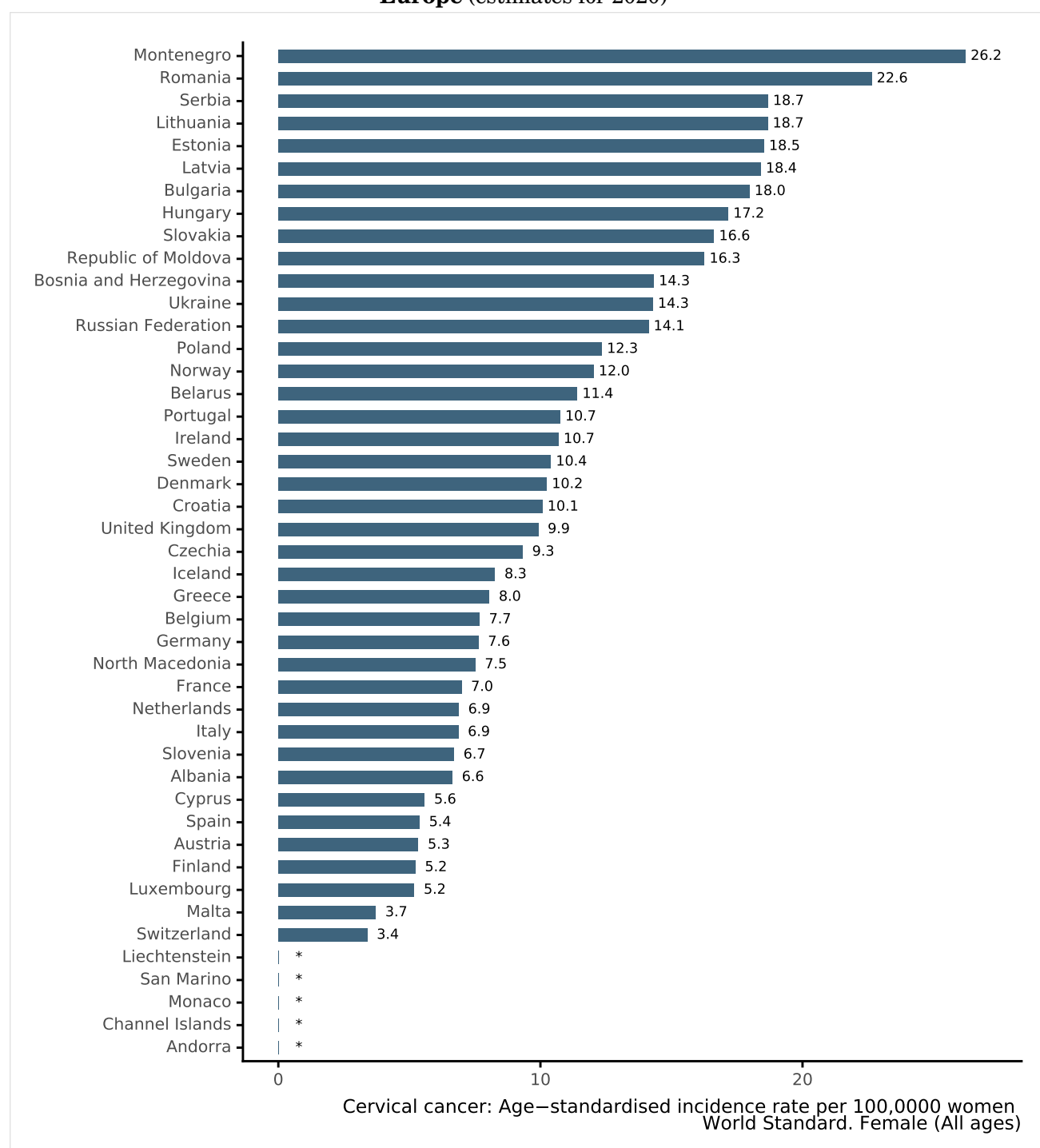
^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 13: Age-standardised incidence rate of cervical cancer cases attributable to HPV by country in **Europe** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

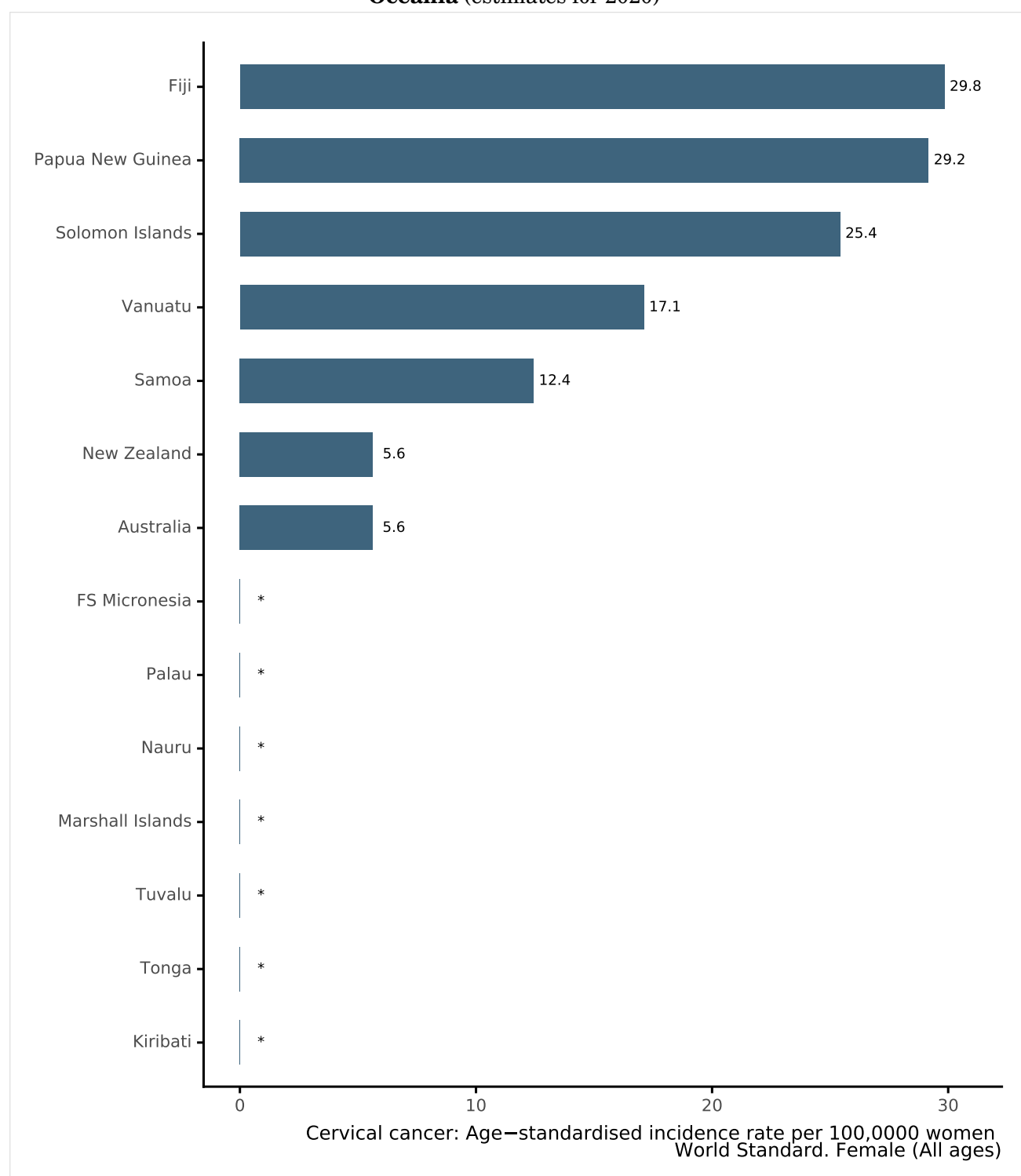
^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 14: Age-standardised incidence rate of cervical cancer cases attributable to HPV by country in **Oceania** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 4: Incidence of cervical cancer by World region and sub regions (estimates for 2020)

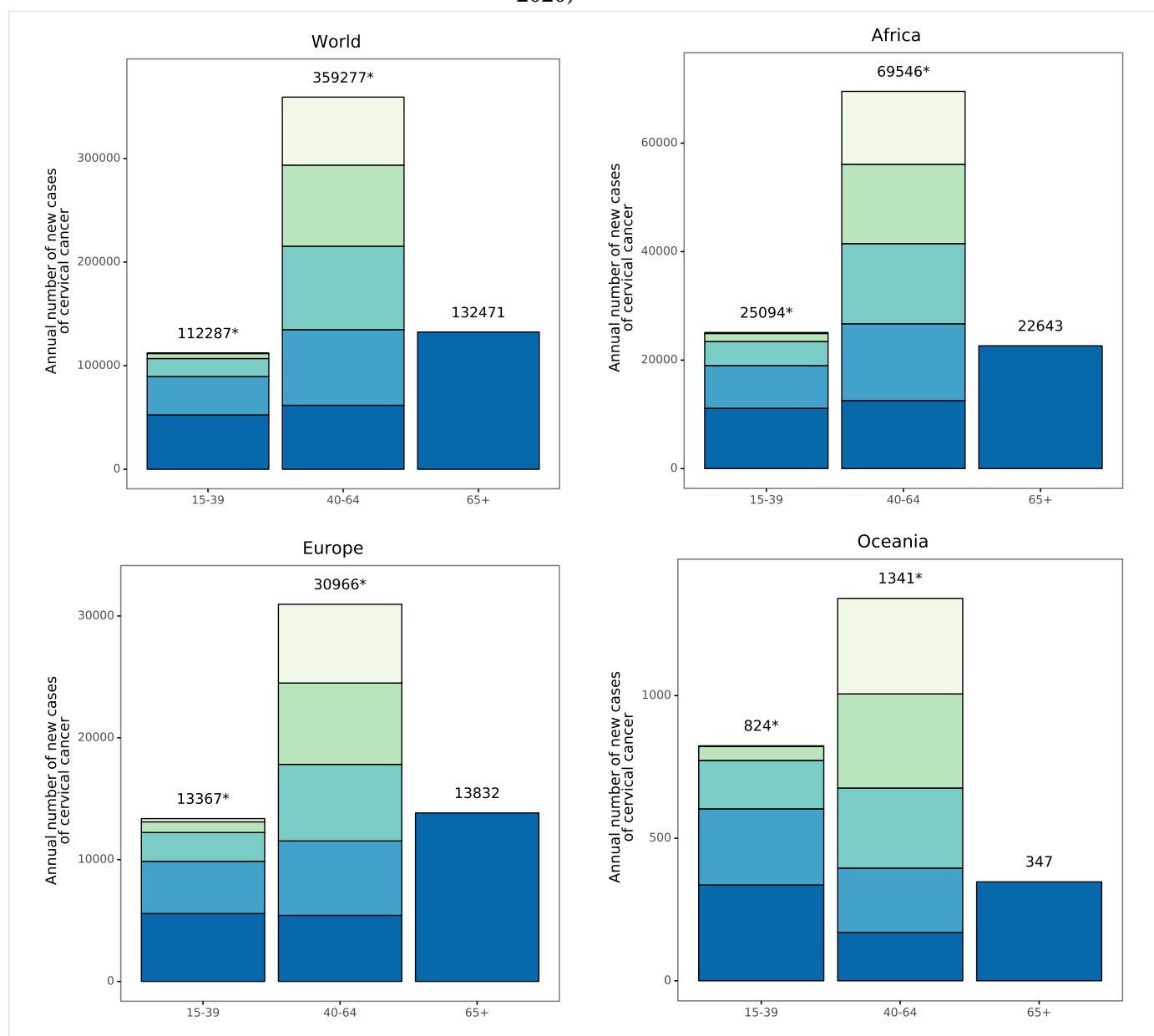
Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	604,127	[582,030.8-627,062.1]	15.6	13.3	1.39	4	2
High income	71,624	[69,708.5-73,592.1]	11.6	8.40	0.80	14	3
Low and middle income	532,239	[240,358.8-255,554.1]	16.4	14.8	1.57	2	2
Upper middle income	247,840	[240,358.8-255,554.1]	17.1	12.8	1.31	5	3
Lower middle income	236,828	[224,446-249,893]	15.9	16.9	1.87	2	2
Low income	47,571	[42,451.1-53,308.4]	15.8	23.8	2.59	2	2
Africa	117,316	[105,998.6-129,841.8]	17.5	25.6	2.82	2	2
Eastern Africa	54,560	[48,276.6-61,661.3]	24.3	40.1	4.46	1	1
Middle Africa	15,646	[13,437.4-18,217.6]	17.4	31.6	3.56	2	2
Northern Africa	6,971	[6,061.2-8,017.3]	5.69	6.25	0.72	4	5
Southern Africa	12,333	[11,952-12,726.2]	36.0	36.4	3.70	2	1
Western Africa	27,806	[23,307.1-33,173.3]	13.9	22.9	2.48	2	2
Americas	74,410	[56,232-62,828.9]	14.3	11.3	1.13	6	3
Caribbean	3,857	[3,427-4,341]	17.5	13.7	1.37	5	2
Central America	13,848	[13,283.5-14,436.5]	15.1	13.8	1.39	2	2
Northern America	14,971	[14,703.2-15,243.7]	8.04	6.15	0.59	14	4
South America	41,734	[38,925.2-44,745.5]	19.1	15.4	1.59	3	3
Asia	351,720	[339,675-364,192.1]	15.5	12.7	1.35	4	3
Central Asia	4,945	[1,677-1,882.9]	13.2	12.7	1.32	2	2
Eastern Asia	129,567	[126,381.1-132,833.1]	15.8	10.8	1.08	7	3
South-Eastern Asia	68,623	[64,656.6-72,832.8]	20.5	17.8	1.91	2	2
Southern Asia	143,183	[883-1,630.8]	15.2	15.4	1.72	2	2
Western Asia	5,402	[4,559-6,400.8]	4.07	4.14	0.45	12	6
Europe	58,169	[56,344.7-60,052.4]	15.0	10.7	1.03	9	3
Eastern Europe	32,348	[31,583.5-33,131]	20.8	14.5	1.42	5	2
Northern Europe	6,666	[6,414.5-6,927.3]	12.4	10.4	0.90	12	2
Southern Europe	9,053	[8,181.3-10,017.5]	11.5	7.72	0.76	14	4
Western Europe	10,102	[9,650.9-10,574.2]	10.1	7.03	0.67	14	4
Oceania	2,512	[2,299.4-2,744.2]	11.8	10.1	0.94	8	3
Australia & New Zealand	1,094	[1,021.2-1,172]	7.17	5.63	0.52	13	5
Melanesia	1,330	[975.5-1,813.4]	24.4	28.3	2.64	2	2
Micronesia	53	[33.3-84.4]	19.5	18.7	1.97	3	2
Polynesia	35	[20.2-60.7]	10.4	9.70	1.06	6	3

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 15: Annual number of new cases of cervical cancer in the World and its regions (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

* World: 15-19 yrs: 616 cases. 20-24 yrs: 4819 cases. 25-29 yrs: 17357 cases. 30-34 yrs: 37106 cases. 35-39 yrs: 52389 cases. 40-44 yrs: 65657 cases. 45-49 yrs: 78299 cases. 50-54 yrs: 80544 cases. 55-59 yrs: 73053 cases. 60-64 yrs: 61724 cases.

* Africa: 15-19 yrs: 180 cases. 20-24 yrs: 1483 cases. 25-29 yrs: 4444 cases. 30-34 yrs: 7873 cases. 35-39 yrs: 11114 cases. 40-44 yrs: 13428 cases. 45-49 yrs: 14640 cases. 50-54 yrs: 14771 cases. 55-59 yrs: 14178 cases. 60-64 yrs: 12529 cases.

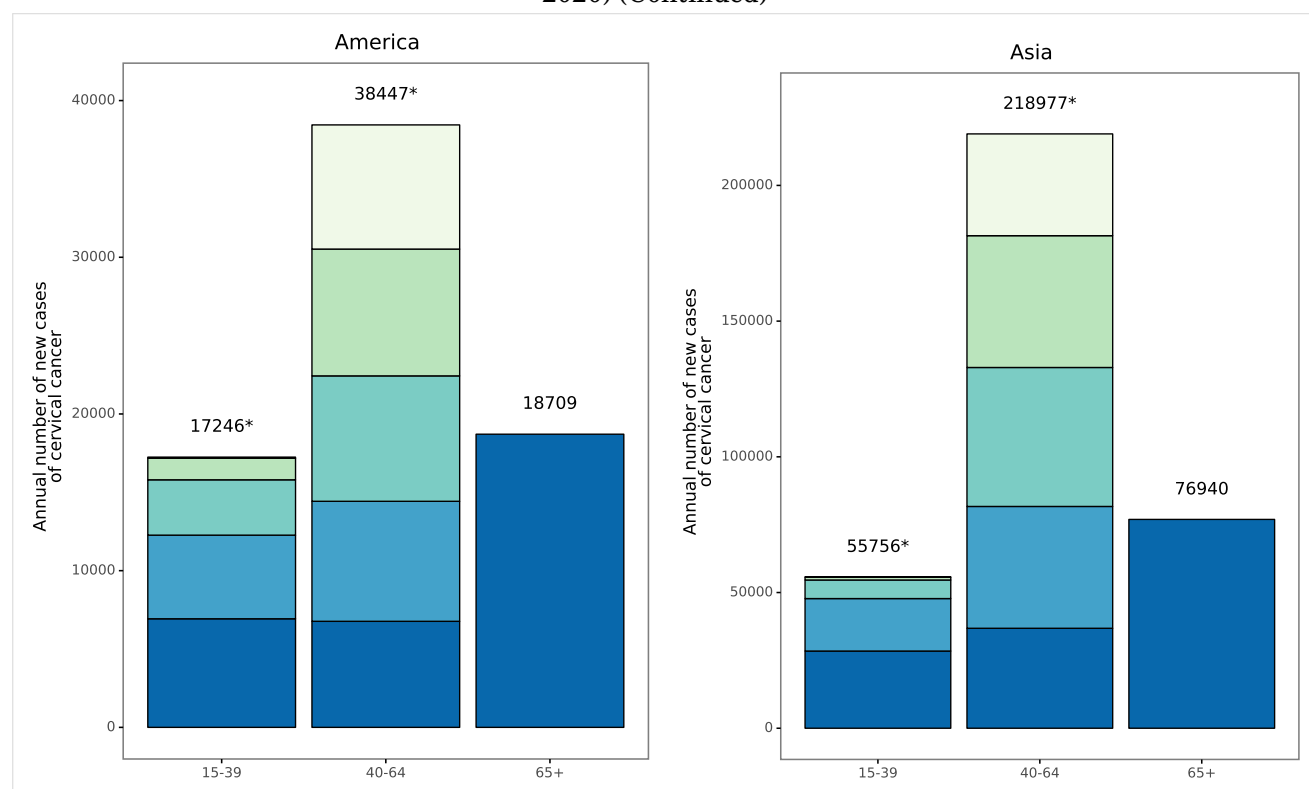
* Europe: 15-19 yrs: 265 cases. 20-24 yrs: 873 cases. 25-29 yrs: 2365 cases. 30-34 yrs: 4295 cases. 35-39 yrs: 5569 cases. 40-44 yrs: 6469 cases. 45-49 yrs: 6677 cases. 50-54 yrs: 6287 cases. 55-59 yrs: 6105 cases. 60-64 yrs: 5428 cases.

* Oceania: 15-19 yrs: 2 cases. 20-24 yrs: 49 cases. 25-29 yrs: 170 cases. 30-34 yrs: 267 cases. 35-39 yrs: 336 cases. 40-44 yrs: 335 cases. 45-49 yrs: 330 cases. 50-54 yrs: 281 cases. 55-59 yrs: 226 cases. 60-64 yrs: 169 cases.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 15: Annual number of new cases of cervical cancer in the World and its regions (estimates for 2020) (Continued)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

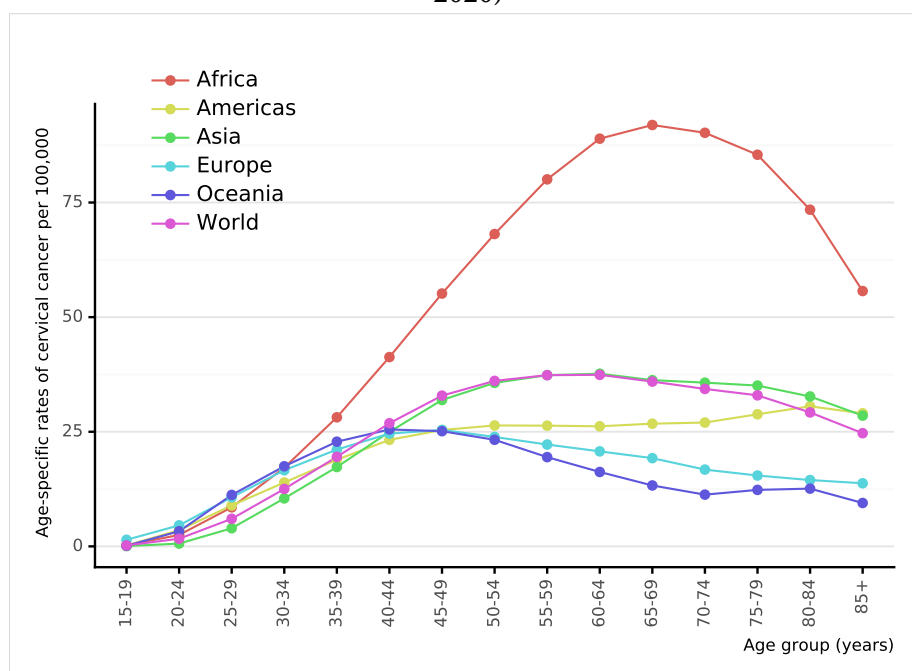
* America: 15-19 yrs: 73 cases. 20-24 yrs: 1374 cases. 25-29 yrs: 3532 cases. 30-34 yrs: 5337 cases. 35-39 yrs: 6930 cases. 40-44 yrs: 7924 cases. 45-49 yrs: 8092 cases. 50-54 yrs: 8004 cases. 55-59 yrs: 7659 cases. 60-64 yrs: 6768 cases.

* Asia: 15-19 yrs: 96 cases. 20-24 yrs: 1040 cases. 25-29 yrs: 6846 cases. 30-34 yrs: 19334 cases. 35-39 yrs: 28440 cases. 40-44 yrs: 37501 cases. 45-49 yrs: 48560 cases. 50-54 yrs: 51201 cases. 55-59 yrs: 44885 cases. 60-64 yrs: 36830 cases.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 16: Age-specific incidence rates of cervical cancer in the World and continents (estimates for 2020)



Data accessed on 27 Jan 2021

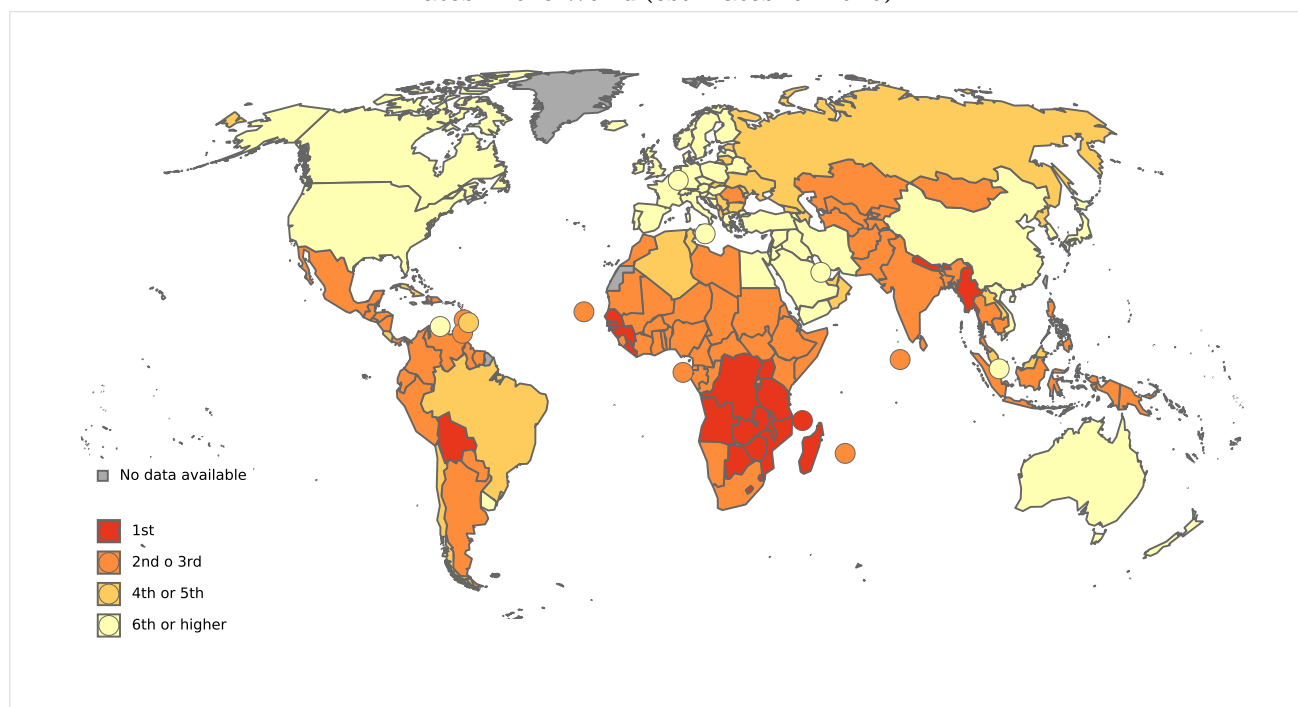
For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 17: Ranking of cervical cancer versus other cancers among all women, according to incidence rates in the World (estimates for 2020)



Data accessed on 27 Jan 2021

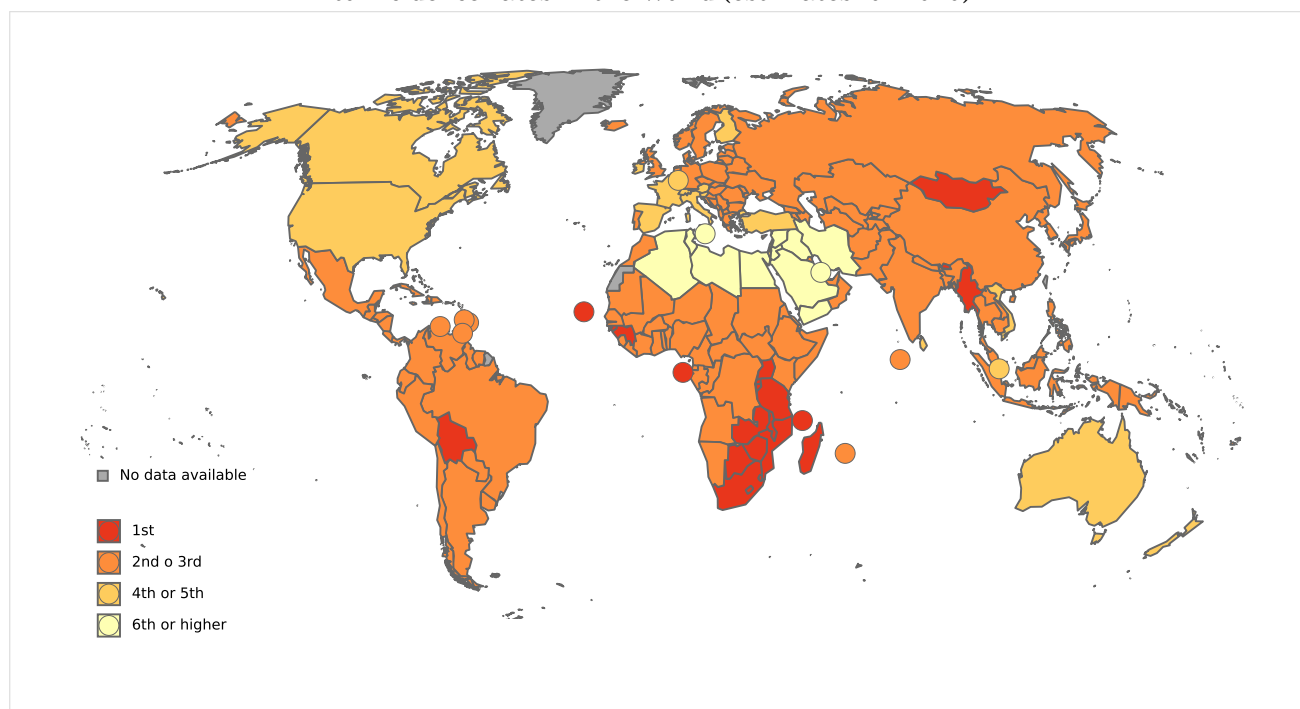
For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Non-melanoma skin cancer is not included

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 18: Ranking of cervical cancer versus other cancers among women aged 15-44 years, according to incidence rates in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Non-melanoma skin cancer is not included

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.3.2 Cervical cancer mortality

Key Stats.

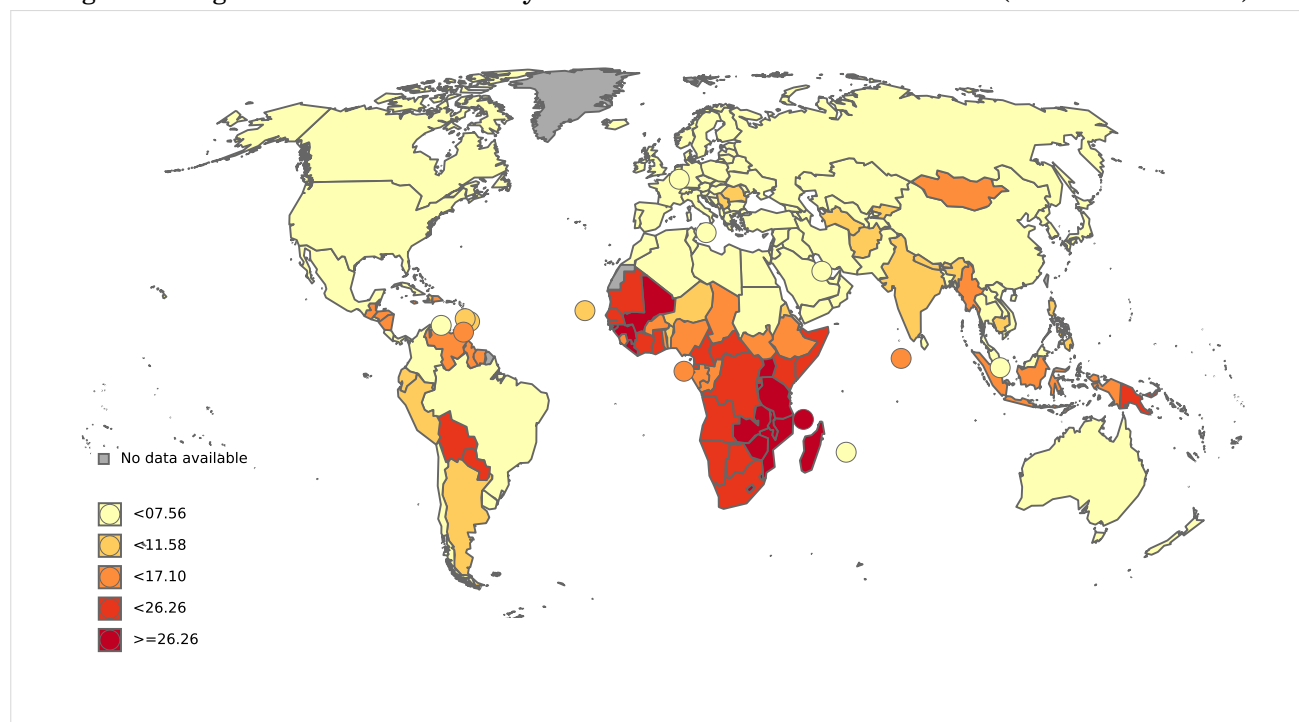
About **341,831 new cervical cancer cases** are diagnosed **annually** in the **World** (estimations for 2020).

Cervical cancer **ranks* as the 4th leading cause** of female cancer in the **World**.

Cervical cancer is the **2nd most common** female cancer in **women aged 15 to 44 years in the World**.

* Ranking of cervical cancer incidence to other cancers among all women according to highest incidence rates (ranking 1st) excluding non-melanoma skin cancer. Ranking is based on crude incidence rates (actual number of cervical cancer cases). Ranking using age-standardized rate (ASR) may differ.

Figure 19: Age-standardised mortality rates of cervical cancer in the World (estimates for 2020)

**Data accessed on 27 Jan 2021**

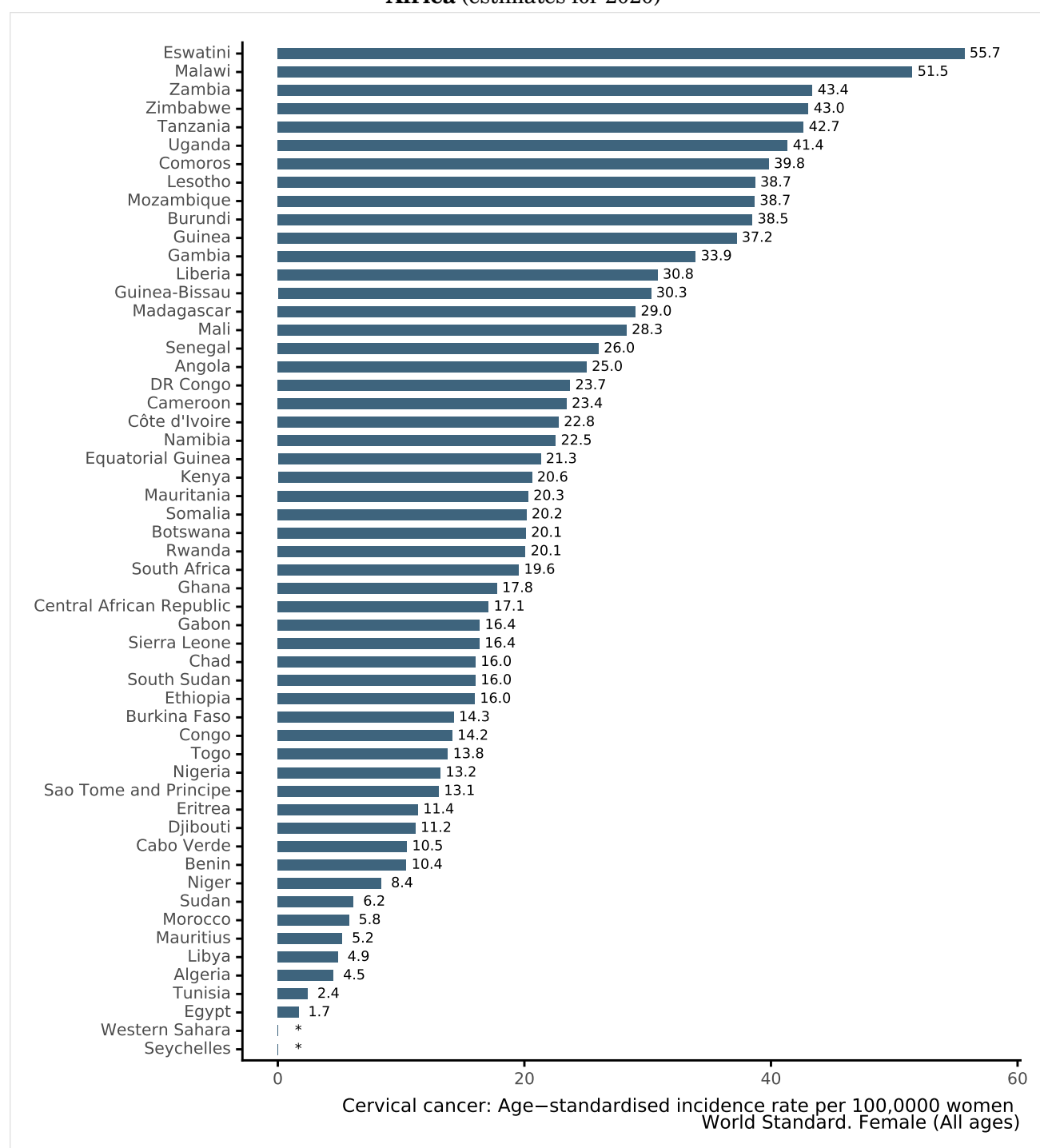
For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 20: Age-standardised mortality rate of cervical cancer cases attributable to HPV by country in **Africa** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

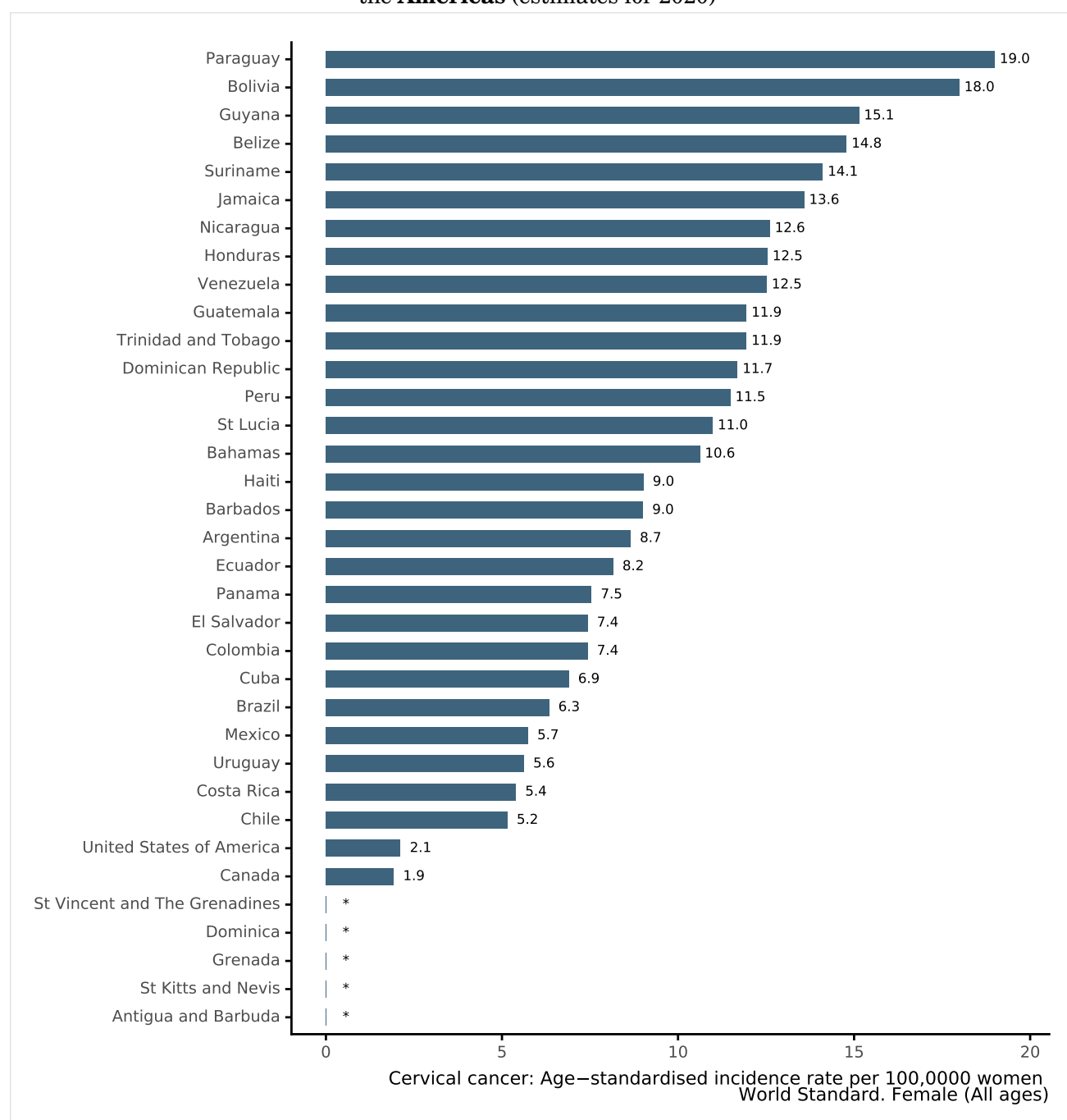
^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 21: Age-standardised mortality rate of cervical cancer cases attributable to HPV by country in the **Americas** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

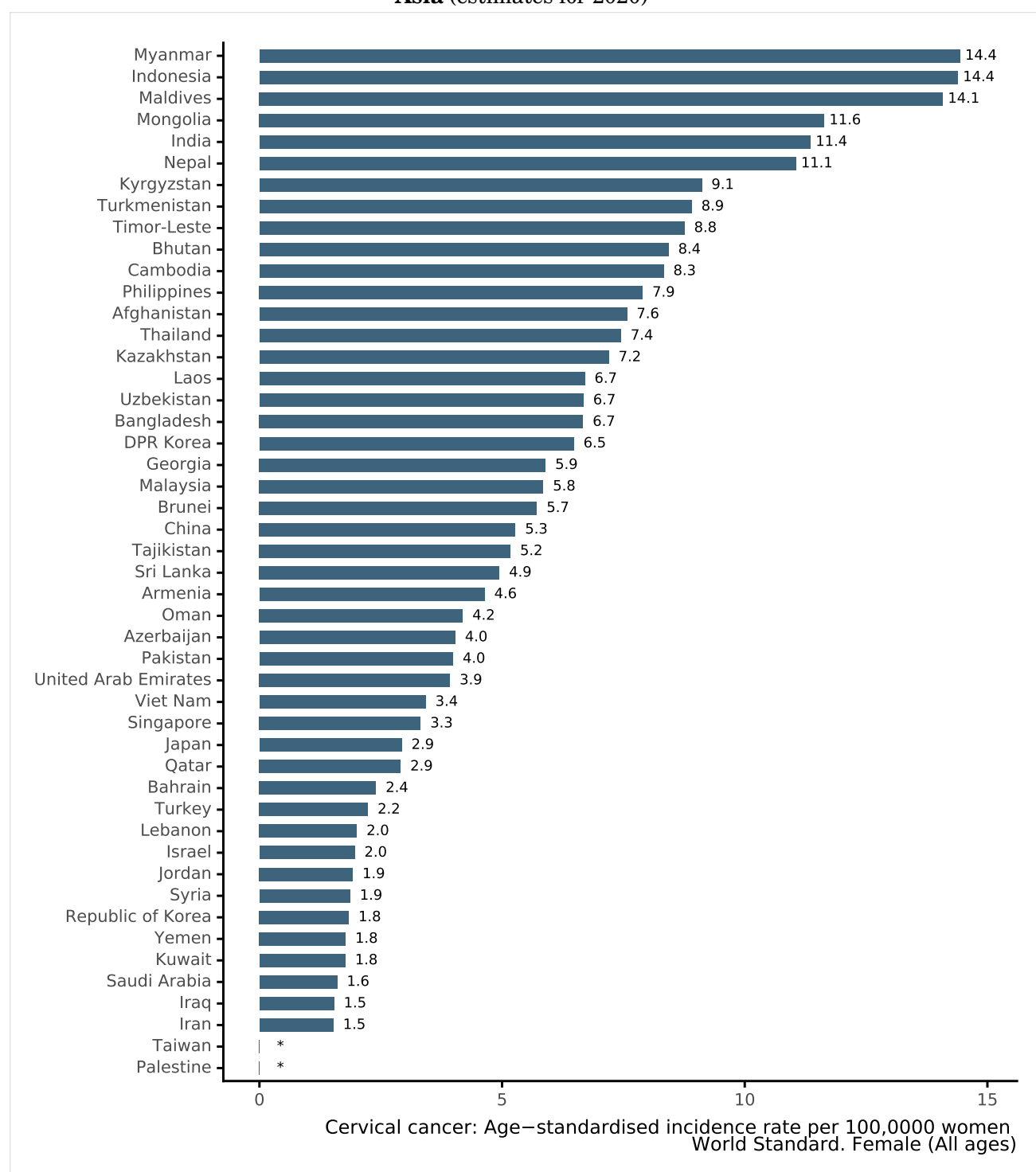
^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 22: Age-standardised mortality rate of cervical cancer cases attributable to HPV by country in **Asia** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

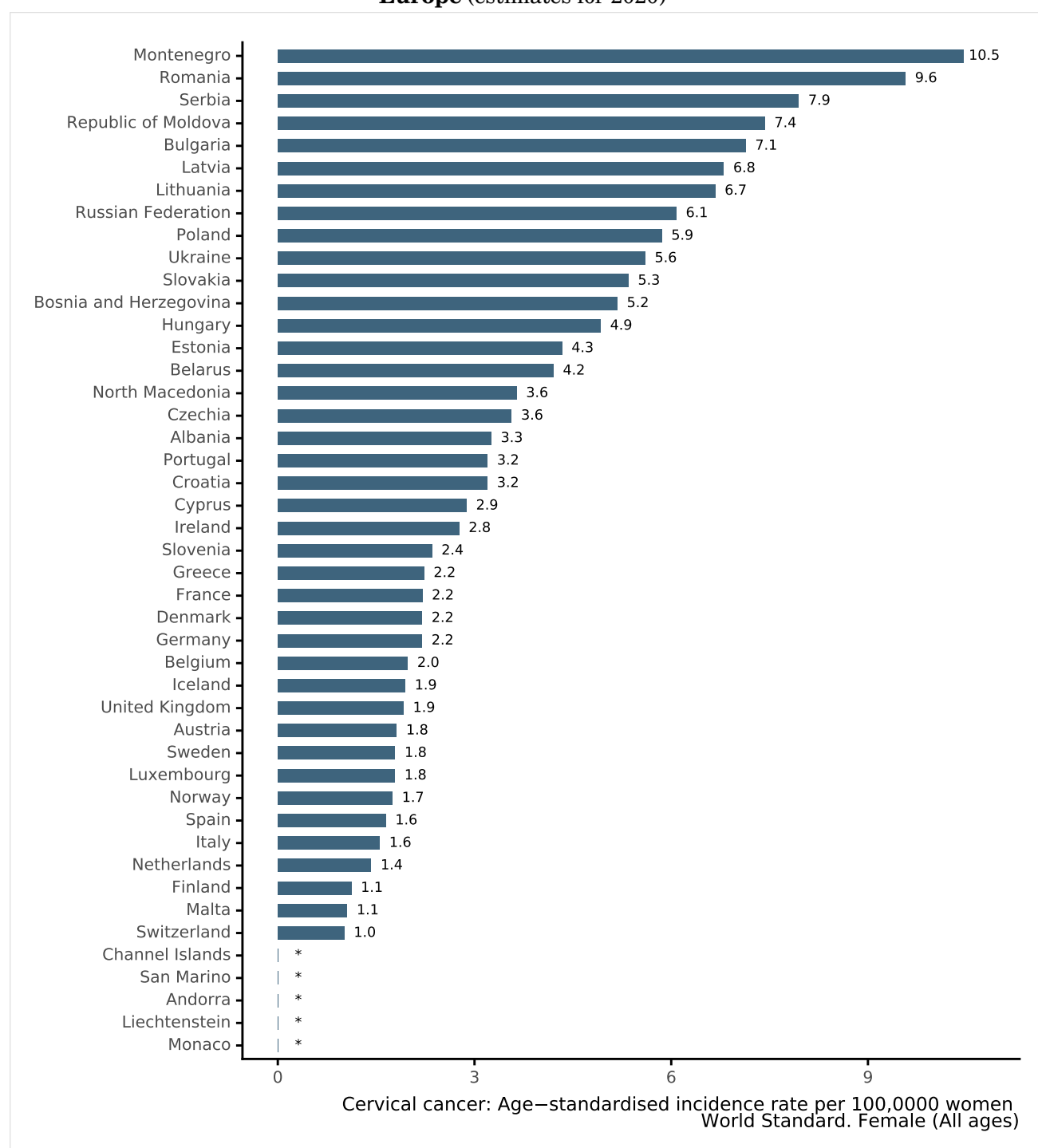
^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 23: Age-standardised mortality rate of cervical cancer cases attributable to HPV by country in Europe (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

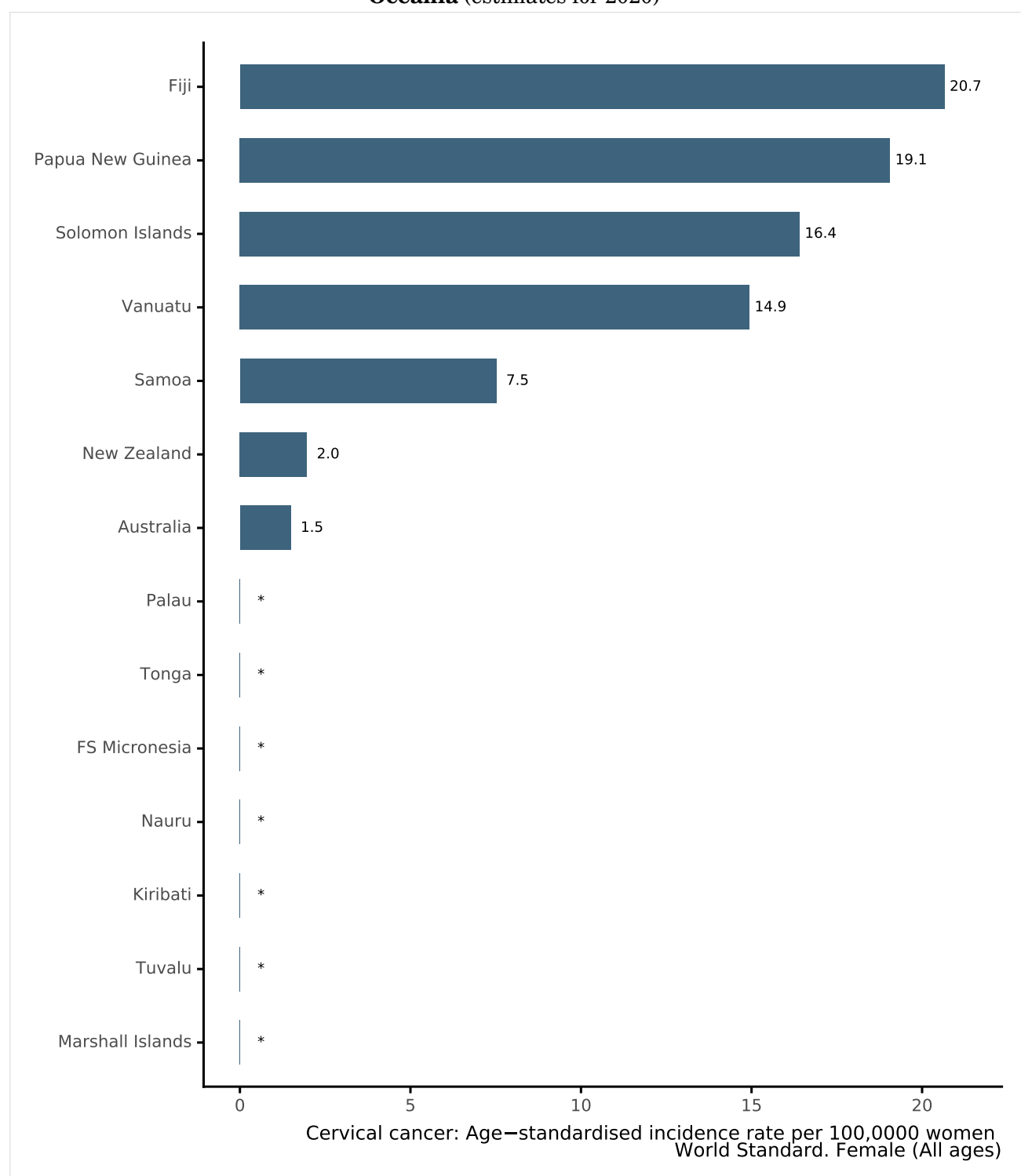
^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 24: Age-standardised mortality rate of cervical cancer cases attributable to HPV by country in **Oceania** (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

* No rates are available

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 5: Mortality of cervical cancer by World region and sub regions (estimates for 2020)

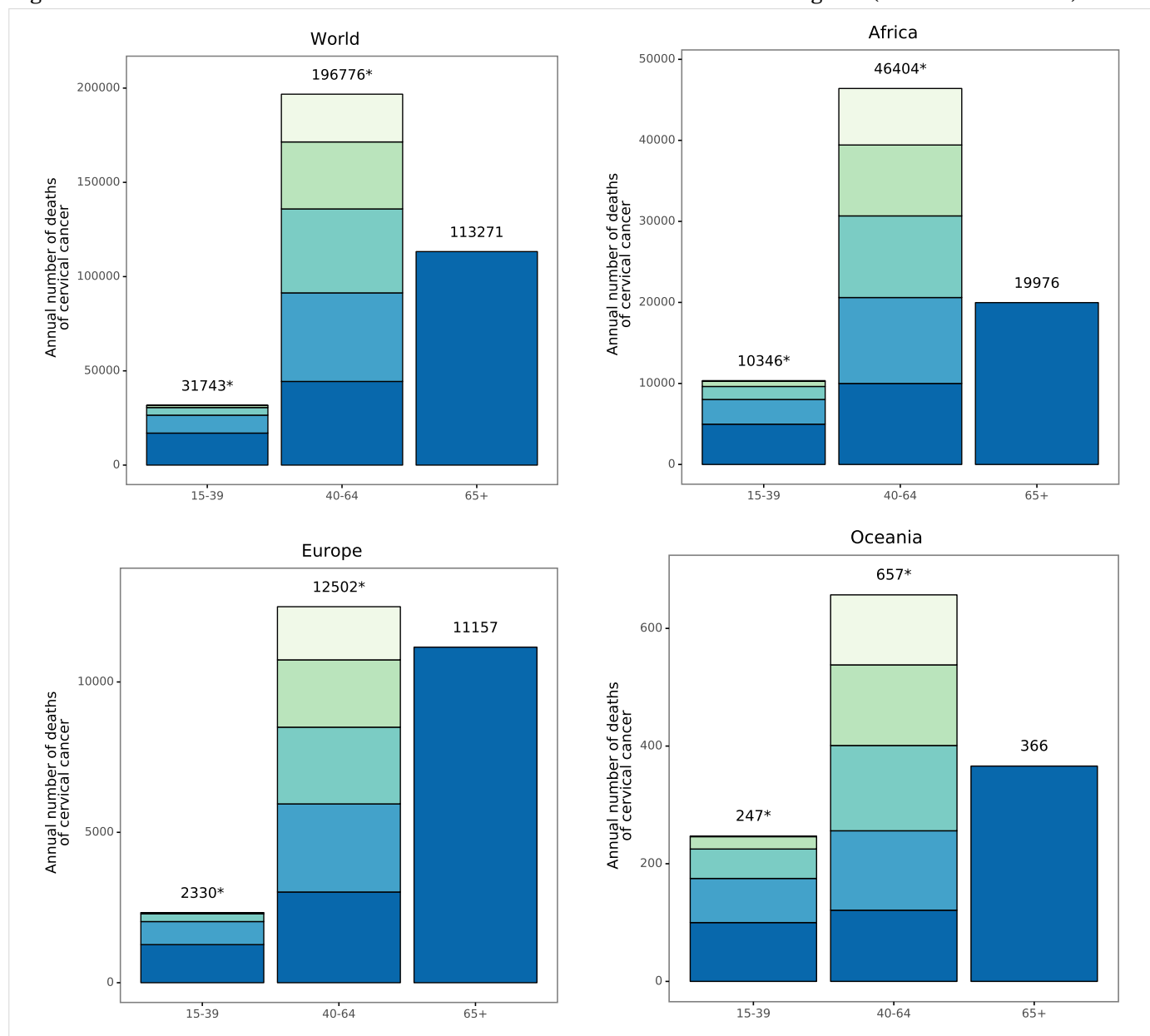
Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	341,831	[324,231.2-360,386.2]	8.84	7.25	0.82	4	2
High income	29,307	[28,102.9-30,562.6]	4.75	2.53	0.27	12	3
Low and middle income	312,373	[127,424.7-139,038.5]	9.62	8.62	0.98	4	2
Upper middle income	133,105	[127,424.7-139,038.5]	9.16	6.49	0.73	6	3
Lower middle income	146,198	[136,048.9-157,104.2]	9.81	10.6	1.22	2	2
Low income	33,070	[29,116.6-37,560.2]	11.0	17.4	2.00	2	2
Africa	76,745	[68,380.2-86,133.1]	11.4	17.7	2.05	2	2
Eastern Africa	36,497	[31,705.6-42,012.5]	16.3	28.6	3.36	1	1
Middle Africa	10,572	[9,081.2-12,307.8]	11.8	22.7	2.66	1	2
Northern Africa	4,033	[3,453.4-7,110.4]	3.29	3.71	0.46	5	8
Southern Africa	6,867	[6,638.4-7,103.5]	20.0	20.6	2.21	1	1
Western Africa	18,776	[15,429.2-22,849.1]	9.41	16.6	1.88	2	2
Americas	37,925	[30,601.2-32,594.3]	7.31	5.27	0.55	5	3
Caribbean	2,495	[2,237.7-2,781.9]	11.3	8.22	0.89	4	2
Central America	6,866	[6,620.6-7,120.5]	7.49	6.80	0.74	3	2
Northern America	6,343	[6,162.8-6,528.4]	3.40	2.10	0.22	12	3
South America	22,221	[21,594.3-22,865.9]	10.2	7.81	0.82	4	2
Asia	199,902	[188,272.7-212,249.6]	8.82	7.05	0.81	4	2
Central Asia	2,678	[769-904.4]	7.14	7.00	0.77	3	2
Eastern Asia	66,436	[63,239.9-69,793.7]	8.08	4.95	0.57	8	3
South-Eastern Asia	38,530	[36,257.7-40,944.7]	11.5	9.98	1.16	3	2
Southern Asia	89,307	[618.6-1,094.9]	9.50	9.75	1.12	2	2
Western Asia	2,951	[2,640.3-3,298.3]	2.23	2.30	0.27	12	8
Europe	25,989	[24,919.5-27,104.4]	6.71	3.76	0.40	10	3
Eastern Europe	15,854	[15,372.7-16,350.4]	10.2	6.06	0.65	7	2
Northern Europe	2,134	[1,983.5-2,295.9]	3.97	2.18	0.22	16	3
Southern Europe	3,705	[3,430.7-4,001.2]	4.72	2.31	0.25	14	3
Western Europe	4,296	[4,063.9-4,541.4]	4.31	2.05	0.22	15	4
Oceania	1,270	[1,088.5-1,481.8]	5.96	4.62	0.46	6	3
Australia & New Zealand	409	[362.2-461.9]	2.68	1.57	0.16	16	4
Melanesia	818	[601.5-1,112.5]	15.0	18.6	1.84	2	1
Micronesia	24	[8.90-64.8]	8.83	8.16	0.97	4	20
Polynesia	19	[5.10-71.2]	5.64	5.32	0.58	6	2

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 25: Annual number of deaths of cervical cancer in the World and its regions (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

* World: 15-19 yrs: 144 cases. 20-24 yrs: 1055 cases. 25-29 yrs: 4057 cases. 30-34 yrs: 9506 cases. 35-39 yrs: 16981 cases. 40-44 yrs: 25334 cases. 45-49 yrs: 35535 cases. 50-54 yrs: 44540 cases. 55-59 yrs: 46997 cases. 60-64 yrs: 44370 cases.

* Africa: 15-19 yrs: 86 cases. 20-24 yrs: 636 cases. 25-29 yrs: 1599 cases. 30-34 yrs: 3049 cases. 35-39 yrs: 4976 cases. 40-44 yrs: 6975 cases. 45-49 yrs: 8752 cases. 50-54 yrs: 10074 cases. 55-59 yrs: 10603 cases. 60-64 yrs: 10000 cases.

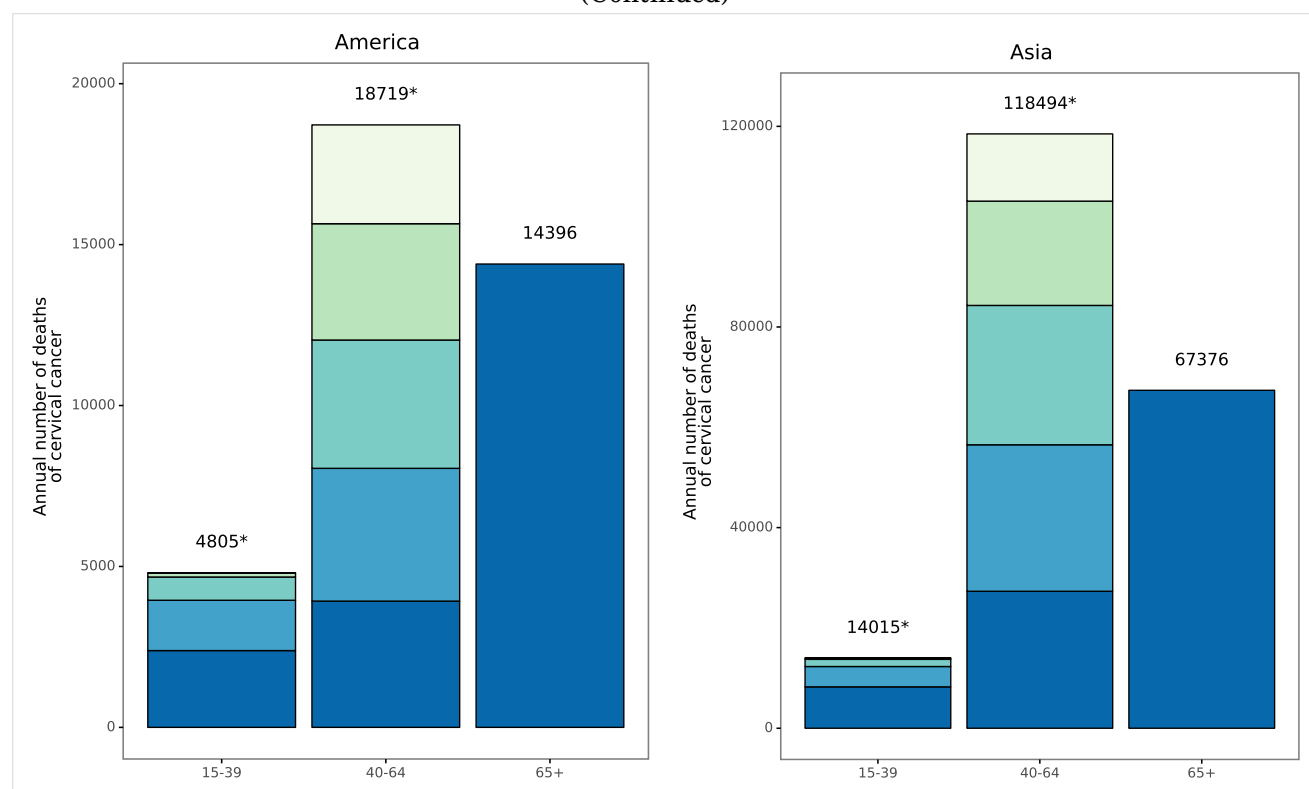
* Europe: 15-19 yrs: 6 cases. 20-24 yrs: 35 cases. 25-29 yrs: 256 cases. 30-34 yrs: 766 cases. 35-39 yrs: 1267 cases. 40-44 yrs: 1767 cases. 45-49 yrs: 2239 cases. 50-54 yrs: 2550 cases. 55-59 yrs: 2930 cases. 60-64 yrs: 3016 cases.

* Oceania: 15-19 yrs: 1 cases. 20-24 yrs: 21 cases. 25-29 yrs: 50 cases. 30-34 yrs: 75 cases. 35-39 yrs: 100 cases. 40-44 yrs: 119 cases. 45-49 yrs: 137 cases. 50-54 yrs: 145 cases. 55-59 yrs: 135 cases. 60-64 yrs: 121 cases.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 25: Annual number of deaths of cervical cancer in the World and its regions (estimates for 2020)
(Continued)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

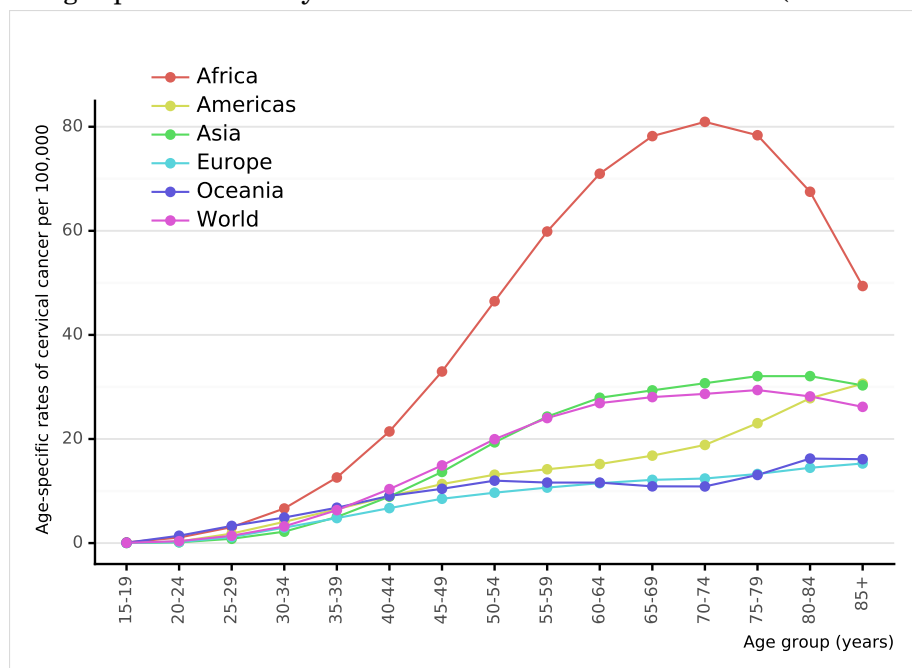
* America: 15-19 yrs: 15 cases. 20-24 yrs: 118 cases. 25-29 yrs: 723 cases. 30-34 yrs: 1563 cases. 35-39 yrs: 2386 cases. 40-44 yrs: 3070 cases. 45-49 yrs: 3614 cases. 50-54 yrs: 3987 cases. 55-59 yrs: 4125 cases. 60-64 yrs: 3923 cases.

* Asia: 15-19 yrs: 36 cases. 20-24 yrs: 245 cases. 25-29 yrs: 1429 cases. 30-34 yrs: 4053 cases. 35-39 yrs: 8252 cases. 40-44 yrs: 13403 cases. 45-49 yrs: 20793 cases. 50-54 yrs: 27784 cases. 55-59 yrs: 29204 cases. 60-64 yrs: 27310 cases.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 26: Age-specific mortality rates of cervical cancer in the World (estimates for 2020)



Data accessed on 27 Jan 2021

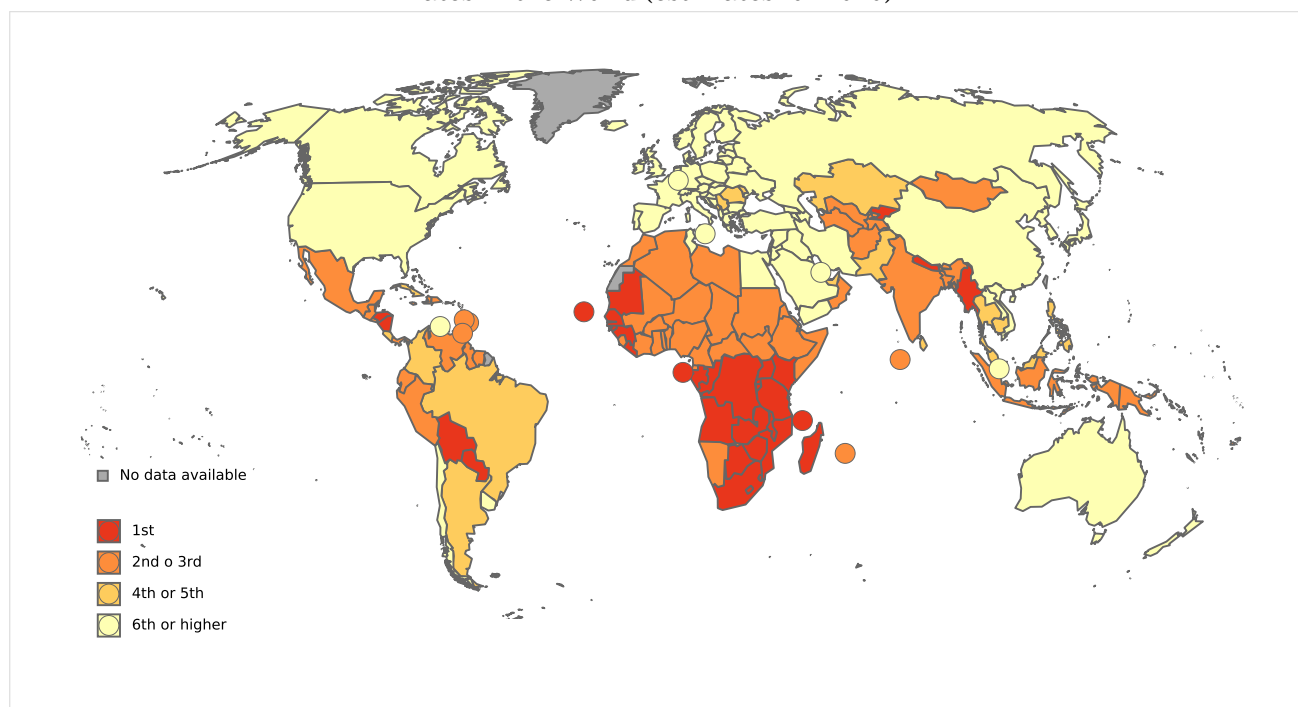
For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 27: Ranking of cervical cancer versus other cancers among all women, according to mortality rates in the World (estimates for 2020)



Data accessed on 27 Jan 2021

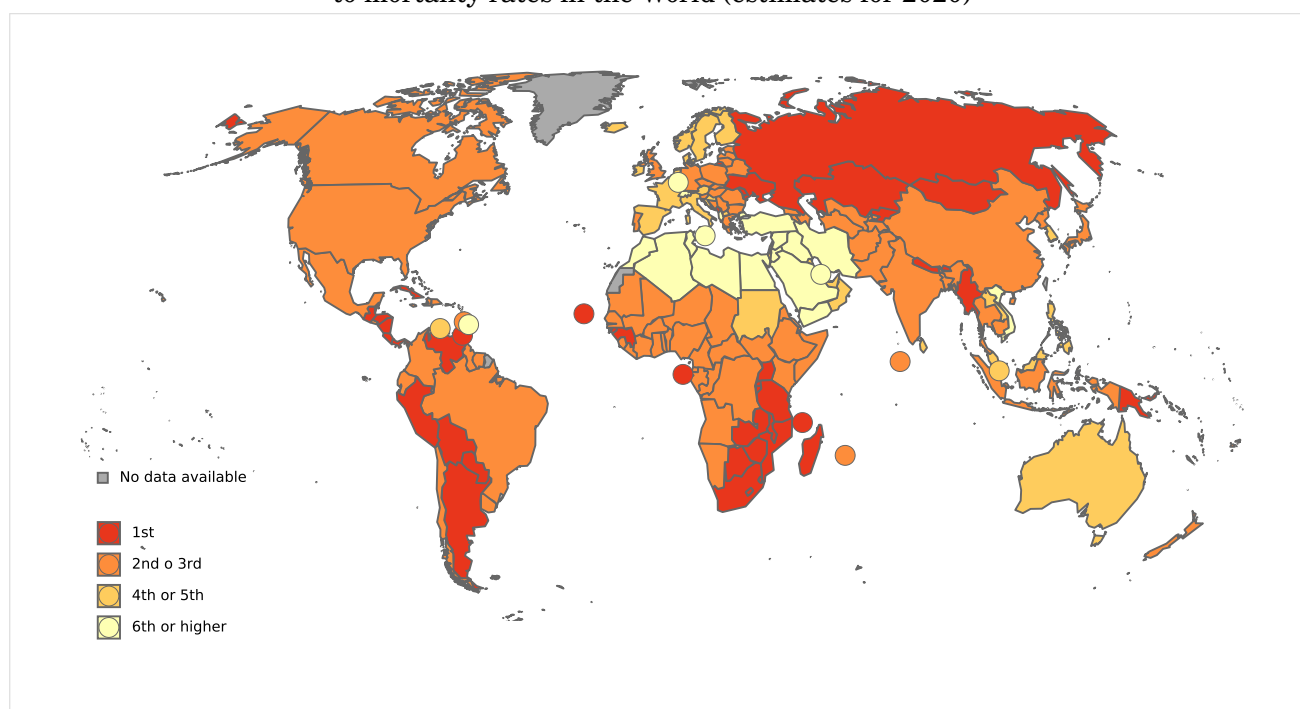
For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Non-melanoma skin cancer is not included

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 28: Ranking of cervical cancer versus other cancers among women aged 15-44 years, according to mortality rates in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Non-melanoma skin cancer is not included

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.4 Anogenital cancers other than the cervix

3.4.1 Anal cancer

3.4.1.1 Anal cancer incidence

Table 6: Incidence of anal cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	29,159	[25,656.5-33,139.6]	0.75	0.58	0.07	24	26
High income	15,133	[14,378.1-15,927.5]	2.45	1.24	0.15	22	22
Low and middle income	14,015	[6,144.7-9,212.9]	0.43	0.38	0.04	26	27
Upper middle income	7,524	[6,144.7-9,212.9]	0.52	0.35	0.04	26	26
Lower middle income	5,592	[3,922.2-7,972.7]	0.38	0.41	0.05	28	29
Low income	899	[486.9-1,659.9]	0.30	0.46	0.05	26	22
Africa	2,959	[1,554.6-5,632.2]	0.44	0.68	0.08	25	22
Eastern Africa	1,162	[503.5-2,681.4]	0.52	0.91	0.10	22	21
Middle Africa	440	[150.6-1,285.4]	0.49	1.01	0.13	21	26
Northern Africa	367	[197.2-683.1]	0.30	0.33	0.04	26	27
Southern Africa	294	[237-364.7]	0.86	0.85	0.09	23	13
Western Africa	696	[244.3-1,982.9]	0.35	0.60	0.07	23	20
Americas	9,664	[2,906.3-4,292.4]	1.86	1.25	0.15	21	22
Caribbean	214	[104.1-439.7]	0.97	0.69	0.08	22	27
Central America	280	[179.1-437.7]	0.31	0.27	0.03	25	24
Northern America	6,132	[5,963.5-6,305.2]	3.29	1.83	0.22	20	22
South America	3,038	[2,372.4-3,890.3]	1.39	1.01	0.12	21	21
Asia	7,601	[5,951.7-9,707.3]	0.34	0.26	0.03	28	28
Central Asia	221	[29.5-74.8]	0.59	0.60	0.07	22	20
Eastern Asia	3,241	[2,727-3,851.9]	0.39	0.22	0.02	25	25
South-Eastern Asia	1,054	[486.4-2,284.1]	0.31	0.26	0.03	26	25
Southern Asia	2,801	[8.40-209.2]	0.30	0.31	0.04	27	29
Western Asia	284	[126.2-639.1]	0.21	0.22	0.03	28	30
Europe	8,449	[7,571.8-9,427.8]	2.18	1.05	0.12	23	21
Eastern Europe	1,558	[1,227.7-1,977.1]	1.00	0.50	0.06	24	26
Northern Europe	1,557	[1,449.8-1,672.1]	2.90	1.57	0.19	21	19
Southern Europe	1,385	[1,081.9-1,773.1]	1.77	0.70	0.08	23	25
Western Europe	3,949	[3,658.6-4,262.4]	3.96	1.95	0.22	21	18
Oceania	486	[420.6-561.6]	2.28	1.55	0.19	21	21
Australia & New Zealand	421	[376.2-471.1]	2.76	1.60	0.19	21	21
Melanesia	65	[19.3-218.7]	1.19	1.72	0.21	15	19
Micronesia	0	[0-15.6]	0	0	0	29	9
Polynesia	0	[0-12.8]	0	0	0	25	21

Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

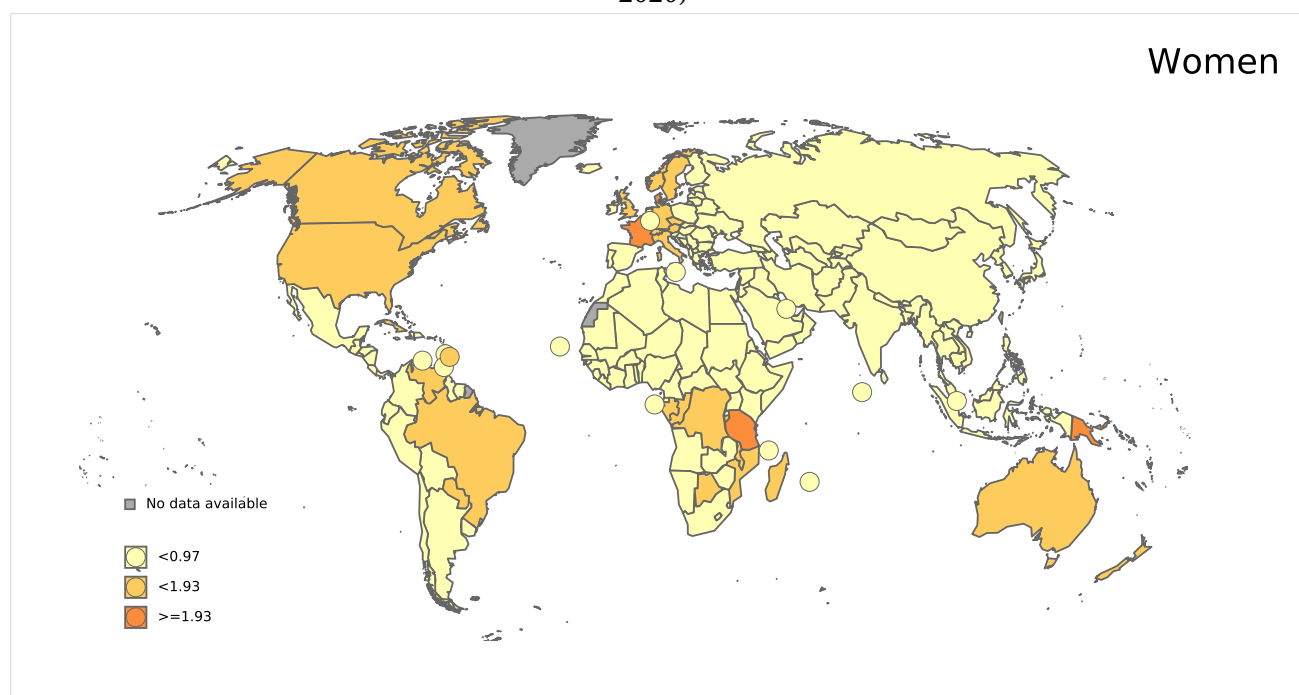
^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 29: Age-standardised incidence rates of anal cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 7: Incidence of anal cancer in men by World region and sub regions (estimates for 2020)

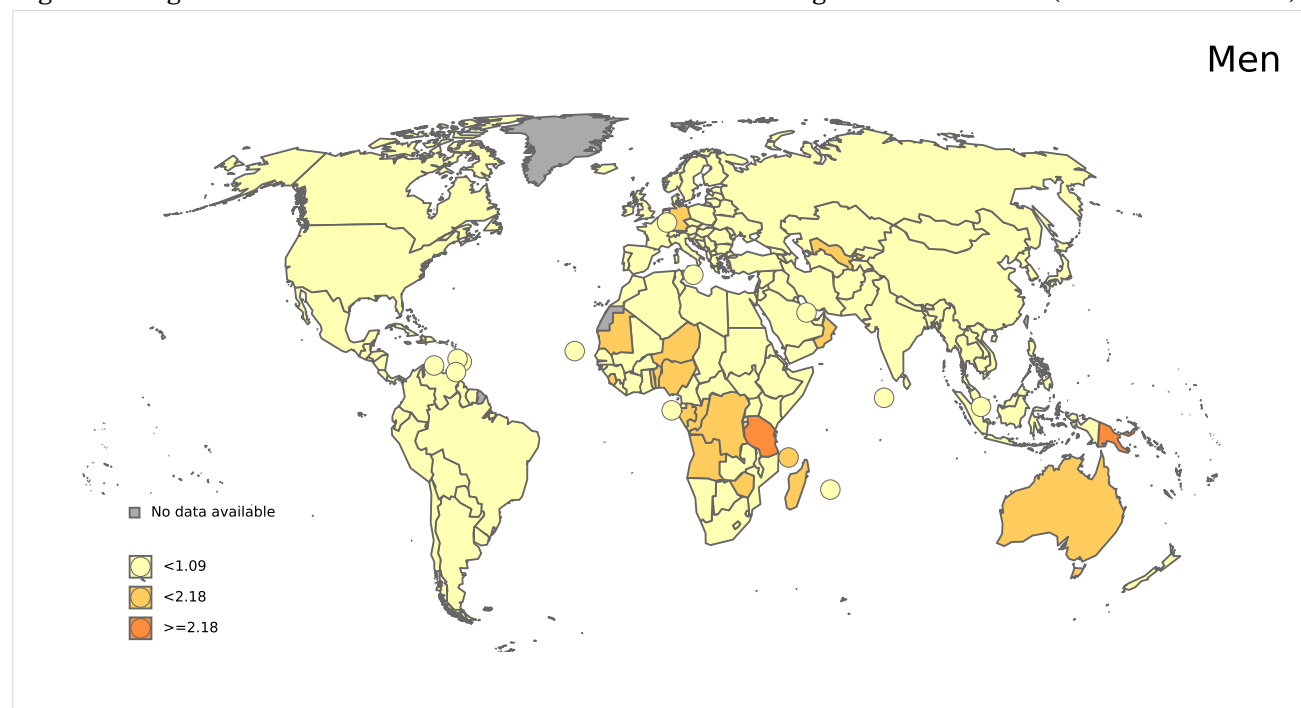
Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	21,706	[18,432.1-25,561.4]	0.55	0.49	0.06	27	26
High income	8,026	[7,461.8-8,632.9]	1.31	0.74	0.09	26	25
Low and middle income	13,675	[4,728.3-7,077.8]	0.41	0.41	0.05	27	26
Upper middle income	5,785	[4,728.3-7,077.8]	0.39	0.30	0.03	27	25
Lower middle income	6,958	[5,161.7-9,379.5]	0.45	0.54	0.06	25	24
Low income	932	[476.9-1,821.2]	0.31	0.60	0.07	24	23
Africa	3,161	[1,598.8-6,249.5]	0.47	0.84	0.10	21	20
Eastern Africa	907	[321.2-2,561.5]	0.41	0.93	0.11	21	23
Middle Africa	490	[153.9-1,560.3]	0.55	1.23	0.15	18	20
Northern Africa	476	[261.5-866.4]	0.38	0.46	0.05	23	22
Southern Africa	208	[163.5-264.6]	0.63	0.78	0.09	23	21
Western Africa	1,080	[443.4-2,630.6]	0.53	0.98	0.11	19	12
Americas	4,860	[1,372.9-2,399.5]	0.96	0.74	0.09	23	24
Caribbean	174	[80.3-377.3]	0.81	0.58	0.06	25	25
Central America	157	[91.7-268.7]	0.18	0.18	0.02	27	25
Northern America	3,045	[2,928.5-3,166.1]	1.67	1.04	0.12	23	23
South America	1,484	[1,014.6-2,170.7]	0.70	0.61	0.07	26	24
Asia	9,044	[7,266.5-11,256.4]	0.38	0.33	0.04	26	26
Central Asia	241	[12.6-49.7]	0.65	0.78	0.09	19	15
Eastern Asia	3,151	[2,680.5-3,704]	0.37	0.24	0.03	27	26
South-Eastern Asia	1,227	[592.1-2,542.8]	0.37	0.37	0.04	26	24
Southern Asia	4,068	[12.3-398.8]	0.41	0.45	0.05	25	24
Western Asia	357	[167.4-761.5]	0.24	0.29	0.03	25	26
Europe	4,327	[3,714.5-5,040.4]	1.20	0.66	0.08	25	26
Eastern Europe	900	[648-1,250.1]	0.65	0.41	0.05	27	27
Northern Europe	750	[675.8-832.3]	1.43	0.79	0.09	25	25
Southern Europe	966	[704.1-1,325.3]	1.29	0.62	0.07	28	26
Western Europe	1,711	[1,532.8-1,909.9]	1.78	0.96	0.11	24	22
Oceania	314	[261.4-377.2]	1.47	1.01	0.12	22	25
Australia & New Zealand	266	[230.9-306.4]	1.77	1.03	0.13	22	24
Melanesia	48	[13.2-175]	0.85	1.72	0.18	20	25
Micronesia	0	[0-15.6]	0	0	0	19	18
Polynesia	0	[0-12.8]	0	0	0	24	18

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 30: Age-standardised incidence rates of anal cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

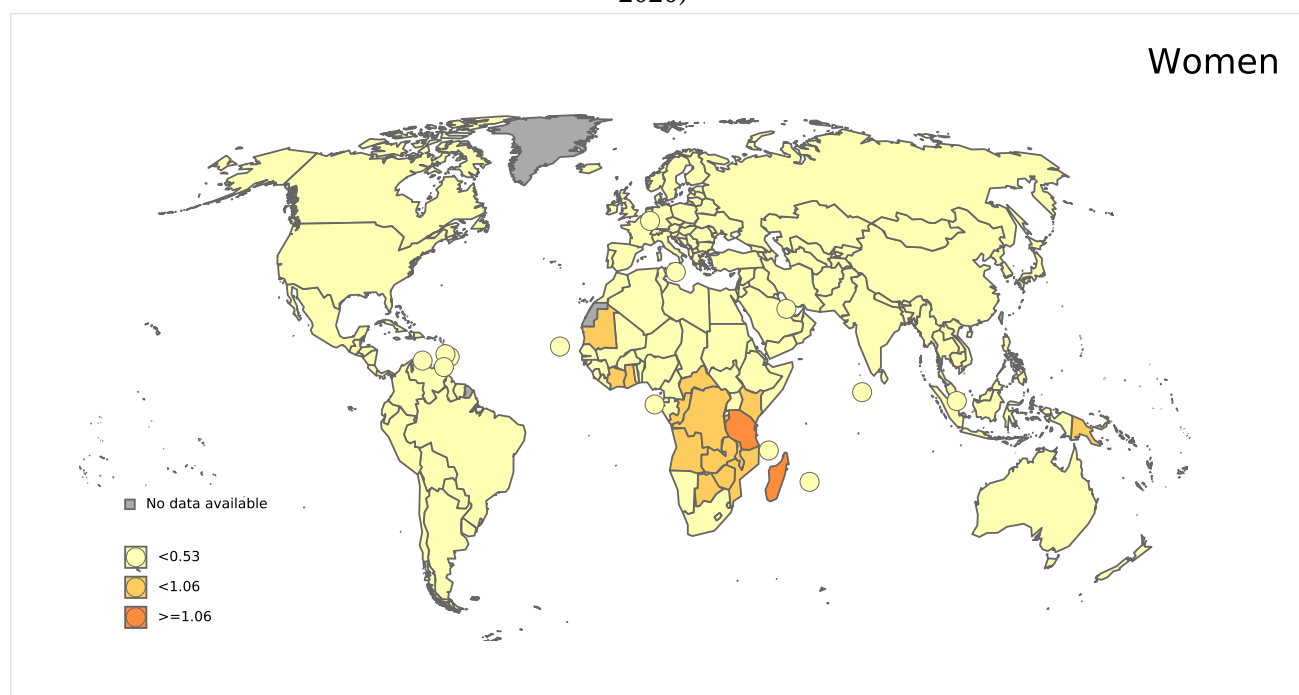
3.4.1.2 Anal cancer mortality

Table 8: Mortality of anal cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	9,877	[7,794.6-12,515.7]	0.26	0.19	0.02	24	29
High income	3,486	[3,111.6-3,905.5]	0.56	0.22	0.02	23	23
Low and middle income	6,391	[2,029.7-3,441.6]	0.20	0.17	0.02	26	29
Upper middle income	2,643	[2,029.7-3,441.6]	0.18	0.12	0.01	25	28
Lower middle income	3,101	[2,099.8-4,579.5]	0.21	0.23	0.03	29	29
Low income	647	[325.9-1,284.3]	0.21	0.34	0.04	24	21
Africa	1,937	[931.6-4,027.6]	0.29	0.46	0.05	23	20
Eastern Africa	846	[323.3-2,213.6]	0.38	0.68	0.08	21	18
Middle Africa	327	[110.7-965.6]	0.36	0.76	0.10	19	24
Northern Africa	179	[89.8-356.8]	0.15	0.16	0.02	26	24
Southern Africa	80	[55.3-115.6]	0.23	0.23	0.02	25	17
Western Africa	505	[191.2-1,334]	0.25	0.45	0.05	22	17
Americas	1,843	[731.5-1,032.4]	0.36	0.22	0.03	23	22
Caribbean	55	[26.3-114.8]	0.25	0.17	0.02	26	28
Central America	82	[55.4-121.3]	0.09	0.08	0.01	28	24
Northern America	974	[905.6-1,047.6]	0.52	0.26	0.03	22	19
South America	732	[635.8-842.7]	0.33	0.23	0.03	24	24
Asia	3,570	[2,573.9-4,951.6]	0.16	0.12	0.01	29	30
Central Asia	119	[17.5-41.8]	0.32	0.33	0.04	22	20
Eastern Asia	1,454	[1,117-1,892.6]	0.18	0.09	0.01	25	28
South-Eastern Asia	443	[199-986]	0.13	0.11	0.01	27	29
Southern Asia	1,440	[5.40-106.9]	0.15	0.16	0.02	28	28
Western Asia	114	[42.6-305.1]	0.09	0.09	0.01	28	31
Europe	2,427	[2,042.4-2,884]	0.63	0.24	0.03	23	24
Eastern Europe	715	[514.6-993.4]	0.46	0.20	0.02	25	29
Northern Europe	452	[394.7-517.6]	0.84	0.33	0.04	23	18
Southern Europe	376	[307.3-460.1]	0.48	0.16	0.02	26	23
Western Europe	884	[781.9-999.4]	0.89	0.31	0.03	23	18
Oceania	100	[69.1-144.7]	0.47	0.27	0.03	23	24
Australia & New Zealand	79	[59.3-105.2]	0.52	0.23	0.03	23	26
Melanesia	21	[10.5-42.2]	0.39	0.60	0.07	18	22
Micronesia	0	[0-9.20]	0	0	0	28	11
Polynesia	0	[0-11.3]	0	0	0	22	14

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 women per year.**Data Sources:**Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 31: Age-standardised mortality rates of anal cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 9: Mortality of anal cancer in men by World region and sub regions (estimates for 2020)

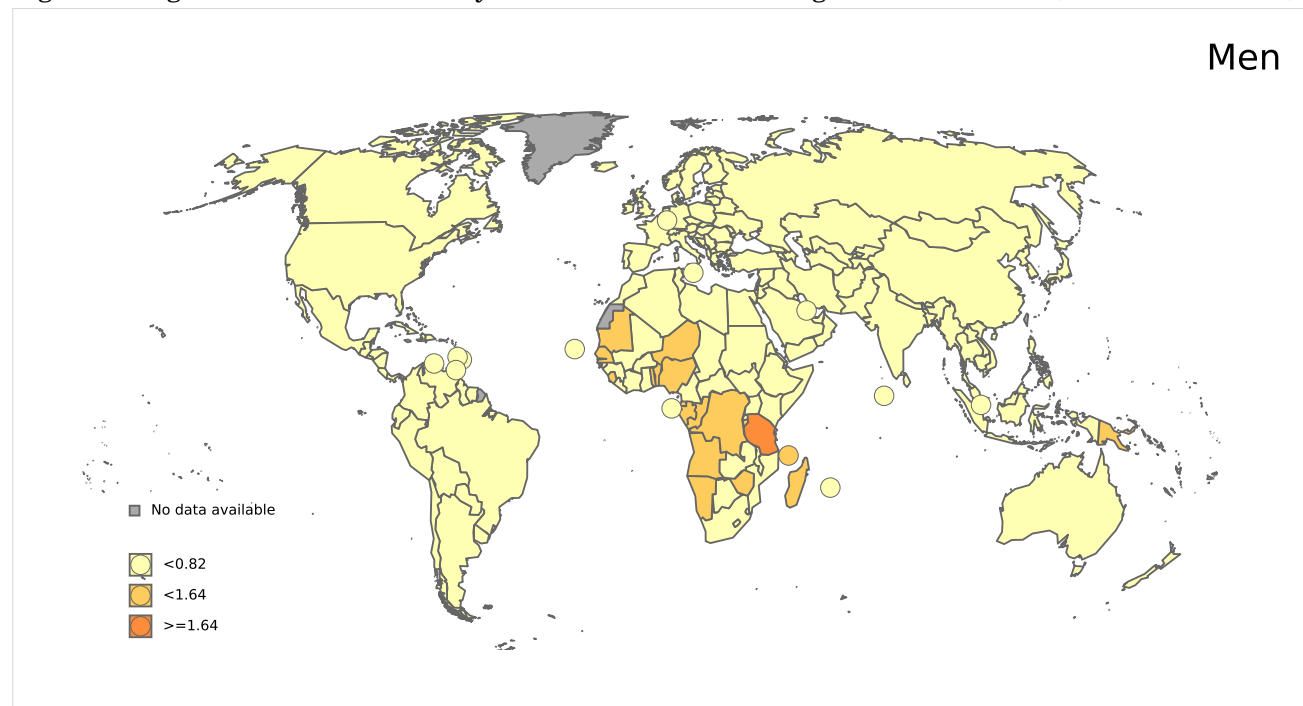
Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	9,416	[7,282.2-12,175]	0.24	0.21	0.02	27	25
High income	2,321	[1,998.9-2,695]	0.38	0.19	0.02	25	24
Low and middle income	7,095	[1,991-3,330.3]	0.21	0.21	0.02	27	25
Upper middle income	2,575	[1,991-3,330.3]	0.18	0.13	0.02	27	28
Lower middle income	3,869	[2,550.2-5,869.8]	0.25	0.31	0.04	24	23
Low income	651	[307.8-1,376.7]	0.22	0.43	0.05	22	20
Africa	2,124	[978.3-4,611.5]	0.32	0.59	0.07	19	17
Eastern Africa	657	[201.7-2,139.7]	0.30	0.70	0.08	19	20
Middle Africa	359	[111.3-1,157.8]	0.40	0.95	0.12	18	19
Northern Africa	235	[120.9-456.9]	0.19	0.24	0.02	21	26
Southern Africa	73	[49.8-107]	0.22	0.30	0.03	24	21
Western Africa	800	[303.2-1,123]	0.40	0.77	0.09	16	11
Americas	1,055	[404.5-635.4]	0.21	0.15	0.02	27	24
Caribbean	53	[23.2-121.3]	0.25	0.17	0.01	26	27
Central America	46	[28.7-73.8]	0.05	0.05	0.01	28	27
Northern America	548	[497.9-603.2]	0.30	0.17	0.02	25	19
South America	408	[338.9-491.3]	0.19	0.16	0.02	27	25
Asia	4,550	[3,348.7-6,182.3]	0.19	0.17	0.02	26	25
Central Asia	133	[9.70-29.7]	0.36	0.44	0.05	19	18
Eastern Asia	1,642	[1,297.5-2,077.9]	0.19	0.12	0.01	26	27
South-Eastern Asia	612	[287.8-1,301.5]	0.18	0.19	0.02	26	27
Southern Asia	2,003	[8.10-206.9]	0.20	0.22	0.03	24	23
Western Asia	160	[73.2-349.8]	0.11	0.14	0.02	25	26
Europe	1,600	[1,287.9-1,987.7]	0.44	0.22	0.02	26	22
Eastern Europe	523	[355.7-769.1]	0.38	0.23	0.03	27	23
Northern Europe	301	[254.7-355.7]	0.57	0.27	0.03	21	19
Southern Europe	266	[206.9-342]	0.35	0.15	0.02	27	26
Western Europe	510	[433-600.7]	0.53	0.24	0.03	23	18
Oceania	87	[56.4-134.3]	0.41	0.25	0.03	23	27
Australia & New Zealand	60	[42.8-84.1]	0.40	0.20	0.02	25	27
Melanesia	27	[12.6-58]	0.48	0.98	0.10	19	25
Micronesia	0	[0-9.20]	0	0	0	25	10
Polynesia	0	[0-11.3]	0	0	0	27	23

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 32: Age-standardised mortality rates of anal cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.4.2 Vulvar cancer

3.4.2.1 Vulvar cancer incidence

Table 10: Incidence of vulvar cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	45,240	[40,655.5-50,341.5]	1.17	0.85	0.09	21	23
High income	22,666	[21,685.4-23,690.9]	3.67	1.56	0.17	19	17
Low and middle income	22,560	[10,668.7-14,065.6]	0.70	0.60	0.07	22	23
Upper middle income	12,250	[10,668.7-14,065.6]	0.84	0.56	0.06	22	23
Lower middle income	8,504	[6,311.1-11,458.8]	0.57	0.62	0.07	23	23
Low income	1,806	[1,148.4-2,840.2]	0.60	0.88	0.09	19	15
Africa	5,144	[3,330-7,946.2]	0.77	1.11	0.12	19	13
Eastern Africa	2,025	[1,113.9-3,681.4]	0.90	1.39	0.14	17	11
Middle Africa	612	[300.5-1,246.6]	0.68	1.31	0.15	14	11
Northern Africa	747	[469.5-1,188.4]	0.61	0.66	0.08	22	26
Southern Africa	487	[427.5-554.7]	1.42	1.39	0.14	20	8
Western Africa	1,273	[497.5-3,257.4]	0.64	0.99	0.11	17	11
Americas	10,870	[3,141.7-4,654.5]	2.10	1.30	0.14	19	18
Caribbean	211	[107.3-414.9]	0.96	0.68	0.08	23	23
Central America	667	[539.1-825.3]	0.73	0.62	0.07	21	19
Northern America	7,046	[6,861.7-7,235.2]	3.78	1.91	0.21	19	17
South America	2,946	[2,286-3,796.5]	1.35	0.93	0.10	22	19
Asia	12,181	[10,152-14,615.5]	0.54	0.41	0.05	23	27
Central Asia	258	[98.9-155.5]	0.69	0.70	0.08	20	22
Eastern Asia	4,999	[4,421.3-5,652.2]	0.61	0.33	0.03	23	24
South-Eastern Asia	2,205	[1,392.3-3,491.9]	0.66	0.57	0.07	21	19
Southern Asia	4,111	[9.70-156.7]	0.44	0.46	0.06	26	28
Western Asia	608	[344.2-1,074]	0.46	0.47	0.06	25	27
Europe	16,506	[15,463.8-17,618.4]	4.26	1.68	0.19	19	18
Eastern Europe	5,012	[4,689.4-5,356.8]	3.23	1.30	0.15	19	19
Northern Europe	2,227	[2,091.7-2,371.1]	4.14	1.85	0.20	20	16
Southern Europe	3,048	[2,591.8-3,584.4]	3.89	1.35	0.15	19	18
Western Europe	6,219	[5,899.9-6,555.4]	6.23	2.43	0.26	19	15
Oceania	539	[473-614.2]	2.53	1.55	0.17	20	19
Australia & New Zealand	521	[470.7-576.7]	3.42	1.75	0.20	20	19
Melanesia	18	[6.60-48.8]	0.33	0.40	0.04	26	20
Micronesia	0	[0-15.6]	0	0	0	24	6
Polynesia	0	[0-12.8]	0	0	0	29	24

Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

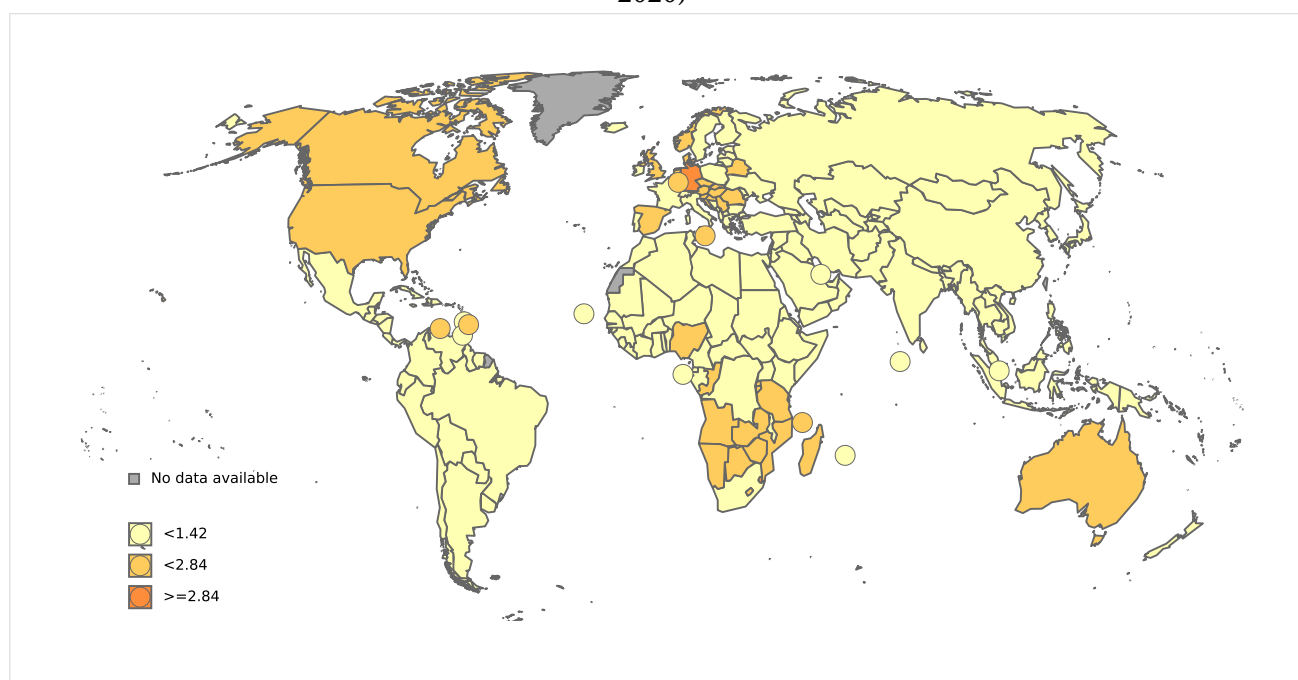
^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 33: Age-standardised incidence rates of vulvar cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

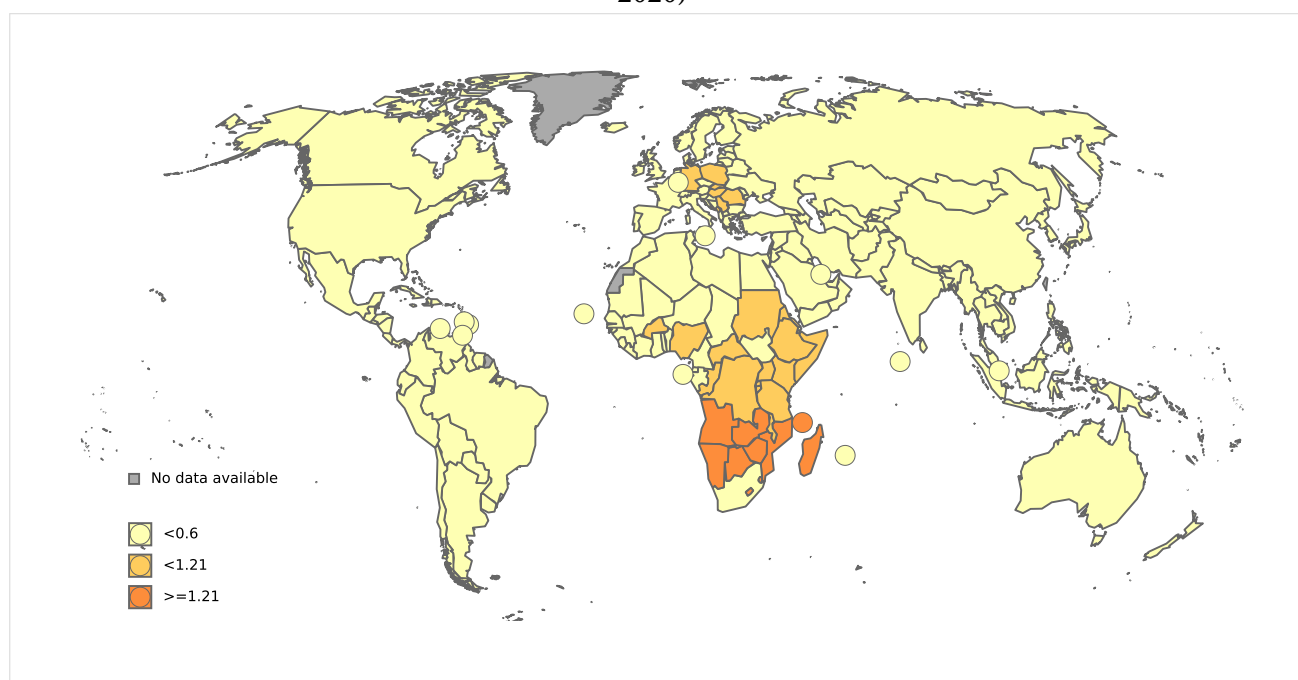
3.4.2.2 Vulvar cancer mortality

Table 11: Mortality of vulvar cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	17,427	[14,496.7-20,949.6]	0.45	0.30	0.03	22	23
High income	7,116	[6,539.7-7,743]	1.15	0.35	0.03	20	24
Low and middle income	10,310	[3,930.1-6,114.2]	0.32	0.27	0.03	23	23
Upper middle income	4,902	[3,930.1-6,114.2]	0.34	0.21	0.02	23	23
Lower middle income	4,337	[3,316.1-5,672.3]	0.29	0.32	0.04	23	24
Low income	1,071	[645.6-1,776.8]	0.35	0.56	0.06	20	15
Africa	2,858	[1,742.9-4,686.6]	0.43	0.66	0.07	20	12
Eastern Africa	1,176	[591.7-2,337.4]	0.52	0.89	0.09	18	12
Middle Africa	367	[182.8-736.7]	0.41	0.85	0.09	14	15
Northern Africa	357	[213.2-597.8]	0.29	0.32	0.03	22	23
Southern Africa	221	[177.5-275.1]	0.64	0.62	0.06	20	9
Western Africa	737	[334.1-1,625.6]	0.37	0.64	0.07	17	12
Americas	3,127	[1,204.7-1,585.4]	0.60	0.31	0.03	21	23
Caribbean	57	[29.2-111.3]	0.26	0.15	0.01	25	27
Central America	226	[187.6-272.3]	0.25	0.20	0.02	22	27
Northern America	1,745	[1,651.1-1,844.2]	0.94	0.36	0.04	19	20
South America	1,099	[976.1-1,237.5]	0.50	0.31	0.03	21	25
Asia	4,826	[3,694.6-6,304.9]	0.21	0.16	0.02	24	28
Central Asia	127	[47.3-83.9]	0.34	0.35	0.04	20	26
Eastern Asia	1,662	[1,304.2-2,117.9]	0.20	0.10	0.01	23	25
South-Eastern Asia	763	[477.4-1,219.5]	0.23	0.19	0.02	23	19
Southern Asia	2,019	[6.60-87.5]	0.21	0.23	0.03	25	29
Western Asia	255	[169.6-383.4]	0.19	0.19	0.02	25	30
Europe	6,503	[5,811.5-7,276.8]	1.68	0.51	0.05	19	19
Eastern Europe	2,561	[2,144.3-3,058.7]	1.65	0.59	0.06	20	18
Northern Europe	795	[712.9-886.5]	1.48	0.45	0.04	19	23
Southern Europe	1,293	[1,155.8-1,446.5]	1.65	0.40	0.04	18	27
Western Europe	1,854	[1,704.8-2,016.2]	1.86	0.49	0.05	18	16
Oceania	113	[83.5-153]	0.53	0.26	0.02	22	19
Australia & New Zealand	107	[84.8-135.1]	0.70	0.27	0.02	21	19
Melanesia	6	[3.40-10.7]	0.11	0.15	0.02	26	20
Micronesia	0	[0-9.20]	0	0	0	20	2
Polynesia	0	[0-11.3]	0	0	0	26	22

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 women per year.**Data Sources:**Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 34: Age-standardised mortality rates of vulvar cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.4.3 Vaginal cancer

3.4.3.1 Vaginal cancer incidence

Table 12: Incidence of vaginal cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	17,908	[14,678.3-21,848.4]	0.46	0.36	0.04	28	28
High income	4,622	[4,185.7-5,103.8]	0.75	0.33	0.04	27	26
Low and middle income	13,283	[3,740.8-5,882.6]	0.41	0.36	0.04	27	28
Upper middle income	4,691	[3,740.8-5,882.6]	0.32	0.23	0.03	27	27
Lower middle income	7,714	[5,780.3-10,294.5]	0.52	0.57	0.07	25	26
Low income	878	[443.4-1,738.6]	0.29	0.45	0.05	27	24
Africa	2,001	[1,031-3,883.5]	0.30	0.45	0.05	27	25
Eastern Africa	790	[299.4-2,084.6]	0.35	0.59	0.07	25	23
Middle Africa	278	[91.6-844.1]	0.31	0.55	0.06	24	22
Northern Africa	275	[128.3-589.5]	0.22	0.25	0.03	28	28
Southern Africa	218	[180.2-263.8]	0.64	0.66	0.07	25	22
Western Africa	440	[104.6-1,850.7]	0.22	0.37	0.04	26	22
Americas	3,061	[1,047-1,964]	0.59	0.38	0.04	27	25
Caribbean	143	[77.1-265.4]	0.65	0.47	0.06	27	25
Central America	320	[223.2-458.9]	0.35	0.32	0.04	24	23
Northern America	1,627	[1,540.6-1,718.2]	0.87	0.44	0.05	27	24
South America	971	[632.7-1,490.2]	0.44	0.32	0.04	27	25
Asia	9,762	[7,601.9-12,535.9]	0.43	0.34	0.04	27	25
Central Asia	104	[35.1-71.2]	0.28	0.29	0.04	29	29
Eastern Asia	2,226	[1,804.2-2,746.7]	0.27	0.17	0.02	27	26
South-Eastern Asia	954	[470.9-1,932.7]	0.29	0.25	0.03	28	28
Southern Asia	6,216	[3.90-103.7]	0.66	0.69	0.08	22	22
Western Asia	262	[114.7-598.5]	0.20	0.21	0.02	29	28
Europe	2,947	[2,536.3-3,424.3]	0.76	0.33	0.04	28	27
Eastern Europe	1,005	[876.9-1,151.8]	0.65	0.31	0.04	27	29
Northern Europe	450	[389.9-519.4]	0.84	0.38	0.04	28	26
Southern Europe	553	[384.9-794.5]	0.70	0.29	0.03	28	24
Western Europe	939	[813-1,084.5]	0.94	0.36	0.04	29	30
Oceania	137	[103.2-181.9]	0.64	0.43	0.05	27	27
Australia & New Zealand	113	[90.6-140.9]	0.74	0.39	0.04	27	25
Melanesia	24	[4.40-132.3]	0.44	0.55	0.05	23	31
Micronesia	0	[0-15.6]	0	0	0	20	16
Polynesia	0	[0-12.8]	0	0	0	28	29

Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

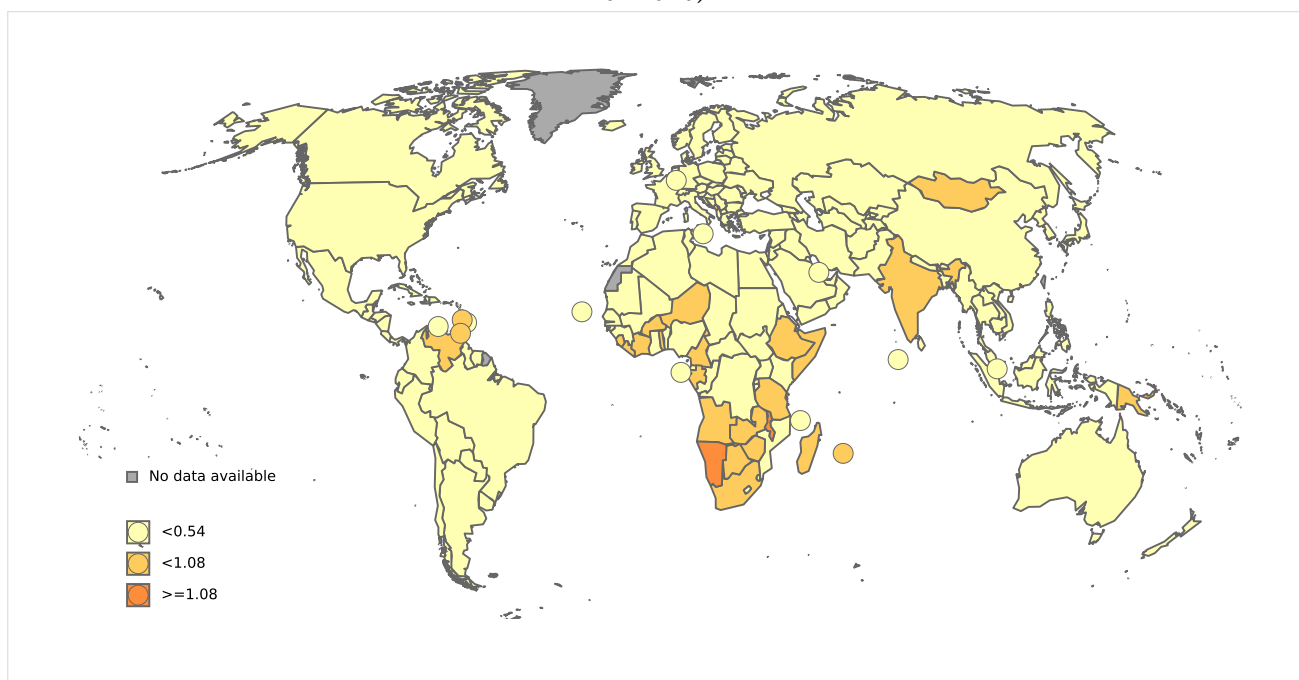
^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 35: Age-standardised incidence rates of vaginal cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

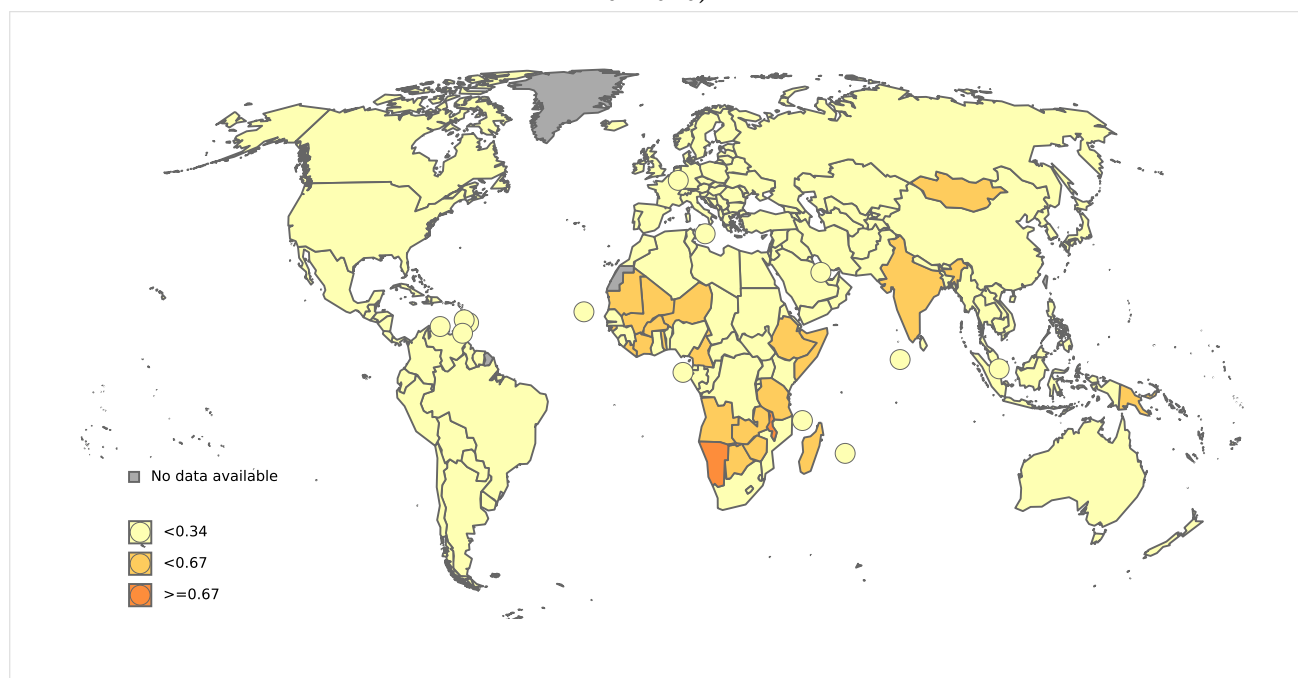
3.4.3.2 Vaginal cancer mortality

Table 13: Mortality of vaginal cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	7,995	[5,982.6-10,684.2]	0.21	0.16	0.02	28	28
High income	1,701	[1,441.9-2,006.7]	0.28	0.09	0.01	28	28
Low and middle income	6,294	[1,305.9-2,706.4]	0.19	0.17	0.02	27	28
Upper middle income	1,880	[1,305.9-2,706.4]	0.13	0.09	0.01	29	29
Lower middle income	3,883	[2,578.5-5,848.7]	0.26	0.29	0.03	25	25
Low income	531	[247.4-1,139.8]	0.18	0.28	0.03	27	23
Africa	1,102	[518.4-2,342.6]	0.16	0.26	0.03	27	23
Eastern Africa	473	[154.9-1,444]	0.21	0.38	0.05	27	22
Middle Africa	162	[51.9-505.4]	0.18	0.34	0.04	24	22
Northern Africa	125	[53.6-291.5]	0.10	0.11	0.01	29	27
Southern Africa	74	[45.7-119.7]	0.22	0.22	0.02	26	22
Western Africa	268	[60.1-1,196.7]	0.13	0.24	0.03	27	24
Americas	965	[376.9-647.5]	0.19	0.10	0.01	27	29
Caribbean	59	[32.9-105.9]	0.27	0.18	0.02	24	25
Central America	107	[77.9-146.9]	0.12	0.10	0.01	25	29
Northern America	471	[423.8-523.5]	0.25	0.10	0.01	26	28
South America	328	[257.5-417.8]	0.15	0.10	0.01	27	28
Asia	4,607	[3,083.4-6,883.5]	0.20	0.16	0.02	25	25
Central Asia	46	[13.5-35.8]	0.12	0.13	0.02	29	31
Eastern Asia	923	[657.1-1,296.5]	0.11	0.06	0.01	28	26
South-Eastern Asia	463	[223.3-959.9]	0.14	0.12	0.01	26	28
Southern Asia	3,060	[3.20-69.3]	0.33	0.34	0.04	23	22
Western Asia	115	[52.2-253.3]	0.09	0.09	0.01	27	29
Europe	1,267	[978.5-1,640.6]	0.33	0.11	0.01	28	30
Eastern Europe	485	[322.4-729.7]	0.31	0.13	0.01	28	30
Northern Europe	185	[147.6-231.9]	0.34	0.13	0.01	27	22
Southern Europe	247	[189.5-322]	0.31	0.09	0.01	28	22
Western Europe	350	[287.4-426.2]	0.35	0.10	0.01	27	29
Oceania	54	[31.1-93.7]	0.25	0.17	0.02	25	30
Australia & New Zealand	37	[23.7-57.7]	0.24	0.11	0.01	26	27
Melanesia	17	[7.70-37.4]	0.31	0.39	0.04	21	29
Micronesia	0	[0-9.20]	0	0	0	21	19
Polynesia	0	[0-11.3]	0	0	0	25	23

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 women per year.**Data Sources:**Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 36: Age-standardised mortality rates of vaginal cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.4.4 Penile cancer

3.4.4.1 Penile cancer incidence

Table 14: Incidence of penile cancer in men by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	36,068	[30,962.6-42,015.2]	0.92	0.80	0.09	24	25
High income	8,293	[7,573-9,081.5]	1.35	0.66	0.08	25	26
Low and middle income	27,762	[10,593.4-14,114.9]	0.84	0.83	0.09	24	24
Upper middle income	12,228	[10,593.4-14,114.9]	0.83	0.65	0.07	24	24
Lower middle income	14,499	[11,772-17,857.7]	0.94	1.15	0.14	19	21
Low income	1,035	[512.8-2,088.8]	0.34	0.64	0.06	22	22
Africa	2,060	[1,012.6-4,190.6]	0.31	0.53	0.05	25	22
Eastern Africa	1,271	[564.8-2,860.2]	0.58	1.18	0.12	18	18
Middle Africa	341	[100.6-1,155.5]	0.38	0.75	0.08	23	16
Northern Africa	51	[8.30-315.1]	0.04	0.05	0.01	28	28
Southern Africa	311	[257.5-375.6]	0.94	1.12	0.12	21	13
Western Africa	86	[7.70-955.9]	0.04	0.10	0.01	28	27
Americas	6,729	[4,039.3-6,159.5]	1.33	0.97	0.10	21	21
Caribbean	392	[248.7-617.9]	1.82	1.43	0.16	18	17
Central America	908	[751.7-1,096.8]	1.03	1.03	0.10	19	15
Northern America	1,741	[1,651.8-1,835.1]	0.95	0.51	0.05	26	25
South America	3,688	[2,830.3-4,805.6]	1.74	1.46	0.14	21	17
Asia	20,315	[17,288.8-23,870.9]	0.86	0.74	0.09	22	21
Central Asia	54	[23.3-52.5]	0.15	0.19	0.02	28	28
Eastern Asia	5,369	[4,726.9-6,098.2]	0.63	0.40	0.04	25	23
South-Eastern Asia	2,791	[2,154.7-3,615.2]	0.84	0.83	0.10	22	21
Southern Asia	12,011	[1,70-71.1]	1.20	1.35	0.16	17	20
Western Asia	90	[16.6-486.8]	0.06	0.08	0.01	28	28
Europe	6,762	[6,053.1-7,553.9]	1.87	0.94	0.11	23	25
Eastern Europe	2,038	[1,828.1-2,272]	1.48	0.91	0.11	23	23
Northern Europe	1,155	[1,055.5-1,263.9]	2.20	1.11	0.13	22	23
Southern Europe	1,471	[1,127.2-1,919.6]	1.96	0.86	0.10	23	25
Western Europe	2,098	[1,892.5-2,325.9]	2.18	0.95	0.11	23	26
Oceania	202	[158.1-258.1]	0.95	0.64	0.07	25	22
Australia & New Zealand	152	[125.7-183.8]	1.01	0.54	0.06	25	23
Melanesia	50	[15.1-165.9]	0.88	1.45	0.12	19	17
Micronesia	0	[0-15.6]	0	0	0	24	24
Polynesia	0	[0-12.8]	0	0	0	27	22

Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

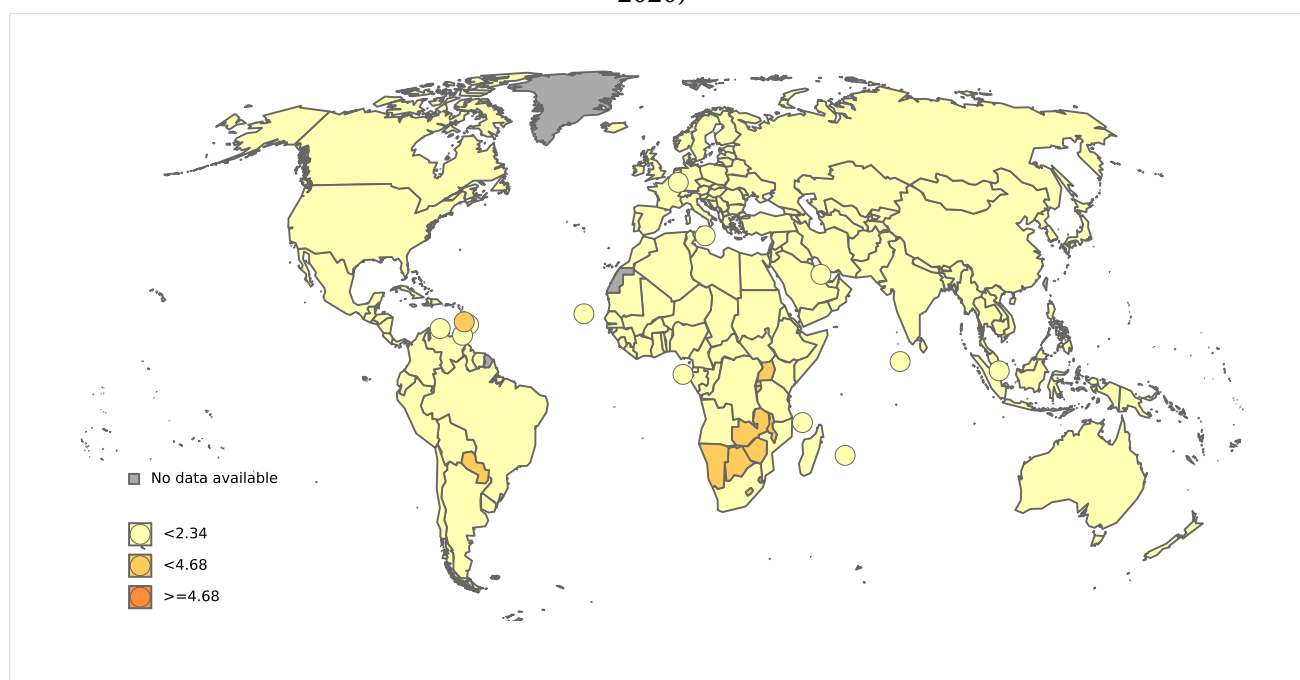
^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 37: Age-standardised incidence rates of penile cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

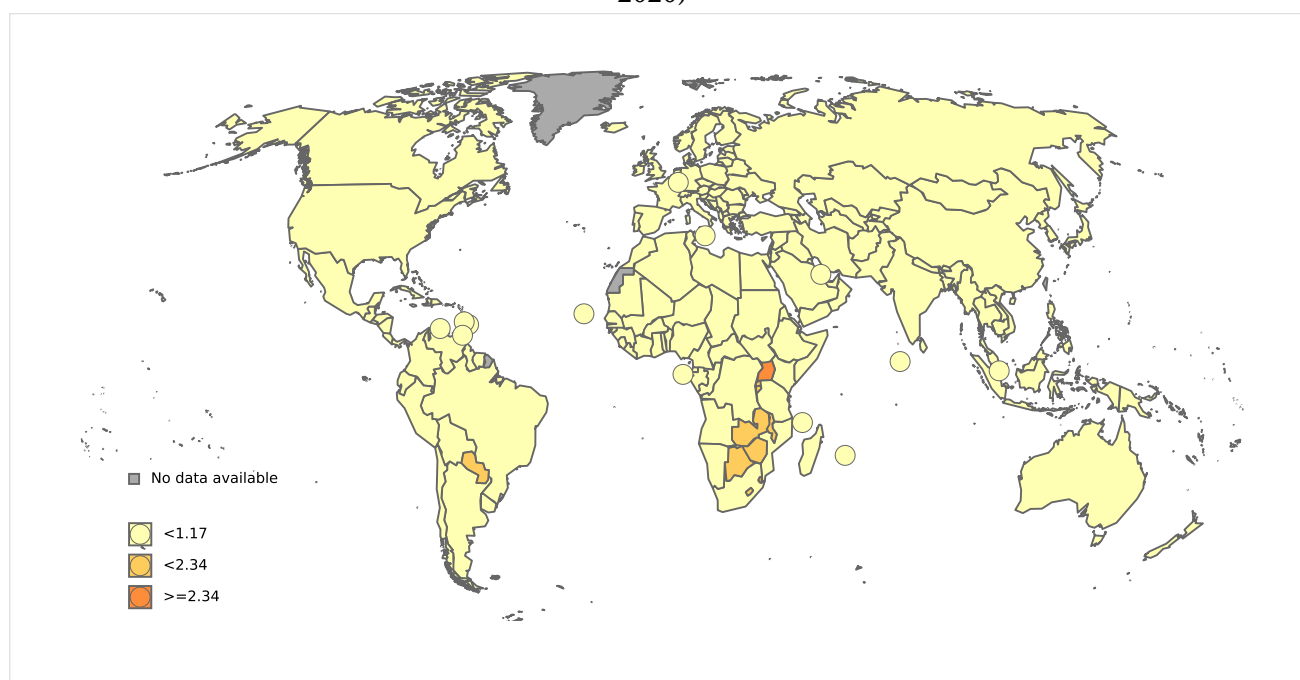
3.4.4.2 Penile cancer mortality

Table 15: Mortality of penile cancer in men by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	13,211	[10,686.7-16,331.5]	0.34	0.29	0.03	25	27
High income	2,204	[1,876.4-2,588.8]	0.36	0.16	0.02	26	26
Low and middle income	11,006	[3,361.1-5,240.7]	0.33	0.33	0.03	23	27
Upper middle income	4,197	[3,361.1-5,240.7]	0.29	0.22	0.02	25	22
Lower middle income	6,305	[4,009.8-9,914]	0.41	0.51	0.05	20	27
Low income	504	[229.9-1,105]	0.17	0.32	0.03	24	21
Africa	942	[420.2-1,112.7]	0.14	0.25	0.02	27	21
Eastern Africa	606	[241.1-523.7]	0.27	0.58	0.06	20	16
Middle Africa	156	[92.6-262.9]	0.17	0.36	0.04	24	17
Northern Africa	29	[6.20-134.8]	0.02	0.03	0.00	28	28
Southern Africa	111	[78.7-156.5]	0.33	0.43	0.05	20	18
Western Africa	40	[21.3-75]	0.02	0.04	0.00	28	28
Americas	2,104	[1,420.3-1,863.8]	0.42	0.30	0.03	23	19
Caribbean	129	[84.1-197.9]	0.60	0.45	0.05	19	17
Central America	300	[254.4-353.8]	0.34	0.35	0.04	20	17
Northern America	477	[429.6-529.6]	0.26	0.13	0.01	27	24
South America	1,198	[1,062.3-1,351.1]	0.56	0.47	0.05	20	19
Asia	8,189	[5,922.4-11,323]	0.35	0.30	0.03	21	26
Central Asia	19	[6-23.9]	0.05	0.06	0.01	28	28
Eastern Asia	1,788	[1,395.5-2,291]	0.21	0.13	0.01	25	24
South-Eastern Asia	1,034	[788.9-1,355.3]	0.31	0.32	0.03	22	21
Southern Asia	5,311	[0.90-28.4]	0.53	0.60	0.07	19	27
Western Asia	37	[8.70-157.9]	0.03	0.03	0.00	28	28
Europe	1,938	[1,569.7-2,392.7]	0.54	0.25	0.03	24	26
Eastern Europe	762	[550.6-1,054.6]	0.55	0.33	0.04	26	26
Northern Europe	252	[204.2-311]	0.48	0.21	0.02	25	20
Southern Europe	414	[336-510.1]	0.55	0.21	0.02	25	25
Western Europe	510	[434.2-599.1]	0.53	0.20	0.02	24	25
Oceania	38	[18.8-76.7]	0.18	0.12	0.01	27	26
Australia & New Zealand	25	[14.7-42.6]	0.17	0.08	0.01	27	23
Melanesia	13	[2.40-70.5]	0.23	0.36	0.05	25	22
Micronesia	0	[0-9.20]	0	0	0	20	22
Polynesia	0	[0-11.3]	0	0	0	24	17

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.**Data Sources:**Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 38: Age-standardised mortality rates of penile cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.5 Head and neck cancers

3.5.1 Oropharyngeal cancer

3.5.1.1 Oropharyngeal cancer incidence

Table 16: Incidence of oropharyngeal cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	19,367	[16,278.9-23,040.9]	0.50	0.40	0.05	27	30
High income	9,005	[8,332.2-9,732.1]	1.46	0.80	0.10	24	25
Low and middle income	10,356	[3,636.3-5,733.4]	0.32	0.28	0.03	29	30
Upper middle income	4,566	[3,636.3-5,733.4]	0.31	0.22	0.02	28	29
Lower middle income	5,464	[4,059.3-7,354.8]	0.37	0.40	0.05	29	30
Low income	326	[131.2-809.9]	0.11	0.17	0.02	29	29
Africa	749	[228.8-2,451.9]	0.11	0.17	0.02	29	29
Eastern Africa	143	[17-1,206.1]	0.06	0.11	0.01	30	29
Middle Africa	76	[10.3-561.7]	0.08	0.16	0.02	29	27
Northern Africa	169	[44.1-647.4]	0.14	0.16	0.02	30	29
Southern Africa	120	[85.5-168.5]	0.35	0.39	0.05	27	29
Western Africa	241	[31.9-1,819.8]	0.12	0.20	0.02	29	28
Americas	4,139	[1,225.2-2,171.2]	0.80	0.54	0.06	26	28
Caribbean	165	[83.7-325.4]	0.75	0.46	0.05	26	29
Central America	145	[96.8-217.1]	0.16	0.13	0.01	27	30
Northern America	2,508	[2,400.8-2,619.9]	1.35	0.79	0.10	25	25
South America	1,321	[930.9-1,874.7]	0.60	0.44	0.05	25	27
Asia	7,579	[5,782.4-9,933.9]	0.33	0.26	0.03	29	29
Central Asia	176	[30.4-66.6]	0.47	0.47	0.05	23	21
Eastern Asia	1,812	[1,424-2,305.7]	0.22	0.13	0.01	29	28
South-Eastern Asia	1,012	[521.2-1,965]	0.30	0.27	0.03	27	23
Southern Asia	4,430	[940-234.1]	0.47	0.49	0.06	25	27
Western Asia	149	[40.2-552.3]	0.11	0.12	0.01	31	31
Europe	6,717	[6,016.9-7,498.6]	1.73	0.92	0.11	24	23
Eastern Europe	1,891	[1,696.2-2,108.2]	1.22	0.68	0.08	23	22
Northern Europe	1,090	[990.5-1,199.5]	2.03	1.21	0.15	24	22
Southern Europe	770	[546.9-1,084.1]	0.98	0.45	0.06	27	29
Western Europe	2,966	[2,699.3-3,259.1]	2.97	1.53	0.19	22	25
Oceania	183	[145.8-229.7]	0.86	0.63	0.08	26	23
Australia & New Zealand	173	[145-206.5]	1.13	0.73	0.09	26	23
Melanesia	10	[1.80-56.3]	0.18	0.23	0.04	27	25
Micronesia	0	[0-15.6]	0	0	0	31	30
Polynesia	0	[0-12.8]	0	0	0	22	14

Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

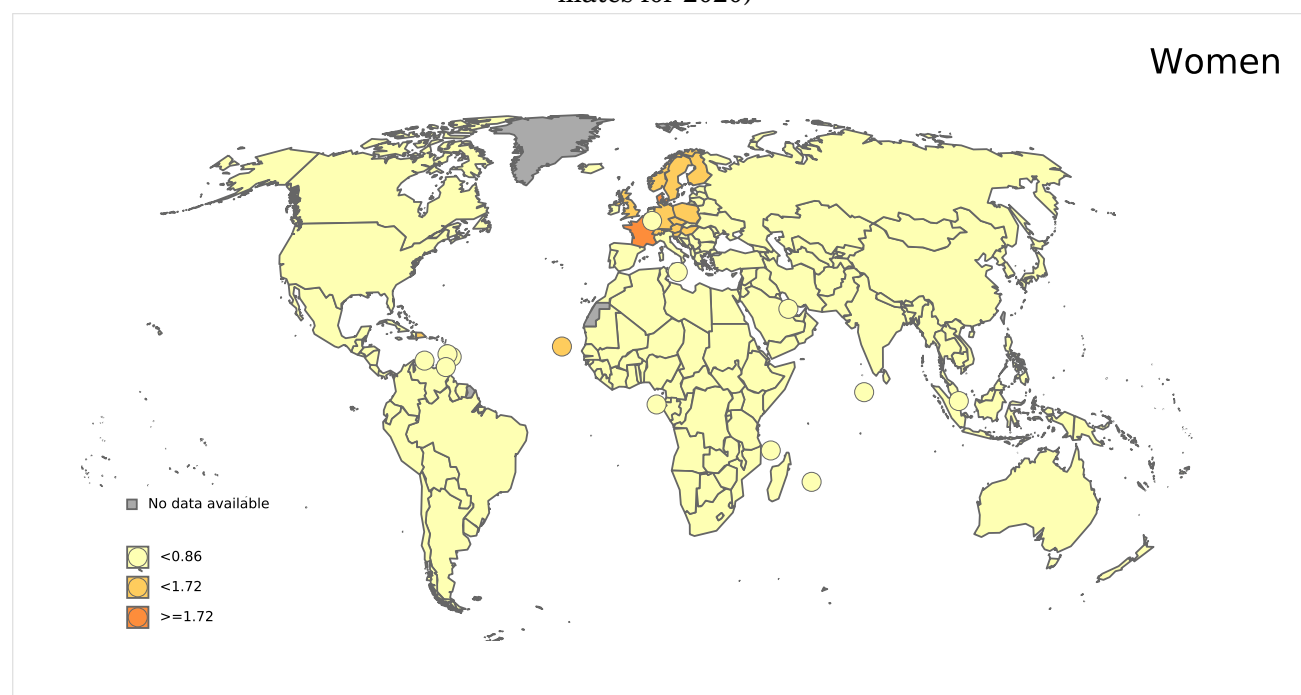
^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 39: Age-standardised incidence rates of oropharyngeal cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 17: Incidence of oropharyngeal cancer in men by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	79,045	[72,769-85,862.3]	2.01	1.79	0.22	19	20
High income	33,310	[32,131.3-34,531.9]	5.43	3.28	0.41	19	15
Low and middle income	45,685	[16,448-20,724.8]	1.38	1.36	0.16	18	20
Upper middle income	18,463	[16,448-20,724.8]	1.26	0.97	0.11	20	22
Lower middle income	26,280	[23,140.8-29,845]	1.70	2.07	0.25	15	18
Low income	942	[575.4-1,542.1]	0.31	0.58	0.07	23	25
Africa	2,164	[1,093.9-4,280.9]	0.32	0.57	0.07	24	25
Eastern Africa	736	[216.3-2,504.5]	0.33	0.69	0.08	23	25
Middle Africa	351	[117.8-1,046.2]	0.39	0.80	0.09	22	21
Northern Africa	312	[134.4-724.1]	0.25	0.31	0.04	25	26
Southern Africa	408	[340.2-489.3]	1.23	1.59	0.19	19	23
Western Africa	357	[70.2-1,816.8]	0.18	0.34	0.04	23	23
Americas	18,771	[6,266.7-8,394.5]	3.72	2.93	0.36	19	18
Caribbean	912	[703.8-1,181.8]	4.24	3.42	0.41	14	20
Central America	370	[295.7-463]	0.42	0.43	0.05	24	24
Northern America	11,518	[11,287.3-11,753.4]	6.31	4.01	0.50	17	16
South America	5,971	[5,016.6-7,107.1]	2.82	2.48	0.29	19	16
Asia	34,597	[30,752.9-38,921.6]	1.46	1.27	0.15	19	19
Central Asia	323	[72.6-124.4]	0.88	1.11	0.14	17	22
Eastern Asia	8,377	[7,528.9-9,321.7]	0.98	0.63	0.07	20	20
South-Eastern Asia	3,620	[2,885.2-4,541.8]	1.08	1.05	0.13	19	20
Southern Asia	21,941	[39.7-272.6]	2.19	2.44	0.29	14	15
Western Asia	336	[151.6-744.6]	0.23	0.29	0.04	26	27
Europe	22,522	[21,230.9-23,891.7]	6.23	3.74	0.46	18	14
Eastern Europe	9,200	[8,757.3-9,665]	6.67	4.36	0.54	16	13
Northern Europe	3,342	[3,163-3,531.1]	6.37	4.00	0.48	17	12
Southern Europe	2,941	[2,483.5-3,482.8]	3.92	2.11	0.27	19	21
Western Europe	7,039	[6,609-7,497]	7.30	4.06	0.51	17	15
Oceania	991	[895.6-1,096.6]	4.64	3.63	0.45	18	15
Australia & New Zealand	868	[802.9-938.4]	5.76	3.95	0.47	18	14
Melanesia	114	[44.7-290.7]	2.01	3.50	0.55	12	24
Micronesia	3	[0.80-11.9]	1.08	1.14	0.19	15	15
Polynesia	6	[1.70-21.5]	1.73	1.71	0.25	20	13

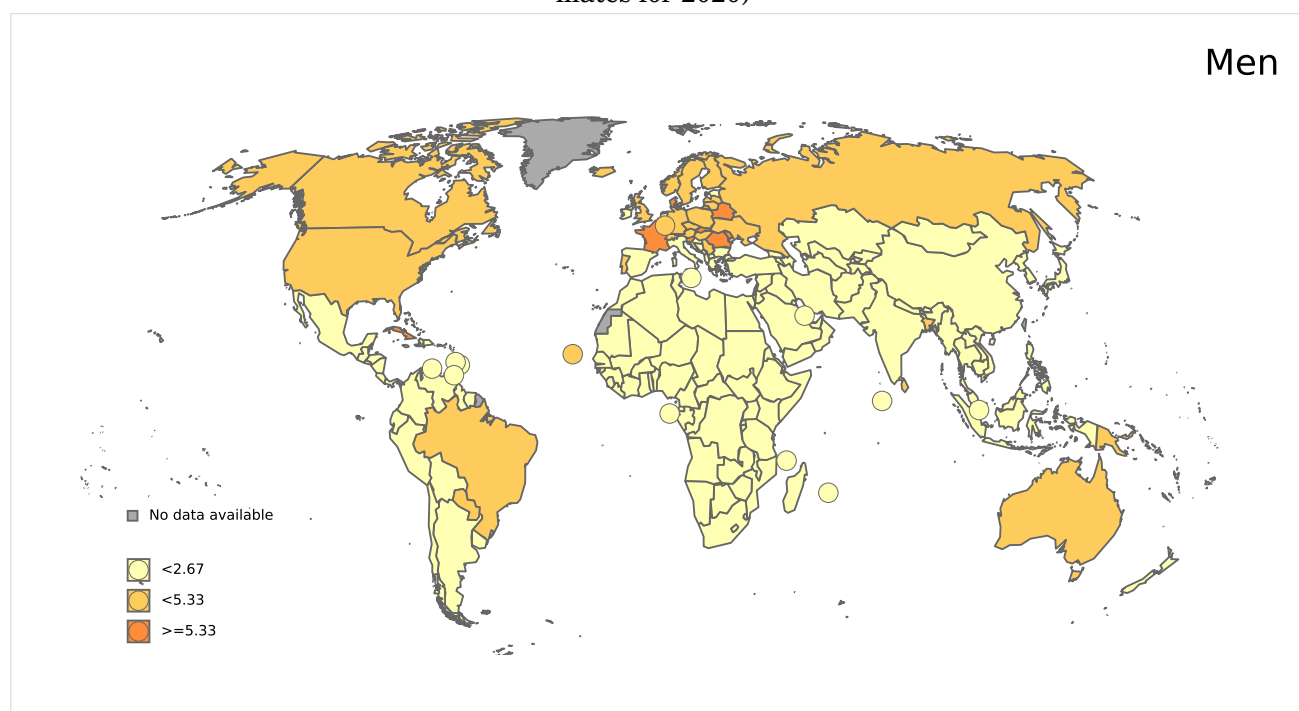
Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 40: Age-standardised incidence rates of oropharyngeal cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.5.1.2 Oropharyngeal cancer mortality

Table 18: Mortality of oropharyngeal cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	8,553	[6,683.7-10,945.2]	0.22	0.17	0.02	27	30
High income	3,092	[2,730.3-3,501.6]	0.50	0.22	0.03	24	27
Low and middle income	5,458	[1,474.9-2,772.1]	0.17	0.15	0.02	28	30
Upper middle income	2,022	[1,474.9-2,772.1]	0.14	0.09	0.01	28	30
Lower middle income	3,222	[2,162.1-4,801.4]	0.22	0.24	0.03	27	30
Low income	214	[77.4-592]	0.07	0.12	0.01	29	29
Africa	436	[113.2-1,679.5]	0.07	0.10	0.01	30	29
Eastern Africa	93	[40.4-213.9]	0.04	0.07	0.01	30	30
Middle Africa	51	[12-216]	0.06	0.12	0.02	29	28
Northern Africa	72	[20.4-254.6]	0.06	0.07	0.01	30	29
Southern Africa	57	[39-83.4]	0.17	0.19	0.02	28	30
Western Africa	163	[51.6-515.1]	0.08	0.14	0.02	29	27
Americas	1,613	[683-965.3]	0.31	0.18	0.02	24	27
Caribbean	97	[51.3-183.5]	0.44	0.25	0.02	21	31
Central America	83	[58.3-118.2]	0.09	0.08	0.01	27	30
Northern America	801	[738.4-868.9]	0.43	0.20	0.02	24	27
South America	632	[548-728.8]	0.29	0.20	0.02	25	26
Asia	4,094	[2,701.7-6,203.7]	0.18	0.14	0.02	27	27
Central Asia	117	[19.5-46.1]	0.31	0.31	0.04	23	22
Eastern Asia	777	[539.6-1,118.7]	0.09	0.05	0.01	29	29
South-Eastern Asia	441	[224.3-866.8]	0.13	0.11	0.01	28	26
Southern Asia	2,665	[6.10-120.3]	0.28	0.30	0.04	24	27
Western Asia	94	[38.3-230.4]	0.07	0.08	0.01	29	28
Europe	2,352	[1,973.5-2,803.1]	0.61	0.28	0.03	24	27
Eastern Europe	710	[506.4-995.5]	0.46	0.23	0.03	26	26
Northern Europe	328	[279.1-385.5]	0.61	0.30	0.04	24	21
Southern Europe	393	[323.5-477.5]	0.50	0.19	0.02	25	30
Western Europe	921	[817-1,038.3]	0.92	0.40	0.05	22	22
Oceania	58	[36.8-91.3]	0.27	0.16	0.02	24	23
Australia & New Zealand	54	[38.2-76.3]	0.35	0.17	0.02	24	21
Melanesia	4	[1.30-12.3]	0.07	0.10	0.02	28	26
Micronesia	0	[0-9.20]	0	0	0	26	16
Polynesia	0	[0-11.3]	0	0	0	24	17

Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

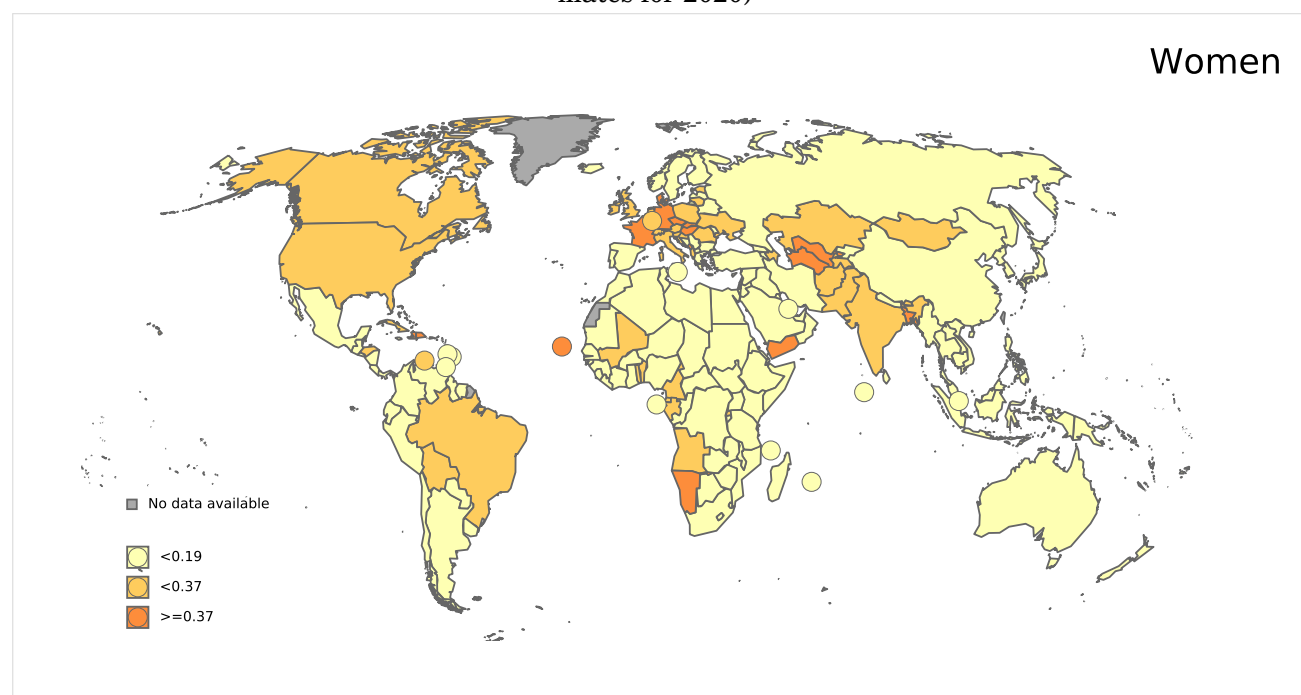
^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 41: Age-standardised mortality rates of oropharyngeal cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 19: Mortality of oropharyngeal cancer in men by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	39,590	[35,255.1-44,457.9]	1.01	0.89	0.11	17	19
High income	12,793	[11,985-13,655.4]	2.09	1.14	0.14	18	16
Low and middle income	26,780	[8,867.8-11,624.4]	0.81	0.80	0.10	17	18
Upper middle income	10,153	[8,867.8-11,624.4]	0.69	0.53	0.06	18	20
Lower middle income	15,991	[12,881.5-19,851.2]	1.03	1.27	0.16	14	17
Low income	636	[366.6-1,103.5]	0.21	0.41	0.05	23	23
Africa	1,346	[619.5-2,924.4]	0.20	0.37	0.05	22	23
Eastern Africa	493	[241.1-1,008.2]	0.22	0.49	0.06	21	23
Middle Africa	232	[109.8-490.1]	0.26	0.57	0.07	22	20
Northern Africa	147	[57.7-374.3]	0.12	0.15	0.02	26	25
Southern Africa	235	[197.5-279.6]	0.71	0.98	0.12	18	20
Western Africa	239	[127.7-447.4]	0.12	0.24	0.03	22	22
Americas	6,963	[3,826.3-4,399.7]	1.38	1.03	0.13	17	17
Caribbean	425	[334.4-540.2]	1.98	1.53	0.19	16	22
Central America	263	[216.2-319.9]	0.30	0.31	0.04	22	23
Northern America	2,860	[2,741.4-2,983.8]	1.57	0.87	0.11	17	21
South America	3,415	[3,225.6-3,615.5]	1.61	1.40	0.17	16	15
Asia	20,197	[16,384.4-24,896.7]	0.85	0.74	0.09	19	17
Central Asia	248	[69.6-113.9]	0.67	0.85	0.11	15	20
Eastern Asia	4,208	[3,566.5-4,964.9]	0.49	0.31	0.03	20	20
South-Eastern Asia	2,092	[1,657.6-2,640.3]	0.63	0.62	0.08	18	17
Southern Asia	13,474	[27.7-166.7]	1.35	1.51	0.19	13	14
Western Asia	175	[99.6-307.5]	0.12	0.15	0.02	24	27
Europe	10,793	[9,874-11,797.5]	2.98	1.70	0.21	17	15
Eastern Europe	4,925	[4,330.6-5,601]	3.57	2.31	0.29	15	15
Northern Europe	1,154	[1,055.9-1,261.2]	2.20	1.16	0.15	18	15
Southern Europe	1,605	[1,446-1,781.5]	2.14	1.07	0.13	18	16
Western Europe	3,109	[2,911.8-3,319.6]	3.23	1.64	0.21	17	15
Oceania	291	[237.2-357]	1.36	0.94	0.12	17	19
Australia & New Zealand	224	[192.3-260.9]	1.49	0.86	0.11	17	19
Melanesia	65	[37.5-112.6]	1.15	2.04	0.30	13	28
Micronesia	0	[0-9.20]	0	0	0	27	5
Polynesia	2	[0.20-22.5]	0.58	0.54	0.08	19	26

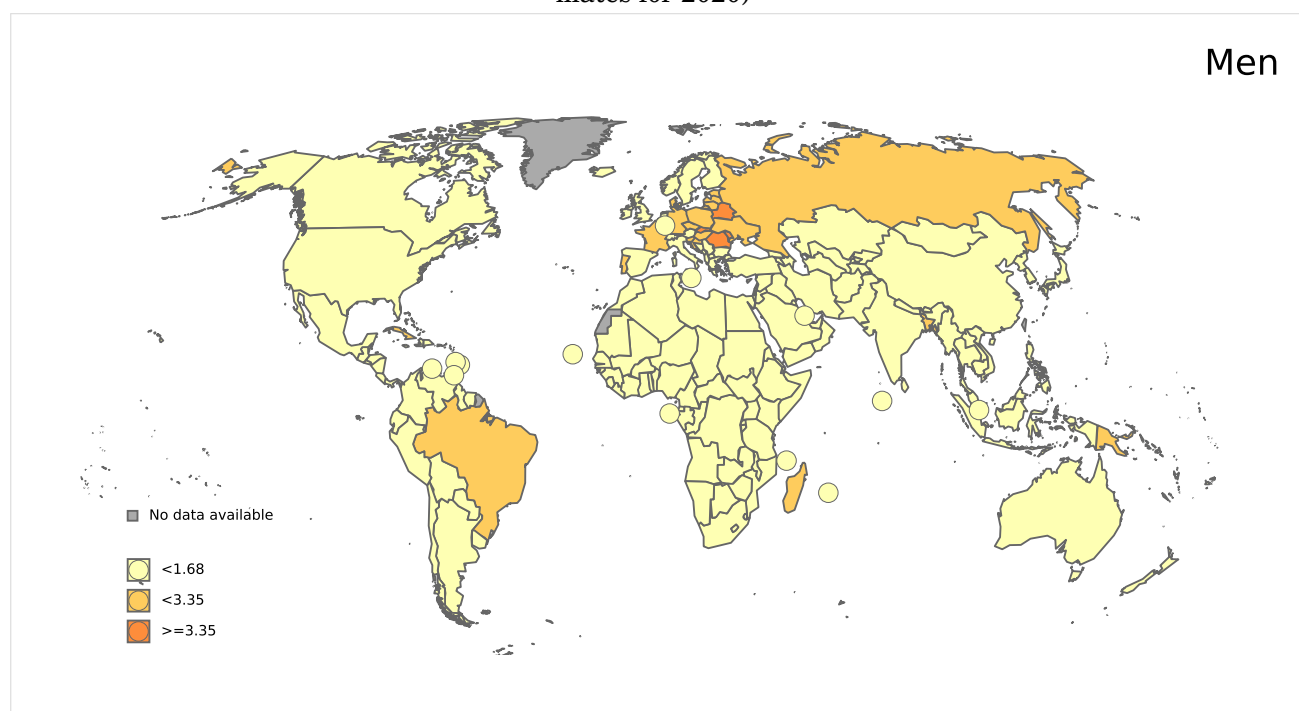
Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 42: Age-standardised mortality rates of oropharyngeal cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.5.2 Oral cavity cancer

3.5.2.1 Oral cavity cancer incidence

Table 20: Incidence of oral cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	113,502	[105,598.7-121,996.8]	2.94	2.28	0.26	18	15
High income	33,170	[31,945.4-34,441.5]	5.37	2.51	0.29	18	15
Low and middle income	80,305	[25,796.4-30,598.4]	2.47	2.19	0.25	15	13
Upper middle income	28,095	[25,796.4-30,598.4]	1.93	1.30	0.15	17	17
Lower middle income	49,473	[45,377.1-53,938.7]	3.32	3.61	0.42	8	9
Low income	2,737	[1,871.4-4,003]	0.91	1.44	0.17	18	20
Africa	6,112	[4,125.2-9,055.7]	0.91	1.43	0.16	18	19
Eastern Africa	1,963	[1,063.1-3,624.5]	0.87	1.53	0.18	18	19
Middle Africa	552	[294.9-1,033.3]	0.61	1.14	0.13	15	14
Northern Africa	1,489	[1,042.3-2,127.2]	1.22	1.31	0.14	19	17
Southern Africa	827	[731.5-935]	2.41	2.59	0.28	15	14
Western Africa	1,281	[593.6-2,764.2]	0.64	1.15	0.14	16	19
Americas	15,129	[5,350.7-7,121.6]	2.92	1.86	0.21	18	15
Caribbean	486	[330.2-715.4]	2.21	1.43	0.16	17	17
Central America	1,132	[961.4-1,332.9]	1.24	1.09	0.12	20	16
Northern America	8,956	[8,750.9-9,165.9]	4.81	2.56	0.29	18	15
South America	4,555	[3,813.8-5,440.2]	2.08	1.44	0.14	19	16
Asia	69,964	[64,840-75,493]	3.09	2.44	0.28	15	13
Central Asia	575	[138.8-203.3]	1.53	1.55	0.17	15	15
Eastern Asia	17,500	[16,363.1-18,715.8]	2.13	1.19	0.13	19	15
South-Eastern Asia	7,084	[6,265.3-8,009.6]	2.12	1.82	0.21	14	14
Southern Asia	43,148	[147.2-591.3]	4.59	4.73	0.55	4	6
Western Asia	1,657	[1,212.8-2,263.9]	1.25	1.27	0.14	20	18
Europe	20,760	[19,532.1-22,065.1]	5.36	2.38	0.27	18	15
Eastern Europe	6,199	[5,864-6,553.2]	3.99	1.87	0.21	17	15
Northern Europe	3,457	[3,283.5-3,639.7]	6.43	3.10	0.36	19	15
Southern Europe	4,461	[3,852.4-5,165.7]	5.69	2.08	0.23	18	17
Western Europe	6,643	[6,249.6-7,061.2]	6.66	3.06	0.36	18	17
Oceania	1,537	[1,404.3-1,682.3]	7.21	4.97	0.55	13	11
Australia & New Zealand	1,026	[957-1,100]	6.73	3.64	0.41	14	14
Melanesia	503	[319-793.2]	9.23	11.9	1.35	4	5
Micronesia	4	[1-15.8]	1.47	1.27	0.12	14	29
Polynesia	4	[1-15.2]	1.19	1.05	0.12	18	16

Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

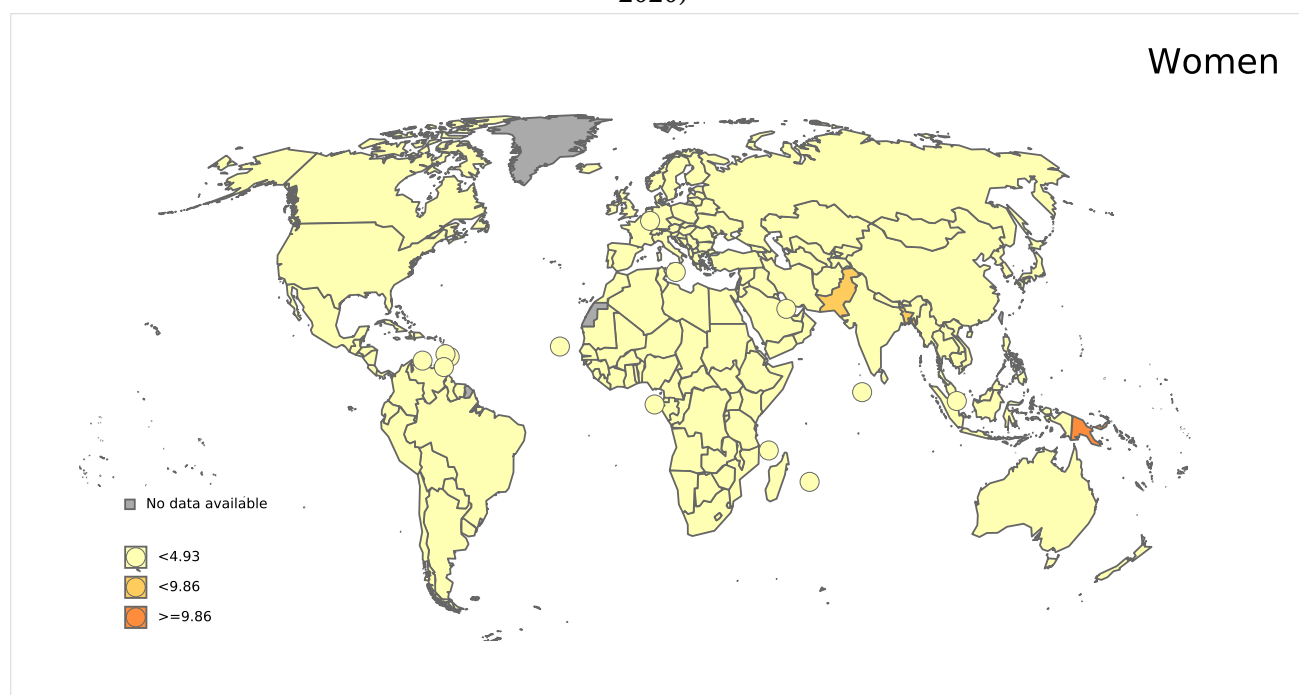
^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 43: Age-standardised incidence rates of oral cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 21: Incidence of oral cancer in men by World region and sub regions (estimates for 2020)

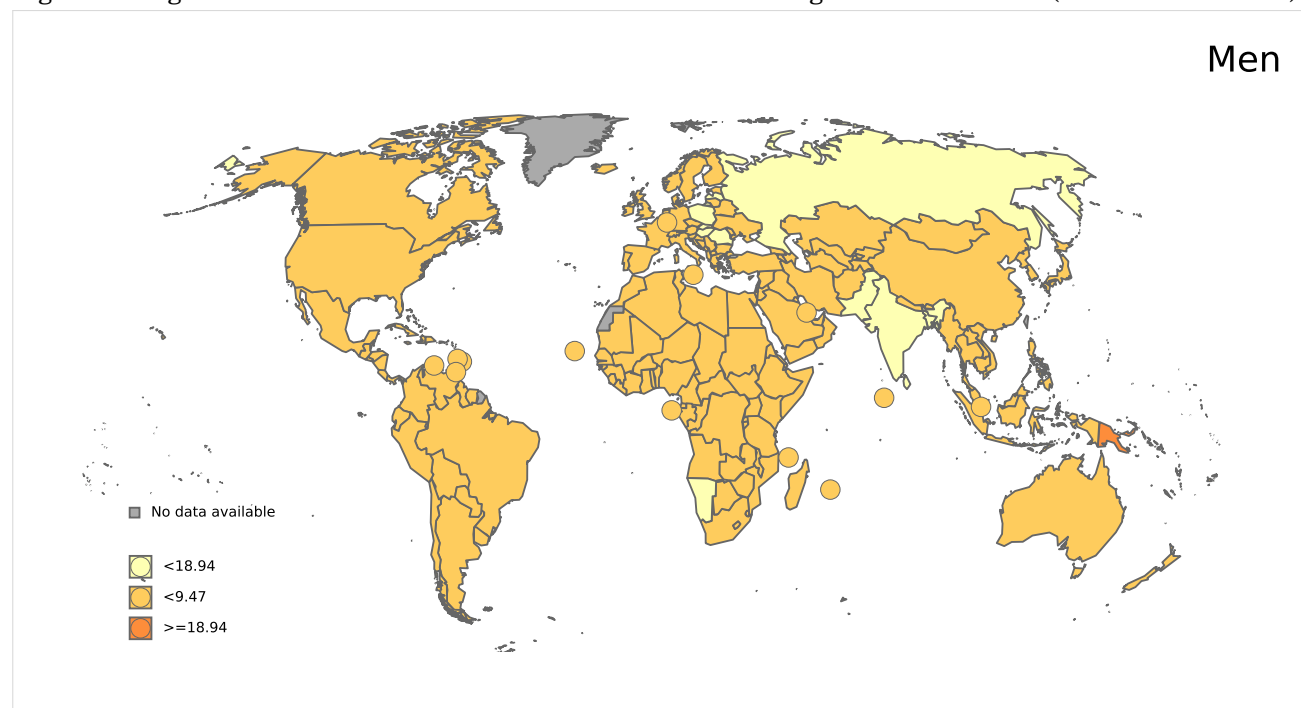
Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	264,211	[251,152.9-277,948.1]	6.72	5.96	0.68	11	3
High income	66,860	[65,089.5-68,678.6]	10.9	6.28	0.75	13	10
Low and middle income	197,263	[48,758.8-55,275.4]	5.95	5.80	0.65	7	2
Upper middle income	51,915	[48,758.8-55,275.4]	3.54	2.73	0.32	16	13
Lower middle income	141,593	[133,948.7-149,673.6]	9.15	10.5	1.17	2	1
Low income	3,755	[2,796.5-5,042.1]	1.25	2.24	0.26	13	12
Africa	8,174	[5,994.3-11,146.2]	1.22	2.13	0.25	15	14
Eastern Africa	2,690	[1,569.5-4,610.5]	1.22	2.36	0.28	12	11
Middle Africa	879	[507.6-1,522.2]	0.98	2.02	0.23	10	10
Northern Africa	1,727	[1,267.6-2,352.8]	1.40	1.68	0.19	16	15
Southern Africa	1,305	[1,196.8-1,423]	3.93	5.30	0.66	9	12
Western Africa	1,573	[743.8-3,326.7]	0.78	1.55	0.17	13	13
Americas	30,228	[10,613.4-12,931]	6.00	4.57	0.55	13	11
Caribbean	1,193	[937.8-1,517.6]	5.55	4.53	0.53	12	11
Central America	886	[752.8-1,042.7]	1.01	1.04	0.12	20	17
Northern America	18,513	[18,218.9-18,811.9]	10.1	6.01	0.73	12	11
South America	9,636	[8,569.7-10,835]	4.54	3.95	0.46	14	11
Asia	178,396	[168,926.8-188,396]	7.52	6.51	0.72	7	2
Central Asia	1,258	[357.3-459.1]	3.42	4.52	0.53	11	13
Eastern Asia	33,658	[31,886-35,528.5]	3.93	2.55	0.29	15	13
South-Eastern Asia	11,297	[10,121.5-12,609.1]	3.38	3.32	0.38	11	10
Southern Asia	129,467	[336.8-1,133.9]	12.9	13.6	1.51	1	1
Western Asia	2,716	[2,056.9-3,586.2]	1.86	2.23	0.26	17	14
Europe	44,519	[42,859.3-46,243]	12.3	7.03	0.85	12	11
Eastern Europe	19,884	[19,288.1-20,498.3]	14.4	9.22	1.12	8	11
Northern Europe	5,582	[5,371.5-5,800.8]	10.6	6.01	0.72	13	11
Southern Europe	7,926	[7,158.6-8,775.6]	10.6	5.18	0.61	14	11
Western Europe	11,127	[10,646.6-11,629.1]	11.5	6.20	0.76	13	12
Oceania	2,894	[2,714.7-3,085.1]	13.5	10.0	1.22	10	11
Australia & New Zealand	2,070	[1,971.3-2,173.7]	13.7	8.52	1.01	11	10
Melanesia	796	[577.1-1,097.8]	14.0	22.2	2.82	2	4
Micronesia	12	[5.80-25]	4.33	4.74	0.64	10	17
Polynesia	16	[6.80-37.5]	4.61	4.36	0.52	13	15

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 44: Age-standardised incidence rates of oral cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

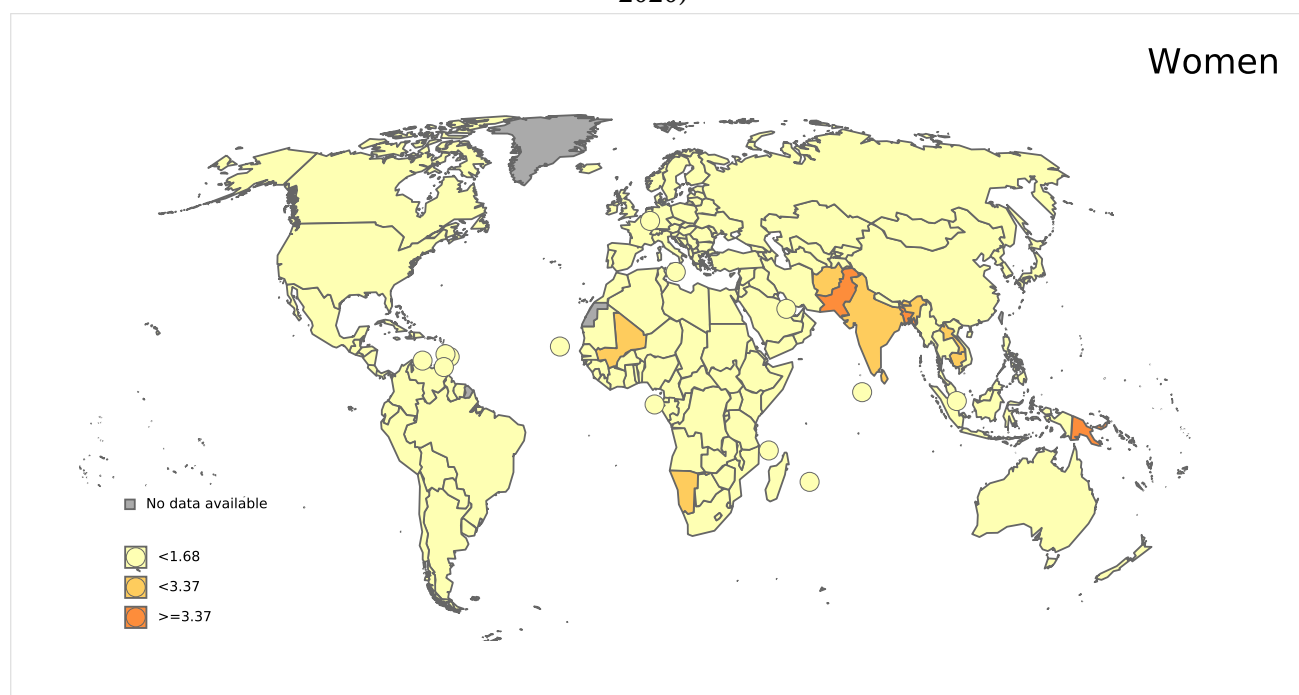
3.5.2.2 Oral cavity cancer mortality

Table 22: Mortality of oral cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	52,735	[47,690.5-58,313]	1.36	1.04	0.12	17	12
High income	9,644	[8,954.5-10,386.6]	1.56	0.55	0.06	19	15
Low and middle income	43,084	[12,416.6-12,849.1]	1.33	1.17	0.13	14	12
Upper middle income	12,631	[12,416.6-12,849.1]	0.87	0.56	0.06	20	19
Lower middle income	28,629	[28,119.9-29,147.3]	1.92	2.11	0.25	10	11
Low income	1,824	[1,192.4-2,790.2]	0.60	0.99	0.12	16	18
Africa	3,482	[2,226.6-5,445.3]	0.52	0.85	0.09	17	19
Eastern Africa	1,264	[624.1-2,560.1]	0.56	1.03	0.12	17	19
Middle Africa	352	[185.6-667.5]	0.39	0.77	0.09	17	16
Northern Africa	727	[489.3-1,080.3]	0.59	0.64	0.06	19	17
Southern Africa	318	[273.3-370]	0.93	1.00	0.10	16	16
Western Africa	821	[364.1-1,851.5]	0.41	0.78	0.10	16	18
Americas	4,129	[2,132.2-2,629.9]	0.80	0.44	0.04	20	16
Caribbean	186	[128.9-268.4]	0.84	0.48	0.04	19	20
Central America	407	[352.7-469.7]	0.44	0.38	0.04	19	19
Northern America	1,761	[1,666.9-1,860.3]	0.95	0.39	0.04	18	17
South America	1,775	[1,622.6-1,941.7]	0.81	0.53	0.05	20	16
Asia	37,849	[34,843.5-41,113.8]	1.67	1.30	0.15	15	12
Central Asia	405	[102.7-154.5]	1.08	1.08	0.12	13	13
Eastern Asia	7,850	[7,009.5-8,791.4]	0.95	0.47	0.05	19	18
South-Eastern Asia	3,516	[3,094.7-3,994.7]	1.05	0.88	0.09	14	15
Southern Asia	25,299	[112.6-410.6]	2.69	2.79	0.33	8	9
Western Asia	779	[619-980.3]	0.59	0.59	0.06	18	17
Europe	6,930	[6,194.8-7,752.4]	1.79	0.70	0.08	18	16
Eastern Europe	2,729	[2,286.3-3,257.5]	1.76	0.82	0.09	18	15
Northern Europe	1,004	[910.7-1,106.9]	1.87	0.72	0.08	18	14
Southern Europe	1,483	[1,340.4-1,640.8]	1.89	0.56	0.06	17	16
Western Europe	1,714	[1,563.2-1,879.3]	1.72	0.59	0.07	19	19
Oceania	345	[273.9-434.6]	1.62	0.99	0.11	18	14
Australia & New Zealand	188	[157.6-224.3]	1.23	0.50	0.05	18	15
Melanesia	155	[96.1-249.9]	2.84	3.96	0.48	8	10
Micronesia	1	[0.20-4.80]	0.37	0.34	0	18	18
Polynesia	1	[0.10-11.3]	0.30	0.18	0	19	19

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 women per year.**Data Sources:**Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 45: Age-standardised mortality rates of oral cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 23: Mortality of oral cancer in men by World region and sub regions (estimates for 2020)

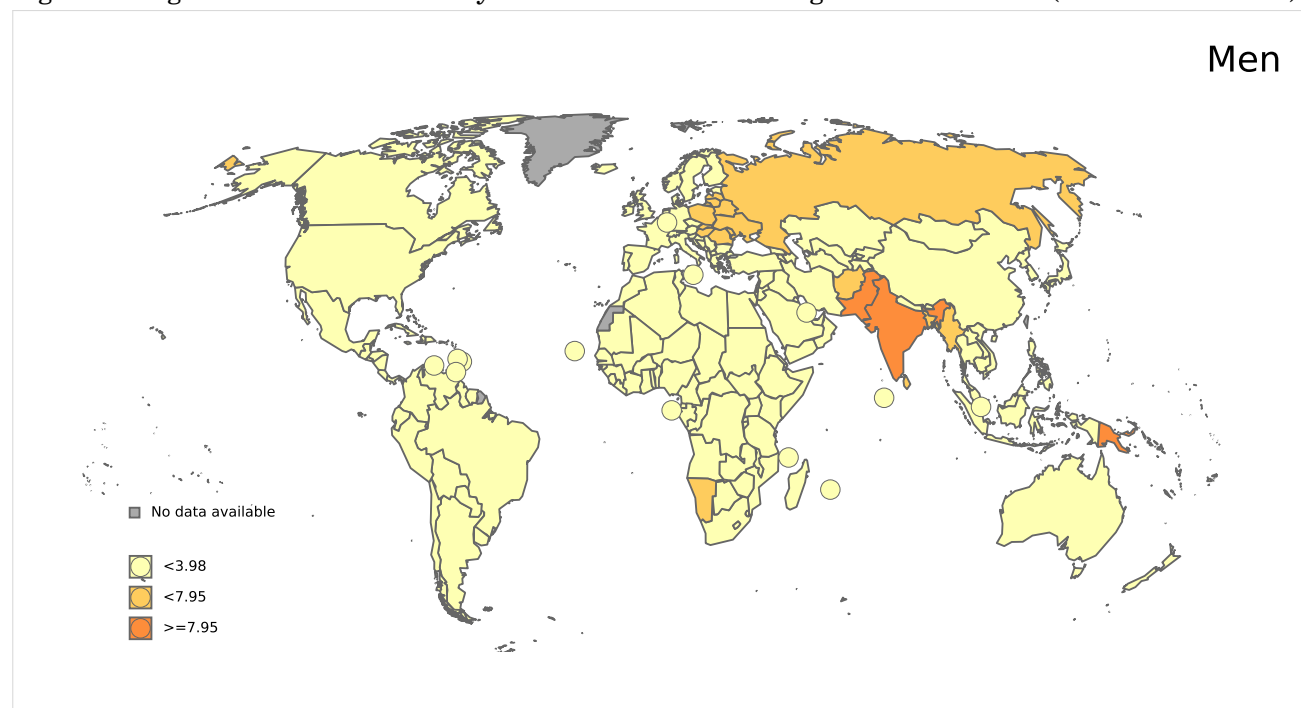
Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	125,022	[116,572.6-134,083.9]	3.18	2.82	0.32	12	6
High income	19,247	[18,157.7-20,401.7]	3.14	1.70	0.20	14	10
Low and middle income	105,751	[22,883.2-27,439.5]	3.19	3.12	0.35	9	4
Upper middle income	25,058	[22,883.2-27,439.5]	1.71	1.31	0.15	15	13
Lower middle income	78,273	[68,299.6-89,702.8]	5.06	5.84	0.67	5	1
Low income	2,420	[1,740.7-3,364.4]	0.81	1.51	0.18	14	12
Africa	4,606	[3,236.8-6,554.3]	0.69	1.26	0.15	15	15
Eastern Africa	1,716	[928.6-3,171.1]	0.78	1.61	0.20	13	12
Middle Africa	552	[311.8-977.2]	0.62	1.36	0.16	12	13
Northern Africa	739	[524.2-1,041.7]	0.60	0.74	0.08	17	15
Southern Africa	596	[532.6-666.9]	1.79	2.56	0.33	11	22
Western Africa	1,003	[438.7-2,293.3]	0.50	1.07	0.12	13	16
Americas	8,404	[4,859.8-5,521.2]	1.67	1.23	0.15	16	14
Caribbean	482	[385.2-603.1]	2.24	1.72	0.20	14	13
Central America	446	[386.8-514.3]	0.51	0.52	0.06	18	16
Northern America	3,224	[3,097.1-3,356.1]	1.77	0.96	0.11	16	13
South America	4,252	[4,036.4-4,479.1]	2.00	1.74	0.21	15	13
Asia	93,761	[83,519.8-105,258]	3.95	3.43	0.38	9	4
Central Asia	679	[206.4-279]	1.84	2.40	0.29	12	15
Eastern Asia	14,083	[12,818.4-15,472.4]	1.65	1.04	0.11	15	11
South-Eastern Asia	6,409	[5,717.3-7,184.4]	1.92	1.92	0.21	13	10
Southern Asia	71,632	[246.2-761.6]	7.16	7.58	0.86	2	1
Western Asia	958	[772.6-1,187.8]	0.66	0.81	0.09	16	17
Europe	17,645	[16,366.6-19,023.3]	4.88	2.73	0.33	13	10
Eastern Europe	9,761	[8,900.6-10,704.5]	7.08	4.54	0.56	11	7
Northern Europe	1,714	[1,590.6-1,846.9]	3.27	1.67	0.20	16	12
Southern Europe	2,751	[2,537.1-2,982.9]	3.67	1.67	0.20	16	13
Western Europe	3,419	[3,207.7-3,644.2]	3.55	1.71	0.21	15	14
Oceania	606	[501.8-731.9]	2.84	1.99	0.26	16	11
Australia & New Zealand	281	[243.3-324.5]	1.86	1.03	0.13	16	15
Melanesia	313	[214.9-455.8]	5.52	9.27	1.19	5	5
Micronesia	5	[1-24]	1.80	1.94	0.34	13	7
Polynesia	7	[1.10-43.9]	2.02	1.94	0.22	16	28

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 46: Age-standardised mortality rates of oral cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

3.5.3 Laryngeal cancer

3.5.3.1 Laryngeal cancer incidence

Table 24: Incidence of laryngeal cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	24,350	[20,845.2-28,444.1]	0.63	0.49	0.06	25	29
High income	7,443	[6,899.6-8,029.2]	1.21	0.63	0.08	25	28
Low and middle income	16,896	[6,923.5-9,771.2]	0.52	0.46	0.05	25	29
Upper middle income	8,225	[6,923.5-9,771.2]	0.57	0.38	0.05	25	28
Lower middle income	8,052	[6,239.2-10,391.5]	0.54	0.59	0.07	24	27
Low income	619	[330.4-1,159.5]	0.20	0.32	0.04	28	27
Africa	1,422	[608.2-3,324.9]	0.21	0.33	0.04	28	28
Eastern Africa	413	[98.9-1,723.8]	0.18	0.31	0.04	28	27
Middle Africa	102	[19.7-529.5]	0.11	0.22	0.03	28	28
Northern Africa	438	[201.2-953.3]	0.36	0.39	0.05	24	25
Southern Africa	169	[131.4-217.3]	0.49	0.54	0.07	26	27
Western Africa	300	[49.4-1,822.7]	0.15	0.28	0.04	28	29
Americas	5,363	[2,078.4-3,282.6]	1.03	0.69	0.09	24	27
Caribbean	355	[246.6-511]	1.61	1.11	0.13	19	21
Central America	278	[209-369.7]	0.30	0.26	0.03	26	27
Northern America	2,751	[2,640.2-2,866.5]	1.48	0.83	0.10	24	27
South America	1,979	[1,486.1-2,635.5]	0.90	0.66	0.08	24	26
Asia	12,536	[10,300.5-15,256.7]	0.55	0.43	0.05	22	26
Central Asia	130	[34.4-69.8]	0.35	0.35	0.04	26	27
Eastern Asia	3,831	[3,280.6-4,473.7]	0.47	0.26	0.03	24	29
South-Eastern Asia	1,215	[630.2-3,43.1]	0.36	0.31	0.03	24	26
Southern Asia	6,681	[12.5-177]	0.71	0.74	0.09	20	21
Western Asia	679	[425-1,084.9]	0.51	0.54	0.06	22	23
Europe	4,912	[4,313.9-5,593]	1.27	0.64	0.08	25	26
Eastern Europe	1,550	[1,367.4-1,756.9]	1.00	0.53	0.07	25	24
Northern Europe	666	[593.5-747.3]	1.24	0.62	0.08	27	27
Southern Europe	1,101	[848.5-1,428.6]	1.40	0.64	0.08	24	27
Western Europe	1,595	[1,413.2-1,800.2]	1.60	0.80	0.10	25	26
Oceania	117	[83.1-164.8]	0.55	0.37	0.04	28	24
Australia & New Zealand	80	[61.2-104.5]	0.52	0.28	0.03	28	29
Melanesia	36	[5.60-230.5]	0.66	0.81	0.07	21	17
Micronesia	0	[0-15.6]	0	0	0	28	14
Polynesia	1	[0.10-12.8]	0.30	0.20	0	21	22

Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

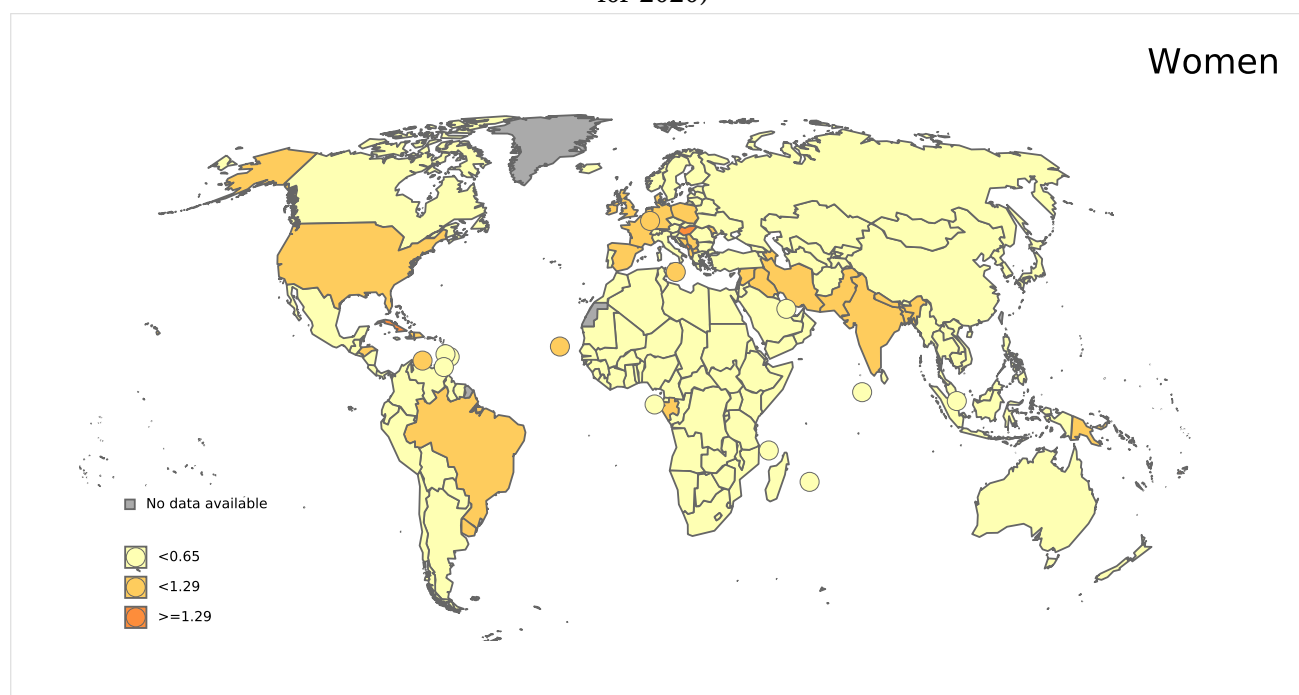
^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

^b Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 47: Age-standardised incidence rates of laryngeal cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 25: Incidence of laryngeal cancer in men by World region and sub regions (estimates for 2020)

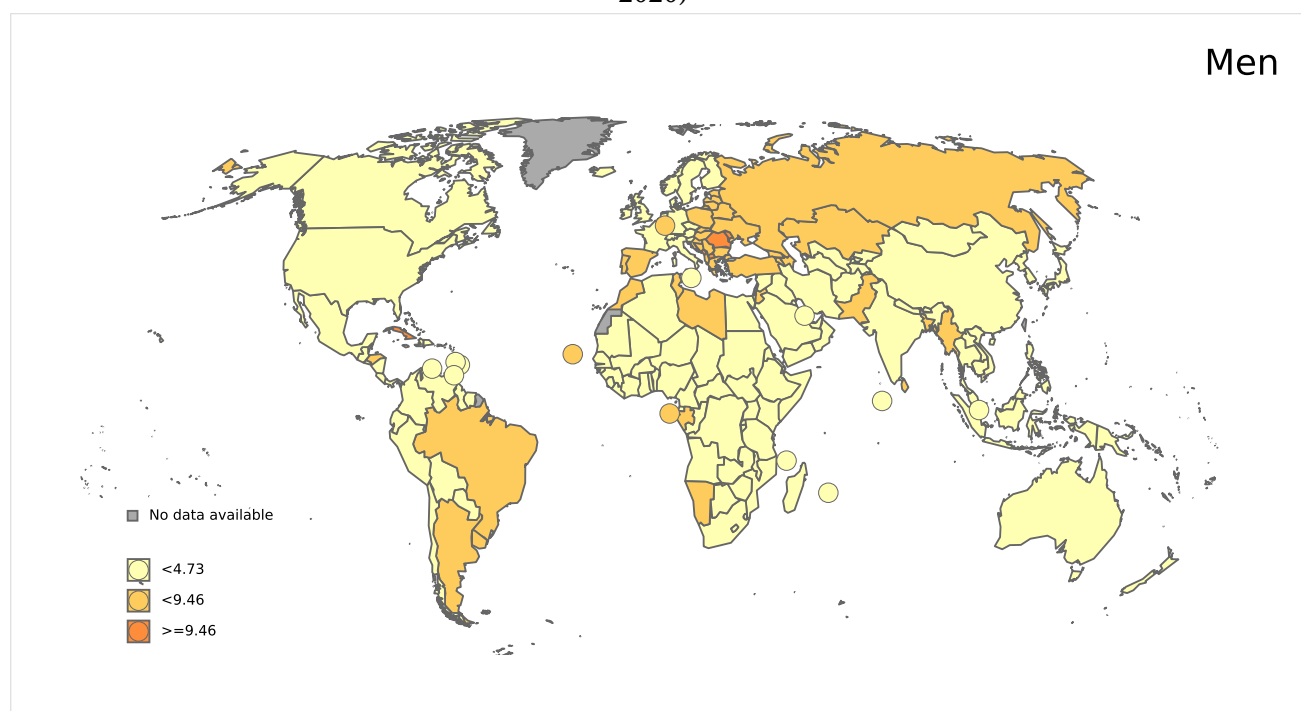
Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	160,265	[150,633.1-170,512.8]	4.08	3.59	0.45	15	19
High income	42,375	[40,944.5-43,855.4]	6.91	3.70	0.47	17	23
Low and middle income	117,797	[57,986.7-65,372.6]	3.55	3.55	0.44	13	17
Upper middle income	61,569	[57,986.7-65,372.6]	4.19	3.20	0.40	15	19
Lower middle income	53,246	[48,824.9-58,067.4]	3.44	4.25	0.53	10	15
Low income	2,982	[2,291.5-3,880.6]	0.99	1.99	0.24	15	19
Africa	8,486	[6,079.3-11,845.5]	1.27	2.43	0.30	14	23
Eastern Africa	1,860	[1,013.1-3,414.9]	0.84	1.89	0.23	15	22
Middle Africa	537	[267.5-1,077.9]	0.60	1.38	0.18	16	26
Northern Africa	4,042	[3,181.6-5,135.2]	3.27	4.05	0.50	10	17
Southern Africa	786	[705-876.3]	2.37	3.28	0.41	15	25
Western Africa	1,261	[574-2,770.1]	0.62	1.37	0.17	16	21
Americas	24,322	[12,223.7-14,971.4]	4.82	3.56	0.45	17	23
Caribbean	1,966	[1,679.2-2,301.8]	9.15	7.26	0.90	5	15
Central America	1,332	[1,184-1,498.5]	1.51	1.57	0.19	16	22
Northern America	10,794	[10,573.1-11,019.5]	5.91	3.34	0.42	18	24
South America	10,230	[9,033.3-11,585.2]	4.82	4.18	0.52	13	22
Asia	91,794	[85,968.1-98,014.7]	3.87	3.36	0.41	14	16
Central Asia	734	[403.7-512.9]	1.99	2.51	0.32	14	19
Eastern Asia	33,020	[31,412-34,710.3]	3.86	2.41	0.30	16	18
South-Eastern Asia	10,178	[9,071.8-11,419.1]	3.05	3.07	0.36	12	16
Southern Asia	41,582	[80.7-515.5]	4.15	4.67	0.58	7	12
Western Asia	6,280	[5,187.5-7,602.6]	4.31	5.29	0.66	12	13
Europe	34,951	[33,406.8-36,566.6]	9.66	5.36	0.68	15	17
Eastern Europe	16,580	[15,999.7-17,181.3]	12.0	7.58	0.97	9	16
Northern Europe	3,160	[2,995.5-3,333.5]	6.02	3.16	0.39	19	22
Southern Europe	8,174	[7,470.6-8,943.7]	10.9	5.38	0.67	13	18
Western Europe	7,037	[6,639.6-7,458.2]	7.30	3.55	0.46	18	24
Oceania	712	[628.8-806.2]	3.33	2.31	0.29	20	23
Australia & New Zealand	582	[529.4-639.8]	3.86	2.17	0.27	20	25
Melanesia	114	[53.5-243]	2.01	3.40	0.42	11	14
Micronesia	5	[1.50-17.1]	1.80	1.93	0.39	14	28
Polynesia	11	[3.70-32.9]	3.17	3.08	0.34	16	19

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 48: Age-standardised incidence rates of laryngeal cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

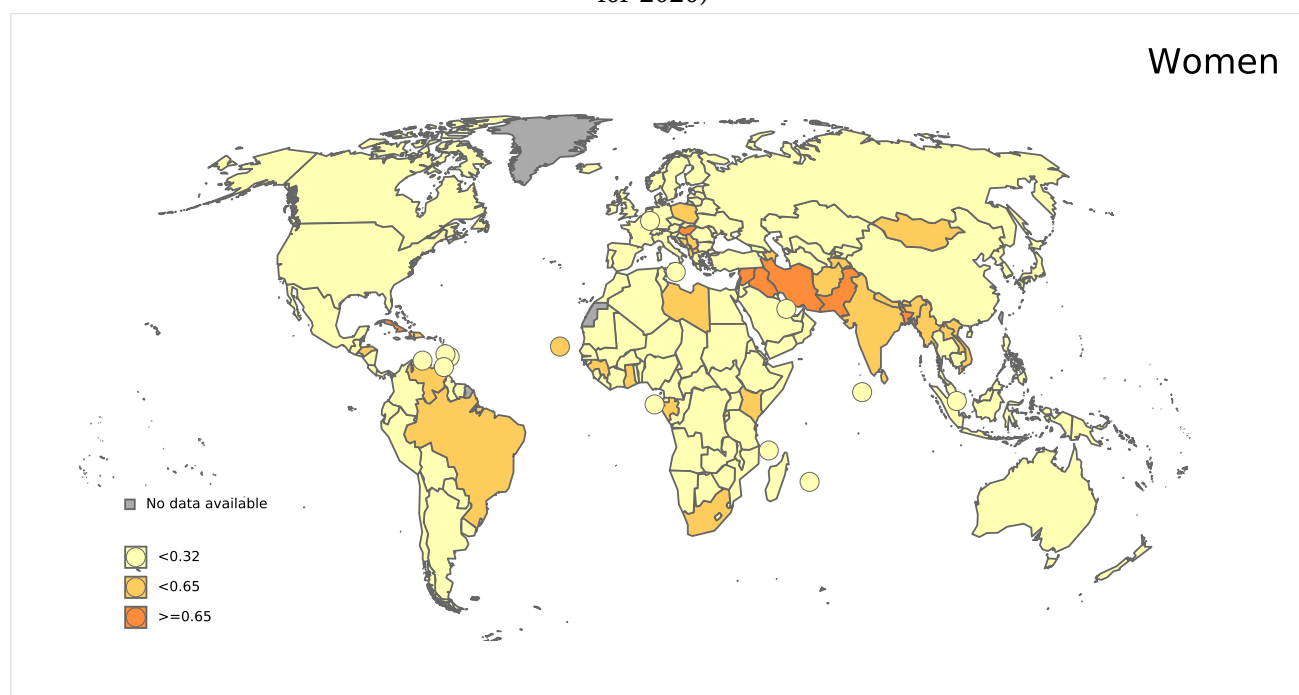
3.5.3.2 Laryngeal cancer mortality

Table 26: Mortality of laryngeal cancer in women by World region and sub regions (estimates for 2020)

Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All women	Women 15-44 years
World	14,489	[11,901.8-17,638.6]	0.37	0.28	0.03	23	26
High income	2,635	[2,321.4-2,991]	0.43	0.18	0.02	25	29
Low and middle income	11,847	[4,383.6-6,230.3]	0.36	0.32	0.04	21	26
Upper middle income	5,226	[4,383.6-6,230.3]	0.36	0.23	0.03	22	25
Lower middle income	6,170	[4,630.9-8,220.6]	0.41	0.46	0.06	20	23
Low income	451	[223.6-909.8]	0.15	0.24	0.03	28	26
Africa	961	[365.8-2,524.9]	0.14	0.23	0.03	28	28
Eastern Africa	283	[112.4-712.8]	0.13	0.22	0.03	28	25
Middle Africa	70	[54.2-90.4]	0.08	0.16	0.02	28	30
Northern Africa	295	[124.4-699.6]	0.24	0.27	0.03	23	22
Southern Africa	108	[83.9-139.1]	0.31	0.34	0.04	23	25
Western Africa	205	[102.6-409.6]	0.10	0.20	0.03	28	29
Americas	2,270	[1,238.6-1,611.9]	0.44	0.27	0.03	22	25
Caribbean	200	[143.5-278.7]	0.91	0.58	0.06	17	16
Central America	152	[118.4-195.1]	0.17	0.14	0.02	23	23
Northern America	857	[794.1-924.9]	0.46	0.21	0.03	23	29
South America	1,061	[950.3-1,184.6]	0.49	0.34	0.04	22	22
Asia	9,228	[7,235.8-11,768.6]	0.41	0.31	0.04	21	22
Central Asia	91	[18.4-45.7]	0.24	0.24	0.03	25	23
Eastern Asia	2,537	[2,066.8-3,114.2]	0.31	0.16	0.02	21	27
South-Eastern Asia	863	[443.3-1,680.2]	0.26	0.21	0.02	21	24
Southern Asia	5,311	[10.8-127.1]	0.57	0.59	0.07	17	17
Western Asia	426	[319-568.9]	0.32	0.33	0.04	22	25
Europe	1,986	[1,675.4-2,354.2]	0.51	0.22	0.03	25	26
Eastern Europe	741	[632.8-867.8]	0.48	0.24	0.03	24	24
Northern Europe	251	[208.1-302.7]	0.47	0.19	0.02	25	27
Southern Europe	475	[391.2-576.8]	0.61	0.22	0.03	23	24
Western Europe	519	[440.8-611.1]	0.52	0.22	0.03	25	30
Oceania	44	[24.4-79.5]	0.21	0.13	0.01	28	27
Australia & New Zealand	33	[20.9-52.1]	0.22	0.10	0.01	27	29
Melanesia	10	[3-33.3]	0.18	0.24	0.03	24	21
Micronesia	0	[0-9.20]	0	0	0	29	7
Polynesia	1	[0.10-11.3]	0.30	0.20	0	18	11

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 women per year.**Data Sources:**Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 49: Age-standardised mortality rates of laryngeal cancer among women in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 women per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Table 27: Mortality of laryngeal cancer in men by World region and sub regions (estimates for 2020)

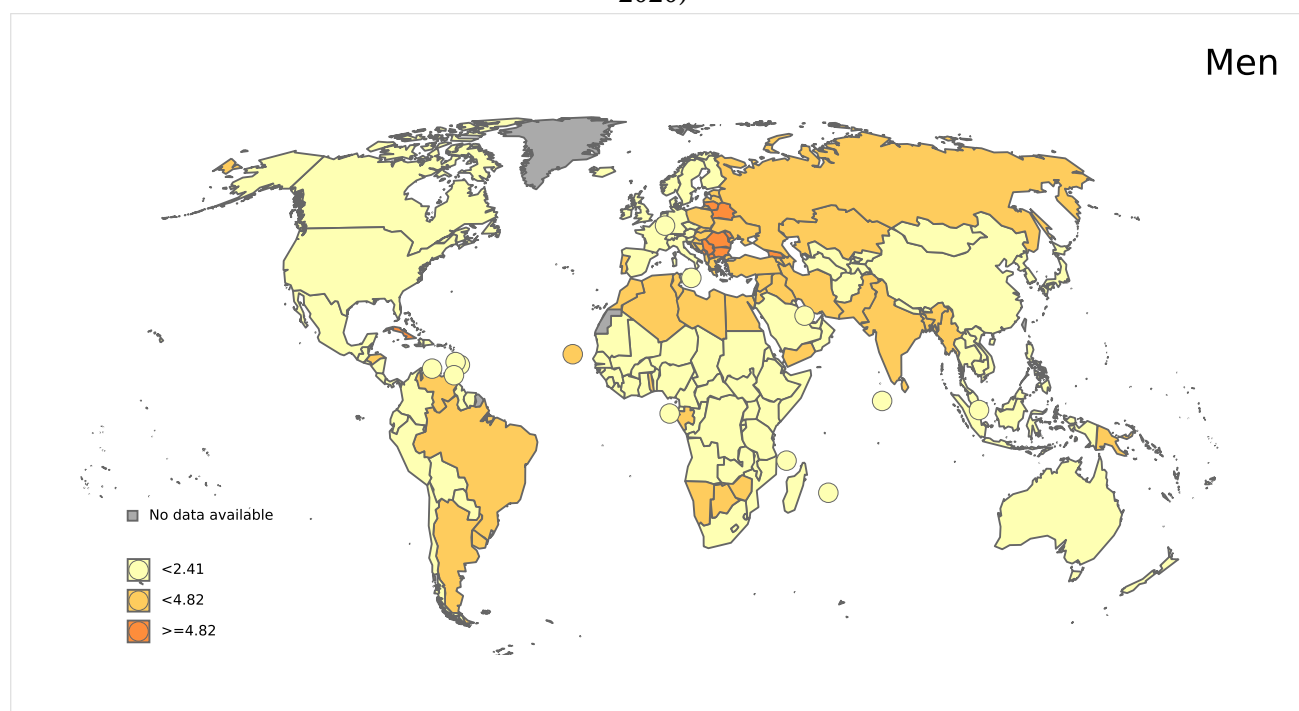
Area	N Cases	Uncertainty intervals of new cancer cases [95% UI]	Crude rate ^b	ASR ^b	Cumulative risk (%) ages 0-74 years ^a	Ranking	
						All men	Men 15-44 years
World	85,351	[78,895.2-92,335]	2.17	1.89	0.23	14	16
High income	16,400	[15,449.7-17,408.7]	2.67	1.30	0.16	16	20
Low and middle income	68,905	[32,166.9-36,925.1]	2.08	2.09	0.26	14	16
Upper middle income	34,464	[32,166.9-36,925.1]	2.35	1.78	0.21	14	16
Lower middle income	32,243	[28,707.9-36,213.4]	2.08	2.61	0.33	10	15
Low income	2,198	[1,637.3-2,950.6]	0.73	1.52	0.19	15	17
Africa	5,675	[3,883.4-8,293.2]	0.85	1.71	0.20	14	19
Eastern Africa	1,279	[640.2-556.1]	0.58	1.36	0.16	16	19
Middle Africa	369	[282-482.9]	0.41	0.99	0.13	16	24
Northern Africa	2,696	[2,066.8-3,516.7]	2.18	2.77	0.32	11	16
Southern Africa	462	[407.3-524.1]	1.39	1.98	0.25	14	23
Western Africa	869	[364.4-2,072]	0.43	0.99	0.12	14	19
Americas	12,164	[8,367.8-9,275.6]	2.41	1.73	0.21	14	18
Caribbean	1,092	[945.7-1,261]	5.08	3.87	0.47	9	14
Central America	906	[817.5-1,004.1]	1.03	1.05	0.12	14	18
Northern America	3,354	[3,227.2-3,485.8]	1.84	0.94	0.11	15	23
South America	6,812	[6,529.6-7,106.6]	3.21	2.75	0.34	13	16
Asia	49,621	[44,998.4-54,718.4]	2.09	1.82	0.22	15	14
Central Asia	442	[223.7-299.8]	1.20	1.54	0.20	14	19
Eastern Asia	15,261	[14,048.8-16,577.8]	1.78	1.09	0.13	14	17
South-Eastern Asia	5,905	[5,239.3-6,655.4]	1.77	1.82	0.20	14	13
Southern Asia	25,077	[65.4-367.3]	2.51	2.86	0.37	9	13
Western Asia	2,936	[2,612.3-3,300.2]	2.01	2.62	0.32	11	15
Europe	17,618	[16,676.2-18,613]	4.87	2.54	0.32	14	16
Eastern Europe	9,518	[9,129.8-9,922.7]	6.91	4.26	0.55	13	16
Northern Europe	1,223	[1,116.1-1,340.1]	2.33	1.07	0.13	17	18
Southern Europe	4,054	[3,789.5-4,337]	5.41	2.31	0.28	14	17
Western Europe	2,823	[2,632.6-3,027.2]	2.93	1.26	0.15	18	24
Oceania	273	[219.3-339.8]	1.28	0.81	0.10	18	21
Australia & New Zealand	193	[163.2-228.2]	1.28	0.61	0.07	18	24
Melanesia	70	[46.2-106.1]	1.23	2.19	0.29	12	16
Micronesia	3	[0.30-27.6]	1.08	0.86	0.11	14	26
Polynesia	7	[1.10-43.9]	2.02	1.88	0.20	15	21

Data accessed on 27 Jan 2021For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>^a Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.^b Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

Figure 50: Age-standardised mortality rates of laryngeal cancer among men in the World (estimates for 2020)



Data accessed on 27 Jan 2021

For more detailed methods of estimation please refer to <http://gco.iarc.fr/today/data-sources-methods>

^a Rates per 100,000 men per year.

Data Sources:

Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2020). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: <https://gco.iarc.fr/today>, accessed [27 January 2021].

4 HPV related statistics

HPV infection is commonly found in the anogenital tract of men and women with and without clinical lesions. The aetiological role of HPV infection among women with cervical cancer is well-established, and there is growing evidence of its central role in other anogenital sites. HPV is also responsible for other diseases such as recurrent juvenile respiratory papillomatosis and genital warts, both mainly caused by HPV types 6 and 11 (Lacey CJ, Vaccine 2006; 24(S3):35). For this section, the methodologies used to compile the information on HPV burden are derived from systematic reviews and meta-analyses of the literature. Due to the limitations of HPV DNA detection methods and study designs used, these data should be interpreted with caution and used only as a guide to assess the burden of HPV infection in the population. (Vaccine 2006, Vol. 24, Suppl 3; Vaccine 2008, Vol. 26, Suppl 10; Vaccine 2012, Vol. 30, Suppl 5; IARC Monographs 2007, Vol. 90).

4.1 HPV burden in women with normal cervical cytology, cervical precancerous lesions or invasive cervical cancer

The statistics shown in this section focus on HPV infection in the cervix uteri. HPV cervical infection results in cervical morphological lesions ranging from normalcy (cytologically normal women) to different stages of precancerous lesions (CIN-1, CIN-2, CIN-3/CIS) and invasive cervical cancer. HPV infection is measured by means of HPV DNA detection in cervical cells (fresh tissue, paraffin embedded or exfoliated cells).

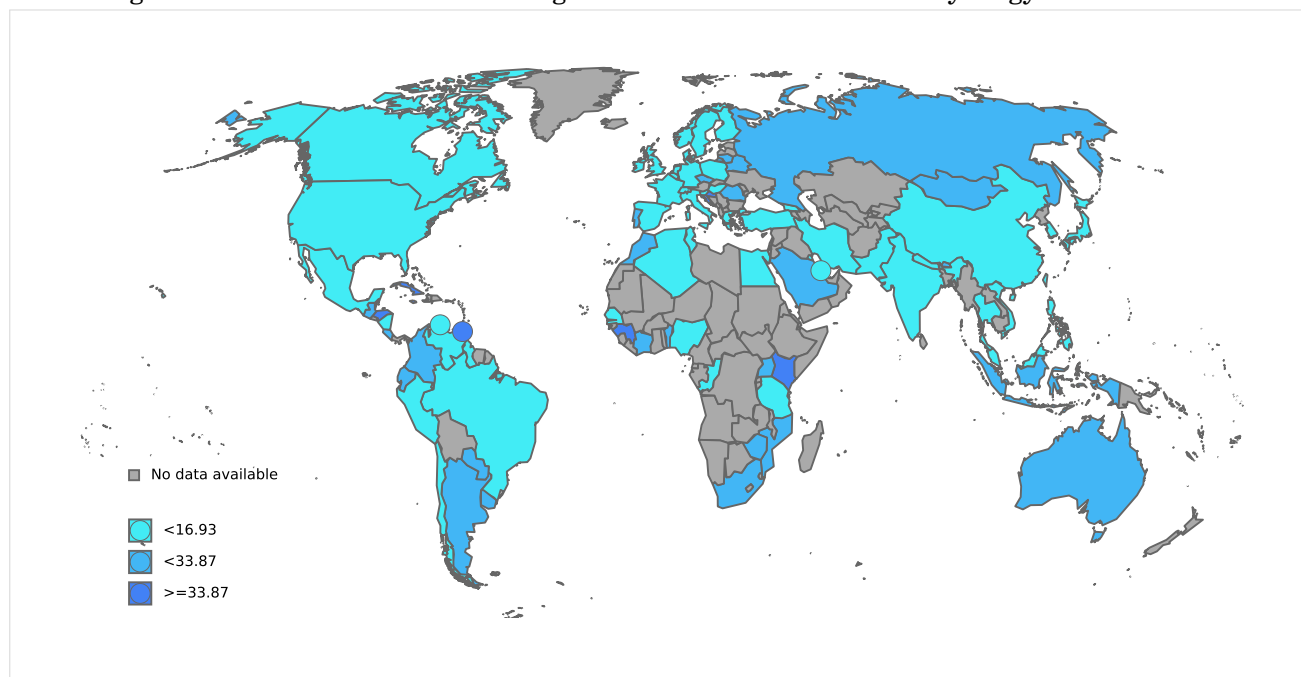
The prevalence of HPV increases with severity of the lesion. HPV causes virtually 100% cervical cancer, and an underestimation of HPV prevalence in cervical cancer is most likely due to the limitations of study methodologies. Worldwide, HPV-16 and 18, the two vaccine-preventable types, contribute to over 70-82% of low-grade cervical lesions. After HPV-16/18, the six most common HPV types are the same in all world regions, namely 31, 33, 35, 45, 52 and 58; these account for an additional 20% of cancers worldwide (Clifford G et al. Vaccine 2006; 24(S3):26-34).

Methods: Prevalence and type distribution of human papillomavirus in cervical carcinoma, low-grade cervical lesions, high-grade cervical lesions and normal cytology: systematic review and meta-analysis

A systematic review of the literature was conducted regarding the worldwide HPV-prevalence and type distribution for cervical carcinoma, low-grade cervical lesions, high-grade cervical lesions and normal cytology from 1990 to 'data as of' indicated in each section. The search terms for the review were 'HPV' AND cerv* using Pubmed. There were no limits in publication language. References cited in selected articles were also investigated. Inclusion criteria were: HPV DNA detection by means of PCR or HC2, a minimum of 20 cases for cervical carcinoma, 20 cases for low-grade cervical lesions, 20 cases for high-grade cervical lesions and 100 cases for normal cytology and a detailed description of HPV DNA detection and genotyping techniques used. The number of cases tested and HPV positive extracted for each study were pooled to estimate the prevalence of HPV DNA and the HPV type distribution globally and by geographical region. Binomial 95% confidence intervals were calculated for each HPV prevalence. For more details refer to the methods document.

4.1.1 HPV prevalence in women with normal cervical cytology

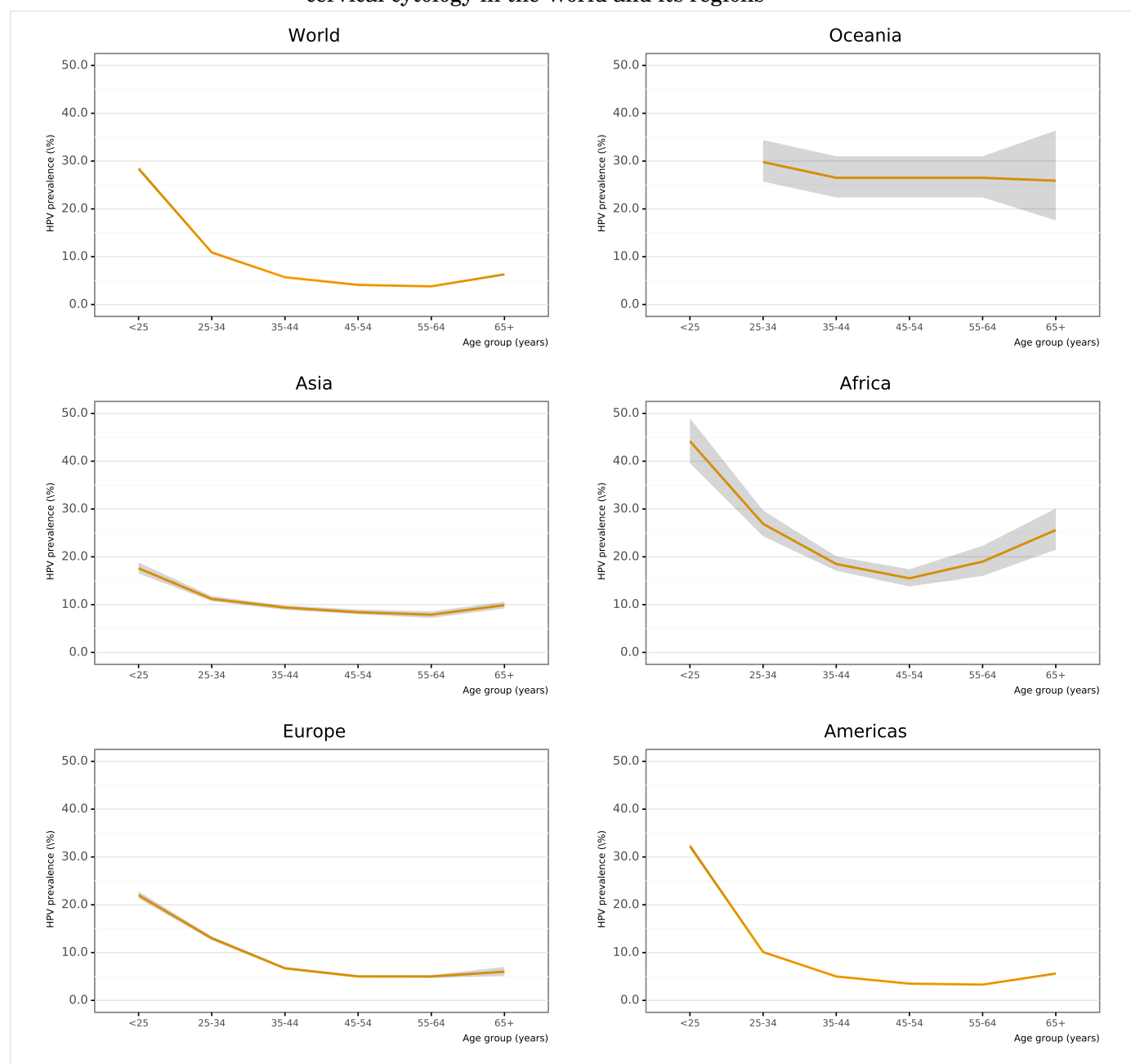
Figure 51: Prevalence of HPV among women with normal cervical cytology in the World



Data updated on 4 July 2022 (data as of 30 Jun 2015)

Data Sources: See references in Section 9 [References](#).

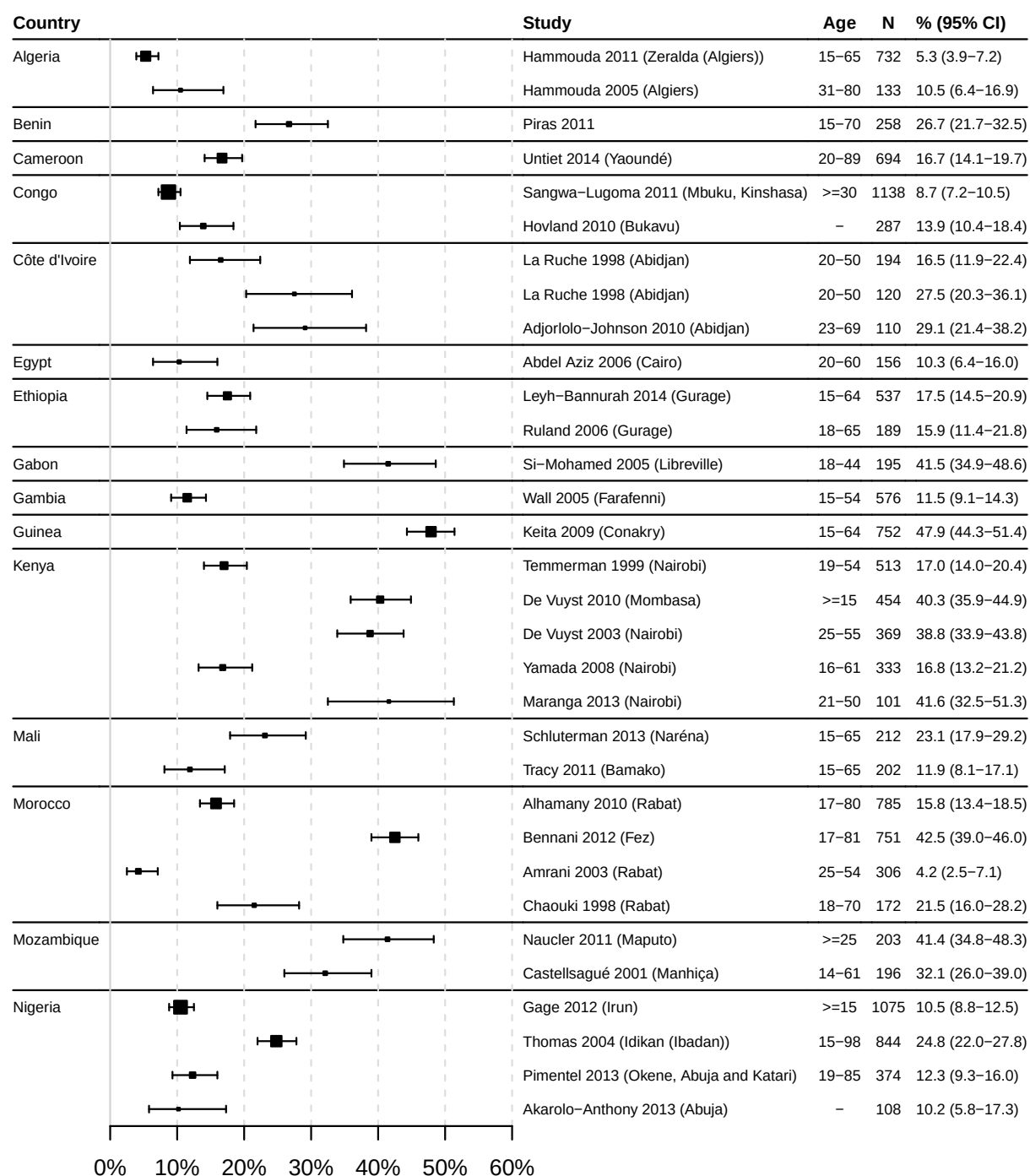
Figure 52: Crude age-specific HPV prevalence (%) and 95% confidence interval in women with normal cervical cytology in the World and its regions



Data updated on 4 July 2022 (data as of 30 Jun 2014)

Data Sources: See references in Section 9 [References](#).

Figure 53: Prevalence of HPV among women with normal cervical cytology in Africa by country and study

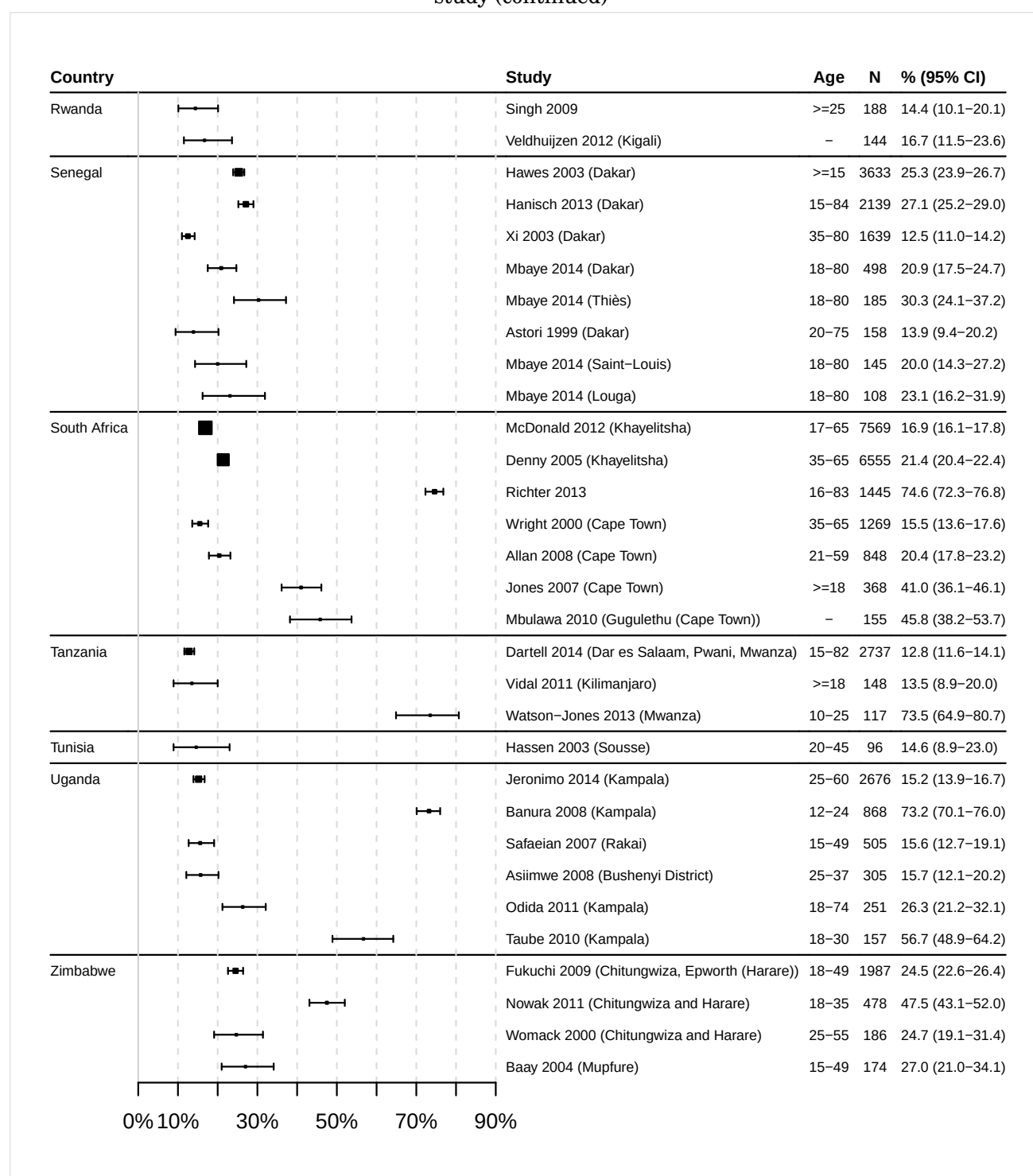


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 53: Prevalence of HPV among women with normal cervical cytology in Africa by country and study (continued)

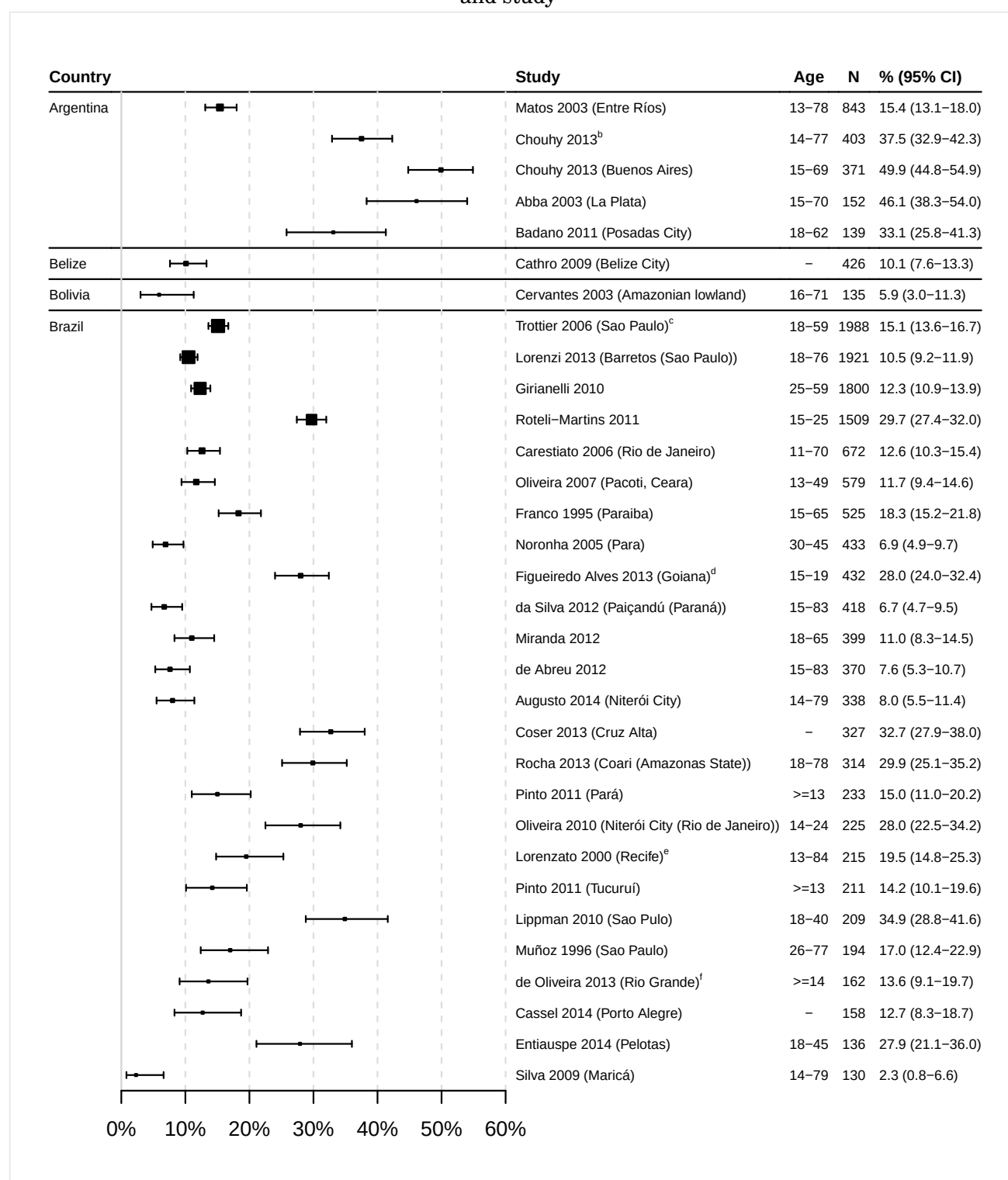


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 54: Prevalence of HPV among women with normal cervical cytology in the Americas by country and study

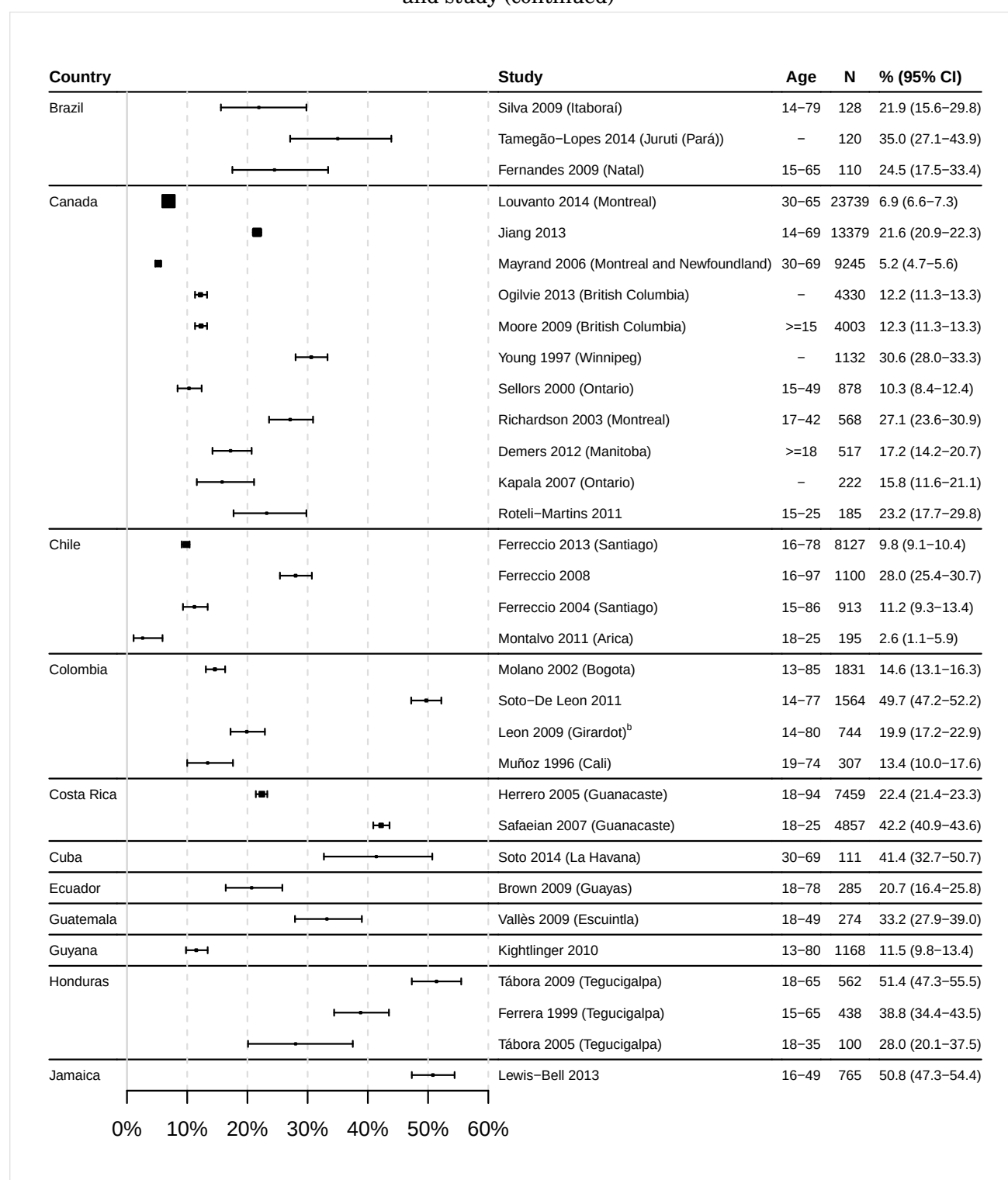


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Granadero Baigorria City (Santa Fe Province)^c Maringá, Paiçandú and União da Vitória (Paraná State)^d Duque de Caxias and Nova Iguaçu (State of Rio de Janeiro)^e Ouro Preto city (Minas Gerais)^f Northwest Territories, Nunavut, Labrador, Yukon.Data Sources: See references in Section 9 [References](#).

Figure 54: Prevalence of HPV among women with normal cervical cytology in the Americas by country and study (continued)

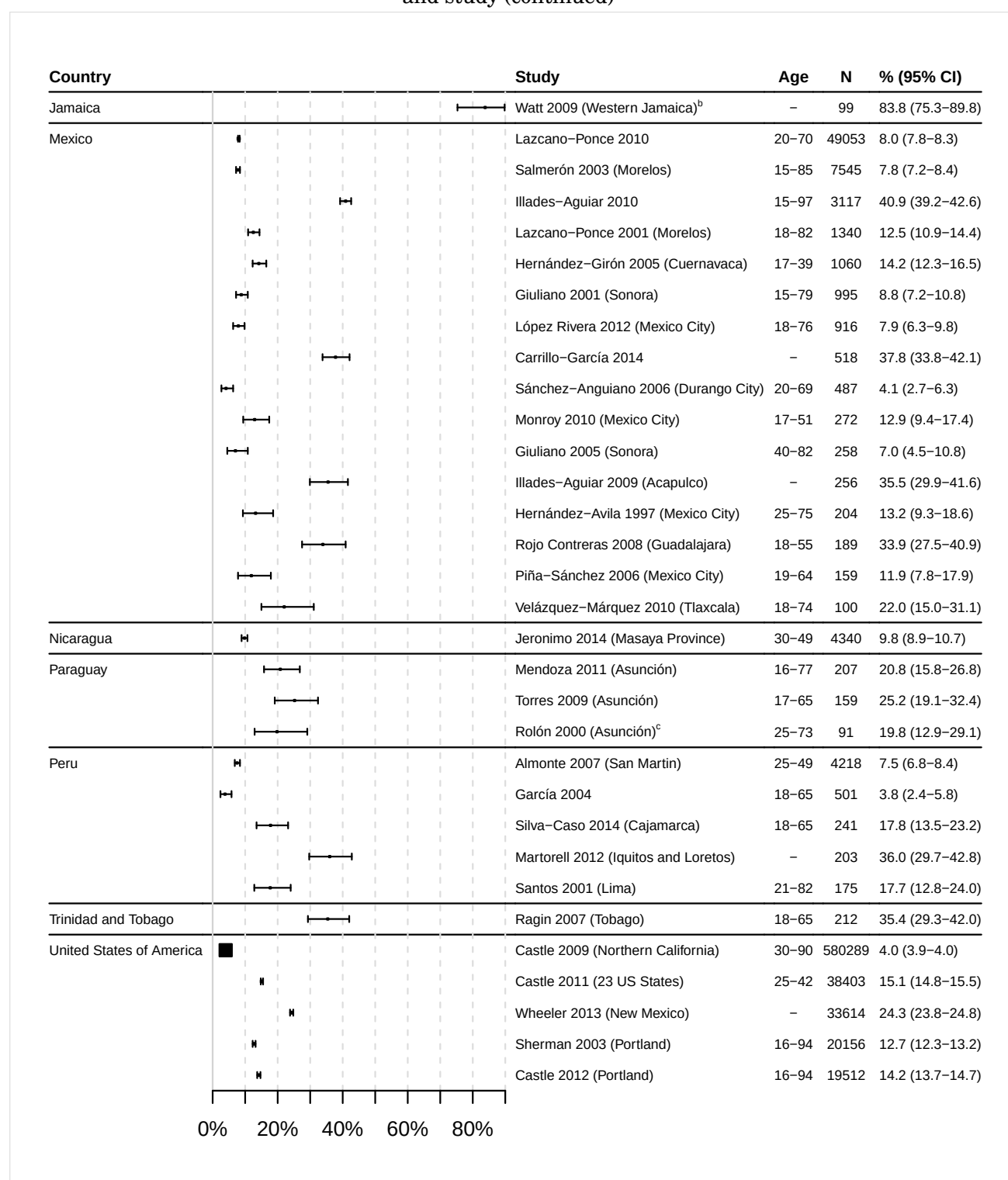


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Bogotá, Leticia, Chaparral, Girardot and TumacoData Sources: See references in Section 9 [References](#).

Figure 54: Prevalence of HPV among women with normal cervical cytology in the Americas by country and study (continued)

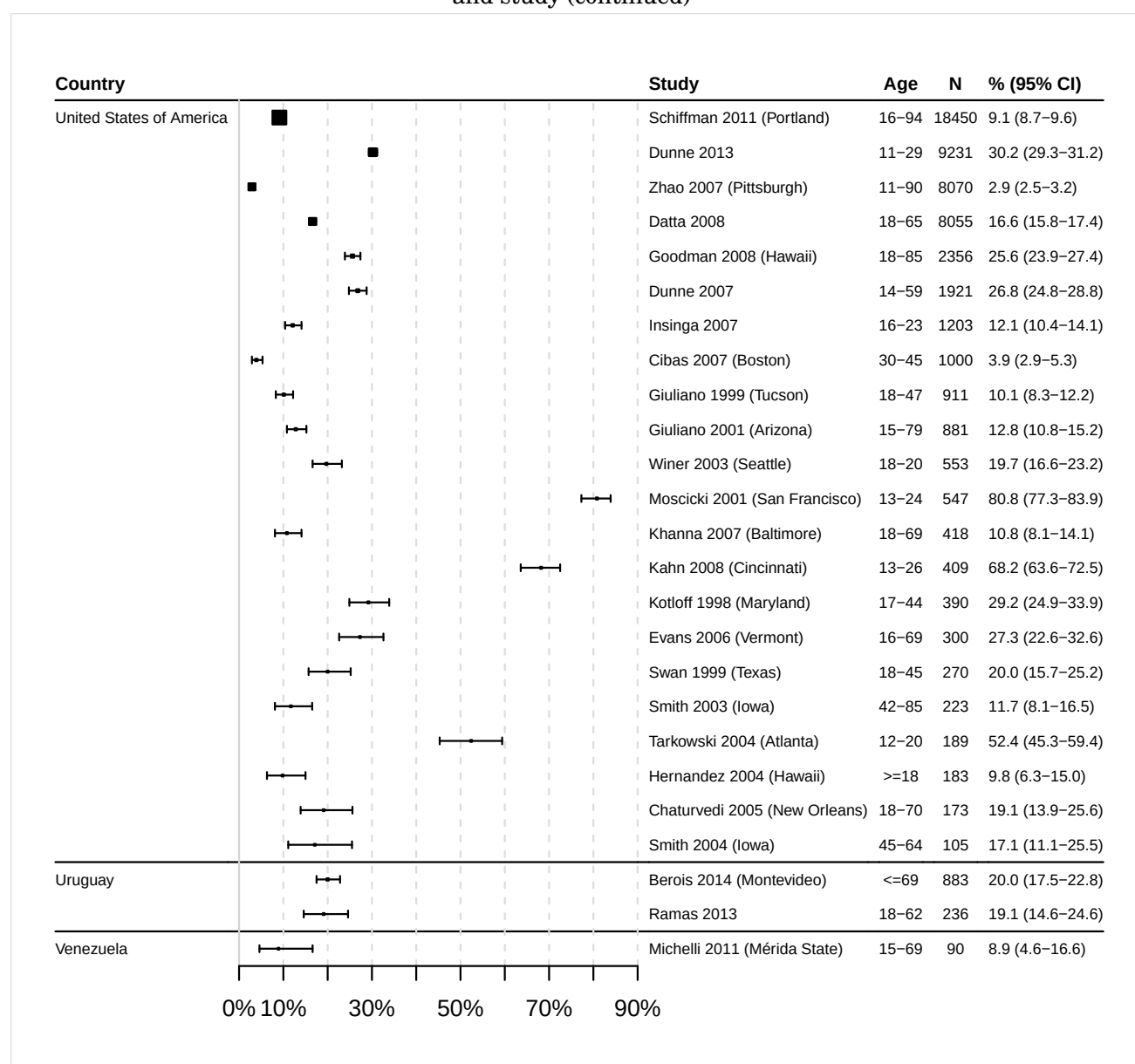


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Acapulco, Chilpancingo and Iguala (State of Guerrero)^c Boston, Baltimore, New Orleans, Denver, Seattle, Los AngelesData Sources: See references in Section 9 [References](#).

Figure 54: Prevalence of HPV among women with normal cervical cytology in the Americas by country and study (continued)

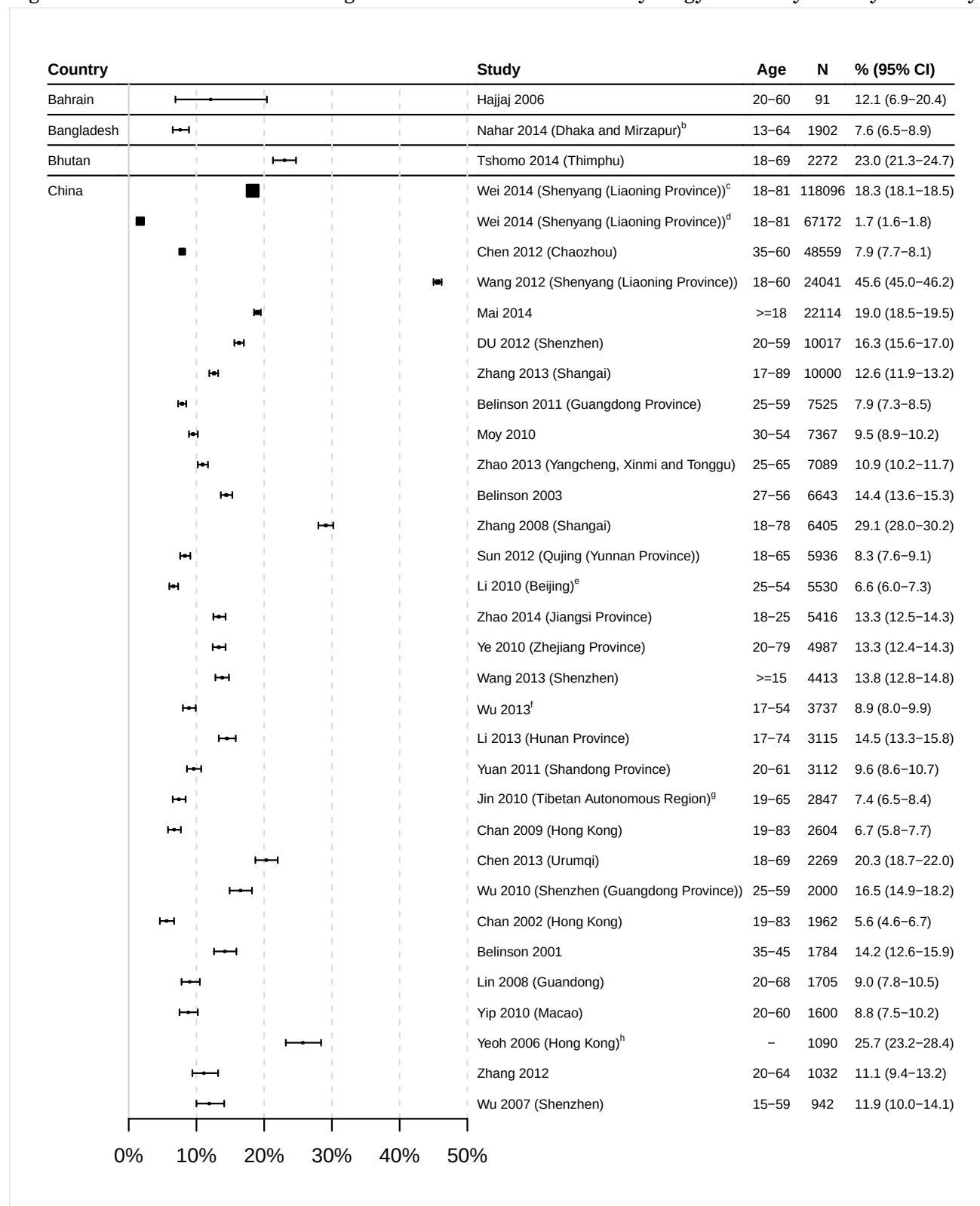


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 55: Prevalence of HPV among women with normal cervical cytology in Asia by country and study

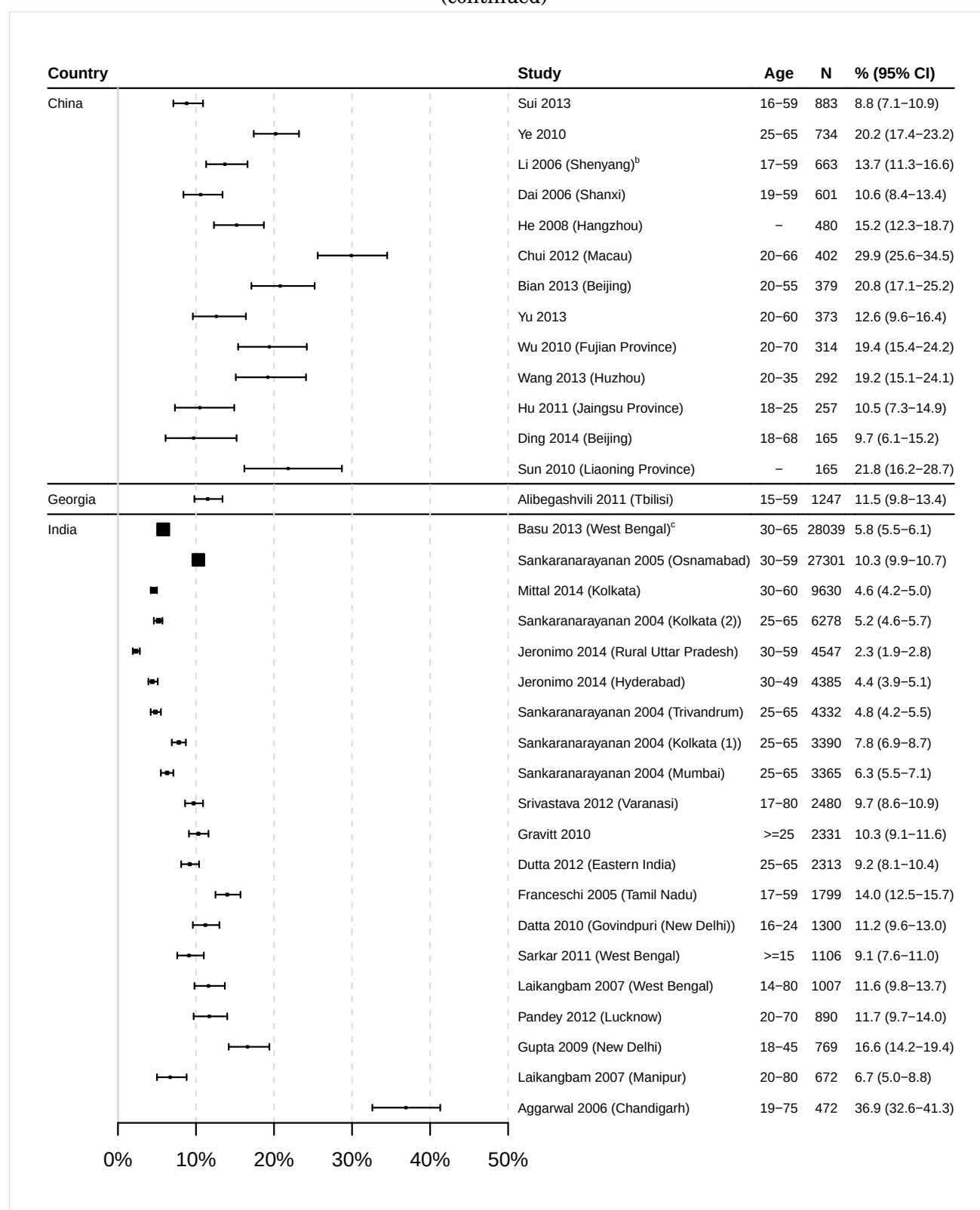


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Yangcheng and Xiangyuan (Shanxi)^c Beijing, Shanghai, Shanxi, Henan, Xinjiang^d Lishui County (Zhejiang Province)^e Uyghur (Yutian County, Xinjiang Province)^f Shiquan County (Shaanxi Province)^g Shantou City (Guandong Province)^h Wufeng County (Hubei Province)Data Sources: See references in Section 9 [References](#).

Figure 55: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)

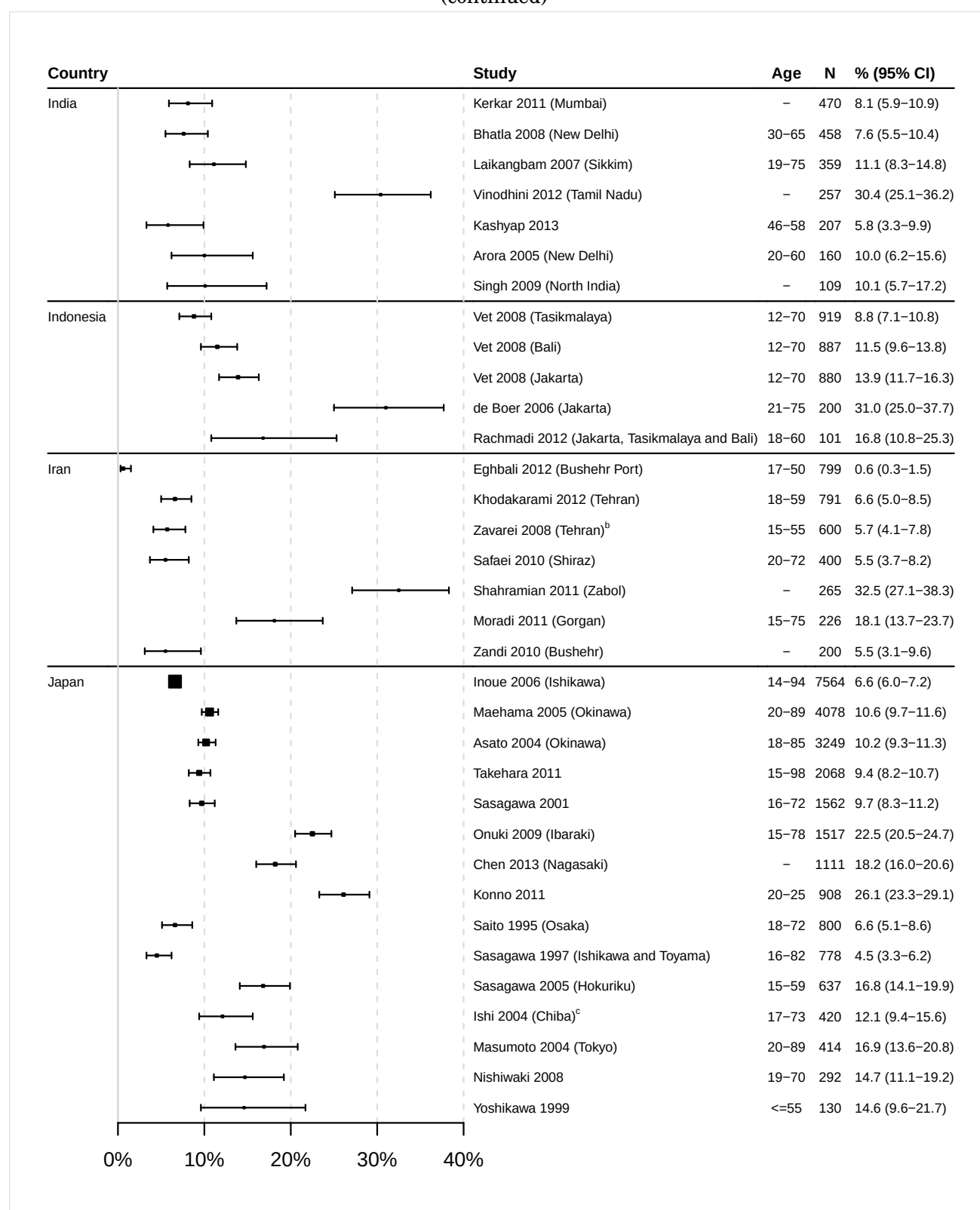


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Shanxi, Jiangxi and Gansu Provinces^c Medchal Mandal (Andhra Pradesh)Data Sources: See references in Section 9 [References](#).

Figure 55: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)

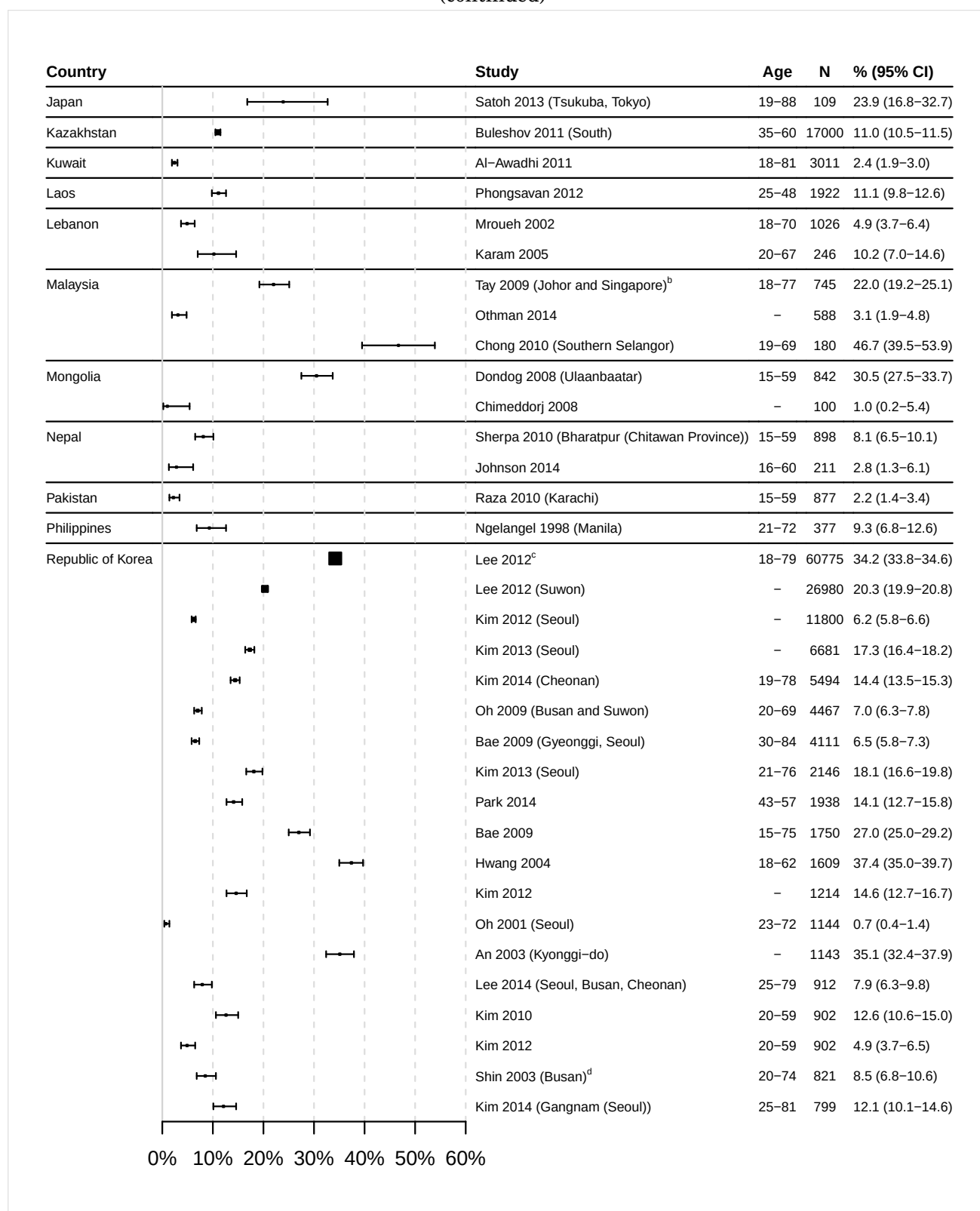


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Aomori, Tokyo, Fukui, Osaka, Hiroshima, Miyazaki and Kagoshima^c Hokuriku (Fukui, Ishikawa and Toyama)Data Sources: See references in Section 9 [References](#).

Figure 55: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)

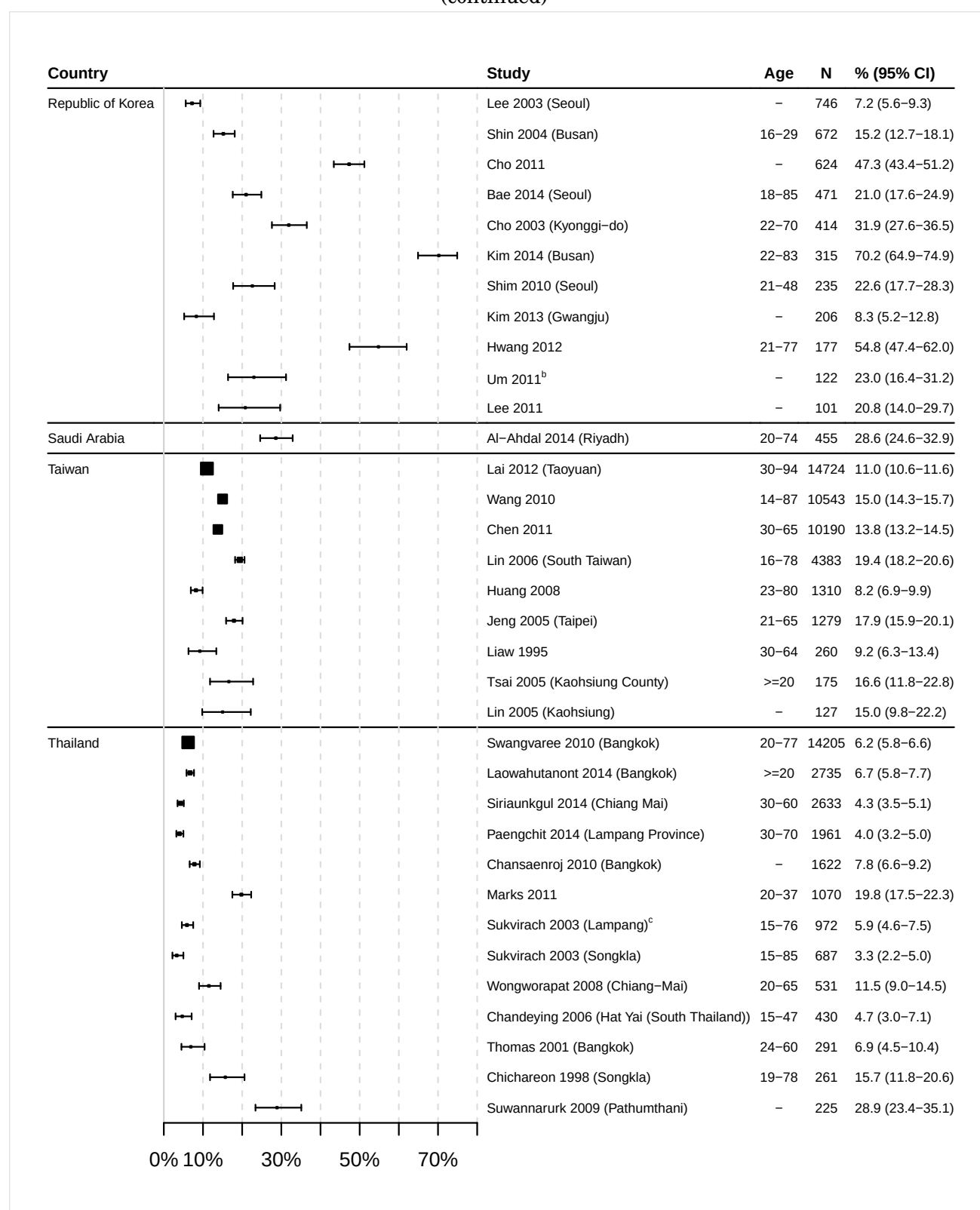


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Chiang Mai, Khon Kaen, Bangkok, Songkla and Hat Yai^c Luang Prabang, Champassack and Vientiane^d North-Eastern region or West MalaysiaData Sources: See references in Section 9 [References](#).

Figure 55: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)

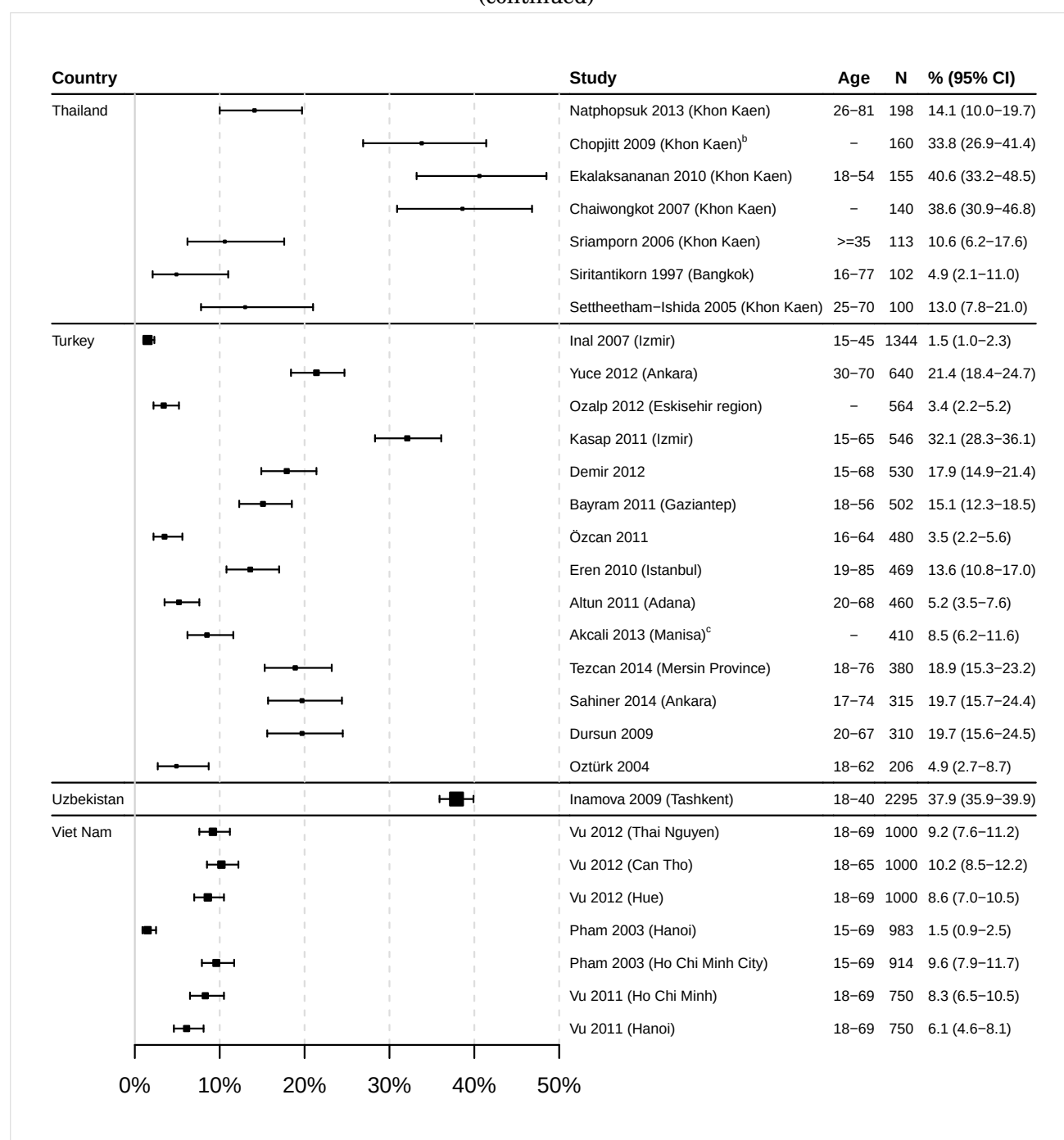


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Sanphebagar Village (Achham District)^c Sanchi, Chutung, Potzu, Kaoshu, Makung, Paihsa and HuhsiData Sources: See references in Section 9 [References](#).

Figure 55: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)

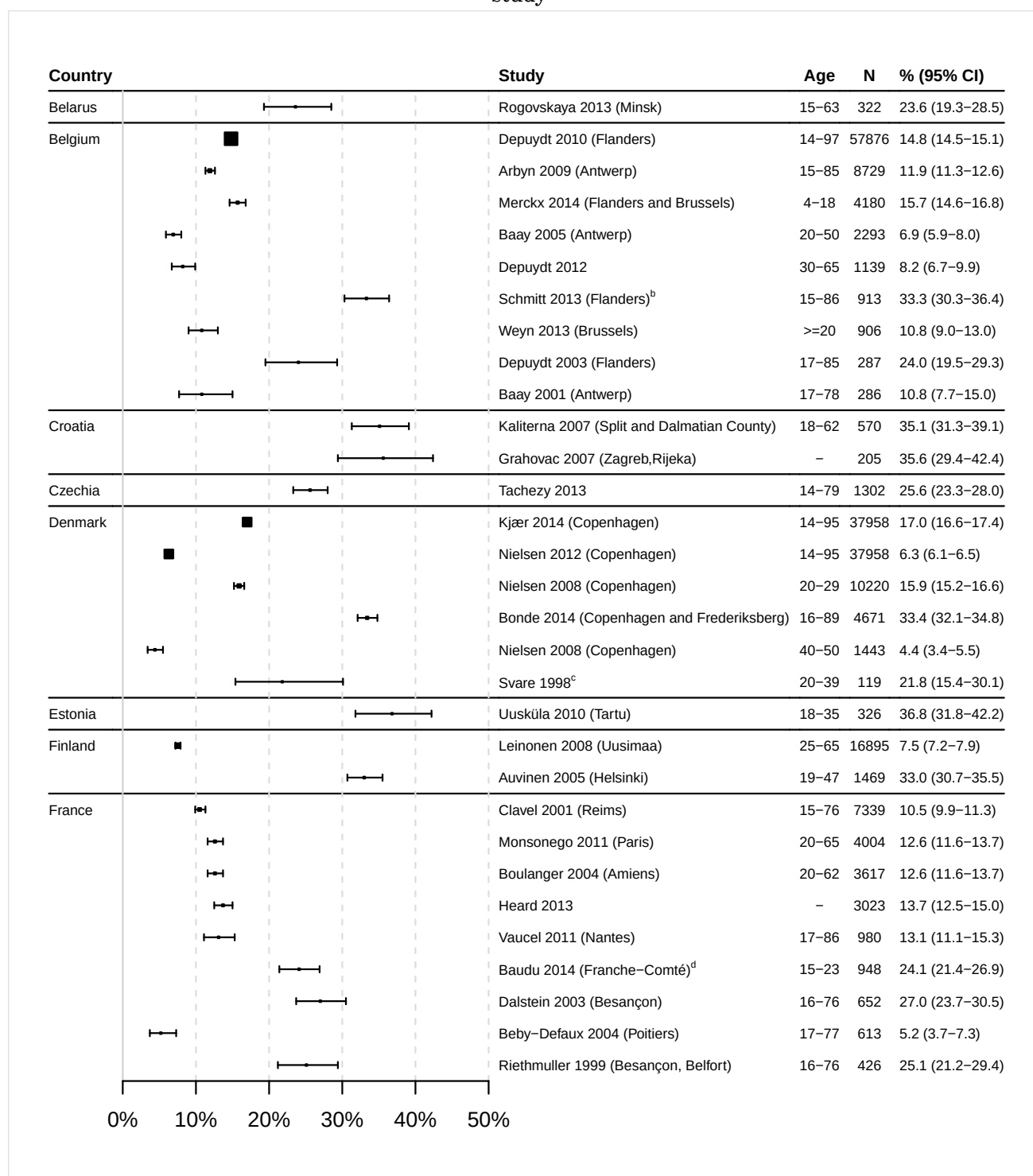


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Istanbul, Ankara, Antalya, Nigde and Elazig^c Taipei, Taoyuan, Chungli, Hsinchu, KeelungData Sources: See references in Section 9 [References](#).

Figure 56: Prevalence of HPV among women with normal cervical cytology in Europe by country and study

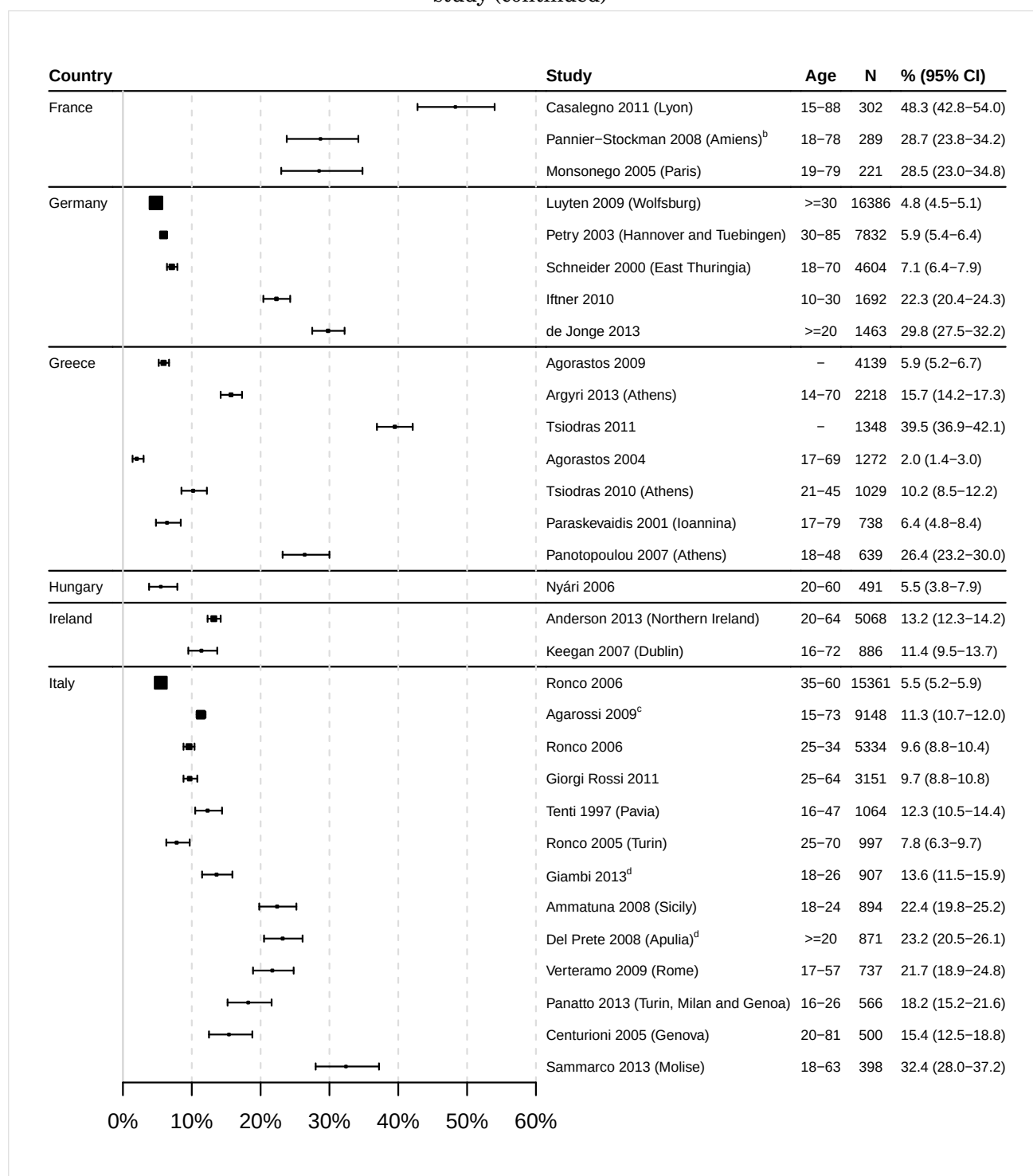


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Geneva, Vaud, Neuchâtel, Fribourg, Valais and Tessin^c Alava, Girona, Guipuzcoa, Murcia, Navarra, Salamanca, Sevilla, Vizcaya, Zaragoza^d Alsace, Auvergne, Centre - Pays de Loire, Ile-de-France and VaucluseData Sources: See references in Section 9 [References](#).

Figure 56: Prevalence of HPV among women with normal cervical cytology in Europe by country and study (continued)

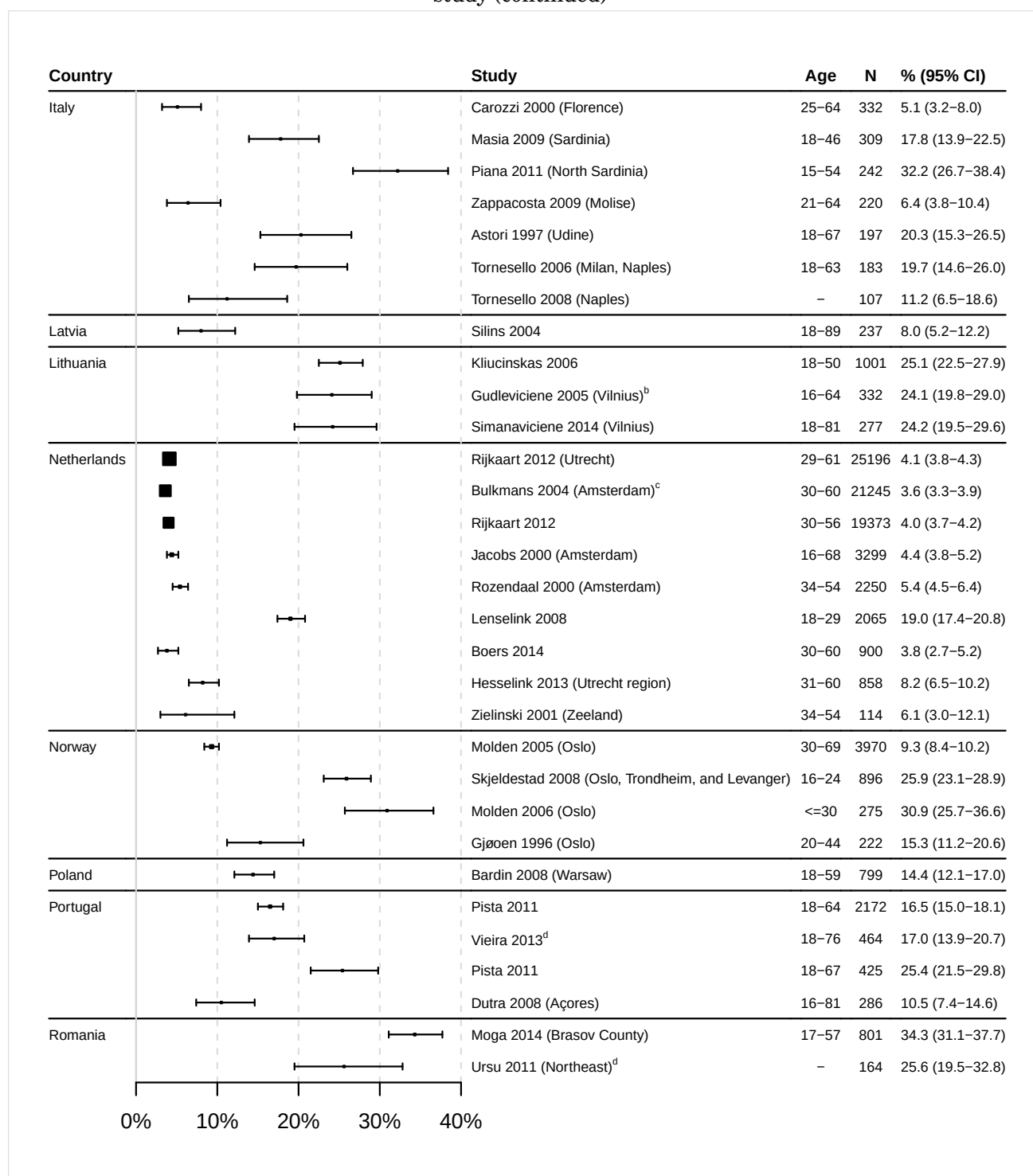


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Birmingham, Edinburgh, London, Manchester and Mansfield^c Abruzzo, Campania, Lazio, Sardinia and Sicily^d Turin, Trento, Veneto, Emilia Romagna, Florence and LazioData Sources: See references in Section 9 [References](#).

Figure 56: Prevalence of HPV among women with normal cervical cytology in Europe by country and study (continued)

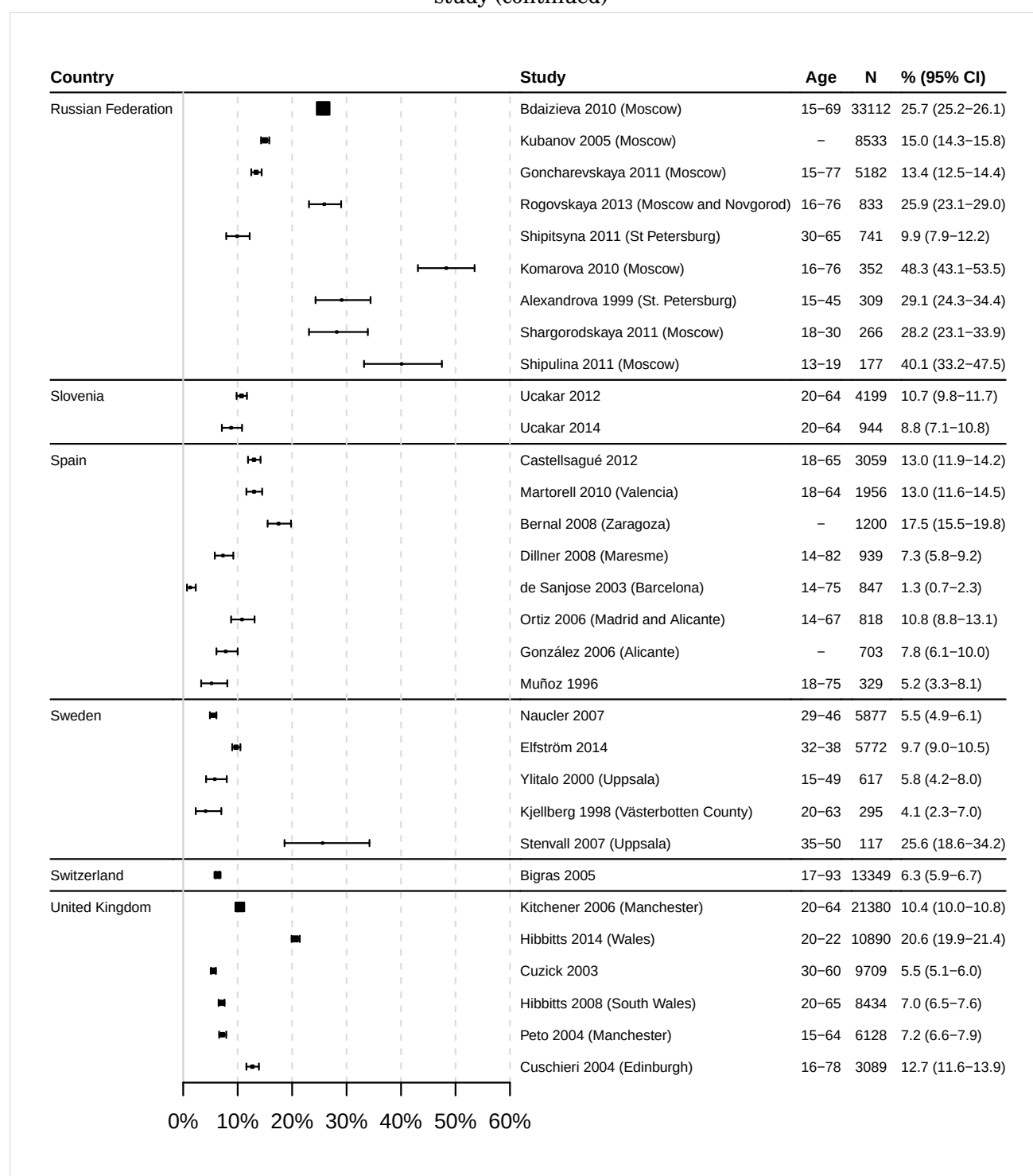


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b Arnhem, Nijmegen, and Den Bosch^c Lisbon area and southern region^d Gothenburg, Malmö, Uppsala, Umeå, and StockholmData Sources: See references in Section 9 [References](#).

Figure 56: Prevalence of HPV among women with normal cervical cytology in Europe by country and study (continued)

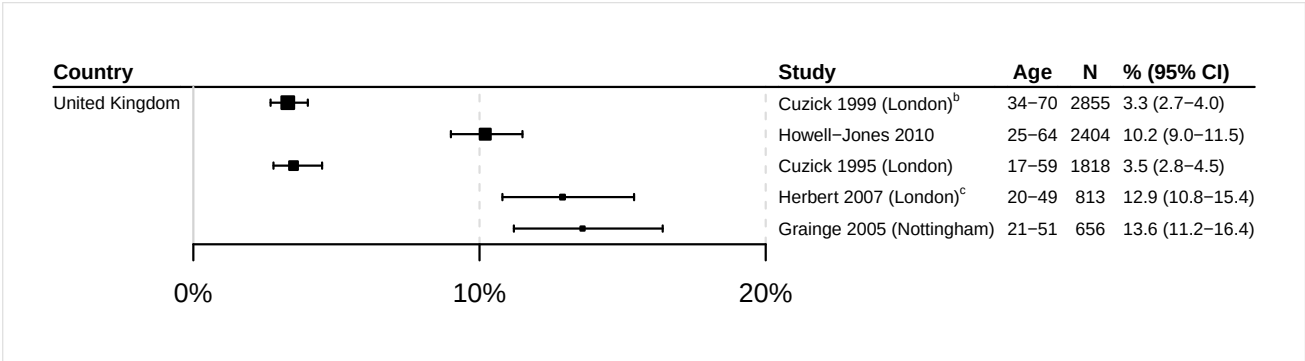


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 56: Prevalence of HPV among women with normal cervical cytology in Europe by country and study (continued)



Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

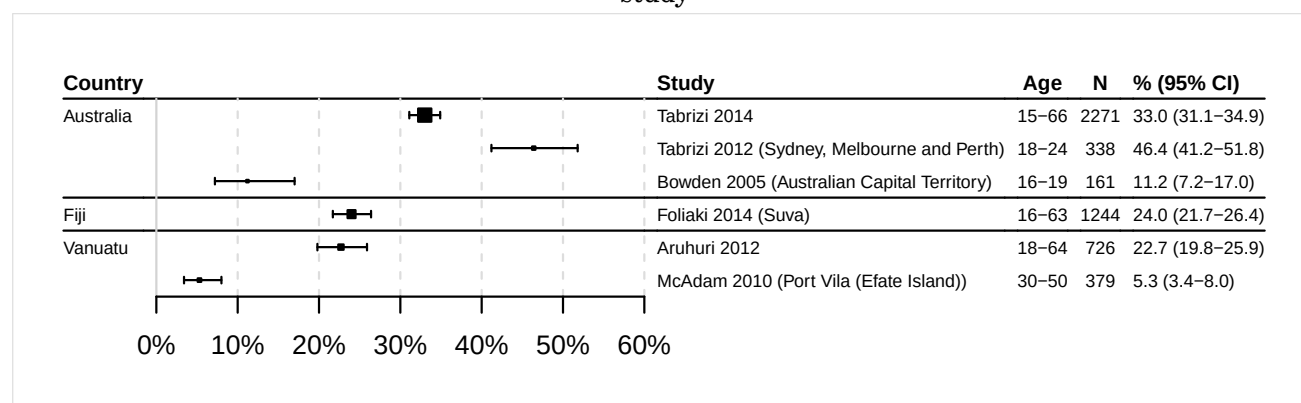
^a Number of women tested

^b Gateshead, Birmingham, London, Gloucestershire and Norfolk

^c Thessaloniki, Themi, Mihaniona, Corfu, Veria and Serres

Data Sources: See references in Section 9 [References](#).

Figure 57: Prevalence of HPV among women with normal cervical cytology in Oceania by country and study



Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

4.1.2 HPV type distribution among women with normal cervical cytology, precancerous cervical lesions and cervical cancer

Table 28: Prevalence of HPV 16/18 in women with normal cervical cytology, precancerous cervical lesions and invasive cervical cancer in the World and sub-regions

Country /Region	Normal cytology		Low-grade lesions		High-grade lesions		Cervical cancer	
	No. tested ^a	HPV Prev (95% CI) ^b	No. tested ^a	HPV Prev (95% CI) ^b	No. tested ^a	HPV Prev (95% CI) ^b	No. tested ^a	HPV Prev (95% CI) ^b
World	453,184	3.9 (3.8-4.0)	38,191	25.8 (25.4-26.2)	50,202	51.9 (51.5-52.3)	453,184	69.4 (69.0-69.8)
Less developed regions	282,155	3.8 (3.7-3.9)	28,495	25.9 (25.4-26.4)	33,652	54.1 (53.6-54.6)	282,155	71.8 (71.2-72.4)
More developed regions	168,376	3.8 (3.7-3.9)	9,696	25.1 (24.2-26.0)	13,447	46.7 (45.9-47.5)	168,376	69.5 (68.9-70.1)
Africa	19,726	3.8 (3.5-4.1)	465	24.9 (21.2-29.1)	399	38.6 (34.0-43.5)	19,726	67.2 (65.7-68.7)
Eastern Africa	4,115	4.7 (4.1-5.4)	150	30.0 (23.2-37.8)	138	45.7 (37.6-54.0)	4,115	67.9 (65.3-70.3)
Middle Africa	-	-	24	12.5 (4.3-31.0)	-	-	-	-
Northern Africa	2,224	3.0 (2.4-3.8)	24	20.8 (9.2-40.5)	-	-	2,224	78.9 (75.6-81.8)
Southern Africa	8,661	3.2 (2.8-3.6)	57	21.1 (12.5-33.3)	98	33.7 (25.1-43.5)	8,661	62.5 (59.0-65.8)
Western Africa	4,726	4.3 (3.8-4.9)	210	24.3 (19.0-30.5)	163	35.6 (28.6-43.2)	4,726	55.6 (52.4-58.8)
Americas	105,042	4.5 (4.4-4.6)	9,893	26.7 (25.8-27.6)	13,590	56.9 (56.1-57.7)	105,042	68.2 (67.3-69.1)
Caribbean	323	15.8 (12.2-20.2)	263	7.6 (5.0-11.5)	285	32.6 (27.5-38.3)	323	60.2 (51.7-68.1)
Central America	16,786	4.1 (3.8-4.4)	1,424	15.0 (13.3-17.0)	559	40.8 (36.8-44.9)	16,786	63.1 (61.3-64.8)
Northern America	77,952	4.4 (4.3-4.5)	6,015	27.1 (26.0-28.2)	10,230	58.6 (57.6-59.6)	77,952	71.4 (69.9-72.8)
South America	10,180	5.8 (5.4-6.3)	2,191	35.6 (33.6-37.6)	2,516	56.3 (54.4-58.2)	10,180	62.6 (61.4-63.8)
Asia	142,676	3.4 (3.3-3.5)	7,959	21.2 (20.3-22.1)	13,444	42.1 (41.3-42.9)	142,676	68.9 (68.3-69.5)
Central Asia	-	-	-	-	-	-	-	-
Eastern Asia	111,548	3.4 (3.3-3.5)	6,981	20.3 (19.4-21.3)	10,551	41.0 (40.1-41.9)	111,548	65.0 (64.2-65.8)
South-Eastern Asia	8,755	3.0 (2.7-3.4)	474	27.4 (23.6-31.6)	1,044	33.4 (30.6-36.3)	8,755	70.4 (68.8-71.9)
Southern Asia	14,520	4.4 (4.1-4.7)	225	30.2 (24.6-36.5)	287	63.4 (57.7-68.8)	14,520	80.3 (78.8-81.7)
Western Asia	7,853	2.5 (2.2-2.9)	279	24.0 (19.4-29.4)	1,562	52.3 (49.8-54.8)	7,853	72.4 (69.5-75.2)
Europe	180,090	3.8 (3.7-3.9)	19,401	27.1 (26.5-27.7)	21,140	54.5 (53.8-55.2)	180,090	74.0 (73.4-74.6)
Eastern Europe	7,818	9.7 (9.1-10.4)	1,058	31.8 (29.0-34.6)	661	60.5 (56.7-64.2)	7,818	84.7 (82.9-86.3)
Northern Europe	86,821	4.2 (4.1-4.3)	4,949	30.6 (29.3-31.9)	8,448	54.9 (53.8-56.0)	86,821	77.0 (75.9-78.1)
Southern Europe	31,831	3.8 (3.6-4.0)	10,519	25.4 (24.6-26.2)	5,866	53.2 (51.9-54.5)	31,831	68.0 (66.5-69.4)
Western Europe	56,074	2.6 (2.5-2.7)	2,875	25.2 (23.7-26.8)	3,062	59.4 (57.7-61.1)	56,074	78.7 (77.2-80.1)
Oceania	2,997	8.3 (7.4-9.4)	473	27.1 (23.3-31.2)	1,629	59.1 (56.7-61.5)	2,997	76.6 (73.7-79.3)
Australia & New Zealand	2,271	8.5 (7.4-9.7)	473	27.1 (23.3-31.2)	1,517	58.4 (55.9-60.9)	2,271	76.1 (72.9-78.9)
Melanesia	726	7.7 (6.0-9.9)	-	-	112	68.8 (59.7-76.6)	726	82.9 (72.4-89.9)
Micronesia	-	-	-	-	-	-	-	-
Polynesia	-	-	-	-	-	-	-	-

Data updated on 4 July 2022 (data as of 30 Jun 2015 / 30 Nov 2014)

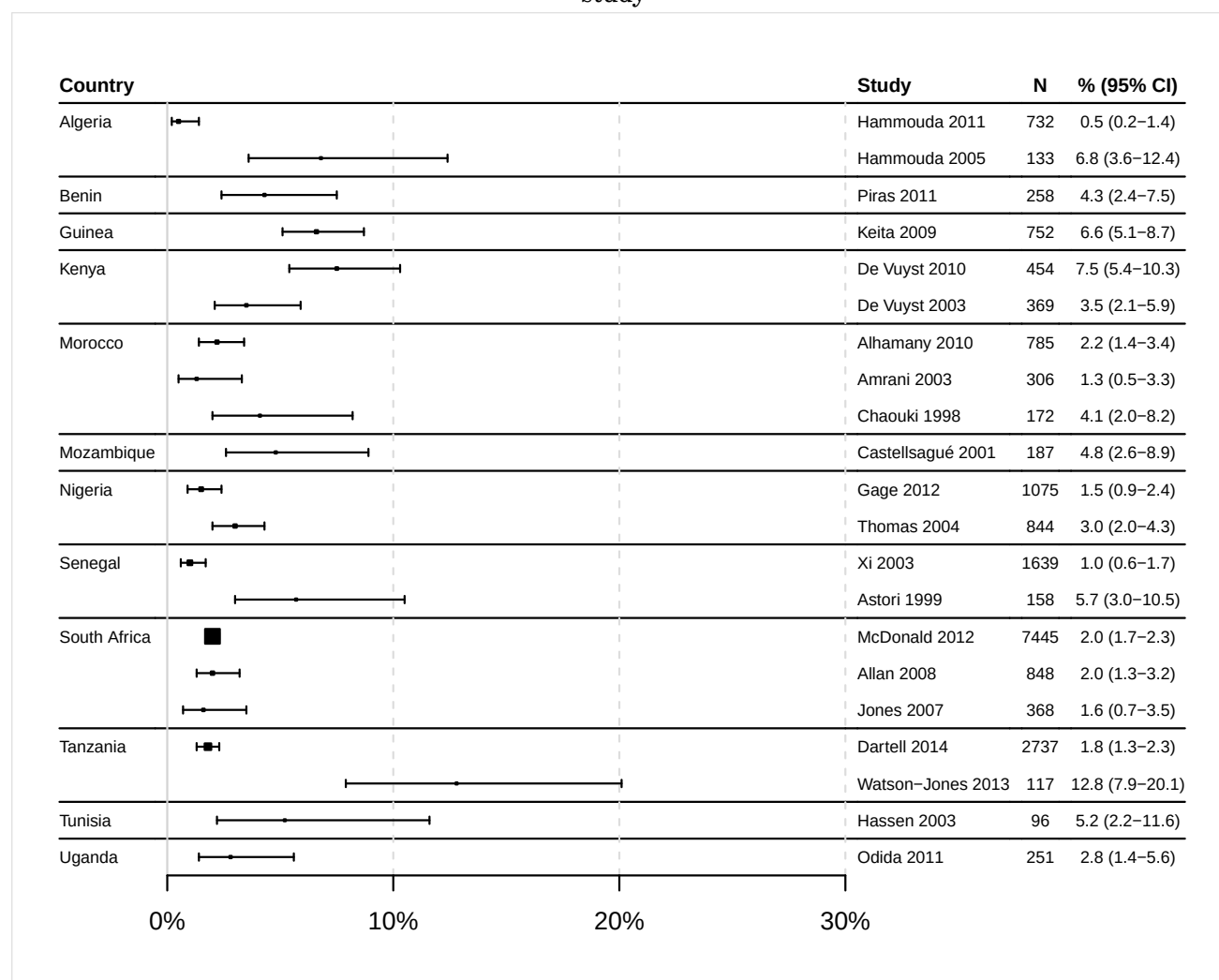
The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

^b 95% Confidence Interval

Data Sources: See references in Section 9 [References](#).

Figure 58: Prevalence of HPV 16 among women with normal cervical cytology in Africa by country and study

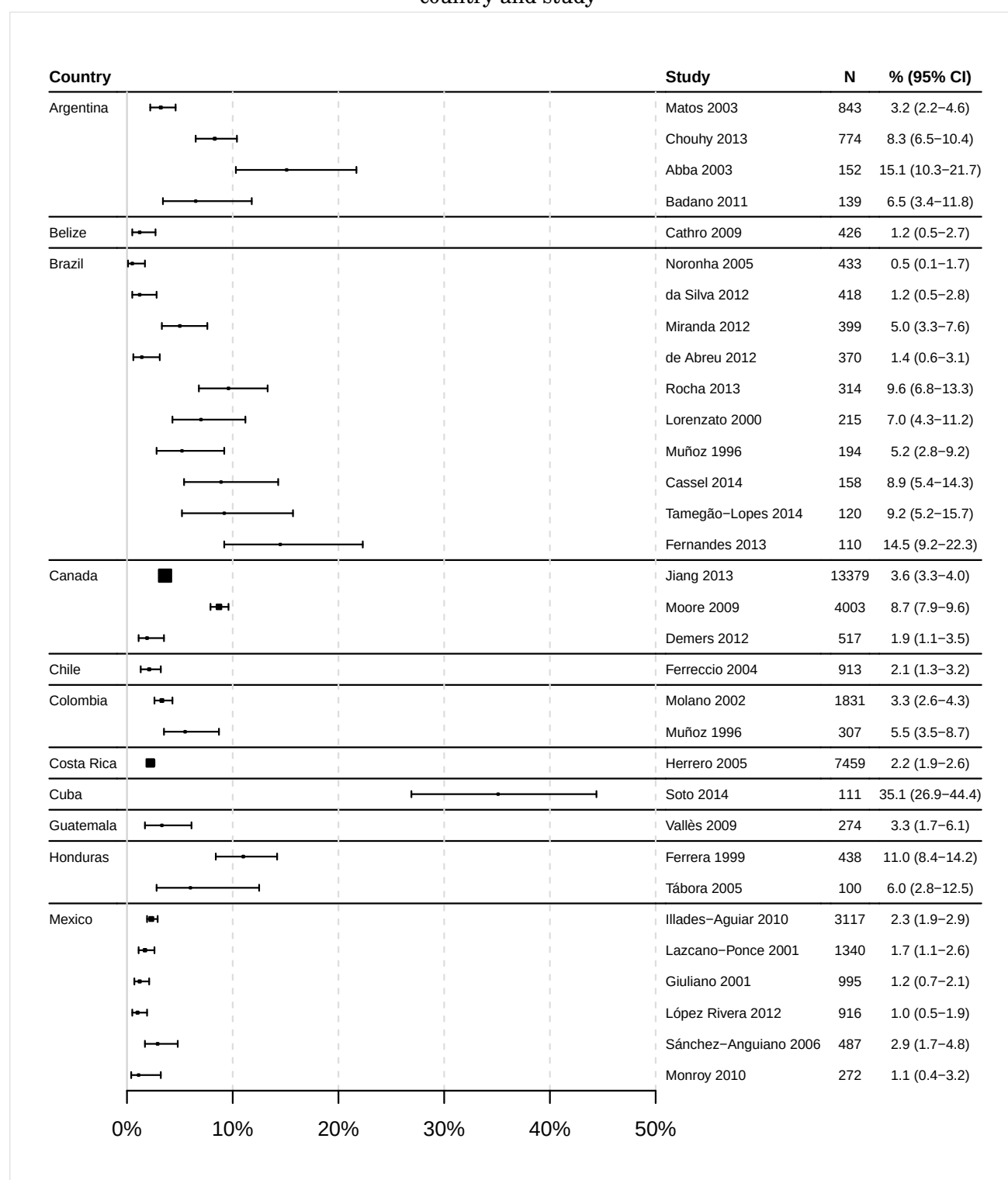


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 59: Prevalence of HPV 16 among women with normal cervical cytology in the Americas by country and study

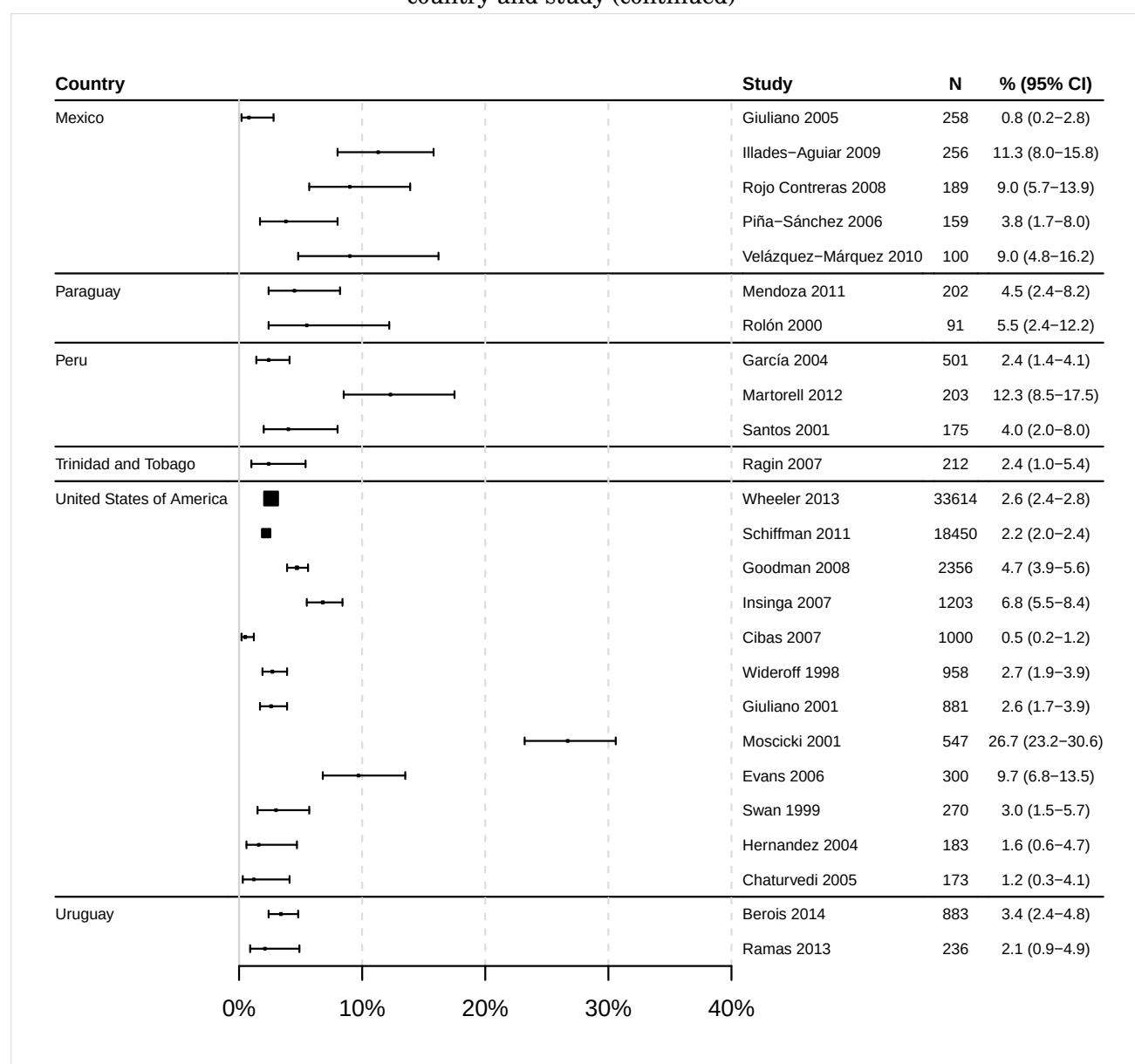


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 59: Prevalence of HPV 16 among women with normal cervical cytology in the Americas by country and study (continued)

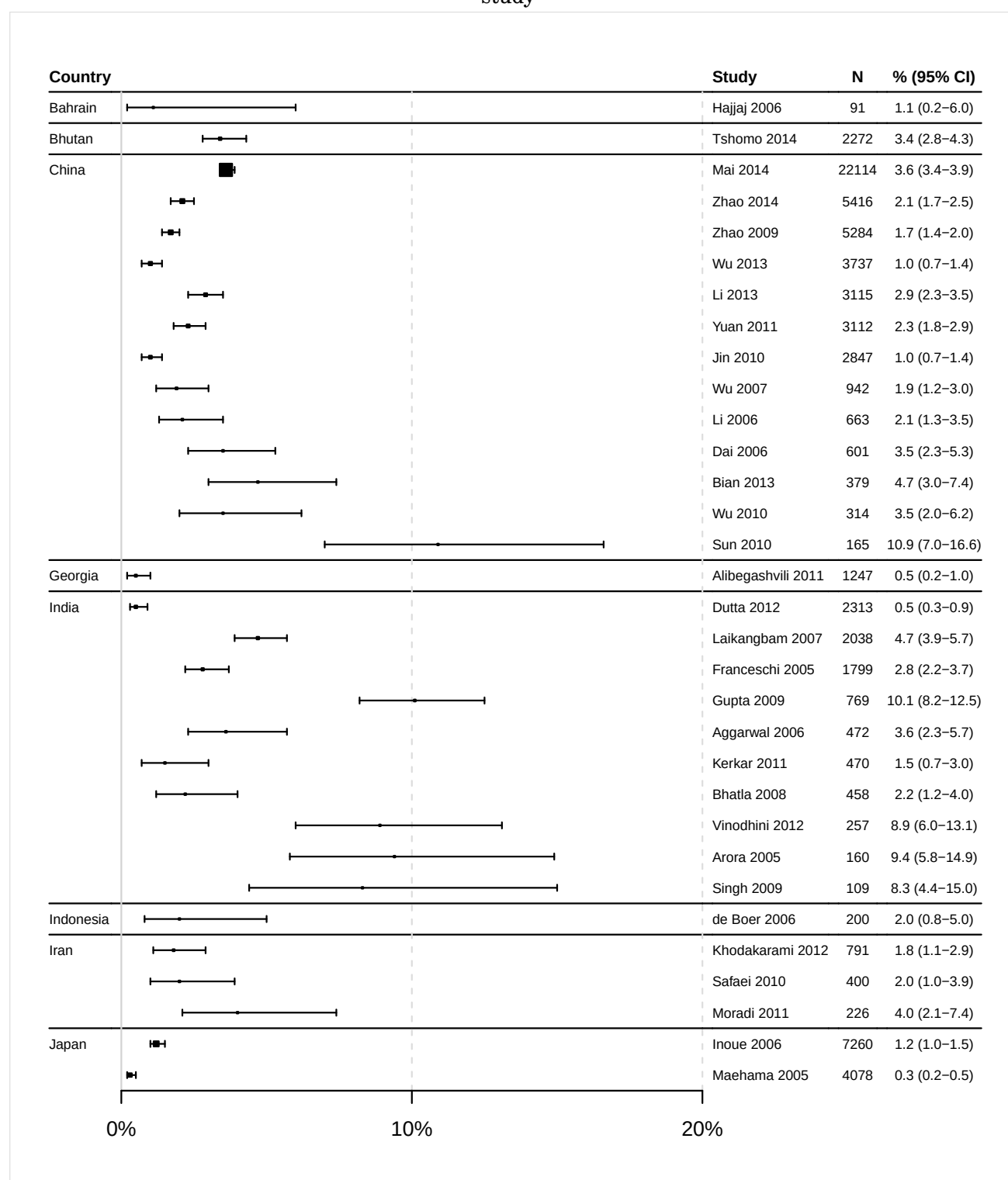


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 60: Prevalence of HPV 16 among women with normal cervical cytology in Asia by country and study

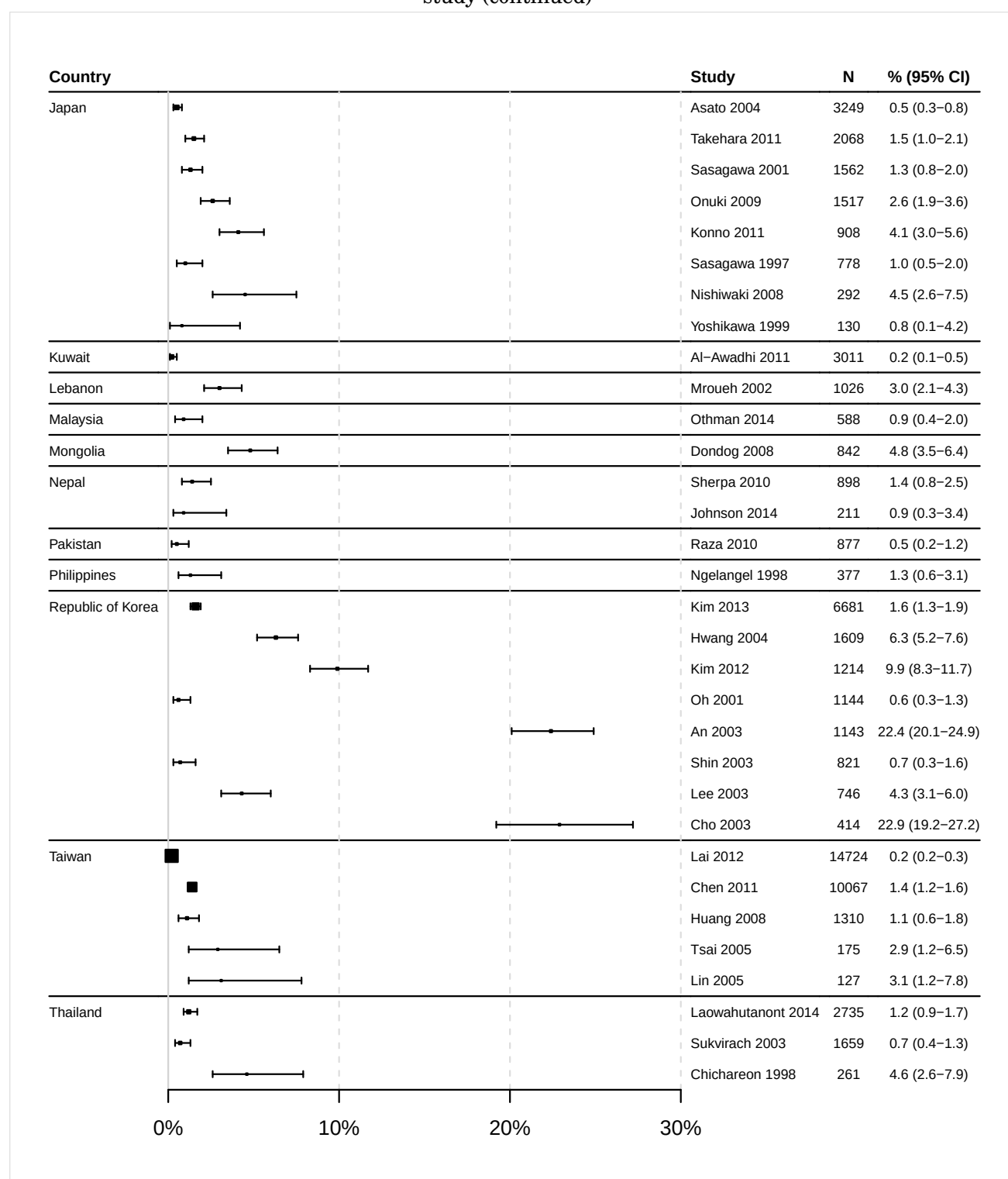


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 60: Prevalence of HPV 16 among women with normal cervical cytology in Asia by country and study (continued)

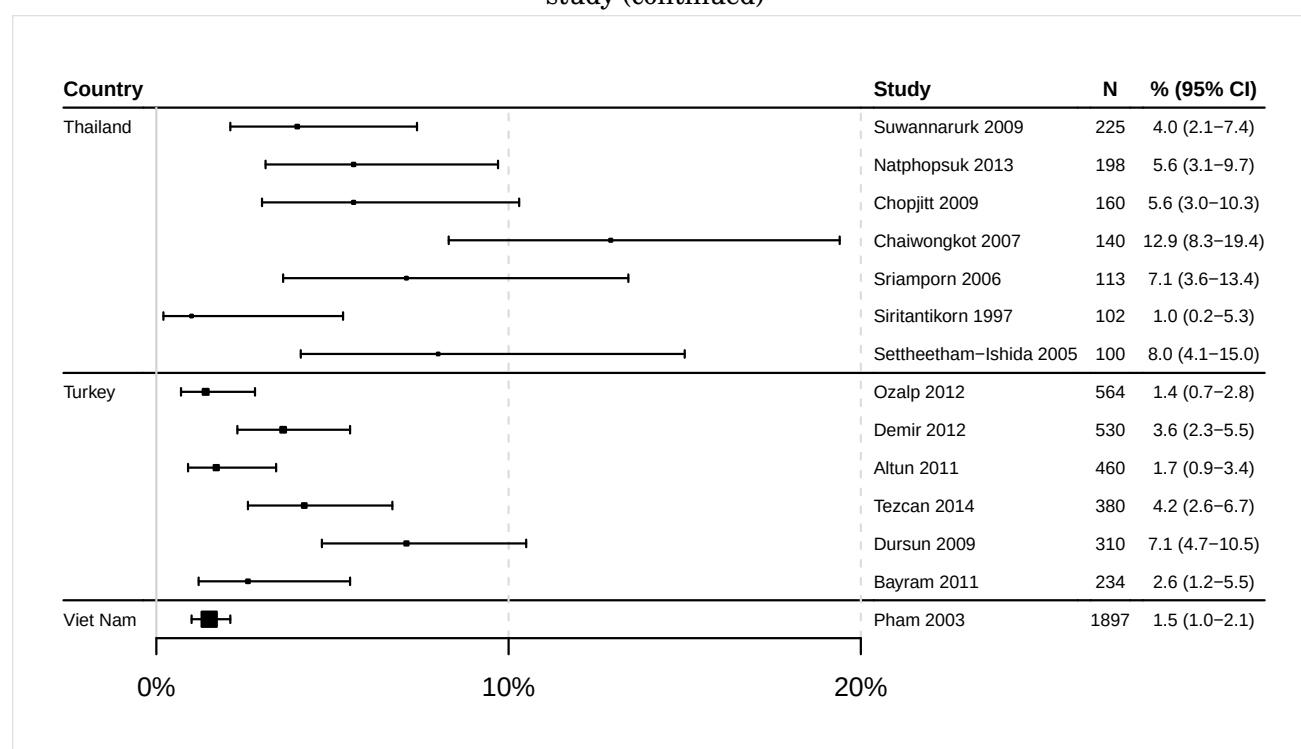


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 60: Prevalence of HPV 16 among women with normal cervical cytology in Asia by country and study (continued)

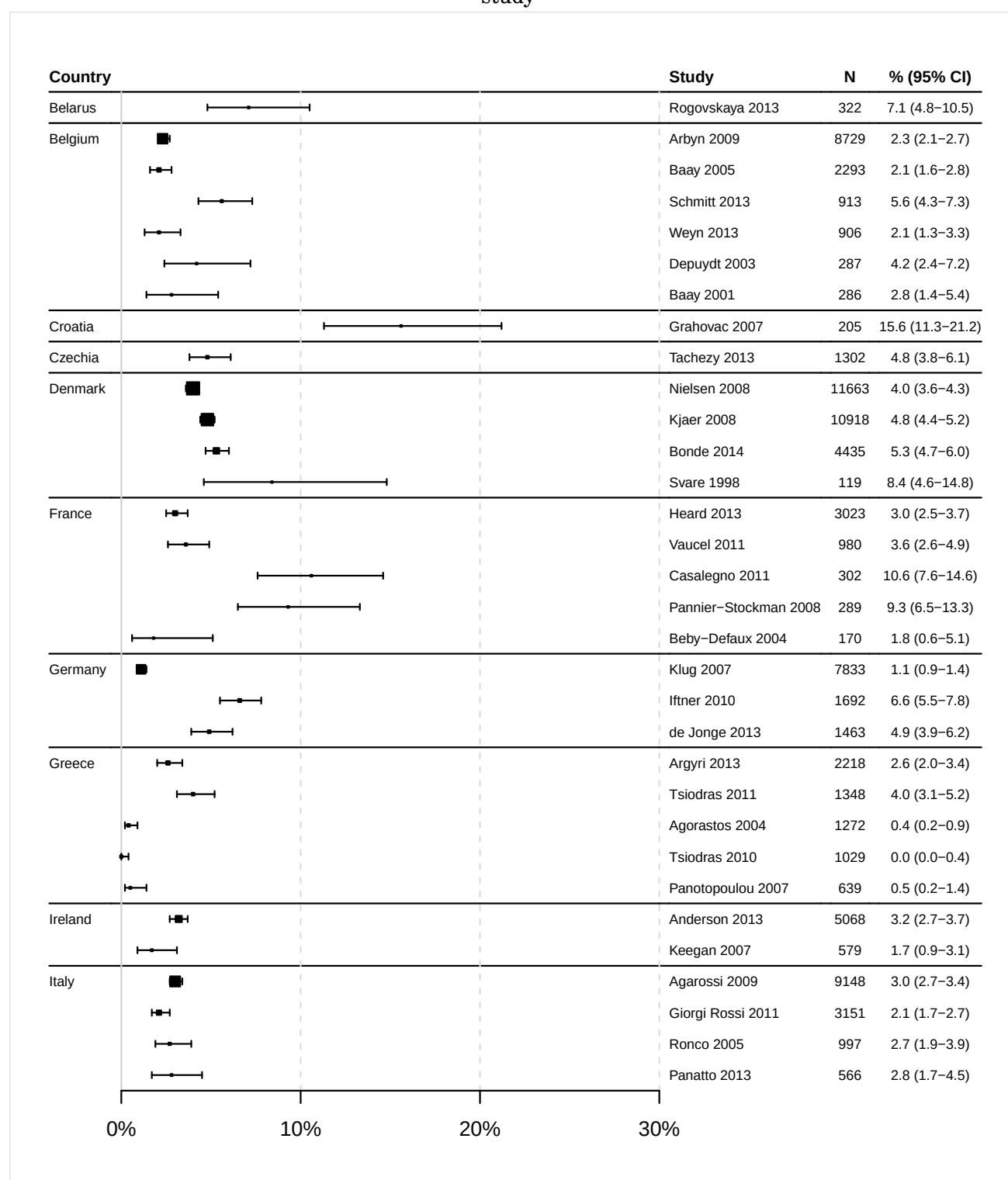


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 61: Prevalence of HPV 16 among women with normal cervical cytology in Europe by country and study

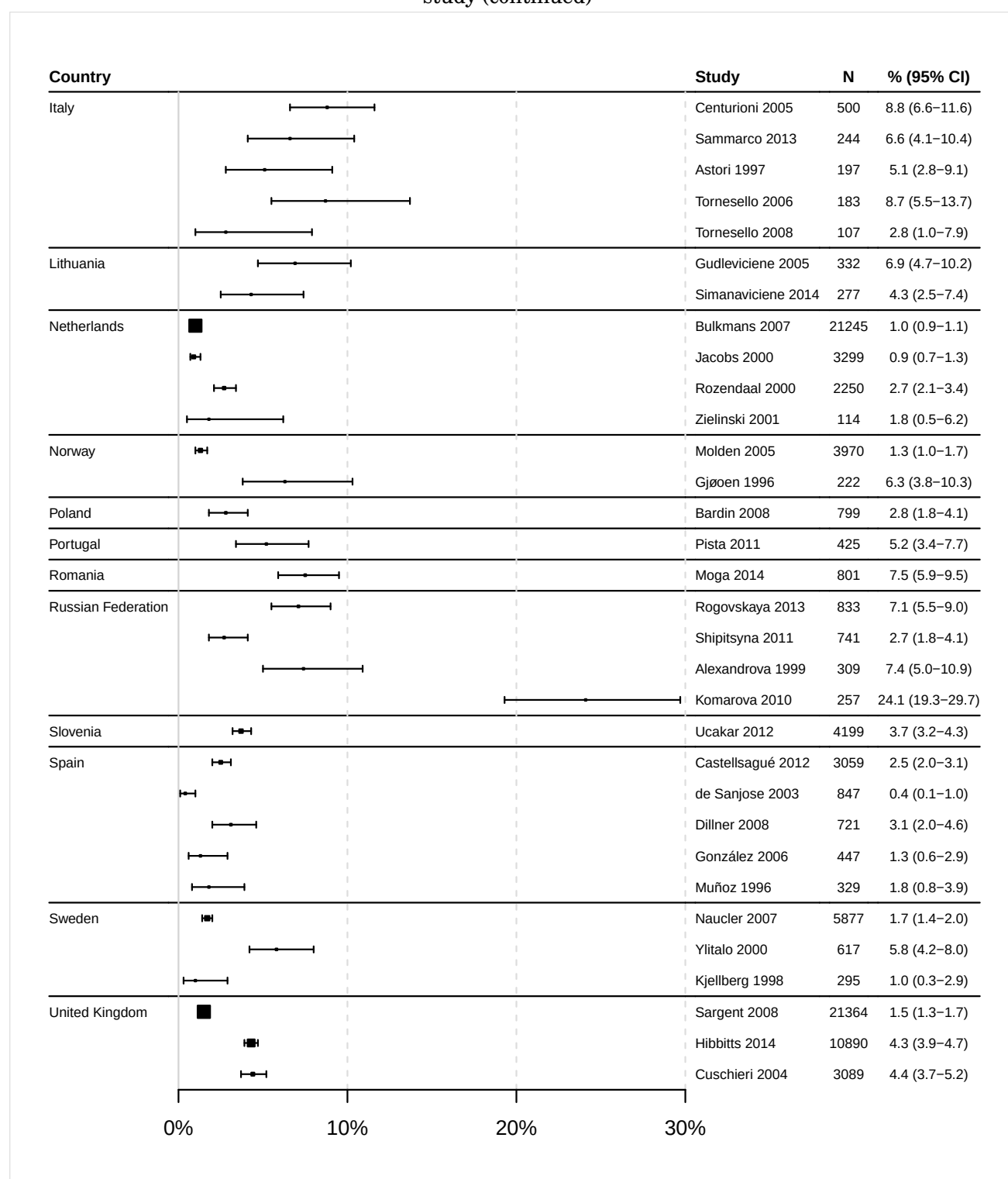


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 61: Prevalence of HPV 16 among women with normal cervical cytology in Europe by country and study (continued)

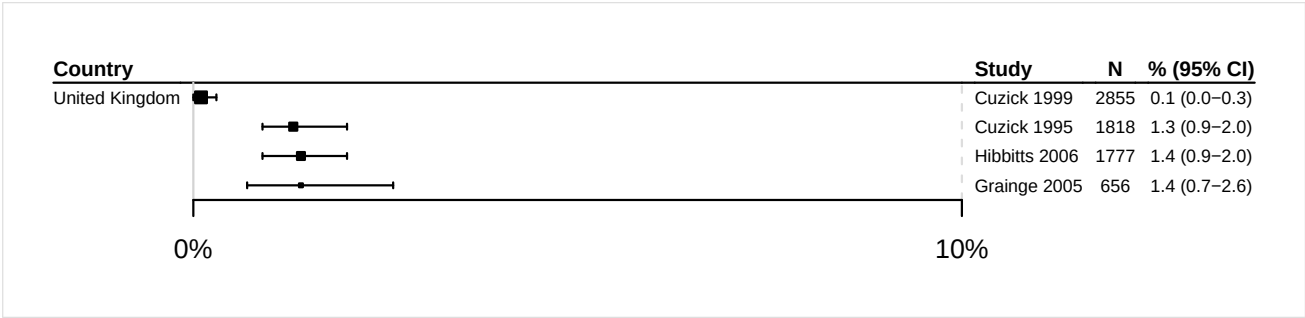


Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 61: Prevalence of HPV 16 among women with normal cervical cytology in Europe by country and study (continued)



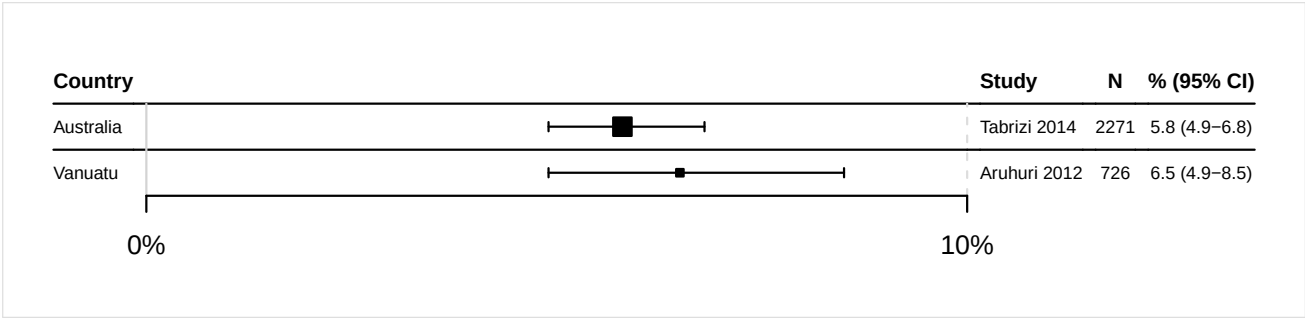
Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 62: Prevalence of HPV 16 among women with normal cervical cytology in Oceania by country and study



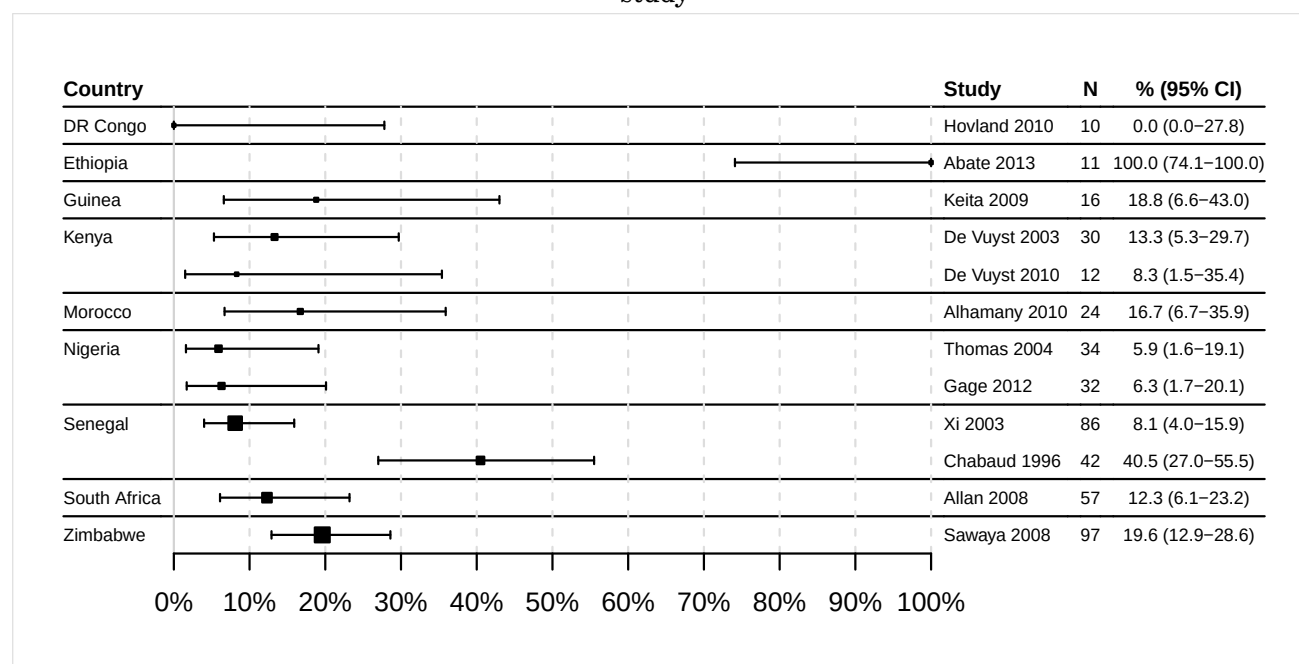
Data updated on 4 July 2022 (data as of 30 Jun 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 63: Prevalence of HPV 16 among women with low-grade cervical lesions in Africa by country and study



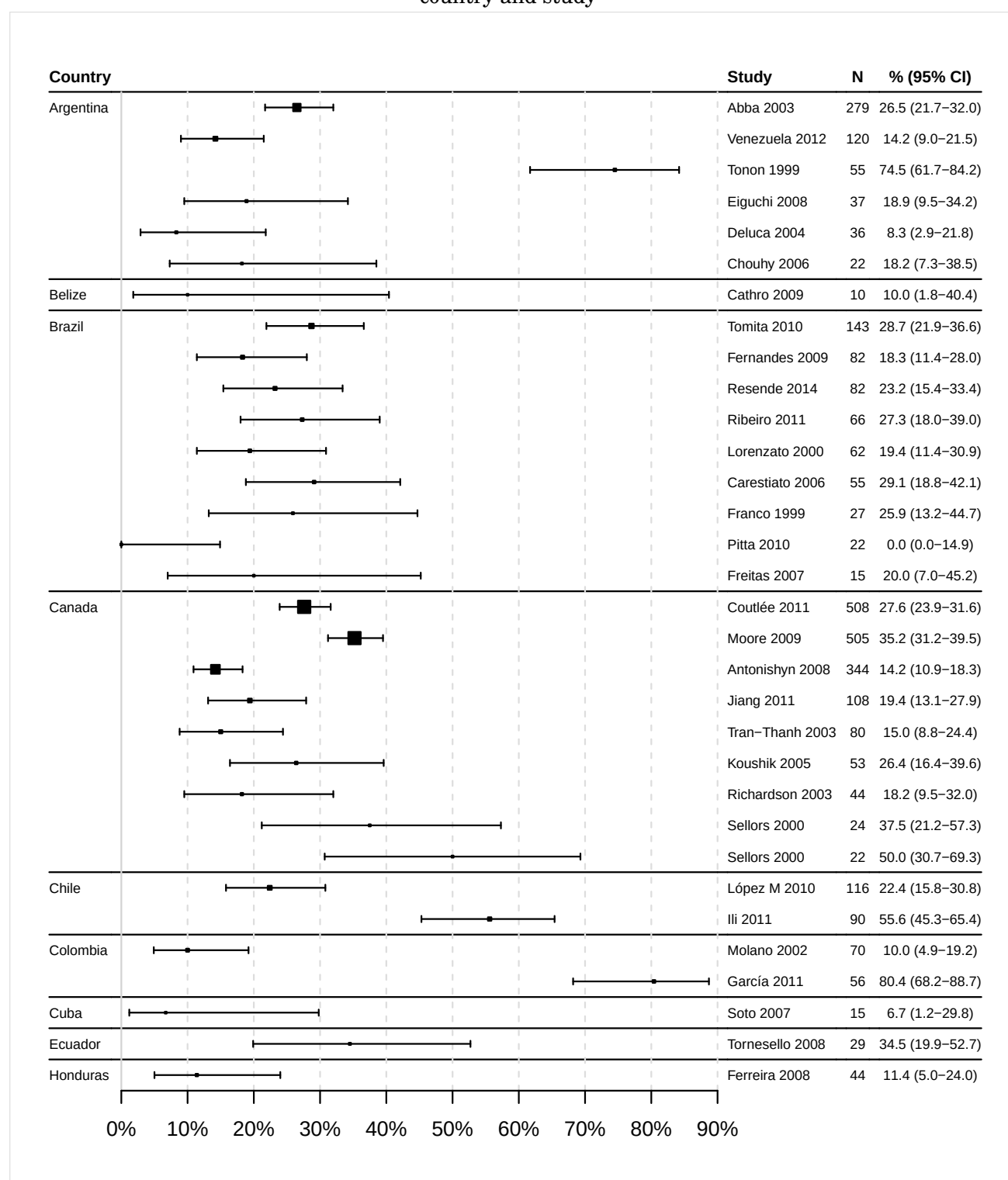
Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 64: Prevalence of HPV 16 among women with low-grade cervical lesions in the Americas by country and study

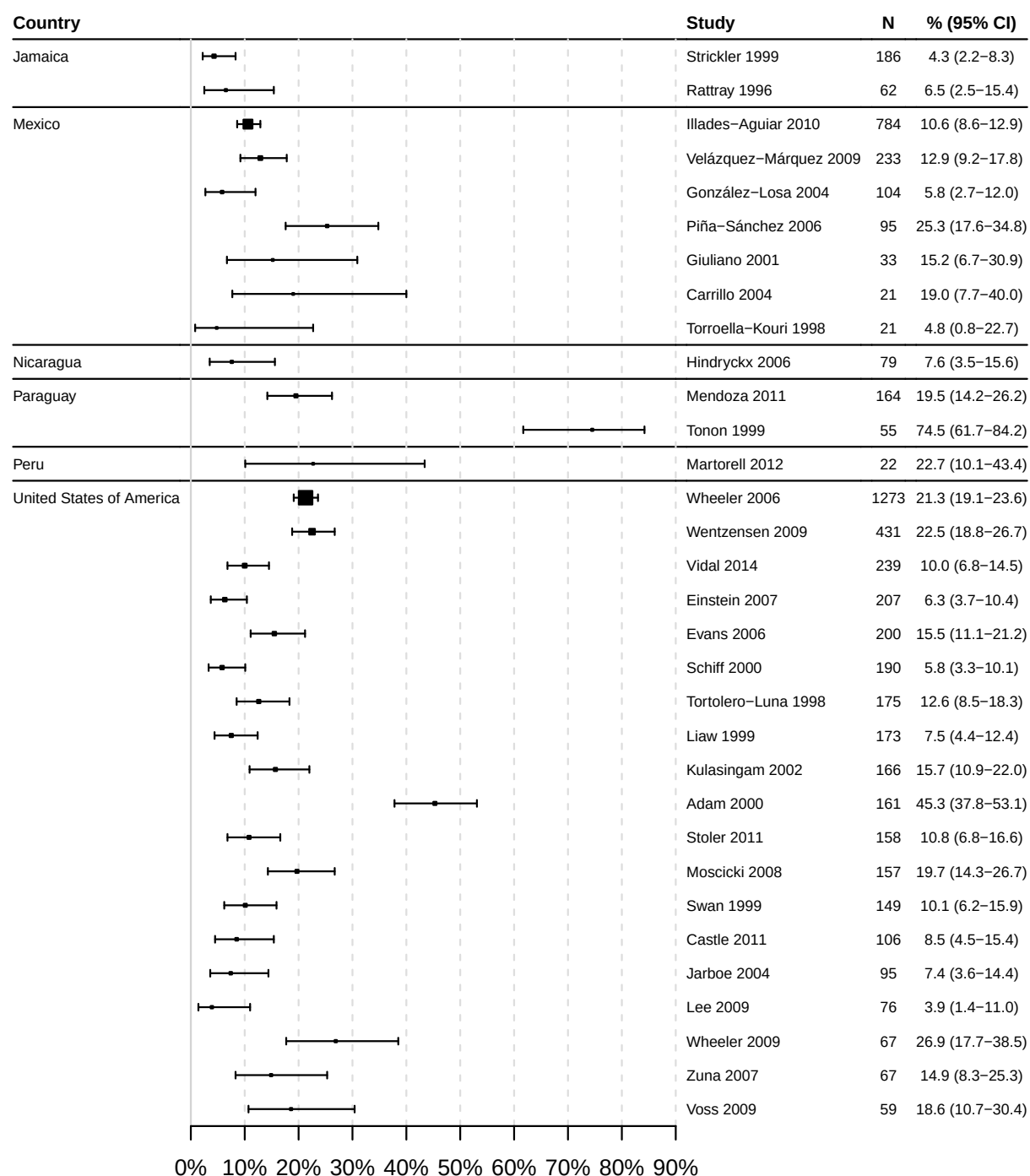


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 64: Prevalence of HPV 16 among women with low-grade cervical lesions in the Americas by country and study (continued)

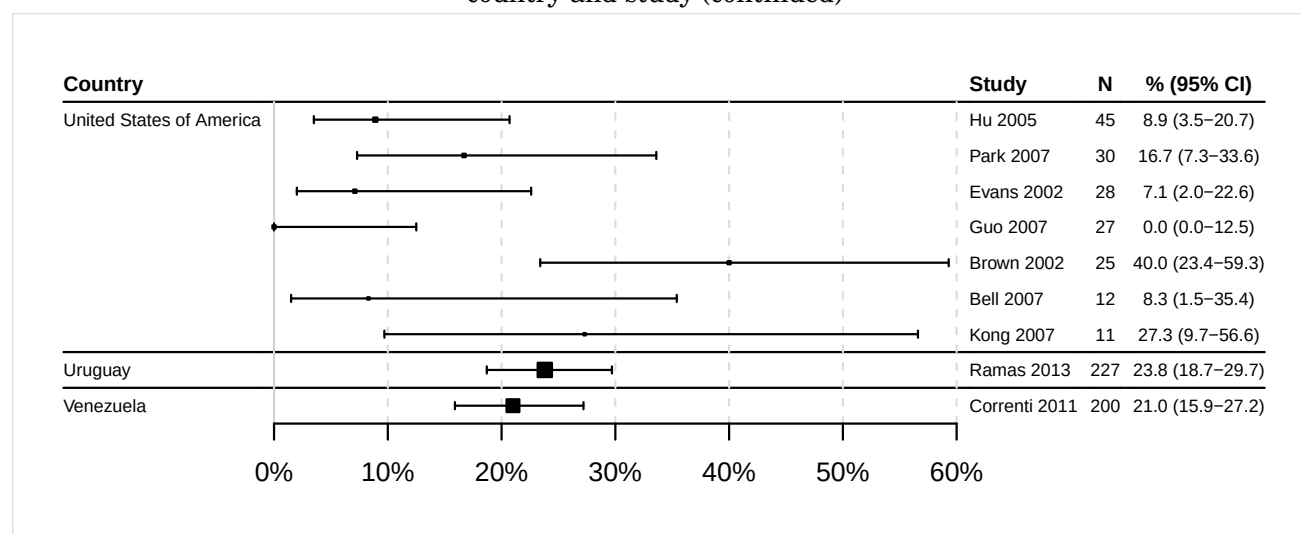


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 64: Prevalence of HPV 16 among women with low-grade cervical lesions in the Americas by country and study (continued)



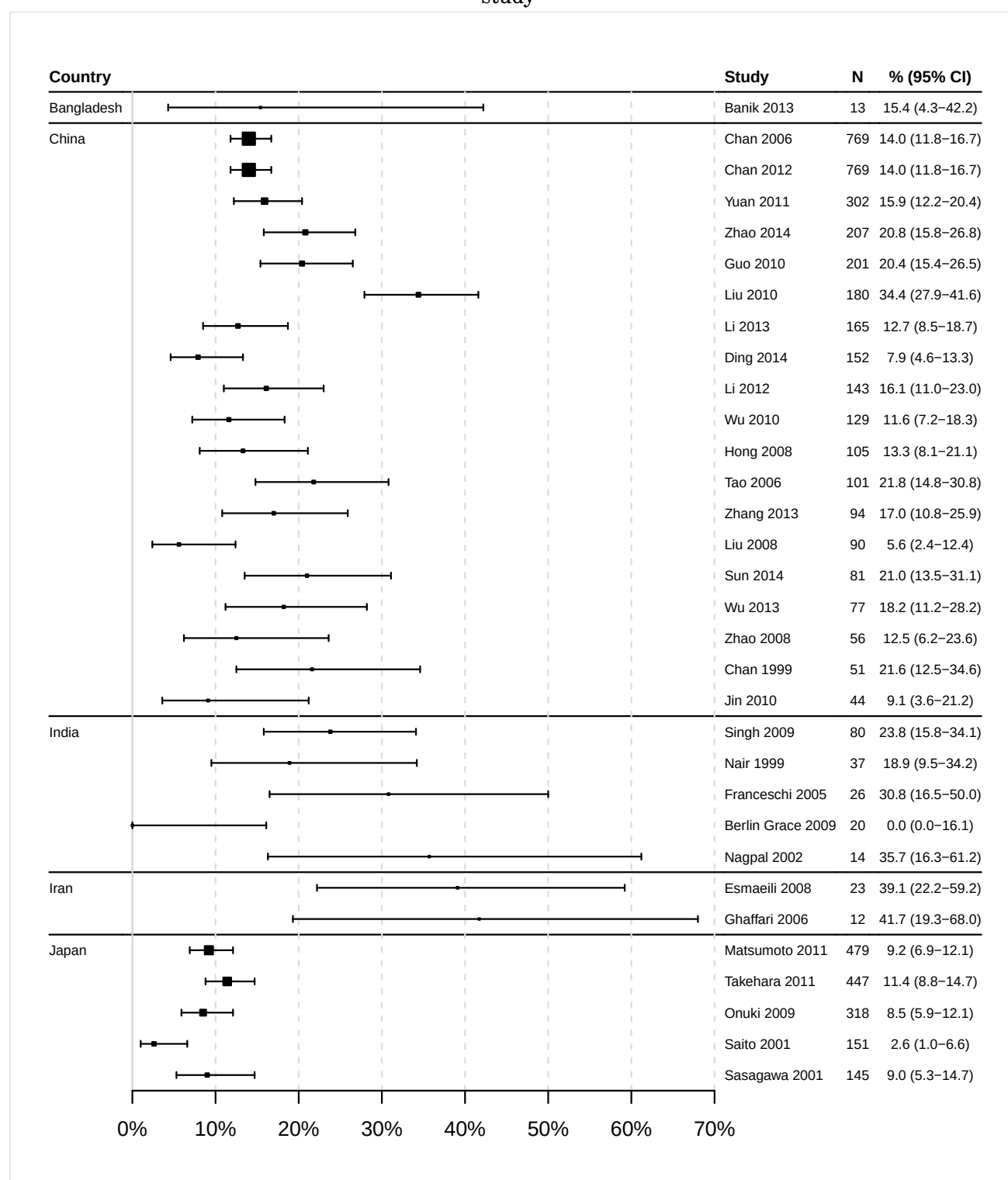
Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 65: Prevalence of HPV 16 among women with low-grade cervical lesions in Asia by country and study

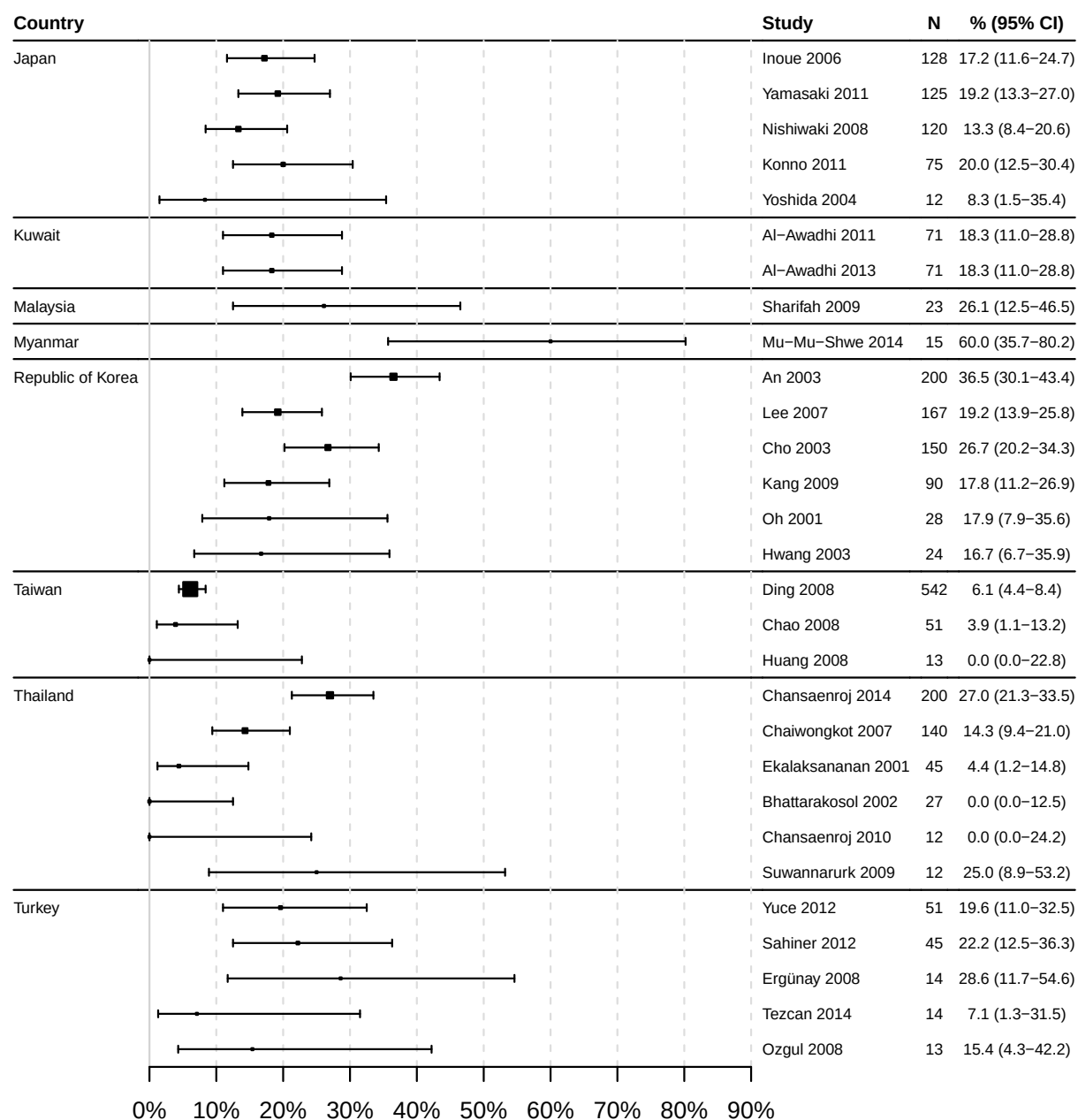


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 65: Prevalence of HPV 16 among women with low-grade cervical lesions in Asia by country and study (continued)

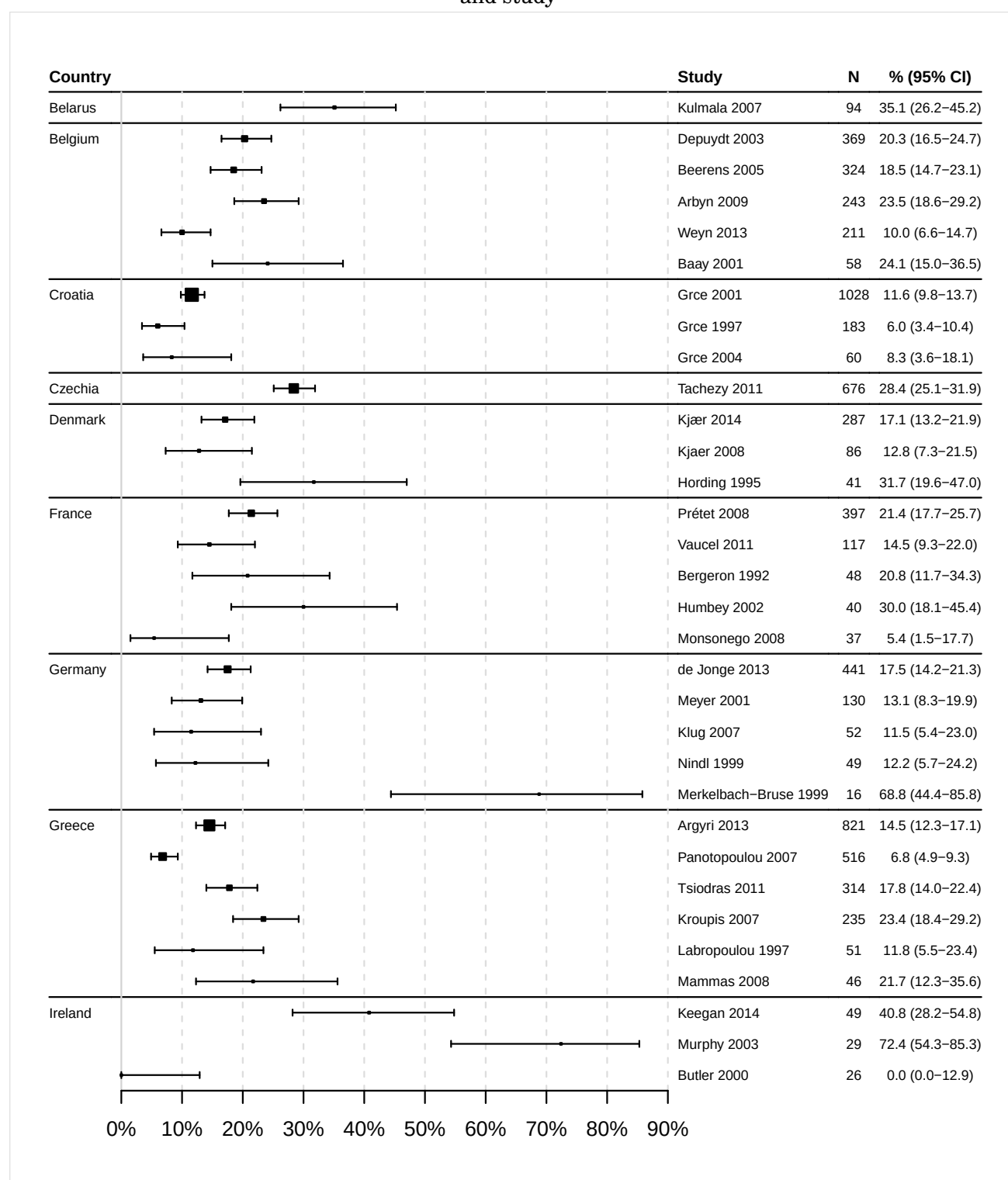


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 66: Prevalence of HPV 16 among women with low-grade cervical lesions in Europe by country and study

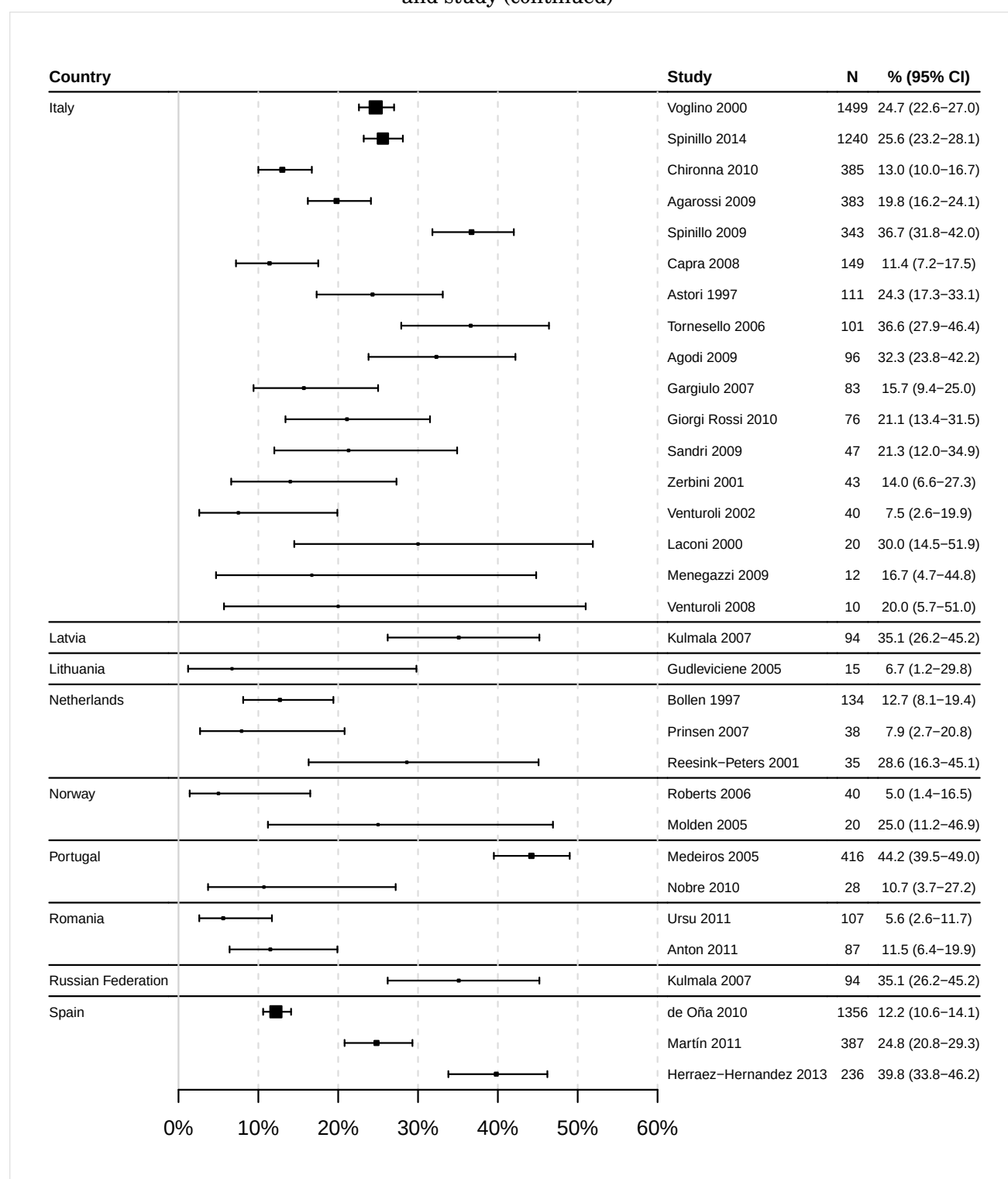


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 66: Prevalence of HPV 16 among women with low-grade cervical lesions in Europe by country and study (continued)

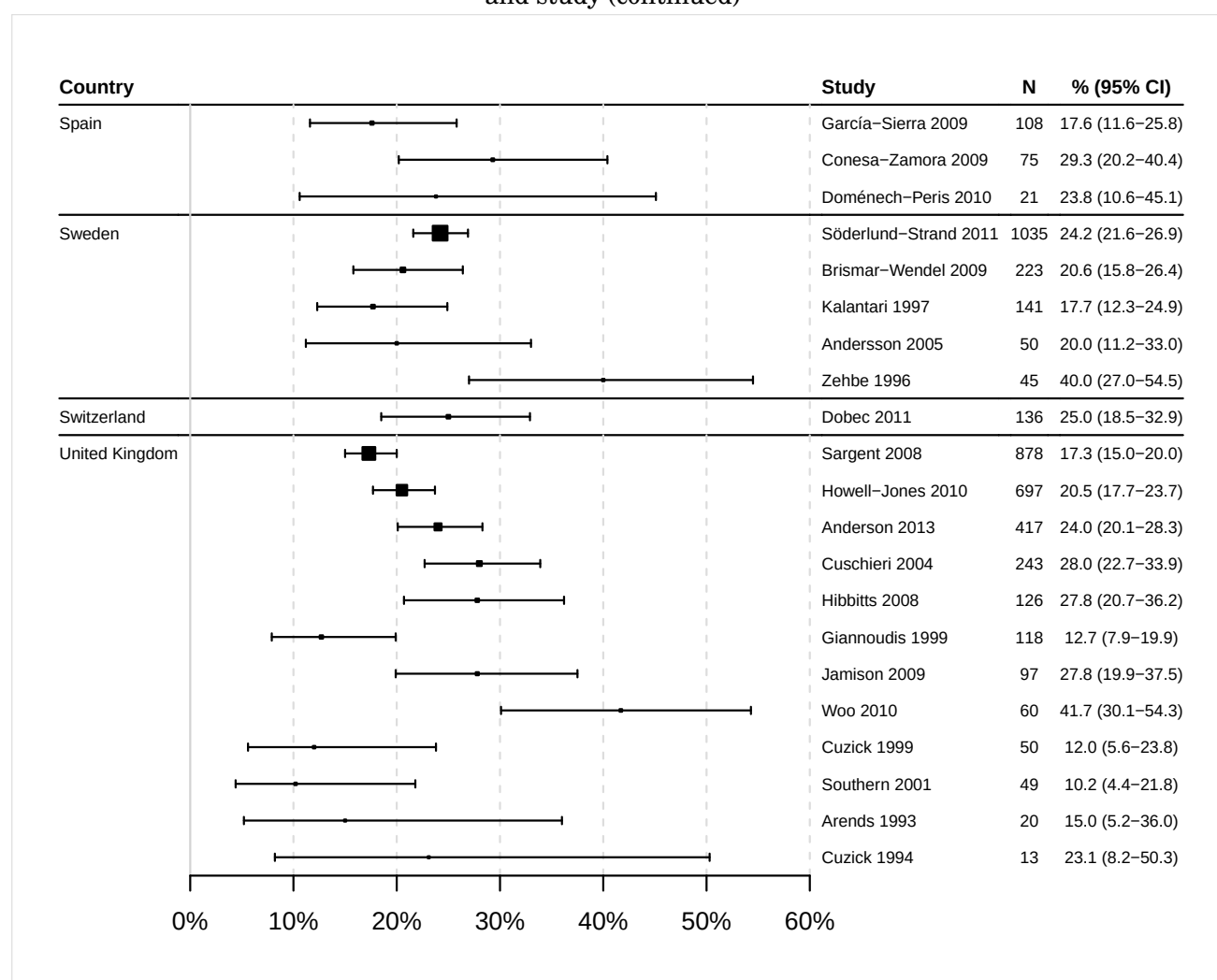


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 66: Prevalence of HPV 16 among women with low-grade cervical lesions in Europe by country and study (continued)

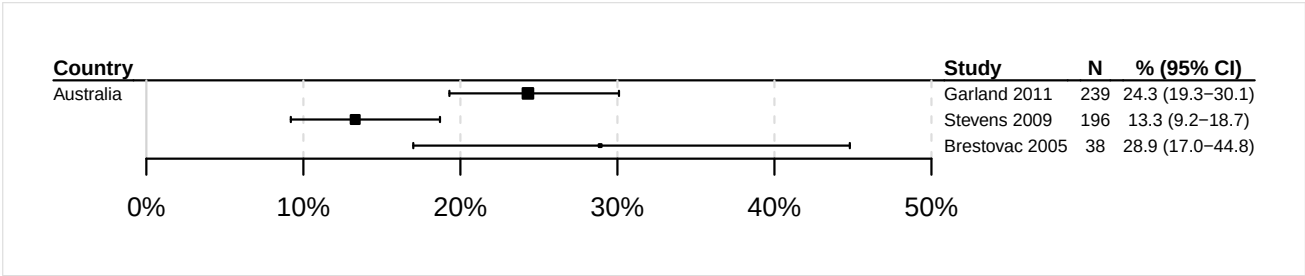


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

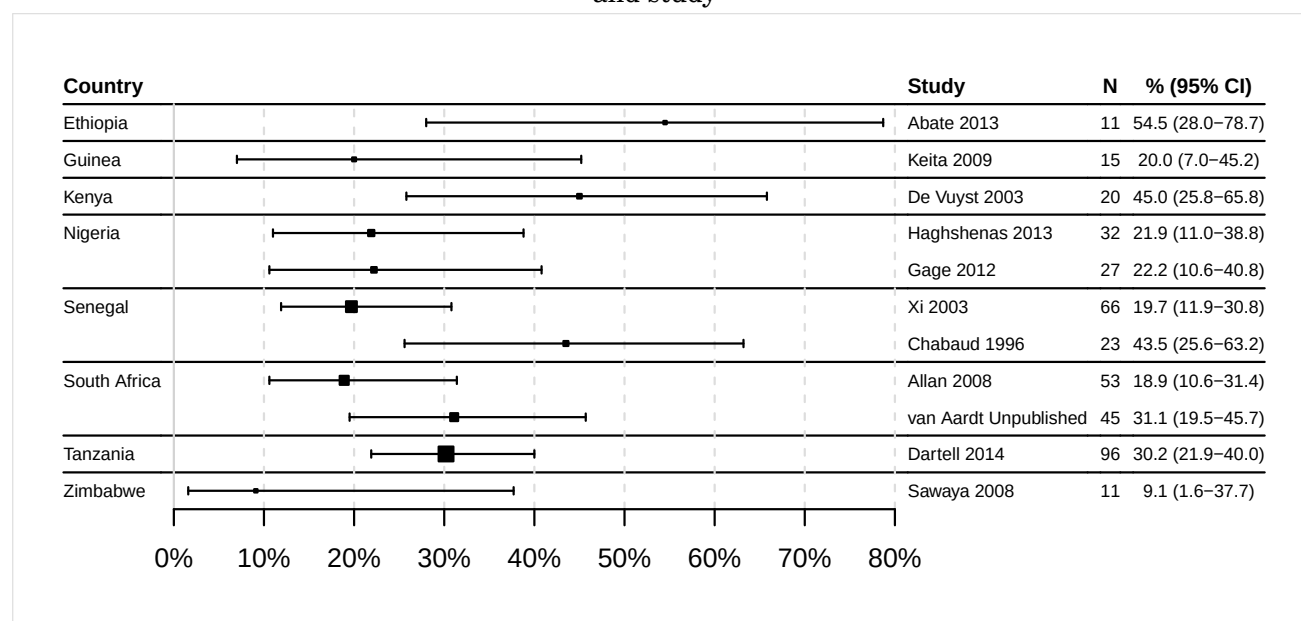
Figure 67: Prevalence of HPV 16 among women with low-grade cervical lesions in Oceania by country and study



Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)
^a Number of women tested
Data Sources: See references in Section 9 [References](#).

Figure 68: Prevalence of HPV 16 among women with high-grade cervical lesions in Africa by country and study



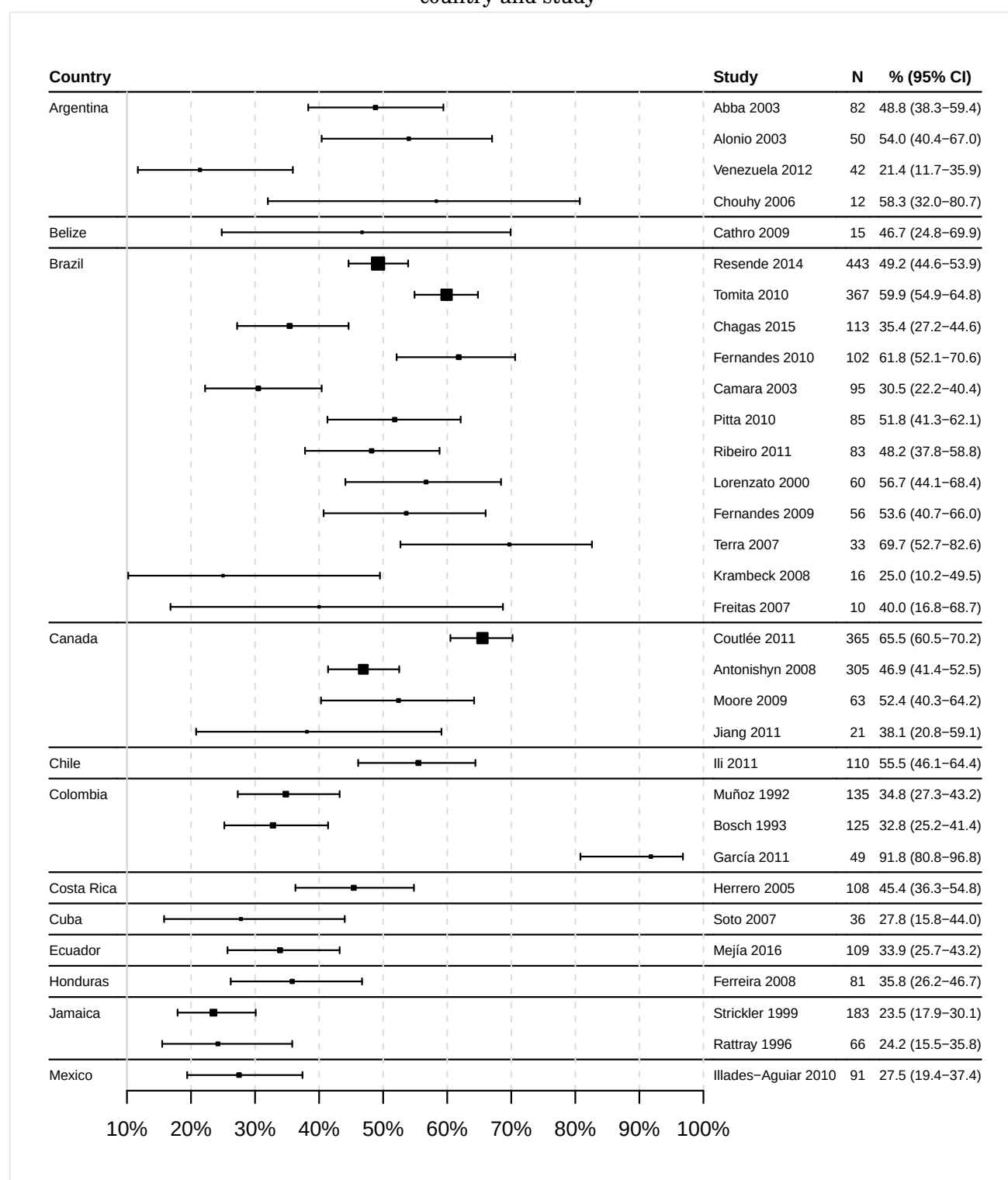
Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 69: Prevalence of HPV 16 among women with high-grade cervical lesions in the Americas by country and study

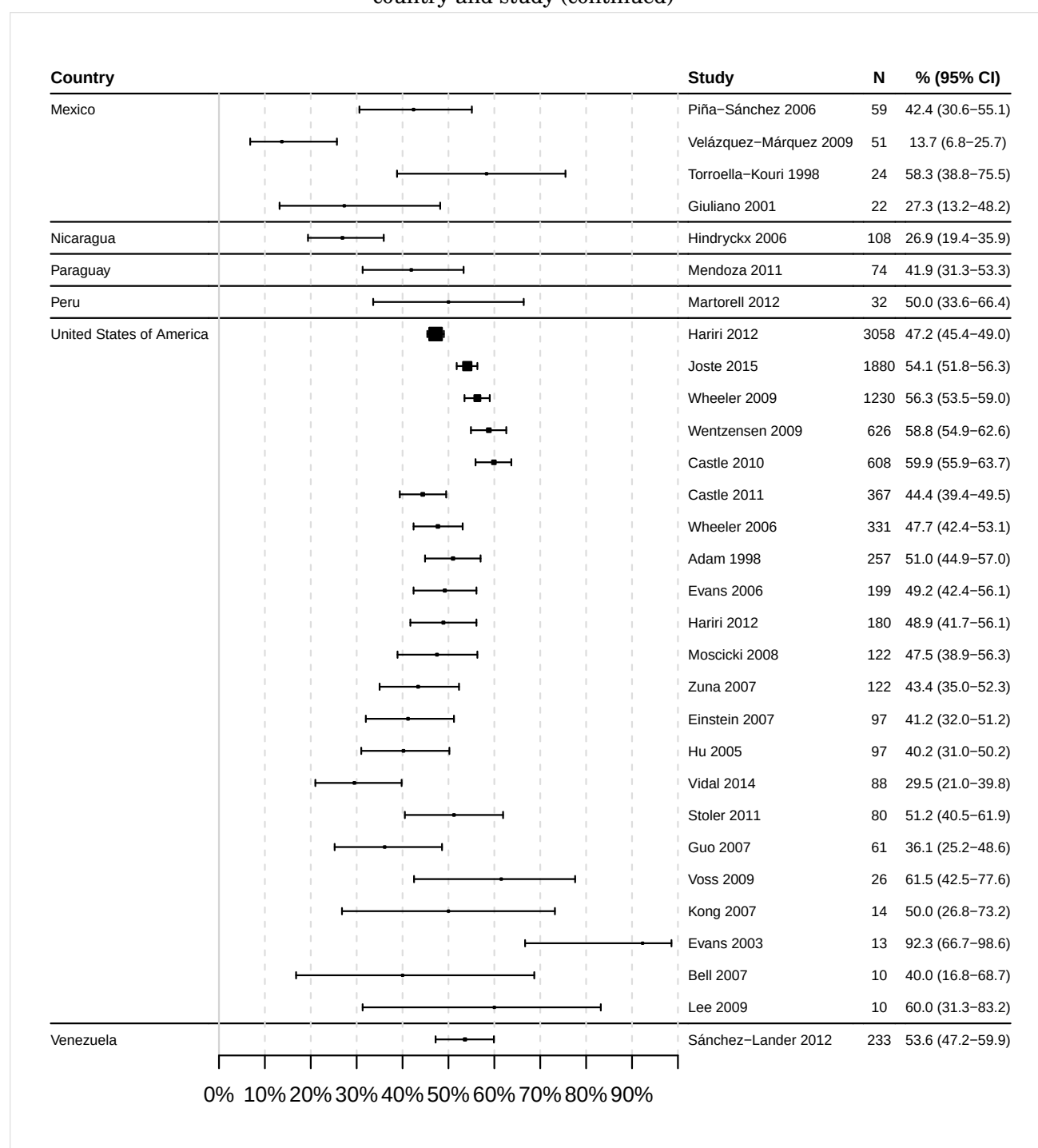


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 69: Prevalence of HPV 16 among women with high-grade cervical lesions in the Americas by country and study (continued)

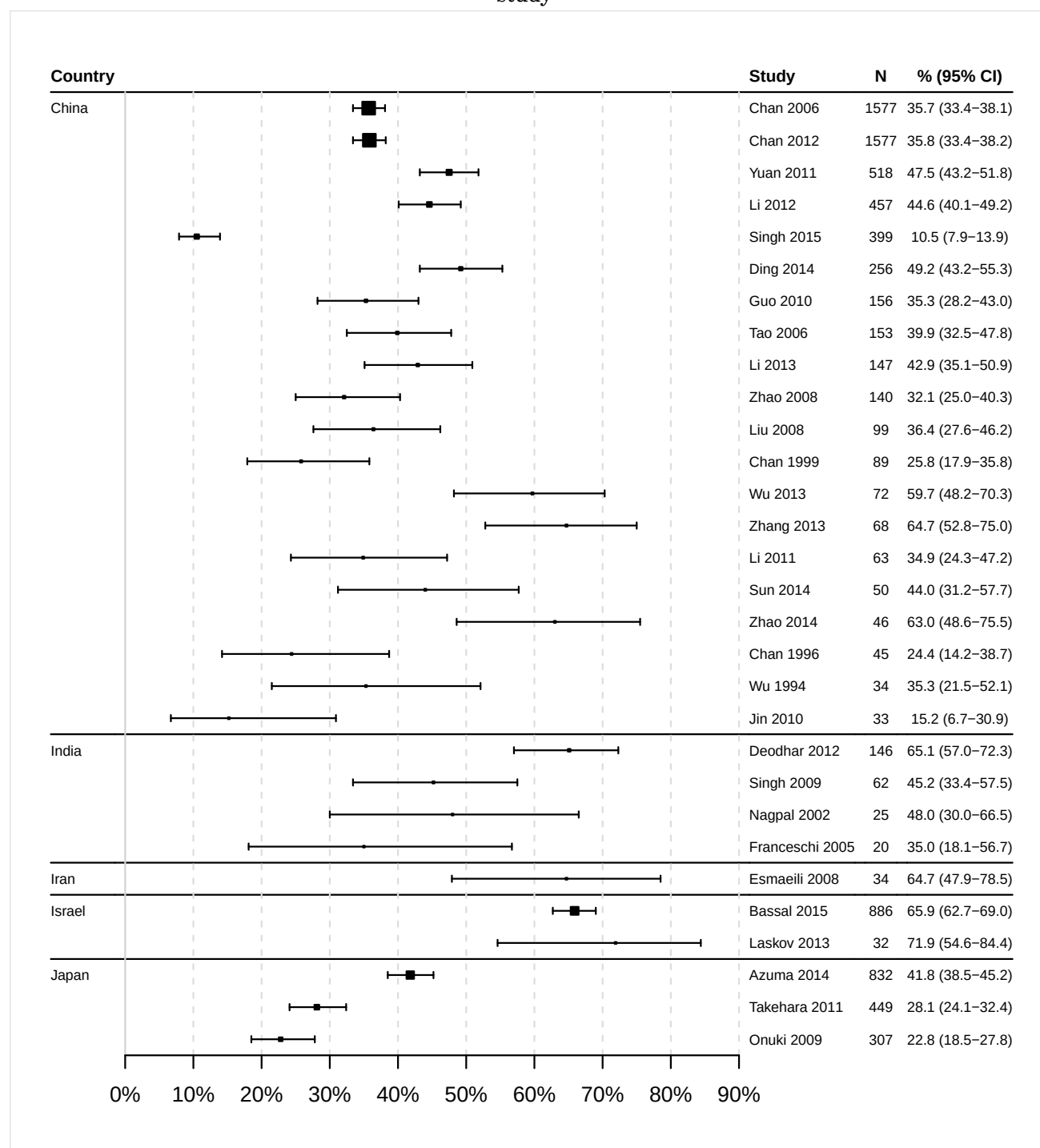


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 70: Prevalence of HPV 16 among women with high-grade cervical lesions in Asia by country and study

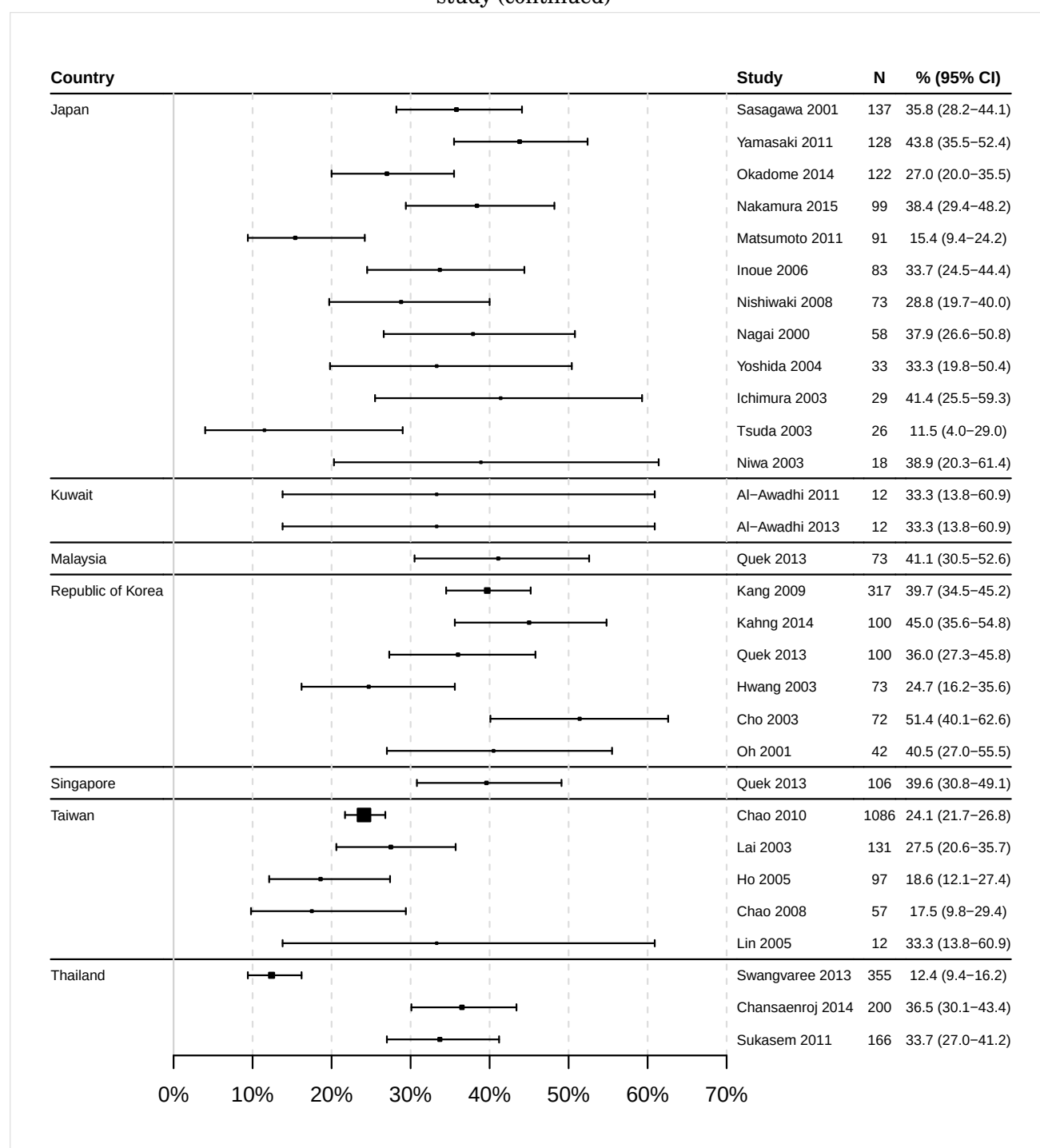


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 70: Prevalence of HPV 16 among women with high-grade cervical lesions in Asia by country and study (continued)

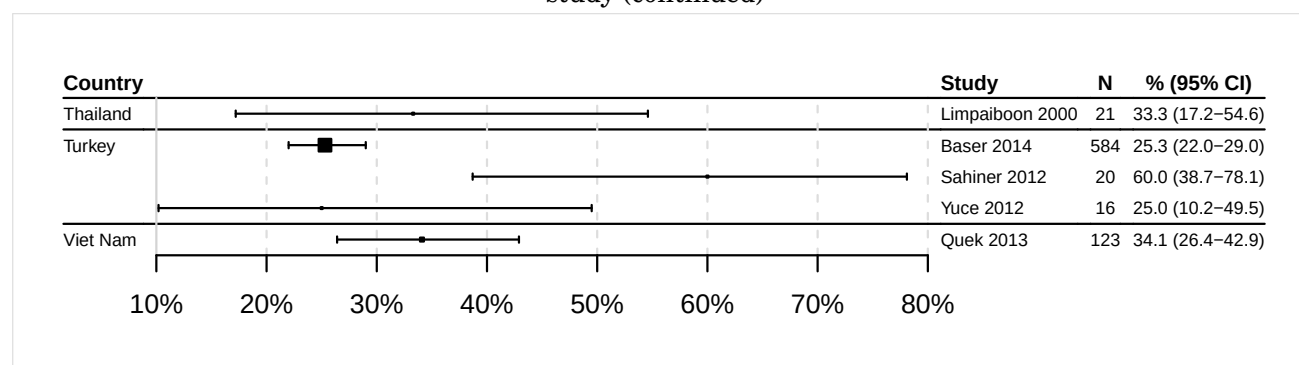


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 70: Prevalence of HPV 16 among women with high-grade cervical lesions in Asia by country and study (continued)



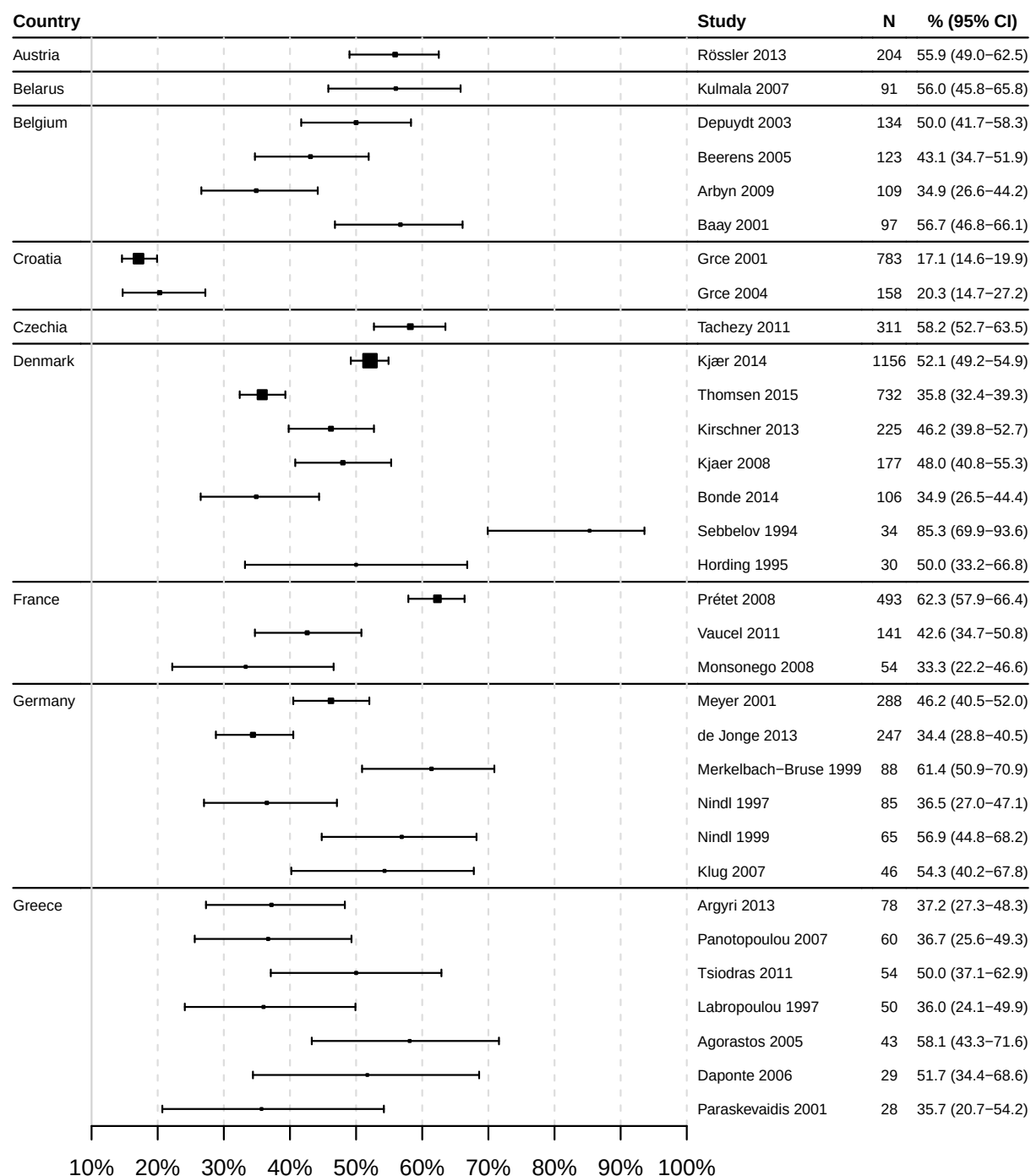
Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 71: Prevalence of HPV 16 among women with high-grade cervical lesions in Europe by country and study

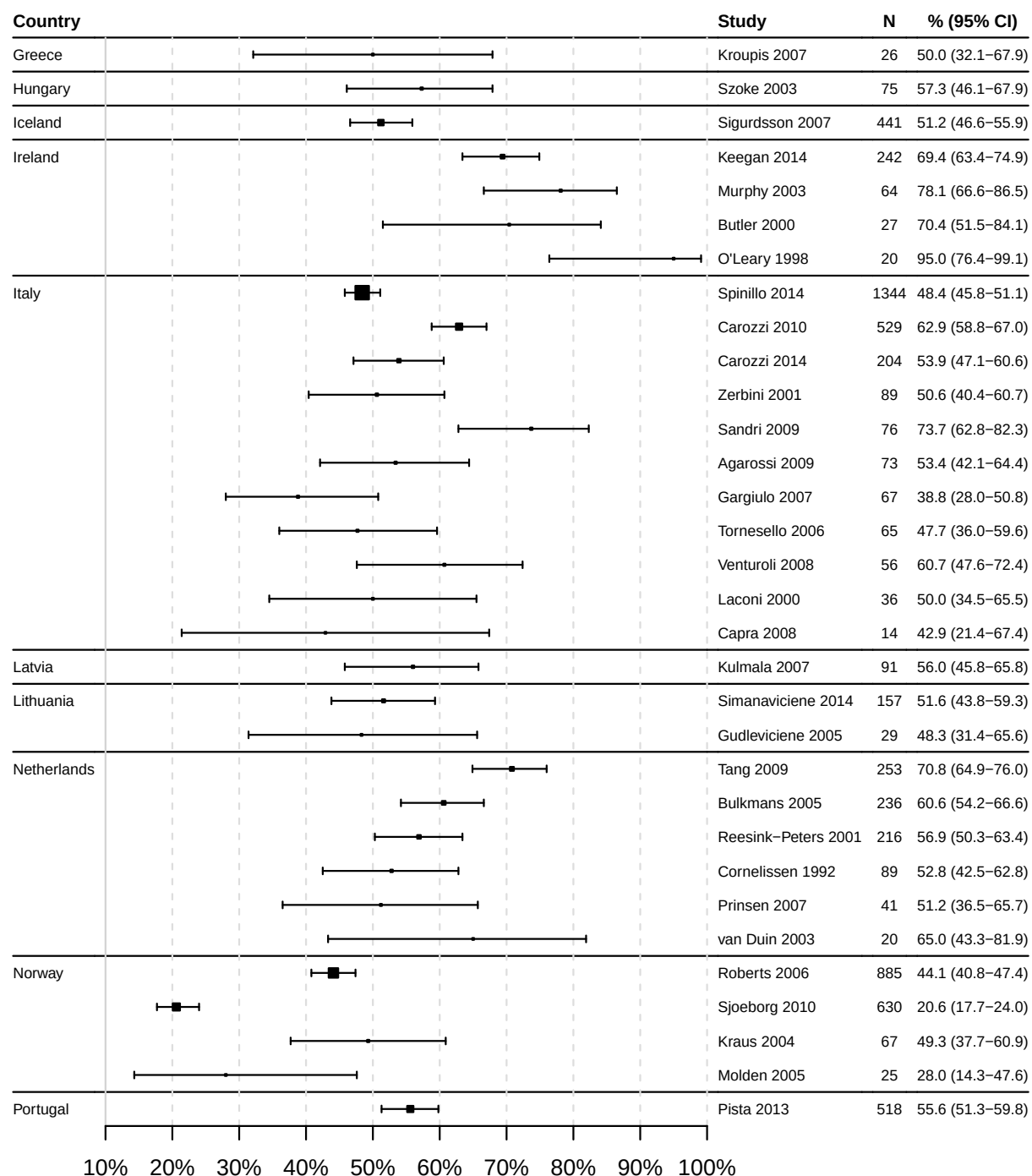


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 71: Prevalence of HPV 16 among women with high-grade cervical lesions in Europe by country and study (continued)

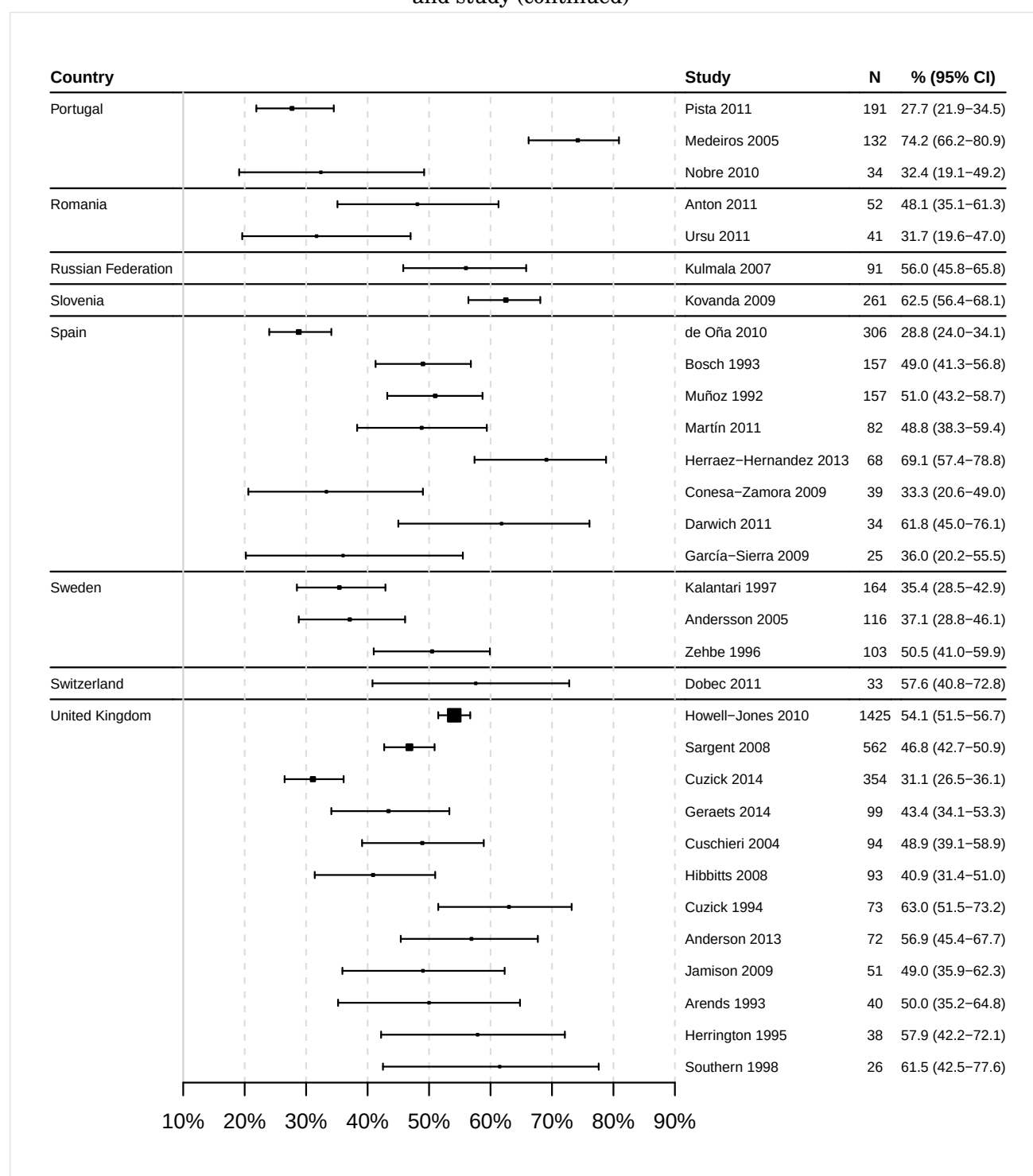


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 71: Prevalence of HPV 16 among women with high-grade cervical lesions in Europe by country and study (continued)

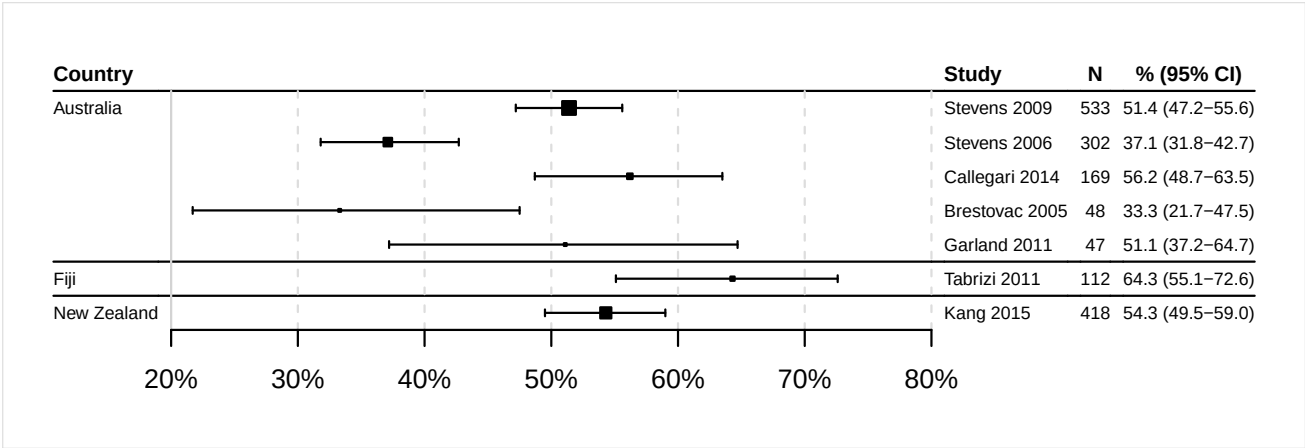


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

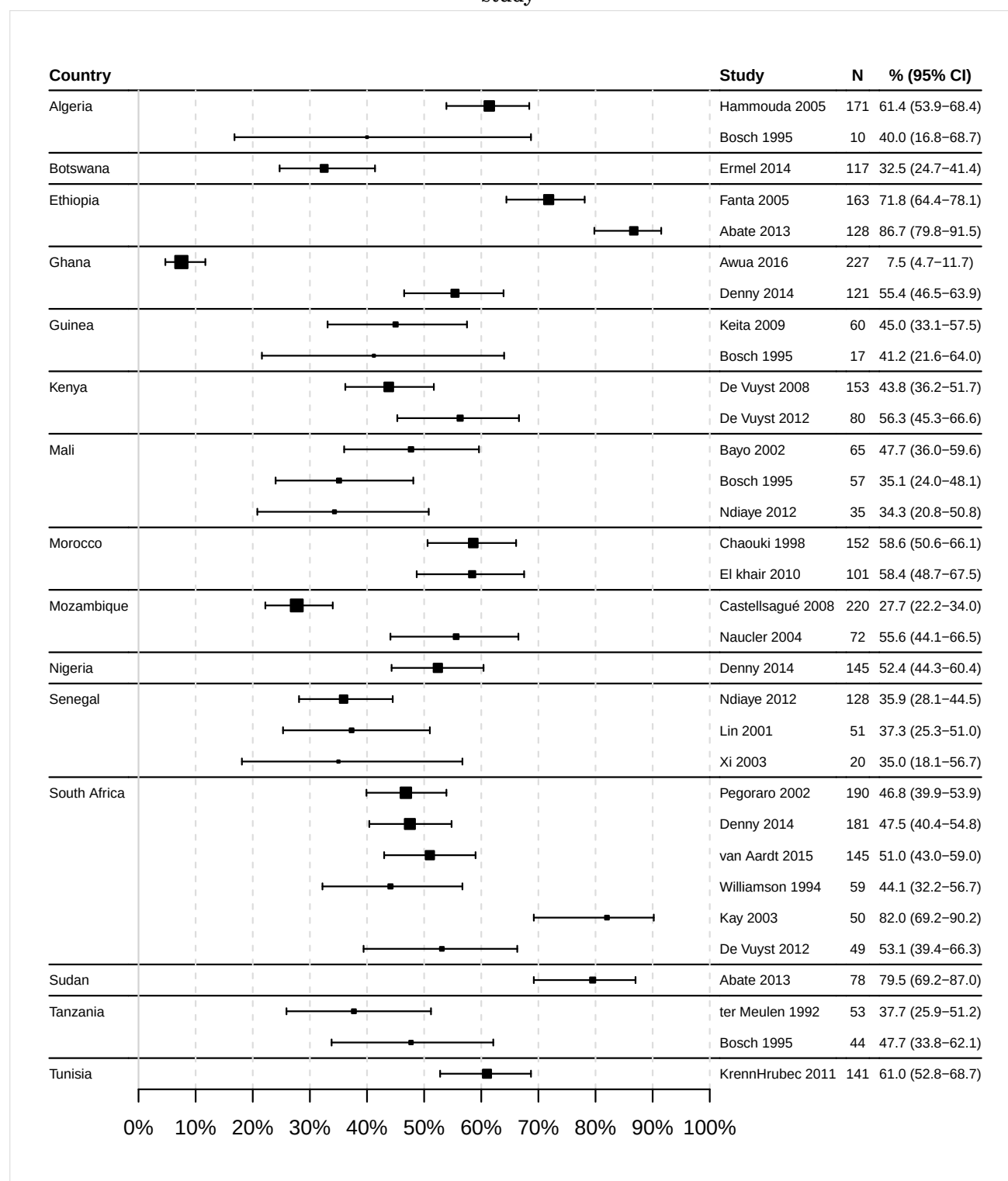
Figure 72: Prevalence of HPV 16 among women with high-grade cervical lesions in Oceania by country and study



Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)
^a Number of women tested
Data Sources: See references in Section 9 [References](#).

Figure 73: Prevalence of HPV 16 among women with invasive cervical cancer in Africa by country and study

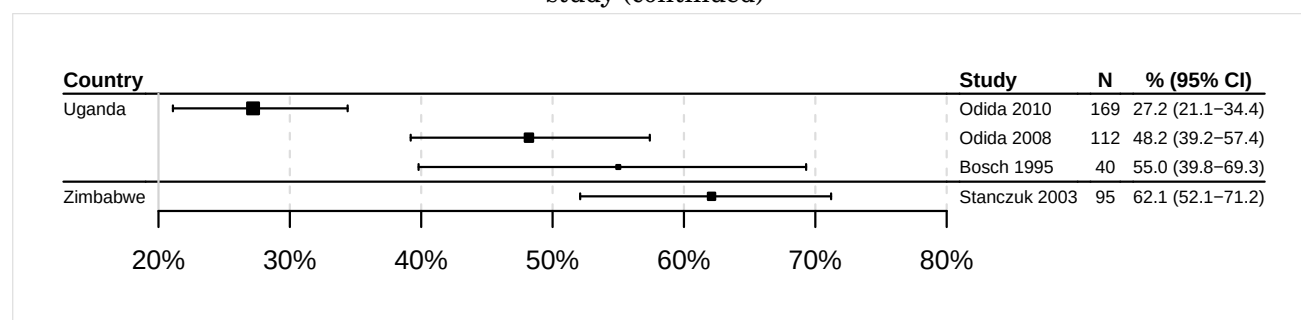


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 73: Prevalence of HPV 16 among women with invasive cervical cancer in Africa by country and study (continued)



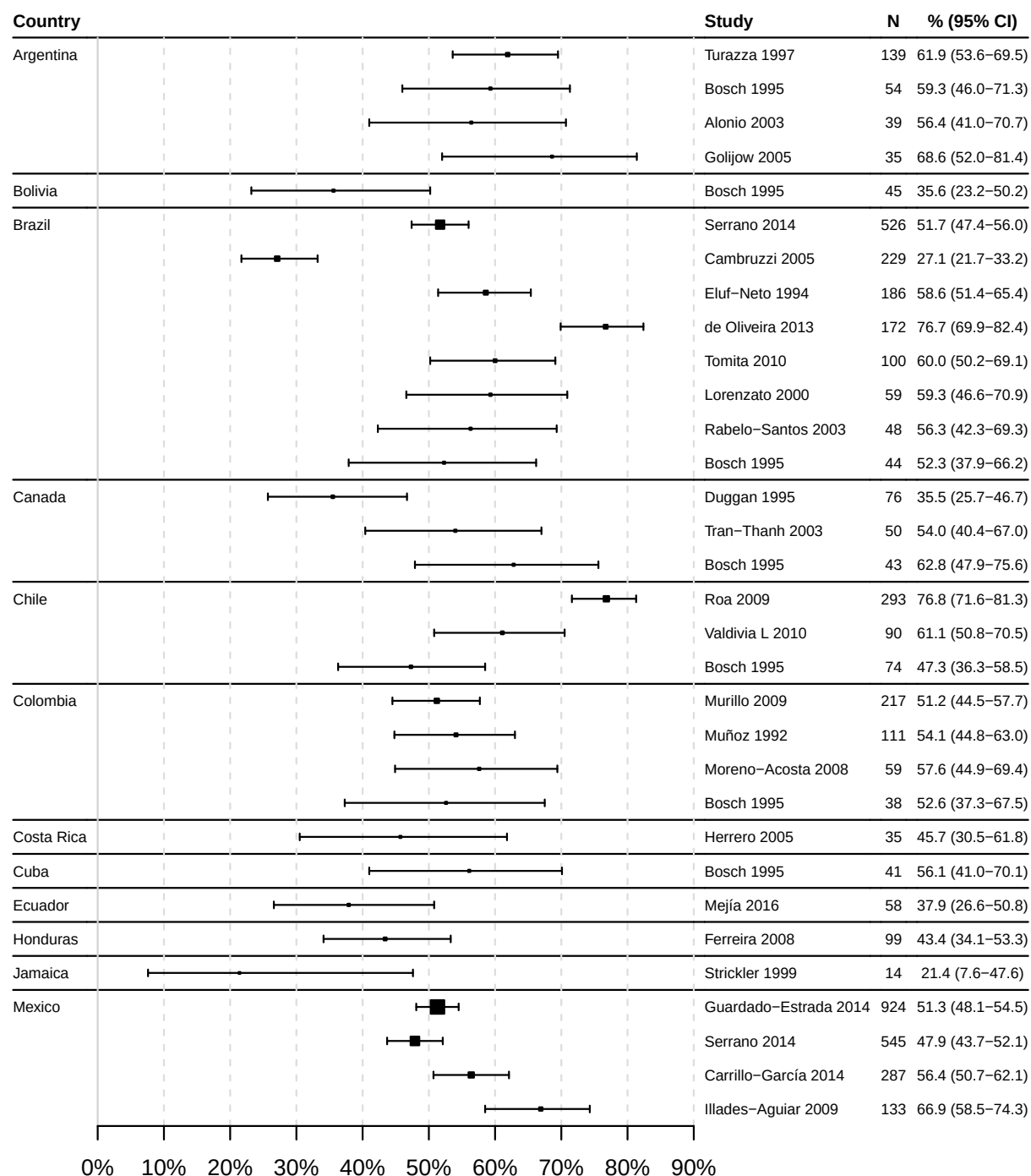
Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 74: Prevalence of HPV 16 among women with invasive cervical cancer in the Americas by country and study

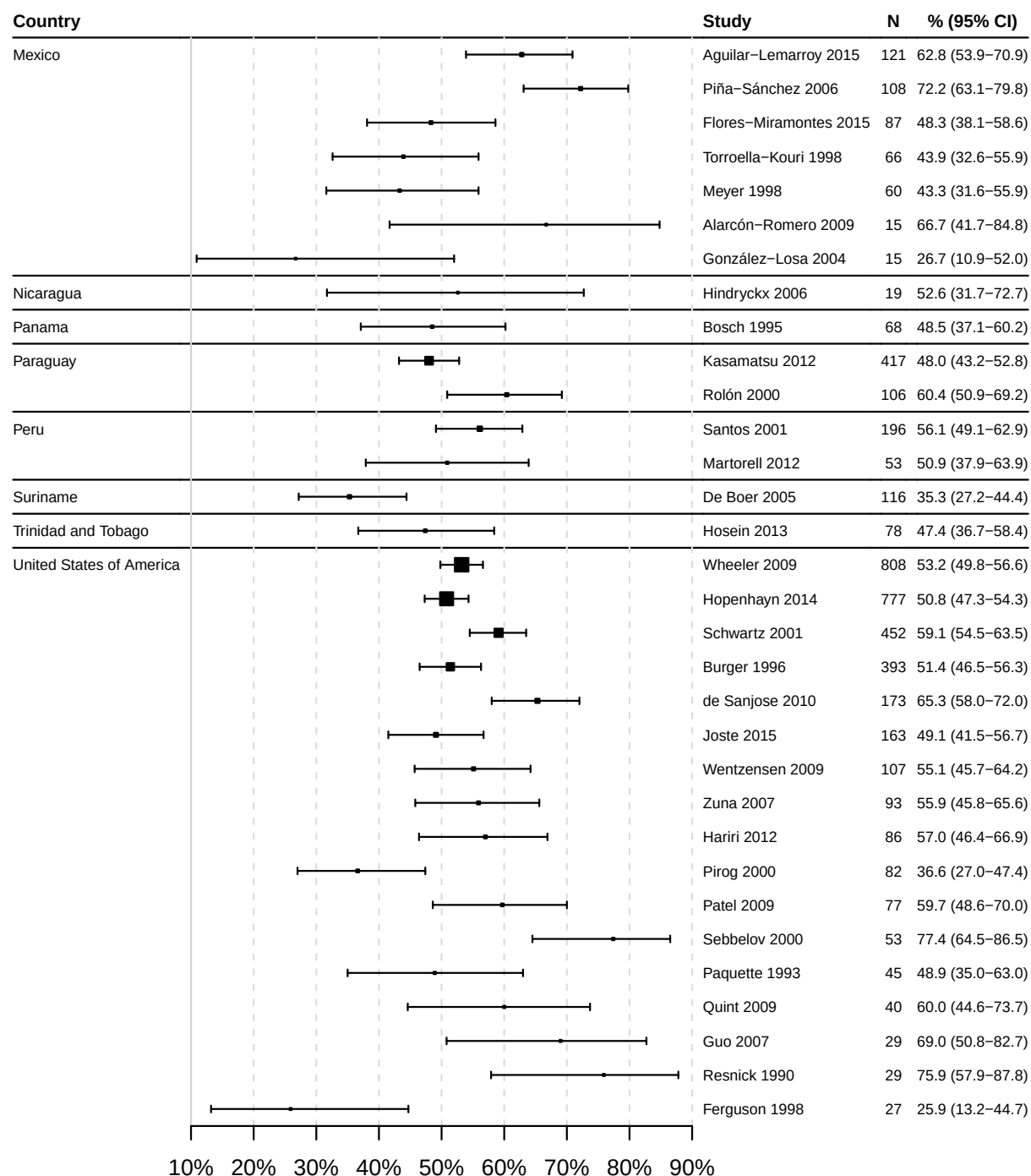


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 74: Prevalence of HPV 16 among women with invasive cervical cancer in the Americas by country and study (continued)

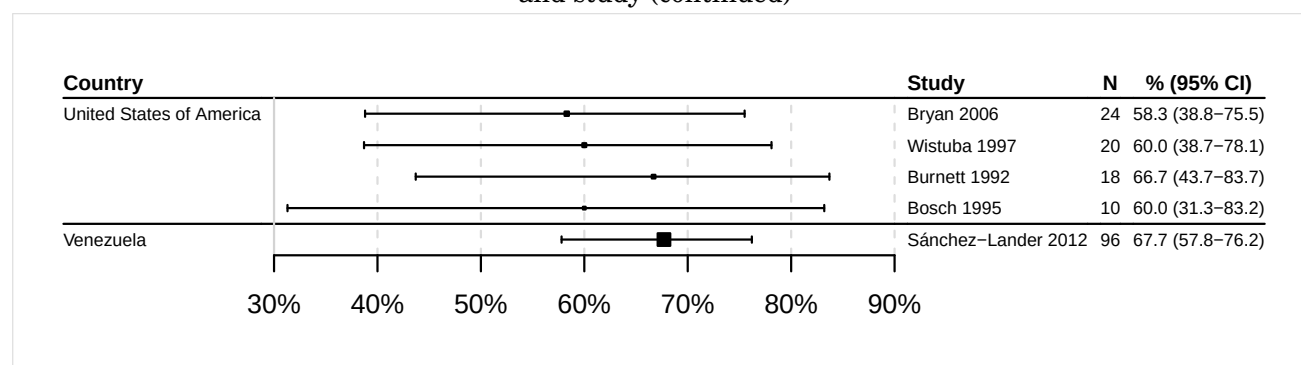


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 74: Prevalence of HPV 16 among women with invasive cervical cancer in the Americas by country and study (continued)



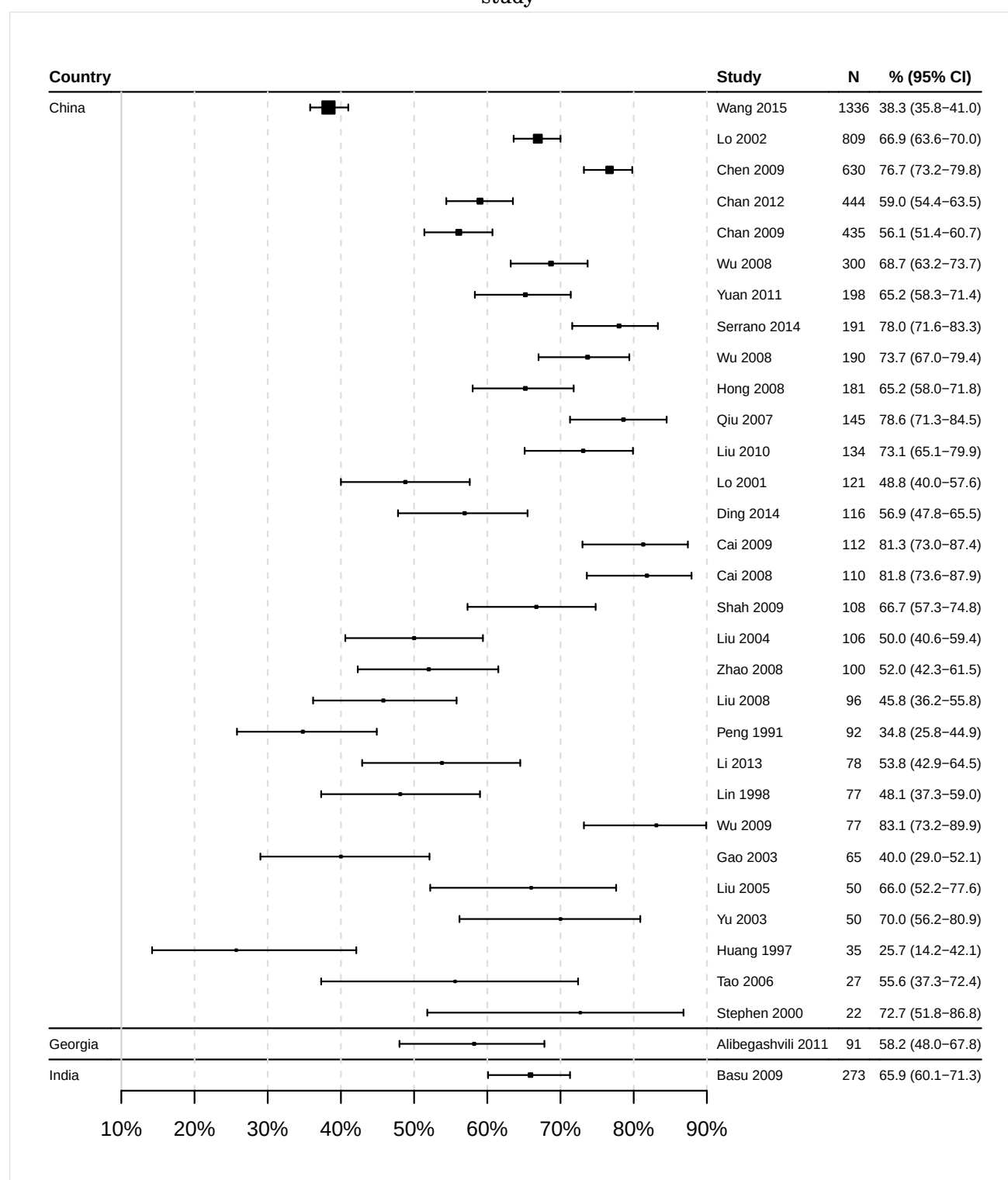
Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 75: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study

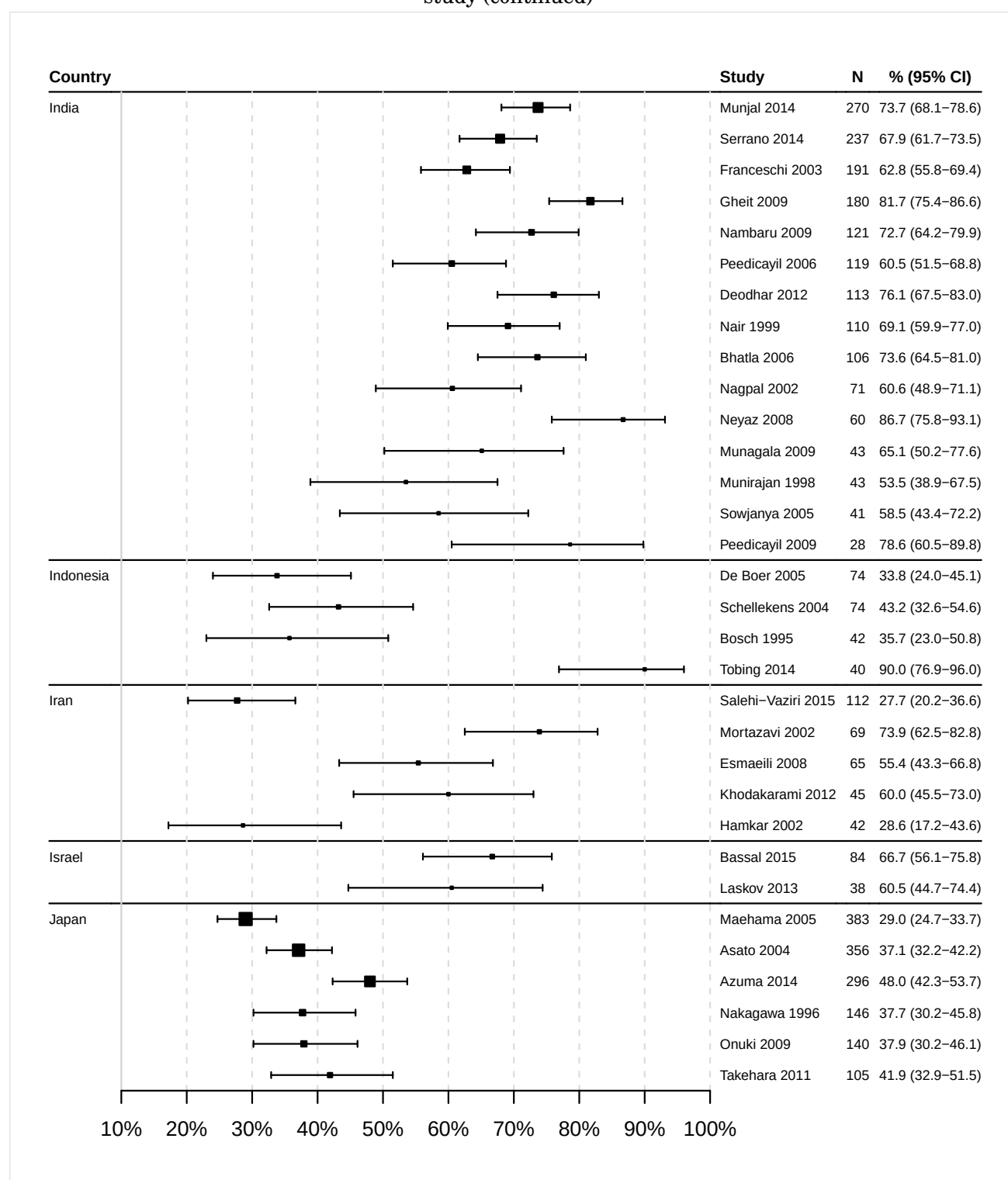


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 75: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)

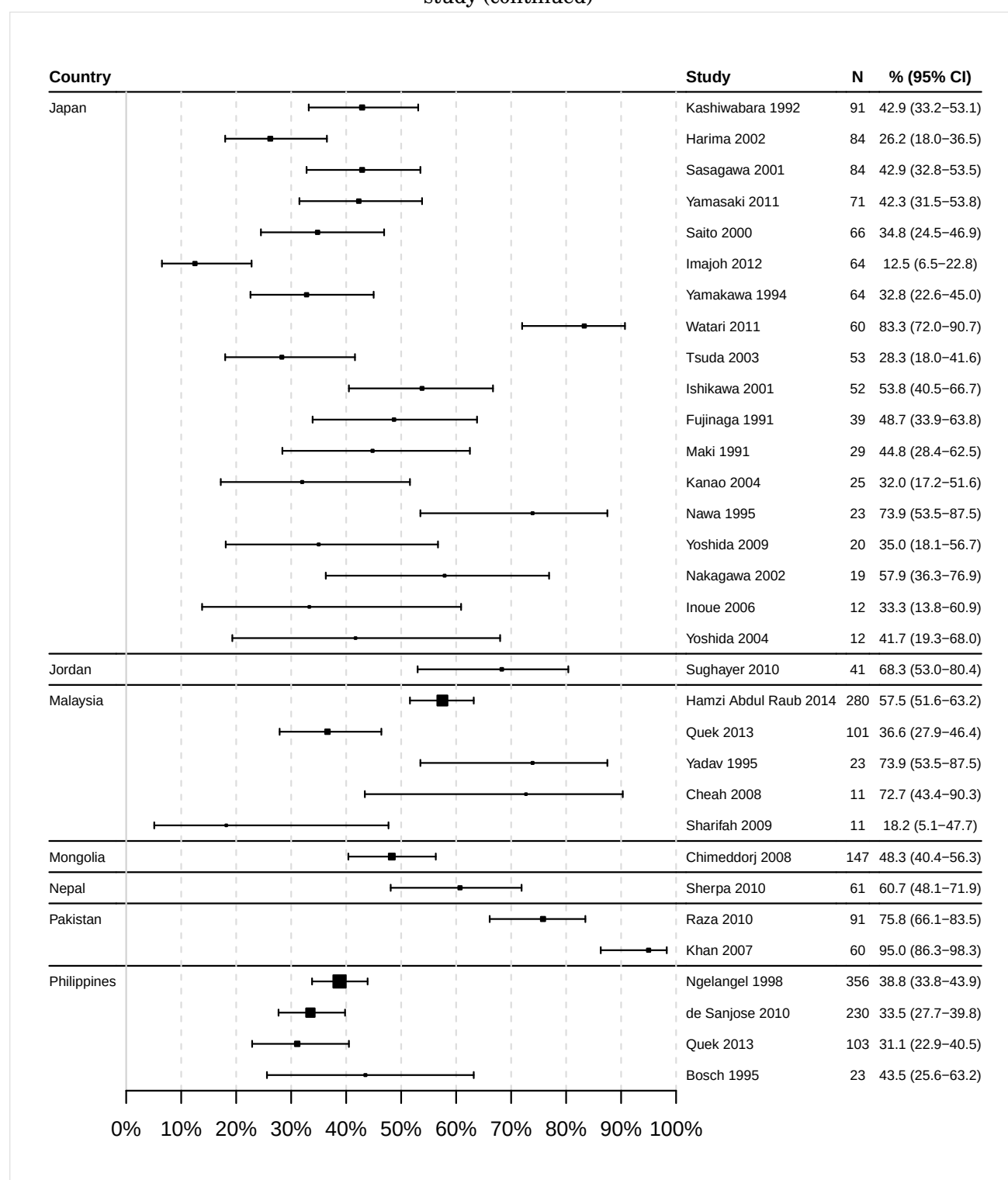


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 75: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)

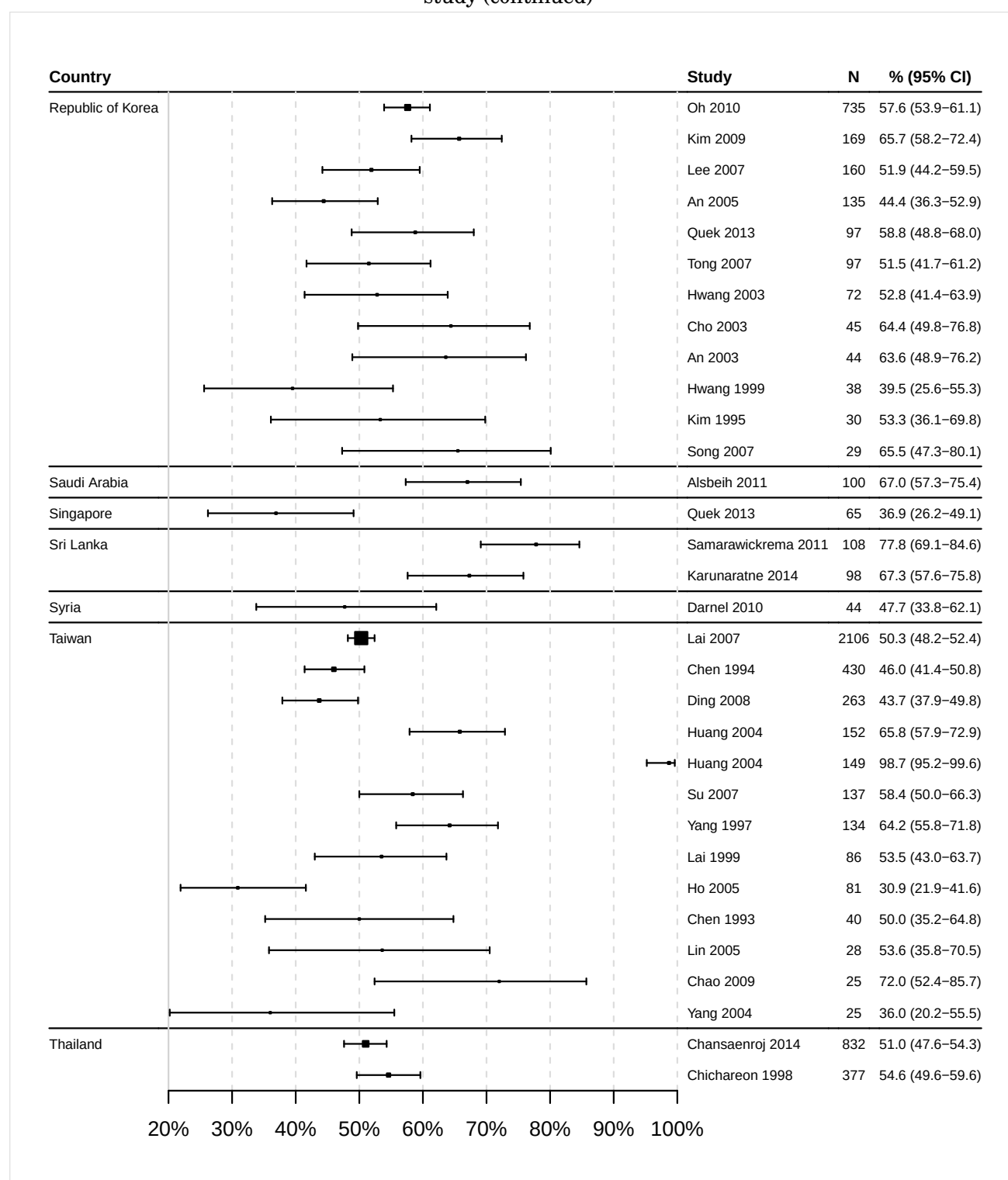


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 75: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)

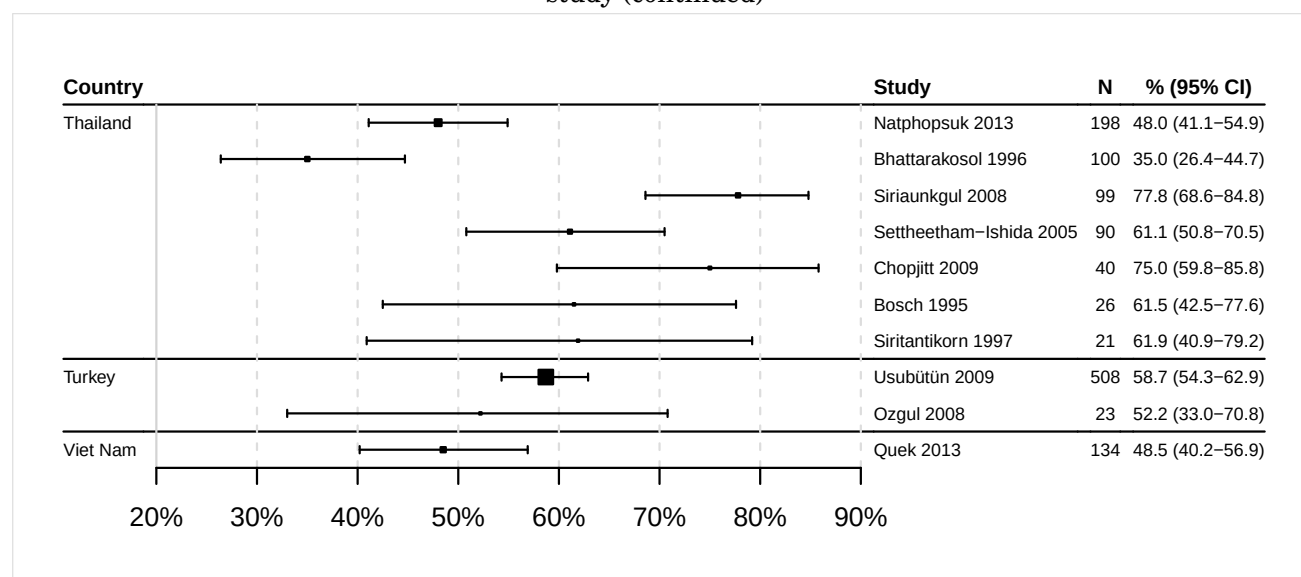


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 75: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)



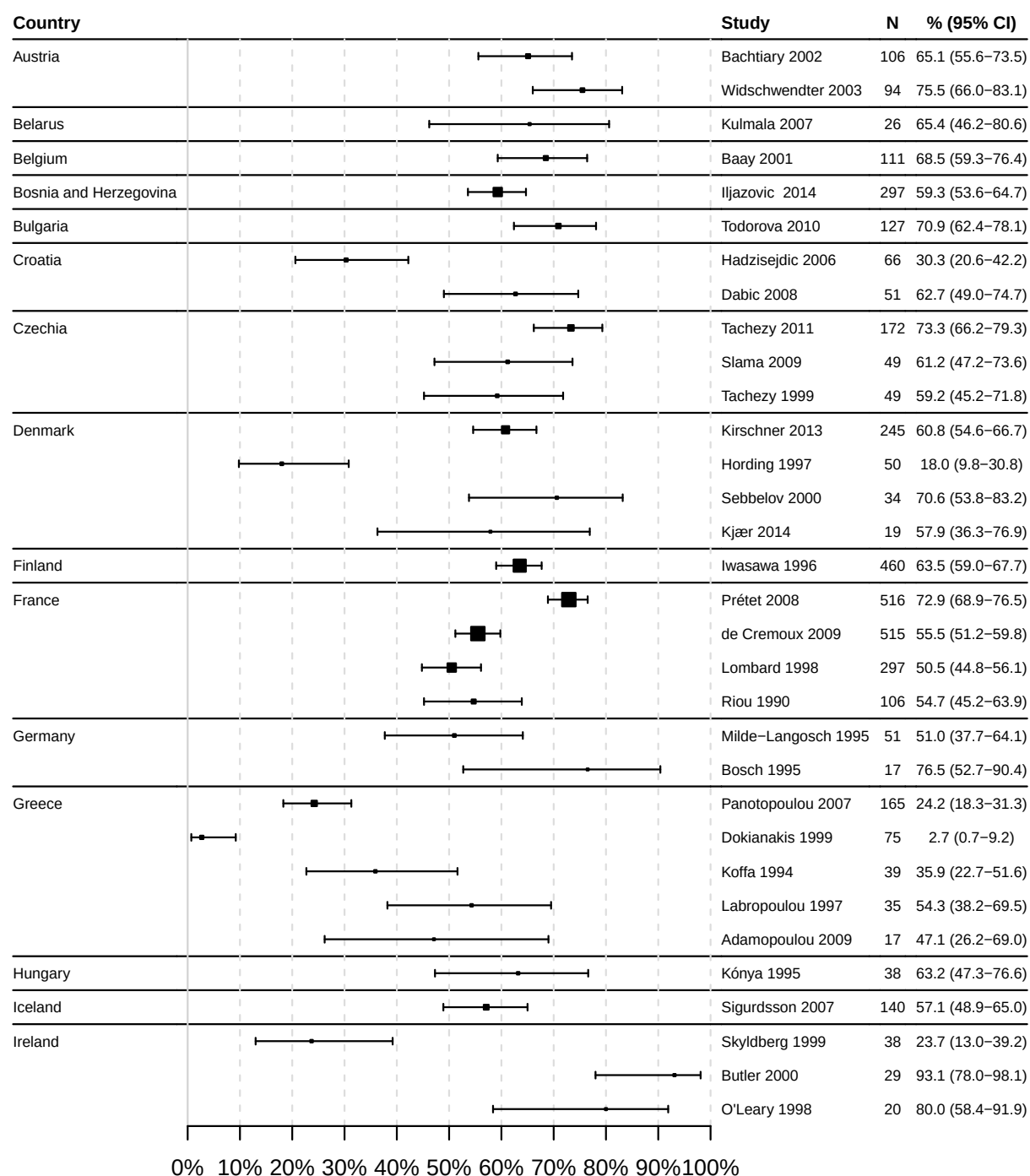
Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 76: Prevalence of HPV 16 among women with invasive cervical cancer in Europe by country and study

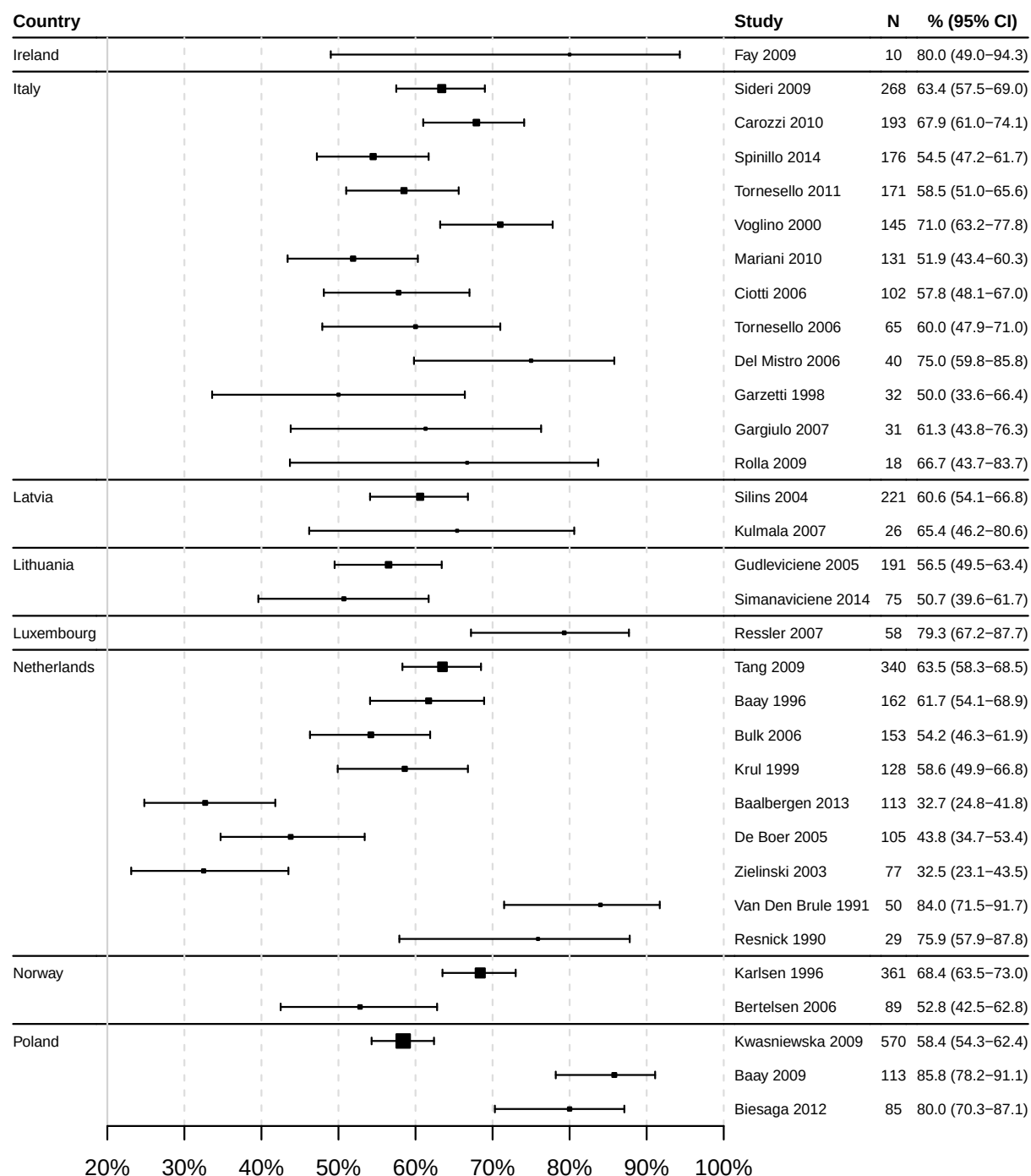


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 76: Prevalence of HPV 16 among women with invasive cervical cancer in Europe by country and study (continued)

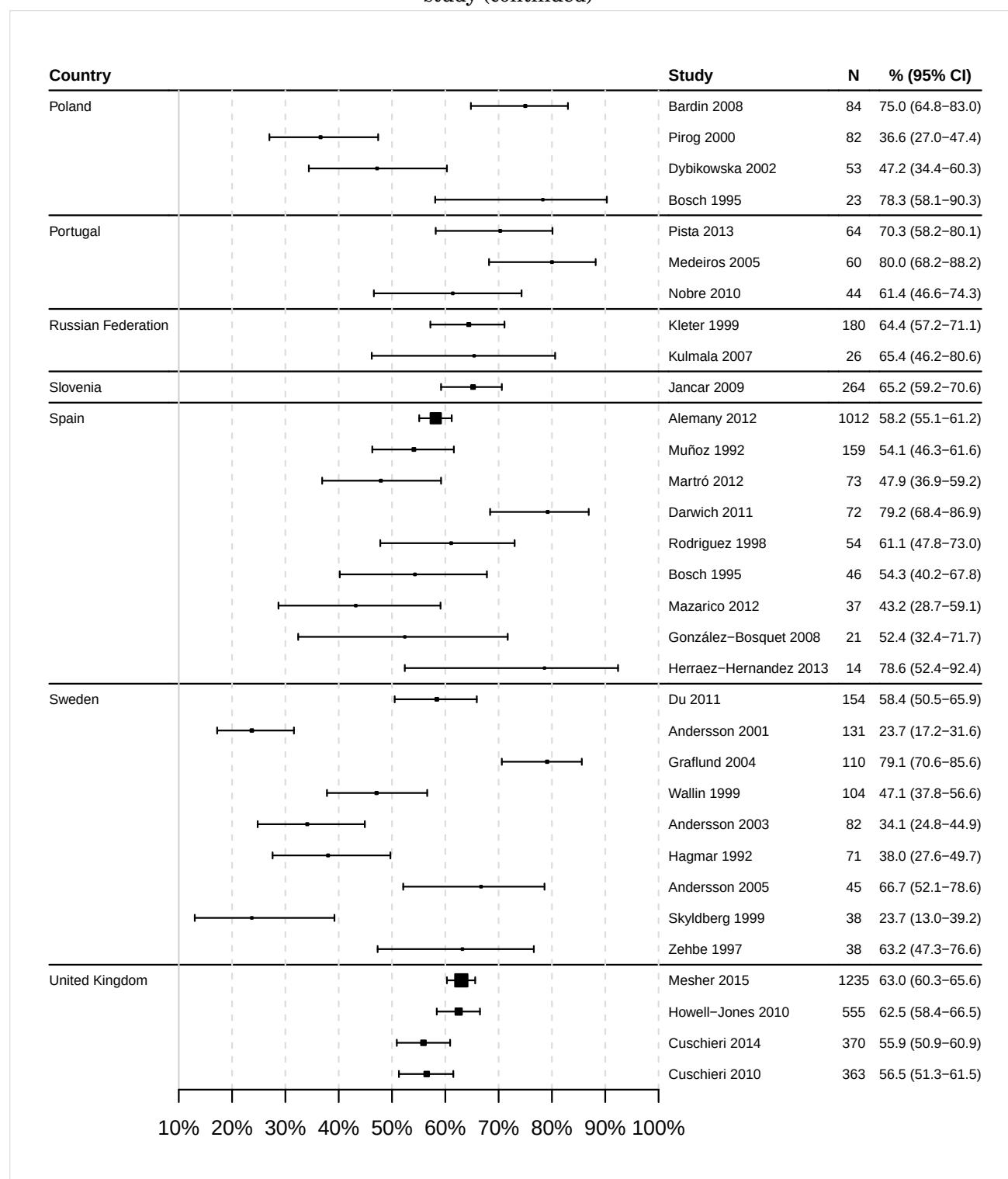


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 76: Prevalence of HPV 16 among women with invasive cervical cancer in Europe by country and study (continued)

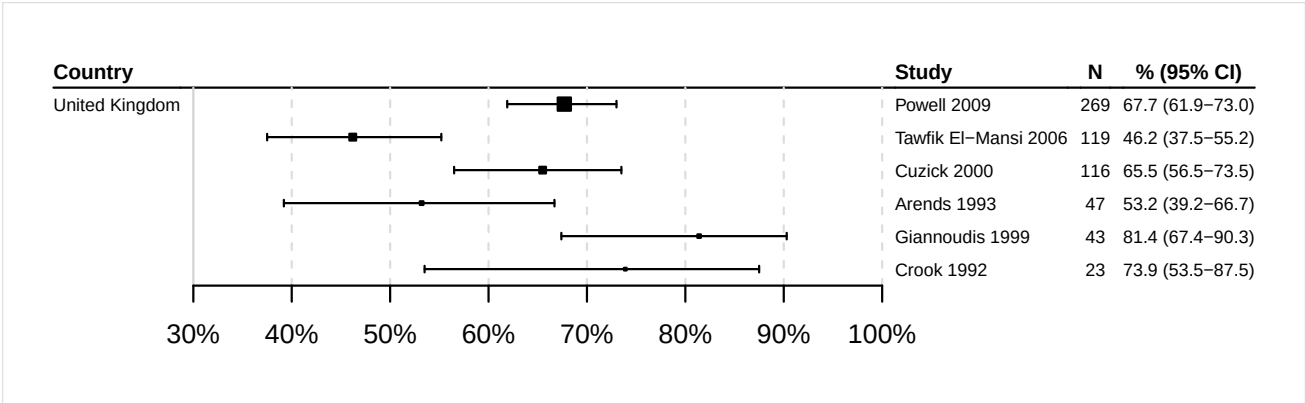


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women testedData Sources: See references in Section 9 [References](#).

Figure 76: Prevalence of HPV 16 among women with invasive cervical cancer in Europe by country and study (continued)

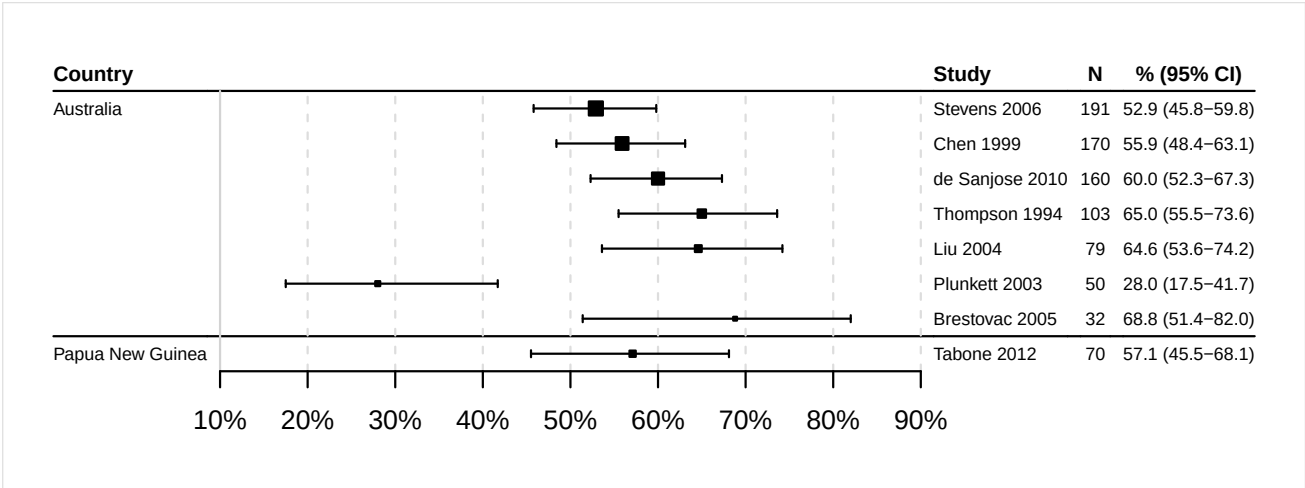


Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)
^a Number of women tested

Data Sources: See references in Section 9 [References](#).

Figure 77: Prevalence of HPV 16 among women with invasive cervical cancer in Oceania by country and study



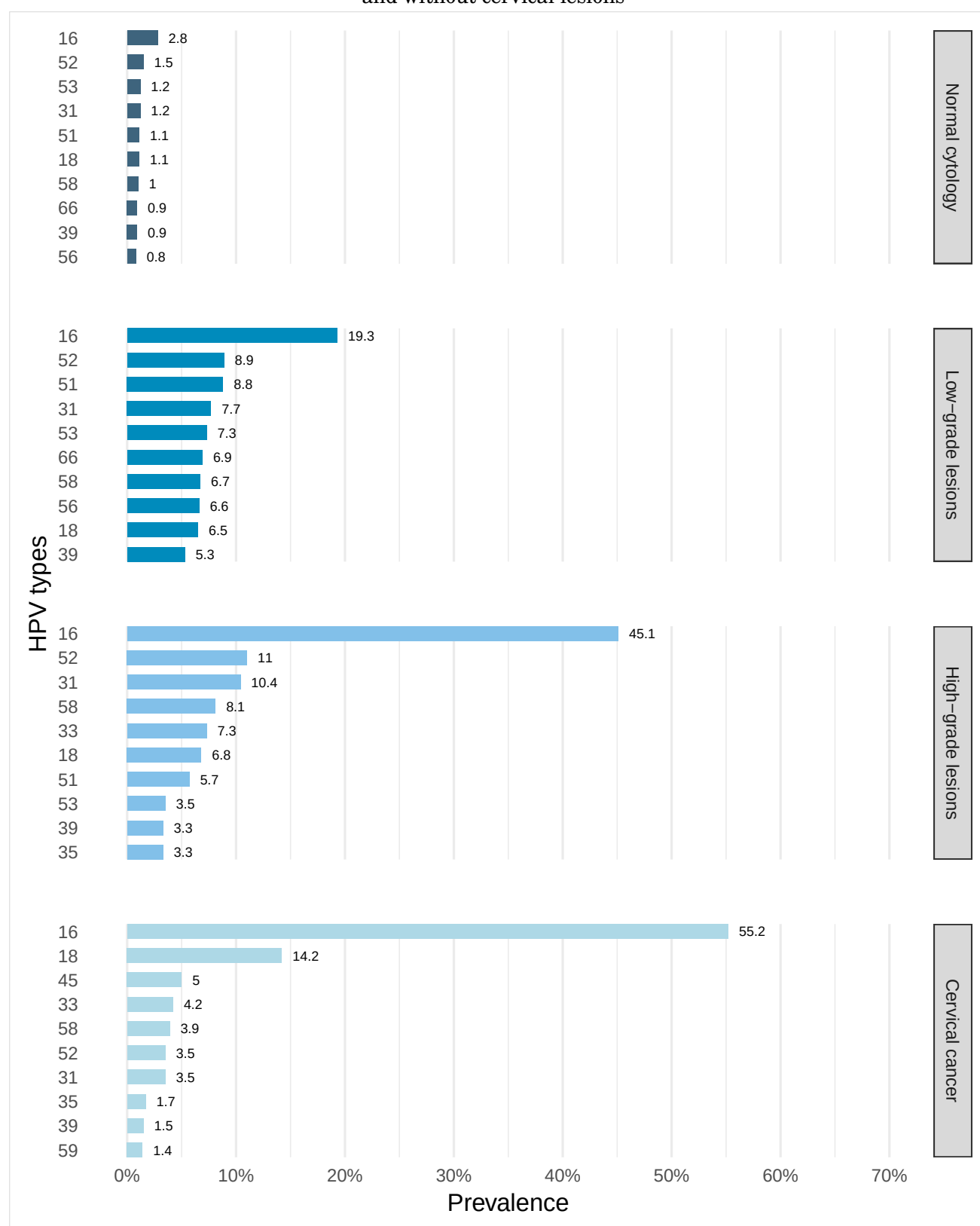
Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested

Data Sources: See references in Section 9 [References](#).

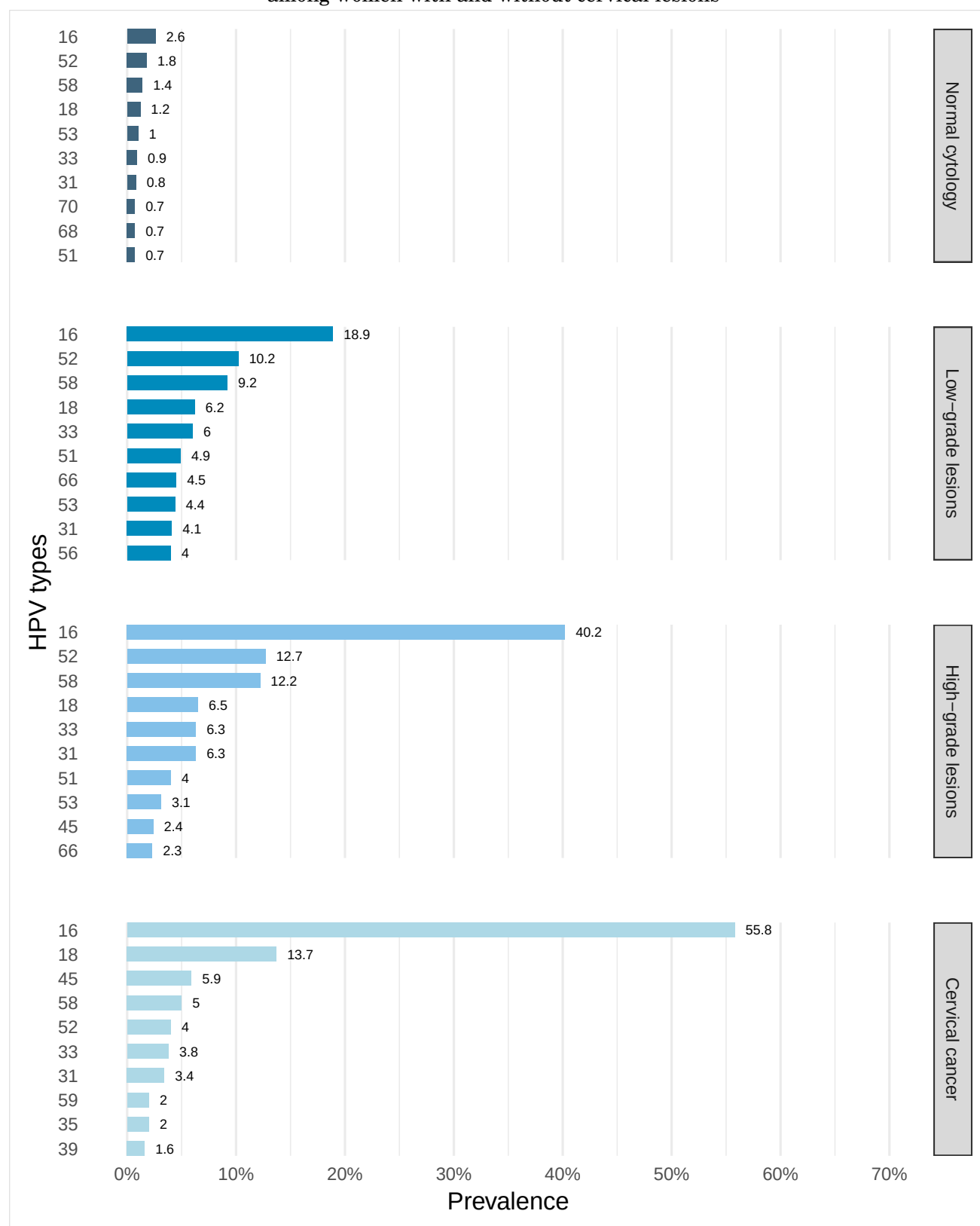
Figure 78: Comparison of the ten most frequent HPV oncogenic types in the **World** among women with and without cervical lesions



Data updated on 4 July 2022 (data as of 30 Jun 2015)

Data Sources: See references in Section 9 [References](#).

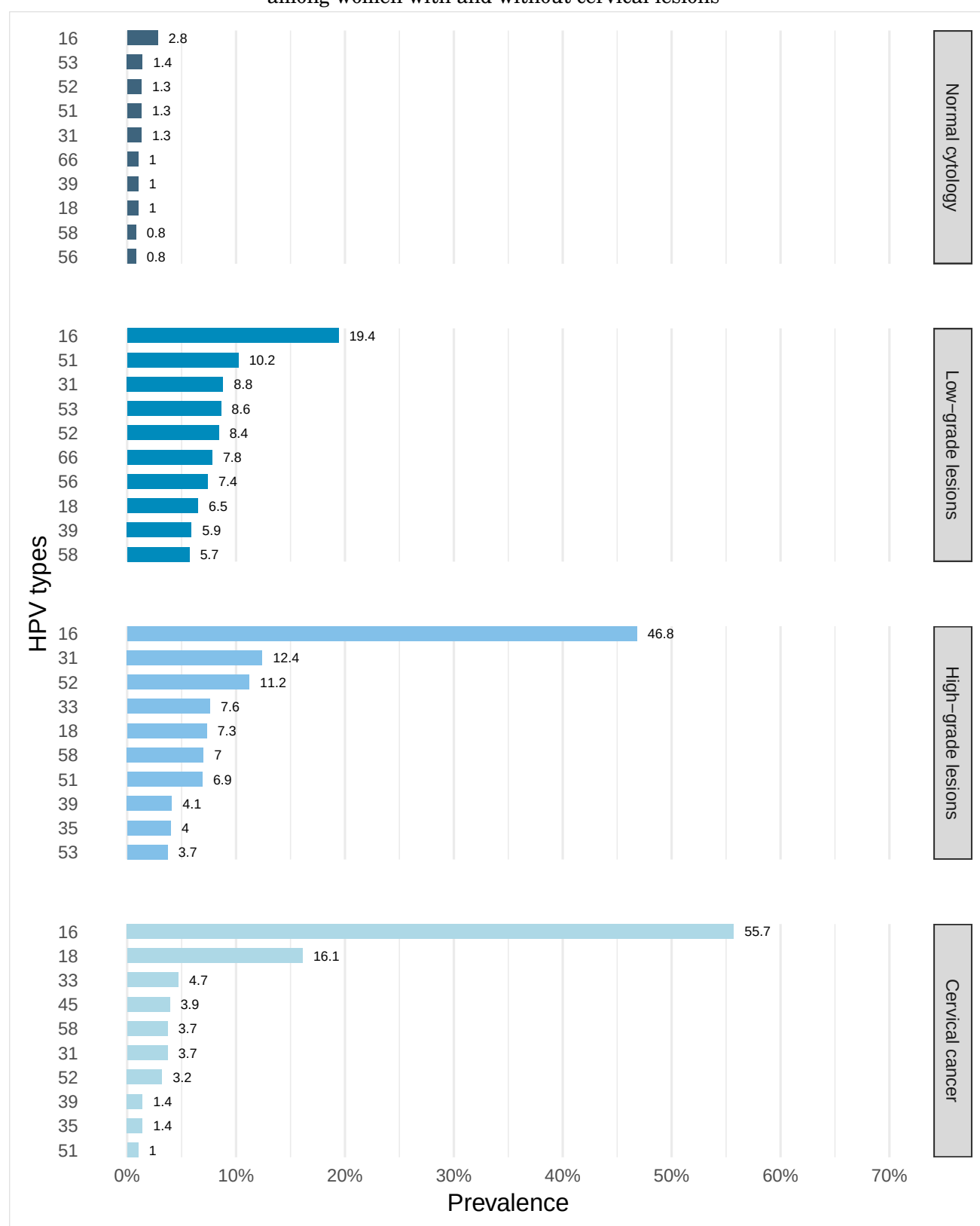
Figure 79: Comparison of the ten most frequent HPV oncogenic types in **less developed regions** among women with and without cervical lesions



Data updated on 4 July 2022 (data as of 30 Jun 2015)

Data Sources: See references in Section 9 [References](#).

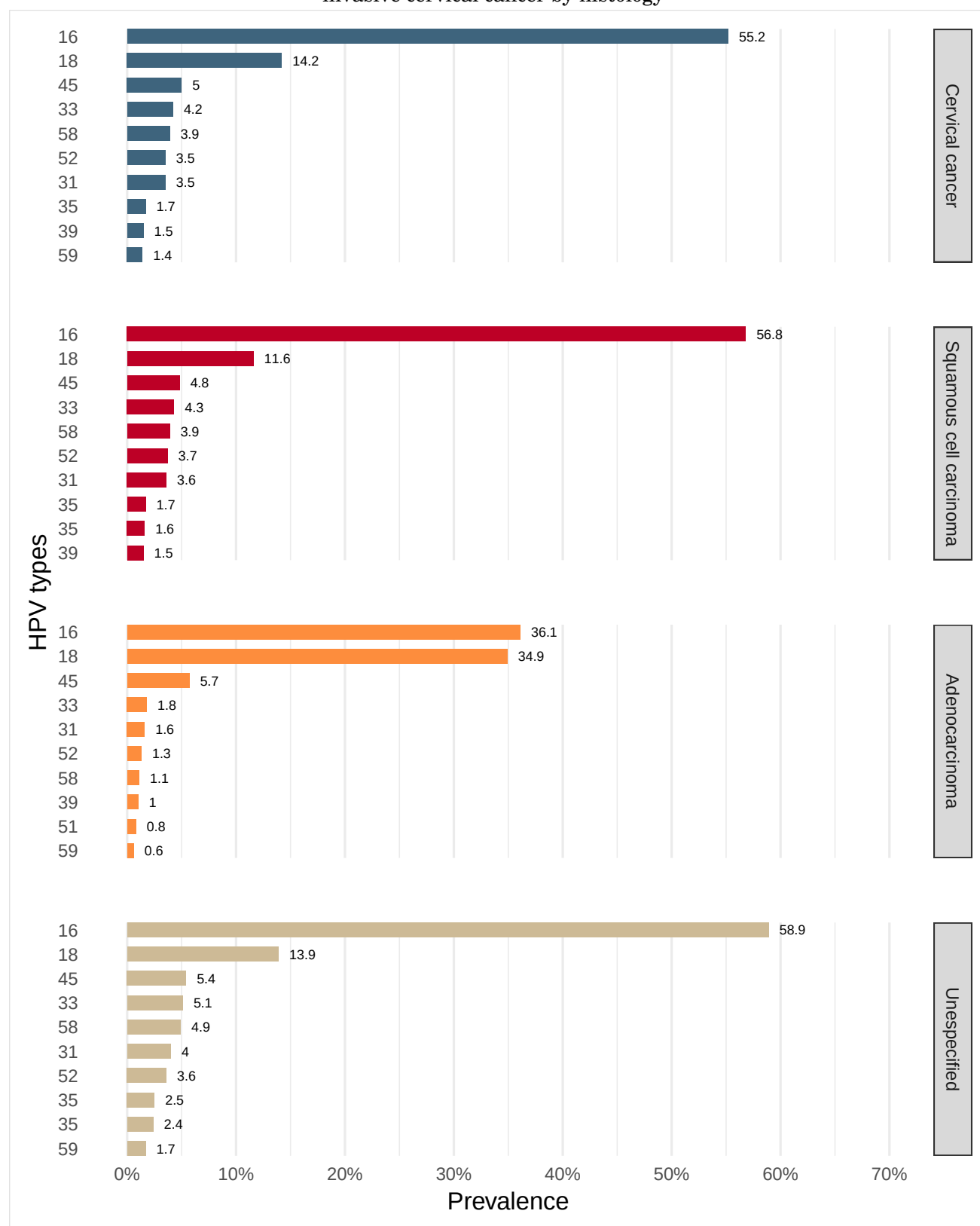
Figure 80: Comparison of the ten most frequent HPV oncogenic types in **more developed regions** among women with and without cervical lesions



Data updated on 4 July 2022 (data as of 30 Jun 2015)

Data Sources: See references in Section 9 [References](#).

Figure 81: Comparison of the ten most frequent HPV oncogenic types in the **World** among women with invasive cervical cancer by histology

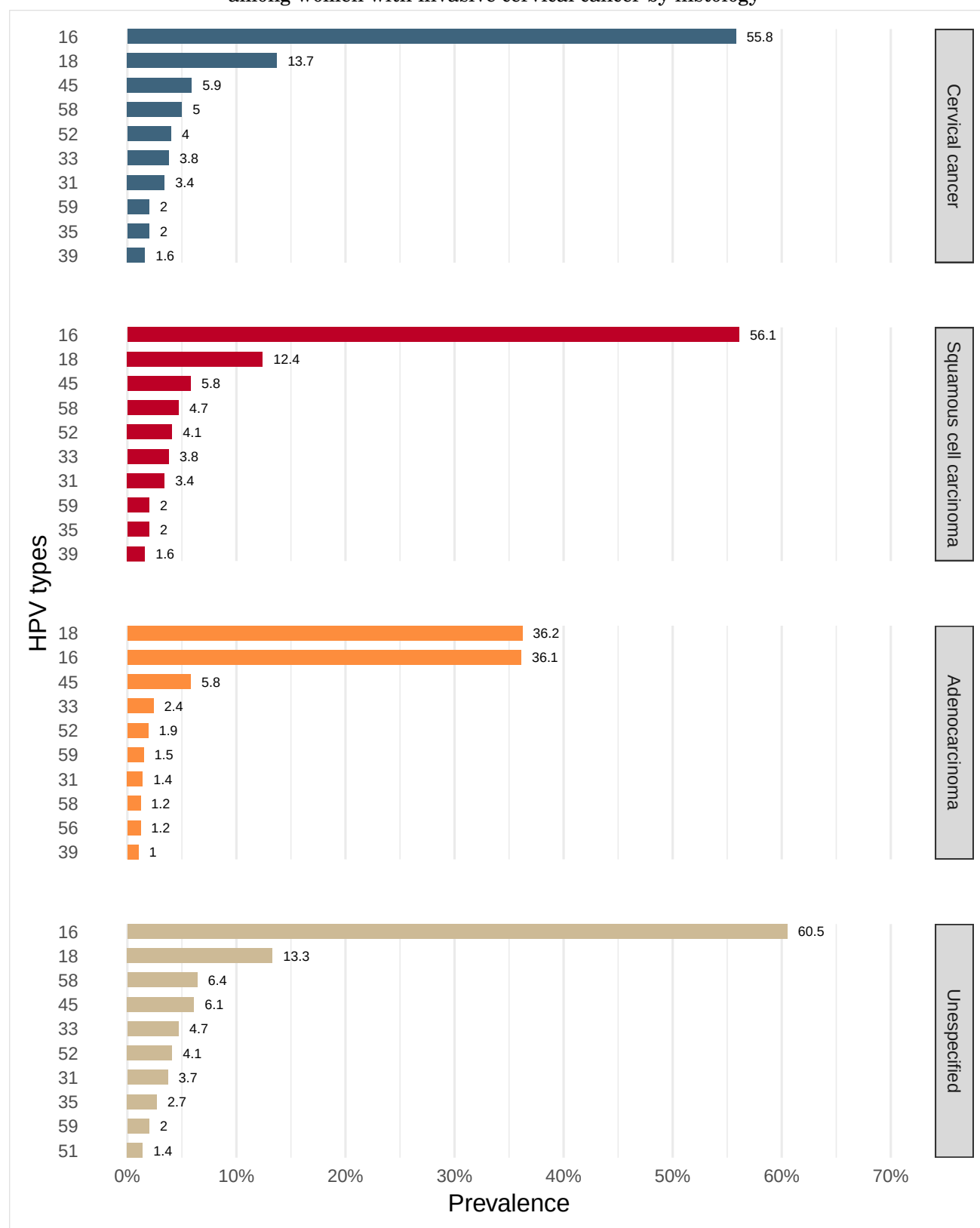


Data updated on 4 July 2022 (data as of 30 Jun 2015)

* No data available. No more types than shown were tested or were positive

Data Sources: See references in Section 9 [References](#).

Figure 82: Comparison of the ten most frequent HPV oncogenic types in **less developed regions** among women with invasive cervical cancer by histology

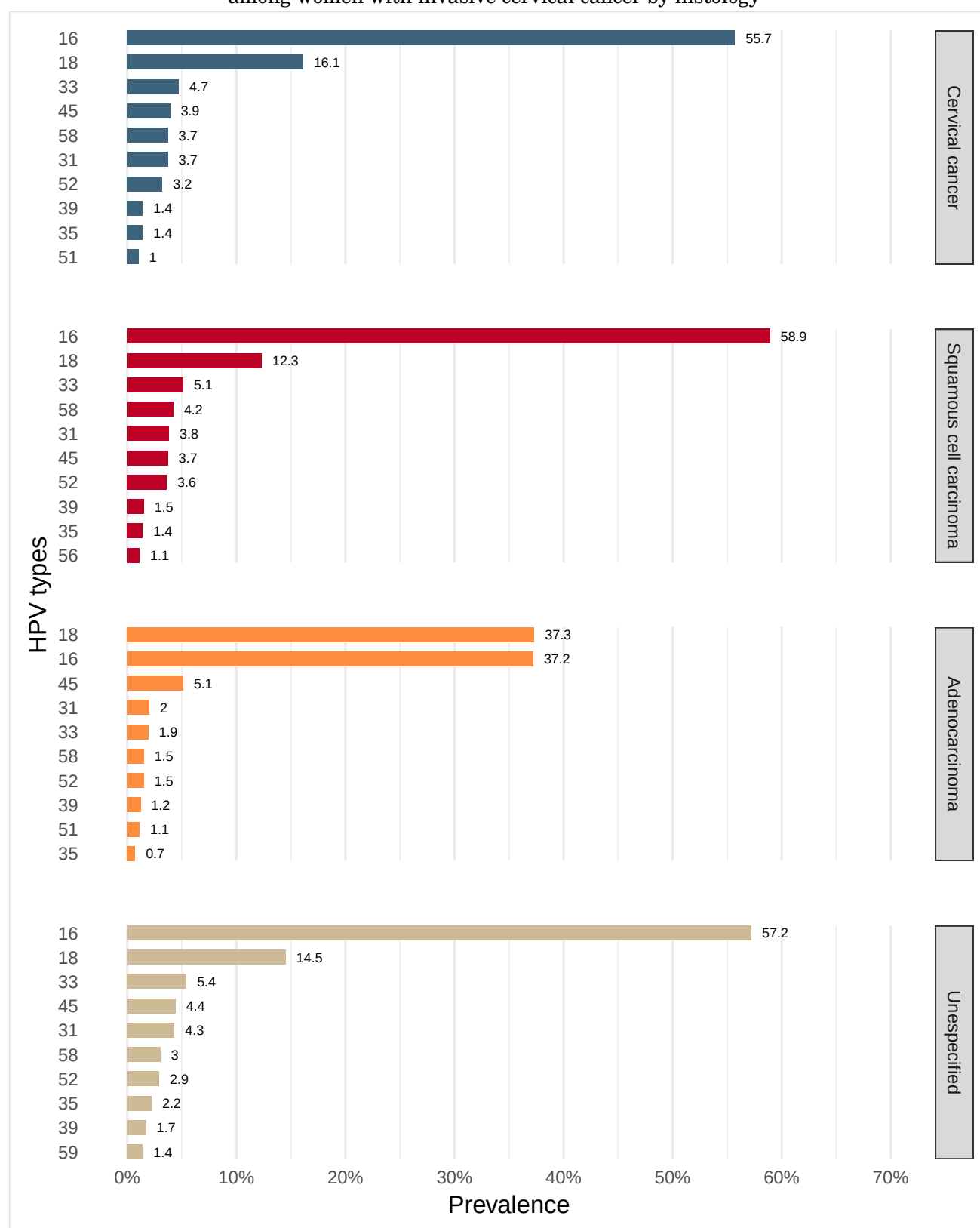


Data updated on 4 July 2022 (data as of 30 Jun 2015)

* No data available. No more types than shown were tested or were positive

Data Sources: See references in Section 9 [References](#).

Figure 83: Comparison of the ten most frequent HPV oncogenic types in **more developed regions** among women with invasive cervical cancer by histology



Data updated on 4 July 2022 (data as of 30 Jun 2015)

* No data available. No more types than shown were tested or were positive
 Data Sources: See references in Section 9 [References](#).

Table 29: Type-specific HPV prevalence in women with normal cervical cytology, precancerous cervical lesions and invasive cervical cancer in the World

HPV Type	Normal cytology		Low-grade lesions		High-grade lesions		Cervical cancer	
	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)
ONCOGENIC HPV TYPES								
High-risk HPV types								
16	453,184	2.8 (2.8-2.9)	38,177	19.3 (18.9-19.7)	50,202	45.1 (44.6-45.5)	58,796	55.2 (54.8-55.6)
18	440,810	1.1 (1.1-1.1)	37,748	6.5 (6.2-6.7)	49,743	6.8 (6.6-7.0)	58,380	14.2 (13.9-14.4)
31	415,367	1.2 (1.2-1.2)	36,170	7.7 (7.4-7.9)	48,538	10.4 (10.2-10.7)	52,417	3.5 (3.4-3.7)
33	413,075	0.7 (0.7-0.7)	35,733	4.7 (4.5-4.9)	48,592	7.3 (7.1-7.6)	53,804	4.2 (4.0-4.3)
35	396,307	0.5 (0.5-0.5)	31,095	3.0 (2.8-3.2)	44,703	3.3 (3.2-3.5)	47,634	1.7 (1.6-1.8)
39	389,537	0.9 (0.8-0.9)	28,820	5.3 (5.0-5.5)	43,746	3.3 (3.2-3.5)	46,420	1.5 (1.3-1.6)
45	394,993	0.7 (0.7-0.7)	31,289	3.2 (3.0-3.4)	44,801	3.0 (2.8-3.2)	47,048	5.0 (4.8-5.2)
51	387,242	1.1 (1.1-1.1)	27,270	8.8 (8.4-9.1)	43,888	5.7 (5.5-6.0)	44,674	1.0 (0.9-1.1)
52	394,732	1.5 (1.4-1.5)	29,132	8.9 (8.6-9.2)	44,723	11.0 (10.7-11.3)	49,978	3.5 (3.3-3.6)
56	393,968	0.8 (0.7-0.8)	28,534	6.6 (6.3-6.9)	43,134	2.5 (2.3-2.6)	46,019	1.0 (0.9-1.1)
58	403,023	1.0 (1.0-1.0)	30,214	6.7 (6.4-7.0)	44,798	8.1 (7.9-8.4)	50,814	3.9 (3.8-4.1)
59	380,168	0.7 (0.7-0.7)	27,049	3.9 (3.6-4.1)	41,553	2.1 (1.9-2.2)	46,703	1.4 (1.3-1.5)
Probable/possible carcinogen								
26	172,084	0.1 (0.1-0.1)	13,939	0.5 (0.4-0.7)	22,694	0.6 (0.5-0.7)	29,492	0.3 (0.2-0.3)
30	56,013	0.2 (0.2-0.3)	3,812	0.5 (0.3-0.8)	2,645	0.3 (0.1-0.5)	14,830	0.3 (0.2-0.4)
34	127,467	0.1 (0.1-0.1)	8,069	0.3 (0.2-0.4)	12,671	0.1 (0.0-0.2)	21,808	0.1 (0.1-0.1)
53	252,159	1.2 (1.2-1.2)	23,411	7.3 (7.0-7.7)	33,241	3.5 (3.3-3.7)	33,940	0.5 (0.5-0.6)
66	311,898	0.9 (0.9-0.9)	26,939	6.9 (6.6-7.2)	39,439	2.6 (2.5-2.8)	40,132	0.4 (0.4-0.5)
67	147,847	0.4 (0.3-0.4)	11,095	1.7 (1.5-2.0)	18,527	0.9 (0.8-1.0)	22,752	0.3 (0.2-0.3)
68	377,775	0.6 (0.6-0.6)	25,619	2.8 (2.6-3.0)	37,760	1.9 (1.8-2.1)	40,197	0.8 (0.8-0.9)
69	146,851	0.1 (0.1-0.1)	11,362	0.3 (0.2-0.4)	19,768	0.3 (0.2-0.4)	20,369	0.2 (0.1-0.3)
70	219,134	0.8 (0.7-0.8)	17,375	2.0 (1.8-2.2)	25,627	1.3 (1.2-1.5)	33,062	0.2 (0.2-0.3)
73	167,487	0.4 (0.4-0.4)	16,732	2.2 (2.0-2.4)	23,450	1.6 (1.4-1.7)	28,944	0.5 (0.4-0.6)
82	190,793	0.2 (0.2-0.3)	16,470	1.5 (1.4-1.7)	25,864	1.9 (1.7-2.0)	30,216	0.2 (0.1-0.2)
85	74,475	0.1 (0.1-0.2)	3,801	0.3 (0.2-0.5)	7,905	0.2 (0.1-0.3)	-	-
97	1,751	0.1 (0.0-0.3)	-	-	-	-	781	0.1 (0.0-0.7)
NON-ONCOGENIC HPV TYPES								
6	418,946	0.9 (0.8-0.9)	26,981	6.2 (5.9-6.5)	34,563	2.3 (2.2-2.5)	38,282	0.5 (0.4-0.5)
11	406,162	0.5 (0.4-0.5)	26,179	2.9 (2.7-3.1)	33,547	1.3 (1.2-1.5)	38,386	0.4 (0.4-0.5)
32	70,519	0.1 (0.1-0.2)	977	0.1 (0.0-0.6)	-	-	2,925	0.1 (0.0-0.2)
40	186,634	0.3 (0.3-0.3)	4,379	1.5 (1.2-1.9)	11,872	0.4 (0.3-0.5)	23,350	0.0 (0.0-0.0)
42	326,078	0.6 (0.5-0.6)	4,932	7.1 (6.4-7.8)	9,543	1.3 (1.1-1.6)	25,715	0.2 (0.2-0.3)
43	259,930	0.2 (0.2-0.2)	3,258	1.7 (1.3-2.2)	5,549	0.4 (0.3-0.6)	21,312	0.1 (0.0-0.1)
44	326,418	0.5 (0.5-0.5)	5,764	5.7 (5.1-6.3)	11,841	2.0 (1.7-2.2)	24,243	0.2 (0.2-0.3)
54	205,468	0.9 (0.8-0.9)	3,316	2.2 (1.8-2.8)	11,907	1.3 (1.1-1.5)	25,201	0.2 (0.2-0.3)
55	-	-	-	-	-	-	-	-
57	61,283	0.0 (0.0-0.0)	1,021	0.2 (0.1-0.7)	2,194	0.3 (0.2-0.7)	6,780	0.0 (0.0-0.1)
61	143,959	0.8 (0.8-0.9)	3,183	1.8 (1.4-2.3)	9,032	1.2 (1.0-1.5)	23,686	0.3 (0.2-0.3)
62	111,832	1.4 (1.4-1.5)	2,713	4.2 (3.5-5.0)	8,236	1.7 (1.4-1.9)	7,058	0.4 (0.3-0.5)
64	-	-	-	-	-	-	-	-
71	133,034	0.3 (0.3-0.3)	2,175	0.7 (0.5-1.2)	8,901	0.2 (0.2-0.4)	9,332	0.2 (0.1-0.3)
72	137,305	0.4 (0.4-0.4)	2,320	0.6 (0.3-1.0)	8,256	0.2 (0.2-0.4)	10,013	0.1 (0.1-0.2)
74	108,745	0.6 (0.6-0.7)	1,255	1.0 (0.6-1.8)	2,936	0.6 (0.4-1.0)	16,341	0.0 (0.0-0.1)
81	232,278	0.7 (0.7-0.8)	2,862	3.4 (2.8-4.1)	8,944	1.0 (0.8-1.2)	9,510	0.2 (0.1-0.3)
83	150,356	0.5 (0.5-0.6)	2,402	0.9 (0.6-1.3)	9,214	0.4 (0.3-0.6)	9,733	0.1 (0.1-0.2)
84	149,356	0.9 (0.8-0.9)	2,745	2.1 (1.7-2.8)	9,237	0.7 (0.6-0.9)	8,081	0.3 (0.2-0.5)
86	29,254	0.2 (0.1-0.2)	-	-	-	-	-	-
87	16,149	0.2 (0.2-0.3)	750	0.1 (0.0-0.8)	-	-	-	-
89	107,016	1.0 (0.9-1.0)	1,755	1.4 (0.9-2.0)	7,456	1.0 (0.8-1.2)	7,806	0.1 (0.1-0.3)
90	35,099	0.5 (0.4-0.6)	750	0.8 (0.4-1.7)	-	-	2,388	0.0 (0.0-0.2)
91	20,897	0.1 (0.1-0.2)	750	0.5 (0.2-1.4)	-	-	12,783	0.0 (0.0-0.1)

Data updated on 4 July 2022 (data as of 30 Jun 2015 / 30 Nov 2014)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)
 Data Sources: See references in Section 9 [References](#).

Table 30: Type-specific HPV prevalence among invasive cervical cancer cases in the World by histology

HPV Type	Any Histology		Squamous cell carcinoma		Adenocarcinoma		Unspecified	
	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)
ONCOGENIC HPV TYPES								
High-risk HPV types								
16	58,796	55.2 (54.8-55.6)	43,169	56.8 (56.4-57.3)	5,665	36.1 (34.8-37.3)	11,425	58.9 (58.0-59.8)
18	58,380	14.2 (13.9-14.4)	42,890	11.6 (11.3-11.9)	5,665	34.9 (33.7-36.1)	11,288	13.9 (13.2-14.5)
31	52,417	3.5 (3.4-3.7)	39,428	3.6 (3.4-3.8)	4,585	1.6 (1.3-2.0)	9,867	4.0 (3.6-4.4)
33	53,804	4.2 (4.0-4.3)	40,460	4.3 (4.1-4.5)	4,843	1.8 (1.5-2.2)	9,964	5.1 (4.7-5.5)
35	47,634	1.7 (1.6-1.8)	36,045	1.7 (1.5-1.8)	4,239	0.5 (0.3-0.8)	8,535	2.5 (2.2-2.9)
39	46,420	1.5 (1.3-1.6)	36,322	1.5 (1.4-1.7)	4,036	1.0 (0.7-1.3)	6,995	1.4 (1.2-1.8)
45	47,048	5.0 (4.8-5.2)	36,074	4.8 (4.6-5.0)	4,486	5.7 (5.1-6.4)	7,951	5.4 (4.9-5.9)
51	44,674	1.0 (0.9-1.1)	34,508	1.0 (0.9-1.1)	4,026	0.8 (0.6-1.1)	7,117	1.1 (0.9-1.4)
52	49,978	3.5 (3.3-3.6)	38,761	3.7 (3.5-3.9)	4,408	1.3 (1.0-1.7)	8,272	3.6 (3.2-4.0)
56	46,019	1.0 (0.9-1.1)	35,990	1.0 (0.9-1.1)	4,113	0.5 (0.3-0.7)	7,335	0.8 (0.7-1.1)
58	50,814	3.9 (3.8-4.1)	39,001	3.9 (3.8-4.1)	4,236	1.1 (0.9-1.5)	9,040	4.9 (4.5-5.3)
59	46,703	1.4 (1.3-1.5)	36,685	1.4 (1.3-1.5)	4,161	0.6 (0.4-0.9)	7,276	1.7 (1.5-2.1)
Probable/possible carcinogen								
26	29,492	0.3 (0.2-0.3)	-	-	-	-	-	-
30	14,830	0.3 (0.2-0.4)	12,564	0.3 (0.2-0.4)	1,072	0.1 (0.0-0.5)	1,255	0.1 (0.0-0.4)
34	21,808	0.1 (0.1-0.1)	17,035	0.1 (0.1-0.2)	1,912	0.1 (0.0-0.3)	2,996	0.1 (0.1-0.3)
53	33,940	0.5 (0.5-0.6)	-	-	-	-	-	-
66	40,132	0.4 (0.4-0.5)	31,190	0.4 (0.4-0.5)	3,714	0.2 (0.1-0.4)	6,021	0.6 (0.4-0.8)
67	22,752	0.3 (0.2-0.3)	18,225	0.3 (0.2-0.4)	1,750	0.1 (0.0-0.3)	3,231	0.2 (0.1-0.4)
68	40,197	0.8 (0.8-0.9)	30,913	0.8 (0.7-0.9)	3,694	0.3 (0.1-0.5)	5,723	0.8 (0.6-1.0)
69	20,369	0.2 (0.1-0.3)	-	-	-	-	-	-
70	33,062	0.2 (0.2-0.3)	-	-	-	-	-	-
73	28,944	0.5 (0.4-0.6)	-	-	-	-	-	-
82	30,216	0.2 (0.1-0.2)	22,855	0.2 (0.1-0.2)	2,226	0.0 (0.0-0.3)	4,912	0.3 (0.2-0.5)
85	-	-	-	-	-	-	-	-
97	781	0.1 (0.0-0.7)	781	0.1 (0.0-0.7)	-	-	-	-
NON-ONCOGENIC HPV TYPES								
6	38,282	0.5 (0.4-0.5)	-	-	-	-	-	-
11	38,386	0.4 (0.4-0.5)	-	-	-	-	-	-
32	2,925	0.1 (0.0-0.2)	-	-	-	-	-	-
40	23,350	0.0 (0.0-0.0)	-	-	-	-	-	-
42	25,715	0.2 (0.2-0.3)	20,975	0.2 (0.1-0.2)	1,839	0.1 (0.0-0.3)	3,691	0.4 (0.2-0.6)
43	21,312	0.1 (0.0-0.1)	-	-	-	-	-	-
44	24,243	0.2 (0.2-0.3)	20,154	0.2 (0.1-0.3)	1,840	0.1 (0.0-0.4)	3,135	0.4 (0.2-0.7)
54	25,201	0.2 (0.2-0.3)	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-
57	6,780	0.0 (0.0-0.1)	-	-	-	-	-	-
61	23,686	0.3 (0.2-0.3)	-	-	-	-	-	-
62	7,058	0.4 (0.3-0.5)	-	-	-	-	-	-
64	-	-	-	-	-	-	-	-
71	9,332	0.2 (0.1-0.3)	-	-	-	-	-	-
72	10,013	0.1 (0.1-0.2)	-	-	-	-	-	-
74	16,341	0.0 (0.0-0.1)	-	-	-	-	-	-
81	9,510	0.2 (0.1-0.3)	-	-	-	-	-	-
83	9,733	0.1 (0.1-0.2)	-	-	-	-	-	-
84	8,081	0.3 (0.2-0.5)	-	-	-	-	-	-
86	-	-	-	-	-	-	-	-
87	-	-	-	-	-	-	-	-
89	7,806	0.1 (0.1-0.3)	-	-	-	-	-	-
90	2,388	0.0 (0.0-0.2)	-	-	-	-	-	-
91	12,783	0.0 (0.0-0.1)	-	-	-	-	-	-

Data updated on 4 July 2022 (data as of 30 Jun 2015)

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells)

^a Number of women tested^b 95% Confidence IntervalData Sources: See references in Section 9 [References](#).

4.1.3 Terminology

Cytologically normal women

No abnormal cells are observed on the surface of their cervix upon cytology.

Cervical Intraepithelial Neoplasia (CIN) / Squamous Intraepithelial Lesions (SIL)

SIL and CIN are two commonly used terms to describe precancerous lesions or the abnormal growth of squamous cells observed in the cervix. SIL is an abnormal result derived from cervical cytological screening or Pap smear testing. CIN is a histological diagnosis made upon analysis of cervical tissue obtained by biopsy or surgical excision. The condition is graded as CIN 1, 2 or 3, according to the thickness of the abnormal epithelium (1/3, 2/3 or the entire thickness).

Low-grade cervical lesions (LSIL/CIN-1)

Low-grade cervical lesions are defined by early changes in size, shape, and number of abnormal cells formed on the surface of the cervix and may be referred to as mild dysplasia, LSIL, or CIN-1.

High-grade cervical lesions (HSIL/ CIN-2 / CIN-3 / CIS)

High-grade cervical lesions are defined by a large number of precancerous cells on the surface of the cervix that are distinctly different from normal cells. They have the potential to become cancerous cells and invade deeper tissues of the cervix. These lesions may be referred to as moderate or severe dysplasia, HSIL, CIN-2, CIN-3 or cervical carcinoma in situ (CIS).

Carcinoma in situ (CIS)

Preinvasive malignancy limited to the epithelium without invasion of the basement membrane. CIN 3 encompasses the squamous carcinoma in situ.

Invasive cervical cancer (ICC) / Cervical cancer

If the high-grade precancerous cells invade the basement membrane is called ICC. ICC stages range from stage I (cancer is in the cervix or uterus only) to stage IV (the cancer has spread to distant organs, such as the liver).

Invasive squamous cell carcinoma

Invasive carcinoma composed of cells resembling those of squamous epithelium.

Adenocarcinoma

Invasive tumour with glandular and squamous elements intermingled.

4.2 HPV burden in anogenital cancers other than cervix

Methods: Prevalence and type distribution of human papillomavirus in carcinoma of the vulva, vagina, anus and penis: systematic review and meta-analysis

A systematic review of the literature was conducted on the worldwide HPV-prevalence and type distribution for anogenital carcinomas other than cervix from January 1986 to 'data as of' indicated in each section. The search terms for the review were 'HPV' AND (anus OR anal) OR (penile) OR vagin* OR vulv* using Pubmed. There were no limits in publication language. References cited in selected articles were also investigated. Inclusion criteria were: HPV DNA detection by means of PCR, a minimum of 10 cases by lesion and a detailed description of HPV DNA detection and genotyping techniques used. The number of cases tested and HPV positive cases were extracted for each study to estimate the prevalence of HPV DNA and the HPV type distribution. Binomial 95% confidence intervals were calculated for each HPV prevalence.

4.2.1 Anal cancer and precancerous anal lesions

Anal cancer is similar to cervical cancer with respect to overall HPV DNA positivity, with approximately 100% of anal squamous cell carcinoma cases associated with HPV infection worldwide (de Martel C et al. Lancet Glob Health 2020;8(2):e180-e190). HPV16 is the most common type detected, representing 73% of all HPV-positive tumours. HPV18 is the second most common type detected and is found in approximately 5% of cases. HPV DNA is also detected in the majority of precancerous anal lesions (AIN) (91.5% in AIN1 and 93.9% in AIN2/3) (De Vuyst H et al. Int J Cancer 2009; 124: 1626-36). In this section, the burden of HPV among cases of anal cancers and precancerous anal lesions in the World are presented.

Table 31: Studies on HPV prevalence among anal cancer cases in the World (male and female)

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
France	Abramowitz 2011	PCR-SPF10, (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 82)	728	96.7	(95.1-97.8)	HPV 16 (75.5), HPV 18 (5.9), HPV 11 (3.7), HPV 6 (3.0), HPV 52 (2.6)
Bangladesh	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	52	80.8	(68.1-89.2)	HPV 16 (67.3), HPV 18 (3.8), HPV 35 (3.8), HPV 56 (1.9), HPV 58 (1.9)
Bosnia & Herzegovina	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)
Chile	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	157	90.4	(84.8-94.1)	HPV 16 (70.1), HPV 33 (5.7), HPV 58 (3.2), HPV 18 (2.5), HPV 31 (1.9)
Colombia	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	157	90.4	(84.8-94.1)	HPV 16 (70.1), HPV 33 (5.7), HPV 58 (3.2), HPV 18 (2.5), HPV 31 (1.9)
Czechia	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)

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Table 31 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
Germany	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)
Ecuador	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	157	90.4	(84.8-94.1)	HPV 16 (70.1), HPV 33 (5.7), HPV 58 (3.2), HPV 18 (2.5), HPV 31 (1.9)
Spain	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)
France	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)
United Kingdom	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)
Guatemala	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	157	90.4	(84.8-94.1)	HPV 16 (70.1), HPV 33 (5.7), HPV 58 (3.2), HPV 18 (2.5), HPV 31 (1.9)
Honduras	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	157	90.4	(84.8-94.1)	HPV 16 (70.1), HPV 33 (5.7), HPV 58 (3.2), HPV 18 (2.5), HPV 31 (1.9)
India	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	52	80.8	(68.1-89.2)	HPV 16 (67.3), HPV 18 (3.8), HPV 35 (3.8), HPV 56 (1.9), HPV 58 (1.9)
Republic of Korea	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	52	80.8	(68.1-89.2)	HPV 16 (67.3), HPV 18 (3.8), HPV 35 (3.8), HPV 56 (1.9), HPV 58 (1.9)
Mexico	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	157	90.4	(84.8-94.1)	HPV 16 (70.1), HPV 33 (5.7), HPV 58 (3.2), HPV 18 (2.5), HPV 31 (1.9)
Mali	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	21	61.9	(40.9-79.2)	HPV 16 (28.6), HPV 18 (9.5), HPV 6 (9.5), HPV 31 (4.8), HPV 35 (4.8)

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Table 31 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Nigeria	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	21	61.9	(40.9-79.2)	HPV 16 (28.6), HPV 18 (9.5), HPV 6 (9.5), HPV 31 (4.8), HPV 35 (4.8)
Poland	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)
Portugal	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)
Paraguay	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	157	90.4	(84.8-94.1)	HPV 16 (70.1), HPV 33 (5.7), HPV 58 (3.2), HPV 18 (2.5), HPV 31 (1.9)
Senegal	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	21	61.9	(40.9-79.2)	HPV 16 (28.6), HPV 18 (9.5), HPV 6 (9.5), HPV 31 (4.8), HPV 35 (4.8)
Slovenia	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	169	87.6	(81.8-91.7)	HPV 16 (73.4), HPV 18 (3.6), HPV 6 (3.6), HPV 11 (3.0), HPV 33 (2.4)
United States of America	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	96	95.8	(89.8-98.4)	HPV 16 (81.3), HPV 18 (7.3), HPV 31 (4.2), HPV 39 (3.1), HPV 52 (3.1)
United Kingdom	Baricevic 2015	PCR-L1C1/C2, PCR L1-Consensus primer, PCR-E6, PCR-E7, PCR-MULTIPLEX (HPV 6, 11, 16, 18, 31, 33, 45, 52, 58)	151	95.4	(90.7-97.7)	HPV 16 (88.7), HPV 6 (11.9), HPV 33 (6.6), HPV 18 (4.6), HPV 58 (4.6)
United States of America	Daling 2004	PCR-MY09/11, PCR L1-Consensus primer, RFLP, TS (HPV 16, 18)	199	86.9	(81.5-90.9)	HPV 16 (69.8), HPV 18 (8.5)
Australia	Hillman 2014	PCR L1-Consensus primer, (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 82)	105	97.1	(91.9-99.0)	HPV 16 (77.1), HPV 52 (13.3), HPV 6 (10.5), HPV 54 (9.5), HPV 11 (5.7)
Italy	Indinnimeo 1999	PCR, TS (HPV 6, 11, 16, 18)	14	64.3	(38.8-83.7)	HPV 16 (42.9)
Sweden	Laytragoon-Lewin 2007	PCR-MY09/11, Sequencing (HPV 16, 18, 33)	72	90.3	(81.3-95.2)	HPV 16 (69.4), HPV 18 (34.7), HPV 33 (2.8)
Canada	Ouhoumane 2013	PCR L1-Consensus primer, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84, 89)	96	91.7	(84.4-95.7)	HPV 16 (82.3), HPV 33 (3.1), HPV 6 (3.1), HPV 18 (2.1), HPV 58 (2.1)
United States of America	Palefsky 1991	PCR-E6, TS (HPV 06/11, 16, 18, 31, 33)	13	84.6	(57.8-95.7)	HPV 16 (76.9), HPV 31 (23.1), HPV 6/11 (15.4), HPV 33 (7.7)

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Table 31 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Germany	Rödel 2015	PCR-SPF10, PCR-MULTIPLEX, (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 81, 82)	91	100.0	(95.9-100.0)	HPV 16 (94.5), HPV 11 (2.2), HPV 31 (2.2), HPV 35 (2.2), HPV 18 (1.1)
Denmark	Serup-Hansen 2014	PCR-E6, PCR-E7, PCR-MULTIPLEX (HPV 16, 18, 31, 33, 45, 52, 58)	137	87.6	(81.0-92.1)	HPV 16 (81.0), HPV 33 (5.1), HPV 18 (2.2), HPV 58 (0.7)
Czechia	Tachezy 2011	PCR L1-Consensus primer, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	26	73.1	(53.9-86.3)	HPV 16 (73.1)
France	Valmary-Degano 2013	PCR-E6, (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 82)	73	98.6	(92.6-99.8)	HPV 16 (89.0), HPV 39 (4.1), HPV 33 (2.7), HPV 11 (1.4), HPV 18 (1.4)
Germany	Varnai 2006	PCR-MY09/11, TS, Sequencing (HPV 6, 11, 16, 18, 31, 33, 45, 58)	47	83.0	(69.9-91.1)	HPV 16 (74.5), HPV 33 (6.4), HPV 18 (2.1), HPV 31 (2.1), HPV 45 (2.1)
France	Vincent-Salomon 1996	PCR L1-Consensus primer, PCR-E6, TS (HPV 6, 11, 16, 18, 33)	27	74.1	(55.3-86.8)	HPV 16 (63.0), HPV 18 (7.4)
Republic of Korea	Yhim 2011	PCR, TS (HPV 6, 11, 16, 18, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 56, 58, 59, 66, 68, 69)	47	74.5	(60.5-84.7)	HPV 16 (66.0), HPV 58 (6.4), HPV 35 (2.1)
Republic of Korea	Youk 2001	PCR-MY09/11, PCR-L1C1/C2, PCR-E6, PCR-E7, TS (HPV 16, 18)	21	100.0	(84.5-100.0)	HPV 16 (100.0)
United States of America	Zaki 1992	PCR L1-Consensus primer, TS (HPV 6, 11, 16, 18, 16/18)	11	72.7	(43.4-90.3)	HPV 16 (18.2), HPV 11 (9.1), HPV 16/18 (9.1), HPV 6 (9.1)

Data updated on 4 July 2022 (data as of 30 Jun 2015)

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

^a 95% Confidence Interval

Data Sources: See references in Section 9 [References](#).

Table 32: Studies on HPV prevalence among cases of AIN2/3 in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Bosnia & Herzegovina	Aleman 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)
Chile	Aleman 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	12	100.0	(75.8-100.0)	HPV 16 (91.7), HPV 11 (8.3), HPV 6 (8.3)

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Table 32 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
Colombia	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	12	100.0	(75.8-100.0)	HPV 16 (91.7), HPV 11 (8.3), HPV 6 (8.3)
Czechia	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)
Germany	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)
Ecuador	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	12	100.0	(75.8-100.0)	HPV 16 (91.7), HPV 11 (8.3), HPV 6 (8.3)
Spain	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)
France	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)
United Kingdom	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)
Guatemala	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	12	100.0	(75.8-100.0)	HPV 16 (91.7), HPV 11 (8.3), HPV 6 (8.3)
Honduras	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	12	100.0	(75.8-100.0)	HPV 16 (91.7), HPV 11 (8.3), HPV 6 (8.3)
Mexico	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	12	100.0	(75.8-100.0)	HPV 16 (91.7), HPV 11 (8.3), HPV 6 (8.3)
Poland	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)

Continued on next page

Table 32 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Portugal	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)
Paraguay	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	12	100.0	(75.8-100.0)	HPV 16 (91.7), HPV 11 (8.3), HPV 6 (8.3)
Slovenia	Alemaný 2015	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	23	95.7	(79.0-99.2)	HPV 16 (65.2), HPV 18 (8.7), HPV 51 (8.7), HPV 6 (8.7), HPV 74 (8.7)
United Kingdom	Fox 2005	, PCR-MY09/11, (HPV 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59)	74	97.3	(90.7-99.3)	HPV 16 (64.9), HPV 18 (25.7), HPV 33 (24.3), HPV 58 (21.6), HPV 31 (18.9)
Spain	García-Espinosa 2013	PCR-GP5/6, PCR L1-Consensus primer, DBH (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 61, 66, 68, 70, 71, 72, 73, 81, 82, 84)	20	100.0	(83.9-100.0)	HPV 16 (50.0), HPV 58 (35.0), HPV 44 (35.0), HPV 31 (30.0), HPV 43 (30.0)
Canada	Gohy 2008	PCR-MY09/11, (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84, 89)	62	93.5	(84.6-97.5)	HPV 16 (35.5), HPV 58 (16.1), HPV 18 (16.1), HPV 42 (9.7), HPV 45 (9.7)
Germany	Hampl 2006	, PCR-MY09/11, Sequencing (HPV 6, 11, 20, 21, 22, 23, 26, 30, 32)	16	87.5	(64.0-96.5)	
Australia	Hillman 2012	HC2, LBA (HPV 16, 18, 31, 33)	21	95.2	(77.3-99.2)	HPV 16 (33.3), HPV 31 (19.0), HPV 18 (4.8)
Thailand	Phanuphak 2013	PCR L1-Consensus primer, PCR-E6, PCR-E7, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84)	41	82.9	(68.7-91.5)	HPV 40 (51.2), HPV 53 (26.8), HPV 16 (24.4), HPV 11 (19.5), HPV 58 (17.1)
Netherlands	Richel 2014	PCR L1-Consensus primer, PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 67, 68, 69, 70, 73, 74)	17	100.0	(81.6-100.0)	HPV 16 (58.8), HPV 31 (17.6), HPV 18 (11.8), HPV 53 (11.8), HPV 58 (11.8)
United States of America	Sahasrabuddhe 2013	PCR-PGMY09/11, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84)	104	99.0	(94.8-99.8)	HPV 16 (54.8), HPV 6 (26.0), HPV 31 (22.1), HPV 42 (22.1), HPV 66 (21.2)
Canada	Salit 2009	PCR-PGMY09/11, PCR L1-Consensus primer, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 66, 68)	74	100.0	(95.1-100.0)	HPV 16 (52.7), HPV 18 (32.4), HPV 31 (31.1), HPV 6 (28.4), HPV 52 (27.0)

Continued on next page

Table 32 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Germany	Silling 2012	PCR- MULTIPLEX (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 61, 66, 67, 68, 70, 71, 72, 73, 81, 82, 83, 84, 89)	42	100.0	(91.6-100.0)	HPV 16 (69.0), HPV 11 (23.8), HPV 18 (23.8), HPV 6 (19.0), HPV 67 (19.0)
Spain	Sirera 2013	PCR- MULTIPLEX (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68)	69	84.1	(73.7-90.9)	HPV 16 (55.1), HPV 58 (34.8), HPV 33 (29.0), HPV 51 (23.2), HPV 18 (21.7)
Italy	Tanzi 2009	PCR-MY09/11, PCR L1-Consensus primer, RFLP (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 81, 83, 84)	62	91.9	(82.5-96.5)	HPV 6 (38.7), HPV 16 (37.1), HPV 11 (27.4), HPV 58 (8.1), HPV 18 (4.8)
Spain	Torres 2013	LBA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84)	44	97.7	(88.2-99.6)	HPV 16 (59.1), HPV 6 (34.1), HPV 66 (31.8), HPV 52 (29.5), HPV 53 (29.5)
Germany	Varnai 2006	, PCR-MY09/11, TS, Sequencing (HPV 6, 11, 16, 18, 31, 33, 45, 58)	24	95.8	(79.8-99.3)	HPV 16 (70.8), HPV 11 (12.5), HPV 6 (8.3), HPV 58 (4.2)
Germany	Wieland 2006	PCR, EIA (HPV 6, 11, 16, 18, 31, 33, 34, 35, 42, 44, 45, 52, 53, 54, 56, 58, 59, 66, 68, 70, 72, 73, 81, 82, 83, 84, 89)	18	100.0	(82.4-100.0)	HPV 16 (88.9), HPV 18 (44.4), HPV 83 (38.9), HPV 52 (33.3), HPV 58 (27.8)

Data updated on 4 July 2022 (data as of 30 Jun 2015)

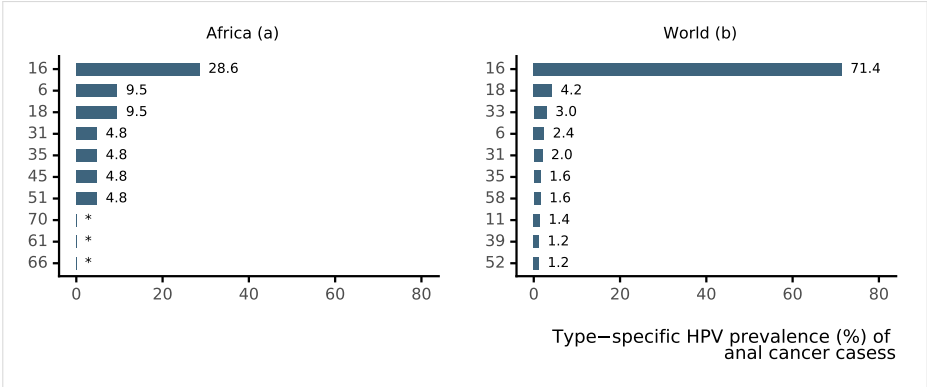
DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

AIN 2/3: Anal intraepithelial neoplasia of grade 2/3

^a 95% Confidence Interval

Data Sources: See references in Section 9 [References](#).

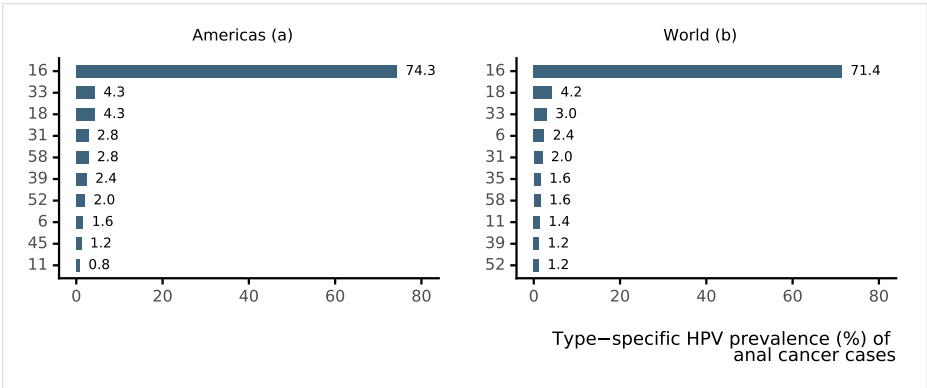
Figure 84: Comparison of the ten most frequent HPV types in anal cancer cases in **Africa** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

^a Includes cases from Mali, Nigeria and Senegal
^b Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay and United States); Africa (Mali, Nigeria and Senegal); Asia (Bangladesh, India and South Korea)
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

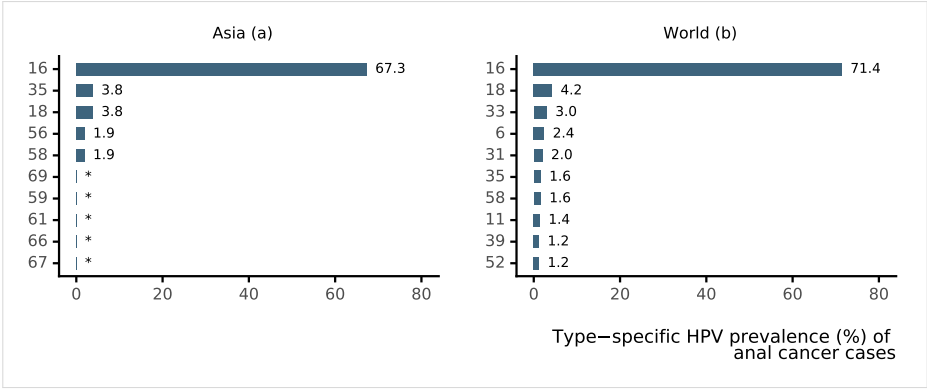
Figure 85: Comparison of the ten most frequent HPV types in anal cancer cases in **the Americas** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

^a Includes cases from Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay and United States
^b Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay and United States); Africa (Mali, Nigeria and Senegal); Asia (Bangladesh, India and South Korea)
Data Sources: See references in Section 9 [References](#).

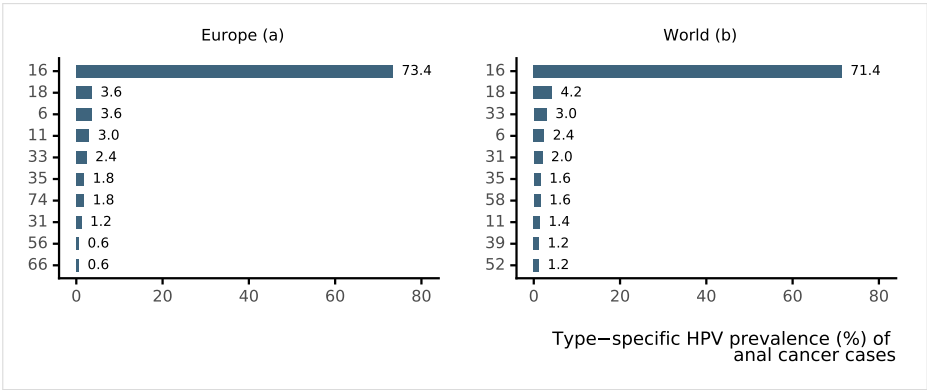
Figure 86: Comparison of the ten most frequent HPV types in anal cancer cases in **Asia** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

^a Includes cases from Bangladesh, India and South Korea
^b Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay and United States); Africa (Mali, Nigeria and Senegal); Asia (Bangladesh, India and South Korea)
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

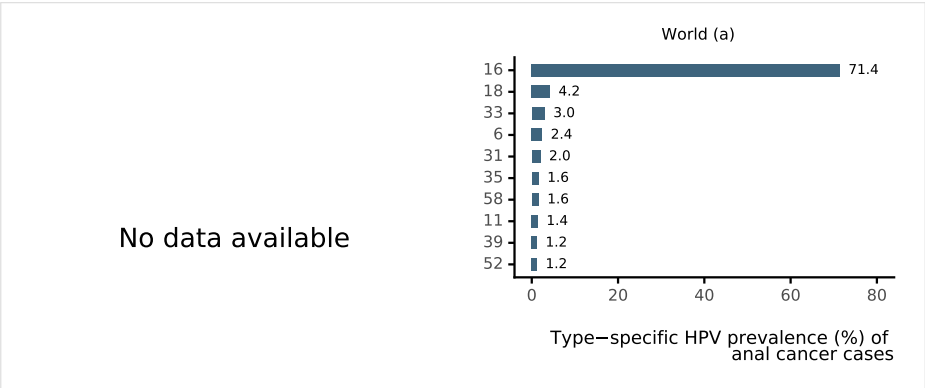
Figure 87: Comparison of the ten most frequent HPV types in anal cancer cases in **Europe** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

^a Includes cases from Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom
^b Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay and United States); Africa (Mali, Nigeria and Senegal); Asia (Bangladesh, India and South Korea)
Data Sources: See references in Section 9 [References](#).

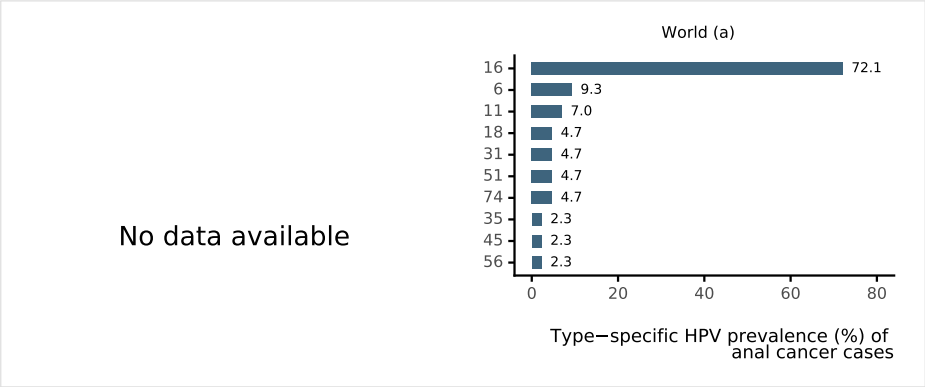
Figure 88: Comparison of the ten most frequent HPV types in anal cancer cases in **Oceania** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

^a Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay and United States); Africa (Mali, Nigeria and Senegal); Asia (Bangladesh, India and South Korea)
Data Sources: See references in Section 9 [References](#).

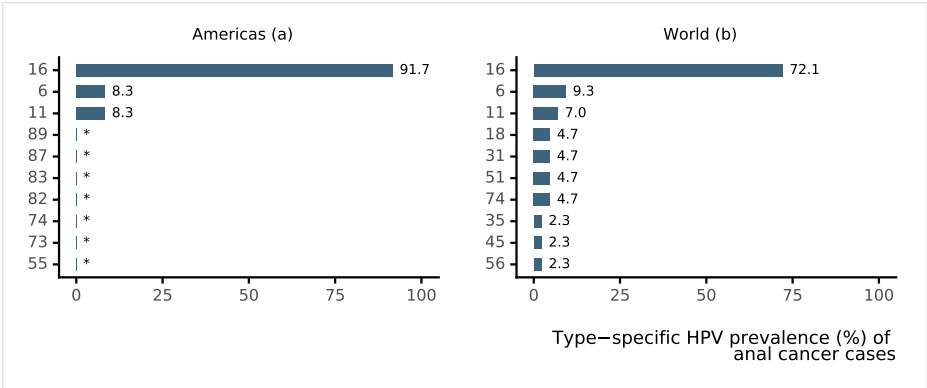
Figure 89: Comparison of the ten most frequent HPV types in AIN 2/3 cases in **Africa** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

AIN 2/3: Anal intraepithelial neoplasia of grade 2/3
^a Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay)
Data Sources: See references in Section 9 [References](#).

Figure 90: Comparison of the ten most frequent HPV types in AIN 2/3 cases in **the Americas** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2014)

AIN 2/3: Anal intraepithelial neoplasia of grade 2/3

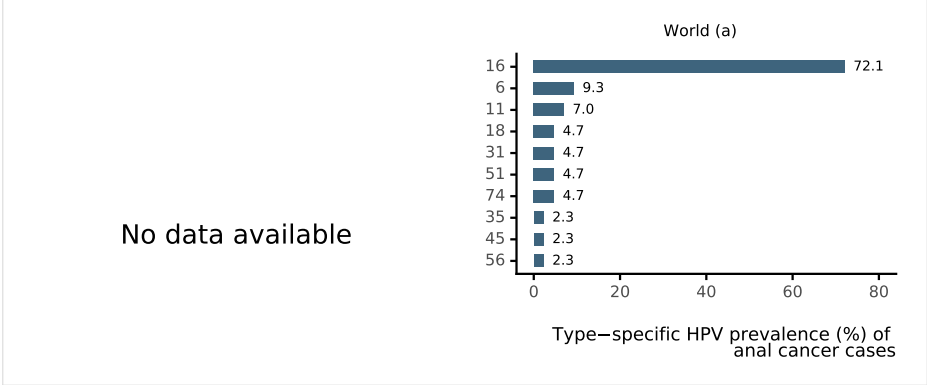
^a Includes cases from Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay

^b Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay)

* No data available. No more types than shown were tested or were positive.

Data Sources: See references in Section 9 [References](#).

Figure 91: Comparison of the ten most frequent HPV types in AIN 2/3 cases in **Asia** and the **World**



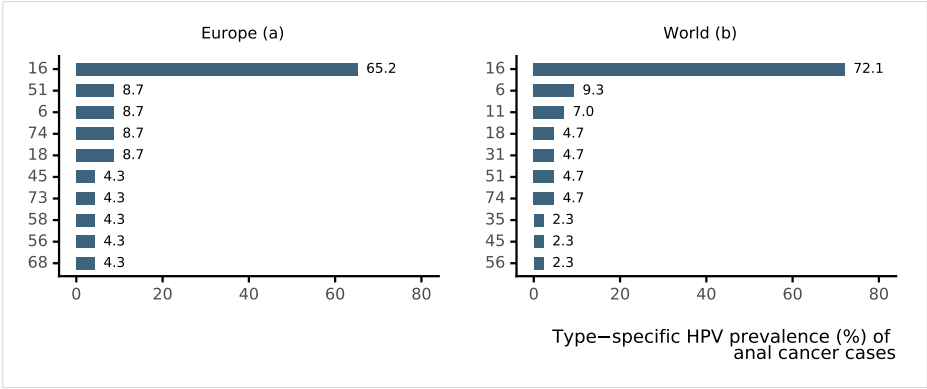
Data updated on 4 July 2022 (data as of 30 Jun 2014)

AIN 2/3: Anal intraepithelial neoplasia of grade 2/3

^a Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay)

Data Sources: See references in Section 9 [References](#).

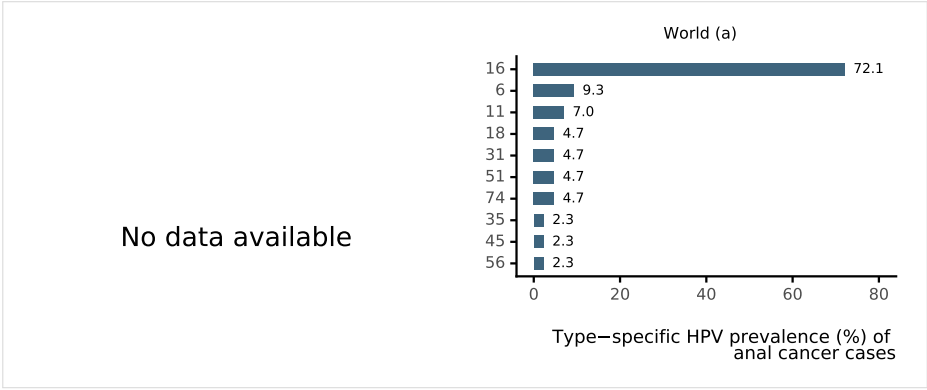
Figure 92: Comparison of the ten most frequent HPV types in AIN 2/3 cases in **Europe** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

AIN 2/3: Anal intraepithelial neoplasia of grade 2/3
a Includes cases from Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom
b Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay)
Data Sources: See references in Section 9 [References](#).

Figure 93: Comparison of the ten most frequent HPV types in AIN 2/3 cases in **Oceania** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

AIN 2/3: Anal intraepithelial neoplasia of grade 2/3
a Includes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay)
Data Sources: See references in Section 9 [References](#).

4.2.2 Vulvar cancer and precancerous vulvar lesions

HPV attribution for vulvar cancer is 48% among age 15-54 years, 28% among age 55-64 years, and 15% among age 65+ worldwide (de Martel C et al. Lancet Glob Health 2020;8(2):e180-e190). Vulvar cancer has two distinct histological patterns with two different risk factor profiles: (1) basaloid/warty types (2) keratinising types. Basaloid/warty lesions are more common in young women, are frequently found adjacent to VIN, are very often associated with HPV DNA detection (86%), and have a similar risk factor profile as cervical cancer. Keratinising vulvar carcinomas represent the majority of the vulvar lesions (>60%). These lesions develop from non HPV-related chronic vulvar dermatoses, especially lichen sclerosus and/or squamous hyperplasia, their immediate cancer precursor lesion is differentiated VIN, they occur more often in older women, and are rarely associated with HPV (6%) or with any of the other risk factors typical of cervical cancer. HPV prevalence is frequently detected among cases of high-grade VIN (VIN2/3) (85.3%). HPV 16 is the most common type detected followed by HPV 33 (De Vuyst H et al. Int J Cancer 2009; 124: 1626-36). In this section, the HPV burden among cases of vulvar cancer cases and precancerous vulvar lesions in the World are presented.

Table 33: Studies on HPV prevalence among vulvar cancer cases in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
United Kingdom	Abdel-Hady 2001	TS (HPV 6, 11, 16, 18, 31, 33)	11	27.3	(9.7-56.6)	HPV 16 (27.3), HPV 33 (18.2), HPV 18 (9.1)
Spain	Alonso 2011	PCR-SPF10, (HPV 6, 11, 16, 18, 31, 33, 35, 42, 45, 51, 52, 53, 54, 56, 58, 66)	98	19.4	(12.8-28.3)	HPV 16 (14.3), HPV 33 (2.0), HPV 31 (1.0), HPV 51 (1.0), HPV 52 (1.0)
Italy	Bonvicini 2005	PCR-MY09/11 (HPV 16, 18, 31, 33, 35, 45, 52, 58)	16	0	(0.0-19.4)	
Denmark	Bryndorf 2004	PCR-SPF10, (HPV 6, 11, 16, 18, 31, 33, 35, 42, 44, 45, 51, 52, 56, 58)	10	60	(31.3-83.2)	HPV 16 (40.0), HPV 33 (20.0), HPV 56 (10.0)
Poland	Bujko 2012	PCR, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 61, 66, 68, 70, 71, 72, 73, 81, 82, 83, 84)	44	34.1	(21.9-48.9)	HPV 16 (20.5), HPV 11 (11.4), HPV 44 (4.5), HPV 52 (4.5), HPV 58 (4.5)
Germany	Choschzick 2011	PCR-MY09/11, Sequencing (HPV 6, 11, 16, 18, 33)	39	46.2	(31.6-61.4)	HPV 16 (43.6), HPV 33 (2.6)
Argentina	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
Australia	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	220	40	(33.8-46.6)	HPV 16 (27.3), HPV 33 (3.6), HPV 18 (2.7), HPV 39 (1.4), HPV 6 (1.4)
Austria	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Bangladesh	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)

Continued on next page

Table 33 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Bosnia & Herzegovina	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Belarus	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Brazil	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
Chile	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
Colombia	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
Czechia	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Germany	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Ecuador	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
Spain	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
France	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
United Kingdom	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)

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Table 33 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
Greece	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Guatemala	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
Honduras	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
India	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)
Israel	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)
Italy	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Republic of Korea	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)
Kuwait	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)
Lebanon	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)
Mexico	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
Mali	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	24	70.8	(50.8-85.1)	HPV 16 (58.3), HPV 18 (4.2), HPV 45 (4.2), HPV 52 (4.2)

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Table 33 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
Mozambique	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	24	70.8	(50.8-85.1)	HPV 16 (58.3), HPV 18 (4.2), HPV 45 (4.2), HPV 52 (4.2)
Nigeria	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	24	70.8	(50.8-85.1)	HPV 16 (58.3), HPV 18 (4.2), HPV 45 (4.2), HPV 52 (4.2)
New Zealand	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	220	40	(33.8-46.6)	HPV 16 (27.3), HPV 33 (3.6), HPV 18 (2.7), HPV 39 (1.4), HPV 6 (1.4)
Philippines	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)
Poland	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Portugal	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	903	19.3	(16.8-22.0)	HPV 16 (13.8), HPV 33 (1.2), HPV 18 (0.6), HPV 31 (0.6), HPV 44 (0.4)
Paraguay	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
Senegal	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	24	70.8	(50.8-85.1)	HPV 16 (58.3), HPV 18 (4.2), HPV 45 (4.2), HPV 52 (4.2)
Turkey	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)
Taiwan	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1), HPV 18 (1.6), HPV 44 (1.6), HPV 45 (1.1), HPV 52 (1.1)
Uruguay	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)

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Table 33 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
United States of America	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	50	50	(36.6-63.4)	HPV 16 (34.0), HPV 33 (8.0), HPV 18 (2.0), HPV 44 (2.0), HPV 58 (2.0)
Venezuela	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	324	40.1	(34.9-45.5)	HPV 16 (25.3), HPV 18 (2.8), HPV 45 (2.5), HPV 33 (2.2), HPV 6 (1.2)
United States of America	Gargano 2012	PCR-SPF10, LBA, (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 81, 82, 83, 84)	176	68.8	(61.6-75.1)	HPV 16 (48.3), HPV 33 (10.2), HPV 52 (2.8), HPV 18 (1.7), HPV 31 (1.1)
Spain	Guerrero 2011	PCR L1-Consensus primer, (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 61, 66, 68, 70, 71, 72, 73, 81, 82, 83, 84)	30	16.7	(7.3-33.6)	HPV 59 (10.0), HPV 16 (3.3), HPV 18 (3.3), HPV 6 (3.3)
Germany	Hampl 2006	PCR-MY09/11, Sequencing (HPV 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 35, 42, 44, 45, 51, 52, 56, 58, 61, 67, 73, 91)	48	60.4	(46.3-73.0)	HPV 16 (39.6), HPV 33 (8.3), HPV 31 (4.2), HPV 18 (2.1)
Denmark	Hørding 1993	PCR-E6, PCR-E7, TS (HPV 6, 11, 16, 18, 33)	62	30.6	(20.6-43.0)	HPV 16 (21.0), HPV 18 (4.8), HPV 33 (4.8)
Denmark	Hørding 1994	PCR-E6, PCR-E7, TS (HPV 6, 11, 16, 18, 33)	78	30.8	(21.6-41.7)	HPV 16 (28.2), HPV 33 (3.8)
Finland	Iwasawa 1997	PCR-MY09/11, PCR L1-Consensus primer, PCR-E6, TS (HPV 6, 11, 16, 18, 33)	74	36.5	(26.4-47.9)	HPV 16 (25.7), HPV 18 (12.2), HPV 33 (1.4)
Netherlands	Kagie 1997	PCR-CPI/CPIIG, Sequencing (HPV 6, 11, 16, 31, 33, 45)	66	19.7	(11.9-30.8)	HPV 16 (16.7), HPV 33 (1.5), HPV 45 (1.5)
United States of America	Kim 1996	PCR-MY09/11, PCR L1-Consensus primer, TS, Sequencing (HPV 16, 18)	18	38.9	(20.3-61.4)	HPV 16 (27.8), HPV 18 (5.6)
Sweden	Larsson 2012	PCR-E6, (HPV 6, 11, 16, 18, 31, 33, 39, 45, 51, 52, 56, 58, 59)	130	30.8	(23.5-39.2)	HPV 16 (23.8), HPV 33 (3.8), HPV 18 (1.5), HPV 56 (0.8), HPV 59 (0.8)
Spain	Lerma 1999	PCR L1-Consensus primer, TS (HPV 16, 18)	57	12.3	(6.1-23.2)	HPV 16 (12.3)
Sweden	Lindell 2010	PCR-CPI/CPIIG, TS, Sequencing (HPV 6, 11, 16, 18, 33, 52)	75	30.7	(21.4-41.8)	HPV 16 (21.3), HPV 18 (2.7), HPV 33 (2.7), HPV 52 (1.3)
Poland	Liss 1998	PCR-MY09/11, PCR L1-Consensus primer, PCR-E6, PCR-E7, RFLP (HPV 6, 11, 16, 18, 31, 33, 35, 45, 52, 58)	18	16.7	(5.8-39.2)	HPV 16 (16.7)
United States of America	Madeleine 1997	PCR-MY09/11, PCR L1-Consensus primer, PCR-E6, RFLP (HPV 16)	55	50.9	(38.1-63.6)	HPV 16 (43.6)
Denmark	Madsen 2008	EIA, (HPV 6, 11, 16, 18, 31, 33, 35, 42, 44, 45, 51, 52, 56, 58, 61, 67, 73)	60	51.7	(39.3-63.8)	HPV 16 (36.7), HPV 33 (11.7), HPV 73 (3.3), HPV 51 (1.7), HPV 6 (1.7)
Germany	Milde-Langosch 1995	PCR-MY09/11, TS (HPV 6, 11, 16, 18, 31, 33, 35)	40	27.5	(16.1-42.8)	HPV 16 (25.0)

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Table 33 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Japan	Nagano 1996	PCR-L1C1/C2, RFLP (HPV 6, 11, 16, 18, 30, 31, 33, 34, 35, 39, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 68, 70)	11	72.7	(43.4-90.3)	HPV 16 (36.4), HPV 18 (9.1), HPV 51 (9.1), HPV 56 (9.1), HPV 6 (9.1)
Thailand	Ngamkham 2013	EIA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 66, 68, 70, 71, 72, 73, 81, 82, 83, 84, 89)	25	44	(26.7-62.9)	HPV 16 (36.0), HPV 33 (8.0), HPV 35 (8.0), HPV 18 (4.0), HPV 58 (4.0)
Japan	Osakabe 2007	PCR-L1C1/C2, RFLP (HPV 6, 11, 16, 18, 31, 33, 42, 52, 58)	21	23.8	(10.6-45.1)	HPV 16 (14.3), HPV 52 (4.8), HPV 6 (4.8)
Brazil	Pinto 1999	PCR L1-Consensus primer, PCR-E6, TS (HPV 06/11, 16, 18, 40, 42, 43, 44, 45, 51, 52, 54, 56, 58)	158	24.1	(18.1-31.3)	HPV 16 (16.5), HPV 18 (9.5), HPV 6/11 (1.3), HPV 45 (0.6)
Germany	Reuschenbach 2013	PCR- MULTIPLEX (HPV 6, 11, 16, 18, 31, 33, 35, 39, 42, 43, 44, 45, 51, 52, 56, 58, 59, 68, 70, 71, 73, 82)	183	43.7	(36.7-51.0)	HPV 16 (36.1), HPV 18 (2.7), HPV 33 (1.1), HPV 11 (0.5), HPV 31 (0.5)
Germany	Riethdorf 2004	PCR L1-Consensus primer, TS (HPV 16)	71	87.3	(77.6-93.2)	HPV 16 (87.3)
United States of America	Riethdorf 2004	PCR L1-Consensus primer, TS (HPV 16)	71	87.3	(77.6-93.2)	HPV 16 (87.3)
United States of America	Sutton 2008	PCR L1-Consensus primer, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 70, 71, 72, 73, 81, 82, 83, 84)	116	69.8	(60.9-77.4)	HPV 16 (56.0), HPV 33 (10.3), HPV 45 (3.4), HPV 52 (2.6), HPV 6 (2.6)
Czechia	Tachezy 2011	PCR L1-Consensus primer, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	46	41.3	(28.3-55.7)	HPV 16 (23.9), HPV 33 (8.7), HPV 42 (2.2), HPV 45 (2.2), HPV 6 (2.2)
Australia	Tan 2013	PCR L1-Consensus primer, (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 82)	20	90	(69.9-97.2)	HPV 16 (80.0), HPV 33 (5.0), HPV 35 (5.0), HPV 52 (5.0), HPV 54 (5.0)
United States of America	Tate 1994	PCR-MY09/11, PCR L1-Consensus primer, RFLP (HPV 16, 33)	13	53.8	(29.1-76.8)	HPV 16 (46.2), HPV 33 (7.7)
Netherlands	Trietsch 2013	PCR, (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 82)	108	16.7	(10.8-24.8)	HPV 16 (10.2), HPV 33 (5.6), HPV 18 (1.9)
Netherlands	van de Nieuwenhof 2009	PCR L1-Consensus primer, (HPV 6, 11, 16, 18, 31, 33, 35, 42, 45, 51, 52, 53, 54, 56, 58, 66, 73)	130	34.6	(27.0-43.1)	HPV 16 (15.4), HPV 33 (5.4), HPV 18 (2.3), HPV 52 (1.5), HPV 54 (1.5)
Netherlands	van der Avoort 2006	PCR L1-Consensus primer, PCR-SPF10, (HPV 6, 11, 16, 18, 31, 33, 35, 42, 44, 45, 51, 52, 56, 58)	16	0	(0.0-19.4)	

Data updated on 4 July 2022 (data as of 30 Jun 2015)

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

^a 95% Confidence IntervalData Sources: See references in Section 9 [References](#).

Table 34: Studies on HPV prevalence among VIN 2/3 cases in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		
				%	(95% CI) ^a	Prevalence of 5 most frequent HPVs, HPV type (%)
United Kingdom	Abdel-Hady 2001	TS (HPV 06/11, 16, 18, 31, 33)	32	71.9	(54.6-84.4)	HPV 16 (62.5), HPV 6/11 (18.8), HPV 31 (3.1), HPV 33 (3.1)
United Kingdom	Baldwin 2003	PCR L1-Consensus primer, Sequencing (HPV 6, 11, 16, 18, 31, 33)	11	100	(74.1-100.0)	HPV 16 (90.9), HPV 33 (9.1)
Italy	Bonvicini 2005	PCR-MY09/11 (HPV 16, 18, 31, 33, 35, 45, 52, 58)	25	44	(26.7-62.9)	HPV 16 (36.0), HPV 35 (8.0), HPV 33 (4.0), HPV 52 (4.0)
United Kingdom	Bryant 2011	PCR- MULTIPLEX (HPV 6, 11, 16, 18, 31, 33, 35, 40, 42, 43, 44, 45, 51, 52, 53, 56, 58, 59, 66, 73)	49	81.6	(68.6-90.0)	HPV 16 (67.3), HPV 33 (16.3), HPV 6 (10.2), HPV 18 (2.0), HPV 31 (2.0)
United Kingdom	Daayana 2010	EIA, (HPV 6, 11, 16, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84)	19	78.9	(56.7-91.5)	HPV 16 (73.7), HPV 33 (5.3), HPV 42 (5.3), HPV 84 (5.3)
Argentina	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
Australia	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	125	94.4	(88.9-97.3)	HPV 16 (71.2), HPV 33 (10.4), HPV 18 (4.0), HPV 31 (3.2), HPV 51 (1.6)
Austria	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Bangladesh	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)
Bosnia & Herzegovina	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Belarus	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Brazil	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
Chile	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)

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Table 34 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Colombia	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
Czechia	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Germany	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Ecuador	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
Spain	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
France	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
United Kingdom	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Greece	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Guatemala	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
Honduras	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
India	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)

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Table 34 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
Israel	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)
Italy	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Republic of Korea	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)
Kuwait	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)
Lebanon	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)
Mexico	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
New Zealand	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	125	94.4	(88.9-97.3)	HPV 16 (71.2), HPV 33 (10.4), HPV 18 (4.0), HPV 31 (3.2), HPV 51 (1.6)
Philippines	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)
Poland	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Portugal	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	312	86.9	(82.7-90.2)	HPV 16 (69.6), HPV 33 (11.2), HPV 18 (2.2), HPV 6 (1.6), HPV 52 (1.3)
Paraguay	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)

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Table 34 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
Turkey	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)
Taiwan	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100	(83.9-100.0)	HPV 16 (80.0), HPV 18 (5.0), HPV 33 (5.0), HPV 35 (5.0), HPV 54 (5.0)
Uruguay	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
Venezuela	de Sanjosé 2013	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	126	77.8	(69.8-84.2)	HPV 16 (57.1), HPV 33 (8.7), HPV 6 (4.8), HPV 31 (4.0), HPV 11 (1.6)
United States of America	Gargano 2012	PCR-SPF10, LBA, (HPV 16, 18, 33, 52, 59)	68	97.1	(89.9-99.2)	HPV 16 (80.9), HPV 33 (8.8), HPV 59 (2.9), HPV 18 (1.5)
Germany	Hampl 2006	PCR-MY09/11, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 35, 42, 44, 45, 51, 52, 56, 58, 61, 67, 73, 74, 91)	168	100	(97.8-100.0)	HPV 16 (79.8), HPV 33 (10.7), HPV 31 (4.2), HPV 18 (3.0)
Denmark	Junge 1995	PCR-E6, PCR-E7, TS (HPV 6, 11, 16, 18, 31, 33)	58	87.9	(77.1-94.0)	HPV 16 (77.6), HPV 33 (10.3)
Spain	Lerma 1999	PCR L1-Consensus primer, TS (HPV 16, 18)	18	27.8	(12.5-50.9)	HPV 16 (27.8)
United States of America	Madeleine 1997	PCR-MY09/11, PCR L1-Consensus primer, PCR-E6, RFLP (HPV 16)	253	71.5	(65.7-76.7)	HPV 16 (61.7)
Germany	Riethdorf 2004	PCR L1-Consensus primer, TS (HPV 16)	60	68.3	(55.8-78.7)	HPV 16 (68.3)
United States of America	Riethdorf 2004	PCR L1-Consensus primer, TS (HPV 16)	60	68.3	(55.8-78.7)	HPV 16 (68.3)
United States of America	Srodon 2006	PCR-MY09/11, PCR-SPF10, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	34	100	(89.8-100.0)	HPV 16 (91.2), HPV 18 (5.9), HPV 35 (5.9), HPV 11 (2.9), HPV 33 (2.9)
Czechia	Tachezy 2011	PCR L1-Consensus primer, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	94	94.7	(88.1-97.7)	HPV 16 (71.3), HPV 33 (8.5), HPV 18 (5.3), HPV 6 (4.3), HPV 11 (2.1)
Australia	Tan 2013	PCR L1-Consensus primer, (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 82)	44	90.9	(78.8-96.4)	HPV 16 (68.2), HPV 26 (4.5), HPV 33 (4.5), HPV 52 (4.5), HPV 82 (4.5)

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Table 34 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Greece	Tsimplaki 2012	(HPV 6, 11, 16, 18, 31, 33, 35, 40, 42, 43, 44, 45, 51, 52, 53, 56, 58, 59, 66, 73)	14	78.6	(52.4-92.4)	HPV 16 (64.3), HPV 18 (7.1), HPV 51 (7.1), HPV 52 (7.1), HPV 53 (7.1)
Netherlands	van Beurden 1995	PCR-CPI/CPIIG, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 45)	46	95.7	(85.5-98.8)	HPV 16 (89.1), HPV 33 (2.2), HPV 45 (2.2)
Netherlands	van der Avoort 2006	PCR L1-Consensus primer, PCR-SPF10, (HPV 6, 11, 16, 18, 31, 33, 35, 42, 43, 44, 45, 51, 52, 56, 58, 59, 74)	32	56.3	(39.3-71.8)	HPV 16 (40.6), HPV 31 (6.3), HPV 6 (6.3), HPV 33 (3.1)
Netherlands	van Esch 2014	TS (HPV 16, 18, 33, 73)	43	100	(91.8-100.0)	HPV 16 (81.4), HPV 33 (14.0), HPV 73 (2.3)
United Kingdom	Winters 2008	EIA, (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 61, 66, 68, 70, 71, 72, 73, 81, 82, 83, 84)	20	85	(64.0-94.8)	HPV 16 (75.0), HPV 18 (5.0), HPV 33 (5.0)

Data updated on 4 July 2022 (data as of 30 Jun 2015)

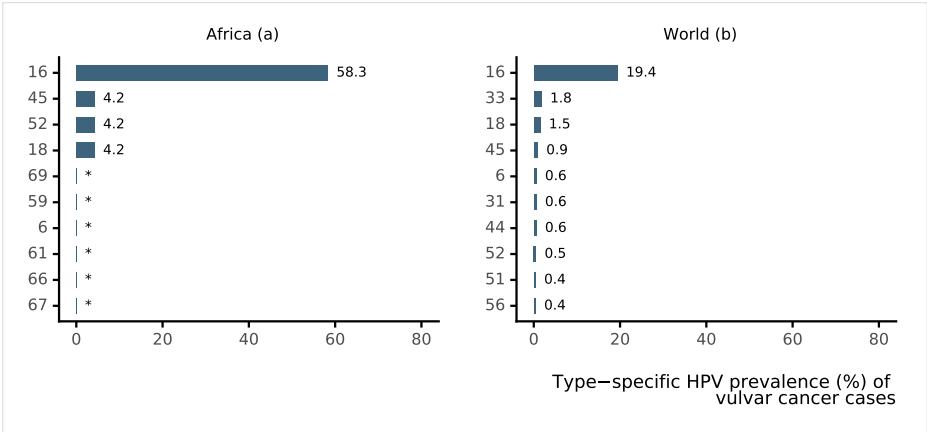
DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3

^a 95% Confidence Interval

Data Sources: See references in Section 9 [References](#).

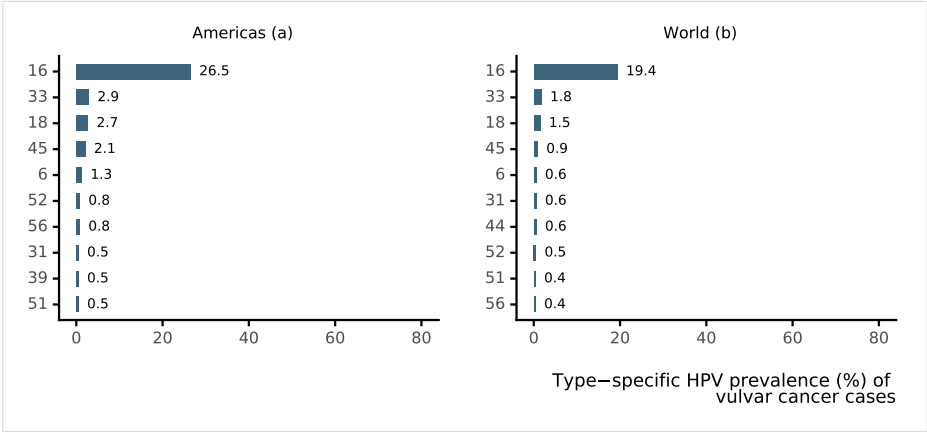
Figure 94: Comparison of the ten most frequent HPV types in cases of vulvar cancer in **Africa** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Mali, Mozambique, Nigeria, and Senegal.
^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, United States of America and Venezuela); Africa (Mali, Mozambique, Nigeria, and Senegal); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

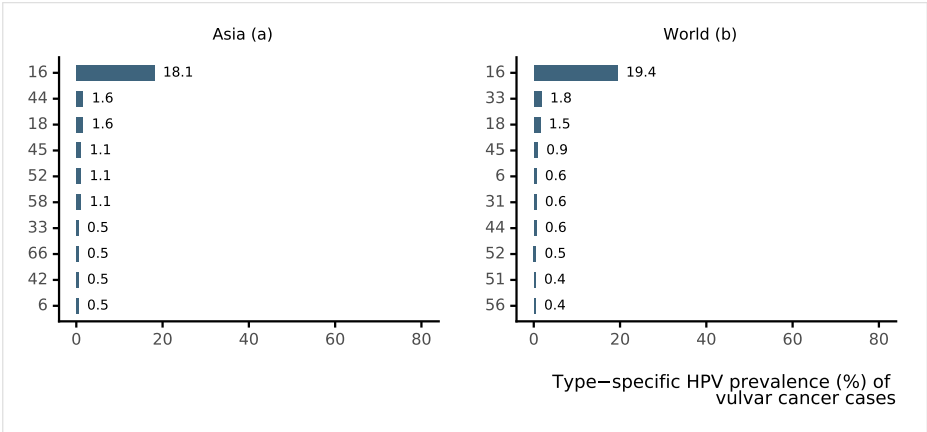
Figure 95: Comparison of the ten most frequent HPV types in cases of vulvar cancer in **the Americas** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, United States of America and Venezuela
^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, United States of America and Venezuela); Africa (Mali, Mozambique, Nigeria, and Senegal); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)
Data Sources: See references in Section 9 [References](#).

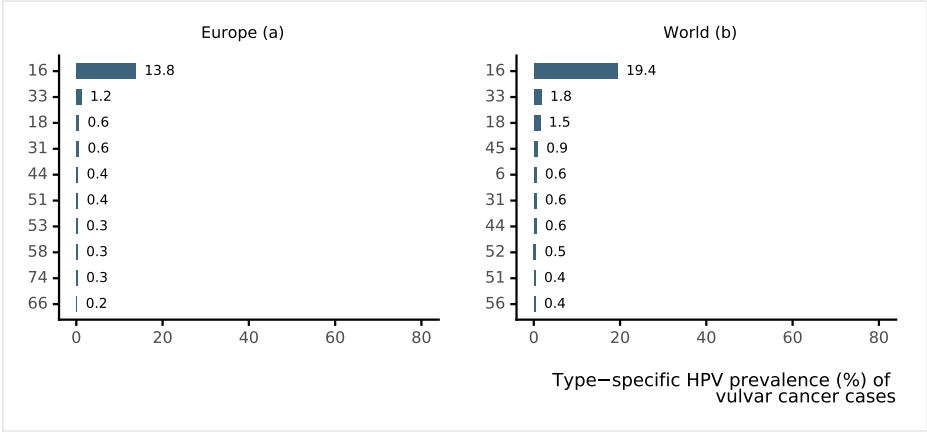
Figure 96: Comparison of the ten most frequent HPV types in cases of vulvar cancer in **Asia** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey.
^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, United States of America and Venezuela); Africa (Mali, Mozambique, Nigeria, and Senegal); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)
Data Sources: See references in Section 9 [References](#).

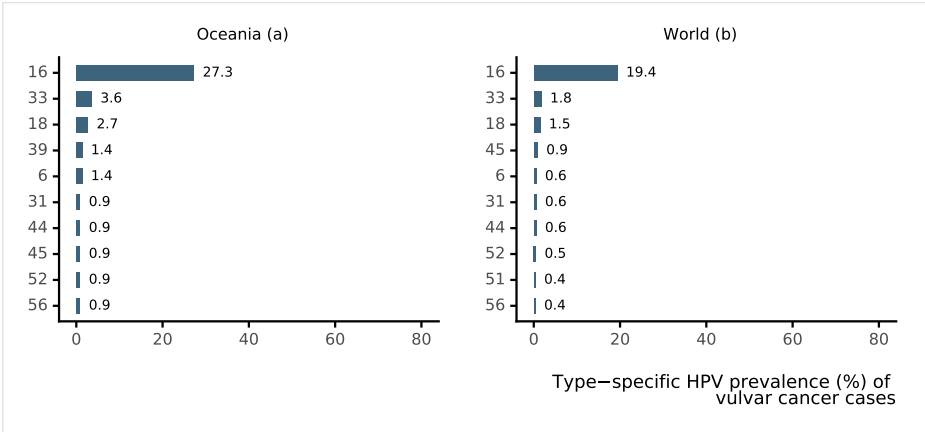
Figure 97: Comparison of the ten most frequent HPV types in cases of vulvar cancer in **Europe** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom.
^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, United States of America and Venezuela); Africa (Mali, Mozambique, Nigeria, and Senegal); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)
Data Sources: See references in Section 9 [References](#).

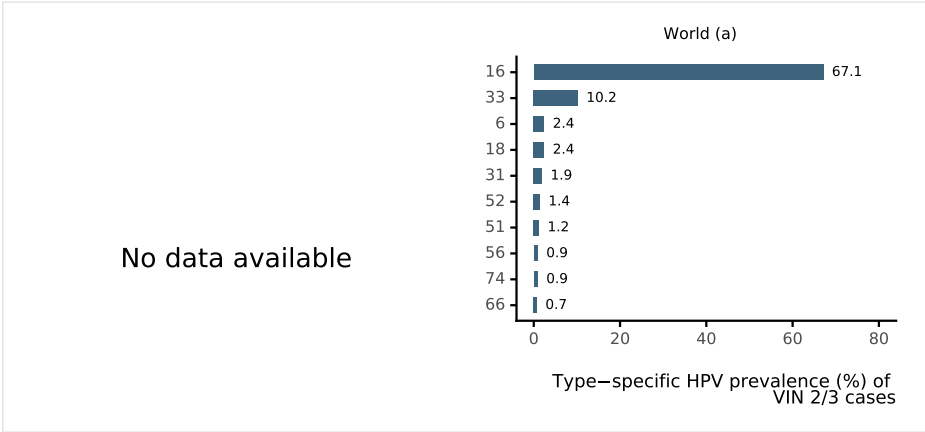
Figure 98: Comparison of the ten most frequent HPV types in cases of vulvar cancer in **Oceania** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Australia and New Zealand.
^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, United States of America and Venezuela); Africa (Mali, Mozambique, Nigeria, and Senegal); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)
Data Sources: See references in Section 9 [References](#).

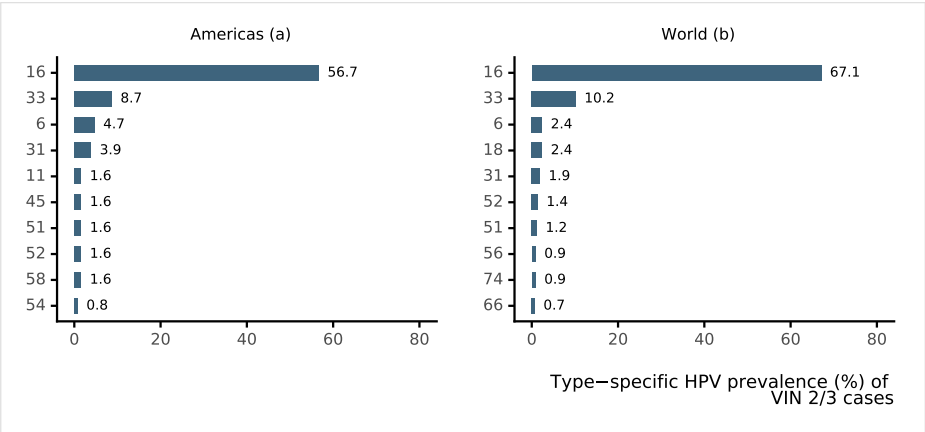
Figure 99: Comparison of the ten most frequent HPV types in VIN 2/3 cases in **Africa** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3
^a Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay and Venezuela); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)
Data Sources: See references in Section 9 [References](#).

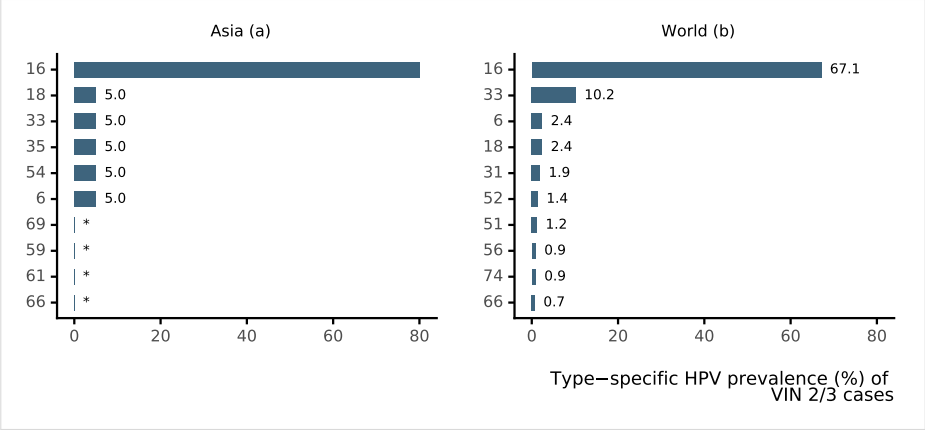
Figure 100: Comparison of the ten most frequent HPV types in VIN 2/3 cases in **the Americas** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2014)

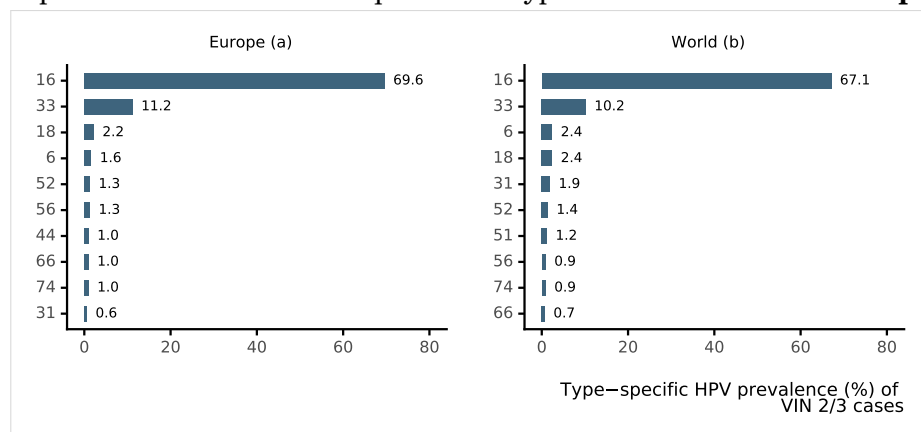
VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3
^a Includes cases from Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, and Venezuela.
^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay and Venezuela); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)
Data Sources: See references in Section 9 [References](#).

Figure 101: Comparison of the ten most frequent HPV types in VIN 2/3 cases in **Asia** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2014)

VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3
^a Includes cases from Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey.
^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay and Venezuela); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

Figure 102: Comparison of the ten most frequent HPV types in VIN 2/3 cases in **Europe** and the World

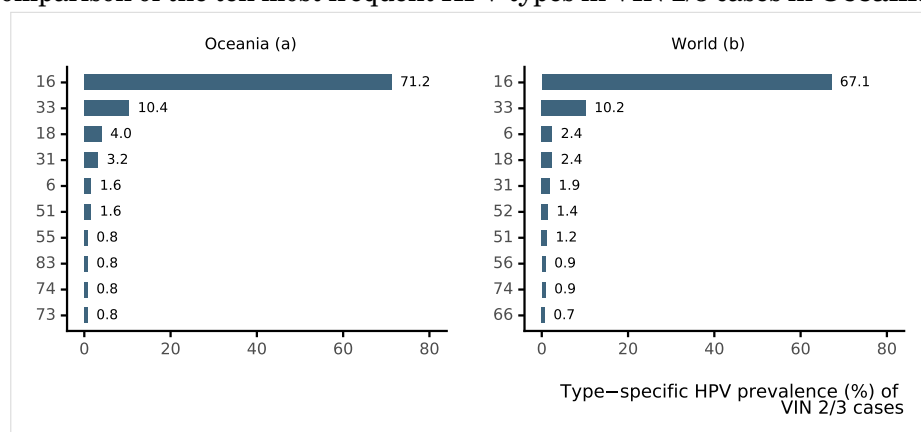
Data updated on 4 July 2022 (data as of 30 Jun 2014)

VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3

^a Includes cases from Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom.

^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay and Venezuela); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)

Data Sources: See references in Section 9 [References](#).

Figure 103: Comparison of the ten most frequent HPV types in VIN 2/3 cases in **Oceania** and the World

Data updated on 4 July 2022 (data as of 30 Jun 2014)

VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3

^a Includes cases from Australia and New Zealand.

^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay and Venezuela); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)

Data Sources: See references in Section 9 [References](#).

4.2.3 Vaginal cancer and precancerous vaginal lesions

Vaginal and cervical cancers share similar risk factors and it is generally accepted that both carcinomas share the same aetiology of HPV infection although there is limited evidence available. Women with vaginal cancer are more likely to have a history of other ano-genital cancers, particularly of the cervix, and these two carcinomas are frequently diagnosed simultaneously. HPV DNA is detected among 78% of invasive vaginal carcinomas and 91% of high-grade vaginal neoplasias (VaIN2/3). HPV16 is the most common type in high-grade vaginal neoplasias and it is detected in at least 78% of HPV-positive carcinomas (de Martel C et al. Lancet Glob Health 2020;8(2):e180-e190; De Vuyst H et al. Int J Cancer 2009; 124:1626-36). In this section, the HPV burden among cases of vaginal cancer cases and precancerous vaginal lesions in the World are presented.

Table 35: Studies on HPV prevalence among vaginal cancer cases in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
Argentina	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Australia	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Austria	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)
Bangladesh	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Belarus	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)
Brazil	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Chile	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Colombia	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Czechia	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)
Germany	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)
Ecuador	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Spain	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)
France	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)

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Table 35 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
United Kingdom	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)
Greece	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)
Guatemala	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
India	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Israel	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Republic of Korea	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Kuwait	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Lebanon	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Mexico	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Mozambique	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	19	68.4	(46.0-84.6)	HPV 16 (31.6), HPV 45 (10.5), HPV 18 (5.3), HPV 31 (5.3), HPV 33 (5.3)
Nigeria	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	19	68.4	(46.0-84.6)	HPV 16 (31.6), HPV 45 (10.5), HPV 18 (5.3), HPV 31 (5.3), HPV 33 (5.3)
Philippines	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Poland	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	152	71.1	(63.4-77.7)	HPV 16 (47.4), HPV 18 (3.3), HPV 73 (3.3), HPV 33 (2.6), HPV 56 (2.6)
Paraguay	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Turkey	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)
Taiwan	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3), HPV 33 (4.3), HPV 68 (4.3), HPV 18 (2.2), HPV 26 (2.2)

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Table 35 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Uruguay	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
United States of America	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Venezuela	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	191	78	(71.6-83.3)	HPV 16 (42.4), HPV 31 (5.8), HPV 18 (4.2), HPV 33 (4.2), HPV 52 (3.1)
Portugal	Ferreira 2008	PCR, (HPV 6, 11, 16, 18, 31, 33, 35, 40, 42, 44, 45, 51, 52, 56, 58)	21	81	(60.0-92.3)	HPV 16 (33.3), HPV 31 (28.6), HPV 40 (14.3), HPV 18 (9.5), HPV 33 (9.5)
Spain	Fuste 2010	PCR-SPF10, (HPV 6, 11, 16, 18, 31, 33, 35, 39, 40, 42, 45, 51, 52, 56, 58, 59, 68)	32	78.1	(61.2-89.0)	HPV 16 (56.3), HPV 52 (6.3), HPV 35 (3.1), HPV 51 (3.1), HPV 58 (3.1)
Sweden	Larsson 2013	PCR-E6, (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59)	69	53.6	(42.0-64.9)	HPV 16 (37.7), HPV 18 (2.9), HPV 31 (2.9), HPV 33 (2.9), HPV 52 (2.9)
Denmark	Madsen 2008	EIA, (HPV 6, 11, 16, 18, 31, 33, 35, 39, 40, 42, 44, 45, 51, 52, 56, 58)	27	88.9	(71.9-96.1)	HPV 16 (77.8), HPV 33 (7.4), HPV 18 (3.7), HPV 39 (3.7), HPV 45 (3.7)

Data updated on 4 July 2022 (data as of 30 Jun 2015)

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

^a 95% Confidence IntervalData Sources: See references in Section 9 [References](#).

Table 36: Studies on HPV prevalence among VaIN 2/3 cases in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Argentina	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
Australia	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Austria	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
Bangladesh	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Belarus	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
Brazil	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 18 (6.3), HPV 51 (3.8)

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Table 36 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Chile	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
Colombia	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
Czechia	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
Germany	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
Ecuador	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
Spain	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
France	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
United Kingdom	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
Greece	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
Guatemala	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
India	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Israel	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Republic of Korea	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Kuwait	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Lebanon	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Mexico	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)

Continued on next page

Table 36 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Philippines	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Poland	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	96	97.9	(92.7-99.4)	HPV 16 (65.6), HPV 33 (7.3), HPV 18 (5.2), HPV 52 (3.1), HPV 73 (3.1)
Paraguay	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
Turkey	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Taiwan	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100	(77.2-100.0)	HPV 16 (53.8), HPV 52 (15.4), HPV 59 (15.4), HPV 45 (7.7), HPV 73 (7.7)
Uruguay	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
United States of America	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
Venezuela	Alemaný 2014	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	80	92.5	(84.6-96.5)	HPV 16 (46.3), HPV 52 (6.3), HPV 73 (6.3), HPV 18 (6.3), HPV 51 (3.8)
United States of America	Daling 2002	PCR-MY09/11, PCR L1-Consensus primer, RFLP, TS (HPV 16, 31, 33, 35, 58, 66, 73)	99	77.8	(68.6-84.8)	HPV 16 (54.5), HPV 58 (1.0), HPV 66 (1.0), HPV 73 (1.0)
Italy	Frega 2007	PCR, TS (HPV 16, 18)	30	100	(88.6-100.0)	HPV 16 (86.7), HPV 18 (13.3)
Germany	Hampl 2006	PCR-MY09/11, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 35, 40, 44, 52, 56, 58)	11	90.9	(62.3-98.4)	HPV 16 (63.6)
United States of America	Srodon 2006	PCR-MY09/11, PCR-SPF10, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	16	93.8	(71.7-98.9)	HPV 16 (50.0), HPV 58 (18.8), HPV 31 (12.5), HPV 35 (6.3), HPV 51 (6.3)
Japan	Sugase 1997	PCR, TS, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	18	100	(82.4-100.0)	HPV 16 (16.7), HPV 58 (16.7), HPV 53 (11.1), HPV 67 (11.1), HPV 35 (5.6)
Greece	Tsimplaki 2012	(HPV 6, 11, 16, 18, 31, 33, 35, 39, 40, 42, 44, 45, 51, 52, 53, 56, 58, 66, 70)	10	40	(16.8-68.7)	HPV 16 (20.0), HPV 33 (20.0)

Data updated on 4 July 2022 (data as of 30 Jun 2015)

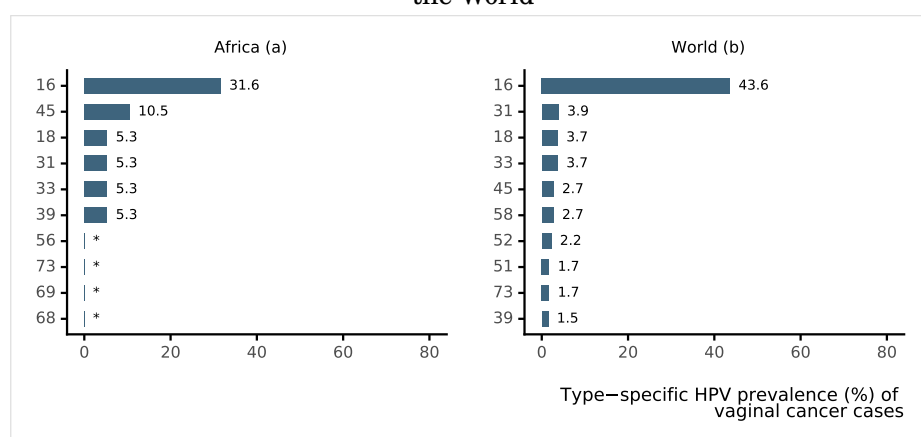
DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

VAIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3

^a 95% Confidence Interval

Data Sources: See references in Section 9 [References](#).

Figure 104: Comparison of the ten most frequent HPV types in cases of vaginal cancer in **Africa** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2015)

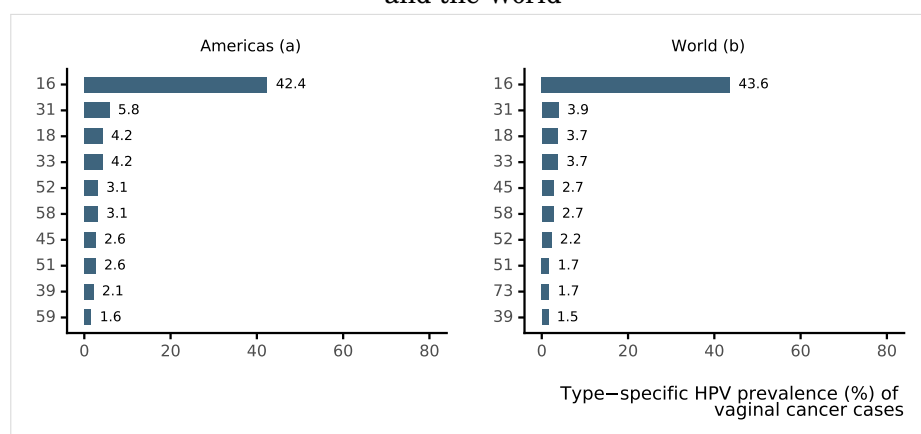
^a Includes cases from Mozambique, Nigeria.

^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Africa (Mozambique, Nigeria); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)

* No data available. No more types than shown were tested or were positive.

Data Sources: See references in Section 9 [References](#).

Figure 105: Comparison of the ten most frequent HPV types in cases of vaginal cancer in **the Americas** and the World



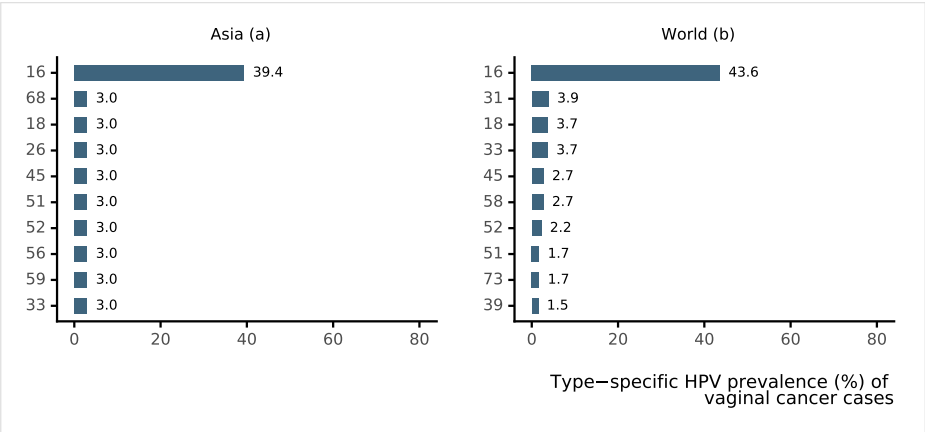
Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United States of America and Venezuela.

^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Africa (Mozambique, Nigeria); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)

Data Sources: See references in Section 9 [References](#).

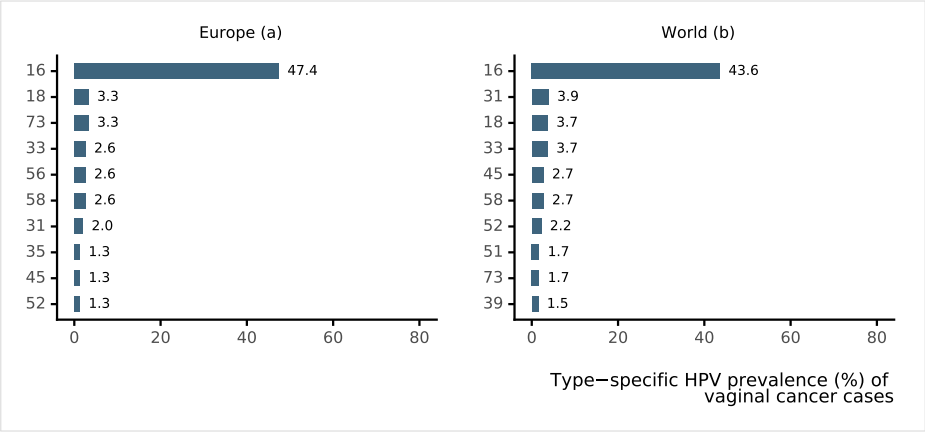
Figure 106: Comparison of the ten most frequent HPV types in cases of vaginal cancer in **Asia** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey
^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Africa (Mozambique, Nigeria); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)
Data Sources: See references in Section 9 [References](#).

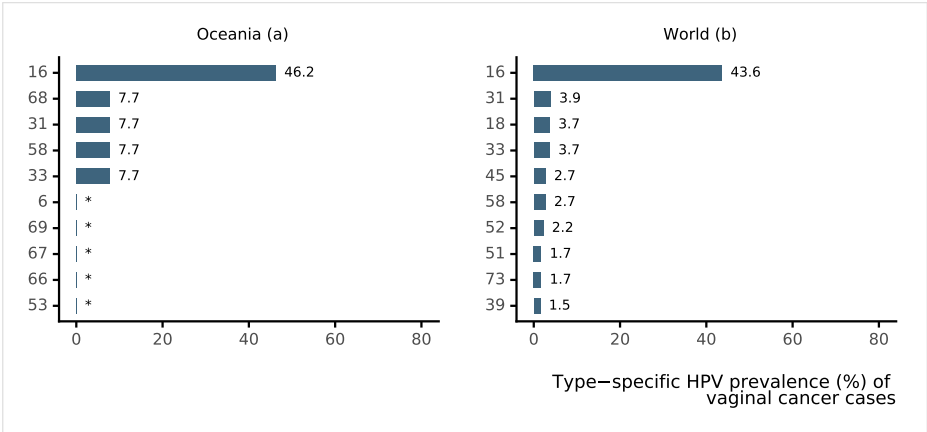
Figure 107: Comparison of the ten most frequent HPV types in cases of vaginal cancer in **Europe** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom.
^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Africa (Mozambique, Nigeria); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)
Data Sources: See references in Section 9 [References](#).

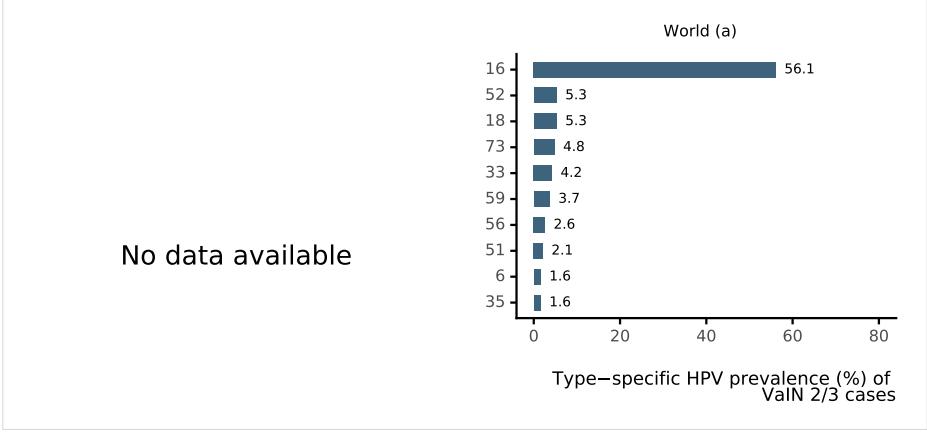
Figure 108: Comparison of the ten most frequent HPV types in cases of vaginal cancer in **Oceania** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Australia
^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Africa (Mozambique, Nigeria); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

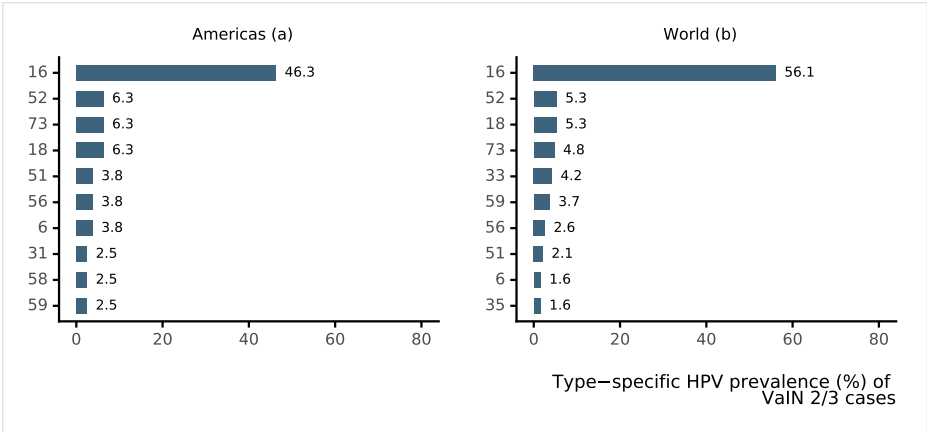
Figure 109: Comparison of the ten most frequent HPV types in VaIN 2/3 cases in **Africa** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2014)

VAIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3
^a Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)
Data Sources: See references in Section 9 [References](#).

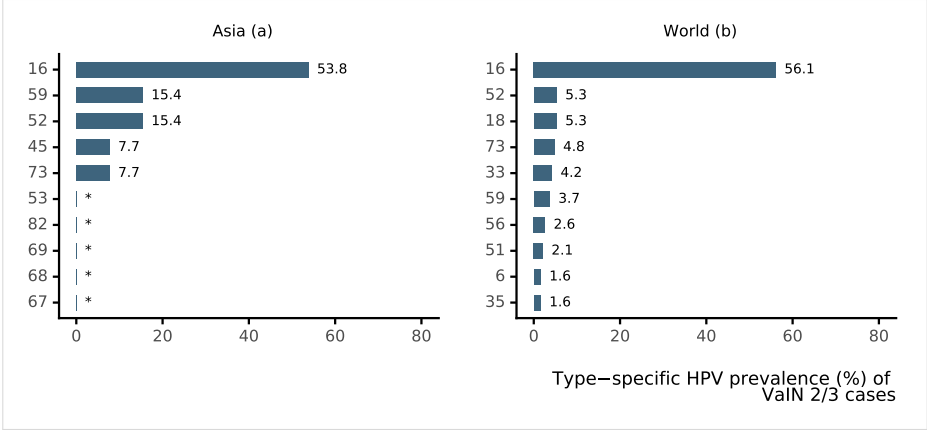
Figure 110: Comparison of the ten most frequent HPV types in VaIN 2/3 cases in **the Americas** and **the World**



Data updated on 4 July 2022 (data as of 30 Jun 2014)

VAIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3
^a Includes cases from Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United States of America and Venezuela.
^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)
Data Sources: See references in Section 9 [References](#).

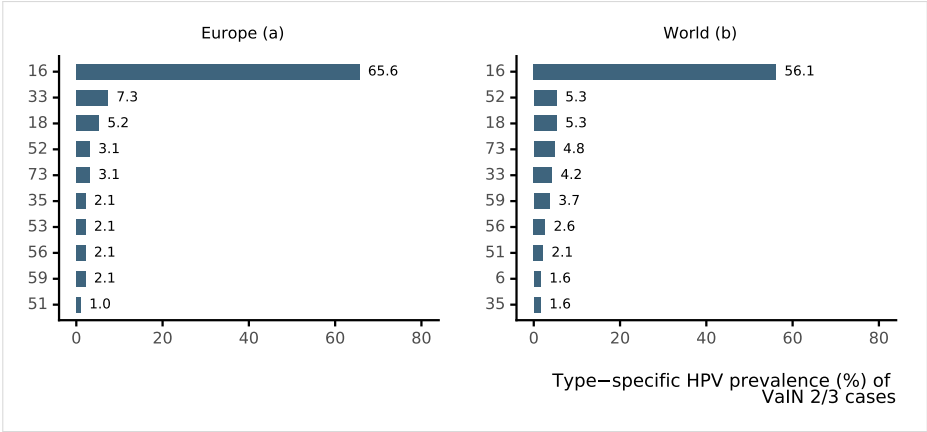
Figure 111: Comparison of the ten most frequent HPV types in VaIN 2/3 cases in **Asia** and **the World**



Data updated on 4 July 2022 (data as of 30 Jun 2014)

VAIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3
^a Includes cases from Australia, Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey.
^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

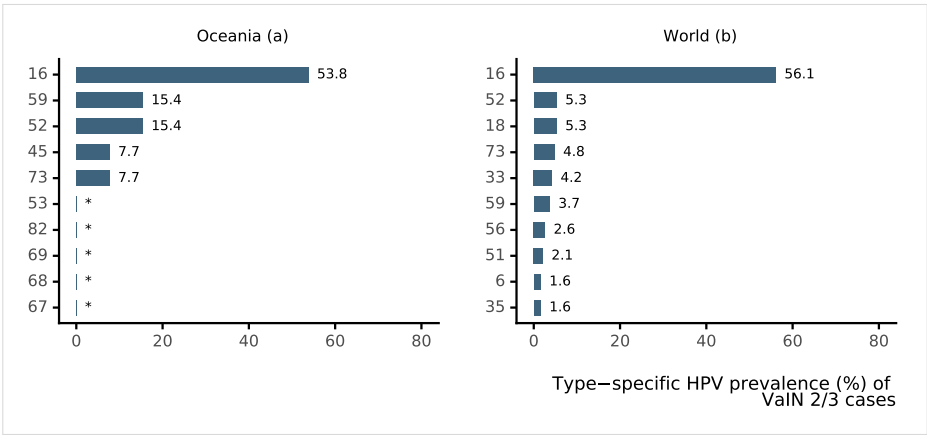
Figure 112: Comparison of the ten most frequent HPV types in VaIN 2/3 cases in **Europe** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2014)

VAIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3
^a Includes cases from Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom.
^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)
Data Sources: See references in Section 9 [References](#).

Figure 113: Comparison of the ten most frequent HPV types in VaIN 2/3 cases in **Oceania** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2014)

VAIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3
^a Includes cases from Australia, Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey.
^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

4.2.4 Penile cancer and precancerous penile lesions

DNA is detectable in approximately 51% of all penile cancers (de Martel C et al. Lancet Glob Health 2020;8(2):e180-e190). Among HPV-related penile tumours, HPV16 is the most common type detected, followed by HPV18 and HPV types 6/11 (Miralles C et al. J Clin Pathol 2009;62:870-8). Over 95% of invasive penile cancers are SCC and the most common penile SCC histologic sub-types are keratinising (49%), mixed warty-basaloid (17%), verrucous (8%), warty (6%), and basaloid (4%). HPV is commonly detected in basaloid and warty tumours but is less common in keratinising and verrucous tumours. In this section, the HPV burden among cases of penile cancer cases and precancerous penile lesions in the World are presented.

Table 37: Studies on HPV prevalence among penile cancer cases in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		
				%	(95% CI) ^a	Prevalence of 5 most frequent HPV types, HPV type (%)
Brazil	Afonso 2012	PCR-MY09/11, PCR L1-Consensus primer, PCR-E6, RFLP (HPV 6, 11, 16, 18, 26, 31, 33, 35, 45, 53, 62, 70, 71, 73)	133	56.4	(47.9-64.5)	HPV 16 (17.3), HPV 45 (12.8), HPV 6 (6.8), HPV 18 (3.8), HPV 31 (3.0)
Austria	Aumayr 2013	PCR-GP5+/6+, PCR L1-Consensus primer, TS (HPV 16, 18, 31, 33)	26	69.2	(50.0-83.5)	
Brazil	Bezerra 2001	PCR consensus primers and probing for HPV types: 6, 11, 16, 18, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 54, 56 and 58	82	30.5	(21.6-41.1)	
Brazil	Calmon 2013	PCR-GP5+/6+, PCR L1-Consensus primer, qPCR, LiPA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 82)	47	48.9	(35.3-62.8)	HPV 16 (40.4), HPV 11 (10.6), HPV 35 (2.1)
China	Chan 1994	PCR Type specific for HPV16/18	41	19.5	(10.2-34.0)	HPV 16 (9.8), HPV 18 (9.8)
Paraguay	Cubilla 2010	PCR-SPF10, LiPA (HPV 6, 11, 16, 18, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 70, 73, 74)	202	31.7	(25.7-38.4)	HPV 16 (22.8), HPV 6 (3.0), HPV 18 (2.0), HPV 11 (1.5), HPV 35 (1.5)
United States of America	Cupp 1995	PCR L1-Consensus primer, PCR-E6, TS (HPV 16, 18)	42	54.8	(39.9-68.8)	HPV 16 (40.5), HPV 18 (4.8)
Belgium	D'Hauwers 2012	PCR-E6, PCR-E7, qPCR (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68)	36	61.1	(44.9-75.2)	HPV 16 (47.2), HPV 59 (5.6), HPV 11 (2.8), HPV 33 (2.8), HPV 39 (2.8)
United States of America	Daling 2005	PCR MY09/11	94	79.8	(70.6-86.7)	HPV 16 (69.1), HPV 6 (4.3), HPV 33 (2.1), HPV 18 (1.1), HPV 31 (1.1)
Viet Nam	Do 2013	PCR-SPF10, PCR-E6, qPCR, LiPA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 82)	120	22.5	(15.9-30.8)	HPV 16 (20.0), HPV 11 (0.8), HPV 18 (0.8), HPV 33 (0.8), HPV 58 (0.8)
Spain	Ferrándiz-Pulido 2013	PCR-SPF10, EIA, LiPA (HPV 6, 11, 16, 18, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 70, 73, 74)	78	37.2	(27.3-48.3)	HPV 16 (26.9), HPV 58 (3.8), HPV 6 (2.6), HPV 33 (1.3), HPV 45 (1.3)
Brazil	Fonseca 2013	PCR-GP5+/6+, Sequencing (HPV 6, 11, 16, 18, 33, 45, 51, 52, 53, 58, 68)	82	61.0	(50.2-70.8)	HPV 11 (39.0), HPV 6 (19.5), HPV 16 (18.3), HPV 53 (11.0), HPV 33 (2.4)

Continued on next page

Table 37 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Italy	Gentile 2006	PCR-(MY09/11, GP5+/6+), sequencing	11	72.7	(43.4-90.3)	HPV 16 (45.5), HPV 18 (18.2), HPV 53 (9.1)
Paraguay	Gregoire 1995	PCR Type specific for: 6,11,16 and 18 + Primers for wide range including 16,18,31,33,35,52	109	23.9	(16.8-32.7)	
United States of America	Gregoire 1995	PCR Type specific for: 6,11,16 and 18 + Primers for wide range including 16,18,31,33,35,52	109	23.9	(16.8-32.7)	
Spain	Guerrero 2008	PCR-GP5+/6+, RLBM, (HPV 6, 11, 16, 18, 26, 31, 33-35, 39, 40, 42-45, 51-59, 61, 66, 68, 70-73, 81(CP8304), 82/MM4, 82/IS39, 83(MM7), 84(MM8), CP6108)	24	45.8	(27.9-64.9)	HPV 16 (45.8), HPV 39 (4.2)
Netherlands	Heideman 2007	PCR-GP5+/6+, EIA, RLBM, (HPV 6, 11, 16, 18, 26, 31, 33-35, 39, 40, 42-45, 51-59, 61, 66, 68, 70-73, 81(CP8304), 82/MM4, 82/IS39, 83(MM7), 84(MM8), CP6108)	83	55.4	(44.7-65.6)	HPV 16 (22.8), HPV 18 (2.3), HPV 45 (1.8), HPV 33 (1.2), HPV 56 (0.6)
France	Humbey 2003	PCR-(MY09/MY11, FAP59/FAP64), TS (HPV 5, 6, 8, 11, 16, 18, 31, 33, 35, 45, 51, 52, 58, 68), sequencing	36	66.7	(50.3-79.8)	HPV 16 (25.0)
Japan	Iwasawa 1993	PCR type specific for HPV 16,18 and 33	111	63.1	(53.8-71.5)	HPV 16 (61.3), HPV 18 (1.8)
Sweden	Kirrandar 2011	PCR-(HPV 6,11, 16,18,31,33,35,39,45,51,52,56,58,59,61) sequencing	51	80.8	(73.8-86.3)	
Denmark	Krustrup 2009	PCR-GP5+/6+, EIA, RLBM, (HPV 6, 11, 16, 18, 26, 31, 33-35, 39, 40, 42-45, 51-59, 61, 66, 68, 70-73, 81(CP8304), 82/MM4, 82/IS39, 83(MM7), 84(MM8), CP6108)	145	61.4	(53.3-68.9)	
South Africa	Lebelo 2014	PCR L1-Consensus primer, PCR-E6, PCR-E7, qPCR (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68)	40	87.5	(73.9-94.5)	HPV 16 (55.0), HPV 11 (30.0), HPV 18 (10.0), HPV 45 (5.0), HPV 33 (2.5)
Brazil	Levi 1998	PCR MY09/11 and probing for 6,11,16,18,31	50	56.0	(42.3-68.8)	
Netherlands	Lont 2006	PCR-GP5+/6+, RLBM, (HPV 6, 11, 16, 18, 26, 31, 33-35, 39, 40, 42-45, 51-59, 61, 66, 68, 70-73, 81(CP8304), 82/MM4, 82/IS39, 83(MM7), 84(MM8), CP6108)	171	29.2	(22.9-36.5)	
Mexico	López-Romero 2013	PCR-E6, RT-PCR, Sequencing (HPV 11, 16, 18, 31, 33, 58, 59)	76	75.0	(64.2-83.4)	HPV 16 (61.8), HPV 11 (3.9), HPV 31 (3.9), HPV 18 (1.3), HPV 33 (1.3)
Canada	Maden 1993	PCR E6/E7 for HPV6,16 and 18	67	49.3	(37.7-60.9)	HPV 16 (34.3)
Austria	Mannweiler 2013	PCR L1-Consensus primer, PCR-SPF10, LiPA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 72, 73, 74, 82)	123	58.5	(49.7-66.9)	HPV 16 (45.5), HPV 33 (4.9), HPV 18 (4.1), HPV 45 (3.3), HPV 56 (0.8)

Continued on next page

Table 37 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
Spain	Pascual 2007	PCR-(MY09/11, GP5+/6+), sequencing	49	77.6	(64.1-87.0)	HPV 16 (65.3), HPV 18 (8.2)
Germany	Perceau 2003	PCR-GP5+/6+, TS (HPV 16, 18, 31, 33)	17	35.3	(17.3-58.7)	
Argentina	Picconi 2000	PCR GP5+/6+ and typing by PCR-SSCP	38	71.1	(55.2-83.0)	HPV 18 (28.9), HPV 16 (21.1), HPV 6 (5.3)
Germany	Poetsch 2011	PCR-TS (HPV 6/11, 16, 18)	52	38.5	(26.5-52.0)	HPV 16 (32.7), HPV 6/11 (3.8), HPV 18 (1.9)
United Kingdom	Prowse 2008	PCR-SPF10, LIPA, (HPV 6, 11, 16, 18, 26, 31, 33-35, 39, 40, 42-45, 51-54, 56, 58, 59, 66, 68-71, 73, 74)	26	53.8	(35.5-71.2)	
Paraguay	Rubin 2001	PCR SPF10 + INO-LIPA	142	42.3	(34.4-50.5)	HPV 16 (25.4), HPV 6 (3.5), HPV 45 (2.8), HPV 52 (2.8), HPV 35 (2.1)
United States of America	Rubin 2001	PCR SPF10 + INO-LIPA	142	42.3	(34.4-50.5)	HPV 16 (25.4), HPV 6 (3.5), HPV 45 (2.8), HPV 52 (2.8), HPV 35 (2.1)
Mexico	Salazar 2005	PCR Specific for HPV16	57	59.6	(46.7-71.4)	
United States of America	Sarkar 1992	PCR type specific for 6b/11, 16 and 18 + Southern Blot	27	59.3	(40.7-75.5)	
Brazil	Scheiner 2008	PCR-GP5+/6+, PCR-MY09/11, RFLP (HPV 6, 16, 18, 31, 33, 45, 71)	80	72.5	(61.9-81.1)	HPV 16 (15.0), HPV 6 (5.0), HPV 18 (1.3), HPV 31 (1.3), HPV 33 (1.3)
Thailand	Senba 2006	PCR SPF10, ISH	65	81.5	(70.4-89.1)	HPV 18 (55.4), HPV 6 (40.0), HPV 34 (3.1), HPV 11 (1.5), HPV 22 (1.5)
United Kingdom	Stankiewicz 2011	PCR-SPF10, LIPA, (HPV 6, 11, 16, 18, 26, 31, 33-35, 39, 40, 42-45, 51-54, 56, 58, 59, 66, 68-71, 73, 74)	102	55.9	(46.2-65.1)	HPV 16 (45.1), HPV 11 (9.8), HPV 45 (5.9), HPV 6 (5.9), HPV 31 (4.9)
Japan	Suzuki 1994	PCR consensus primers on L1 and E6 (6,11,16,18,31,33,42,52,58)	13	53.8	(29.1-76.8)	HPV 16 (30.8), HPV 33 (15.4), HPV 31 (7.7)
Italy	Tornesello 2008	PCR-GP5+/6+, PCR-MY09/11, PCR-L1C1/C2, PCR-E6, PCR-E7, Sequencing (HPV 6, 16, 18, 33, 35)	61	47.5	(35.5-59.8)	HPV 16 (42.6), HPV 18 (3.3), HPV 35 (1.6)
Uganda	Tornesello 2008	PCR-GP5+/6+, PCR-MY09/11, PCR-L1C1/C2, PCR-E6, PCR-E7, Sequencing (HPV 6, 16, 18, 33, 35)	17	64.7	(41.3-82.7)	HPV 16 (58.8), HPV 18 (11.8), HPV 6 (11.8), HPV 33 (5.9)
United States of America	Varma 1991	PCR Type specific for HPV 6/11 and 16 and ISH for 6,11,16,18,31,33 and 35	30	66.7	(48.8-80.8)	
Japan	Yanagawa 2008	PCR-L1C1/C2, RFLP (HPV 6, 11, 16, 18, 31, 33, 42, 52, 58)	26	11.5	(4.0-29.0)	HPV 16 (11.5)

Data updated on 4 July 2022 (data as of 30 Jun 2014)

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

^a 95% Confidence IntervalData Sources: See references in Section 9 [References](#).

Table 38: Studies on HPV prevalence among PeIN 2/3 cases in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		
				%	(95% CI) ^a	Prevalence of 5 most frequent HPVs, HPV type (%)
United States of America	Cupp 1995	PCR L1-Consensus primer, PCR-E6, TS (HPV 16, 18)	25	92.0	(75.0-97.8)	HPV 16 (80.0), HPV 18 (8.0)
Belgium	D'Hauwers 2012	PCR-E6, PCR-E7, qPCR (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68)	13	84.6	(57.8-95.7)	HPV 16 (61.5), HPV 18 (23.1), HPV 11 (15.4), HPV 53 (15.4), HPV 56 (15.4)
Sweden	Kirrander 2011	PCR-(HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59), sequencing	62	88.7	(78.5-94.4)	
Mexico	López-Romero 2013	PCR-E6, RT-PCR, Sequencing (HPV 16)	10	100.0	(72.2-100.0)	HPV 16 (100.0)
Austria	Mannweiler 2013	PCR L1-Consensus primer, PCR-SPF10, LiPA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 66, 68, 69, 70, 71, 72, 73, 74, 82)	43	76.7	(62.3-86.8)	HPV 16 (62.8), HPV 18 (9.3), HPV 33 (2.3), HPV 73 (2.3)
Sweden	Wikström 2012	PCR-GP5+/6+, PCR-MY09/11, PCR L1-Consensus primer (HPV 6, 11, 16, 18, 31, 33, 42, 45, 52, 58, 70, 73)	28	85.7	(68.5-94.3)	HPV 16 (39.3), HPV 6 (21.4), HPV 31 (7.1), HPV 33 (7.1), HPV 45 (7.1)

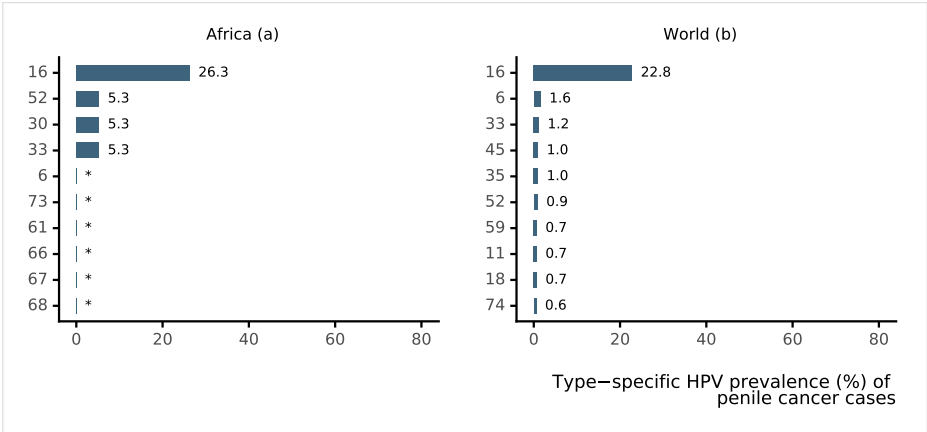
Data updated on 4 July 2022 (data as of 30 Jun 2014)

PeIN 2/3: Penile intraepithelial neoplasia of grade 2/3

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

^a 95% Confidence IntervalData Sources: See references in Section 9 [References](#).

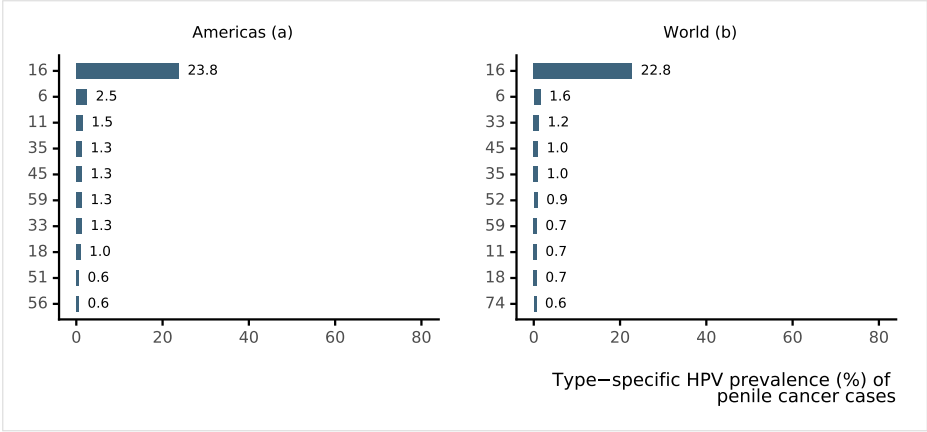
Figure 114: Comparison of the ten most frequent HPV types in cases of penile cancer in **Africa** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Mozambique, Nigeria, Senegal
^b Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela and United States, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

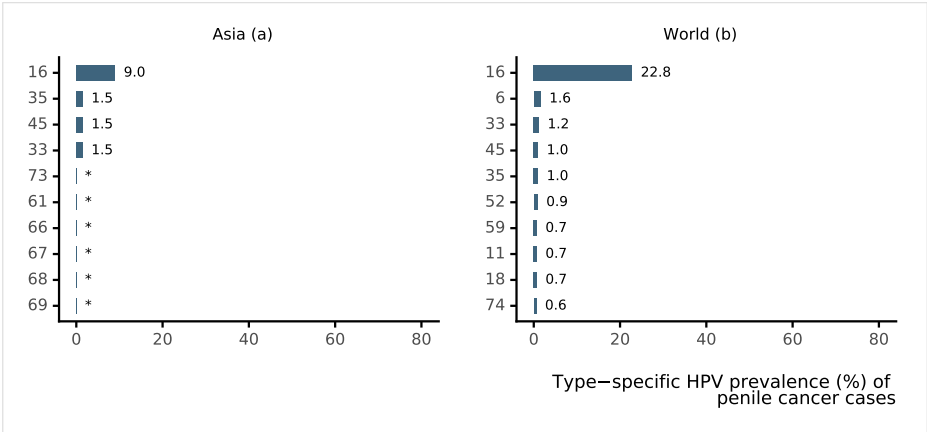
Figure 115: Comparison of the ten most frequent HPV types in cases of penile cancer in **the Americas** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela and United States
^b Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela and United States, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
Data Sources: See references in Section 9 [References](#).

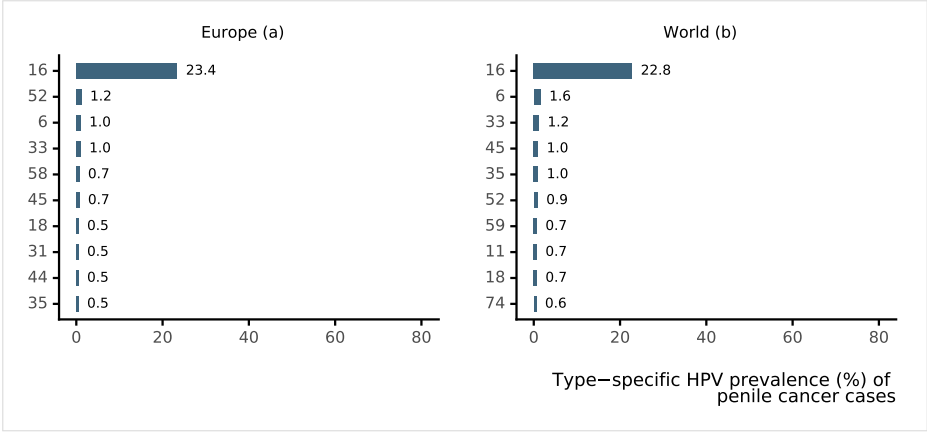
Figure 116: Comparison of the ten most frequent HPV types in cases of penile cancer in **Asia** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Bangladesh, India, South Korea, Lebanon, Philippines
^b Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela and United States, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

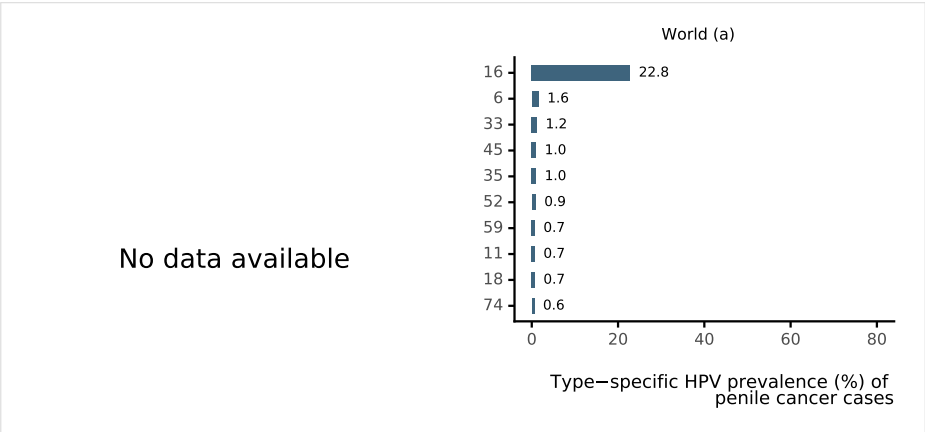
Figure 117: Comparison of the ten most frequent HPV types in cases of penile cancer in **Europe** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom
^b Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela and United States, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
Data Sources: See references in Section 9 [References](#).

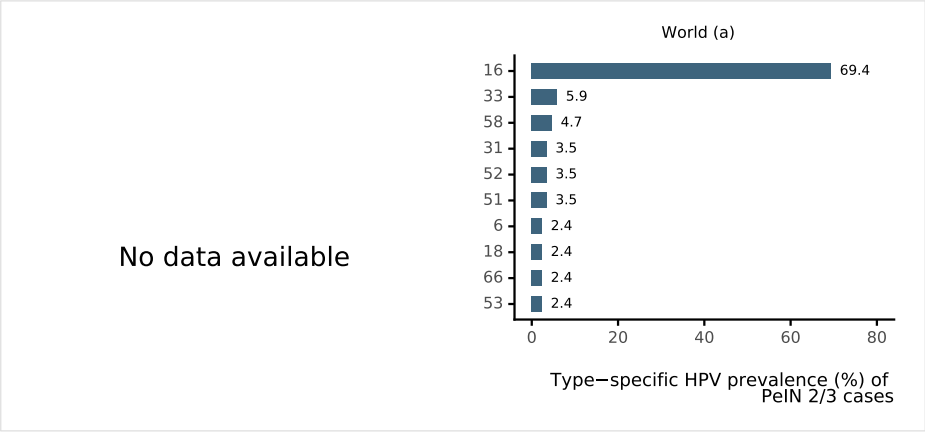
Figure 118: Comparison of the ten most frequent HPV types in cases of penile cancer in **Oceania** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2015)

^a Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela and United States, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
Data Sources: See references in Section 9 [References](#).

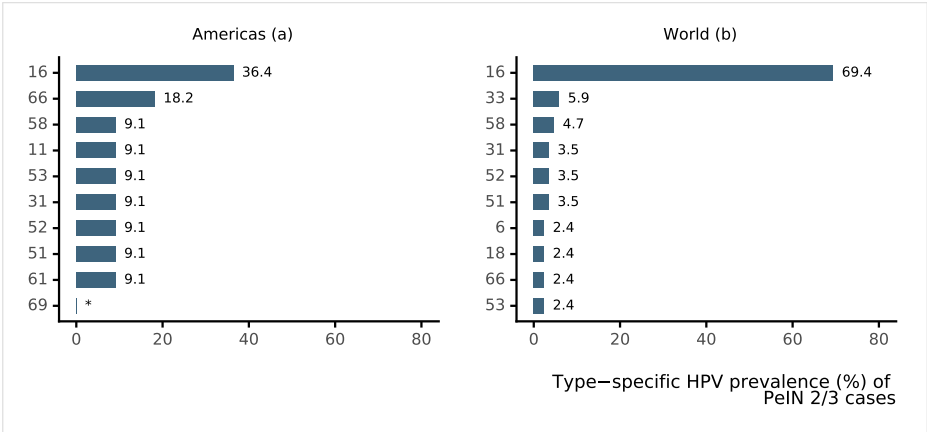
Figure 119: Comparison of the ten most frequent HPV types in PeIN 2/3 cases in **Africa** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2015)

PeIN 2/3: Penile intraepithelial neoplasia of grade 2/3
^a Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
Data Sources: See references in Section 9 [References](#).

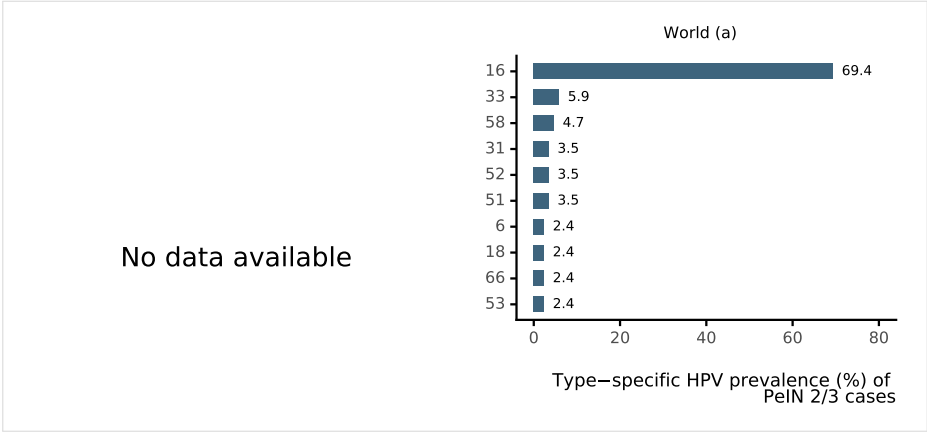
Figure 120: Comparison of the ten most frequent HPV types in PeIN 2/3 cases in **the Americas** and **the World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

PeIN 2/3: Penile intraepithelial neoplasia of grade 2/3
^a Includes cases from Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela.
^b Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
* No data available. No more types than shown were tested or were positive.
Data Sources: See references in Section 9 [References](#).

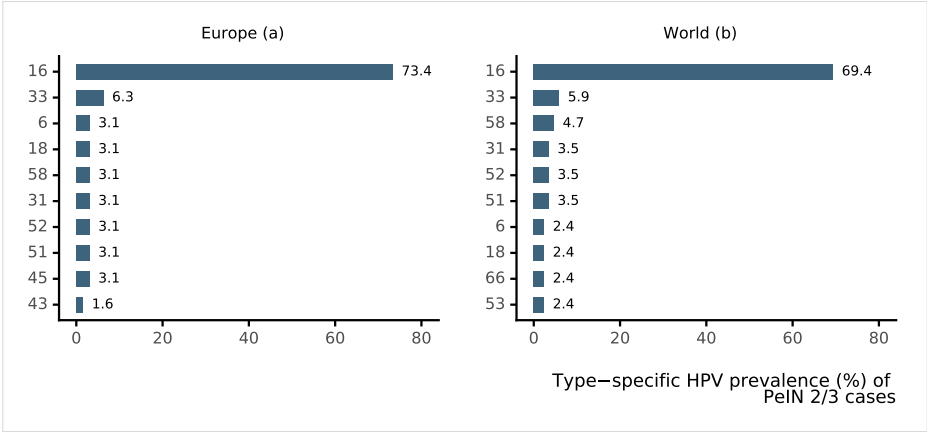
Figure 121: Comparison of the ten most frequent HPV types in PeIN 2/3 cases in **Asia** and the World



Data updated on 4 July 2022 (data as of 30 Jun 2015)

PeIN 2/3: Penile intraepithelial neoplasia of grade 2/3
^a Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
Data Sources: See references in Section 9 [References](#).

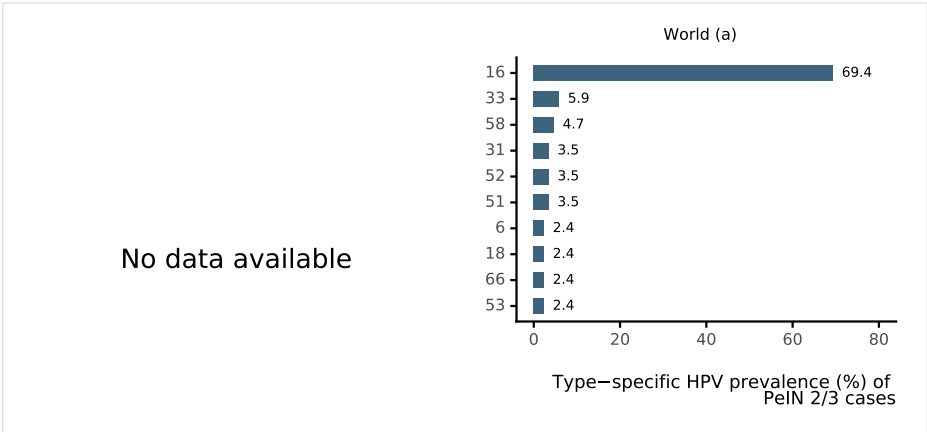
Figure 122: Comparison of the ten most frequent HPV types in PeIN 2/3 cases in **Europe** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

PeIN 2/3: Penile intraepithelial neoplasia of grade 2/3
^a Includes cases from Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom
^b Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
Data Sources: See references in Section 9 [References](#).

Figure 123: Comparison of the ten most frequent HPV types in PeIN 2/3 cases in **Oceania** and the **World**



Data updated on 4 July 2022 (data as of 30 Jun 2015)

PeIN 2/3: Penile intraepithelial neoplasia of grade 2/3
^a Includes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.
Data Sources: See references in Section 9 [References](#).

4.3 HPV burden in men

The information to date regarding anogenital HPV infection is primarily derived from cross-sectional studies of selected populations such as general population, university students, military recruits, and studies that examined husbands of control women, as well as from prospective studies. Special sub-groups include mainly studies that examined STD (sexually transmitted diseases) clinic attendees, MSM (men who have sex with men), HIV positive men, and partners of women with HPV lesions, CIN (cervical intraepithelial neoplasia), cervical cancer or cervical carcinoma in situ. Globally, prevalence of external genital HPV infection in men is higher than cervical HPV infection in women, but persistence is less likely. As with genital HPV prevalence, high numbers of sexual partners increase the acquisition of oncogenic HPV infections (Vaccine 2012, Vol. 30, Suppl 5). In this section, the HPV burden among men in the World is presented.

Methods

HPV burden in men was based on published systematic reviews and meta-analyses (Dunne EF, J Infect Dis 2006; 194: 1044, Smith JS, J Adolesc Health 2011; 48: 540, Olesen TB, Sex Transm Infect 2014; 90: 455, and Hebnes JB, J Sex Med 2014; 11: 2630) up to October 31, 2015. The search terms for the review were human papillomavirus, men, polymerase chain reaction (PCR), hybrid capture (HC), and viral DNA. References cited in selected articles were also investigated. Inclusion criteria were: HPV DNA detection by means of PCR or HC (ISH if data are not available for the country), and a detailed description of HPV DNA detection and genotyping techniques used. The number of cases tested and HPV positive cases were extracted for each study to estimate the anogenital prevalence of HPV DNA. Binomial 95% confidence intervals were calculated for each anogenital HPV prevalence.

Table 39: Studies on HPV prevalence among men in the World

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
Australia	Vardas 2011 ^b	Penis	RT-PCR-Multiplex or Biplex	Heterosexual men enrolled in a HPV vaccine trial	Median 20 (15-24)	3132	21.2	(19.8-22.7)
Brazil	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of control women	24-81	56	39.3	(26.5-53.2)
	Giuliano 2008	Corona sulcus, glans, shaft and scrotum	PCR-PGMY09/11 and GP5/6+	General population	18-70	382	72.3	(67.5-76.7)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSW from general population and population from a STD clinic	18-70	1305	12.2	(10.5-14.1)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSM from general population and population from a STD clinic	18-70	176	47.2	(39.6-54.8)
	Rosenblatt 2004	Shaft, dorsal and prebalanic area, prepuce, urethral meatus	HC2 HR	Partners of women without CIN	-	60	15.0	(7.1-26.6)
	Vardas 2011 ^b	Penis	RT-PCR-Multiplex or Biplex	Heterosexual men enrolled in a HPV vaccine trial	Median 20 (15-24)	3132	21.2	(19.8-22.7)
Canada	Vardas 2011 ^b	Penis	RT-PCR-Multiplex or Biplex	Heterosexual men enrolled in a HPV vaccine trial	Median 20 (15-24)	3132	21.2	(19.8-22.7)
Chile	Guzmán 2008	Corona and shaft	PCR-GP5+/6+	University students	20-51	61	83.6	(71.9-91.8)

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Table 39 – continued from previous page

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
China	Liu 2015	Coronal sulcus, shaft, glans, and scrotum	PCR-SPF1/GP6+	Population-based esophageal cancer cohort study	25-65	2228	16.9	(15.3-18.5)
Colombia	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of control women	23-82	128	18.8	(12.4-26.6)
Croatia	Vardas 2011 ^b	Penis	RT-PCR-Multiplex or Biplex	Heterosexual men enrolled in a HPV vaccine trial	Median 20 (15-24)	3132	21.2	(19.8-22.7)
	Grce 1996	Urethra	Filter hybridization (slot-blot, TS 6,11,16,18)	Family planning clinic attendees	-	79	26.6	(17.3-37.7)
Denmark	Hebnes 2015	Coronal sulcus, glans, preputial cavity, scrotum, shaft and perineum	HC2	Male employees and conscripts at military barracks	Mean 23 (18-65)	2436	22.2	(20.6-24.0)
	Hebnes 2015	Coronal sulcus, glans, preputial cavity, scrotum, shaft and perineum	PCR-LIPAv2	Male employees and conscripts at military barracks	Mean 23 (18-65)	2436	41.8	(39.9-43.8)
	Kjaer 2005	Glans and corona sulcus	PCR-GP5+/6+ TS oligoprobes	Military conscripts	18-29	337	33.8	(28.8-39.2)
	Kero 2011	Urethra	PCR-MY09/11 and GP5+/6+	Sexual partners of pregnant women	19-46	128	22.7	(15.7-30.9)
Finland	Hippeläinen 1993	Glans, prepuce, corona sulcus, urethral meatus	PCR-MY09/11 TS 6,11,16,18,31,33	Voluntary conscripts	Mean 20	285	16.5	(12.4-21.3)
	Vardas 2011 ^b	Penis	RT-PCR-Multiplex or Biplex	Heterosexual men enrolled in a HPV vaccine trial	Median 20 (15-24)	3132	21.2	(19.8-22.7)
	Grussendorf-Conen 1987	Coronal sulcus and glans	ISH	Blood donors or patients from department of dermatology	16-79	530	5.8	(4.0-8.2)
India	Gupta 2006	Coronal sulcus, distal and intrameatal urethra and glans	PCR-L1 and TS 16,18	Partners of women with normal cytology	Mean 46.9	30	26.7	(12.3-45.9)
Italy	Lorenzon 2014	Coronal sulcus, shaft, prepuce, and urethral	PCR-Roche Linear Array HPV Genotyping test	Heterosexual men for routine HPV testing	18-68	378	40.5	(35.5-45.6)
	Nasca 2006	Penis	PCR-MY09/11 and GP5+/6+	Hospital based controls attending clinic for nongenital complaints	27-79	46	8.7	(2.4-20.8)
Japan	Takahashi 2003	Glans, corona, prepuce	HC2 HR, LR	University students	18-35	75	1.3	(0.0-7.2)
Kenya	Ng'ayo 2008	Glans, corona sulcus, shaft of the penis, scrotum and the perianal region	PCR-PGMY09/MY11 and HMB01	Men working in the fishing industry	18-63	250	57.6	(51.2-63.8)
	Smith 2010	Shaft, glans, coronal sulcus, and inner and external foreskin tissue	PCR-GP5+/6+	Men screened to participate in an RCT of male circumcision	17-28	2705	51.1	(49.2-53.0)
Mexico	Giuliano 2008	Corona sulcus, glans, shaft and scrotum	PCR-PGMY09/11 and GP5/6+	General population and organized health care systems	18-70	362	61.9	(56.7-66.9)

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Table 39 – continued from previous page

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Lajous 2005	Corona, shaft, upper third of the scrotum, urethral meatus, urethra	PCR-BGH 20 and BPCO4	Military conscripts	16-40	1030	44.6	(41.5-47.7)
	Lazcano-Ponce 2001	Corona, urethra	PCR-GP5+/6+	Sexually active college students and industry workers	14-55	96	42.7	(32.7-53.2)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSW from organized health care systems, factories and military	18-70	1305	12.2	(10.5-14.1)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSM from organized health care systems, factories and military	18-70	176	47.2	(39.6-54.8)
	Sánchez-Alemán 2002	Glans and prepuce	HC2 HR	University students	>=18	71	8.5	(3.2-17.5)
	Vaccarella 2006	Scrotum, coronal sulcus, the glans and the opening of the meatus	PCR-PGMY09/11	Men who requested a vasectomy	Mean 34	779	8.7	(6.8-10.9)
	Vardas 2011 ^b	Penis	RT-PCR-Multiplex or Biplex	Heterosexual men enrolled in a HPV vaccine trial	Median 20 (15-24)	3132	21.2	(19.8-22.7)
Philippines	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of control women	19-71	106	4.7	(1.5-10.7)
Republic of Korea	Shin 2004	Glans, corona, scrotum, prepuce, urethra	PCR-SPF10	Male students	Median 22	381	8.7	(6.0-11.9)
Rwanda	Veldhuijzen 2012	Shaft, scrotum, glans/sulcus corona, and foreskin in uncircumcised men	PCR-Roche Linear Array HPV Genotyping test (HR-HPV types)	Men participating in a case-control study assessing risk factors for infertility	Median 31 (IQR=27-38)	166	26.5	(20.0-33.9)
	Veldhuijzen 2012	Shaft, scrotum, glans/sulcus corona, and foreskin in uncircumcised men	PCR-Roche Linear Array HPV Genotyping test (LR-HPV types)	Men participating in a case-control study assessing risk factors for infertility	Median 31 (IQR=27-38)	166	31.3	(24.4-39.0)
South Africa	Mbulawa 2010	Shaft and glans, and the foreskin in uncircumcised men	PCR-Roche Linear Array HPV Genotyping test	HIV- heterosexual men recruited for investigations of genital HPV transmission	18-66	313	50.8	(45.1-56.5)
	Auvert 2010	Urethra	PCR-Roche Amplicor HPV test	Men recruited from the general population for an RCT of male circumcision	IQR=19-22	1683	19.1	(17.2-21.0)
Spain	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of control women	24-78	168	3.6	(1.3-7.6)
	Vardas 2011 ^b	Penis	RT-PCR-Multiplex or Biplex	Heterosexual men enrolled in a HPV vaccine trial	Median 20 (15-24)	3132	21.2	(19.8-22.7)

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Table 39 – continued from previous page

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
Sweden	Kataoka 1991	Urethra	PCR-TS 6,11,16,18,33	Army conscripts with normal epithelium	18-23	66	12.1	(5.4-22.5)
	Forslund 1993	Urethra	PCR-TS (6,11,16,18,31,33,35) and unspecified consensus primer	Military conscripts	20-23	138	8.7	(4.6-14.7)
Tanzania	Olesen 2013	Glans, preputial cavity (uncircumcised men), coronal sulcus (circumcised men), shaft, corpus	PCR-LIPA and HC2	Men from the general population	Mean 34.2	1813	20.5	(18.7-22.5)
Thailand	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of control women	28-78	75	17.3	(9.6-27.8)
Uganda	Tobian 2013	Coronal sulcus and glans	PCR-PGMY09/11	HIV-heterosexual men	15-49	978	60.9	(57.8-64.0)
United States of America	Giuliano 2008	Corona sulcus, glans, shaft and scrotum	PCR-PGMY09/11	General population	18-44	290	30.0	(24.8-35.6)
	Giuliano 2008	Corona sulcus, glans, shaft and scrotum	PCR-PGMY09/11 and GP5/6+	General population and population from University	18-70	416	61.3	(56.4-66.0)
	Hernandez 2008	Glans, corona sulcus, penile shaft, scrotum	PCR-PGMY09/11	University population	Mean 29	300	35.3	(29.9-41.0)
	Nielson 2007	Glans, corona sulcus, penile shaft and scrotum, perianal area, anus	PCR-PGMY09/11	General population volunteers and STD clinic attendees	18-40	463	65.4	(60.9-69.8)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSM from general population and population from University	18-70	1305	12.2	(10.5-14.1)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSM from general population and population from University	18-70	176	47.2	(39.6-54.8)
	Partridge 2007	Glans, urethral meatus, penile shaft and scrotum	PCR-MY09/11 HMB 01	Heterosexual university students	18-20	240	25.8	(20.4-31.9)
	Vardas 2011 ^b	Penis	RT-PCR-Multiplex or Biplex	Heterosexual men enrolled in a HPV vaccine trial	Median 20 (15-24)	3132	21.2	(19.8-22.7)
	Weaver 2004	Glans, prepuce, shaft, scrotum	PCR-MY09/11 HMB 01	University students	18-25	283	35.0	(29.4-40.9)

Data updated on 4 July 2022 (data as of 31 Oct 2015)

HC2: Hybrid Capture 2; ISH: In Situ Hybridization; PCR: Polymerase Chain Reaction; RT-PCR: Real Time Polymerase Chain Reaction; SPF: Short Primer Fragment; TS: Type Specific; MSM: Men who have sex with men; MSW: Men who have sex with women; STD: sexually transmitted diseases

^a 95% Confidence Interval^b Includes cases from Australia, Brazil, Canada, Croatia, Germany, Mexico, Spain, and USA.Data Sources: See references in Section 9 [References](#).

Table 40: Studies on HPV prevalence among men from special subgroups in the World

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
Argentina	Pando 2012	Anus	GP-PCR Reverse line blot hybridization	HIV- MSM	Mean/Median 31 years	69	79.7	(68.3-88.4)

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Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Pando 2012	Anus	GP-PCR Reverse line blot hybridization	HIV+ MSM	Mean/Median 31 years	39	92.3	(79.1-98.4)
Australia	Vajdic 2009	Anal canal	HC2	HIV- MSM	IQR=36-48	193	69.9	(62.9-76.3)
	Anderson 2008	Anal canal	HC2 HR	HIV+ MSM	Median 45 (28-59)	123	86.2	(78.8-91.7)
	Goldstone 2011	Penis	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	18.4	(15.4-21.8)
	Goldstone 2011	Anus	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	42.4	(38.4-46.4)
	Ong 2016	Anus	PCR-Linear Array	HIV+ MSM	Mean 51 (35-82)	281	79.7	(74.5-84.3)
	Vajdic 2009	Anal canal	HC2	HIV+ MSM	IQR=37-49	123	94.3	(88.6-97.7)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSM from general population and population from a STD clinic	18-70	176	47.2	(39.6-54.8)
	de Lima Rocha 2012	Coronal sulcus, glans, and prepuce	PCR-GP5+/6+	Sexual partners of women with cervical HPV infection	18-60	43	51.2	(35.5-66.7)
	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with invasive cervical cancer	27-79	53	35.8	(23.1-50.2)
	Freire 2014	Shaft, glans, balanopreputial sulcus and urethral	PCR-Papillocheck	Men referred to the Urological Division	18-81	355	72.1	(67.1-76.7)
	Goldstone 2011	Anus	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	42.4	(38.4-46.4)
	Goldstone 2011	Penis	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	18.4	(15.4-21.8)
	Guimarães 2011	Anus	PCR-DBH	HIV+	>=18	445	65.6	(61.0-70.0)
	Rosenblatt 2004	Shaft, dorsal and prebalanic area, prepuce, urethral meatus	HC2 HR	Partners of women with CIN	-	30	76.7	(57.7-90.1)
	Rombaldi 2006	Prepuce, preglans, shaft, urethral canal	PCR-L1, MY09/11	Partners of women with CIN	18-56	99	54.5	(44.2-64.6)
	Nicolau 2005	Glans, urethra, internal and external prepuce, scrotum, anus	HC2 HR, LR	Partners of women with HPV	19-53	50	70.0	(55.4-82.1)
Canada	de Pokomandy 2009	Anal canal	PCR-PGMY09/11	HIV+ MSM	Median 43 (21-66)	241	97.9	(95.2-99.3)
	Goldstone 2011	Penis	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	18.4	(15.4-21.8)
	Goldstone 2011	Anus	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	42.4	(38.4-46.4)
	Ogilvie 2009	Shaft, scrotum	PCR-Roche Amplicor HPV test	Heterosexual men attending provincial STD clinic	16-69	262	69.8	(63.9-75.3)
	Salit 2009	Anus	PCR-PGMY09/11	HIV+ MSM participants in TRACE study	38-50	224	93.3	(89.2-96.2)

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Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Salit 2010	Anal canal	HC2	HIV+ MSM	Median 44.4 (IQR=39.4-50.6)	400	93.0	(90.0-95.3)
China	Gao 2010	Anal canal	PCR-Tellgenplex™ HPV DNA Test	HIV+ MSM	≥18 (70% <30 years)	50	96.0	(86.3-99.5)
	Gao 2010	Anal canal	PCR-Tellgenplex™ HPV DNA Test	HIV- MSM	≥18 (70% <30 years)	528	58.9	(54.6-63.1)
	Li 2015	Anus	PCR-GenoArray	HIV+ MSM	18-60	193	99.0	(96.3-99.9)
	Yang 2012	Anus	PCR-Tellgenplex™ HPV DNA Test	HIV+ MSM	≥18	91	70.3	(59.8-79.5)
	Zhang 2014	Anus	PCR-GenoArray	HIV- MSM, STD clinic attendees	IQR=25-34.8	380	33.7	(28.9-38.7)
	Zhang 2014	Anus	PCR-GenoArray	HIV+ MSM STD clinic attendees	IQR=25-34.8	28	71.4	(51.3-86.8)
	Tang 2006	Urethral meatus	PCR-MY09/11	STD clinic attendees	18-70	305	13.8	(10.1-18.2)
Colombia	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with invasive cervical cancer	24-79	50	32.0	(19.5-46.7)
	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with cervical carcinoma in situ	23-76	63	20.6	(11.5-32.7)
Croatia	Goldstone 2011	Anus	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	42.4	(38.4-46.4)
	Goldstone 2011	Penis	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	18.4	(15.4-21.8)
Denmark	Svare 2002	Coronal sulcus, glans, perianal area, scrotum, and shaft	PCR-GP5+/6+ and TS 6,11,16,18,31,33	STD clinic attendees	≥18	198	44.9	(37.9-52.2)
France	Aynaud 2003	Meatal urethra	PCR-TS 6,11,42,16,18,33	Men with penile and urethral lesions whose female partners have genital HPV lesions	Mean 29	55	87.3	(75.5-94.7)
	Aynaud 2003	Meatal urethra	PCR-TS 6,11,42,16,18,33	Men with normal peniscopy whose female partners have genital HPV lesions	Mean 30	34	2.9	(0.1-15.3)
	Philibert 2014	Anus	PCR-Cobas HR-HPV	HIV+ MSM	Mean 46.4 (SD=9.4)	82	76.8	(66.2-85.4)
	Piketty 2004	Anal canal	PCR-MY09/11	HIV+ MSM	27-62	45	80.0	(65.4-90.4)
	Damay 2010	Anal canal	PCR-PapilloCheck®	HIV+ MSM	Median 45 (39-49.5)	67	74.6	(62.5-84.5)
	Philibert 2014	Anus	PCR-Cobas HR-HPV	HIV- MSM	Mean 46.4 (SD=9.4)	16	75.0	(47.6-92.7)
Germany	Schneider 1988	Glans, prepuce, fossa navicularis, shaft	Filter hybridization DNA/DNA	Sexual partners of women with HPV associated lesions of the cervix	Mean 36.5	156	39.1	(31.4-47.2)
	Goldstone 2011	Anus	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	42.4	(38.4-46.4)

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Table 40 – continued from previous page

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Goldstone 2011	Penis	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	18.4	(15.4-21.8)
	Wieland 2015	Anus	PCR-Multiplex and hybridization	HIV+ MSM	18-80	801	91.5	(89.4-93.3)
Greece	Hadjivassiliou 2007	Urethra	HC2 HR, LR	HIV- STD clinic attendees without genital warts and sexual partners of women with genital warts	15-65	64	20.3	(11.3-32.2)
India	Gupta 2006	Coronal sulcus, distal and intrameatal urethra and glans	PCR-L1 and TS 16,18	Partners of women with cervical cancer	Mean 46.4	30	66.7	(47.2-82.7)
Ireland	Sadler 2014	Anus	PCR-TS 16,18,31	HIV+ MSM	Mean 40 (SD=10)	83	77.1	(66.6-85.6)
	Sadler 2014	Anus	PCR-TS 16,18,31	HIV- MSM	Mean 32 (SD=8)	80	61.3	(49.7-71.9)
Italy	Giovannelli 2007	Coronal sulcus, frenulum, glans, prepuce, shaft	PCR-LiPA, GP5+/6+ and MY09/11	Partners of women with HPV	23-58	47	68.1	(52.9-80.9)
	Benevolo 2008	Coronal sulcus, urethra, prepuce, shaft	PCR-L1	Male partners of women with CIN and/or positive HPV	20-61	71	35.2	(24.2-47.5)
	Chiarini 1998	Urethra	PCR-Generic primers in E1	Men with symptoms of nongonococcal urethritis	-	247	31.2	(25.5-37.4)
	Della Torre 1992	Urethra	PCR-TS 6,11,16,18	Partners of women with HPV	-	64	21.9	(12.5-34.0)
	Dona 2015	Anus	PCR-Linear Array	HIV+ MSM	Median 41 (IQR=33-47)	172	93.0	(88.1-96.3)
	Dona 2015	Anus	PCR-Linear Array	HIV- MSM	Median 32 (IQR=27-39)	437	72.1	(67.6-76.2)
	Garbuglia 2015	Anus	PCR-MY09/11	HIV+ MSM	Median 39 (IQR=33-44)	220	88.6	(83.7-92.5)
	Orlando 2008	Anus	HC2	HIV+	Median 34 (IQR=30-42)	233	87.1	(82.1-91.1)
	Barzon 2010	Glans, corona, shaft, perianal area, urethra, and semen	PCR-General primers for L1 (MY09/11, GP5 + /6+)	Men referred for HPV testing. Indications for testing: STD screening, HPV suspected lesions, HPV-positive partners	20-72	947	41.7	(38.5-44.9)
	Pierangeli 2008	Anal canal	PCR-MY09/11	HIV- MSM	28-62	9	88.9	(51.8-99.7)
	Sammarco 2016	Coronal sulcus	PCR-Multiplex and RFLP and sequencing	HIV+ MSM	Mean 38 (IQR=20-53)	50	22.0	(11.5-36.0)
	Sammarco 2016	Urethra	PCR-Multiplex and RFLP and sequencing	HIV+ MSM	Mean 38 (IQR=20-53)	50	10.0	(3.3-21.8)
	Sammarco 2016	Anus	PCR-Multiplex and RFLP and sequencing	HIV+ MSM	Mean 38 (IQR=20-53)	50	56.0	(41.3-70.0)
	Pierangeli 2008	Anal canal	PCR-MY09/11	HIV+ MSM	25-65	18	94.4	(72.7-99.9)

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Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
Japan	Nagata 2015	Anus	PCR-Invader	HIV+ heterosexual men	Median 44 (IQR=39-55)	34	20.6	(8.7-37.9)
	Nagata 2015	Anus	PCR-Invader	HIV+ MSM	Median 44 (IQR=39-55)	361	75.9	(71.1-80.2)
	Shigehara 2010	Coronal sulcus, glans, prepuce, urethra, and urine	PCR-HPV GenoArray	Men with urethritis	Mean 35.2 (19-62)	142	47.9	(39.4-56.4)
	Takahashi 2003	Coronal sulcus, glans, prepuce	HC2 HR, LR	Patients with urethritis	17-49	130	18.5	(12.2-26.2)
	Takahashi 2005	Glans, corona, inner surface of prepuce	HC2 HR, LR	STD clinic attendees	18-35	204	5.9	(3.1-10.0)
Mexico	Torres-Ibarra 2014	Anus	PCR-PGMY09/11	HIV+ MSM	18-69	446	93.0	(90.3-95.2)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSM from organized health care systems, factories and military	18-70	176	47.2	(39.6-54.8)
	Goldstone 2011	Anus	RT-PCR-Multiplex or Bplex	HIV- MSM	Median 22 (16-27)	602	42.4	(38.4-46.4)
	Goldstone 2011	Penis	RT-PCR-Multiplex or Bplex	HIV- MSM	Median 22 (16-27)	602	18.4	(15.4-21.8)
	Leyva-López 2003	Urethral meatus	PCR-L1	Partners of women with CIN	17-64	187	2.1	(0.6-5.4)
	Mendez-Martinez 2014	Anus	PCR-INNO-LIPA	HIV+ MSM	Median 39 (IQR=33-45)	324	86.1	(81.9-89.7)
	Van Doornum 1994	Corona, urethra, anus, rectum	PCR-TS 6/11,16,18,33	STD clinic attendees	Mean 37	85	28.2	(19.0-39.0)
	van der Snoek 2003	Perianal area	PCR-TS primers and LiPA	HIV+ MSM	29-59	17	64.7	(38.3-85.8)
Netherlands	Bleeker 2005	Corona, frenulum, glans, inner prepuce	PCR-GP5+/6+	Partners of women with dyskaryosis and/or CIN	22.5-57.7	181	72.9	(65.8-79.3)
	van der Snoek 2003	Coronal sulcus	PCR-TS primers and LiPA	HIV+ MSM	29-59	17	23.5	(6.8-49.9)
	Bleeker 2005	Corona, frenulum, glans, inner prepuce	PCR-GP5+/6+	Men visiting department of dermatology for non-STI complaints	22.8-73.2	83	25.3	(16.4-36.0)
	Bleeker 2002	Glans, corona, frenulum, prepuce	PCR-GP5+/6+	Partners of women with CIN	24-58	119	58.8	(49.4-67.8)
	van der Snoek 2003	Perianal area	PCR-TS primers and LiPA	HIV- MSM	19-76	241	32.8	(26.9-39.1)
	van Rijn 2014	Anal canal	PCR-LIPA TS 16,18,31,33,45,52,58	HIV+ MSM	Median 45.6 (IQR=39.4-52.5)	306	56.9	(51.1-62.5)
	van der Snoek 2003	Coronal sulcus	PCR-TS primers and LiPA	HIV- MSM	19-76	241	15.8	(11.4-21.0)
	van Rijn 2014	Penile shaft	PCR-LIPA TS 16,18,31,33,45,52,58	HIV+ MSM	Median 45.6 (IQR=39.4-52.5)	306	23.2	(18.6-28.3)

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Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Welling 2015	Penis	PCR-SPF DEIA LIPA	HIV- MSM	Median 38 (IQR=33-42)	461	29.5	(25.4-33.9)
	Welling 2015	Anus	PCR-SPF DEIA LIPA	HIV- MSM	Median 38 (IQR=33-42)	461	60.1	(55.5-64.6)
	Welling 2015	Anus	PCR-SPF DEIA LIPA	HIV+ MSM	Median 46 (IQR=39-53)	317	78.2	(73.3-82.7)
	Welling 2015	Penis	PCR-SPF DEIA LIPA	HIV+ MSM	Median 46 (IQR=39-53)	317	49.5	(43.9-55.2)
	Vriend 2013	Anal canal	PCR-LIPA	MSW STD clinic attendees	Median 22 (16-24)	124	33.1	(24.9-42.1)
	Vriend 2013	Penis	PCR-LIPA	MSW STD clinic attendees	Median 22 (16-24)	124	16.1	(10.1-23.8)
	Vriend 2013	Anal canal	PCR-LIPA	MSM STD clinic attendees	Median 22 (16-24)	56	3.6	(0.4-12.3)
	Vriend 2013	Penis	PCR-LIPA	MSM STD clinic attendees	Median 22 (16-24)	56	26.8	(15.8-40.3)
	van Rijn 2014	Penile shaft	PCR-LIPA TS 16,18,31,33,45,52,58	HIV- MSM	Median 37.6 (IQR=33.6-42.2)	441	11.1	(8.3-14.4)
	van Rijn 2014	Anal canal	PCR-LIPA TS 16,18,31,33,45,52,58	HIV- MSM	Median 37.6 (IQR=33.6-42.2)	441	33.6	(29.2-38.2)
Peru	Blas 2015	Coronal sulcus, glans, penis shaft, and scrotum	PCR-Linear Array	HIV- MSM	Mean 34 (18-59)	101	40.6	(30.9-50.8)
	Blas 2015	Anal canal	PCR-Linear Array	HIV- MSM	Mean 34 (18-59)	101	76.2	(66.7-84.1)
	Quinn 2012	Anus	PCR-Line blot	MSM	Mean 33 (SD=10.1)	105	77.1	(67.9-84.8)
Philippines	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with invasive cervical cancer	22-77	149	6.0	(2.8-11.2)
Russian Federation	Wirtz 2015	Anus	PCR-TS 6,11,16,18,31,33	HIV+ MSM	Median 29 (19-50)	58	50.0	(36.6-63.4)
	Wirtz 2015	Anus	PCR-TS 6,11,16,18,31,33	HIV- MSM	Median 29 (19-50)	65	30.8	(19.9-43.4)
Slovenia	Golob 2014	Penis	PCR-Linear Array	Men from infertile couples	Mean 33	299	37.1	(31.6-42.9)
	Milosevic 2010	Anal canal	PCR-Linear Array	HIV- MSM	16-80	116	75.0	(66.1-82.6)
	Milosevic 2010	Anal canal	PCR-Linear Array	HIV+ MSM	20-57	20	95.0	(75.1-99.9)
South Africa	Müller 2010	Glans penis, coronal sulcus, penile shaft and anogenital warts	PCR-Roche Linear Array HPV Genotyping test	Men with anogenital wart attending a sexual health clinic	Mean 29.8	108	100.0	(96.6-100.0)
	Müller 2010	Glans penis, coronal sulcus and penile shaft	PCR-Roche Linear Array HPV Genotyping test	Asymptomatic men attending for HIV voluntary counselling and testing a sexual health clinic	Mean 29.8	50	62.0	(47.2-75.3)
	Müller 2010	Glans penis, coronal sulcus and penile shaft	PCR-Roche Linear Array HPV Genotyping test	Men with urethritis syndrome attending a sexual health clinic	Mean 29.8	56	48.2	(34.7-62.0)

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Table 40 – continued from previous page

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Firnhaber 2011	Prepuce, penile shaft and genital wart areas of the penis	PCR-Roche Linear Array HPV Genotyping test	Men with penile warts attending a public sector antiretroviral treatment clinic	Mean 36.0	73	100.0	(95.1-100.0)
	Vogt 2013	Coronal sulcus, glans and shaft	PCR-PGMY09/11	Heterosexual men attending an HIV testing centre	IQR=29-37	34	58.8	(40.7-75.4)
	Mbulawa 2010	Shaft and glans, and the foreskin in uncircumcised men	PCR-Roche Linear Array HPV Genotyping test	HIV+ heterosexual men recruited for investigations of genital HPV transmission	19-67	158	77.2	(69.9-83.5)
Spain	Goldstone 2011	Penis	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	18.4	(15.4-21.8)
	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with cervical carcinoma in situ	22-76	102	21.6	(14.0-30.8)
	Hidalgo-Tenorio 2015	Anus	PCR-GeneAmp HR-HPV	HIV+ MSM	Mean 37.4 (SD=9.5)	197	80.2	(73.9-85.5)
	Sendagorta 2014	Anus	PCR-Genomic amplification	HIV+ MSM/bisexual men	>=18	298	93.0	(89.4-95.6)
	Sendagorta 2015	Anus	PCR-HR Clart HPV2	HIV+ MSM	Median 42 (IQR=33-50)	101	82.2	(73.3-89.1)
	Torres 2013	Anus	PCR-Roche Linear Array HPV Genotyping test	HIV+ MSM	IQR=28.2-40.1	1439	95.8	(94.6-96.7)
	Videla 2013	Anus	PCR-TS primers in E6/E7 F-HPV TM typing (Molgentix SL, Spain)	HIV+ Heterosexual men attending an outpatient HIV clinic	40-48	195	41.5	(34.5-48.8)
	Videla 2013	Coronal sulcus, glans, urethra, shaft	PCR-TS primers in E6/E7 F-HPV TM typing (Molgentix SL, Spain)	HIV+ Heterosexual men attending an outpatient HIV clinic	40-48	191	27.2	(21.0-34.1)
	Goldstone 2011	Anus	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	42.4	(38.4-46.4)
	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with invasive cervical cancer	25-74	84	11.9	(5.9-20.8)
	Videla 2013	Anus	PCR-TS primers in E6/E7 F-HPV TM typing (Molgentix SL, Spain)	HIV+ MSM attending an outpatient HIV clinic	36-47	538	84.2	(80.8-87.2)

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Table 40 – continued from previous page

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Álvarez-Argüelles 2013	Balanopreputial	PCR-General primers in L1 (MY09/11, GP5 + /6+), PCR with TS primers in E6/E7 for typing	STD clinic attendees	17-87	1318	36.9	(34.3-39.5)
	Álvarez-Argüelles 2013	Anus	PCR-General primers in L1 (MY09/11, GP5 + /6+), PCR with TS primers in E6/E7 for typing	STD clinic attendees	17-87	123	49.6	(40.5-58.8)
	Videla 2013	Coronal sulcus, glans, urethra, shaft	PCR-TS primers in E6/E7 F-HPVTM typing (Molgentix SL, Spain)	HIV+ MSM attending an outpatient HIV clinic	36-47	457	24.9	(21.0-29.2)
Sweden	Kataoka 1991	Urethra	PCR-TS 6,11,16,18,33	Army conscripts with aceto-white epithelium	18-23	39	25.6	(13.0-42.1)
	Löwhagen 1999	Anus	PCR-MY09/11	HIV- MSM	26-62	13	53.8	(25.1-80.8)
	Strand 1993	Coronal sulcus, glans, preputium, and shaft	PCR-MY09/11 and GP5+/6+	STD clinic attendees	20-53	65	29.2	(18.6-41.8)
	Löwhagen 1999	Anus	PCR-MY09/11	HIV+ MSM	27-54	17	94.1	(71.3-99.9)
	Wikström 1991	Coronal sulcus, inner part of the prepuce, urethra	PCR-TS primers followed by dot blot	STD clinic attendees	17-58	228	53.9	(47.2-60.5)
	Wikström 2000	Corona, glans, and prepuce	PCR-GP5+/6+	STD clinic attendees	18-54	235	13.2	(9.1-18.2)
	Voog 1997	Glans and prepuce	PCR-MY09/11 and GP5+/6+	STD clinic attendees	19-67	20	25.0	(8.7-49.1)
Thailand	Supindham 2015	Anus	PCR-Linear Array	MSM-Gay men who self-identify as men and prefer insertive and/or receptive anal sex with other men	18-54	85	89.4	(80.8-95.0)
	Leaungwutiwong 2015	Anus	Nested-PCR and sequencing	HIV- MSM sex worker	Median 26	50	30.0	(17.9-44.6)
	Leaungwutiwong 2015	Anus	Nested-PCR and sequencing	HIV- MSM	Median 33	50	30.0	(17.9-44.6)
	Phanuphak 2013	Anus	PCR-Roche Linear Array HPV Genotyping test	HIV- MSM	>=18	123	58.5	(49.3-67.3)
	Supindham 2015	Anus	PCR-Linear Array	MSM-Bisexual men who self-identify as men and engage in insertive and/or receptive anal sex with men and women	18-36	29	48.3	(29.4-67.5)

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Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Supindham 2015	Anus	PCR-Linear Array	MSM- Transgender women who are born as anatomical males (and who may or may not have undergone genital surgery), but who self-identify as women and prefer receptive anal sex with men	18-48	83	80.7	(70.6-88.6)
	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with invasive cervical cancer	25-77	109	22.0	(14.6-31.0)
	Phanuphak 2013	Anus	PCR-Roche Linear Array HPV Genotyping test	HIV+ MSM	>=18	123	85.4	(77.9-91.1)
Uganda	Tobian 2013	Coronal sulcus and glans	PCR-PGMY09/11	HIV+ heterosexual men	15-49	421	90.7	(87.6-93.3)
United Kingdom	Cuschieri 2011	Shaft	PCR-INNO-LiPA	Drop-in sexual health service attendees	16-25	117	29.1	(21.0-38.2)
	Hillman 1993	Urethra	PCR-GP5+/6+	Men infected with gonorrhea	17-55.6	100	18.0	(11.0-26.9)
	Jalal 2007	Urethra	PCR-General primers for L1 (MY09/11, GP5 + /6+) and RLH	Genitourinary clinic attendees	15-77	437	20.8	(17.1-24.9)
	King 2015	Anus	PCR-Multiplex and Bio-Plex Any nonavalent vaccine HPV types	MSM	Median 30 (IQR=25-35)	454	40.1	(35.5-44.8)
	King 2015	Coronal sulcus, glans, penis shaft, scrotum and perianal area	PCR-Multiplex and Bio-Plex Any nonavalent vaccine HPV types	MSM	Median 30 (IQR=25-35)	446	36.1	(31.6-40.7)
	Lacey 1999	Anal canal	PCR-GP5+/6+	HIV+ MSM	19-62	57	84.2	(72.1-92.5)
	Bissett 2011	Glans, prepuce, shaft, scrotum	PCR-General primers (GP5 + /6+), Bio-Plex array technology for typing	Genitourinary clinic attendees with multiple sexual partners or diagnosis of genital warts within 6 months	-	87	49.4	(38.5-60.4)
United States of America	Wiley 2013	Anus	PCR-PGMY09/11	HIV+ MSM	Mean 55	579	90.7	(88.0-92.9)
	Wiley 2013	Anus	PCR-PGMY09/11	HIV- MSM	Mean 55	683	70.3	(66.7-73.7)
	Baken 1995	Penis	PCR-MY09/11	Heterosexual partners of STD clinic attendees	>17	48	62.5	(47.4-76.0)
	Baldwin 2003	Glans, corona, urethra	PCR-PGMY09/11	STD clinic attendees	18-70	393	28.2	(23.8-33.0)
	Berry 2009	Anal canal	PCR-MY09/11	HIV+ MSM	26-75	32	90.6	(75.0-98.0)
	Berry 2009	Anal canal	PCR-MY09/11	HIV- MSM	26-75	81	56.8	(45.3-67.8)
	Caussy 1990	Anus	PCR-TS 6,11,16,18,31,33,35	HIV+ and HIV-homosexual men	Mean 40.6	105	39.0	(29.7-49.1)

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Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Chin-Hong 2004	Anus	PCR-MY09/11	HIV- MSM in EXPLORE cohort	18-89	1218	56.8	(54.0-59.6)
	Chin-Hong 2008	Anus	PCR- generic probe set by DBH	HIV- homosexual or bisexual men	24-73	87	57.5	(46.4-68.0)
	Chin-Hong 2008	Anus	PCR- generic probe set by DBH	HIV+ homosexual or bisexual men	24-73	38	86.8	(71.9-95.6)
	Colón-López 2014	Anus	PCR-MY09/11	STD clinic attendees (29.8% MSM)	>=18	192	57.8	(50.5-64.9)
	Conley 2010	Anal canal	PCR-Linear Array	HIV+ MSW	Median 42 (IQR=38-48)	92	58.7	(47.9-68.9)
	Conley 2010	Anal canal	PCR-Linear Array	HIV+ MSM	Median 42 (IQR=36-48)	379	95.8	(93.2-97.6)
	Critchlow 1998	Anus	PCR-MY09/11	HIV+ homosexual men	Mean 34	322	91.6	(88.0-94.4)
	Wilkin 2004	Anal canal	HC2	HIV+ MSM	90% > 30 years	55	78.2	(65.0-88.2)
	Fife 2003	Glans, corona, shaft, inguinal skin, scrotum, perineum, perianal, urine	PCR-TS 6,11	STD clinic attendees	18-50	20	10.0	(1.2-31.7)
	Friedman 1998	Anal canal	PCR-MY09/11, HMB01, and HC	HIV- MSM	<40 years	46	69.6	(54.2-82.3)
	Critchlow 1998	Anus	PCR-MY09/11	HIV- homosexual men	Mean 34	284	66.5	(60.7-72.0)
	Gandra 2015	Anus	HC2	HIV+ heterosexual men	Median 55 (IQR=49-60)	40	27.5	(14.6-43.9)
	Palefsky 2005	Anal canal	PCR-L1 consensus primers	HIV+ MSM	-	323	95.4	(92.5-97.4)
	Palefsky 1998	Anus	PCR-MY09/11	HIV- homosexual or bisexual men	26-73	200	61.0	(53.9-67.8)
	Friedman 1998	Anal canal	PCR-MY09/11, HMB01, and HC	HIV+ MSM	<40 years	135	90.4	(84.1-94.8)
	Palefsky 1998	Anus	PCR-MY09/11	HIV+ homosexual or bisexual men	24-64	289	93.1	(89.5-95.7)
	Palefsky 1997	Anus	PCR-MY09/11	HIV+ homosexual or bisexual men	24-66	118	93.2	(87.1-97.0)
	Nyitray 2011	Anal canal	PCR-PGMY09/11	HIV- MSM from general population and population from University	18-70	176	47.2	(39.6-54.8)
	Palefsky 1998	Anus	PCR-MY09/11	HIV+ and HIV- homosexual or bisexual men	24-73	489	80.0	(76.1-83.4)
	Kiviat 1993	Anal canal	PCR-MY09/11	HIV+ MSM/bisexual men	16-50	241	91.7	(87.5-94.9)
	Kiviat 1993	Anal canal	PCR-MY09/11	HIV- MSM/bisexual men	16-50	152	78.3	(70.9-84.6)
	Hood 2016	Anus	PCR-MY09/11	HIV+ MSM	Mean 39.5 (SD=7.8)	309	92.6	(89.0-95.2)

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Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	No. Tested	HPV Prevalence	
							%	(95% CI) ^a
	Goldstone 2011	Anus	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	42.4	(38.4-46.4)
	Goldstone 2011	Penis	RT-PCR-Multiplex or Biplex	HIV- MSM	Median 22 (16-27)	602	18.4	(15.4-21.8)
	Gandra 2015	Anus	HC2	HIV+ MSM	Median 49 (IQR=41-57)	107	54.2	(44.3-63.9)
	Moscicki 2003	Anus	PCR-MY09/11 and HMB01	High-risk adolescent boys in REACH cohort	13-18	83	44.6	(33.7-55.9)

Data updated on 4 July 2022 (data as of 31 Oct 2015)

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLH: Reverse Line Hybridisation; RT-PCR: Real Time Polymerase Chain Reaction; SPF: Short Primer Fragment; TS: Type Specific; MSM: Men who have sex with men; MSW: Men who have sex with women; STD: sexually transmitted diseases

^a 95% Confidence Interval

Data Sources: See references in Section 9 [References](#).

4.4 HPV burden in the head and neck

The last evaluation of the International Agency for Research in Cancer (IARC) on the carcinogenicity of HPV in humans concluded that (a) there is enough evidence for the carcinogenicity of HPV type 16 in the oral cavity, oropharynx (including tonsil cancer, base of tongue cancer and other oropharyngeal cancer sites), and (b) limited evidence for laryngeal cancer (IARC Monograph Vol 100B). There is increasing evidence that HPV-related oropharyngeal cancers constitute an epidemiological, molecular and clinical distinct form as compared to non HPV-related ones. Some studies indicate that the most likely explanation for the origin of this distinct form of head and neck cancers associated with HPV is a sexually acquired oral HPV infection that is not cleared, persists and evolves into a neoplastic lesion. Around 30% of oropharyngeal cancers (which mainly comprises the tonsils and base of tongue sites) are caused by HPV with HPV16 being the most frequent type (de Martel C et al. Int J Cancer 2017;141(4):664-670). Attributable fraction varies greatly worldwide, being highest in more developed countries (60% in Republic of Korea, 51% in North America, 50% in Eastern Europe, 46% in Japan, 42% in North-Western Europe, 41% in Australia/New Zealand, 24% in South Europe, 23% in China, 22% in India, and 13% in elsewhere) (de Martel C et al. Lancet Glob Health 2020;8(2):e180-e190). In this section, the HPV burden in the head and neck in the World is presented.

4.4.1 Burden of oral HPV infection in healthy population

Table 41: Studies on oral HPV prevalence among healthy in the World

Study	Specimen collection method / anatomic site	HPV detection method ^a	Population	% males	Age (years) ^b	No. tested ^c	HPV prevalence % (95% CI)	High-Risk HPV prevalence % (95% CI)	5 most frequent HPVs, HPV type (n) ^d
Eike 1995	Brush/swab / Most parts of mouth	PCR-MY09/11	Convenient samples from out-patients	0	20-79	61	0 (0.0-5.9)	-	-
Leimola-Virtanen 1996	Brush/swab / Most parts of mouth	PCR-GP5/6	Convenient samples from general population	0	55	131	10.7 (6.5-17.1)	-	-
Lambropoulos 1997	Brush/swab / Most parts of mouth	PCR-MY09/11	Convenient samples from out-patients	50	14-85	169	9.5 (9.5-14.8)	-	HPV6 (6); X (5); 16 (4); 11 (1)
Schwartz 1998	Brush/swab & oral rinse / Oral mucosa	PCR-MY09/11 TS-E6	Age-matched controls	63	18-65	435	9.199999999999999 (6.8-12.3)	-	-
Summersgil 2001	Oral rinse / Oral mucosa	PCR-MY09/11 GP5+	Convenient samples from out-patients	40	0-20	268	6 (3.7-9.5)	3.4 (1.8-6.3)	HPV16 (8); X (4); 6 (2); 17 (1); 18 (1)
Winer 2003	Brush / swab / Oral mucosa	PCR-MY09/11 HMB01	General population	0	18-20	318	1.9 (0.9-4.1)	-	HPVX (6)
Herrero 2003	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-GP5+/6+	Age-matched controls	56.99999999999999	20-85	364	4.1 (2.5-6.7)	-	-
Herrero 2003	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-GP5+/6+	Age-matched controls	86	20-85	114	12.3 (7.5-19.6)	-	-
Herrero 2003	Brush/swab & oral rinse & gargle / Oral & oropharyngeal mucosa	PCR-GP5+/6+	Age-matched controls	50	28-73	50	6 (2.1-16.2)	-	-

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Study	Specimen collection method / anatomic site	HPV detection method ^a	Population	% males	Age (years) ^b	No. tested ^c	HPV prevalence % (95% CI)	High-Risk HPV prevalence % (95% CI)	5 most frequent HPV types (n) ^d
Smith 2004	Oral rinse / Oral mucosa	PCR-MY09/11 TS-E6	Convenient samples from general population	100	-	68	5.9 (2.3-14.2)	4.4 (1.5-12.2)	HPV31 (2); 13 (1); 39 (1)
Smith 2004	Oral rinse / Oral mucosa	PCR-GP5+/6+ MY09/11	Age-matched controls	59	-	333	18.3 (14.5-22.8)	10.8 (7.9-14.6)	HPV16 (33)
Kurose 2004	Brush/swab / Oral mucosa	PCR-MY09/11	Convenient samples from out-patients	42	3-85	662	0.3 (0.1-1.1)	0.2 (0.0-0.9)	HPV12 (1); 16 (1); 53 (1); 71 (1)
Koppikar 2005	Oral rinse / Oral mucosa	PCR-CP FAP	Age-matched controls	80	-	102	0 (0.0-3.6)	0 (0.0-3.6)	HPV20 (2); 12 (1); 48 (1); 23 (1)
Hansson 2005	Brush/swab / Tonsillar fossa	PCR-GP5+/6+ MY09/11	Age-matched controls	67	33-89	320	2.5 (1.3-4.9)	0.3 (0.1-1.7)	HPV76 (3); 75 (2); 13 (2); 16 (1); 25 (1); 54 (1); 44 (1); 62 (1); 67 (1); 68 (1); 87 (1); X (1)
do 2006	Brush/swab / Most parts of Oropharynx	PCR-MY09/11	Convenient samples from out-patients	57.99999999999999	10-82	50	10 (4.3-21.4)	6 (2.1-16.2)	HPV61 (2); X (2); 16 (1); 18 (1); 52 (1)
Marais 2006	Brush/swab / Oral mucosa	PCR-L1 consensus	Convenient samples from out-patients	45	1-61	307	4.6 (2.7-7.5)	0.7 (0.2-2.3)	HPV13 (6); 32 (4); 11 (2); 72 (2); 16 (1)
Rose 2006	Brush/swab / Oral mucosa	PCR-MY09/11 FAP59/64	Age-matched controls	44	22-85	88	1.1 (0.2-6.2)	-	-
Pintos 2008	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-PGMY09/11	Age-matched controls	71	26-84	129	4.7 (2.1-9.8)	3.1 (1.2-7.7)	HPV58 (3); 11 (1); 44 (1); 56 (1); 66 (1)
Montaldo 2007	Saliva / Oral mucosa	GP5 + N/MY09	Convenient samples from out-patients	42	4-77	164	18.3 (13.1-24.9)	18.3 (13.1-24.9)	HPV16 (23); 31 (7)
Ragin 2007	Oral rinse and gargle / Oral mucosa and throat	PCR-GP5+/6+ PGMY09/11 HMB01	General population	0	18-65	212	5.7 (3.3-9.6)	1.4 (0.5-4.1)	HPV70 (8); 16 (2); 62 (2); 31 (1); 32 (1); 66 (1)
Smith 2007	Oral rinse / Oral mucosa	PCR-MY09/11 GP5+	Convenient samples from out-patients	45	0-20	1235	5.9 (2.3-14.2)	-	-
Anaya-Saavedra 2008	Brush/swab / Oral mucosa	PCR-GP5+/6+ MY09/11	Age-matched controls	53	27-86	248	16.1 (12.1-21.2)	9.699999999999999 (6.6-14.0)	HPV16 (15); 11 (7); 18 (5); 6 (4); 13 (4)
D'Souza 2009	Oral rinse / Oral mucosa	PCR-PGMY09/11	Convenient samples from general population	100	18-23	210	2.9 (1.3-6.1)	1.9 (0.7-4.8)	HPV16 (1); 35 (1); 39 (1); 51 (1); 66 (1); 84 (1)

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Study	Specimen collection method / anatomic site	HPV detection method ^a	Population	% males	Age (years) ^b	No. tested ^c	HPV prevalence % (95% CI)	High-Risk HPV prevalence % (95% CI)	5 most frequent HPV types (n) ^d
D'Souza 2009	Oral rinse / Oral mucosa	PCR-PGMY09/11	Age-matched controls	76	25-87	332	4.8 (3.0-7.7)	2.1 (1.0-4.3)	HPV62 (3); 58 (2); 6 (1); 11 (1); 16 (1); 42 (1); 51 (1); 52 (1); 56 (1); 58 (1); 59 (1); 61 (1); 62 (1); 66 (1); 68 (1); 73 (1); 83 (1); 89 (1)
Szarka 2009	Brush/swab / Oral mucosa	PCR-GP5+/6+ MY09/11	Age-matched controls	26	22-77	72	4.2 (1.4-11.5)	2.8 (0.8-9.6)	HPV16 (2); 11 (1)
Esquenazi 2010	Brush/swab / Oral mucosa and mastication sites	PCR-GP5+/6+ MY09/11	Convenient samples from general population	40	20-31	100	0 (0.0-3.7)	-	-
Kreimer 2011	Oral rinse / Oral mucosa	PCR-PGMY09/11	Convenient samples from general population	100	18-74	499	2.8 (1.7-4.7)	1.4 (0.7-2.9)	HPV16 (4); 51 (2); 61 (2); 6 (1); 58 (1); 62(1); 66 (1); 70 (1); 83 (1); 84 (1)
Kreimer 2011	Oral rinse / Oral mucosa	PCR-PGMY09/11	Convenient samples from general population	100	18-74	570	4.2 (2.8-6.2)	1.4 (0.7-2.7)	HPV16 (3); 6 (3); 66 (3); 72 (3); 84 (3)
Kreimer 2011	Oral rinse / Oral mucosa	PCR-PGMY09/11	Convenient samples from general population	100	18-74	557	5.9 (4.2-8.2)	1.3 (0.3-2.6)	HPV44 (15); 16 (3); 61 (3); 11 (2); 62 (2); 71 (2); 82 (2)
Ribeiro 2011	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-PGMY09/11	Age-matched controls	-	-	898	0.2 (0.1-0.8)	-	-
Ribeiro 2011	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-PGMY09/11	Age-matched controls	-	-	898	0.2 (0.1-0.8)	-	-
Ribeiro 2011	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-PGMY09/11	Age-matched controls	-	-	898	0.2 (0.1-0.8)	-	-
Ragin 2011	Brush/swab & oral rinse / Oral mucosa and tonsil	PCR-PGMY09/11	General population	0	24-78	118	10.2 (5.9-16.9)	2.1 (0.9-4.9)	HPV84 (3); 83 (2); 52 (1); 54 (1); 61 (1); 82 (1); 16 (1); 33 (1); 35 (1); 52 (1); 66 (1); 70 (1)

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Table 41 – continued from previous page

Study	Specimen collection method / anatomic site	HPV detection method ^a	Population	% males	Age (years) ^b	No. tested ^c	HPV prevalence % (95% CI)	High-Risk HPV prevalence % (95% CI)	5 most frequent HPVs, HPV type (n) ^d
Migaldi 2012	Brush/swab / Oral mucosa	PCR-MY09/11 TS-E6/E7	Convenient samples from out-patients	50	49-77	81	0 (0.0-4.5)	0 (0.0-4.5)	HPV90 (1)
Pickard 2012	Oral rinse / Oral mucosa	PCR-PGMY09/11	Convenient samples from general population	60	18-30	766	2.6 (1.7-4.0)	-	-
Kero 2012	Brush/swab / Most parts of mouth	PCR-GP5+/6+ MY09/11	Convenient samples from general population	100	19-46	131	18.3 (12.6-25.8)	13 (8.3-19.8)	HPV16 (12); 33 (3); 82 (3); 6 (1); 11 (1); 18 (1); 31 (1); 43 (1); 70 (1)
Edelstein 2012	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-PGMY09/11 HMB01	General population	100	18-25	212	7.5 (4.7-11.9)	13.2 (9.3-18.4)	HPV16 (6); 18 (5); 33 (4); 39 (4); 31 (3)
Gonzalez-Ramirez 2013	Brush/swab / Oral mucosa	PCR-GP5+/6+ MY09/11 L1C1/L1C2	Age-matched controls	43	21-NS	320	2.5 (1.3-4.9)	2.5 (1.3-4.9)	HPV18 (6); 16 (2)
Seifi 2013	Saliva / Oral mucosa	PCR-GP5+/6+ MY09/11	Convenient samples from out-patients	46	16-61	114	6.1 (3.0-12.1)	4.4 (1.9-9.9)	HPV18 (5); 6 (1); 66 (1)
Nordfors 2013	Oral rinse and gargle / Oral mucosa and throat	PCR-Multiplex	Convenient samples from general population	52	17-21	335	1.8 (0.8-3.9)	1.8 (0.8-3.9)	HPV16 (4); 56 (1); 58
Lang 2013	Oral rinse and gargle / Oral mucosa and throat	PCR-SPF10 TS 16/18	Age-matched controls	0	22-29	2926	5.4 (4.6-6.2)	1.5 (1.1-2.0)	HPVX (102); 16 (12); 51 (10); 52 (7); 66 (6)
Morbini 2013	Brush/swab / Cheeks	PCR-SPF10	Age-matched controls	84	31-NS	51	15.7 (8.2-28.0)	2 (0.3-10.3)	HPVX (7); 16 (1)
Cavenaghi 2013	Oral rinse and gargle / Oral mucosa and throat	PCR-MY09/11	Convenient samples from general population	39	4-89	145	2.1 (0.7-5.9)	0.7 (0.1-3.8)	HPV44 (2); 58 (1)
Meyer 2014	Brush/swab & oral rinse / Oral mucosa and tonsils	PCR-A5/A10 A6/A8	General population	0	-	129	5.4 (2.7-10.8)	-	-
Machado 2014	Brush/swab / Most parts of mouth	PCR-PGMY09/11	Convenient samples from out-patients	100	18-68	514	1.2 (0.5-2.5)	0.2 (0.0-1.1)	HPVX (2); 6 (1); 11 (1); 52 (1); 53 (1); 89 (1)
Antonsson 2014	Oral rinse / Oral mucosa	PCR-GP5+/6+	Convenient samples from general population	-	18-35	199	3.5 (1.7-7.1)	-	-

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Table 41 – continued from previous page

Study	Specimen collection method / anatomic site	HPV detection method ^a	Population	% males	Age (years) ^b	No. tested ^c	HPV prevalence % (95% CI)	High-Risk HPV prevalence % (95% CI)	5 most frequent HPV types (n) ^d
Araujo 2014	Brush/swab / Most parts of mouth	PCR-MY09/11	Convenient samples from out-patients	38	18-79	166	24.1 (18.2-31.1)	-	HPV18 (5); 6 (3); 58 (1)
Cook 2014	Oral rinse and gargle / Oral mucosa and throat	PCR-PGMY09/11	Convenient samples from general population	0	18-54	475	2.5 (1.5-4.4)	0.8 (0.3-2.1)	HPVX (7); 16 (2); 51 (1); 59 (1); 84 (1)
Hang 2014	Brush/swab / Oral mucosa	PCR-SPF1 GP6+	General population	47	25-65	5351	0.7 (0.4-1.1)	0.6 (0.4-1.0)	HPV3 (223); 10 (23); 57 (25); 16 (23); 75 (6)
Davidson 2014	Oral rinse & gargle / Oral & oropharyngeal mucosa	PCR-PGMY09/11	Convenient samples from general population	100	15-65	125	3.2 (1.3-7.9)	0.8 (0.1-4.4)	HPV72 (2); 16 (1); 44 (1); 62 (1)
Dahlstrom 2014	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-PGMY09/11	Convenient samples from general population	50	18-50	442	4.1 (2.1-7.5)	4.1 (2.1-7.5)	HPV16 (5); 66 (5); 89 (5); 39 (2); 51 (2); 56 (2); 84 (2)
Saini 2011	Brush/swab / Oral mucosa	PCR-GP5+/6+ MY09/11	Convenient samples from out-patients	56.99999999999999	18-49	72	23.6 (15.3-34.6)	5.6 (2.2-13.4)	-
Tatar 2015	Brush/swab / Most parts of mouth	PCR-GP5+/6+ MY09/11	Convenient samples from out-patients	21	10-82	209	5.7 (3.3-9.8)	2.4 (1.0-5.5)	HPVX (4); 16 (3); 44 (2); 11 (1); 33 (1); 35 (1); 66 (1)
Sauter 2015	Brush/swab & oral rinse & gargle / Oral mucosa and throat	PCR-PGMY09/11	Convenient samples from general population	35	0-79	153	2.6 (1.0-6.5)	-	-
Chaturvedi 2015	Oral rinse and gargle / Oral mucosa and throat	PCR-PGMY09/11	General population	51	14-69	9480	6.9 (6.4-7.4)	-	-

Data updated on 19 Oct 2021 (data as of 19 May 2015)

(95% CI): 95% Confidence Interval

^a TS: type-specific; RT-PCR: real-time PCR; qPCR: quantitative PCR^b NS: not specified^c number of cases tested for HPV DNA^d number of cases positive for the specific HPV-type

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4.4.2 HPV burden in head and neck cancers

Table 42: Studies on HPV prevalence among cases of oral cavity cancer in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV _s , HPV type (%)
				%	(95% CI) ^a	
MEN						
Brazil	Oliveira 2009	GP5+/GP6+ (L1) DBH (6. 11. 16. 18. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 54. 56. 58)	57	31.6	(21.0-44.5)	-
Canada	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	17	11.8	(3.3-34.3)	HPV 16 (11.8)
Canada	Noble-Topham 1993	TS-PCR E6/E7 for 6b/11/16/18 Amplification with TS primers (6b/11. 16. 18)	7	57.1	(25.0-84.2)	HPV 18 (57.1) HPV 16 (14.3)
China	Zhang 2004	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	48	81.3	(68.1-89.8)	-
Cuba	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	53	0	-	-
Germany	Krüger 2014	PCR L1-Consensus primer, PCR-SPF10, LiPA (HPV 6, 11, 16, 18, 16/18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 81)	56	8.9	(3.9-19.3)	-
Hungary	Nemes 2006	MY09/MY11 (L1) Hybridization with TS probes (16. 18. 31. 33. 45. 51. 52. 58)	67	44.8	(33.5-56.6)	-
India	Balaram 1995	MY09/MY11 (L1). GP5+/GP6+ (L1)/GP17+/GP18+ (L1). Y1/Y2 and TS-PCR for 6/11/16/18 Sequencing	50	74	(60.4-84.1)	-
India	Chaudhary 2010	MY09/MY11 (L1) Amplification with TS primers (16)	146	33.6	(26.4-41.6)	HPV 16 (33.6)
India	D'Costa 1998	MY09/MY11 (L1) SBH (6. 11. 16. 18. 33)	71	12.7	(6.8-22.4)	HPV 16 (12.7)
India	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	127	4.7	(2.2-9.9)	HPV 16 (3.9) HPV 18 (0.8) HPV 35 (0.8)
India	Laprise 2016	PCR-PGMY09/11, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 42, 44, 51, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84, 89)	196	0	-	-
Iran	Saghravanian 2011	GP5+/GP6+ (L1) Amplification with TS primers HPV E6/7 (16. 18. 31. 33)	8	0	-	-
Ireland	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	22	4.5	(0.8-21.8)	HPV 16 (4.5)
Italy	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	32	0	-	-
Japan	Bhawal 2008	TS-PCR E6 for 16 Electrophoretic analysis using SiHa DNA as positive control for HPV-16	19	26.3	(11.8-48.8)	HPV 16 (26.3)
Japan	Chiba 1996	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 Restriction enzyme digestion (6. 11. 16. 18. 31. 33. 52b. 58)	22	27.3	(13.2-48.2)	HPV 16 (27.3)
Japan	Shimizu 2004	TS-PCR L1 for 16/18/31/33/35/39/45/51/52/56/58/59/68/73/75 76/8213 Sequencing	15.4	(4.3-42.2)		HPV 120 (7.7) HPV 58 (7.7)
Japan	Tsuhako 2000	TS-PCR E6/E7 for 16/18 and E6 for 6/11 Amplification with TS primers (6.11.16.18)	51	52.9	(39.5-65.9)	HPV 16 (33.3) HPV 18 (33.3) HPV 6 (11.8) HPV 11 (2.0)
Mexico	Ibieta 2005	MY09/MY11 (L1) and GP5/GP6 (L1) Amplification with TS primers (16. 18)	36	41.7	(27.1-57.8)	-
Netherlands	Cruz 1996	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers and hybridization with TS probes (2. 4. 6. 10. 11. 13. 16. 18. 25. 31. 33. 46. 51. 52)	22	63.6	(43.0-80.3)	HPV 16 (54.5) HPV 6 (4.5)
Poland	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	53	0	-	-
Republic of Korea	Shin 2002	TS-PCR E6 for 16/18/33 Amplification with TS primers (16. 18. 33)	76	9.2	(4.5-17.8)	HPV 18 (6.6) HPV 16 (1.3) HPV 33 (1.3)
Serbia	Kozomara 2005	TS-PCR E6 for 16. L1 for 18. E4 for 31 and E1 for 33 Amplification with TS primers (16. 18. 31. 33)	42	61.9	(46.8-75.0)	-
Slovenia	Kansky 2003	PGMY09/11 (L1). GP5+/GP6+ (L1) and WD72/76/66/67/154 (E6) RFLP	48	4.2	(1.2-14.0)	HPV 33 (2.1) HPV 58 (2.1)
South Africa	Boy 2006	TS-PCR E1 for 16 and E7 for 18 Hybridization with TS probes (16. 18)	22	9.1	(2.5-27.8)	HPV 18 (9.1)
Spain	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	140	5.7	(2.9-10.9)	HPV 16 (5.7)
Spain	Llamas-Martínez 2008	WD-66/67/72/76/154 (E6) RFLP (6.11.16.18.31.33.39.42.45.52)	19	47.4	(27.3-68.3)	-
Sudan	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	28	3.6	(0.6-17.7)	HPV 16 (3.6)

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Table 42 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPVs, HPV type (%)
Sweden	Dahlgren 2004	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (16. 18. 33) and sequencing	51	3.9	(1.1-13.2)	-
United States of America	Lohavanichbutr 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	56	19.6	(11.3-31.8)	-
Venezuela	Miller 1994	TS-PCR E6 for 16/18 Hybridization with TS probes (16. 18)	14	78.6	(52.4-92.4)	HPV 16 (71.4) HPV 18 (42.9)
WOMEN						
Brazil	Oliveira 2009	GP5+/GP6+ (L1) DBH (6. 11. 16. 18. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 54. 56. 58)	31	25.8	(13.7-43.2)	-
Canada	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	11	9.1	(1.6-37.7)	HPV 16 (9.1)
Canada	Noble-Topham 1993	TS-PCR E6/E7 for 6b/11/16/18 Amplification with TS primers (6b/11. 16. 18)	13	46.2	(23.2-70.9)	HPV 18 (30.8) HPV 16 (7.7)
China	Zhang 2004	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	25	60	(40.7-76.6)	-
Cuba	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	25	4	(0.7-19.5)	HPV 16 (4.0)
Germany	Krüger 2014	PCR L1-Consensus primer, PCR-SPF10, LiPA (HPV 6, 11, 16, 18, 16/18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 81)	32	0	-	-
Hungary	Nemes 2006	MY09/MY11 (L1) Hybridization with TS probes (16. 18. 31. 33. 45. 51. 52. 58)	12	25	(8.9-53.2)	-
India	Balaram 1995	MY09/MY11 (L1). GP5+/GP6+ (L1)/GP17+/GP18+ (L1). Y1/Y2 and TS-PCR for 6/11/16/18 Sequencing	41	68.3	(53.0-80.4)	-
India	Chaudhary 2010	MY09/MY11 (L1) Amplification with TS primers (16)	76	30.3	(21.1-41.3)	HPV 16 (30.3)
India	D'Costa 1998	MY09/MY11 (L1) SBH (6. 11. 16. 18. 33)	5	20	(3.6-62.4)	-
India	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	135	1.5	(0.4-5.2)	HPV 16 (1.5) HPV 18 (0.7)
India	Laprise 2016	PCR-PGMY09/11, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 42, 44, 51, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84, 89)	154	0	-	-
Iran	Saghravanian 2011	GP5+/GP6+ (L1) Amplification with TS primers HPV E6/7 (16. 18. 31. 33)	13	23.1	(8.2-50.3)	HPV 16 (23.1) HPV 18 (23.1)
Ireland	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	8	25	(7.1-59.1)	HPV 16 (25.0)
Italy	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	21	9.5	(2.7-28.9)	HPV 16 (9.5)
Japan	Bhawal 2008	TS-PCR E6 for 16 Electrophoretic analysis using SiHa DNA as positive control for HPV-16	9	55.6	(26.7-81.1)	HPV 16 (55.6)
Japan	Chiba 1996	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 Restriction enzyme digestion (6. 11. 16. 18. 31. 33. 52b. 58)	1	0	-	-
Japan	Shimizu 2004	TS-PCR L1 for 16/18/31/33/35/39/45/51/52/56/58/59/68/73/75/76/82/11 Sequencing	16/18/31/33/35/39/45/51/52/56/58/59/68/73/75/76/82/11	18.2	(5.1-47.7)	HPV 75 (9.1) HPV 76 (9.1)
Japan	Tshako 2000	TS-PCR E6/E7 for 16/18 and E6 for 6/11 Amplification with TS primers (6.11.16.18)	21	66.7	(45.4-82.8)	HPV 18 (52.4) HPV 16 (28.6) HPV 6 (19.0)
Mexico	Ibieta 2005	MY09/MY11 (L1) and GP5/GP6 (L1) Amplification with TS primers (16. 18)	14	42.9	(21.4-67.4)	-
Netherlands	Cruz 1996	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers and hybridization with TS probes (2. 4. 6. 10. 11. 13. 16. 18. 25. 31. 33. 46. 51. 52)	13	38.5	(17.7-64.5)	HPV 16 (23.1)
Poland	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	30	0	-	-
Republic of Korea	Shin 2002	TS-PCR E6 for 16/18/33 Amplification with TS primers (16. 18. 33)	76	5.3	(2.1-12.8)	HPV 16 (3.9) HPV 18 (3.9) HPV 33 (1.3)
Serbia	Kozomara 2005	TS-PCR E6 for 16. L1 for 18. E4 for 31 and E1 for 33 Amplification with TS primers (16. 18. 31. 33)	8	75	(40.9-92.9)	-
Slovenia	Kansky 2003	PGMY09/11 (L1). GP5+/GP6+ (L1) and WD72/76/66/67/154 (E6) RFLP	7	14.3	(2.6-51.3)	HPV 16 (14.3)
South Africa	Boy 2006	TS-PCR E1 for 16 and E7 for 18 Hybridization with TS probes (16. 18)	37	13.5	(5.9-28.0)	HPV 18 (13.5)
Spain	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	32	6.3	(1.7-20.1)	HPV 16 (6.3)
Spain	Llamas-Martínez 2008	WD-66/67/72/76/154 (E6) RFLP (6.11.16.18.31.33.39.42.45.52)	14	35.7	(16.3-61.2)	-

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Table 42 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPV types, HPV type (%)
Sudan	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	15	0	-	-
Sweden	Dahlgren 2004	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (16. 18. 33) and sequencing	34	0	-	-
United States of America	Lohavanichbutr 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	32	21.9	(11.0-38.8)	-
Venezuela	Miller 1994	TS-PCR E6 for 16/18 Hybridization with TS probes (16. 18)	13	53.8	(29.1-76.8)	HPV 16 (46.2) HPV 18 (7.7)
Venezuela	Premoli-De-Percoco 2001	TS-PCR for 6/11/16/18 Hybridization with TS probes (6. 11. 16. 18)	50	60	(46.2-72.4)	HPV 16 (50.0) HPV 18 (16.0)
BOTH OR UNSPECIFIED						
Argentina	González 2007	MY09/MY11 (L1) and GP5+/GP6+ (L1) RFLP and DBH	25	60	(40.7-76.6)	HPV 16 (48.0) HPV 11 (28.0) HPV 6 (8.0) HPV 18 (4.0)
Argentina	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	132	0	-	-
Belarus	Gudleviciene 2014	PCR-GP5+/6+, PCR-PGMY09/11, PCR L1-Consensus primer, PCR-E6, PCR-MULTIPLEX (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68, 73, 82)	55	18.2	(10.2-30.3)	-
Belgium	Duray 2012	PCR-GP5+/6+, PCR L1-Consensus primer, PCR-E6, PCR-E7, qPCR, TS (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68)	147	44.2	(36.4-52.3)	-
Brazil	Oliveira 2009	GP5+/GP6+ (L1) DBH (6. 11. 16. 18. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 54. 56. 58)	88	29.5	(21.0-39.8)	HPV 18 (28.4) HPV 16 (5.7)
Brazil	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	132	0	-	-
Brazil	Rivero 2006	GP5+/GP6+ (L1) CSA-ISH (DAKO) (6. 11. 16. 18)	40	0	-	-
Canada	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	28	10.7	(3.7-27.2)	HPV 16 (10.7)
Canada	Lingen 2013	PCR L1-Consensus primer, PCR-SPF10, LiPA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 81)	409	5.9	(4.0-8.6)	-
Canada	Noble-Topham 1993	TS-PCR E6/E7 for 6b/11/16/18 Amplification with TS primers (6b/11. 16. 18)	23	43.5	(25.6-63.2)	HPV 18 (34.8) HPV 16 (8.7)
China	Gan 2014	PCR-GP5+/6+, PCR L1-Consensus primer (HPV 6, 16, 18)	200	27.5	(21.8-34.1)	-
China	Lee 2015	PCR-GP5+/6+, PCR-MY09/11, PCR L1-Consensus primer, (HPV 6, 11, 16, 18, 26, 31, 32, 33, 35, 39, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 74, 81, 82, 83, 84)	1002	19.4	(17.0-21.9)	-
China	Tang 2003	TS-PCR E6 for 16/18/33 Sequencing	30	46.7	(30.2-63.9)	HPV 16 (36.7) HPV 18 (16.7)
China	Wen 1997	TS-PCR E6 for 16/18 Hybridization with TS probes (HPV16.18 E6)	45	31.1	(19.5-45.7)	HPV 18 (24.4) HPV 16 (20.0)
China	Zhang 2004	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	73	74	(62.9-82.7)	HPV 16 (58.9) HPV 18 (24.7)
Cuba	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	78	1.3	(0.2-6.9)	HPV 16 (1.3) HPV 18 (1.3)
Cuba	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	132	0	-	-
Czechia	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	132	0	-	-
Finland	Koskinen 2003	SPF10 (L1) LiPA 25	28	64.3	(45.8-79.3)	HPV 16 (46.4) HPV 33 (21.4)
Finland	Mork 2001	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (6. 11. 16. 18. 33)	91	7.7	(3.8-15.0)	HPV 16 (4.4) HPV 11 (1.1) HPV 33 (1.1) HPV 6 (1.1)
Germany	Klussmann 2001	A10/A5-A6/A8 (L1) and CP62/70-CP65/69a (L1) Sequencing	22	18.2	(7.3-38.5)	HPV 16 (13.6) HPV 19 (4.5)
Germany	Krüger 2014	PCR L1-Consensus primer, PCR-SPF10, LiPA (HPV 6, 11, 16, 18, 16/18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 81)	88	5.7	(2.5-12.6)	-
Germany	Ostwald 2003	TS-PCR E6 for 6/11/16/18 Hybridization with TS probes (6/11. 16. 18)	118	43.2	(34.6-52.2)	HPV 16 (29.7) HPV 18 (13.6)
Germany	Weiss 2011	RT-PCR E6/E7 for 16 Hybridization with TS probes (16)	34	2.9	(0.5-14.9)	HPV 16 (2.9)
Greece	Aggelopoulou 1999	L1 consensus primers and TS-PCR E7 for 16/18 Amplification with TS primers (16. 18)	81	49.4	(38.8-60.0)	HPV 18 (27.2) HPV 16 (6.2)
Greece	Blioumi 2014	PCR-GP5+/6+, PCR-MY09/11, PCR L1-Consensus primer, Sequencing (HPV 16, 56, 66)	63	22.2	(13.7-33.9)	-
Greece	Romanitan 2008	GP5+/GP6+ (L1). CPI/CPIIG (E1) and TS-PCR E6/E7 for 16 Amplification with TS primers (16)	75	1.3	(0.2-7.2)	-
Hungary	Nemes 2006	MY09/MY11 (L1) Hybridization with TS probes (16. 18. 31. 33. 45. 51. 52. 58)	79	41.8	(31.5-52.8)	HPV 16 (34.2) HPV 18 (6.3) HPV 31 (3.8) HPV 33 (2.5)
Hungary	Szarka 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) RFLP	65	47.7	(36.0-59.6)	HPV 16 (27.7) HPV 11 (6.2) HPV 18 (6.2) HPV 33 (3.1) HPV 31 (1.5)

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Table 42 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPVs, HPV type (%)
India	Balaram 1995	MY09/MY11 (L1), GP5+/GP6+ (L1)/GP17+/GP18+ (L1), Y1/Y2 and TS-PCR for 6/11/16/18 Sequencing	91	73.6	(63.7-81.6)	HPV 18 (47.3) HPV 16 (41.8) HPV 11 (19.8) HPV 6 (14.3)
India	Bhattacharya 2009	MY09/MY11 (L1) Amplification with TS primers (16, 18)	193	62.2	(55.2-68.7)	HPV 16 (60.1) HPV 18 (5.2)
India	Chaudhary 2010	MY09/MY11 (L1) Amplification with TS primers (16)	222	32.4	(26.6-38.8)	HPV 16 (32.4)
India	D'Costa 1998	MY09/MY11 (L1) SBH (6, 11, 16, 18, 33)	99	15.2	(9.4-23.5)	HPV 16 (15.2)
India	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2, 6, 11, 16, 18, 31, 33, 35, 39, 40, 42, 43, 44, 45, 51, 52, 56, 58, 59, 66, 68)	262	3.1	(1.6-5.9)	HPV 16 (2.7) HPV 18 (0.8) HPV 35 (0.4)
India	Laprise 2016	PCR-PGM09/11, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 42, 44, 51, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84, 89)	350	0	-	-
India	Mishra 2006	MY09/MY11 (L1) Amplification with TS primers (16, 18)	66	27.3	(18.0-39.0)	HPV 16 (27.3)
India	Sebastian 2014	PCR, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84)	22	0	-	-
Iran	Saghravanian 2011	GP5+/GP6+ (L1) Amplification with TS primers HPV E6/7 (16, 18, 31, 33)	21	14.3	(5.0-34.6)	HPV 16 (14.3) HPV 18 (14.3)
Ireland	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2, 6, 11, 16, 18, 31, 33, 35, 39, 40, 42, 43, 44, 45, 51, 52, 56, 58, 59, 66, 68)	30	10	(3.5-25.6)	HPV 16 (10.0)
Italy	Badaracco 2000	MY09/MY11 (L1) Amplification with TS primers (6, 16) and hybridization with TS probes (11, 16, 18, 31, 45, 56, 57)	38	26.3	(15.0-42.0)	HPV 18 (13.2) HPV 16 (10.5) HPV 6 (10.5) HPV 11 (5.3) HPV 56 (5.3)
Italy	Badaracco 2007	MY09/MY11 (L1) and GP5+/GP6+ (L1) Sequencing	53	11.3	(5.3-22.6)	HPV 16 (7.5) HPV 33 (1.9) HPV 58 (1.9)
Italy	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2, 6, 11, 16, 18, 31, 33, 35, 39, 40, 42, 43, 44, 45, 51, 52, 56, 58, 59, 66, 68)	53	3.8	(1.0-12.8)	HPV 16 (3.8)
Italy	Rittà 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) Sequencing	25	36	(20.2-55.5)	HPV 16 (36.0)
Italy	Scapoli 2009	RT-PCR for 16/18/31/45 Hybridization with TS probes (16, 18, 31, 45)	247	1.2	(0.4-3.5)	HPV 16 (1.2)
Japan	Bhawal 2008	TS-PCR E6 for 16 Electrophoretic analysis using SiHa DNA as positive control for HPV-16	28	35.7	(20.7-54.2)	HPV 16 (35.7)
Japan	Chiba 1996	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 Restriction enzyme digestion (6, 11, 16, 18, 31, 33, 52b, 58)	32	18.8	(8.9-35.3)	HPV 16 (18.8)
Japan	Deng 2013	PCR-GP5+/6+, PCR-MY09/11, TS, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	31	32.3	(18.6-49.9)	-
Japan	Higa 2003	TS-PCR E6/E7 for 16/18 Amplification with TS E6/E7 primers (6, 11, 16, 18)	46	80.4	(66.8-89.3)	HPV 16 (52.2) HPV 18 (52.2) HPV 6 (21.7) HPV 11 (2.2)
Japan	Kojima 2002	TS-PCR L1 and E6 for 38 Sequencing	53	66	(52.6-77.3)	HPV 38 (66.0)
Japan	Shima 2000	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 RFLP (16, 18)	46	73.9	(59.7-84.4)	HPV 18 (54.3) HPV 16 (19.6)
Japan	Shimizu 2004	TS-PCR L1 for 16/18/31/33/35/39/45/51/52/56/58/59/68/73/75 76/8224 Sequencing	16.7	16.7	(6.7-35.9)	HPV 120 (4.2) HPV 58 (4.2) HPV 75 (4.2) HPV 76 (4.2)
Japan	Sugiyama 2003	TS-PCR E6/E7 for 16/18 Electrophoretic analysis using SiHa DNA and Hela DNA as positive controls for HPV-16 and HPV-18, respectively.	79	35.4	(25.8-46.4)	HPV 16 (32.9) HPV 18 (2.5)
Japan	Tang 2003	TS-PCR E6 for 16/18/33 Sequencing	30	50	(33.2-66.8)	HPV 18 (33.3) HPV 16 (23.3)
Japan	Tsuhako 2000	TS-PCR E6/E7 for 16/18 and E6 for 6/11 Amplification with TS primers (6, 11, 16, 18)	72	56.9	(45.4-67.7)	HPV 18 (38.9) HPV 16 (31.9) HPV 6 (13.9) HPV 11 (1.4)
Malaysia	Lim 2007	GP5+/GP6+ (L1) Amplification with TS primers (16, 18)	20	85	(64.0-94.8)	HPV 18 (75.0) HPV 16 (30.0)
Mexico	Anaya-Saavedra 2008	MY09/MY11 (L1) and GP5+/GP6+ (L1) Sequencing	62	43.5	(31.9-55.9)	HPV 16 (24.2) HPV 18 (8.1) HPV 33 (3.2) HPV 11 (1.6) HPV 13 (1.6)
Mexico	Ibieta 2005	MY09/MY11 (L1) and GP5+/GP6 (L1) Amplification with TS primers (16, 18)	50	42	(29.4-55.8)	HPV 16 (28.0)
Netherlands	Braakhuis 2004	GP5+/GP6+ (L1) and TS-PCR RLBH (6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 66, 68, 70, 72, 73, 82/MM4, 83, 84, 82/IS39, 71/CP8061, 81/CP8304, 89)	106	9.4	(5.2-16.5)	HPV 16 (9.4)
Netherlands	Cruz 1996	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers and hybridization with TS probes (2, 4, 6, 10, 11, 13, 16, 18, 25, 31, 33, 46, 51, 52)	35	54.3	(38.2-69.5)	HPV 16 (42.9) HPV 6 (2.9)
Netherlands	van Monsjou 2012	PCR, LiPA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 72, 73, 82)	20	10	(2.8-30.1)	-
Norway	Matzow 1998	GP5+/GP6+ (L1), CPI/CPII (E1) and TS-PCR for 6/16/18/31/33 Amplification with TS primers (6, 16, 18, 31, 33)	30	0	-	-
Norway	Mork 2001	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (6, 11, 16, 18, 33)	91	7.7	(3.8-15.0)	HPV 16 (4.4) HPV 11 (1.1) HPV 33 (1.1) HPV 6 (1.1)

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Table 42 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPVs, HPV type (%)
Poland	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	83	0	-	-
Poland	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	132	0	-	-
Poland	Snietura 2010	Real-time High Risk HPV test (Abbott Molecular) using L1 consensus primers Amplification with TS primers (16. 18. 31. 33. 35. 39. 45. 51. 52. 56. 58. 59. 66 and 68 - the technique only differentiates 16-18-other)	45	4.4	(1.2-14.8)	HPV 16 (4.4)
Republic of Korea	Shin 2002	TS-PCR E6 for 16/18/33 Amplification with TS primers (16. 18. 33)	76	14.5	(8.3-24.1)	HPV 18 (10.5) HPV 16 (5.3) HPV 33 (2.6)
Romania	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	132	0	-	-
Russian Federation	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	132	0	-	-
Serbia	Kozomara 2005	TS-PCR E6 for 16. L1 for 18. E4 for 31 and E1 for 33 Amplification with TS primers (16. 18. 31. 33)	50	64	(50.1-75.9)	HPV 31 (32.0) HPV 16 (26.0) HPV 18 (26.0)
Slovakia	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	132	0	-	-
Slovenia	Kansky 2003	PGMY09/11 (L1). GP5+/GP6+ (L1) and WD72/76/66/67/154 (E6) RFLP	55	5.5	(1.9-14.9)	HPV 16 (1.8) HPV 33 (1.8) HPV 58 (1.8)
South Africa	Boy 2006	TS-PCR E1 for 16 and E7 for 18 Hybridization with TS probes (16. 18)	59	11.9	(5.9-22.5)	HPV 18 (11.9)
South Africa	Van Rensburg 1996	TS-PCR E6 for 6/11/16/18 Hybridization with TS probes (4. 16. 18)	146	1.4	(0.4-4.9)	HPV 11 (0.7) HPV 16 (0.7)
Spain	García-de Marcos 2014	PCR L1-Consensus primer, PCR-SPF10, EIA, LiPA (HPV 6, 11, 16, 18, 31, 33, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 70, 73, 74)	61	26.2	(16.8-38.4)	-
Spain	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	172	5.8	(3.2-10.4)	HPV 16 (5.8)
Spain	Llamas-Martínez 2008	WD-66/67/72/76/154 (E6) RFLP (6.11.16.18.31.33.39.42.45.52)	33	42.4	(27.2-59.2)	HPV 16 (33.3) HPV 6 (30.3) HPV 31 (9.1)
Sudan	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	43	2.3	(0.4-12.1)	HPV 16 (2.3)
Sweden	Dahlgren 2004	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (16. 18. 33) and sequencing	85	2.4	(0.6-8.2)	HPV 16 (2.4)
Sweden	Mork 2001	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (6. 11. 16. 18. 33)	91	7.7	(3.8-15.0)	HPV 16 (4.4) HPV 11 (1.1) HPV 33 (1.1) HPV 6 (1.1)
Sweden	Sand 2000	MY09/MY11 (L1) Amplification with TS primers (6/11. 16. 18)	24	12.5	(4.3-31.0)	HPV 16 (4.2) HPV 18 (4.2)
United Kingdom	Lopes 2011	GP5+/GP6+ (L1) and qPCR for 16/18 Hybridization with TS probes (16. 18)	142	3.5	(1.5-8.0)	HPV 16 (2.1) HPV 18 (2.1)
United Kingdom	Snijders 1996	GP5+/GP6+ (L1) Amplification with TS primers and SBH with TS probes (6. 11. 16. 18. 31. 33)	25	20	(8.9-39.1)	HPV 16 (20.0)
United Kingdom	Yeudall 1991	TS-PCR E6/E7 for 16. E6 for 18 and specific for 4 Hybridization with TS probes (4. 16. 18)	39	46.2	(31.6-61.4)	HPV 16 (25.6) HPV 18 (20.5)
United States of America	Chuang 2008	RT-PCR E6/E7 for 16 Hybridization with TS probes (16)	21	0	-	-
United States of America	Furniss 2007	TS-PCR L1 for 16 Amplification with TS primers (16)	150	25.3	(19.0-32.8)	HPV 16 (25.3)
United States of America	Ha 2002	RT-PCR E6/E7 for 16 Amplification with TS primers (16)	34	2.9	(0.5-14.9)	HPV 16 (2.9)
United States of America	Harris 2011	MY09/MY11 (L1) and GP5+/GP6+ (L1) Sequencing	25	8	(2.2-25.0)	HPV 16 (8.0)
United States of America	Holladay 1993	L1 consensus primers Hybridization with TS probes (6. 11. 16. 18. 33)	39	17.9	(9.0-32.7)	HPV 16 (17.9) HPV 18 (2.6)
United States of America	Hooper 2015	HC2, PCR-E6, PCR-E7, PCR-MULTIPLEX (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 42, 44, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 70, 73, 82)	24	8.3	(2.3-25.8)	-
United States of America	Liang 2008	GP5+/GP6+ (L1) Amplification with TS primers (16)	51	2	(0.3-10.3)	HPV 16 (2.0)
United States of America	Lingen 2013	PCR L1-Consensus primer, PCR-SPF10, LiPA (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 81)	409	5.9	(4.0-8.6)	-
United States of America	Lohavanichbutr 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	88	20.5	(13.3-30.0)	HPV 16 (18.2) HPV 32 (1.1) HPV 53 (1.1)
United States of America	Paz 1997	MY09/MY11 (L1) and IU/IWDO (E1) Amplification with TS primers (6. 16. 18)	53	13.2	(6.5-24.8)	HPV 16 (9.4) HPV 6 (1.9) HPV 8 (1.9)

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Table 42 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPV types, HPV type (%)
United States of America	Schlecht 2011	MY09/MY11 (L1) and HMB01 (L1) DBH (40 HPV types including 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 66)	36	13.9	(6.1-28.7)	HPV 16 (11.1)
United States of America	Schwartz 1998	MY09/MY11 (L1) and TS-PCR E6 for 6/11/16/18 Hybridization with TS probes (6, 11, 16, 18, 31/33/35)	193	21.2	(16.1-27.5)	HPV 16 (11.4) HPV 6 (6.2) HPV 11 (3.6) HPV 18 (1.0)
United States of America	Smith 2004	MY09/MY11 (L1) and HMB01 (L1) Sequencing	123	10.6	(6.3-17.2)	HPV 16 (8.1) HPV 33 (2.4)
United States of America	Walline 2013	PCR-PGMY09/11, PCR L1-Consensus primer, PCR-E6, PCR- MULTIPLEX (HPV 16, 31, 33, 35, 39, 58, 66)	108	25.9	(18.6-34.9)	-
United States of America	Zhao 2005	RT-PCR E6/E7 for 16 Hybridization with TS probes (16)	38	15.8	(7.4-30.4)	HPV 16 (15.8)
Venezuela	Miller 1994	TS-PCR E6 for 16/18 Hybridization with TS probes (16, 18)	27	66.7	(47.8-81.4)	HPV 16 (59.3) HPV 18 (25.9)
Venezuela	Premoli-De-Percoco 2001	TS-PCR for 6/11/16/18 Hybridization with TS probes (6, 11, 16, 18)	50	60	(46.2-72.4)	HPV 16 (50.0) HPV 18 (16.0)

Data updated on 4 July 2022 (data as of 31 Dec 2015)

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific;

Only for European countries

^a 95% Confidence IntervalData Sources: See references in Section 9 [References](#).

Table 43: Studies on HPV prevalence among cases of oropharyngeal cancer in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPV types, HPV type (%)
				%	(95% CI) ^a	
MEN						
China	Li 2007	GP5+/GP6+ (L1). CP65/70ct-CP66/69ct (L1). FAP59/6415 (L1). A5/A10-A6/A8 (L1) and TS-PCR E6 for 16 Sequencing	21	14.3	(5.0-34.6)	HPV 16 (14.3)
Cuba	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	21	19.0	(7.7-40.0)	HPV 16 (19.0)
Czechia	Rotnáglóvá 2011	GP5+/GP6+ (L1) RBLH (6. 11. 16. 18. 26. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 53. 54. 55. 56. 57. 58. 59. 61. 66. 68. 70. 71. 72. 73. 81. 82. 83. 84. 89)	90	64.4	(54.2-73.6)	-
France	Charfi 2008	GP5+/GP6+ (L1) and TS-PCR for 6/11/16/18/33 Amplification with TS primers (6. 11. 16. 18. 33)	36	55.6	(39.6-70.5)	-
Germany	Hoffmann 2010	GP5+/GP6+ (L1). MY09/MY11 (L1) and TS-PCR for 6/11/16/18 Hybridization with TS probes - Multiplex luminex*	31	54.8	(37.8-70.8)	HPV 16 (51.6) HPV 35 (6.5)
Germany	Reimers 2007	A10/A5-A6/A8 (L1) and CP62/70-CP65/69a (L1) Sequencing	83	25.3	(17.2-35.6)	-
Italy	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	30	23.3	(11.8-40.9)	HPV 16 (20.0) HPV 33 (3.3) HPV 35 (3.3)
Norway	Hannisdal 2010	GP5+/GP6+ (L1) Sequencing	99	56.6	(46.7-65.9)	-
Spain	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	40	5.0	(1.4-16.5)	HPV 16 (5.0)
Sweden	Attner 2010	GP5+/GP6+ (L1). CPI/IIG (E1) and TS-PCR E6/7 for 16/33 Amplification with TS primers (16. 33) and sequencing	65	75.4	(63.7-84.2)	-
Sweden	Dahlgren 2004	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (16. 18. 33) and sequencing	18	44.4	(24.6-66.3)	-
Sweden	Hammarstedt 2006	GP5+/GP6+ (L1). CPI/CPIIG (E1) and TS-PCR E6 for 16 Sequencing	145	48.3	(40.3-56.3)	-
Sweden	Näsman 2009	GP5+/GP6+ (L1). CPI/CPIIG (E1) and TS-PCR E6 for 16 Sequencing	76	81.6	(71.4-88.7)	-
Switzerland	Lindel 2001	SPF10 (L1) Sequencing	75	8.0	(3.7-16.4)	-
United States of America	Chaturvedi 2011	SPF10 (L1) Inno-LiPA (6. 11. 16. 18. 26. 31. 33. 35. 40. 43. 44. 45. 51. 52. 53. 54. 56. 58. 59. 66. 68. 69-71. 70. 73. 74. 82)	210	47.6	(41.0-54.4)	-
United States of America	Cohen 2008	GP5+/GP6+ (L1) and TS-PCR E7 for 16 Hybridization with TS probes (16)	27	70.4	(51.5-84.1)	HPV 16 (70.4)
United States of America	Ernster 2007	TS-PCR for 16/18 Amplification with TS primers (16. 18)	51	72.5	(59.1-82.9)	HPV 16 (72.5)
United States of America	Lohavanichbutr 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	28	82.1	(64.4-92.1)	-
United States of America	Posner 2011	TS-PCR E6/E7 for 16 Amplification with TS primers (16)	89	50.6	(40.4-60.7)	HPV 16 (50.6)
United States of America	Tezal 2009	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	26	76.9	(57.9-89.0)	HPV 16 (76.9)
WOMEN						

Continued on next page

Table 43 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPV types, HPV type (%)
China	Li 2007	GP5+/GP6+ (L1). CP65/70ct-CP66/69ct (L1). FAP59/6415 (L1). A5/A10-A6/A8 (L1) and TS-PCR E6 for 16 Sequencing	10	60.0	(31.3-83.2)	HPV 16 (60.0)
Cuba	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	5	0.0	(0.0-43.4)	-
Czechia	Rotnáglová 2011	GP5+/GP6+ (L1) RBLH (6. 11. 16. 18. 26. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 53. 54. 55. 56. 57. 58. 59. 61. 66. 68. 70. 71. 72. 73. 81. 82. 83. 84. 89)	19	68.4	(46.0-84.6)	-
France	Charfi 2008	GP5+/GP6+ (L1) and TS-PCR for 6/11/16/18/33 Amplification with TS primers (6. 11. 16. 18. 33)	16	75.0	(50.5-89.8)	-
Germany	Hoffmann 2010	GP5+/GP6+ (L1). MY09/MY11 (L1) and TS-PCR for 6/11/16/18 Hybridization with TS probes - Multiplex luminex*	8	50.0	(21.5-78.5)	HPV 16 (50.0)
Germany	Reimers 2007	A10/A5-A6/A8 (L1) and CP62/70-CP65/69a (L1) Sequencing	23	39.1	(22.2-59.2)	-
Italy	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	6	0.0	(0.0-39.0)	-
Norway	Hannisdal 2010	GP5+/GP6+ (L1) Sequencing	38	39.5	(25.6-55.3)	-
Spain	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	4	50.0	(15.0-85.0)	HPV 16 (50.0)
Sweden	Attner 2010	GP5+/GP6+ (L1). CPI/IG (E1) and TS-PCR E6/7 for 16/33 Amplification with TS primers (16. 33) and sequencing	30	73.3	(55.6-85.8)	-
Sweden	Dahlgren 2004	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (16. 18. 33) and sequencing	7	28.6	(8.2-64.1)	-
Sweden	Hammarstedt 2006	GP5+/GP6+ (L1). CPI/CPIIG (E1) and TS-PCR E6 for 16 Sequencing	58	50.0	(37.5-62.5)	-
Sweden	Näsman 2009	GP5+/GP6+ (L1). CPI/CPIIG (E1) and TS-PCR E6 for 16 Sequencing	22	95.5	(78.2-99.2)	-
Switzerland	Lindel 2001	SPF10 (L1) Sequencing	24	33.3	(18.0-53.3)	-
United States of America	Chaturvedi 2011	SPF10 (L1) Inno-LiPA (6. 11. 16. 18. 26. 31. 33. 35. 40. 43. 44. 45. 51. 52. 53. 54. 56. 58. 59. 66. 68. 69-71. 70. 73. 74. 82)	53	30.2	(19.5-43.5)	-
United States of America	Cohen 2008	GP5+/GP6+ (L1) and TS-PCR E7 for 16 Hybridization with TS probes (16)	8	62.5	(30.6-86.3)	HPV 16 (62.5)
United States of America	Ernst 2007	TS-PCR for 16/18 Amplification with TS primers (16. 18)	21	61.9	(40.9-79.2)	HPV 16 (61.9)
United States of America	Lohavanichbutr 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	3	0.0	(0.0-56.1)	-
United States of America	Posner 2011	TS-PCR E6/E7 for 16 Amplification with TS primers (16)	22	50.0	(30.7-69.3)	HPV 16 (50.0)
United States of America	Tezal 2009	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	4	25.0	(4.6-69.9)	HPV 16 (25.0)
BOTH OR UNSPECIFIED						
Argentina	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	136	0.7	(0.1-4.0)	HPV 16 (0.7)
Australia	Hong 2010	E6-based MT-PCR Amplification with MT-PCR kit (6. 11. 16. 18. 26. 31. 33. 35. 39. 45. 51. 52. 53. 56. 58. 59. 66. 68. 70. 73. 82)	302	47.7	(42.1-53.3)	HPV 16 (42.1) HPV 18 (1.7) HPV 35 (1.7) HPV 39 (1.0) HPV 33 (0.7)
Brazil	Cortezzi 2004	GP5+/GP6+ (L1) DBH (6. 11. 16. 18. 31. 33. 34. 39. 42. 45. 51. 52. 54. 56)	21	14.3	(5.0-34.6)	HPV 16 (14.3)
Brazil	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	136	0.7	(0.1-4.0)	HPV 16 (0.7)
China	Li 2007	GP5+/GP6+ (L1). CP65/70ct-CP66/69ct (L1). FAP59/6415 (L1). A5/A10-A6/A8 (L1) and TS-PCR E6 for 16 Sequencing	31	29.0	(16.1-46.6)	HPV 16 (29.0)
Cuba	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	26	15.4	(6.2-33.5)	HPV 16 (15.4)
Cuba	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	136	0.7	(0.1-4.0)	HPV 16 (0.7)
Czechia	Klozar 2008	GP5+/GP6+ (L1) RLBH (6. 11. 16. 18. 26. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 53. 54. 55. 56. 57. 58. 59. 61. 66. 68. 70. 71. 72. 73. 81. 82. 83. 84. 89)	20	45.0	(25.8-65.8)	HPV 16 (40.0) HPV 33 (5.0)
Czechia	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	136	0.7	(0.1-4.0)	HPV 16 (0.7)
Czechia	Rotnáglová 2011	GP5+/GP6+ (L1) RBLH (6. 11. 16. 18. 26. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 53. 54. 55. 56. 57. 58. 59. 61. 66. 68. 70. 71. 72. 73. 81. 82. 83. 84. 89)	109	65.1	(55.8-73.4)	HPV 16 (60.6) HPV 33 (1.8) HPV 18 (0.9) HPV 26 (0.9) HPV 52 (0.9)
France	Charfi 2008	GP5+/GP6+ (L1) and TS-PCR for 6/11/16/18/33 Amplification with TS primers (6. 11. 16. 18. 33)	52	61.5	(48.0-73.5)	HPV 16 (51.9) HPV 33 (1.9)
France	Fouret 1997	TS-PCR E6 for 16/18/31/33/45 Hybridization with TS probes (16. 18. 31. 33. 45)	58	17.2	(9.6-28.9)	HPV 16 (15.5)

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Table 43 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPVs, HPV type (%)
Germany	Andl 1998	TS-PCR for 6/11/16/18 Hybridization with TS probes (6. 11. 16. 18) and cycle sequencing system of BRL	21	52.4	(32.4-71.7)	HPV 16 (38.1) HPV 33 (4.8)
Germany	Hoffmann 1998	MY09/MY11 (L1) and TS-PCR for 6/11/16/18/33 SBH (6. 11. 16. 18. 31. 33. 45)	23	26.1	(12.5-46.5)	HPV 16 (8.7) HPV 45 (8.7) HPV 6 (4.3)
Germany	Hoffmann 2010	GP5+/GP6+ (L1), MY09/MY11 (L1) and TS-PCR for 6/11/16/18 Hybridization with TS probes - Multiplex luminex*	39	53.8	(38.6-68.4)	HPV 16 (51.3) HPV 35 (5.1)
Germany	Klussmann 2001	A10/A5-A6/A8 (L1) and CP62/70-CP65/69a (L1) Sequencing	33	45.5	(29.8-62.0)	HPV 16 (42.4) HPV 33 (3.0) HPV 5 (3.0) HPV 96 (3.0)
Germany	Reimers 2007	A10/A5-A6/A8 (L1) and CP62/70-CP65/69a (L1) Sequencing	106	28.3	(20.6-37.5)	HPV 16 (27.4) HPV 33 (0.9)
Germany	Weiss 2011	RT-PCR E6/E7 for 16 Hybridization with TS probes (16)	86	38.4	(28.8-48.9)	HPV 16 (38.4)
Germany	Wittekindt 2005	A10/A5-A6/A8 (L1) and (L1) Sequencing	34	52.9	(36.7-68.5)	HPV 16 (50.0) HPV 33 (2.9)
Greece	Romanitan 2008	GP5+/GP6+ (L1), CPI/CPIIG (E1) and TS-PCR E6/E7 for 16 Amplification with TS primers (16)	28	42.9	(26.5-60.9)	HPV 16 (32.1)
Italy	Boscolo-Rizzo 2009	MY09/MY11 (L1) RFLP* and amplification with TS primers E6/E2 for 16	22	18.2	(7.3-38.5)	HPV 16 (18.2)
Italy	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	36	19.4	(9.8-35.0)	HPV 16 (16.7) HPV 33 (2.8) HPV 35 (2.8)
Italy	Licitra 2006	RT-PCR E1 for 16/18 Hybridization with TS probes (16. 18)	90	18.9	(12.1-28.2)	HPV 16 (18.9)
Italy	Rittà 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) Sequencing	22	50.0	(30.7-69.3)	HPV 16 (50.0)
Netherlands	Braakhuis 2004	GP5+/GP6+ (L1) and TS-PCR RLBH (6. 11. 16. 18. 26. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 53. 54. 55. 56. 57. 58. 59. 61. 66. 68.70.72.73. 82/MM4. 83. 84. 82/IS39. 71/CP8061. 81/CP8304. 89)	37	37.8	(24.1-53.9)	HPV 16 (37.8)
Norway	Hannisdal 2010	GP5+/GP6+ (L1) Sequencing	137	51.8	(43.5-60.0)	HPV 16 (48.9) HPV 31 (2.9) HPV 18 (2.2) HPV 33 (0.7) HPV 67 (0.7)
Poland	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	136	0.7	(0.1-4.0)	HPV 16 (0.7)
Poland	Snietura 2010	Real-time High Risk HPV test (Abbott Molecular) using L1 consensus primers Amplification with TS primers (16. 18. 31. 33. 35. 39. 45. 51. 52. 56. 58. 59. 66 and 68 - the technique only differentiates 16-18-other)	14	50.0	(26.8-73.2)	HPV 16 (50.0)
Poland	Szkaradkiewicz 2002	MY09/MY11 (L1) Amplification with TS primers (16. 18)	28	10.7	(3.7-27.2)	-
Republic of Korea	Kim 2007	RT-PCR E2/E6 for 16 Hybridization with HPV genotyping DNA chip arrayed by multiple oligonucleotide probes (6.11.16.18.31.33.34.35.39.40.42. 43.44.45.51.52.56.58.59.66.68.69)	52	73.1	(59.7-83.2)	HPV 16 (65.4) HPV 18 (1.9) HPV 33 (1.9) HPV 35 (1.9) HPV 58 (1.9)
Republic of Korea	Oh 2004	MY09/MY11 (L1) and HMB01 (L1) Microarray hybridization (6. 11. 16. 18. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 54. 56. 58. 59. 62. 66. 67. 68. 69. 70. 72)	39	64.1	(48.4-77.3)	HPV 16 (59.0) HPV 33 (2.6) HPV 58 (2.6) HPV 6 (2.6)
Romania	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	136	0.7	(0.1-4.0)	HPV 16 (0.7)
Russian Federation	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	136	0.7	(0.1-4.0)	HPV 16 (0.7)
Slovakia	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	136	0.7	(0.1-4.0)	HPV 16 (0.7)
Spain	Herrero 2003	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	44	9.1	(3.6-21.2)	HPV 16 (9.1)
Sweden	Attner 2010	GP5+/GP6+ (L1), CPI/IG (E1) and TS-PCR E6/7 for 16/33 Amplification with TS primers (16. 33) and sequencing	95	74.7	(65.2-82.4)	HPV 16 (64.2) HPV 33 (7.4) HPV 35 (2.1) HPV 58 (1.1)
Sweden	Dahlgren 2004	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (16. 18. 33) and sequencing	25	40.0	(23.4-59.3)	HPV 16 (28.0) HPV 33 (4.0) HPV 35 (4.0) HPV 38 (4.0)
Sweden	Hammarstedt 2006	GP5+/GP6+ (L1), CPI/CPIIG (E1) and TS-PCR E6 for 16 Sequencing	203	48.8	(42.0-55.6)	HPV 16 (42.9) HPV 33 (1.5) HPV 35 (0.5) HPV 45 (0.5)
Sweden	Lindquist 2012	GP5+/GP6+ (L1) and CPI/CPIIG (E1) Amplification with TS primers (16) and Multiplex Luminex (6. 11. 16. 18. 26. 31. 33. 35. 39. 42. 43. 44. 45. 51. 52. 53. 56. 58. 59. 66. 68. 70. 73. 82)	56	64.3	(51.2-75.5)	HPV 16 (64.3)
Sweden	Näsman 2009	GP5+/GP6+ (L1), CPI/CPIIG (E1) and TS-PCR E6 for 16 Sequencing	98	84.7	(76.3-90.5)	HPV 16 (78.6) HPV 33 (1.0) HPV 35 (1.0) HPV 59 (1.0)
Switzerland	Lindel 2001	SPF10 (L1) Sequencing	99	14.1	(8.6-22.3)	HPV 16 (11.1) HPV 33 (1.0) HPV 35 (1.0) HPV 45 (1.0)
United Kingdom	Anderson 2007	GP5+/GP6+ (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	36	22.2	(11.7-38.1)	HPV 16 (19.4) HPV 11 (2.8)
United Kingdom	Schache 2011	TS-PCR E6 for 16 Amplification with TS primers (16)	98	40.8	(31.6-50.7)	HPV 16 (40.8)
United Kingdom	Thavaraj 2011	GP5+/GP6+ (L1) Luminex 200 IS (16. 18. 26. 31. 33. 35. 39. 45. 51. 52. 53. 56. 58. 59. 66. 68. 73. 82)	142	70.4	(62.5-77.3)	HPV 16 (64.1) HPV 33 (2.1) HPV 18 (0.7) HPV 35 (0.7)

Continued on next page

Table 43 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPVs, HPV type (%)
United States of America	Agoston 2010	Generic L1 primers from Access Genetics and TS-PCR E7 for 16 RFLP	102	90.2	(82.9-94.6)	HPV 16 (73.5) HPV 58 (1.0)
United States of America	Chaturvedi 2011	SPF10 (L1) Inno-LiPA (6. 11. 16. 18. 26. 31. 33. 35. 40. 43. 44. 45. 51. 52. 53. 54. 56. 58. 59. 66. 68. 69-71. 70. 73. 74. 82)	263	44.1	(38.2-50.1)	HPV 16 (38.8) HPV 35 (1.5) HPV 33 (1.1) HPV 58 (1.1) HPV 18 (0.8)
United States of America	Cohen 2008	GP5+/GP6+ (L1) and TS-PCR E7 for 16 Hybridization with TS probes (16)	35	68.6	(52.0-81.4)	HPV 16 (68.6)
United States of America	D'Souza 2007	MY09/MY11 (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	60	63.3	(50.7-74.4)	HPV 16 (58.3) HPV 33 (6.7) HPV 35 (1.7)
United States of America	Ernst 2007	TS-PCR for 16/18 Amplification with TS primers (16. 18)	72	69.4	(58.0-78.9)	HPV 16 (69.4)
United States of America	Furniss 2007	TS-PCR L1 for 16 Amplification with TS primers (16)	43	34.9	(22.4-49.8)	HPV 16 (34.9)
United States of America	Kingma 2010	PGMY09/11 (L1) Inno-LiPA (6. 11. 16. 18. 26. 31. 33. 35. 40. 43. 44. 45. 51. 52. 53. 54. 56. 58. 59. 66. 68. 69-71. 70. 73. 74. 82)	61	86.9	(76.2-93.2)	HPV 16 (67.2) HPV 18 (14.8) HPV 33 (4.9) HPV 45 (1.6) HPV 82 (1.6)
United States of America	Kong 2009	GP5+/GP6+ (L1) and TS-PCR Sequencing	49	67.3	(53.4-78.8)	HPV 16 (65.3) HPV 18 (2.0) HPV 33 (2.0)
United States of America	Lohavanichbutr 2009	MY09/MY11 (L1) and GP5+/GP6+ (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	31	74.2	(56.8-86.3)	HPV 16 (67.7) HPV 35 (3.2) HPV 45 (3.2)
United States of America	Posner 2011	TS-PCR E6/E7 for 16 Amplification with TS primers (16)	111	50.5	(41.3-59.6)	HPV 16 (50.5)
United States of America	Schlecht 2011	MY09/MY11 (L1) and HMB01 (L1) DBH (40 HPV types including 16. 18. 31. 33. 35. 39. 45. 51. 52. 56. 58. 66)	30	50.0	(33.2-66.8)	HPV 16 (43.3) HPV 35 (3.3)
United States of America	Schwartz 1998	MY09/MY11 (L1) and TS-PCR E6 for 6/11/16/18 Hybridization with TS probes (6. 11. 16. 18. 31/33/35)	55	41.8	(29.7-55.0)	HPV 16 (34.5) HPV 6 (12.7) HPV 11 (3.6)
United States of America	Smith 2004	MY09/MY11 (L1) and HMB01 (L1) Sequencing	62	40.3	(29.0-52.7)	HPV 16 (37.1) HPV 18 (1.6) HPV 33 (1.6)
United States of America	Strome 2002	MY09/MY11 (L1) and TS-PCR E6 for 6/11/16/18 Sequencing	52	46.2	(33.3-59.5)	HPV 16 (40.4) HPV 12 (3.8) HPV 59 (1.9)
United States of America	Tezal 2009	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	30	70.0	(52.1-83.3)	HPV 16 (70.0)
United States of America	Zhao 2005	RT-PCR E6/E7 for 16 Hybridization with TS probes (16)	26	57.7	(38.9-74.5)	HPV 16 (57.7)

Data updated on 4 July 2022 (data as of 31 Dec 2015)

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific

Only for European countries

^a 95% Confidence IntervalData Sources: See references in Section 9 [References](#).

Table 44: Studies on HPV prevalence among cases of hypopharyngeal or laryngeal cancer in the World

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV Prevalence		Prevalence of 5 most frequent HPVs, HPV type (%)
				%	(95% CI) ^a	
MEN						
Canada	Fliss 1994	TS-PCR E6/E7 for 6b/11/16/18 Amplification with TS primers (6b/11. 16. 18)	28	46.4	(29.5-64.2)	HPV 16 (32.1) HPV 18 (32.1)
Chile	Torrente 2005	MY09/MY11 (L1) RFLP	25	36.0	(20.2-55.5)	-
China	Liu 2010	GP5+/GP6+ (L1) and TS-PCR E6/E7 for 16 and E6 for 18 Amplification with TS primers (16. 18)	61	37.7	(26.6-50.3)	-
Germany	Hoffmann 2006	MY09/MY11 (L1) and TS-PCR for 6/11/16/18/33 Hybridization with TS and consensus probes and further confirmation by SBH with TS and consensus probes (6. 11. 16. 18. 31. 33. 45)	17	23.5	(9.6-47.3)	HPV 16 (23.5)
Germany	Hoffmann 2009	MY09/MY11 (L1) and TS-PCR for 6/11/16/18 Hybridization with TS and consensus probes and further confirmation by SBH with TS and consensus probes (6. 11. 16. 18. 31. 33. 45)	21	33.3	(17.2-54.6)	HPV 16 (19.0)
Italy	Azzimonti 2004	GP5+/GP6+ (L1) Sequencing	23	56.5	(36.8-74.4)	HPV 16 (43.5) HPV 18 (13.0)
Italy	Cattani 1998	MY09/MY11 (L1) and TS-PCR for 33 Hybridization with TS probes (6.11.16.18.31) and amplification with TS primer (33)	70	30.0	(20.5-41.5)	-
Italy	Gallo 2009	MY09/MY11 (L1). LCRF1. LCRF2. LCRF3. LCRF4. E7R1. E7R2. E7R3. E7R4 (E6) and TS-PCR E1 for 6/11/16/18-31/33 Sequencing	36	0.0	-	-

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Table 44 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPV types, HPV type (%)
Japan	Anwar 1993	TS-PCR for 16/18/33 Hybridization with TS probes (4. 16. 18)	26	38.5	(22.4-57.5)	HPV 18 (34.6) HPV 16 (3.8) HPV 33 (3.8)
Japan	Shidara 1994	L1C1/L1C2 RFLP (6. 11. 16. 18. 31. 33. 42. 52. 58)	40	20.0	(10.5-34.8)	HPV 16 (17.5) HPV 18 (2.5)
Norway	Lie 1996	CP (E1). MY09/MY11 (L1) and GP5+/GP6+ (L1) Amplification with TS primers (6.11.16.18.31.33.35)	38	7.9	(2.7-20.8)	HPV 16 (2.6)
Poland	Morshed 2008	SPF10 (L1) LiPA 25	78	34.6	(25.0-45.7)	-
Turkey	Bozdayi 2009	MY09/MY11 (L1) Amplification with GP5+/6+ and TS primers for HPV16 positive; For HPV16 negative cases. sequencing was performed	62	43.5	(31.9-55.9)	-
Turkey	Dönmez 2000	MY09/MY11 (L1) RFLP (6. 11. 16. 18. 31. 33. 35. 39. 42. 51. 58)	55	12.7	(6.3-24.0)	HPV 11 (7.3) HPV 6 (5.5)
WOMEN						
Canada	Fliss 1994	TS-PCR E6/E7 for 6b/11/16/18 Amplification with TS primers (6b/11. 16. 18)	1	0.0	-	-
Chile	Torrente 2005	MY09/MY11 (L1) RFLP	6	16.7	(3.0-56.4)	-
China	Liu 2010	GP5+/GP6+ (L1) and TS-PCR E6/E7 for 16 and E6 for 18 Amplification with TS primers (16. 18)	23	34.8	(18.8-55.1)	-
Germany	Hoffmann 2006	MY09/MY11 (L1) and TS-PCR for 6/11/16/18/33 Hybridization with TS and consensus probes and further confirmation by SBH with TS and consensus probes (6. 11. 16. 18. 31. 33. 45)	3	33.3	(6.1-79.2)	HPV 16 (33.3)
Germany	Hoffmann 2009	MY09/MY11 (L1) and TS-PCR for 6/11/16/18 Hybridization with TS and consensus probes and further confirmation by SBH with TS and consensus probes (6. 11. 16. 18. 31. 33. 45)	6	16.7	(3.0-56.4)	-
Italy	Azzimonti 2004	GP5+/GP6+ (L1) Sequencing	2	50.0	(9.5-90.5)	HPV 16 (50.0)
Italy	Cattani 1998	MY09/MY11 (L1) and TS-PCR for 33 Hybridization with TS probes (6.11.16.18.31) and amplification with TS primer (33)	28	21.4	(10.2-39.5)	HPV 16 (21.4)
Italy	Gallo 2009	MY09/MY11 (L1). LCRF1. LCRF2. LCRF3. LCRF4. E7R1. E7R2. E7R3. E7R4 (E6) and TS-PCR E1 for 6/11/16/18/31/33 Sequencing	4	0.0	-	-
Japan	Anwar 1993	TS-PCR for 16/18/33 Hybridization with TS probes (4. 16. 18)	4	25.0	(4.6-69.9)	HPV 18 (25.0)
Japan	Shidara 1994	L1C1/L1C2 RFLP (6. 11. 16. 18. 31. 33. 42. 52. 58)	5	60.0	(23.1-88.2)	HPV 16 (40.0) HPV 18 (20.0)
Norway	Lie 1996	CP (E1). MY09/MY11 (L1) and GP5+/GP6+ (L1) Amplification with TS primers (6.11.16.18.31.33.35)	10	0.0	-	-
Poland	Morshed 2008	SPF10 (L1) LiPA 25	15	40.0	(19.8-64.3)	-
Turkey	Bozdayi 2009	MY09/MY11 (L1) Amplification with GP5+/6+ and TS primers for HPV16 positive; For HPV16 negative cases. sequencing was performed	3	0.0	-	-
BOTH OR UNSPECIFIED						
Argentina	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	239	0.8	(0.2-3.0)	HPV 16 (0.8)
Belarus	Gudleviciene 2014	PCR-GP5+/6+, PCR-PGMY09/11, PCR L1-Consensus primer, PCR-E6, PCR-MULTIPLEX (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68, 73, 82)	34	5.9	(1.6-19.1)	HPV 6 (2.9) HPV 16 (2.9)
Belgium	Duray 2011	GP5+/GP6+ (L1) and RT-PCR E6/E7 for 6. 11. 16. 18. 31. 33. 35. 39. 45. 51. 52. 53. 56. 58. 59. 66. 67-L1. 68 TS real-time and consensus PCR E6/E7 (6. 11. 16. 18. 31. 33. 35. 39. 45. 51. 52. 53. 56. 58. 59. 66. 67-L1. 68)	59	79.7	(67.7-88.0)	HPV 16 (62.7) HPV 18 (16.9) HPV 51 (8.5) HPV 33 (5.1) HPV 66 (5.1)
Brazil	Miranda 2009	GP5+/GP6+ (L1) Amplification with TS primers (16. 18. 33) and sequencing	27	7.4	(2.1-23.4)	HPV 16 (7.4) HPV 6 (3.7)
Brazil	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	239	0.8	(0.2-3.0)	HPV 16 (0.8)
Canada	Fliss 1994	TS-PCR E6/E7 for 6b/11/16/18 Amplification with TS primers (6b/11. 16. 18)	29	44.8	(28.4-62.5)	HPV 16 (31.0) HPV 18 (31.0)
Chile	Gheit 2014	PCR-E7, PCR- MULTIPLEX (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 68, 70, 73, 82)	32	12.5	(5.0-28.1)	HPV 31 (6.3) HPV 11 (3.1) HPV 59 (3.1)
Chile	Torrente 2005	MY09/MY11 (L1) RFLP	31	32.3	(18.6-49.9)	HPV 16 (9.7) HPV 58 (6.5) HPV 38 (3.2) HPV 39 (3.2) HPV 45 (3.2)
China	Liu 2010	GP5+/GP6+ (L1) and TS-PCR E6/E7 for 16 and E6 for 18 Amplification with TS primers (16. 18)	84	36.9	(27.4-47.6)	HPV 16 (34.5) HPV 18 (7.1)
China	Ma 1998	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 SBH (6. 11. 16. 18. 31. 33. 52b. 58)	102	58.8	(49.1-67.9)	HPV 16 (29.4) HPV 6 (24.5) HPV 18 (21.6) HPV 11 (2.0) HPV 33 (1.0)
Cuba	García-Milián 1998	MY09/MY11 (L1) and TS-PCR E6 for 6/11/16/18 SBH (6. 11. 16. 18)	33	48.5	(32.5-64.8)	HPV 16 (45.5) HPV 18 (3.0) HPV 6 (3.0)
Cuba	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	239	0.8	(0.2-3.0)	HPV 16 (0.8)
Czechia	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	239	0.8	(0.2-3.0)	HPV 16 (0.8)
Denmark	Lindeberg 1999	MY09/MY11 (L1). GP5+/GP6+ (L1) and CPII/II (L1) Hybridization with TS probes (6.11.16.18.30.31.33.35)	30	3.3	(0.6-16.7)	-

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Table 44 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPV types, HPV type (%)
Finland	Koskinen 2003	SPF10 (L1) LiPA 25	28	50.0	(32.6-67.4)	HPV 16 (46.4) HPV 33 (14.3) HPV 6 (10.7) HPV 11 (3.6) HPV 51 (3.6)
Finland	Koskinen 2007	MY09/MY11 (L1). GP5+/GP6+ (L1) and SPF10 (L1) LiPA 25	69	4.3	(1.5-12.0)	HPV 16 (1.4)
Finland	Mork 2001	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (6. 11. 16. 18. 33)	40	2.5	(0.4-12.9)	HPV 16 (2.5)
France	Fouret 1997	TS-PCR E6 for 16/18/31/33/45 Hybridization with TS probes (16. 18. 31. 33. 45)	103	6.8	(3.3-13.4)	HPV 16 (6.8)
Germany	Fischer 2003	L1-CP65F. 66F. 69F. 70F Sequencing	47	34.0	(22.2-48.3)	HPV 73 (4.3) HPV 21 (2.1) HPV 22 (2.1) HPV 38 (2.1) HPV 41 (2.1)
Germany	Hoffmann 1998	MY09/MY11 (L1) and TS-PCR for 6/11/16/18/33 SBH (6. 11. 16. 18. 31. 33. 45)	51	21.6	(12.5-34.6)	HPV 16 (3.9) HPV 18 (2.0) HPV 45 (2.0)
Germany	Hoffmann 2006	MY09/MY11 (L1) and TS-PCR for 6/11/16/18/33 Hybridization with TS and consensus probes and further confirmation by SBH with TS and consensus probes (6. 11. 16. 18. 31. 33. 45)	20	25.0	(11.2-46.9)	HPV 16 (25.0)
Germany	Hoffmann 2009	MY09/MY11 (L1) and TS-PCR for 6/11/16/18 Hybridization with TS and consensus probes and further confirmation by SBH with TS and consensus probes (6. 11. 16. 18. 31. 33. 45)	27	29.6	(15.9-48.5)	HPV 16 (14.8)
Germany	Kleist 2000	MY09/MY11 (L1) Amplification with TS primers (16. 18)	35	20.0	(10.0-35.9)	HPV 16 (8.6) HPV 18 (8.6)
Germany	Klussmann 2001	A10/A5-A6/A8 (L1) and CP62/70-CP65/69a (L1) Sequencing	30	16.7	(7.3-33.6)	HPV 16 (13.3) HPV 19 (3.3)
Germany	Krupar 2014	PCR-E6, PCR-E7, PCR- MULTIPLEX (HPV 11, 16, 18, 31, 33, 35, 39, 42, 43, 44, 45, 51, 52, 56, 58, 59, 66, 68)	49	0.0	-	-
Greece	Gorgoulis 1999	MY09/MY11 (L1) and GP5/GP6 (L1) Amplification with TS primers (6. 11. 16. 18. 31. 33. 35) and confirmation by DBH with TS probes (6.11.16.18. 31.33.35)	91	20.9	(13.8-30.3)	HPV 16 (14.3) HPV 18 (3.3) HPV 33 (3.3) HPV 6 (3.3)
Greece	Vlachtsis 2005	TS-PCR for 16/18 Amplification with TS primers (16. 18)	90	40.0	(30.5-50.3)	HPV 16 (34.4) HPV 18 (6.7)
Hungary	Major 2005	MY09/MY11 (L1) and GP5+/GP6+ (L1) RFLP (6. 11. 16. 18)	22	54.5	(34.7-73.1)	HPV 11 (18.2) HPV 16 (13.6) HPV 6 (13.6)
India	Jacob 2002	TS-PCR E1 for 6/11/18 and L1 for 16 SBH with TS probes (6. 11. 16. 18)	44	34.1	(21.9-48.9)	HPV 16 (34.1)
Italy	Azzimonti 2004	GP5+/GP6+ (L1) Sequencing	25	56.0	(37.1-73.3)	HPV 16 (44.0) HPV 18 (12.0)
Italy	Badaracco 2000	MY09/MY11 (L1) Amplification with TS primers (6.16) and hybridization with TS probes (11.16.18.31.45.56.57)	22	50.0	(30.7-69.3)	HPV 16 (27.3) HPV 6 (18.2) HPV 45 (4.5)
Italy	Badaracco 2007	MY09/MY11 (L1) and GP5+/GP6+ (L1) Sequencing	30	16.7	(7.3-33.6)	HPV 16 (10.0) HPV 6 (6.7)
Italy	Boscolo-Rizzo 2009	MY09/MY11 (L1) RFLP* and amplification with TS primers E6/E2 for 16	45	4.4	(1.2-14.8)	HPV 16 (4.4)
Italy	Cattani 1998	MY09/MY11 (L1) and TS-PCR for 33 Hybridization with TS probes (6.11.16.18.31) and amplification with TS primer (33)	75	29.3	(20.2-40.4)	HPV 16 (12.0) HPV 18 (10.7) HPV 33 (1.3)
Italy	Gallo 2009	MY09/MY11 (L1). LCRF1. LCRF2. LCRF3. LCRF4. E7R1. E7R2. E7R3. E7R4 (E6) and TS-PCR E1 for 6/11/16/18-31/33 Sequencing	40	0.0	-	-
Japan	Anwar 1993	TS-PCR for 16/18/33 Hybridization with TS probes (4. 16. 18)	30	36.7	(21.9-54.5)	HPV 18 (33.3) HPV 16 (3.3) HPV 33 (3.3)
Japan	Deng 2013	PCR-GP5+/6+, PCR-MY09/11, TS, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	26	15.4	(6.2-33.5)	HPV 16 (11.5) HPV 33 (3.8)
Japan	Mineta 1998	TS-PCR E7 for 16/18 Amplification with TS primers (16. 18)	42	31.0	(19.1-46.0)	HPV 16 (26.2) HPV 18 (4.8)
Japan	Ogura 1991	TS-PCR E6 for 16/18 Hybridization with TS probes (16. 18)	28	10.7	(3.7-27.2)	HPV 16 (10.7) HPV 18 (3.6)
Japan	Shidara 1994	L1C1/L1C2 RFLP (6. 11. 16. 18. 31. 33. 42. 52. 58)	45	24.4	(14.2-38.7)	HPV 16 (20.0) HPV 18 (4.4)
Lithuania	Gudleviciene 2009	Consensus primers from Master Mix Amplification with TS primers (16. 18)	25	32.0	(17.2-51.6)	HPV 16 (12.0)
Lithuania	Gudleviciene 2014	PCR-GP5+/6+, PCR-PGMY09/11, PCR L1-Consensus primer, PCR-E6, PCR-MULTIPLEX (HPV 6, 11, 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68, 73, 82)	53	20.8	(12.0-33.5)	HPV 6 (1.9) HPV 16 (1.9) HPV 31 (1.9) HPV 39 (1.9) HPV 58 (1.9)
Norway	Koskinen 2007	MY09/MY11 (L1). GP5+/GP6+ (L1) and SPF10 (L1) LiPA 25	69	4.3	(1.5-12.0)	HPV 16 (1.4)
Norway	Lie 1996	CP (E1). MY09/MY11 (L1) and GP5+/GP6+ (L1) Amplification with TS primers (6.11.16.18.31.33.35)	39	7.7	(2.7-20.3)	HPV 16 (2.6)
Norway	Mork 2001	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (6. 11. 16. 18. 33)	40	2.5	(0.4-12.9)	HPV 16 (2.5)
Poland	Morshed 2008	SPF10 (L1) LiPA 25	93	35.5	(26.5-45.6)	HPV 16 (30.1) HPV 18 (6.5) HPV 33 (5.4)
Poland	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	239	0.8	(0.2-3.0)	HPV 16 (0.8)

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Table 44 – continued from previous page

Country	Study	HPV detection method and targeted HPV types	No. Tested	%	(95% CI) ^a	Prevalence of 5 most frequent HPVs, HPV type (%)
Poland	Snietura 2011	Real-time High Risk HPV test (Abbott Molecular) using L1 consensus primers RT-PCR (16. 18. 31. 33. 35. 39. 45. 51. 52. 56. 58. 59. 66. 68)	65	0.0	-	-
Romania	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	239	0.8	(0.2-3.0)	HPV 16 (0.8)
Russian Federation	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	239	0.8	(0.2-3.0)	HPV 16 (0.8)
Slovakia	Ribeiro 2011	PGMY09/11 (L1) Amplification with TS primers (16)	239	0.8	(0.2-3.0)	HPV 16 (0.8)
Slovenia	Poljak 1997	PGMY09/11 (L1), GP5+/GP6+ (L1) and WD72/76/66/67/154 (E6) Amplification with TS primers (6.11.16.18.31.33.51)	30	3.3	(0.6-16.7)	HPV 16 (3.3)
Spain	Alvarez Alvarez 1997	TS-PCR E6 and L1 for 6b/16/18 Amplification with TS primers (6b. 16. 18)	35	25.7	(14.2-42.1)	HPV 6 (22.9) HPV 16 (5.7)
Spain	Pérez-Ayala 1990	TS-PCR E6 for 6/11 Hybridization with TS probes (11.16)	51	56.9	(43.3-69.5)	HPV 16 (56.9)
Sweden	Koskinen 2007	MY09/MY11 (L1), GP5+/GP6+ (L1) and SPF10 (L1) LiPA 25	69	4.3	(1.5-12.0)	HPV 16 (1.4)
Sweden	Mork 2001	GP5+/GP6+ (L1) and CPI/CPII (L1) Amplification with TS primers (6. 11. 16. 18. 33)	40	2.5	(0.4-12.9)	HPV 16 (2.5)
Switzerland	Adams 1999	MY09/MY11 (L1) RFLP (6.11.16.18.31.33.35.51.53.56)	36	16.7	(7.9-31.9)	HPV 16 (16.7)
Turkey	Bozdayi 2009	MY09/MY11 (L1) Amplification with GP5+/6+ and TS primers for HPV16 positive; For HPV16 negative cases, sequencing was performed	65	41.5	(30.4-53.7)	HPV 16 (40.0) HPV 6 (1.5)
Turkey	Dönmez 2000	MY09/MY11 (L1) RFLP (6. 11. 16. 18. 31. 33. 35. 39. 42. 51. 58)	55	12.7	(6.3-24.0)	HPV 11 (7.3) HPV 6 (5.5)
Turkey	Gungor 2007	SP10296 (L1) Amplification with mPCR kit (6. 11. 16. 18. 31. 33. 52. 58)	95	7.4	(3.6-14.4)	HPV 11 (7.4) HPV 6 (2.1) HPV 16 (1.1)
United Kingdom	Anderson 2007	GP5+/GP6+ (L1) Hybridization with Roche LBA (6. 11. 16. 18. 26. 31. 33. 35. 39. 40. 42. 45. 51. 52. 53. 54. 55. 56. 58. 59. 61. 62. 64. 66. 67. 68. 69. 70. 71. 72. 73. 81. 82. 83. 84. 89)	64	0.0	-	-
United Kingdom	Conway 2012	PCR-GP5+/6+, TS, Sequencing (HPV 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	12	0.0	-	-
United Kingdom	Salam 1995	MY09/MY11 (L1) RFLP (6. 11. 16. 18. 33)	36	22.2	(11.7-38.1)	HPV 6 (8.3) HPV 16 (5.6) HPV 11 (2.8)
United Kingdom	Snijders 1996	GP5+/GP6+ (L1) Amplification with TS primers and SBH with TS probes (6. 11. 16. 18. 31. 33)	31	19.4	(9.2-36.3)	HPV 16 (19.4)
United States of America	Brandwein 1993	Perkin Censu L1 consensus primers Hybridization with TS probes (6. 11. 16. 18. 31. 35. 51)	40	7.5	(2.6-19.9)	HPV 16 (2.5)
United States of America	Chernock 2013	PCR L1-Consensus primer, PCR-SPF10, LiPA (HPV 16, 18, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 68)	76	17.1	(10.3-27.1)	HPV 16 (13.2) HPV 31 (10.5) HPV 53 (9.2)
United States of America	Furniss 2007	TS-PCR L1 for 16 Amplification with TS primers (16)	63	31.7	(21.6-44.0)	HPV 16 (31.7)
United States of America	Paz 1997	MY09/MY11 (L1) and IU/IWDO (E1) Amplification with TS primers (6. 16. 18)	43	4.7	(1.3-15.5)	HPV 16 (2.3)
United States of America	Schlecht 2011	MY09/MY11 (L1) and HMB01 (L1) DBH (40 HPV types including 16. 18. 31. 33. 35. 39. 45. 51. 52. 56. 58. 66)	40	27.5	(16.1-42.8)	HPV 16 (27.5)
United States of America	Shen 1996	MY09/MY11 (L1) and TS-PCR E7 for 16/18 RFLP*	32	9.4	(3.2-24.2)	HPV 11 (3.1) HPV 18 (3.1) HPV 6 (3.1)
United States of America	Zhao 2005	RT-PCR E6/E7 for 16 Hybridization with TS probes (16)	22	18.2	(7.3-38.5)	HPV 16 (18.2)

Data updated on 4 July 2022 (data as of 31 Dec 2015)

DBH: Dot Blot Hybridization; EIA: Enzyme ImmunoAssay; HC2: Hybrid Capture 2; ISH: In Situ Hybridization; LBA: Line-Blot Assay; LiPA: Line Probe Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; RLBH: Reverse Line Blot Hybridization; RT-PCR: Real Time Polymerase Chain Reaction; SBH: Southern Blot Hybridization; SPF: Short Primer Fragment; TS: Type Specific

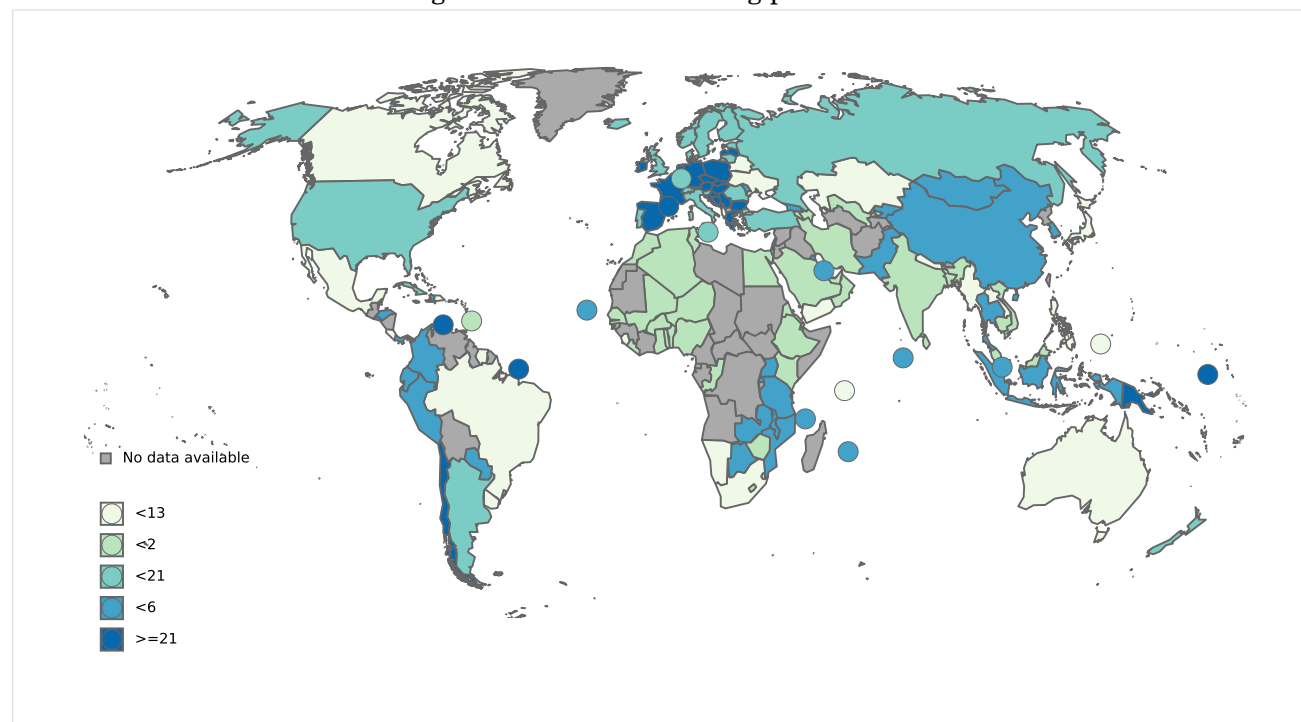
Only for European countries

^a 95% Confidence IntervalData Sources: See references in Section 9 [References](#).

5 Factors contributing to cervical cancer

HPV is a necessary cause of cervical cancer, but it is not a sufficient cause. Other cofactors are necessary for progression from cervical HPV infection to cancer. Tobacco smoking, high parity, long-term hormonal contraceptive use, and co-infection with HIV have been identified as established cofactors. Co-infection with *Chlamydia trachomatis* and herpes simplex virus type-2, immunosuppression, and certain dietary deficiencies are other probable cofactors. Genetic and immunological host factors and viral factors other than type, such as variants of type, viral load and viral integration, are likely to be important but have not been clearly identified. (Muñoz N, Vaccine 2006; 24(S3): 1-10). In this section, the prevalence of smoking, parity (fertility), oral contraceptive use, and HIV in the World are presented.

Figure 124: Female smoking prevalence



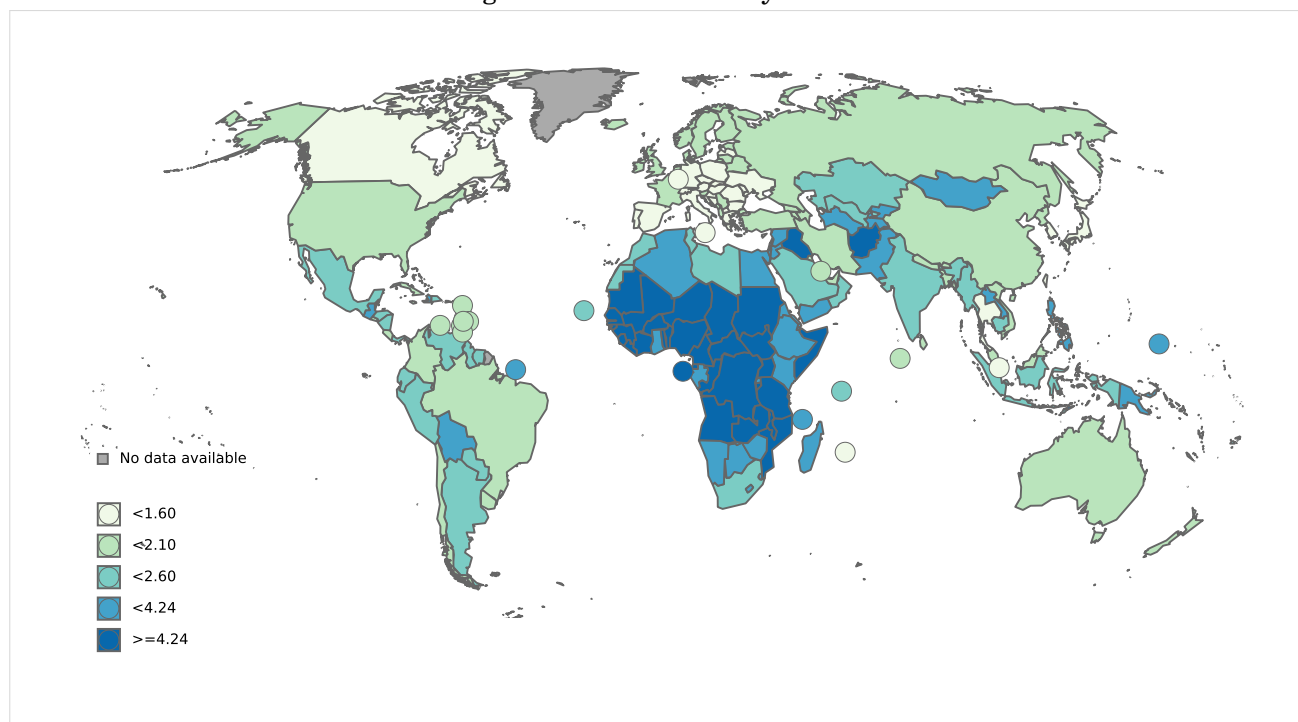
Data accessed on 12 Nov 2019

Crude adjusted prevalence (%) estimates of tobacco use among people aged ≥ 15 years by country, for the year 2016.

Data Sources:

WHO global report on trends in prevalence of tobacco use 2000–2025, third edition. Geneva: World Health Organization; 2019. Available at <https://www.who.int/publications/item/who-global-report-on-trends-in-prevalence-of-tobacco-use-2000-2025-third-edition>

Figure 125: Total fertility rates



Data accessed on 13 Nov 2019

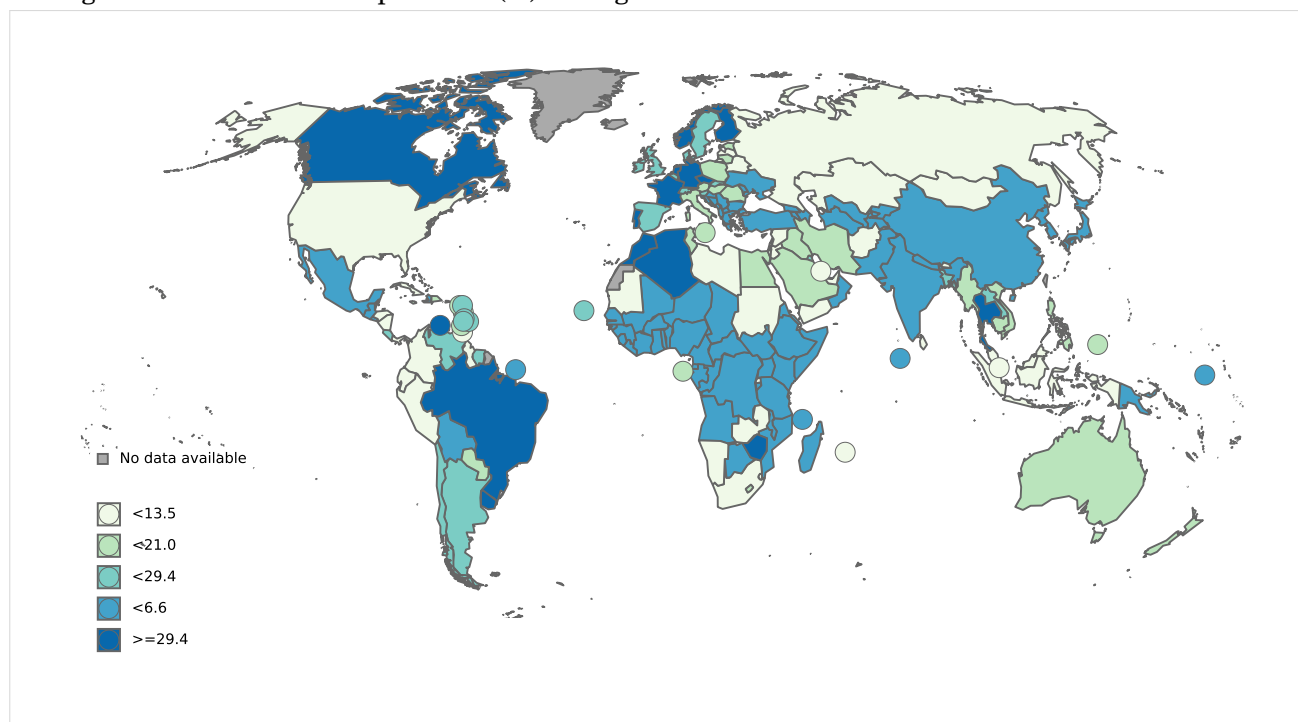
Year of estimate: 2017

Data Sources:

United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, DVD Edition. Available at: <https://www.un.org/en/development/desa/population/publications/dataset/fertility/wfd2017.asp>. [Accessed on November 13, 2019].

Eurostat - Statistical office of the European Commission [web site]. Luxembourg: European Commission; 2017. Available at: <https://ec.europa.eu/eurostat/web/products-datasets/-/demofrate>. [Accessed on November 13, 2019].

Figure 126: Oral contraceptive use (%) among women who are married or in union in the World

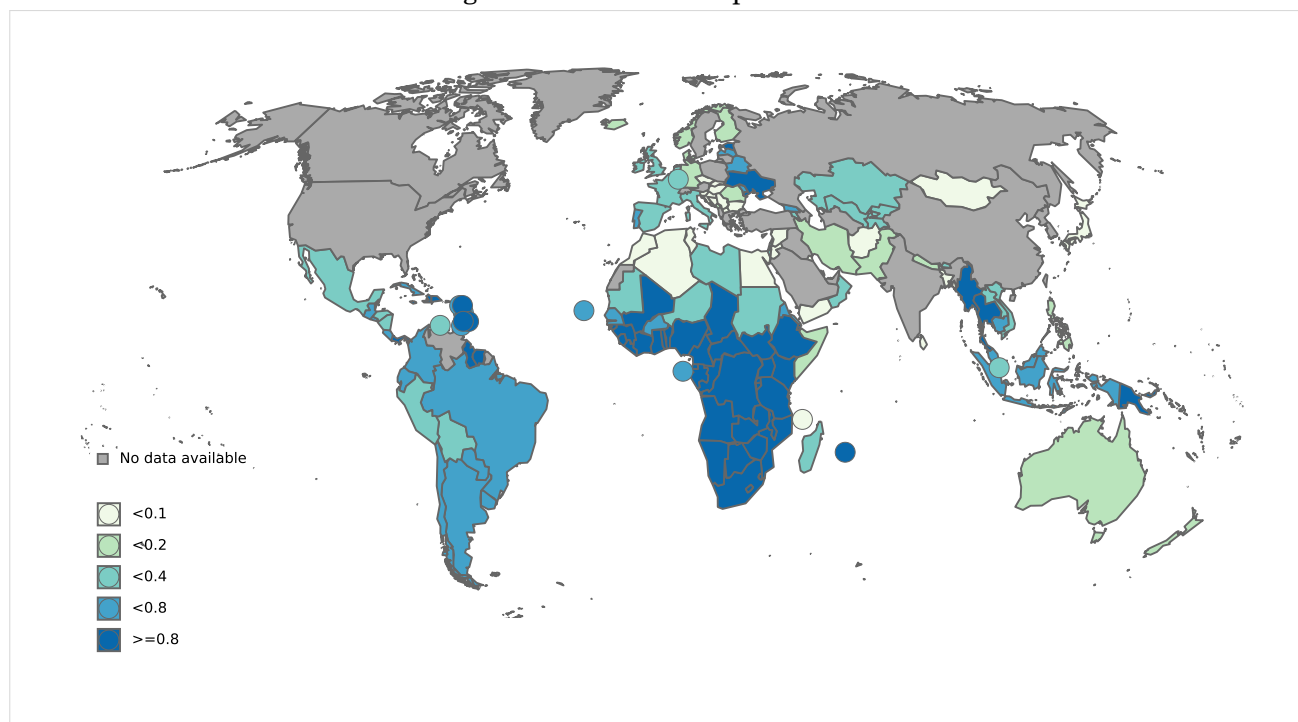


Data accessed on 18 Nov 2019

Data Sources:

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Contraceptive Use 2019 (POP/DB/CP/Rev2019). <https://www.un.org/en/development/desa/population/publications/dataset/contraception/wcu2019.asp>. Available at: [Accessed on November 18, 2019].

Figure 127: World HIV prevalence



Data accessed on 21 Nov 2019

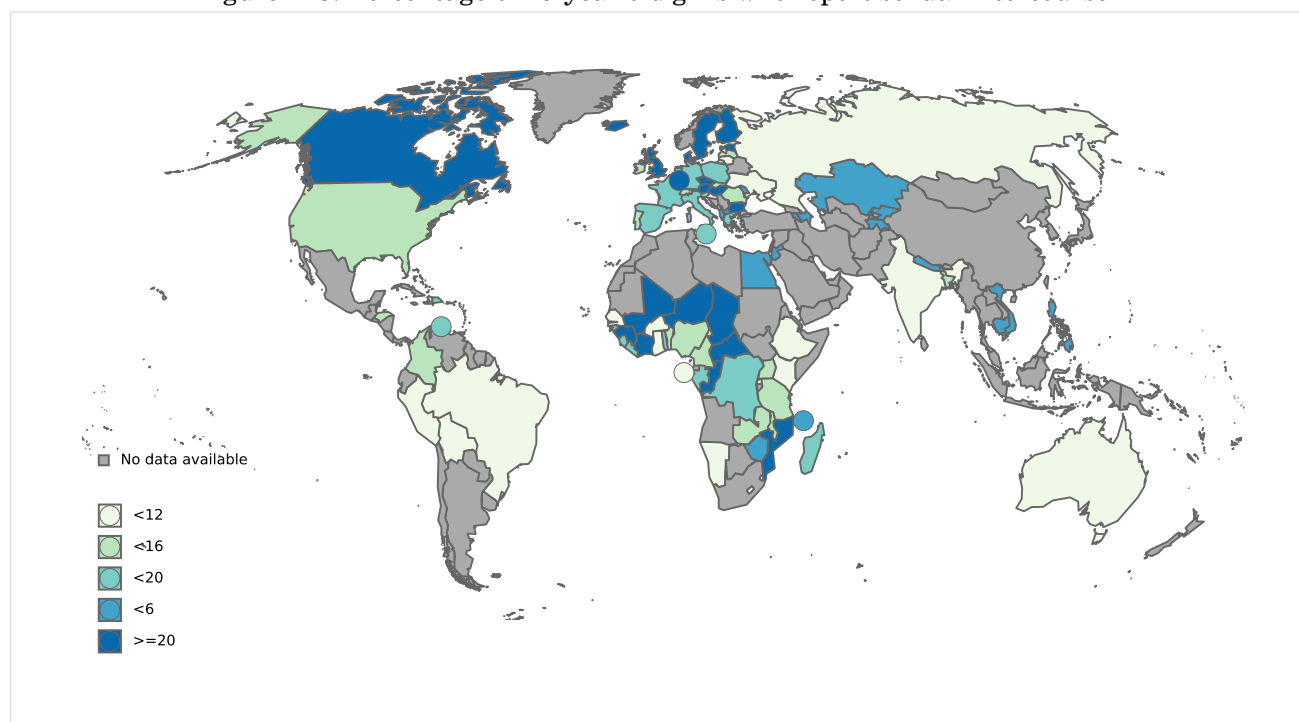
Data Sources:

UNAIDS database [internet]. Available at: <http://aidsinfo.unaids.org/> [Accessed on November 21, 2019]

6 Sexual behaviour and reproductive health indicators

Sexual intercourse is the primary route of transmission of genital HPV infection. Information about sexual and reproductive health behaviours is essential to the design of effective preventive strategies against anogenital cancers. In this section, we describe sexual and reproductive health indicators that may be used as proxy measures of risk for HPV infection and anogenital cancers. Several studies have reported that earlier sexual debut is a risk factor for HPV infection, although the reason for this relationship is still unclear. In this section, information on sexual and reproductive health behaviour in the World are presented.

Figure 128: Percentage of 15-year-old girls who report sexual intercourse



Data accessed on 16 Mar 2017

Please refer to original source for methods of estimation

^a Year of estimation: 2013-2014

^b Fifteen-year-olds teenagers only were asked whether they had ever had sexual intercourse.

^c Indicates a significant gender difference (at $p < 0.05$).

^d Year of estimation: not reported

^e The main sources of data were surveys by the MEASURE DHS (Demographic and Health Surveys) project and published estimates from Reproductive National Health Surveys.

^f Year of estimation: 2006

^g Percentage of all 15- to 19-year-olds who report having had sex before the age of 15 years.

^h Year of estimation: 2005-2010

ⁱ Percentage of all 15- to 19-year-olds who report having had sex before the age of 15 years in MEASURE DHS (Demographic and Health Surveys), STATcompiler (<http://www.statcompiler.com/>) or HIV/AIDS Survey Indicator database (<http://www.measuredhs.com/hivdata/>).

^j Year of estimation: 2010

^k Year of estimation: 2000

^l Year of estimation: 1997

^m Year of estimation: 2011-2012

ⁿ Year of estimation: 2011

^o Year of estimation: 2012

^p Year of estimation: 2013

^q Year of estimation: 2014

^r Year of estimation: 2005-2006

^s Year of estimation: 2012-2013

^t Year of estimation: 2015-2016

^u Year of estimation: 2014-2015

^v Year of estimation: 2008-2009

^w Year of estimation: 2011-2013

Data Sources:

¹ Growing up unequal: gender and socioeconomic differences in young people's health and well-being. Health Behaviour in School-aged Children (HBSC) study: international report from the 2013/2014 survey. Inchley J, Currie D, Young T, et al. Copenhagen, WHO Regional Office for Europe, 2016 (Health Policy for Children and Adolescents, No. 7). Available at: http://www.euro.who.int/__data/assets/pdf_file/0003/303438/HSBC-No.7-Growing-up-unequal-Full-Report.pdf?ua=1

² Sexual behaviour in context: a global perspective. Wellings K, Collumbien M, Slaymaker E, et al. Lancet. 2006 Nov 11;368(9548):1706-28. Review. Erratum in: Lancet. 2007 Jan 27;369(9558):274. PMID:17098090.

³ ICF International, 2015. The DHS (Demographic and Health Surveys) Program STATcompiler. Funded by USAID. <http://www.statcompiler.com>. Accessed on March 16 2017.

⁴ The sexual behaviour of adolescents in sub-Saharan Africa: patterns and trends from national surveys. Doyle AM, Mavedzenge SN, Plummer ML, Ross DA. Trop Med Int Health. 2012 Jul;17(7):796-807. doi: 10.1111/j.1365-3156.2012.03005.x. Review. PMID:22594660.

⁵ CDC/NCHS, National Survey of Family Growth, 2011-2013. Sexual Activity, Contraceptive Use, and Childbearing of Teenagers Aged 15-19 in the United States. NCHS Data Brief No. 209, July 2015. Martinez G, Abma J. Available at: <https://www.cdc.gov/nchs/products/databriefs/db209.htm>

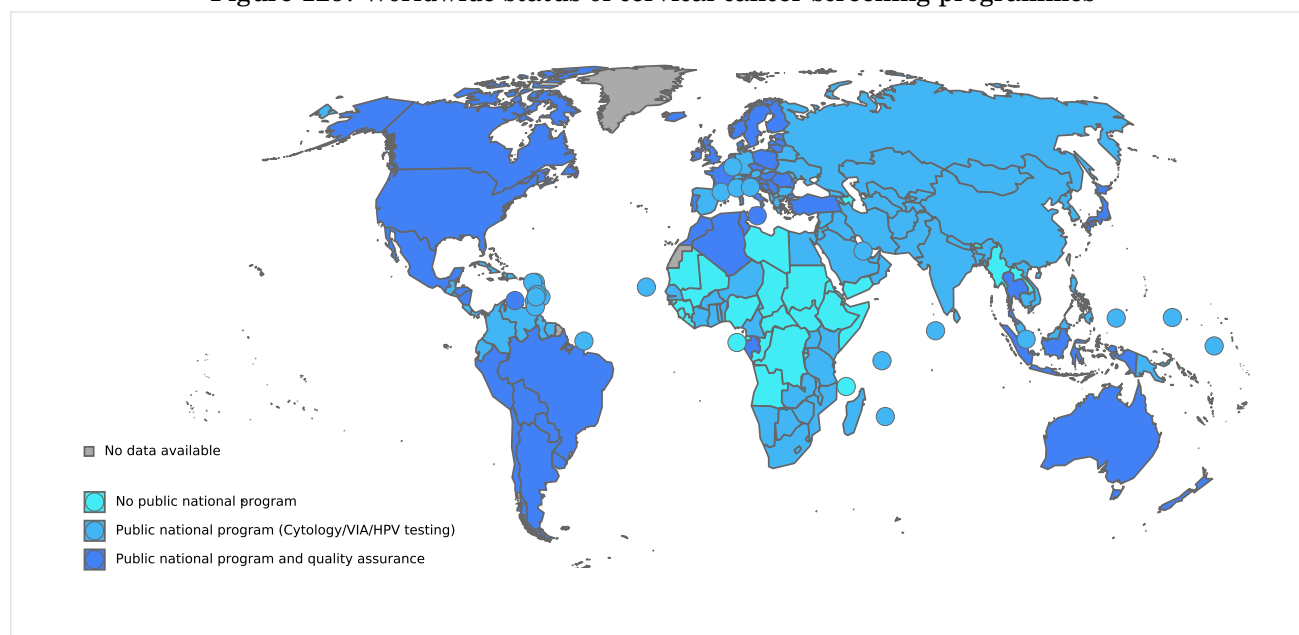
7 HPV preventive strategies

It is established that well-organised cervical screening programmes or widespread good quality cytology can reduce cervical cancer incidence and mortality. The introduction of HPV vaccination could also effectively reduce the burden of cervical cancer in the coming decades. This section presents indicators on basic characteristics and performance of cervical cancer screening, status of HPV vaccine licensure and introduction in the World.

7.1 Cervical cancer screening practices

Screening strategies differ between countries. Some countries have population-based programmes, where in each round of screening women in the target population are individually identified and invited to attend screening. This type of programme can be implemented nationwide or only in specific regions of the country. In opportunistic screening, invitations depend on the individual's decision or on encounters with health-care providers. The most frequent method for cervical cancer screening is cytology, and there are alternative methods such as HPV DNA tests and visual inspection with acetic acid (VIA). VIA is an alternative to cytology-based screening in low-resource settings (the 'see and treat' approach). HPV DNA testing is being introduced into some countries as an adjunct to cytology screening ('co-testing') or as the primary screening test to be followed by a secondary, more specific test, such as cytology.

Figure 129: Worldwide status of cervical cancer screening programmes



Data accessed on 31 Dec 2016

alpha Public national cervical cancer screening program in place (Cytology/VIA/HPV testing). Countries may have clinical guidelines or protocols, and cervical cancer screening services in a private sector but without a public national program. Publicly mandated programmes have a law, official regulation, decision, directive or recommendation that provides the public mandate to implement the programme with an authorised screening test, examination interval, target group and funding and co-payment determined.

beta Self-reported quality assurance: Organised programmes provide for a national or regional team responsible for implementation and require providers to follow guidelines, rules, or standard operating procedures. They also define a quality assurance structure and mandate supervision and monitoring of the screening process. To evaluate impact, organised programmes also require ascertainment of the population disease burden. Quality assurance consists of the management and coordination of the programme throughout all levels of the screening process (invitation, testing, diagnosis and follow-up of screen-positives) to assure that the programme performs adequately and provides services that are effective and in-line with programme standards. The quality assurance structure is self-reported as part of the national cancer programs or plans.

^a Information about performance indicators in organized and population-based cervical cancer screening programmes in European countries is found in the following document "Cancer Screening in the European Union (2017). Report on the implementation of the Council: Recommendation on cancer screening. International Agency for Research on Cancer. European Commission, January 2017. Available at: https://ec.europa.eu/health/sites/health/files/major_chronic_diseases/docs/2017_cancerscreening_2ndreportimplementation_en.pdf.''

Data Sources:

Data sources are detailed at the country-specific report

Table 45: Cervical cancer screening policies

Country	Availability of cervical cancer screening programme ^α	Quality assurance structure and mandate ^{β,*}	Active invitation to screening ^γ	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
Africa							
Algeria	Yes	Yes	No	Cytology	-	25/30-60/65	3 Years
Angola	No	-	-	-	VIA	-	-
Benin	Yes	No	No	Cytology	VIA	-	-
Botswana	Yes	No	No	VIA	-	30-49	5 years
Burkina Faso	Yes	No	No	Cytology	VIA	-	-
Burundi	No	-	-	-	-	-	-
Cabo Verde	Yes	No	No	Cytology/VIA	-	20-49	-
Cameroon	Yes	No	No	Cytology/VIA	-	-	-
Central African Re-public	No	-	-	-	-	-	-
Chad	No	-	-	-	-	-	-
Comoros	No	-	-	-	-	-	-
Congo	No	-	-	-	VIA	-	-
Côte d'Ivoire	Yes	No	No	Cytology/VIA	-	30-50 (VIA), unknown (cytology)	-
Democratic Republic of the Congo	No	-	-	-	-	-	-
Djibouti	No	-	-	-	-	-	-
Egypt	Yes	No	No	Cytology	-	20-50	-
Equatorial Guinea	No	-	-	-	-	-	-
Eritrea	No	-	-	-	-	-	-
Eswatini	Yes	-	No	VIA/Cytology	-	25-45	2 years
Ethiopia	No	-	-	-	VIA	-	-
Gabon	Yes	Yes	No	VIA	-	Above 25	3 years
Gambia	Yes	No	No	-	VIA	-	-
Ghana	Yes	No	No	VIA/Cytology	-	25 to 45 (VIA)/Above 45 (cytology)	3-5 years
Guinea	No	-	-	-	VIA pilot program in Khorira and Conakry (2003) and Faranah Kankan and Siguirri (2005)	-	-
Guinea-Bissau	No	-	-	-	-	-	-
Kenya	Yes	No	No	VIA/Cytology	-	25-49	5 years
Lesotho	Yes	-	-	VIA	-	-	-
Liberia	No	-	-	-	-	-	-
Libya	No	-	-	-	-	-	-
Madagascar	Yes	No	No	VIA	-	30-50	3-5 years
Malawi	Yes	No	No	VIA	-	30-50	3-5 years
Mali	No	-	-	-	VIA pilot program for women ages 30-59 (interval 3-5 years)	-	-
Mauritania	No	-	-	-	VIA	-	-
Mauritius	Yes	No	No	VIA	-	35-55/60	5 years
Morocco	Yes	Yes	No	VIA	-	30-50	3 years
Mozambique	Yes	-	-	VIA	-	30-55	-
Namibia	Yes	No	No	Cytology	VIA	21-64 (cytology)	1 year
Niger	Yes	-	-	VIA	-	-	-

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Table 45 – continued from previous page

Country	Availability of cervical cancer screening programme ^α	Quality assurance structure and mandate ^{β,*}	Active invitation to screening ^γ	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
Nigeria	No	-	-	-	VIA pilot program for women between 30-50 years (interval 3-5 years)	-	-
Rwanda	Yes	-	-	HPV test/VIA (if positive HPV test)	-	35-45	7 years
Sao Tome and Principe	No	-	-	-	-	-	-
Senegal	Yes	No	No	Cytology	VIA	25-65 (cytology)	2 year
Seychelles	Yes	-	-	Cytology	-	Sexually active (not specified age)	2 years
Sierra Leone	No	-	-	-	VIA	-	-
Somalia	No	-	-	-	-	-	-
South Africa	Yes	No	No	Cytology	VIA	Above 30	10 years
South Sudan	No	-	-	-	-	-	-
Sudan	No	-	-	-	VIA pilot program in Khartoum (2009-2010)	-	-
Togo	Yes	No	No	Cytology	VIA	35-65 (cytology)	-
Tunisia	Yes	Yes	No	Cytology	-	35-65	5 Years
Uganda	Yes	No	No	VIA/Cytology	HPV test	25-65 (cytology), 25-49 (VIA)	3 years
United Re-public of Tanzania	Yes	No	No	VIA	-	30-50	3 years
Zambia	Yes	No	No	VIA	-	25-49	3-5 years
Zimbabwe	Yes	No	No	VIA	-	25-59	3 years
Americas							
Antigua and Barbuda	Yes	No	No	Cytology	HPV test	21-65 (cytology), over 30 (HPV test)	5 years (cytology)
Argentina	Yes	Yes	Yes	Cytology/HPV test	-	35-64 (cytology), above 30 (HPV test)	Cytology every 3 years, after 2 consecutive annual negative tests. HPV test every 3 years
Bahamas	Yes	No	No	Cytology	-	Above 21-59	1 year
Barbados	Yes	No	No	Cytology	-	21-65	3 years (ages 21-49), 5 years (ages 50-65)
Belize	Yes	No	No	Cytology	-	21-55	3 years, after 3 consecutive annual negative tests
Bolivia (Pluri-national State of)	Yes	Yes	No	Cytology/VIA	-	25-64	3 years, after 2 consecutive annual negative tests
Brazil	Yes	Yes	No	Cytology	-	25-64	3 years, after 2 consecutive annual negative tests

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Table 45 – continued from previous page

Country	Availability of cervical cancer screening programme ^α	Quality assurance structure and mandate ^{β,*}	Active invitation to screening ^γ	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
Canada	Yes	Yes, varies among regions	No, varies among regions	Cytology	HPV test	21-65/69/70 varies by region	Varies among regions: Manitoba, Ontario, Québec, Nova Scotia: every 3 years (ages 21- 65/69). Prince Edward island: every 2 years (ages 21-65). Other regions every 2-3 years (ages 21-70) after 3 consecutive annual negative tests
Chile	Yes	Yes	No	Cytology	-	25-64	3 years
Colombia	Yes	No	No	Cytology/VIA/HPV test	-	25-69 (cytology), 30-50 (VIA), 30-69 (HPV test)	Cytology every 3 years, after 2 consecutive annual negative tests. VIA every 3 years. HPV test every 5 years
Costa Rica	Yes	No	No	Cytology	-	Above 20	1 year
Cuba	Yes	No	No	Cytology	-	25-64	3 years
Dominica	Yes	No	No	Cytology	-	18-65	-
Dominican Republic	Yes	No	No	Cytology/HPV test	-	35-64	Cytology every 1 year
Ecuador	Yes	No	No	Cytology	-	35-64	5 years
El Salvador	Yes	No	No	Cytology/VIA	HPV test	30-59	2 years
Grenada	Yes	-	-	Cytology	VIA	21 (or 3 years after sexually debut)	3 years, after 3 consecutive annual negative tests
Guatemala	Yes	No	No	Cytology/VIA	-	25-54	3 years
Guyana	Yes	No	No	VIA/cytology	-	30-49	-
Haiti	Yes	No	No	VIA	-	>=35	-
Honduras	Yes	Yes	No	Cytology	VIA	30-59 (cytology)	3 years, after 2 consecutive annual negative tests
Jamaica	Yes	No	No	Cytology	-	25-54	3 years, after 2 consecutive annual negative tests
Mexico	Yes	Yes	No	Cytology/HPV test	-	25-64	Cytology every 3 years, after 2 consecutive annual negative tests
Nicaragua	Yes	Yes	No	Cytology/VIA	HPV test	25-64 (cytology), 30-50 (VIA)	Cytology/VIA every 3 years, after 3 consecutive annual negative tests

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Table 45 – continued from previous page

Country	Availability of cervical cancer screening programme ^α	Quality assurance structure and mandate ^{β,*}	Active invitation to screening ^γ	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
Panama	Yes	No	No	Cytology/VIA	-	25-59	3 years, after 3 consecutive annual negative tests
Paraguay	Yes	Yes	No	Cytology/VIA	HPV test	25-49	Cytology/VIA every 3 years, after 3 consecutive annual negative tests
Peru	Yes	Yes	Yes	Cytology/VIA	HPV test	PAP/VIA: 30-49	Cytology/VIA every 3 years
Saint Kitts and Nevis	Yes	No	No	Cytology	-	18-55	3 years, after 2 consecutive annual negative tests
Saint Lucia	Yes	-	-	Cytology	VIA	18-55	1 year
Saint Vincent and the Grenadines	Yes	No	No	Cytology	-	20-65	3 years after 2 consecutive annual negative tests
Suriname	Yes	No	No	Cytology/VIA	-	23-55	2 years
Trinidad and Tobago	Yes	No	No	Cytology	-	Sexually active (not specified age)	1 year
United States of America	Yes	Yes only in NBCCED Program	No	Cytology/HPV test	-	21-65 (cytology), over 30 (HPV test)	3 years (cytology), 5 years (HPV test)
Uruguay	Yes	Yes	No	Cytology	-	21-69	3 years, after 2 consecutive annual negative tests
Venezuela (Bolivarian Republic of)	Yes	No	No	Cytology	-	25-64	3 years
Asia							
Afghanistan	Yes	No	No	Cytology	VIA	15-49	5 years
Armenia	Yes	No	No	Cytology	-	30-60	3 years
Azerbaijan	No	-	-	-	-	-	-
Bahrain	Yes	No	No	Cytology	-	30-65	3 years after 2-3 consecutive annual negative tests
Bangladesh	Yes	No	No	VIA	-	Above 30	-
Bhutan	No	-	-	-	VIA	-	-
Brunei Darussalam	Yes	No	Yes	Cytology	-	22-65	3 years
Cambodia	Yes	No	No	VIA	-	30-49	5 years
China	Yes	No	No	Cytology /VIA	HPV test	30-59	Cytology every 3 years (ages 35-59). VIA in rural women (ages 30-54)
Democratic People's Republic of Korea	Yes	No	No	Cytology	-	30-60	1 year
Georgia	Yes	No	No	Cytology	HPV test	25-60	3 years
India	Yes	No	No	Cytology	VIA/HPV test	35-64 (cytology)	3 years
Indonesia	Yes	Yes	No	VIA	-	30-50	5 years

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Table 45 – continued from previous page

Country	Availability of cervical cancer screening programme ^a	Quality assurance structure and mandate ^{b,*}	Active invitation to screening ^c	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
Iran (Islamic Republic of)	Yes	No	No	Cytology	-	Married	3 years after 3 consecutive annual negative tests
Iraq	Yes	-	-	-	-	Above 20	-
Israel	Yes	No	No	Cytology	-	35-54	3 years
Japan	Yes	Yes	Yes	Cytology	-	Above 20	2 years
Jordan	Yes	No	No	Cytology	-	25-35	-
Kazakhstan	Yes	No	No	Cytology	-	30-60	5 years
Kuwait	Yes	No	No	Cytology	-	Married	5 years
Kyrgyzstan	Yes	No	No	Cytology	-	-	5 year
Lao People's Democratic Republic	No	-	-	-	-	-	-
Lebanon	Yes	No	No	Cytology	-	3 years after becoming sexually active	2-3 years
Malaysia	Yes	No	No	Cytology	-	20-65	3 years
Maldives	Yes	-	-	VIA	-	30-50	5 years
Mongolia	Yes	No	No	VIA	-	30-60	3 years
Myanmar	No	-	-	-	VIA	-	-
Nepal	Yes	No	No	VIA	-	30-60	5 years
Oman	Yes	No	No	Cytology	-	20-69	3 Years
Pakistan	Yes	No	No	VIA	-	30-60	5 years
Philippines	Yes	No	No	VIA	-	25-55	5-7 years
Qatar	Yes	No	No	Cytology	-	21-65	1 year
Republic of Korea	Yes	No	No	Cytology	-	Above 30	2 years
Saudi Arabia	Yes	No	No	Cytology	-	21-65 (married women)	3 Years
Singapore	Yes	No	No	Cytology	-	25-69	3 years
Sri Lanka	Yes	No	No	Cytology	-	30-65	5 years
Syrian Arab Republic	Yes	No	No	Cytology	-	15-55	-
Tajikistan	Yes	No	No	Cytology	-	Above 20	-
Thailand	Yes	Yes	No	Cytology/VIA	-	30-65	5 years
Timor-Leste	No	-	-	-	-	-	-
Turkey	Yes	Yes	Yes	Cytology	VIA	30-65 (cytology)	5 Years
Turkmenistan	Yes	No	No	Cytology	-	Above 20	1 year
United Arab Emirates	Yes	No	No	Cytology	-	30-64	3 years
Uzbekistan	Yes	No	No	Cytology	-	25-49	-
Viet Nam	Yes	-	No	Cytology/VIA	-	-	-
Yemen	No	-	-	-	-	-	-
Europe							
Albania	Yes	No	No	Cytology	-	Above 20	2-3 Years
Andorra	Yes	No	No	Cytology	-	-	-
Austria	Yes	No	No	Cytology	-	Above 18	1 year
Belarus	Yes	No	No	Cytology	-	Above 18	1 year
Belgium	Yes	No. Varies by region ^a	No	Cytology	-	25-64	3 years
Bosnia and Herzegovina	Yes	Yes	No	Cytology	-	21-70	1 year
Bulgaria	Yes	No	No	Cytology	-	30-59	3 years
Croatia	Yes	Yes ^a	No	Cytology	-	25-64	3 years
Cyprus	Yes	No	No	Cytology	-	24-65	-
Czechia	Yes	Yes	No	Cytology	-	25-60	1 year
Denmark	Yes	Yes ^a	Yes	Cytology	-	23-65	3 years (ages 23-49), 5 years (ages 50-65)

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Table 45 – continued from previous page

Country	Availability of cervical cancer screening programme ^a	Quality assurance structure and mandate ^{b,*}	Active invitation to screening ^c	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
Estonia	Yes	Yes ^a	Yes	Cytology	-	30-59	5 years
Finland	Yes	Yes ^a	Yes	Cytology	-	30-60	5 years
France	Yes	Yes ^a	Yes	Cytology	-	25-65	3 years
Germany	Yes	No	No	Cytology	HPV test	Above 20	1 year
Greece	Yes	No	No	Cytology	-	Above 20	1 year
Hungary	Yes	Yes ^a	Yes	Cytology	-	25-65	3 years
Iceland	Yes	Yes	Yes	Cytology	-	20-69	2 years (ages 20-39), 4 years (ages 40-69)
Ireland	Yes	Yes	Yes	Cytology	-	25-60	3 years (ages 25-44), 5 years (ages 45-60)
Italy	Yes	Yes ^a	Yes	Cytology/HPV test	-	25-64	3 years (Cytology), 5 years (HPV test)
Latvia	Yes	Yes ^a	Yes	Cytology	-	25-70	3 years
Lithuania	Yes	Yes ^a	Yes	Cytology	-	25-60	3 years
Luxembourg	Yes	No	No	Cytology	-	Above 15	1 year
Malta	Yes	Yes	Yes	Cytology/HPV test	-	Above 25 (cytology), Above 30 (HPV test)	Cytology every 3 years (ages 25-50), VIA every 5 years (above 50 years old). HPV test every 5 years
Monaco	Yes	-	No	Cytology	-	21-65	3 years after 2 consecutive annual negative tests
Montenegro	Yes	Yes	No	Cytology	-	25-64	3 years
Netherlands	Yes	Yes ^a	Yes	Cytology/HPV test	-	30-60	5 years
Norway	Yes	Yes	Yes	Cytology	-	25-69	3 years
Poland	Yes	Yes ^a	Yes	Cytology	-	25-59	3 years
Portugal	Yes	Yes ^a	Yes	Cytology	-	25-64	3 years
Republic of Moldova	Yes	No	No	Cytology	-	Above 20	2 years
Republic of North Macedonia	Yes	No	No	Cytology	-	30-55	3 years
Romania	Yes	Yes ^a	Yes	Cytology	-	25-64	5 years
Russian Federation	Yes	No	No	Cytology	-	Above 18	1 year
San Marino	Yes	-	Yes	Cytology/HPV test	-	25-30 (cytology), 30-65 (HPV test)	3 years (cytology), 5 years (HPV test)
Serbia	Yes	Yes	Yes	Cytology	-	25-65	3 years
Slovakia	Yes	No	No	Cytology	-	23-64	3 years
Slovenia	Yes	Yes	Yes	Cytology	-	20-64	3 years
Spain	Yes	No. Varies by region	No. Varies by region	Cytology/HPV test	-	25-65 (cytology), 30-65 (HPV test)	3 years (cytology), 5 years (HPV test)
Sweden	Yes	Yes ^a	Yes	Cytology	-	23-60	3 years (ages 23-50), 5 years (ages 50-60)
Switzerland	Yes	No	No	Cytology	-	Above 20	3 years
Ukraine	Yes	No	No	Cytology	-	18-65	1 year

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Country	Availability of cervical cancer screening programme ^α	Quality assurance structure and mandate ^{β,*}	Active invitation to screening ^γ	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
United Kingdom of Great Britain and Northern Ireland	Yes	Yes ^a	Yes	Cytology/HPV test	-	25-64	3 years (ages 25-49), 5 years (ages 50-64)
Oceania							
Australia	Yes	Yes	Yes	Cytology	HPV test	18-69 (cytology), 25-74 (HPV test)	2 years (cytology), 5 years (HPV test)
Fiji	Yes	No	No	Cytology	VIA	25-60 (cytology), 30-49 (VIA)	3 Years
Kiribati	Yes	-	-	Cytology/VIA	-	-	-
Marshall Islands	Yes	-	-	VIA/Cytology	-	21-50 (VIA), 50-60 (cytology)	2 years (VIA)
Micronesia (Federated States of)	Yes	No	No	Cytology/VIA	-	25-49	5 years
Nauru	Yes	No	No	Cytology	-	-	-
New Zealand	Yes	Yes	Yes	Cytology/HPV test	-	20-70 (cytology), 25-69 (HPV test)	3 years (cytology), 5 years (HPV test)
Palau	Yes	No	No	Cytology/HPV test	-	21-65 (cytology), over 30 (HPV test)	3 years (cytology), 5 years (HPV test)
Papua New Guinea	Yes	No	No	-	-	-	-
Samoa	No	-	-	-	-	-	-
Solomon Islands	No	-	-	-	-	-	-
Tonga	No	-	-	-	-	-	-
Tuvalu	No	-	-	-	-	-	-
Vanuatu	No	-	-	-	VIA	-	-

Data accessed on 31 Dec 2016

^{alpha} Public national cervical cancer screening program in place (Cytology/VIA/HPV testing). Countries may have clinical guidelines or protocols, and cervical cancer screening services in a private sector but without a public national program. Publicly mandated programmes have a law, official regulation, decision, directive or recommendation that provides the public mandate to implement the programme with an authorised screening test, examination interval, target group and funding and co-payment determined.

^{beta} Self-reported quality assurance: Organised programmes provide for a national or regional team responsible for implementation and require providers to follow guidelines, rules, or standard operating procedures. They also define a quality assurance structure and mandate supervision and monitoring of the screening process. To evaluate impact, organised programmes also require ascertainment of the population disease burden. Quality assurance consists of the management and coordination of the programme throughout all levels of the screening process (invitation, testing, diagnosis and follow-up of screen-positives) to assure that the programme performs adequately and provides services that are effective and in-line with programme standards. The quality assurance structure is self-reported as part of the national cancer programs or plans.

^{gamma} Self-reported active invitation or recruitment, as organised population-based programmes, identify and personally invite each eligible person in the target population to attend a given round of screening.

^a Information about performance indicators in organized and population-based cervical cancer screening programmes in European countries is found in the following document "Cancer Screening in the European Union (2017). Report on the implementation of the Council: Recommendation on cancer screening. International Agency for Research on Cancer. European Commission. January 2017. Available at: https://ec.europa.eu/health/sites/health/files/major_chronic_diseases/docs/2017_cancerscreening_2ndreportimplementation_en.pdf.

* Quality assurance structure and mandate to supervise and to monitor the screening process

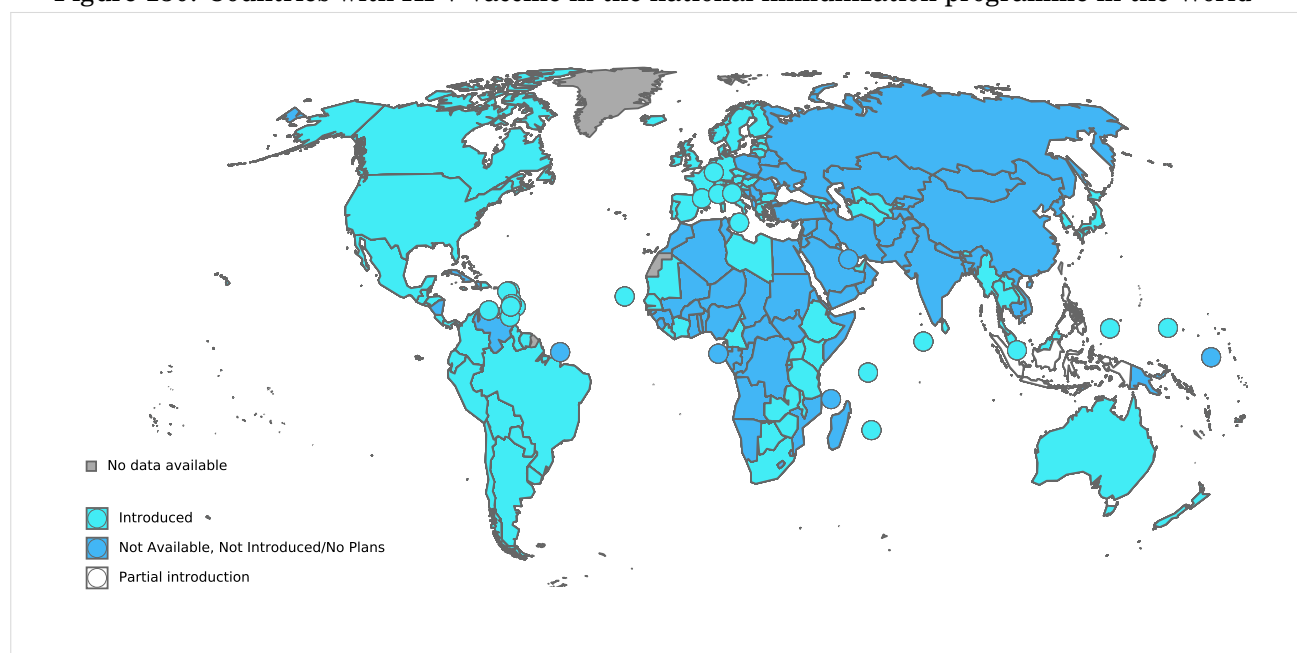
Data Sources:

Data sources are detailed at the country-specific report

7.2 HPV vaccination

7.2.1 HPV vaccine licensure and introduction

Figure 130: Countries with HPV vaccine in the national immunization programme in the World



Data accessed on 20 Sep 2021

Data Sources:

Human papillomavirus (HPV) vaccination coverage. World Health Organization. 2021. Available from: <https://immunizationdata.who.int/pages/coverage/hpv.html>, accessed [20 sep 2021]

Bruni L, Saura-Lázaro A, Montoliu A, Brotons M, Alemany L, Diallo MS, et al. HPV vaccination introduction worldwide and WHO and UNICEF estimates of national HPV immunization coverage 2010-2019. *Prev Med.* 2021;144(106399):106399.

Table 46: HPV vaccination policies for the female population in the World

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Europe					
Albania	Not Available, Not Introduced/No Plans	-	2019	-	-
Albania	Not Available, Not Introduced/No Plans	-	2020	-	-
Andorra	Introduced	2014	2019	64	64
Andorra	Introduced	2014	2020	77	77
Austria	Introduced	2014	2019	-	-
Austria	Introduced	2014	2020	-	-
Belarus	Not Available, Not Introduced/No Plans	-	2020	-	-
Belarus	Not Available, Not Introduced/No Plans	-	2019	-	-
Belgium	Introduced	2011	2020	-	-
Belgium	Introduced	2011	2019	67	71
Bosnia and Herzegovina	Not Available, Not Introduced/No Plans	-	2019	-	-
Bosnia and Herzegovina	Not Available, Not Introduced/No Plans	-	2020	-	-
Bulgaria	Introduced	2017	2020	2	3
Bulgaria	Introduced	2017	2019	4	6
Croatia	Introduced	2016	2019	-	-
Croatia	Introduced	2016	2020	-	-
Cyprus	Introduced	2016	2019	64	73
Cyprus	Introduced	2016	2020	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Czechia	Introduced	2012	2019	-	-
Czechia	Introduced	2012	2020	-	-
Denmark	Introduced	2007	2019	62	79
Denmark	Introduced	2007	2020	70	84
Estonia	Introduced	2018	2020	55	61
Estonia	Introduced	2018	2019	54	55
Finland	Introduced	2013	2020	-	-
Finland	Introduced	2013	2019	60	60
France	Introduced	2006	2020	33	41
France	Introduced	2006	2019	33	35
Germany	Introduced	2007	2019	43	58
Germany	Introduced	2007	2020	-	-
Greece	Introduced	2009	2020	-	-
Greece	Introduced	2009	2019	-	-
Hungary	Introduced	2014	2019	78	86
Hungary	Introduced	2014	2020	-	-
Iceland	Introduced	2011	2020	91	94
Iceland	Introduced	2011	2019	93	94
Ireland	Introduced	2010	2019	69	85
Ireland	Introduced	2010	2020	77	60
Italy	Introduced	2009	2019	52	61
Italy	Introduced	2009	2020	27	45
Latvia	Introduced	2010	2019	51	54
Latvia	Introduced	2010	2020	57	61
Lithuania	Introduced	2016	2020	68	62
Lithuania	Introduced	2016	2019	66	64
Luxembourg	Introduced	2008	2019	14	37
Luxembourg	Introduced	2008	2020	-	-
Malta	Introduced	2013	2020	85	97
Malta	Introduced	2013	2019	81	86
Monaco	Introduced	2006	2019	-	-
Monaco	Introduced	2006	2020	-	-
Montenegro	Not Available, Not Introduced/No Plans	-	2019	-	-
Montenegro	Not Available, Not Introduced/No Plans	-	2020	-	-
Netherlands	Introduced	2010	2019	53	63
Netherlands	Introduced	2010	2020	53	63
Norway	Introduced	2009	2019	91	93
Norway	Introduced	2009	2020	90	92
Poland	Not Available, Not Introduced/No Plans	-	2019	-	-
Poland	Not Available, Not Introduced/No Plans	-	2020	-	-
Portugal	Introduced	2008	2019	81	93
Portugal	Introduced	2008	2020	81	93
Republic of Moldova	Partial introduction	2018	2020	40	44
Republic of Moldova	Partial introduction	2018	2019	31	49
Republic of North Macedonia	Introduced	2009	2019	40	45
Republic of North Macedonia	Introduced	2009	2020	-	-
Romania	Not Available, Not Introduced/No Plans	-	2019	-	-
Romania	Not Available, Not Introduced/No Plans	-	2020	-	-
Russian Federation	Not Available, Not Introduced/No Plans	-	2020	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Russian Federation	Not Available, Not Introduced/No Plans	-	2019	-	-
San Marino	Introduced	2008	2020	50	38
San Marino	Introduced	2008	2019	50	48
Serbia	Not Available, Not Introduced/No Plans	-	2020	-	-
Serbia	Not Available, Not Introduced/No Plans	-	2019	-	-
Slovakia	Not Available, Not Introduced/No Plans	-	2019	-	-
Slovakia	Not Available, Not Introduced/No Plans	-	2020	-	-
Slovenia	Introduced	2009	2020	59	59
Slovenia	Introduced	2009	2019	59	59
Spain	Introduced	2007	2020	79	84
Spain	Introduced	2007	2019	79	84
Sweden	Introduced	2010	2019	80	86
Sweden	Introduced	2010	2020	82	89
Switzerland	Introduced	2006	2020	63	67
Switzerland	Introduced	2006	2019	59	64
Ukraine	Not Available, Not Introduced/No Plans	-	2019	-	-
Ukraine	Not Available, Not Introduced/No Plans	-	2020	-	-
United Kingdom of Great Britain and Northern Ireland	Introduced	2008	2020	64	85
United Kingdom of Great Britain and Northern Ireland	Introduced	2008	2019	82	85
Africa					
Algeria	Not Available, Not Introduced/No Plans	-	2019	-	-
Algeria	Not Available, Not Introduced/No Plans	-	2020	-	-
Angola	Not Available, Not Introduced/No Plans	-	2019	-	-
Angola	Not Available, Not Introduced/No Plans	-	2020	-	-
Benin	Not Available, Not Introduced/No Plans	-	2020	-	-
Benin	Not Available, Not Introduced/No Plans	-	2019	-	-
Botswana	Introduced	2015	2020	-	55
Botswana	Introduced	2015	2019	47	87
Burkina Faso	Not Available, Not Introduced/No Plans	-	2020	-	-
Burkina Faso	Not Available, Not Introduced/No Plans	-	2019	-	-
Burundi	Not Available, Not Introduced/No Plans	-	2020	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Burundi	Not Available, Not Introduced/No Plans	-	2019	-	-
Cabo Verde	Introduced	2021	2019	-	-
Cabo Verde	Introduced	2021	2020	-	-
Cameroon	Introduced	2020	2019	-	-
Cameroon	Introduced	2020	2020	-	5
Central African Republic	Not Available, Not Introduced/No Plans	-	2020	-	-
Central African Republic	Not Available, Not Introduced/No Plans	-	2019	-	-
Chad	Not Available, Not Introduced/No Plans	-	2019	-	-
Chad	Not Available, Not Introduced/No Plans	-	2020	-	-
Comoros	Not Available, Not Introduced/No Plans	-	2020	-	-
Comoros	Not Available, Not Introduced/No Plans	-	2019	-	-
Congo	Not Available, Not Introduced/No Plans	-	2019	-	-
Congo	Not Available, Not Introduced/No Plans	-	2020	-	-
Côte d'Ivoire	Introduced	2019	2019	-	6
Côte d'Ivoire	Introduced	2019	2020	13	67
Democratic Republic of the Congo	Not Available, Not Introduced/No Plans	-	2020	-	-
Democratic Republic of the Congo	Not Available, Not Introduced/No Plans	-	2019	-	-
Djibouti	Not Available, Not Introduced/No Plans	-	2020	-	-
Djibouti	Not Available, Not Introduced/No Plans	-	2019	-	-
Egypt	Not Available, Not Introduced/No Plans	-	2019	-	-
Egypt	Not Available, Not Introduced/No Plans	-	2020	-	-
Equatorial Guinea	Not Available, Not Introduced/No Plans	-	2019	-	-
Equatorial Guinea	Not Available, Not Introduced/No Plans	-	2020	-	-
Eritrea	Not Available, Not Introduced/No Plans	-	2019	-	-
Eritrea	Not Available, Not Introduced/No Plans	-	2020	-	-
Eswatini	Not Available, Not Introduced/No Plans	-	2020	-	-
Eswatini	Not Available, Not Introduced/No Plans	-	2019	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Ethiopia	Introduced	2018	2020	76	95
Ethiopia	Introduced	2018	2019	84	94
Gabon	Not Available, Not Introduced/No Plans	-	2019	-	-
Gabon	Not Available, Not Introduced/No Plans	-	2020	-	-
Gambia	Introduced	2019	2019	-	68
Gambia	Introduced	2019	2020	-	-
Ghana	Not Available, Not Introduced/No Plans	-	2019	-	-
Ghana	Not Available, Not Introduced/No Plans	-	2020	-	-
Guinea	Not Available, Not Introduced/No Plans	-	2020	-	-
Guinea	Not Available, Not Introduced/No Plans	-	2019	-	-
Guinea-Bissau	Not Available, Not Introduced/No Plans	-	2019	-	-
Guinea-Bissau	Not Available, Not Introduced/No Plans	-	2020	-	-
Kenya	Introduced	2019	2019	-	25
Kenya	Introduced	2019	2020	16	33
Lesotho	Not Available, Not Introduced/No Plans	-	2019	-	-
Lesotho	Not Available, Not Introduced/No Plans	-	2020	-	-
Liberia	Introduced	2019	2019	-	14
Liberia	Introduced	2019	2020	18	42
Libya	Introduced	2013	2020	-	-
Libya	Introduced	2013	2019	-	-
Madagascar	Not Available, Not Introduced/No Plans	-	2020	-	-
Madagascar	Not Available, Not Introduced/No Plans	-	2019	-	-
Malawi	Introduced	2019	2020	77	84
Malawi	Introduced	2019	2019	-	88
Mali	Not Available, Not Introduced/No Plans	-	2020	-	-
Mali	Not Available, Not Introduced/No Plans	-	2019	-	-
Mauritania	Introduced	2021	2019	-	-
Mauritania	Introduced	2021	2020	-	-
Mauritius	Introduced	2017	2019	80	84
Mauritius	Introduced	2017	2020	74	82
Morocco	Not Available, Not Introduced/No Plans	-	2020	-	-
Morocco	Not Available, Not Introduced/No Plans	-	2019	-	-
Mozambique	Not Available, Not Introduced/No Plans	-	2020	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Mozambique	Not Available, Not Introduced/No Plans	-	2019	-	-
Namibia	Not Available, Not Introduced/No Plans	-	2020	-	-
Namibia	Not Available, Not Introduced/No Plans	-	2019	-	-
Niger	Not Available, Not Introduced/No Plans	-	2019	-	-
Niger	Not Available, Not Introduced/No Plans	-	2020	-	-
Nigeria	Not Available, Not Introduced/No Plans	-	2020	-	-
Nigeria	Not Available, Not Introduced/No Plans	-	2019	-	-
Rwanda	Introduced	2011	2020	68	89
Rwanda	Introduced	2011	2019	94	97
Sao Tome and Principe	Not Available, Not Introduced/No Plans	-	2020	-	-
Sao Tome and Principe	Not Available, Not Introduced/No Plans	-	2019	-	-
Senegal	Introduced	2018	2019	25	86
Senegal	Introduced	2018	2020	31	45
Seychelles	Introduced	2014	2019	68	96
Seychelles	Introduced	2014	2020	24	-
Sierra Leone	Not Available, Not Introduced/No Plans	-	2020	-	-
Sierra Leone	Not Available, Not Introduced/No Plans	-	2019	-	-
Somalia	Not Available, Not Introduced/No Plans	-	2019	-	-
Somalia	Not Available, Not Introduced/No Plans	-	2020	-	-
South Africa	Introduced	2014	2019	43	69
South Africa	Introduced	2014	2020	-	3
South Sudan	Not Available, Not Introduced/No Plans	-	2019	-	-
South Sudan	Not Available, Not Introduced/No Plans	-	2020	-	-
Sudan	Not Available, Not Introduced/No Plans	-	2020	-	-
Sudan	Not Available, Not Introduced/No Plans	-	2019	-	-
Togo	Not Available, Not Introduced/No Plans	-	2019	-	-
Togo	Not Available, Not Introduced/No Plans	-	2020	-	-
Tunisia	Not Available, Not Introduced/No Plans	-	2019	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Tunisia	Not Available, Not Introduced/No Plans	-	2020	-	-
Uganda	Introduced	2015	2019	64	99
Uganda	Introduced	2015	2020	30	74
United Republic of Tanzania	Introduced	2018	2019	49	78
United Republic of Tanzania	Introduced	2018	2020	58	82
Zambia	Introduced	2019	2019	-	99
Zambia	Introduced	2019	2020	69	75
Zimbabwe	Introduced	2018	2019	67	91
Zimbabwe	Introduced	2018	2020	-	-
Oceania					
Australia	Introduced	2007	2019	79	89
Australia	Introduced	2007	2020	66	74
Cook Islands	Introduced	2011	2019	73	97
Cook Islands	Introduced	2011	2020	-	-
Fiji	Introduced	2013	2019	56	93
Fiji	Introduced	2013	2020	89	98
Kiribati	Not Available, Not Introduced/No Plans	-	2020	-	-
Kiribati	Not Available, Not Introduced/No Plans	-	2019	-	-
Marshall Islands	Introduced	2009	2019	24	67
Marshall Islands	Introduced	2009	2020	17	61
Micronesia (Federated States of)	Introduced	2010	2020	37	99
Micronesia (Federated States of)	Introduced	2010	2019	57	70
Nauru	Not Available, Not Introduced/No Plans	-	2020	-	-
Nauru	Not Available, Not Introduced/No Plans	-	2019	-	-
New Zealand	Introduced	2008	2020	67	70
New Zealand	Introduced	2008	2019	67	71
Niue	Introduced	2019	2019	-	-
Niue	Introduced	2019	2020	-	-
Palau	Introduced	2008	2020	-	-
Palau	Introduced	2008	2019	67	85
Papua New Guinea	Not Available, Not Introduced/No Plans	-	2020	-	-
Papua New Guinea	Not Available, Not Introduced/No Plans	-	2019	-	-
Samoa	Not Available, Not Introduced/No Plans	-	2020	-	-
Samoa	Not Available, Not Introduced/No Plans	-	2019	-	-
Solomon Islands	Introduced	2019	2020	22	-
Solomon Islands	Introduced	2019	2019	-	67
Tonga	Not Available, Not Introduced/No Plans	-	2020	-	-
Tonga	Not Available, Not Introduced/No Plans	-	2019	-	-
Tuvalu	Not Available, Not Introduced/No Plans	-	2019	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Tuvalu	Not Available, Not Introduced/No Plans	-	2020	-	-
Vanuatu	Not Available, Not Introduced/No Plans	-	2019	-	-
Vanuatu	Not Available, Not Introduced/No Plans	-	2020	-	-
Americas					
Antigua and Barbuda	Introduced	2018	2020	-	-
Antigua and Barbuda	Introduced	2018	2019	-	10
Argentina	Introduced	2011	2019	59	87
Argentina	Introduced	2011	2020	45	-
Bahamas	Introduced	2015	2020	-	-
Bahamas	Introduced	2015	2019	9	29
Barbados	Introduced	2014	2020	7	64
Barbados	Introduced	2014	2019	29	66
Belize	Introduced	2016	2020	11	51
Belize	Introduced	2016	2019	63	77
Bolivia (Plurinational State of)	Introduced	2017	2020	24	60
Bolivia (Plurinational State of)	Introduced	2017	2019	70	80
Brazil	Introduced	2014	2019	62	75
Brazil	Introduced	2014	2020	72	88
Canada	Introduced	2009	2019	83	83
Canada	Introduced	2009	2020	87	87
Chile	Introduced	2014	2020	74	78
Chile	Introduced	2014	2019	82	92
Colombia	Introduced	2012	2019	38	71
Colombia	Introduced	2012	2020	34	57
Costa Rica	Introduced	2019	2019	39	98
Costa Rica	Introduced	2019	2020	77	-
Cuba	Not Available, Not Introduced/No Plans	-	2019	-	-
Cuba	Not Available, Not Introduced/No Plans	-	2020	-	-
Dominica	Introduced	2019	2020	64	64
Dominica	Introduced	2019	2019	-	81
Dominican Republic	Introduced	2017	2020	7	18
Dominican Republic	Introduced	2017	2019	7	12
Ecuador	Introduced	2014	2019	54	82
Ecuador	Introduced	2014	2020	36	75
El Salvador	Introduced	2020	2020	-	27
El Salvador	Introduced	2020	2019	-	-
Grenada	Introduced	2019	2020	32	57
Grenada	Introduced	2019	2019	41	73
Guatemala	Introduced	2018	2020	-	-
Guatemala	Introduced	2018	2019	24	42
Guyana	Introduced	2017	2019	13	31
Guyana	Introduced	2017	2020	15	-
Haiti	Not Available, Not Introduced/No Plans	-	2019	-	-
Haiti	Not Available, Not Introduced/No Plans	-	2020	-	-
Honduras	Introduced	2016	2019	59	78
Honduras	Introduced	2016	2020	47	67
Jamaica	Introduced	2017	2020	3	8
Jamaica	Introduced	2017	2019	9	23
Mexico	Introduced	2012	2019	95	94

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Mexico	Introduced	2012	2020	24	-
Nicaragua	Not Available, Not Introduced/No Plans	-	2020	-	-
Nicaragua	Not Available, Not Introduced/No Plans	-	2019	-	-
Panama	Introduced	2008	2020	44	67
Panama	Introduced	2008	2019	73	85
Paraguay	Introduced	2013	2020	31	55
Paraguay	Introduced	2013	2019	61	70
Peru	Introduced	2015	2019	76	82
Peru	Introduced	2015	2020	-	-
Saint Kitts and Nevis	Introduced	2019	2020	-	-
Saint Kitts and Nevis	Introduced	2019	2019	-	90
Saint Lucia	Introduced	2019	2019	46	86
Saint Lucia	Introduced	2019	2020	81	51
Saint Vincent and the Grenadines	Introduced	2017	2020	12	3
Saint Vincent and the Grenadines	Introduced	2017	2019	10	11
Suriname	Introduced	2013	2020	4	17
Suriname	Introduced	2013	2019	38	51
Trinidad and Tobago	Introduced	2012	2019	9	18
Trinidad and Tobago	Introduced	2012	2020	-	-
United States of America	Introduced	2006	2019	49	68
United States of America	Introduced	2006	2020	49	68
Uruguay	Introduced	2013	2019	38	77
Uruguay	Introduced	2013	2020	25	38
Venezuela (Bolivarian Republic of)	Not Available, Not Introduced/No Plans	-	2020	-	-
Venezuela (Bolivarian Republic of)	Not Available, Not Introduced/No Plans	-	2019	-	-
Asia					
Afghanistan	Not Available, Not Introduced/No Plans	-	2019	-	-
Afghanistan	Not Available, Not Introduced/No Plans	-	2020	-	-
Armenia	Introduced	2017	2019	7	17
Armenia	Introduced	2017	2020	8	10
Azerbaijan	Not Available, Not Introduced/No Plans	-	2020	-	-
Azerbaijan	Not Available, Not Introduced/No Plans	-	2019	-	-
Bahrain	Not Available, Not Introduced/No Plans	-	2020	-	-
Bahrain	Not Available, Not Introduced/No Plans	-	2019	-	-
Bangladesh	Not Available, Not Introduced/No Plans	-	2020	-	-
Bangladesh	Not Available, Not Introduced/No Plans	-	2019	-	-
Bhutan	Introduced	2009	2020	81	84
Bhutan	Introduced	2009	2019	73	89

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Brunei Darussalam	Introduced	2012	2020	86	88
Brunei Darussalam	Introduced	2012	2019	90	91
Cambodia	Not Available, Not Introduced/No Plans	-	2019	-	-
Cambodia	Not Available, Not Introduced/No Plans	-	2020	-	-
China	Not Available, Not Introduced/No Plans	-	2019	-	-
China	Not Available, Not Introduced/No Plans	-	2020	-	-
Democratic People's Republic of Korea	Not Available, Not Introduced/No Plans	-	2019	-	-
Democratic People's Republic of Korea	Not Available, Not Introduced/No Plans	-	2020	-	-
Georgia	Introduced	2019	2019	11	38
Georgia	Introduced	2019	2020	22	19
India	Not Available, Not Introduced/No Plans	-	2019	-	-
India	Not Available, Not Introduced/No Plans	-	2020	-	-
Indonesia	Partial introduction	2017	2019	6	6
Indonesia	Partial introduction	2017	2020	7	8
Iran (Islamic Republic of)	Not Available, Not Introduced/No Plans	-	2019	-	-
Iran (Islamic Republic of)	Not Available, Not Introduced/No Plans	-	2020	-	-
Iraq	Not Available, Not Introduced/No Plans	-	2019	-	-
Iraq	Not Available, Not Introduced/No Plans	-	2020	-	-
Israel	Introduced	2010	2019	54	58
Israel	Introduced	2010	2020	55	61
Japan	Introduced	2011	2019	-	-
Japan	Introduced	2011	2020	1	-
Jordan	Not Available, Not Introduced/No Plans	-	2019	-	-
Jordan	Not Available, Not Introduced/No Plans	-	2020	-	-
Kazakhstan	Not Available, Not Introduced/No Plans	-	2019	-	-
Kazakhstan	Not Available, Not Introduced/No Plans	-	2020	-	-
Kuwait	Not Available, Not Introduced/No Plans	-	2020	-	-
Kuwait	Not Available, Not Introduced/No Plans	-	2019	-	-
Kyrgyzstan	Not Available, Not Introduced/No Plans	-	2019	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Kyrgyzstan	Not Available, Not Introduced/No Plans	-	2020	-	-
Lao People's Democratic Republic	Introduced	2020	2019	-	-
Lao People's Democratic Republic	Introduced	2020	2020	-	76
Lebanon	Not Available, Not Introduced/No Plans	-	2019	-	-
Lebanon	Not Available, Not Introduced/No Plans	-	2020	-	-
Malaysia	Introduced	2010	2019	85	86
Malaysia	Introduced	2010	2020	84	88
Maldives	Introduced	2019	2019	-	88
Maldives	Introduced	2019	2020	68	70
Mongolia	Not Available, Not Introduced/No Plans	-	2019	-	-
Mongolia	Not Available, Not Introduced/No Plans	-	2020	-	-
Myanmar	Introduced	2020	2019	-	-
Myanmar	Introduced	2020	2020	-	99
Nepal	Not Available, Not Introduced/No Plans	-	2020	-	-
Nepal	Not Available, Not Introduced/No Plans	-	2019	-	-
Oman	Not Available, Not Introduced/No Plans	-	2020	-	-
Oman	Not Available, Not Introduced/No Plans	-	2019	-	-
Pakistan	Not Available, Not Introduced/No Plans	-	2020	-	-
Pakistan	Not Available, Not Introduced/No Plans	-	2019	-	-
Philippines	Partial introduction	2015	2020	5	23
Philippines	Partial introduction	2015	2019	2	23
Qatar	Not Available, Not Introduced/No Plans	-	2019	-	-
Qatar	Not Available, Not Introduced/No Plans	-	2020	-	-
Republic of Korea	Introduced	2016	2019	52	72
Republic of Korea	Introduced	2016	2020	-	-
Saudi Arabia	Not Available, Not Introduced/No Plans	-	2019	-	-
Saudi Arabia	Not Available, Not Introduced/No Plans	-	2020	-	-
Singapore	Introduced	2010	2020	-	-
Singapore	Introduced	2010	2019	-	-
Sri Lanka	Introduced	2017	2020	51	70
Sri Lanka	Introduced	2017	2019	82	99
Syrian Arab Republic	Not Available, Not Introduced/No Plans	-	2019	-	-

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Table 46 – continued from previous page

Country	Programme	Introduction year	Estimation year	HPV coverage – first dose (%)	HPV coverage – last dose (%)
Syrian Arab Republic	Not Available, Not Introduced/No Plans	-	2020	-	-
Tajikistan	Not Available, Not Introduced/No Plans	-	2019	-	-
Tajikistan	Not Available, Not Introduced/No Plans	-	2020	-	-
Thailand	Introduced	2017	2019	66	76
Thailand	Introduced	2017	2020	-	-
Timor-Leste	Not Available, Not Introduced/No Plans	-	2020	-	-
Timor-Leste	Not Available, Not Introduced/No Plans	-	2019	-	-
Turkey	Not Available, Not Introduced/No Plans	-	2019	-	-
Turkey	Not Available, Not Introduced/No Plans	-	2020	-	-
Turkmenistan	Introduced	2016	2020	99	99
Turkmenistan	Introduced	2016	2019	99	99
United Arab Emirates	Introduced	2018	2019	27	28
United Arab Emirates	Introduced	2018	2020	29	44
Uzbekistan	Introduced	2019	2019	-	97
Uzbekistan	Introduced	2019	2020	100	99
Viet Nam	Not Available, Not Introduced/No Plans	-	2020	-	-
Viet Nam	Not Available, Not Introduced/No Plans	-	2019	-	-
Yemen	Not Available, Not Introduced/No Plans	-	2019	-	-
Yemen	Not Available, Not Introduced/No Plans	-	2020	-	-

Data accessed on 20 Sep 2021**Data Sources:**

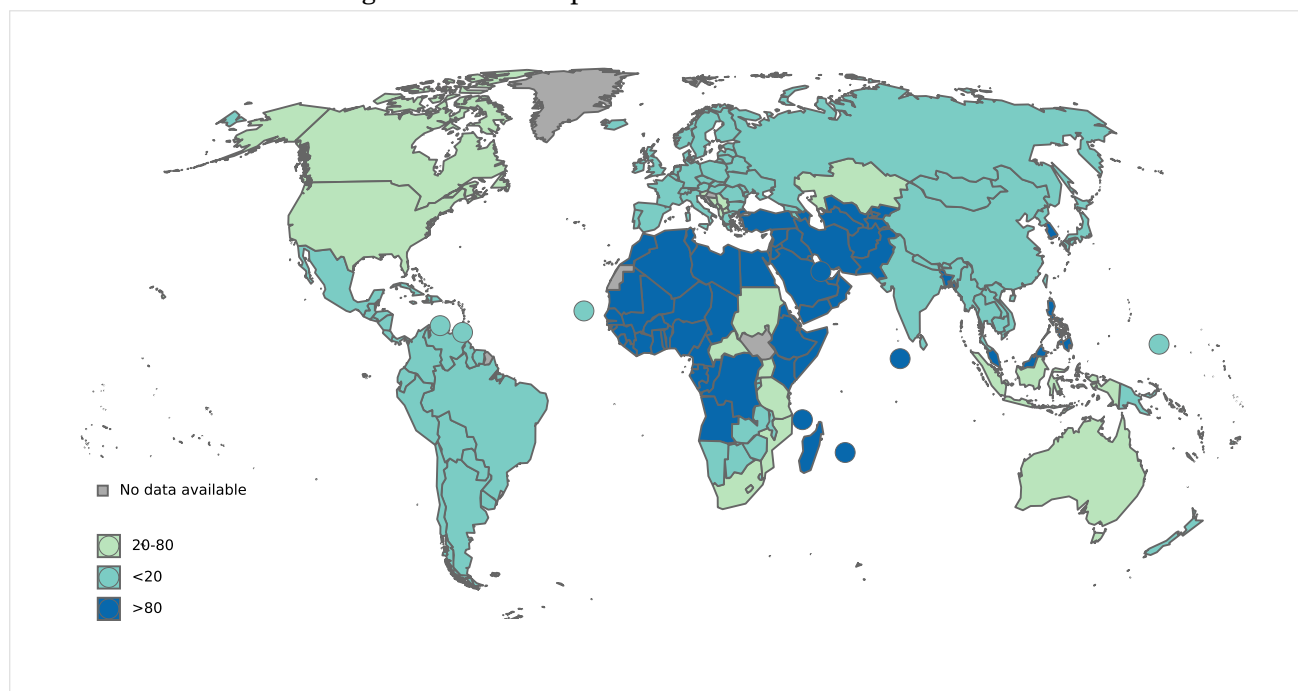
Human papillomavirus (HPV) vaccination coverage. World Health Organization. 2021. Available from: <https://immunizationdata.who.int/pages/coverage/hpv.html>, accessed [20 sep 2021]

Bruni L, Saura-Lázaro A, Montoliu A, Brotons M, Alemany L, Diallo MS, et al. HPV vaccination introduction worldwide and WHO and UNICEF estimates of national HPV immunization coverage 2010-2019. *Prev Med.* 2021;144(106399):106399.

8 Protective factors for cervical cancer

Male circumcision and the use of condoms have shown a significant protective effect against HPV transmission.

Figure 131: World prevalence of male circumcision



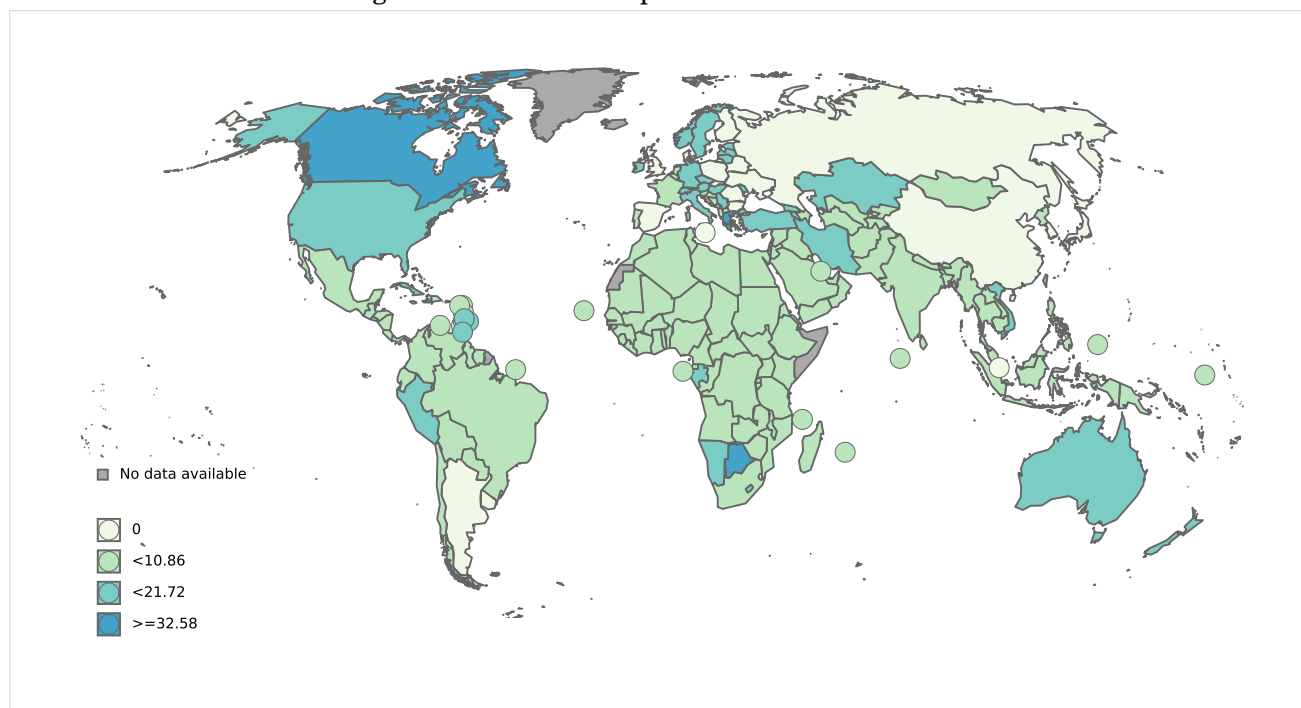
Data accessed on 31 Aug 2015

Data from Demographic and Health Surveys (DHS) and other publications to categorise the country-wide prevalence of male circumcision as <20%, 20-80%, or >80%.

Data Sources:

Please refer to country-specific reference(s) for full methodologies.

Figure 132: Worldwide prevalence of condom use

**Data accessed on 18 Nov 2019**

Please refer to original source for methods of estimation.

Data Sources:

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Contraceptive Use 2019 (POP/DB/CP/Rev2019). <https://www.un.org/en/development/desa/population/publications/dataset/contraception/wcu2019.asp>. Available at: [Accessed on November 18, 2019].

9 References

HPV-related statistics were gathered from specific databases created at the Institut Català d'Oncologia and the International Agency for Research on Cancer.

Systematic collection of published literature from peer-reviewed journals is stored in these databases. Data correspond to results from the following reference papers as well as updated results from continuous monitoring of the literature by the HPV Information Centre:

Table 47: References of studies included

Country	Study
HPV prevalence and HPV type distribution for cytologically normal women	
General sources	Based on systematic reviews and meta-analysis performed by ICO. The ICO HPV Information Centre has updated data until June 2014. Reference publications: 1) Bruni L, J Infect Dis 2010; 202: 1789. 2) De Sanjosé S, Lancet Infect Dis 2007; 7: 453
Africa	
Algeria	Hammouda D, Int J Cancer 2005; 113: 483 Hammouda D, Int J Cancer 2011; 128: 2224, Hammouda D, Int J Cancer 2005; 113: 483 Hammouda D, Int J Cancer 2011; 128: 2224, Hammouda D, Int J Cancer 2005; 113: 483 Hammouda D, Int J Cancer 2011; 128: 2224, Hammouda D, Int J Cancer 2005; 113: 483
Benin	Piras F, Virol J 2011; 8: 514, Piras F, Virol J 2011; 8: 514, Piras F, Virol J 2011; 8: 514
Cameroon	Untiet S, Int J Cancer 2014; 135: 1911
Congo	Hovland S, Br J Cancer 2010; 102: 957 Sangwa-Lugoma G, Sex Transm Dis 2011; 38: 308, Sangwa-Lugoma G, Sex Transm Dis 2011; 38: 308, Hovland S, Br J Cancer 2010; 102: 957 Sangwa-Lugoma G, Sex Transm Dis 2011; 38: 308
Côte d'Ivoire	Adjorlolo-Johnson G, BMC Infect Dis 2010; 10: 242 La Ruche G, Int J Cancer 1998; 76: 480, Adjorlolo-Johnson G, BMC Infect Dis 2010; 10: 242 La Ruche G, Int J Cancer 1998; 76: 480, Adjorlolo-Johnson G, BMC Infect Dis 2010; 10: 242
Egypt	Abdel Aziz MT, Med Sci Monit 2006; 12: MT43, Abdel Aziz MT, Med Sci Monit 2006; 12: MT43, Abdel Aziz MT, Med Sci Monit 2006; 12: MT43
Ethiopia	Leyh-Bannurah SR, Infect Agents Cancer 2014; 9: 33 Ruland R, Eur J Epidemiol 2006; 21: 727
Gabon	Si-Mohamed A, J Med Virol 2005; 77: 430
Gambia	Wall SR, Br J Cancer 2005; 93: 1068, Wall SR, Br J Cancer 2005; 93: 1068
Guinea	Keita N, Br J Cancer 2009; 101: 202, Keita N, Br J Cancer 2009; 101: 202, Keita N, Br J Cancer 2009; 101: 202
Kenya	De Vuyst H, Cancer Causes Control 2010; 21: 2309 De Vuyst H, Sex Transm Dis 2003; 30: 137 Maranga IO, Open Virol J 2013; 7: 19 Temmerman M, Int J Gynaecol Obstet 1999; 65: 171 Yamada R, J Med Virol 2008; 80: 847, De Vuyst H, Sex Transm Dis 2003; 30: 137, De Vuyst H, Cancer Causes Control 2010; 21: 2309 De Vuyst H, Sex Transm Dis 2003; 30: 137 Maranga IO, Open Virol J 2013; 7: 19, De Vuyst H, Cancer Causes Control 2010; 21: 2309 De Vuyst H, Sex Transm Dis 2003; 30: 137
Mali	Schluterman NH, BMC Womens Health 2013; 13: 4 Tracy JK, Trop Med Int Health 2011; 16: 1432
Morocco	Alhamany Z, J Infect Dev Ctries 2010; 4: 732 Amrani M, J Clin Virol 2003; 27: 286 Bennani B, J Infect Dev Ctries 2012; 6: 543 Chaouki N, Int J Cancer 1998; 75: 546, Bennani B, J Infect Dev Ctries 2012; 6: 543 Chaouki N, Int J Cancer 1998; 75: 546, Alhamany Z, J Infect Dev Ctries 2010; 4: 732 Amrani M, J Clin Virol 2003; 27: 286 Chaouki N, Int J Cancer 1998; 75: 546, Alhamany Z, J Infect Dev Ctries 2010; 4: 732 Amrani M, J Clin Virol 2003; 27: 286 Bennani B, J Infect Dev Ctries 2012; 6: 543 Chaouki N, Int J Cancer 1998; 75: 546
Mozambique	Castellsagué X, Lancet 2001; 358: 1429 Naucier P, J Gen Virol 2011; 92: 2784, Castellsagué X, Lancet 2001; 358: 1429, Castellsagué X, Lancet 2001; 358: 1429, Castellsagué X, Lancet 2001; 358: 1429
Nigeria	Akarolo-Anthony SN, BMC Infect Dis 2013; 13: 521 Gage JC, Int J Cancer 2012; 130: 2111 Pimentel VM, J Low Genit Tract Dis 2013; 17: 203 Thomas JO, Br J Cancer 2004; 90: 638, Thomas JO, Br J Cancer 2004; 90: 638, Gage JC, Int J Cancer 2012; 130: 2111 Pimentel VM, J Low Genit Tract Dis 2013; 17: 203 Thomas JO, Br J Cancer 2004; 90: 638, Gage JC, Int J Cancer 2012; 130: 2111 Thomas JO, Br J Cancer 2004; 90: 638
Rwanda	Singh DK, J Infect Dis 2009; 199: 1851 Veldhuijzen NJ, Sex Transm Dis 2012; 39: 128
Senegal	Astori G, Intervirology 1999; 42: 221 Hanisch RA, J Clin Virol 2013; 58: 696 Hawes SE, J Infect Dis 2003; 188: 555 Mbaye el HS, J Med Virol 2014; 86: 248 Xi LF, Int J Cancer 2003; 103: 803, Astori G, Intervirology 1999; 42: 221 Xi LF, Int J Cancer 2003; 103: 803, Astori G, Intervirology 1999; 42: 221 Xi LF, Int J Cancer 2003; 103: 803, Astori G, Intervirology 1999; 42: 221 Xi LF, Int J Cancer 2003; 103: 803
South Africa	Allan B, J Clin Microbiol 2008; 46: 740 Jones HE, J Clin Microbiol 2007; 45: 1679 Mbulawa ZZ, J Gen Virol 2010; 91: 3023 McDonald AC, PLoS ONE 2012; 7: e44332 Wright TC, JAMA 2000; 283: 81, Allan B, J Clin Microbiol 2008; 46: 740 Jones HE, J Clin Microbiol 2007; 45: 1679 McDonald AC, PLoS ONE 2012; 7: e44332, Allan B, J Clin Microbiol 2008; 46: 740 Denny L, JAMA 2005; 294: 2173 Jones HE, J Clin Microbiol 2007; 45: 1679 Mbulawa ZZ, J Gen Virol 2010; 91: 3023 McDonald AC, PLoS ONE 2012; 7: e44332 Richter K, S Afr Med J 2013; 103: 313 Wright TC, JAMA 2000; 283: 81, Allan B, J Clin Microbiol 2008; 46: 740

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Country	Study
Tanzania	Dartell MA, Int J Cancer 2014; 135: 896 Vidal AC, Infect Agents Cancer 2011; 6: 20 Watson-Jones D, Sex Transm Infect 2013; 89: 358, Dartell MA, Int J Cancer 2014; 135: 896 Watson-Jones D, Sex Transm Infect 2013; 89: 358, Dartell MA, Int J Cancer 2014; 135: 896 Vidal AC, Infect Agents Cancer 2011; 6: 20 Watson-Jones D, Sex Transm Infect 2013; 89: 358, Watson-Jones D, Sex Transm Infect 2013; 89: 358
Tunisia	Hassen E, Infection 2003; 31: 143, Hassen E, Infection 2003; 31: 143, Hassen E, Infection 2003; 31: 143, Hassen E, Infection 2003; 31: 143
Uganda	Jeronimo J, Int J Gynecol Cancer 2014; 24: 576 Odida M, Infect Agents Cancer 2011; 6: 8 Taube JM, Diagn Cytopathol 2010; 38: 555, Odida M, Infect Agents Cancer 2011; 6: 8, Asimwe S, Int J STD AIDS 2008; 19: 605 Banura C, J Infect Dis 2008; 197: 555 Jeronimo J, Int J Gynecol Cancer 2014; 24: 576 Odida M, Infect Agents Cancer 2011; 6: 8 Safaeian M, Sex Transm Dis 2007; 34: 429 Taube JM, Diagn Cytopathol 2010; 38: 555
Zimbabwe	Baay MF, J Med Virol 2004; 73: 481 Fukuchi E, Sex Transm Dis 2009; 36: 305 Nowak RG, J Infect Dis 2011; 203: 1182 Womack SD, Int J Cancer 2000; 85: 206, Womack SD, Int J Cancer 2000; 85: 206
Americas	
Argentina	Abba MC, Rev Argent Microbiol 2003; 35: 74 Badano I, Rev Argent Microbiol 2011; 43: 263 Chouhy D, J Med Virol 2013; 85: 655 Matos E, Sex Transm Dis 2003; 30: 593, Matos E, Sex Transm Dis 2003; 30: 593, Abba MC, Rev Argent Microbiol 2003; 35: 74 Badano I, Rev Argent Microbiol 2011; 43: 263 Chouhy D, J Med Virol 2013; 85: 655 Matos E, Sex Transm Dis 2003; 30: 593, Abba MC, Rev Argent Microbiol 2003; 35: 74 Badano I, Rev Argent Microbiol 2011; 43: 263 Chouhy D, J Med Virol 2013; 85: 655 Matos E, Sex Transm Dis 2003; 30: 593
Belize	Cathro HP, Hum Pathol 2009; 40: 942, Cathro HP, Hum Pathol 2009; 40: 942, Cathro HP, Hum Pathol 2009; 40: 942
Bolivia	Cervantes J, Rev Inst Med Trop Sao Paulo 2003; 45: 131
Brazil	Augusto EF, Rev Lat Am Enfermagem 2014; 22: 100 Cassel AP, Genet Mol Biol 2014; 37: 360 da Silva MC, Arch Gynecol Obstet 2012; 286: 1015 de Abreu AL, Am J Trop Med Hyg 2012; 87: 1149 Fernandes J, Ann Med Health Sci Res 2013; 3: 504 Girianelli VR, Rev Bras Ginecol Obstet 2010; 32: 39 Lorenzato F, Int J Gynecol Cancer 2000; 10: 143 Miranda PM, Genet Mol Res 2012; 11: 1752 Muñoz N, Sex Transm Dis 1996; 23: 504 Noronha VL, DST J Bras Doenças Sex Transm 2005; 17: 49 Rocha DA, Infect Dis Obstet Gynecol 2013; 2013: 514859 Tamegão-Lopes BP, Infect Agents Cancer 2014; 9: 25, Augusto EF, Rev Lat Am Enfermagem 2014; 22: 100 Carestiatto FN, Braz J Infect Dis 2006; 10: 331 Cassel AP, Genet Mol Biol 2014; 37: 360 Coser J, Genet Mol Res 2013; 12: 4276 da Silva MC, Arch Gynecol Obstet 2012; 286: 1015 de Abreu AL, Am J Trop Med Hyg 2012; 87: 1149 Entiauspe LG, Braz J Microbiol 2014; 45: 689 Fernandes JV, Int J Gynaecol Obstet 2009; 105: 21 Girianelli VR, Rev Bras Ginecol Obstet 2010; 32: 39 Lippman SA, Int J STD AIDS 2010; 21: 105 Lorenzato F, Int J Gynecol Cancer 2000; 10: 143 Lorenzi AT, Gynecol Oncol 2013; 131: 131 Miranda PM, Genet Mol Res 2012; 11: 1752 Muñoz N, Sex Transm Dis 1996; 23: 504 Noronha VL, DST J Bras Doenças Sex Transm 2005; 17: 49 Oliveira LH, Rev Soc Bras Med Trop 2010; 43: 4 Rocha DA, Infect Dis Obstet Gynecol 2013; 2013: 514859 Silva KC, Mem Inst Oswaldo Cruz 2009; 104: 885 Tamegão-Lopes BP, Infect Agents Cancer 2014; 9: 25 Trottier H, Cancer Epidemiol Biomarkers Prev 2006; 15: 1274, Augusto EF, Rev Lat Am Enfermagem 2014; 22: 100 Carestiatto FN, Braz J Infect Dis 2006; 10: 331 Cassel AP, Genet Mol Biol 2014; 37: 360 Coser J, Genet Mol Res 2013; 12: 4276 da Silva MC, Arch Gynecol Obstet 2012; 286: 1015 de Abreu AL, Am J Trop Med Hyg 2012; 87: 1149 de Oliveira GR, Rev Bras Ginecol Obstet 2013; 35: 226 Entiauspe LG, Braz J Microbiol 2014; 45: 689 Fernandes JV, Int J Gynaecol Obstet 2009; 105: 21 Figueiredo Alves RR, BMC Public Health 2013; 13: 1041 Franco EL, J Infect Dis 1995; 172: 756 Girianelli VR, Rev Bras Ginecol Obstet 2010; 32: 39 Lippman SA, Int J STD AIDS 2010; 21: 105 Lorenzato F, Int J Gynecol Cancer 2000; 10: 143 Lorenzi AT, Gynecol Oncol 2013; 131: 131 Miranda PM, Genet Mol Res 2012; 11: 1752 Muñoz N, Sex Transm Dis 1996; 23: 504 Noronha VL, DST J Bras Doenças Sex Transm 2005; 17: 49 Oliveira FA, Mem Inst Oswaldo Cruz 2007; 102: 751 Oliveira LH, Rev Soc Bras Med Trop 2010; 43: 4 Pinto Dda S, Cad Saude Publica 2011; 27: 769 Rocha DA, Infect Dis Obstet Gynecol 2013; 2013: 514859 Roteli-Martins CM, Int J Gynecol Pathol 2011; 30: 173 Silva KC, Mem Inst Oswaldo Cruz 2009; 104: 885 Tamegão-Lopes BP, Infect Agents Cancer 2014; 9: 25 Trottier H, Cancer Epidemiol Biomarkers Prev 2006; 15: 1274, da Silva MC, Arch Gynecol Obstet 2012; 286: 1015 Fernandes JV, Int J Gynaecol Obstet 2009; 105: 21 Miranda PM, Genet Mol Res 2012; 11: 1752 Muñoz N, Sex Transm Dis 1996; 23: 504 Noronha VL, DST J Bras Doenças Sex Transm 2005; 17: 49 Rama CH, Rev Saude Publica 2008; 42: 123 Trottier H, Cancer Epidemiol Biomarkers Prev 2006; 15: 1274
Canada	Demers AA, Chronic Dis Inj Can 2012; 32: 177 Jiang Y, Infect Agents Cancer 2013; 8: 25 Kapala J, J Virol Methods 2007; 142: 223 Louvanto K, Am J Obstet Gynecol 2014; 210: 474.e1 Mayrand MH, Int J Cancer 2006; 119: 615 Moore RA, Cancer Causes Control 2009; 20: 1387 Ogilvie GS, Vaccine 2013; 31: 1129 Richardson H, Cancer Epidemiol Biomarkers Prev 2003; 12: 485 Roteli-Martins CM, Int J Gynecol Pathol 2011; 30: 173 Sellors JW, CMAJ 2000; 163: 503 Young TK, Sex Transm Dis 1997; 24: 293, Jiang Y, J Infect Public Health 2011; 4: 219 Kapala J, J Virol Methods 2007; 142: 223 Richardson H, Cancer Epidemiol Biomarkers Prev 2003; 12: 485, Demers AA, Chronic Dis Inj Can 2012; 32: 177 Jiang Y, Infect Agents Cancer 2013; 8: 25 Kapala J, J Virol Methods 2007; 142: 223 Mayrand MH, Int J Cancer 2006; 119: 615 Moore RA, Cancer Causes Control 2009; 20: 1387 Richardson H, Cancer Epidemiol Biomarkers Prev 2003; 12: 485 Sellors JW, CMAJ 2000; 163: 503 Young TK, Sex Transm Dis 1997; 24: 293, Demers AA, Chronic Dis Inj Can 2012; 32: 177 Jiang Y, Infect Agents Cancer 2013; 8: 25 Moore RA, Cancer Causes Control 2009; 20: 1387

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Country	Study
Chile	Ferreccio C, BMC Public Health 2008; 8: 78 Ferreccio C, Cancer Epidemiol Biomarkers Prev 2004; 13: 2271 Ferreccio C, Int J Cancer 2013; 132: 916 Montalvo MT, Oncol Lett 2011; 2: 701, Ferreccio C, Cancer Epidemiol Biomarkers Prev 2004; 13: 2271, Ferreccio C, Cancer Epidemiol Biomarkers Prev 2004; 13: 2271 Ferreccio C, Int J Cancer 2013; 132: 916 Montalvo MT, Oncol Lett 2011; 2: 701
Colombia	Leon S, Sex Transm Dis 2009; 36: 290 Molano M, Br J Cancer 2002; 87: 324 Muñoz N, Sex Transm Dis 1996; 23: 504 Soto-De Leon S, PLoS ONE 2011; 6: e14705, Molano M, Br J Cancer 2002; 87: 324 Muñoz N, Sex Transm Dis 1996; 23: 504, Leon S, Sex Transm Dis 2009; 36: 290 Molano M, Br J Cancer 2002; 87: 324 Muñoz N, Sex Transm Dis 1996; 23: 504 Soto-De Leon S, PLoS ONE 2011; 6: e14705, Molano M, Br J Cancer 2002; 87: 324 Muñoz N, Sex Transm Dis 1996; 23: 504
Costa Rica	Herrero R, J Infect Dis 2005; 191: 1796 Safaeian M, J Clin Microbiol 2007; 45: 1447, Herrero R, J Infect Dis 2005; 191: 1796, Herrero R, J Infect Dis 2005; 191: 1796 Safaeian M, J Clin Microbiol 2007; 45: 1447, Herrero R, J Infect Dis 2005; 191: 1796
Cuba	Soto Y, J Low Genit Tract Dis 2014; 18: 210, Soto Y, J Low Genit Tract Dis 2014; 18: 210, Soto Y, J Low Genit Tract Dis 2014; 18: 210
Ecuador	Brown CR, Braz J Med Biol Res 2009; 42: 629, Brown CR, Braz J Med Biol Res 2009; 42: 629
Guatemala	Vallès X, Int J Cancer 2009; 125: 1161, Vallès X, Int J Cancer 2009; 125: 1161, Vallès X, Int J Cancer 2009; 125: 1161, Vallès X, Int J Cancer 2009; 125: 1161
Guyana	Kightlinger RS, Am J Obstet Gynecol 2010; 202: 626.e1, Kightlinger RS, Am J Obstet Gynecol 2010; 202: 626.e1
Honduras	Ferrera A, Int J Cancer 1999; 82: 799 Tábora N, Am J Trop Med Hyg 2005; 73: 50 Tábora N, Cancer Causes Control 2009; 20: 1663, Ferrera A, Int J Cancer 1999; 82: 799 Tábora N, Am J Trop Med Hyg 2005; 73: 50, Ferrera A, Int J Cancer 1999; 82: 799 Tábora N, Am J Trop Med Hyg 2005; 73: 50 Tábora N, Cancer Causes Control 2009; 20: 1663, Ferrera A, Int J Cancer 1999; 82: 799 Tábora N, Am J Trop Med Hyg 2005; 73: 50
Jamaica	Lewis-Bell K, Rev Panam Salud Publica 2013; 33: 159, Lewis-Bell K, Rev Panam Salud Publica 2013; 33: 159, Lewis-Bell K, Rev Panam Salud Publica 2013; 33: 159 Watt A, Infect Agents Cancer 2009; 4 Suppl 1: S11
Mexico	Carrillo-García A, Gynecol Oncol 2014; 134: 534 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Giuliano AR, Int J STD AIDS 2005; 16: 247 Hernández-Avila M, Arch Med Res 1997; 28: 265 Hernández-Girón C, Sex Transm Dis 2005; 32: 613 Illades-Aguir B, Cancer Detect Prev 2009; 32: 300 Illades-Aguir B, Gynecol Oncol 2010; 117: 291 Lazcano-Ponce E, Cancer Causes Control 2010; 21: 1693 Lazcano-Ponce E, Int J Cancer 2001; 91: 412 López Rivera MG, Infect Dis Obstet Gynecol 2012; 2012: 384758 Monroy OL, J Clin Virol 2010; 47: 43 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Rojo Contreras W, Ginecol Obstet Mex 2008; 76: 9 Salmerón J, Cancer Causes Control 2003; 14: 505 Sánchez-Anguiano LF, BMC Infect Dis 2006; 6: 27 Velázquez-Márquez N, Braz J Microbiol 2010; 41: 749, Giuliano AR, Int J STD AIDS 2005; 16: 247 Illades-Aguir B, Gynecol Oncol 2010; 117: 291 Lazcano-Ponce E, Int J Cancer 2001; 91: 412 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Sánchez-Anguiano LF, BMC Infect Dis 2006; 6: 27, Carrillo-García A, Gynecol Oncol 2014; 134: 534 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Giuliano AR, Int J STD AIDS 2005; 16: 247 Illades-Aguir B, Cancer Detect Prev 2009; 32: 300 Illades-Aguir B, Gynecol Oncol 2010; 117: 291 Lazcano-Ponce E, Int J Cancer 2001; 91: 412 López Rivera MG, Infect Dis Obstet Gynecol 2012; 2012: 384758 Monroy OL, J Clin Virol 2010; 47: 43 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Rojo Contreras W, Ginecol Obstet Mex 2008; 76: 9 Sánchez-Anguiano LF, BMC Infect Dis 2006; 6: 27 Velázquez-Márquez N, Braz J Microbiol 2010; 41: 749, Carrillo-García A, Gynecol Oncol 2014; 134: 534 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Giuliano AR, Int J STD AIDS 2005; 16: 247 Illades-Aguir B, Cancer Detect Prev 2009; 32: 300 Illades-Aguir B, Gynecol Oncol 2010; 117: 291 Lazcano-Ponce E, Cancer Causes Control 2010; 21: 1693 Lazcano-Ponce E, Int J Cancer 2001; 91: 412 López Rivera MG, Infect Dis Obstet Gynecol 2012; 2012: 384758 Monroy OL, J Clin Virol 2010; 47: 43 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Rojo Contreras W, Ginecol Obstet Mex 2008; 76: 9 Salmerón J, Cancer Causes Control 2003; 14: 505 Sánchez-Anguiano LF, BMC Infect Dis 2006; 6: 27 Velázquez-Márquez N, Braz J Microbiol 2010; 41: 749
Nicaragua	Jeronimo J, Int J Gynecol Cancer 2014; 24: 576, Jeronimo J, Int J Gynecol Cancer 2014; 24: 576
Paraguay	Mendoza LP, J Med Virol 2011; 83: 1351 Rolón PA, Int J Cancer 2000; 85: 486 Torres LM, Braz J Infect Dis 2009; 13: 203, Rolón PA, Int J Cancer 2000; 85: 486, Mendoza LP, J Med Virol 2011; 83: 1351 Rolón PA, Int J Cancer 2000; 85: 486 Torres LM, Braz J Infect Dis 2009; 13: 203, Mendoza LP, J Med Virol 2011; 83: 1351 Rolón PA, Int J Cancer 2000; 85: 486
Peru	Almonte M, Int J Cancer 2007; 121: 796 García PJ, Bull World Health Organ 2004; 82: 483 Martorell M, Genet Mol Res 2012; 11: 2099 Santos C, Br J Cancer 2001; 85: 966 Silva-Caso W, Asian Pac J Trop Med 2014; 7S1: S121, García PJ, Bull World Health Organ 2004; 82: 483 Santos C, Br J Cancer 2001; 85: 966, García PJ, Bull World Health Organ 2004; 82: 483 Martorell M, Genet Mol Res 2012; 11: 2099 Santos C, Br J Cancer 2001; 85: 966, Almonte M, Int J Cancer 2007; 121: 796 García PJ, Bull World Health Organ 2004; 82: 483 Martorell M, Genet Mol Res 2012; 11: 2099 Santos C, Br J Cancer 2001; 85: 966 Silva-Caso W, Asian Pac J Trop Med 2014; 7S1: S121
Trinidad and Tobago	Ragin CC, Biomarkers 2007; 12: 510, Ragin CC, Biomarkers 2007; 12: 510, Ragin CC, Biomarkers 2007; 12: 510

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Country	Study
United States of America	Castle PE, J Clin Oncol 2012; 30: 3044 Castle PE, Lancet Oncol 2011; 12: 880 Castle PE, Obstet Gynecol 2009; 113: 595 Chaturvedi AK, J Med Virol 2005; 75: 105 Cibas ES, Gynecol Oncol 2007; 104: 702 Datta SD, Ann Intern Med 2008; 148: 493 Dunne EF, Cancer Causes Control 2013; 24: 403 Dunne EF, JAMA 2007; 297: 813 Evans MF, Cancer 2006; 106: 1054 Giuliano AR, Cancer Epidemiol Biomarkers Prev 1999; 8: 615 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Goodman MT, Cancer Res 2008; 68: 8813 Hernandez BY, Nutr Cancer 2004; 49: 109 Insinga RP, Cancer Epidemiol Biomarkers Prev 2007; 16: 709 Kahn JA, Obstet Gynecol 2008; 111: 1103 Khanna N, Int J Gynecol Cancer 2007; 17: 615 Kotloff KL, Sex Transm Dis 1998; 25: 243 Moscicki AB, JAMA 2001; 285: 2995 Schiffman M, Cancer Epidemiol Biomarkers Prev 2011; 20: 1398 Sherman ME, J Natl Cancer Inst 2003; 95: 46 Smith EM, Cancer Detect Prev 2003; 27: 472 Smith EM, Int J Gynaecol Obstet 2004; 87: 131 Swan DC, J Clin Microbiol 1999; 37: 1030 Tarkowski TA, J Infect Dis 2004; 189: 46 Wheeler CM, Int J Cancer 2013; 132: 198 Winer RL, Am J Epidemiol 2003; 157: 218 Zhao C, Cancer 2007; 111: 292, Castle PE, Obstet Gynecol 2009; 113: 595 Cibas ES, Gynecol Oncol 2007; 104: 702 Datta SD, Ann Intern Med 2008; 148: 493 Evans MF, Cancer 2006; 106: 1054 Hernandez BY, Nutr Cancer 2004; 49: 109 Schiffman M, Cancer Epidemiol Biomarkers Prev 2011; 20: 1398 Smith EM, Int J Gynaecol Obstet 2004; 87: 131 Swan DC, J Clin Microbiol 1999; 37: 1030 Wheeler CM, Int J Cancer 2013; 132: 198 Wideroff L, Nutr Cancer 1998; 30: 130 Zhao C, Cancer 2007; 111: 292, Castle PE, Lancet Oncol 2011; 12: 880 Castle PE, Obstet Gynecol 2009; 113: 595 Chaturvedi AK, J Med Virol 2005; 75: 105 Cibas ES, Gynecol Oncol 2007; 104: 702 Datta SD, Ann Intern Med 2008; 148: 493 Dunne EF, Cancer Causes Control 2013; 24: 403 Evans MF, Cancer 2006; 106: 1054 Giuliano AR, Cancer Epidemiol Biomarkers Prev 1999; 8: 615 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Goodman MT, Cancer Res 2008; 68: 8813 Hernandez BY, Nutr Cancer 2004; 49: 109 Insinga RP, Cancer Epidemiol Biomarkers Prev 2007; 16: 709 Khanna N, Int J Gynecol Cancer 2007; 17: 615 Kotloff KL, Sex Transm Dis 1998; 25: 243 Moscicki AB, JAMA 2001; 285: 2995 Schiffman M, Cancer Epidemiol Biomarkers Prev 2011; 20: 1398 Sherman ME, J Natl Cancer Inst 2003; 95: 46 Smith EM, Cancer Detect Prev 2003; 27: 472 Smith EM, Int J Gynaecol Obstet 2004; 87: 131 Swan DC, J Clin Microbiol 1999; 37: 1030 Tarkowski TA, J Infect Dis 2004; 189: 46 Wheeler CM, Int J Cancer 2013; 132: 198 Zhao C, Cancer 2007; 111: 292, Chaturvedi AK, J Med Virol 2005; 75: 105 Cibas ES, Gynecol Oncol 2007; 104: 702 Dunne EF, Cancer Causes Control 2013; 24: 403 Evans MF, Cancer 2006; 106: 1054 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Goodman MT, Cancer Res 2008; 68: 8813 Hernandez BY, Nutr Cancer 2004; 49: 109 Insinga RP, Cancer Epidemiol Biomarkers Prev 2007; 16: 709 Moscicki AB, JAMA 2001; 285: 2995 Schiffman M, Cancer Epidemiol Biomarkers Prev 2011; 20: 1398 Swan DC, J Clin Microbiol 1999; 37: 1030 Wheeler CM, Int J Cancer 2013; 132: 198 Wideroff L, Nutr Cancer 1998; 30: 130
Uruguay	Berois N, J Med Virol 2014; 86: 647 Ramas V, J Med Virol 2013; 85: 845, Berois N, J Med Virol 2014; 86: 647 Ramas V, J Med Virol 2013; 85: 845, Berois N, J Med Virol 2014; 86: 647 Ramas V, J Med Virol 2013; 85: 845, Ramas V, J Med Virol 2013; 85: 845
Venezuela	Michelli E, Invest Clin 2011; 52: 344, Michelli E, Invest Clin 2011; 52: 344
Asia	
Bahrain	Hajjaj AA, Saudi Med J 2006; 27: 487, Hajjaj AA, Saudi Med J 2006; 27: 487, Hajjaj AA, Saudi Med J 2006; 27: 487
Bangladesh	Nahar Q, PLoS ONE 2014; 9: e107675
Bhutan	Tshomo U, BMC Infect Dis 2014; 14: 408, Tshomo U, BMC Infect Dis 2014; 14: 408, Tshomo U, BMC Infect Dis 2014; 14: 408

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Country	Study
China	Belinson J, Gynecol Oncol 2001; 83: 439 Belinson JL, Am J Clin Pathol 2011; 135: 790 Belinson JL, Int J Gynecol Cancer 2003; 13: 819 Bian ML, Exp Ther Med 2013; 6: 1332 Chan PK, J Infect Dis 2002; 185: 28 Dai M, Br J Cancer 2006; 95: 96 Ding X, J Med Virol 2014; 86: 1937 He X, Eur J Epidemiol 2008; 23: 403 Hu SY, Chin J Cancer Res 2011; 23: 25 Jin Q, Chin Med J 2010; 123: 2004 Li C, Cancer Epidemiol Biomarkers Prev 2010; 19: 2655 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li LK, Br J Cancer 2006; 95: 1593 Mai RQ, Asian Pac J Cancer Prev 2014; 15: 4945 Moy LM, Int J Cancer 2010; 127: 646 Sun ZR, Int J Gynaecol Obstet 2010; 109: 105 Wei H, Int J Gynaecol Obstet 2014; 126: 28 Wu D, Eur J Obstet Gynecol Reprod Biol 2010; 151: 86 Wu EQ, Cancer Causes Control 2013; 24: 795 Wu RF, Int J Cancer 2007; 121: 1306 Ye J, Int J Gynecol Cancer 2010; 20: 1374 Yeoh GP, Acta Cytol 2006; 50: 627 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhao FH, Cancer Prev Res (Phila) 2013; 6: 938 Zhao FH, Int J Cancer 2014; 135: 2604 Bian ML, Exp Ther Med 2013; 6: 1332 Dai M, Br J Cancer 2006; 95: 96 Ding X, J Med Virol 2014; 86: 1937 Jin Q, Chin Med J 2010; 123: 2004 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li LK, Br J Cancer 2006; 95: 1593 Mai RQ, Asian Pac J Cancer Prev 2014; 15: 4945 Sun ZR, Int J Gynaecol Obstet 2010; 109: 105 Wei H, Int J Gynaecol Obstet 2014; 126: 28 Wu D, Eur J Obstet Gynecol Reprod Biol 2010; 151: 86 Wu EQ, Cancer Causes Control 2013; 24: 795 Wu RF, Int J Cancer 2007; 121: 1306 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhao FH, Int J Cancer 2014; 135: 2604 Zhao R, Br J Cancer 2009; 101: 1635 Belinson J, Gynecol Oncol 2001; 83: 439 Belinson JL, Am J Clin Pathol 2011; 135: 790 Belinson JL, Int J Gynecol Cancer 2003; 13: 819 Bian ML, Exp Ther Med 2013; 6: 1332 Chan PK, J Infect Dis 2002; 185: 28 Chan PK, J Med Virol 2009; 81: 1635 Chen Q, PLoS ONE 2012; 7: e32149 Chen Z, Exp Ther Med 2013; 6: 85 Chui SH, Public Health 2012; 126: 600 Dai M, Br J Cancer 2006; 95: 96 Ding X, J Med Virol 2014; 86: 1937 DU H, Zhonghua Liu Xing Bing Xue Za Zhi 2012; 33: 799 He X, Eur J Epidemiol 2008; 23: 403 Hu SY, Chin J Cancer Res 2011; 23: 25 Jin Q, Chin Med J 2010; 123: 2004 Li C, Cancer Epidemiol Biomarkers Prev 2010; 19: 2655 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li LK, Br J Cancer 2006; 95: 1593 Lin M, Aust N Z J Obstet Gynaecol 2008; 48: 189 Mai RQ, Asian Pac J Cancer Prev 2014; 15: 4945 Moy LM, Int J Cancer 2010; 127: 646 Sui S, Asian Pac J Cancer Prev 2013; 14: 5861 Sun LL, Virol J 2012; 9: 153 Sun ZR, Int J Gynaecol Obstet 2010; 109: 105 Wang S, BMC Cancer 2012; 12: 160 Wang X, Int J Gynaecol Obstet 2013; 120: 37 Wang YY, Asian Pac J Cancer Prev 2013; 14: 7483 Wei H, Int J Gynaecol Obstet 2014; 126: 28 Wu D, Eur J Obstet Gynecol Reprod Biol 2010; 151: 86 Wu EQ, Cancer Causes Control 2013; 24: 795 Wu R, Int J Gynecol Cancer 2010; 20: 1411 Wu RF, Int J Cancer 2007; 121: 1306 Ye J, Int J Gynecol Cancer 2010; 20: 1374 Ye J, Virol J 2010; 7: 66 Yeoh GP, Acta Cytol 2006; 50: 627 Yip YC, J Med Virol 2010; 82: 1724 Yu XW, J Low Genit Tract Dis 2013; 17: 17 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhang L, Arch Gynecol Obstet 2012; 286: 695 Zhang R, J Clin Virol 2013; 58: 144 Zhang WY, Chin Med J 2008; 121: 1578 Zhao FH, Cancer Prev Res (Phila) 2013; 6: 938 Zhao FH, Int J Cancer 2014; 135: 2604 Belinson J, Gynecol Oncol 2001; 83: 439 Dai M, Br J Cancer 2006; 95: 96 Li LK, Br J Cancer 2006; 95: 1593 Wu RF, Int J Cancer 2007; 121: 1306
Georgia	Alibegashvili T, Cancer Epidemiol 2011; 35: 465 Alibegashvili T, Cancer Epidemiol 2011; 35: 465, Alibegashvili T, Cancer Epidemiol 2011; 35: 465
India	Aggarwal R, Indian J Cancer 2006; 43: 110 Arora R, Eur J Obstet Gynecol Reprod Biol 2005; 121: 104 Bhatla N, Int J Gynecol Pathol 2008; 27: 426 Dutta S, Int J Gynecol Pathol 2012; 31: 178 Franceschi S, Br J Cancer 2005; 92: 601 Gupta S, Cytopathology 2009; 20: 249 Jeronimo J, Int J Gynecol Cancer 2014; 24: 576 Kashyap V, J Cytol 2013; 30: 190 Kerkar SC, Sex Reprod Healthc 2011; 2: 7 Laikangbam P, Int J Gynecol Cancer 2007; 17: 107 Sankaranarayanan R, Int J Cancer 2004; 112: 341 Singh A, Int J Gynecol Cancer 2009; 19: 1642 Vinodhini K, Int J Gynaecol Obstet 2012; 119: 253 Aggarwal R, Indian J Cancer 2006; 43: 110 Arora R, Eur J Obstet Gynecol Reprod Biol 2005; 121: 104 Bhatla N, Int J Gynecol Pathol 2008; 27: 426 Dutta S, Int J Gynecol Pathol 2012; 31: 178 Franceschi S, Br J Cancer 2005; 92: 601 Gupta S, Cytopathology 2009; 20: 249 Kerkar SC, Sex Reprod Healthc 2011; 2: 7 Laikangbam P, Int J Gynecol Cancer 2007; 17: 107 Singh A, Int J Gynecol Cancer 2009; 19: 1642 Vinodhini K, Int J Gynaecol Obstet 2012; 119: 253 Aggarwal R, Indian J Cancer 2006; 43: 110 Arora R, Eur J Obstet Gynecol Reprod Biol 2005; 121: 104 Basu P, Int J Cancer 2013; 132: 1693 Bhatla N, Int J Gynecol Pathol 2008; 27: 426 Datta P, Cancer Epidemiol 2010; 34: 157 Dutta S, Int J Gynecol Pathol 2012; 31: 178 Franceschi S, Br J Cancer 2005; 92: 601 Gravitt PE, PLoS ONE 2010; 5: e13711 Gupta S, Cytopathology 2009; 20: 249 Jeronimo J, Int J Gynecol Cancer 2014; 24: 576 Kashyap V, J Cytol 2013; 30: 190 Kerkar SC, Sex Reprod Healthc 2011; 2: 7 Laikangbam P, Int J Gynecol Cancer 2007; 17: 107 Mittal S, Int J Gynaecol Obstet 2014; 126: 227 Pandey S, Asian Pac J Cancer Prev 2012; 13: 2643 Sankaranarayanan R, Int J Cancer 2004; 112: 341 Sankaranarayanan R, Int J Cancer 2005; 116: 617 Sarkar K, BMC Infect Dis 2011; 11: 72 Singh A, Int J Gynecol Cancer 2009; 19: 1642 Srivastava S, J Biosci 2012; 37: 63 Vinodhini K, Int J Gynaecol Obstet 2012; 119: 253 Aggarwal R, Indian J Cancer 2006; 43: 110 Arora R, Eur J Obstet Gynecol Reprod Biol 2005; 121: 104 Bhatla N, Int J Gynecol Pathol 2008; 27: 426 Franceschi S, Br J Cancer 2005; 92: 601 Gupta S, Cytopathology 2009; 20: 249 Kerkar SC, Sex Reprod Healthc 2011; 2: 7 Laikangbam P, Int J Gynecol Cancer 2007; 17: 107
Indonesia	de Boer MA, Int J Gynecol Cancer 2006; 16: 1809 Rachmadi L, Acta Cytol 2012; 56: 171 Vet JN, Br J Cancer 2008; 99: 214 de Boer MA, Int J Gynecol Cancer 2006; 16: 1809 de Boer MA, Int J Gynecol Cancer 2006; 16: 1809 Rachmadi L, Acta Cytol 2012; 56: 171 de Boer MA, Int J Gynecol Cancer 2006; 16: 1809

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Country	Study
Iran	Khodakarami N, Int J Cancer 2012; 131: E156 Moradi A, Iran J Cancer Prev 2011; 3: 135 Safaei A, Indian J Pathol Microbiol 2010; 53: 681, Khodakarami N, Int J Cancer 2012; 131: E156 Moradi A, Iran J Cancer Prev 2011; 3: 135 Safaei A, Indian J Pathol Microbiol 2010; 53: 681 Zavarei 2008: reported in Vaccarella S, Vaccine 2013; 31 Suppl 6: G32, Eghbali SS, Virol J 2012; 9: 194 Khodakarami N, Int J Cancer 2012; 131: E156 Moradi A, Iran J Cancer Prev 2011; 3: 135 Safaei A, Indian J Pathol Microbiol 2010; 53: 681 Shahramian I, Iran J Public Health 2011; 40: 113 Zandi K, Virol J 2010; 7: 65 Zavarei 2008: reported in Vaccarella S, Vaccine 2013; 31 Suppl 6: G32, Safaei A, Indian J Pathol Microbiol 2010; 53: 681
Japan	Asato T, J Infect Dis 2004; 189: 1829 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Ishi K, J Obstet Gynaecol Res 2004; 30: 380 Konno R, Cancer Sci 2011; 102: 877 Maehama T, Infect Dis Obstet Gynecol 2005; 13: 77 Masumoto N, Gynecol Oncol 2004; 94: 509 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Int J Gynaecol Obstet 1995; 51: 43 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Sasagawa T, Jpn J Cancer Res 1997; 88: 376 Sasagawa T, Sex Transm Infect 2005; 81: 280 Satoh T, J Virol Methods 2013; 188: 83 Takehara K, Patholog Res Int 2011; 2011: 246936 Yoshikawa H, Br J Cancer 1999; 80: 621, Asato T, J Infect Dis 2004; 189: 1829 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Konno R, Cancer Sci 2011; 102: 877 Maehama T, Infect Dis Obstet Gynecol 2005; 13: 77 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Onuki M, Cancer Sci 2009; 100: 1312 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Sasagawa T, Jpn J Cancer Res 1997; 88: 376 Sasagawa T, Sex Transm Infect 2005; 81: 280 Satoh T, J Virol Methods 2013; 188: 83 Takehara K, Patholog Res Int 2011; 2011: 246936 Yoshikawa H, Br J Cancer 1999; 80: 621, Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Ishi K, J Obstet Gynaecol Res 2004; 30: 380 Konno R, Cancer Sci 2011; 102: 877 Maehama T, Infect Dis Obstet Gynecol 2005; 13: 77 Masumoto N, Gynecol Oncol 2004; 94: 509 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Int J Gynaecol Obstet 1995; 51: 43 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Sasagawa T, Jpn J Cancer Res 1997; 88: 376 Sasagawa T, Sex Transm Infect 2005; 81: 280 Takehara K, Patholog Res Int 2011; 2011: 246936
Kazakhstan	Buleshov 2011: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32
Kuwait	Al-Awadhi R, J Med Virol 2011; 83: 453, Al-Awadhi R, J Med Virol 2011; 83: 453, Al-Awadhi R, J Med Virol 2011; 83: 453
Laos	Phongsavan K, Int J Gynecol Cancer 2012; 22: 1398
Lebanon	Karam WG, Lebanese Medical Journal 2005; 53: 132 Mroueh AM, Eur J Gynaecol Oncol 2002; 23: 429, Mroueh AM, Eur J Gynaecol Oncol 2002; 23: 429, Karam WG, Lebanese Medical Journal 2005; 53: 132 Mroueh AM, Eur J Gynaecol Oncol 2002; 23: 429
Malaysia	Othman N, Asian Pac J Cancer Prev 2014; 15: 2245 Tay SK, Aust N Z J Obstet Gynaecol 2009; 49: 323, Othman N, Asian Pac J Cancer Prev 2014; 15: 2245, Chong PP, Asian Pac J Cancer Prev 2010; 11: 1645 Othman N, Asian Pac J Cancer Prev 2014; 15: 2245 Tay SK, Aust N Z J Obstet Gynaecol 2009; 49: 323
Mongolia	Chimeddorj B, Asian Pac J Cancer Prev 2008; 9: 563 Dondog B, Cancer Epidemiol Biomarkers Prev 2008; 17: 1731, Dondog B, Cancer Epidemiol Biomarkers Prev 2008; 17: 1731, Chimeddorj B, Asian Pac J Cancer Prev 2008; 9: 563 Dondog B, Cancer Epidemiol Biomarkers Prev 2008; 17: 1731, Dondog B, Cancer Epidemiol Biomarkers Prev 2008; 17: 1731
Nepal	Johnson DC, PLoS ONE 2014; 9: e101255 Sherpa AT, Cancer Causes Control 2010; 21: 323, Johnson DC, PLoS ONE 2014; 9: e101255 Sherpa AT, Cancer Causes Control 2010; 21: 323, Johnson DC, PLoS ONE 2014; 9: e101255 Sherpa AT, Cancer Causes Control 2010; 21: 323
Pakistan	Raza SA, Br J Cancer 2010; 102: 1657, Raza SA, Br J Cancer 2010; 102: 1657, Raza SA, Br J Cancer 2010; 102: 1657
Philippines	Ngelangel C, J Natl Cancer Inst 1998; 90: 43, Ngelangel C, J Natl Cancer Inst 1998; 90: 43, Ngelangel C, J Natl Cancer Inst 1998; 90: 43, Ngelangel C, J Natl Cancer Inst 1998; 90: 43

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Republic of Korea	An HJ, Cancer 2003; 97: 1672 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang HS, Cancer Epidemiol Biomarkers Prev 2004; 13: 2153 Kim J, Int J Gynecol Cancer 2012; 22: 1570 Kim MJ, Obstet Gynecol Sci 2013; 56: 110 Lee HP, J Med Virol 2011; 83: 471 Lee SA, Cancer Lett 2003; 198: 187 Oh YL, Cytopathology 2001; 12: 75 Shin HR, Int J Cancer 2003; 103: 413, An HJ, Cancer 2003; 97: 1672 Bae J, Gynecol Oncol 2009; 115: 75 Bae JM, Arch Virol 2014; 159: 1909 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang HS, Cancer Epidemiol Biomarkers Prev 2004; 13: 2153 Kim J, Int J Gynecol Cancer 2012; 22: 1570 Kim JH, Oncol Rep 2013; 29: 1645 Kim K, Asian Pac J Cancer Prev 2012; 13: 269 Kim MJ, Obstet Gynecol Sci 2013; 56: 110 Kim YJ, J Microbiol 2013; 51: 665 Lee HP, J Med Virol 2011; 83: 471 Lee SA, Cancer Lett 2003; 198: 187 Lee SJ, Int J Med Sci 2012; 9: 103 Oh JK, Eur J Cancer Prev 2009; 18: 56 Oh YL, Cytopathology 2001; 12: 75 Shim HS, BMC Infect Dis 2010; 10: 284 Shin HR, Int J Cancer 2003; 103: 413 Um TH, Ann Clin Lab Sci 2011; 41: 48, An HJ, Cancer 2003; 97: 1672 Bae J, Gynecol Oncol 2009; 115: 75 Bae JH, J Microbiol Biotechnol 2009; 19: 1051 Bae JM, Arch Virol 2014; 159: 1909 Cho EJ, J Med Microbiol 2011; 60: 162 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang HS, Cancer Epidemiol Biomarkers Prev 2004; 13: 2153 Hwang Y, Ann Lab Med 2012; 32: 201 Kim J, Int J Gynecol Cancer 2012; 22: 1570 Kim JH, Oncol Rep 2013; 29: 1645 Kim JK, J Microbiol Biotechnol 2014; 24: 1143 Kim K, Asian Pac J Cancer Prev 2012; 13: 269 Kim MA, J Korean Med Sci 2012; 27: 922 Kim MA, Obstet Gynecol 2010; 116: 932 Kim MJ, Obstet Gynecol Sci 2013; 56: 110 Kim TE, Korean J Pathol 2014; 48: 24 Kim Y, J Infect Chemother 2014; 20: 74 Kim YJ, J Microbiol 2013; 51: 665 Lee EH, J Korean Med Sci 2012; 27: 1091 Lee H, Epidemiol Infect 2014; 142: 1579 Lee HP, J Med Virol 2011; 83: 471 Lee SA, Cancer Lett 2003; 198: 187 Lee SJ, Int J Med Sci 2012; 9: 103 Oh JK, Eur J Cancer Prev 2009; 18: 56 Oh YL, Cytopathology 2001; 12: 75 Park EK, J Korean Med Sci 2014; 29: 32 Shim HS, BMC Infect Dis 2010; 10: 284 Shin HR, Int J Cancer 2003; 103: 413 Shin HR, J Infect Dis 2004; 190: 468 Um TH, Ann Clin Lab Sci 2011; 41: 48, Shin HR, Int J Cancer 2003; 103: 413
Saudi Arabia	Al-Ahdal MN, J Infect Dev Ctries 2014; 8: 320, Al-Ahdal MN, J Infect Dev Ctries 2014; 8: 320
Thailand	Chaiwongkot A, Asian Pac J Cancer Prev 2007; 8: 279 Chichareon S, J Natl Cancer Inst 1998; 90: 50 Chopjitt P, Int J Infect Dis 2009; 13: 212 Laowahutanont P, Asian Pac J Cancer Prev 2014; 15: 5879 Natphopsuk S, Asian Pac J Cancer Prev 2013; 14: 6961 Settheetham-Ishida W, Microbiol Immunol 2005; 49: 417 Siritantikorn S, Southeast Asian J Trop Med Public Health 1997; 28: 707 Sriamporn S, Int J Gynecol Cancer 2006; 16: 266 Sukvirach S, J Infect Dis 2003; 187: 1246 Suwannarurk K, Cancer Epidemiol 2009; 33: 56, Chaiwongkot A, Asian Pac J Cancer Prev 2007; 8: 279 Chansaenroj J, Asian Pac J Cancer Prev 2010; 11: 117 Chichareon S, J Natl Cancer Inst 1998; 90: 50 Chopjitt P, Int J Infect Dis 2009; 13: 212 Ekalaksananan T, J Obstet Gynaecol Res 2010; 36: 1037 Laowahutanont P, Asian Pac J Cancer Prev 2014; 15: 5879 Natphopsuk S, Asian Pac J Cancer Prev 2013; 14: 6961 Paengchit K, Asian Pac J Cancer Prev 2014; 15: 6151 Settheetham-Ishida W, Microbiol Immunol 2005; 49: 417 Siriaunkgul S, Asian Pac J Cancer Prev 2014; 15: 6837 Siritantikorn S, Southeast Asian J Trop Med Public Health 1997; 28: 707 Sriamporn S, Int J Gynecol Cancer 2006; 16: 266 Sukvirach S, J Infect Dis 2003; 187: 1246 Suwannarurk K, Cancer Epidemiol 2009; 33: 56 Swangvaree SS, Asian Pac J Cancer Prev 2010; 11: 1465, Chaiwongkot A, Asian Pac J Cancer Prev 2007; 8: 279 Chandeying V, Sex Health 2006; 3: 11 Chansaenroj J, Asian Pac J Cancer Prev 2010; 11: 117 Chichareon S, J Natl Cancer Inst 1998; 90: 50 Chopjitt P, Int J Infect Dis 2009; 13: 212 Ekalaksananan T, J Obstet Gynaecol Res 2010; 36: 1037 Laowahutanont P, Asian Pac J Cancer Prev 2014; 15: 5879 Marks M, Int J Cancer 2011; 128: 2962 Natphopsuk S, Asian Pac J Cancer Prev 2013; 14: 6961 Paengchit K, Asian Pac J Cancer Prev 2014; 15: 6151 Settheetham-Ishida W, Microbiol Immunol 2005; 49: 417 Siriaunkgul S, Asian Pac J Cancer Prev 2014; 15: 6837 Siritantikorn S, Southeast Asian J Trop Med Public Health 1997; 28: 707 Sriamporn S, Int J Gynecol Cancer 2006; 16: 266 Sukvirach S, J Infect Dis 2003; 187: 1246 Suwannarurk K, Cancer Epidemiol 2009; 33: 56 Swangvaree SS, Asian Pac J Cancer Prev 2010; 11: 1465 Thomas DB, Am J Epidemiol 2001; 153: 723 Wongworapat K, Sex Transm Dis 2008; 35: 172, Chichareon S, J Natl Cancer Inst 1998; 90: 50 Siriaunkgul S, Asian Pac J Cancer Prev 2014; 15: 6837 Sukvirach S, J Infect Dis 2003; 187: 1246
Turkey	Altun 2011: reported in Vaccarella S, Vaccine 2013; 31 Suppl 6: G32 Bayram A, J Med Virol 2011; 83: 1997 Demir ET, J Med Virol 2012; 84: 1242 Dursun P, BMC Infect Dis 2009; 9: 191 Eren F, Int J Gynaecol Obstet 2010; 109: 235 Inal MM, Int J Gynecol Cancer 2007; 17: 1266 Kasap B, Eur J Obstet Gynecol Reprod Biol 2011; 159: 168 Ozalp SS, J Turk Ger Gynecol Assoc 2012; 13: 8 Oztürk S, Mikrobiyol Bul 2004; 38: 223 Tezcan S, Asian Pac J Cancer Prev 2014; 15: 3997 Yuce K, Arch Gynecol Obstet 2012; 286: 203 Özcan ES, J Obstet Gynaecol 2011; 31: 656, Altun 2011: reported in Vaccarella S, Vaccine 2013; 31 Suppl 6: G32 Bayram A, J Med Virol 2011; 83: 1997 Demir ET, J Med Virol 2012; 84: 1242 Dursun P, BMC Infect Dis 2009; 9: 191 Kasap B, Eur J Obstet Gynecol Reprod Biol 2011; 159: 168 Ozalp SS, J Turk Ger Gynecol Assoc 2012; 13: 8 Tezcan S, Asian Pac J Cancer Prev 2014; 15: 3997, Akcali S, Asian Pac J Cancer Prev 2013; 14: 503 Altun 2011: reported in Vaccarella S, Vaccine 2013; 31 Suppl 6: G32 Bayram A, J Med Virol 2011; 83: 1997 Demir ET, J Med Virol 2012; 84: 1242 Dursun P, BMC Infect Dis 2009; 9: 191 Eren F, Int J Gynaecol Obstet 2010; 109: 235 Inal MM, Int J Gynecol Cancer 2007; 17: 1266 Kasap B, Eur J Obstet Gynecol Reprod Biol 2011; 159: 168 Ozalp SS, J Turk Ger Gynecol Assoc 2012; 13: 8 Oztürk S, Mikrobiyol Bul 2004; 38: 223 Sahiner F, J Microbiol Methods 2014; 97: 44 Tezcan S, Asian Pac J Cancer Prev 2014; 15: 3997 Yuce K, Arch Gynecol Obstet 2012; 286: 203 Özcan ES, J Obstet Gynaecol 2011; 31: 656, Altun 2011: reported in Vaccarella S, Vaccine 2013; 31 Suppl 6: G32 Demir ET, J Med Virol 2012; 84: 1242 Dursun P, BMC Infect Dis 2009; 9: 191
Uzbekistan	Inamova 2009: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32

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Country	Study
Viet Nam	Pham TH, Int J Cancer 2003; 104: 213, Pham TH, Int J Cancer 2003; 104: 213, Pham TH, Int J Cancer 2003; 104: 213 Vu LT, Asian Pac J Cancer Prev 2011; 12: 561 Vu LT, Asian Pac J Cancer Prev 2012; 13: 37 Vu LT, Western Pac Surveill Response J 2012; 3: 57, Pham TH, Int J Cancer 2003; 104: 213
Europe	
Belarus	Rogovskaya SI, Vaccine 2013; 31 Suppl 7: H46, Rogovskaya SI, Vaccine 2013; 31 Suppl 7: H46, Rogovskaya SI, Vaccine 2013; 31 Suppl 7: H46
Belgium	Arbyn M, Cancer Epidemiol Biomarkers Prev 2009; 18: 321 Baay MF, Eur J Cancer 2005; 41: 2704 Baay MF, Eur J Gynaecol Oncol 2001; 22: 204 Depuydt CE, Br J Cancer 2003; 88: 560 Depuydt CE, Gynecol Obstet Invest 2010; 70: 273 Depuydt CE, J Clin Microbiol 2012; 50: 4073 Merckx M, Eur J Cancer Prev 2014; 23: 288 Schmitt M, Int J Cancer 2013; 132: 2395 Weyn C, Cancer Epidemiol 2013; 37: 457, Baay MF, Eur J Cancer 2005; 41: 2704 Baay MF, Eur J Gynaecol Oncol 2001; 22: 204 Weyn C, Cancer Epidemiol 2013; 37: 457, Arbyn M, Cancer Epidemiol Biomarkers Prev 2009; 18: 321 Baay MF, Eur J Cancer 2005; 41: 2704 Baay MF, Eur J Gynaecol Oncol 2001; 22: 204 Depuydt CE, Br J Cancer 2003; 88: 560 Schmitt M, Int J Cancer 2013; 132: 2395 Weyn C, Cancer Epidemiol 2013; 37: 457, Arbyn M, Cancer Epidemiol Biomarkers Prev 2009; 18: 321 Baay MF, Eur J Cancer 2005; 41: 2704 Baay MF, Eur J Gynaecol Oncol 2001; 22: 204 Depuydt CE, Br J Cancer 2003; 88: 560 Depuydt CE, J Clin Microbiol 2012; 50: 4073 Schmitt M, Int J Cancer 2013; 132: 2395 Weyn C, Cancer Epidemiol 2013; 37: 457
Croatia	Grahovac M, Coll Antropol 2007; 31 Suppl 2: 73 Kaliterna V, Coll Antropol 2007; 31 Suppl 2: 79, Grahovac M, Coll Antropol 2007; 31 Suppl 2: 73, Grahovac M, Coll Antropol 2007; 31 Suppl 2: 73, Grahovac M, Coll Antropol 2007; 31 Suppl 2: 73
Czechia	Tachezy R, PLoS ONE 2013; 8: e79156, Tachezy R, PLoS ONE 2013; 8: e79156, Tachezy R, PLoS ONE 2013; 8: e79156, Tachezy R, PLoS ONE 2013; 8: e79156
Denmark	Bonde J, BMC Infect Dis 2014; 14: 413 Kjær SK, Cancer Causes Control 2014; 25: 179 Nielsen A, Sex Transm Dis 2008; 35: 276 Nielsen A, Sex Transm Infect 2012; 88: 627 Svare EI, Eur J Cancer 1998; 34: 1230, Svare EI, Eur J Cancer 1998; 34: 1230, Bonde J, BMC Infect Dis 2014; 14: 413 Kjær SK, BMJ 2002; 325: 572 Kjær SK, Int J Cancer 2008; 123: 1864 Nielsen A, Sex Transm Dis 2008; 35: 276 Nielsen A, Sex Transm Infect 2012; 88: 627 Svare EI, Eur J Cancer 1998; 34: 1230, Bonde J, BMC Infect Dis 2014; 14: 413 Kjær SK, Cancer Causes Control 2014; 25: 179 Nielsen A, Sex Transm Dis 2008; 35: 276 Nielsen A, Sex Transm Infect 2012; 88: 627 Svare EI, Eur J Cancer 1998; 34: 1230
Estonia	Uusküla A, BMC Infect Dis 2010; 10: 63
Finland	Leinonen M, Int J Cancer 2008; 123: 1344, Auvinen E, Scand J Infect Dis 2005; 37: 873 Leinonen M, Int J Cancer 2008; 123: 1344, Leinonen M, Int J Cancer 2008; 123: 1344
France	Baudu A, J Epidemiol Glob Health 2014; 4: 35 Beby-Defaux A, J Med Virol 2004; 73: 262 Boulanger JC, Gynecol Obstet Fertil 2004; 32: 218 Casalegno JS, Int J Gynaecol Obstet 2011; 114: 116 Clavel C, Br J Cancer 2001; 84: 1616 Dalstein V, Int J Cancer 2003; 106: 396 Heard I, PLoS ONE 2013; 8: e79372 Monsonego J, Gynecol Oncol 2005; 99: 160 Monsonego J, Int J Cancer 2011; 129: 691 Pannier-Stockman C, J Clin Virol 2008; 42: 353 Riethmuller D, Diagn Mol Pathol 1999; 8: 157 Vaucel E, Arch Gynecol Obstet 2011; 284: 989, Beby-Defaux A, J Med Virol 2004; 73: 262 Dalstein V, Int J Cancer 2003; 106: 396 Monsonego J, Gynecol Oncol 2005; 99: 160 Monsonego J, Int J Cancer 2011; 129: 691 Pannier-Stockman C, J Clin Virol 2008; 42: 353 Vaucel E, Arch Gynecol Obstet 2011; 284: 989, Baudu A, J Epidemiol Glob Health 2014; 4: 35 Beby-Defaux A, J Med Virol 2004; 73: 262 Boulanger JC, Gynecol Obstet Fertil 2004; 32: 218 Casalegno JS, Int J Gynaecol Obstet 2011; 114: 116 Clavel C, Br J Cancer 2001; 84: 1616 Dalstein V, Int J Cancer 2003; 106: 396 Heard I, PLoS ONE 2013; 8: e79372 Monsonego J, Gynecol Oncol 2005; 99: 160 Monsonego J, Int J Cancer 2011; 129: 691 Pannier-Stockman C, J Clin Virol 2008; 42: 353 Riethmuller D, Diagn Mol Pathol 1999; 8: 157 Vaucel E, Arch Gynecol Obstet 2011; 284: 989, Baudu A, J Epidemiol Glob Health 2014; 4: 35 Beby-Defaux A, J Med Virol 2004; 73: 262 Casalegno JS, Int J Gynaecol Obstet 2011; 114: 116 Heard I, PLoS ONE 2013; 8: e79372 Monsonego J, Gynecol Oncol 2005; 99: 160 Monsonego J, Int J Cancer 2011; 129: 691 Pannier-Stockman C, J Clin Virol 2008; 42: 353 Vaucel E, Arch Gynecol Obstet 2011; 284: 989
Germany	de Jonge M, Acta Cytol 2013; 57: 591 Iftner T, J Med Virol 2010; 82: 1928 Luyten A, J Clin Virol 2009; 46 Suppl 3: S5 Petry KU, Br J Cancer 2003; 88: 1570 Schneider A, Int J Cancer 2000; 89: 529, de Jonge M, Acta Cytol 2013; 57: 591 Iftner T, J Med Virol 2010; 82: 1928 Klug SJ, J Med Virol 2007; 79: 616, de Jonge M, Acta Cytol 2013; 57: 591 Iftner T, J Med Virol 2010; 82: 1928 Luyten A, J Clin Virol 2009; 46 Suppl 3: S5 Petry KU, Br J Cancer 2003; 88: 1570 Schneider A, Int J Cancer 2000; 89: 529, Iftner T, J Med Virol 2010; 82: 1928
Greece	Agorastos T, Eur J Cancer Prev 2004; 13: 145 Argyri E, BMC Infect Dis 2013; 13: 53 Panotopoulou E, J Med Virol 2007; 79: 1898 Paraskevaidis E, Gynecol Oncol 2001; 82: 355 Tsiodras S, BMC Cancer 2010; 10: 53 Tsiodras S, Clin Microbiol Infect 2011; 17: 1185, Agorastos T, Eur J Cancer Prev 2004; 13: 145 Argyri E, BMC Infect Dis 2013; 13: 53 Panotopoulou E, J Med Virol 2007; 79: 1898 Tsiodras S, BMC Cancer 2010; 10: 53 Tsiodras S, Clin Microbiol Infect 2011; 17: 1185, Agorastos T, Eur J Cancer Prev 2004; 13: 145 Agorastos T, Eur J Cancer Prev 2009; 18: 504 Argyri E, BMC Infect Dis 2013; 13: 53 Panotopoulou E, J Med Virol 2007; 79: 1898 Paraskevaidis E, Gynecol Oncol 2001; 82: 355 Tsiodras S, BMC Cancer 2010; 10: 53 Tsiodras S, Clin Microbiol Infect 2011; 17: 1185, Agorastos T, Eur J Cancer Prev 2004; 13: 145 Argyri E, BMC Infect Dis 2013; 13: 53
Hungary	Nyári T, Eur J Obstet Gynecol Reprod Biol 2006; 126: 246, Nyári T, Eur J Obstet Gynecol Reprod Biol 2006; 126: 246
Ireland	Anderson L, J Med Virol 2013; 85: 295 Keegan H, Br J Biomed Sci 2007; 64: 18, Anderson L, J Med Virol 2013; 85: 295 Keegan H, Br J Biomed Sci 2007; 64: 18, Anderson L, J Med Virol 2013; 85: 295 Keegan H, Br J Biomed Sci 2007; 64: 18, Keegan H, Br J Biomed Sci 2007; 64: 18

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Italy	Agarossi A, J Med Virol 2009; 81: 529 Ammatuna P, Cancer Epidemiol Biomarkers Prev 2008; 17: 2002 Astori G, Virus Res 1997; 50: 57 Carozzi F, Br J Cancer 2000; 83: 1462 Centurioni MG, BMC Infect Dis 2005; 5: 77 Del Prete R, J Clin Virol 2008; 42: 211 Giambi C, BMC Infect Dis 2013; 13: 74 Giorgi Rossi P, Infect Agents Cancer 2011; 6: 2 Masia G, Vaccine 2009; 27 Suppl 1: A11 Panatto D, BMC Infect Dis 2013; 13: 575 Piana A, BMC Public Health 2011; 11: 785 Ronco G, Eur J Cancer 2005; 41: 297 Ronco G, J Natl Cancer Inst 2006; 98: 765 Ronco G, Lancet Oncol 2006; 7: 547 Sammarco ML, Eur J Obstet Gynecol Reprod Biol 2013; 168: 222 Tenti P, J Infect Dis 1997; 176: 277 Tornesello ML, J Gen Virol 2008; 89: 1380 Tornesello ML, J Med Virol 2006; 78: 1663 Verteramo R, BMC Infect Dis 2009; 9: 16 Zappacosta B, New Microbiol 2009; 32: 351, Carozzi F, Br J Cancer 2000; 83: 1462 Centurioni MG, BMC Infect Dis 2005; 5: 77 Panatto D, BMC Infect Dis 2013; 13: 575 Ronco G, Eur J Cancer 2005; 41: 297 Tornesello ML, J Med Virol 2006; 78: 1663, Agarossi A, J Med Virol 2009; 81: 529 Ammatuna P, Cancer Epidemiol Biomarkers Prev 2008; 17: 2002 Astori G, Virus Res 1997; 50: 57 Carozzi F, Br J Cancer 2000; 83: 1462 Centurioni MG, BMC Infect Dis 2005; 5: 77 Giorgi Rossi P, Infect Agents Cancer 2011; 6: 2 Masia G, Vaccine 2009; 27 Suppl 1: A11 Panatto D, BMC Infect Dis 2013; 13: 575 Piana A, BMC Public Health 2011; 11: 785 Ronco G, Eur J Cancer 2005; 41: 297 Ronco G, J Natl Cancer Inst 2006; 98: 765 Ronco G, Lancet Oncol 2006; 7: 547 Sammarco ML, Eur J Obstet Gynecol Reprod Biol 2013; 168: 222 Tenti P, J Infect Dis 1997; 176: 277 Tornesello ML, J Gen Virol 2008; 89: 1380 Tornesello ML, J Med Virol 2006; 78: 1663 Verteramo R, BMC Infect Dis 2009; 9: 16 Zappacosta B, New Microbiol 2009; 32: 351, Agarossi A, J Med Virol 2009; 81: 529 Astori G, Virus Res 1997; 50: 57 Centurioni MG, BMC Infect Dis 2005; 5: 77 Giorgi Rossi P, Infect Agents Cancer 2011; 6: 2 Panatto D, BMC Infect Dis 2013; 13: 575 Ronco G, Eur J Cancer 2005; 41: 297 Sammarco ML, Eur J Obstet Gynecol Reprod Biol 2013; 168: 222 Tenti P, J Infect Dis 1997; 176: 277 Tornesello ML, J Gen Virol 2008; 89: 1380 Tornesello ML, J Med Virol 2006; 78: 1663
Latvia	Silins I, Gynecol Oncol 2004; 93: 484
Lithuania	Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910 Simanaviciene V, J Med Virol 2014, Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910 Simanaviciene V, J Med Virol 2014, Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910 Kliucinskas M, Gynecol Obstet Invest 2006; 62: 173 Simanaviciene V, J Med Virol 2014, Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910
Netherlands	Boers A, PLoS ONE 2014; 9: e101930 Bulkman NW, Int J Cancer 2004; 110: 94 Hesselink AT, J Clin Microbiol 2013; 51: 2409 Jacobs MV, Int J Cancer 2000; 87: 221 Lenselink CH, PLoS ONE 2008; 3: e3743 Rijkaart DC, Br J Cancer 2012; 106: 975 Rijkaart DC, Lancet Oncol 2012; 13: 78 Rozendaal L, J Clin Pathol 2000; 53: 606 Zielinski GD, Br J Cancer 2001; 85: 398, Bulkman NW, Int J Cancer 2004; 110: 94 Jacobs MV, Int J Cancer 2000; 87: 221 Rozendaal L, J Clin Pathol 2000; 53: 606, Boers A, PLoS ONE 2014; 9: e101930 Bulkman NW, Int J Cancer 2004; 110: 94 Hesselink AT, J Clin Microbiol 2013; 51: 2409 Jacobs MV, Int J Cancer 2000; 87: 221 Rijkaart DC, Br J Cancer 2012; 106: 975 Rijkaart DC, Lancet Oncol 2012; 13: 78 Rozendaal L, J Clin Pathol 2000; 53: 606 Zielinski GD, Br J Cancer 2001; 85: 398, Bulkman NW, Br J Cancer 2007; 96: 1419 Jacobs MV, Int J Cancer 2000; 87: 221 Rozendaal L, J Clin Pathol 2000; 53: 606 Zielinski GD, Br J Cancer 2001; 85: 398
Norway	Gjøøen K, APMIS 1996; 104: 68 Molden T, Cancer Epidemiol Biomarkers Prev 2005; 14: 367, Gjøøen K, APMIS 1996; 104: 68 Molden T, Cancer Epidemiol Biomarkers Prev 2005; 14: 367 Molden T, Gynecol Oncol 2006; 100: 95, Gjøøen K, APMIS 1996; 104: 68 Molden T, Cancer Epidemiol Biomarkers Prev 2005; 14: 367 Molden T, Gynecol Oncol 2006; 100: 95 Skjeldestad FE, Acta Obstet Gynecol Scand 2008; 87: 81, Gjøøen K, APMIS 1996; 104: 68
Poland	Bardin A, Eur J Cancer 2008; 44: 557, Bardin A, Eur J Cancer 2008; 44: 557, Bardin A, Eur J Cancer 2008; 44: 557, Bardin A, Eur J Cancer 2008; 44: 557
Portugal	Dutra I, Infect Agents Cancer 2008; 3: 6 Pista A, Clin Microbiol Infect 2011; 17: 941 Pista A, Int J Gynecol Cancer 2011; 21: 1150 Vieira L, Eur J Microbiol Immunol (Bp) 2013; 3: 61, Pista A, Int J Gynecol Cancer 2011; 21: 1150, Pista A, Clin Microbiol Infect 2011; 17: 941 Pista A, Int J Gynecol Cancer 2011; 21: 1150 Vieira L, Eur J Microbiol Immunol (Bp) 2013; 3: 61, Pista A, Clin Microbiol Infect 2011; 17: 941
Romania	Moga MA, Asian Pac J Cancer Prev 2014; 15: 6887 Ursu RG, Virol J 2011; 8: 558, Moga MA, Asian Pac J Cancer Prev 2014; 15: 6887 Ursu RG, Virol J 2011; 8: 558, Moga MA, Asian Pac J Cancer Prev 2014; 15: 6887
Russian Federation	Alexandrova YN, Cancer Lett 1999; 145: 43 Bdaizieva 2010: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32 Goncharevskaya 2011: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32 Komarova 2010: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32 Kubanov 2005: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32 Rogovskaya SI, Vaccine 2013; 31 Suppl 7: H46 Shargorodskaya 2011: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32 Shipitsyna E, Cancer Epidemiol 2011; 35: 160 Shipulina 2011: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32, Alexandrova YN, Cancer Lett 1999; 145: 43, Alexandrova YN, Cancer Lett 1999; 145: 43 Komarova 2010: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32 Rogovskaya SI, Vaccine 2013; 31 Suppl 7: H46 Shipitsyna E, Cancer Epidemiol 2011; 35: 160, Alexandrova YN, Cancer Lett 1999; 145: 43 Komarova 2010: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32 Rogovskaya SI, Vaccine 2013; 31 Suppl 7: H46 Shipitsyna E, Cancer Epidemiol 2011; 35: 160
Slovenia	Ucakar V, J Med Virol 2014; 86: 1772 Ucakar V, Vaccine 2012; 30: 116, Ucakar V, J Med Virol 2014; 86: 1772 Ucakar V, Vaccine 2012; 30: 116, Ucakar V, J Med Virol 2014; 86: 1772 Ucakar V, Vaccine 2012; 30: 116

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Spain	Bernal M, Infect Agents Cancer 2008; 3: 8 Castellsagué X, J Med Virol 2012; 84: 947 de Sanjose S, Sex Transm Dis 2003; 30: 788 Dillner J, BMJ 2008; 337: a1754 González C, Sex Transm Infect 2006; 82: 260 Martorell M, Scand J Infect Dis 2010; 42: 549 Muñoz N, Sex Transm Dis 1996; 23: 504 Ortiz M, J Clin Microbiol 2006; 44: 1428, Castellsagué X, J Med Virol 2012; 84: 947 de Sanjose S, Sex Transm Dis 2003; 30: 788 Dillner J, BMJ 2008; 337: a1754 González C, Sex Transm Infect 2006; 82: 260 Muñoz N, Sex Transm Dis 1996; 23: 504, Bernal M, Infect Agents Cancer 2008; 3: 8 Castellsagué X, J Med Virol 2012; 84: 947 de Sanjose S, Sex Transm Dis 2003; 30: 788 Dillner J, BMJ 2008; 337: a1754 González C, Sex Transm Infect 2006; 82: 260 Muñoz N, Sex Transm Dis 1996; 23: 504, Castellsagué X, J Med Virol 2012; 84: 947 de Sanjose S, Sex Transm Dis 2003; 30: 788 Dillner J, BMJ 2008; 337: a1754 González C, Sex Transm Infect 2006; 82: 260 Muñoz N, Sex Transm Dis 1996; 23: 504
Sweden	Elfström KM, BMJ 2014; 348: g130 Kjellberg L, Am J Obstet Gynecol 1998; 179: 1497 Naucner P, N Engl J Med 2007; 357: 1589 Stenvall H, Acta Derm Venereol 2007; 87: 243 Ylitalo N, Cancer Res 2000; 60: 6027, Naucner P, N Engl J Med 2007; 357: 1589 Ylitalo N, Cancer Res 2000; 60: 6027, Kjellberg L, Am J Obstet Gynecol 1998; 179: 1497 Naucner P, N Engl J Med 2007; 357: 1589 Ylitalo N, Cancer Res 2000; 60: 6027, Kjellberg L, Am J Obstet Gynecol 1998; 179: 1497 Naucner P, N Engl J Med 2007; 357: 1589 Ylitalo N, Cancer Res 2000; 60: 6027
Switzerland	Bigras G, Br J Cancer 2005; 93: 575, Bigras G, Br J Cancer 2005; 93: 575, Bigras G, Br J Cancer 2005; 93: 575
United Kingdom	Cuschieri KS, J Clin Pathol 2004; 57: 68 Cuzick J, Br J Cancer 1999; 81: 554 Cuzick J, Lancet 1995; 345: 1533 Cuzick J, Lancet 2003; 362: 1871 Grainge MJ, Emerging Infect Dis 2005; 11: 1680 Herbert A, J Fam Plann Reprod Health Care 2007; 33: 171 Hibbitts S, Br J Cancer 2008; 99: 1929 Hibbitts S, J Clin Virol 2014; 59: 109 Howell-Jones R, Br J Cancer 2010; 103: 209 Kitchener HC, Br J Cancer 2006; 95: 56 Peto J, Br J Cancer 2004; 91: 942, Cuschieri KS, J Clin Pathol 2004; 57: 68 Grainge MJ, Emerging Infect Dis 2005; 11: 1680 Herbert A, J Fam Plann Reprod Health Care 2007; 33: 171 Hibbitts S, Br J Cancer 2008; 99: 1929 Hibbitts S, J Clin Virol 2014; 59: 109 Howell-Jones R, Br J Cancer 2010; 103: 209 Kitchener HC, Br J Cancer 2006; 95: 56 Peto J, Br J Cancer 2004; 91: 942, Cuschieri KS, J Clin Pathol 2004; 57: 68 Cuzick J, Br J Cancer 1999; 81: 554 Cuzick J, Lancet 1995; 345: 1533 Cuzick J, Lancet 2003; 362: 1871 Grainge MJ, Emerging Infect Dis 2005; 11: 1680 Herbert A, J Fam Plann Reprod Health Care 2007; 33: 171 Hibbitts S, Br J Cancer 2008; 99: 1929 Hibbitts S, J Clin Virol 2014; 59: 109 Howell-Jones R, Br J Cancer 2010; 103: 209 Kitchener HC, Br J Cancer 2006; 95: 56 Peto J, Br J Cancer 2004; 91: 942, Cuschieri KS, J Clin Pathol 2004; 57: 68 Cuzick J, Br J Cancer 1999; 81: 554 Cuzick J, Lancet 1995; 345: 1533 Grainge MJ, Emerging Infect Dis 2005; 11: 1680 Hibbitts S, Br J Cancer 2006; 95: 226 Hibbitts S, J Clin Virol 2014; 59: 109 Sargent A, Br J Cancer 2008; 98: 1704
Oceania	
Australia	Tabrizi SN, J Clin Virol 2014; 60: 250, Tabrizi SN, J Clin Virol 2014; 60: 250, Bowden FJ, Sex Health 2005; 2: 229 Tabrizi SN, J Clin Virol 2014; 60: 250 Tabrizi SN, J Infect Dis 2012; 206: 1645, Tabrizi SN, J Clin Virol 2014; 60: 250
Fiji	Foliaki S, Infect Agents Cancer 2014; 9: 14
HPV type distribution for invasive cervical cancer (ICC)	
General sources	Based on meta-analysis performed by IARC's Infections and Cancer Epidemiology Group up to November 2011, the ICO HPV Information Centre has updated data until June 2014. Reference publications: 1) Guan P, Int J Cancer 2012;131:2349 2) Li N, Int J Cancer 2011;128:927 3) Smith JS, Int J Cancer 2007;121:621 4) Clifford GM, Br J Cancer 2003;88:63 5) Clifford GM, Br J Cancer 2003;89:101.
Africa	
Algeria	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Hammouda D, Int J Cancer 2005; 113: 483, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Hammouda D, Int J Cancer 2005; 113: 483, Bosch FX, J Natl Cancer Inst 1995; 87: 796 Hammouda D, Int J Cancer 2005; 113: 483
Botswana	Ermel A, Infect Agents Cancer 2014; 9: 22, Contributing studies: Ermel A, Infect Agents Cancer 2014; 9: 22, Contributing studies: Ermel A, Infect Agents Cancer 2014; 9: 22
Ethiopia	Abate E, J Med Virol 2013; 85: 282 Fanta BE, Ethiop Med J 2005; 43: 151, Contributing studies: Abate E, J Med Virol 2013; 85: 282 Fanta BE, Ethiop Med J 2005; 43: 151, Contributing studies: Abate E, J Med Virol 2013; 85: 282 Fanta BE, Ethiop Med J 2005; 43: 151
Ghana	Awua AK, Infect Agents Cancer 2016; 11: 4 Denny L, Int J Cancer 2014; 134: 1389, Contributing studies: Awua AK, Infect Agents Cancer 2016; 11: 4 Denny L, Int J Cancer 2014; 134: 1389, Contributing studies: Awua AK, Infect Agents Cancer 2016; 11: 4 Denny L, Int J Cancer 2014; 134: 1389
Guinea	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Keita N, Br J Cancer 2009; 101: 202, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Keita N, Br J Cancer 2009; 101: 202, Bosch FX, J Natl Cancer Inst 1995; 87: 796 Keita N, Br J Cancer 2009; 101: 202
Kenya	Contributing studies: De Vuyst H, Int J Cancer 2008; 122: 244 De Vuyst H, Int J Cancer 2012; 131: 949, De Vuyst H, Int J Cancer 2008; 122: 244 De Vuyst H, Int J Cancer 2012; 131: 949, Contributing studies: De Vuyst H, Int J Cancer 2008; 122: 244 De Vuyst H, Int J Cancer 2012; 131: 949
Mali	Contributing studies: Bayo S, Int J Epidemiol 2002; 31: 202 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Ndiaye C, Trop Med Int Health 2012; 17: 1432, Contributing studies: Bayo S, Int J Epidemiol 2002; 31: 202 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Ndiaye C, Trop Med Int Health 2012; 17: 1432, Bayo S, Int J Epidemiol 2002; 31: 202 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Ndiaye C, Trop Med Int Health 2012; 17: 1432

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Morocco	Chaouki N, Int J Cancer 1998; 75: 546 El khair MM, Med Oncol 2010; 27: 861, Contributing studies: Chaouki N, Int J Cancer 1998; 75: 546 El khair MM, Med Oncol 2010; 27: 861, Contributing studies: Chaouki N, Int J Cancer 1998; 75: 546 El khair MM, Med Oncol 2010; 27: 861
Mozambique	Contributing studies: Castellsagué X, Int J Cancer 2008; 122: 1901 Naucier P, J Gen Virol 2004; 85: 2189, Castellsagué X, Int J Cancer 2008; 122: 1901 Naucier P, J Gen Virol 2004; 85: 2189, Contributing studies: Castellsagué X, Int J Cancer 2008; 122: 1901 Naucier P, J Gen Virol 2004; 85: 2189
Nigeria	Contributing studies: Denny L, Int J Cancer 2014; 134: 1389, Denny L, Int J Cancer 2014; 134: 1389, Contributing studies: Denny L, Int J Cancer 2014; 134: 1389
Senegal	Contributing studies: Lin P, Cancer Epidemiol Biomarkers Prev 2001; 10: 1037 Ndiaye C, Trop Med Int Health 2012; 17: 1432 Xi LF, Int J Cancer 2003; 103: 803, Lin P, Cancer Epidemiol Biomarkers Prev 2001; 10: 1037 Ndiaye C, Trop Med Int Health 2012; 17: 1432 Xi LF, Int J Cancer 2003; 103: 803, Contributing studies: Lin P, Cancer Epidemiol Biomarkers Prev 2001; 10: 1037 Ndiaye C, Trop Med Int Health 2012; 17: 1432 Xi LF, Int J Cancer 2003; 103: 803
South Africa	Contributing studies: De Vuyst H, Int J Cancer 2012; 131: 949 Denny L, Int J Cancer 2014; 134: 1389 Kay P, J Med Virol 2003; 71: 265 Pegoraro RJ, Int J Gynecol Cancer 2002; 12: 383 van Aardt MC, Int J Gynecol Cancer 2015; 25: 919 Williamson AL, J Med Virol 1994; 43: 231, De Vuyst H, Int J Cancer 2012; 131: 949 Denny L, Int J Cancer 2014; 134: 1389 Kay P, J Med Virol 2003; 71: 265 Pegoraro RJ, Int J Gynecol Cancer 2002; 12: 383 van Aardt MC, Int J Gynecol Cancer 2015; 25: 919 Williamson AL, J Med Virol 1994; 43: 231, Contributing studies: De Vuyst H, Int J Cancer 2012; 131: 949 Denny L, Int J Cancer 2014; 134: 1389 Kay P, J Med Virol 2003; 71: 265 Pegoraro RJ, Int J Gynecol Cancer 2002; 12: 383 van Aardt MC, Int J Gynecol Cancer 2015; 25: 919 Williamson AL, J Med Virol 1994; 43: 231
Sudan	Contributing studies: Abate E, J Med Virol 2013; 85: 282, Abate E, J Med Virol 2013; 85: 282, Contributing studies: Abate E, J Med Virol 2013; 85: 282
Tanzania	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 ter Meulen J, Int J Cancer 1992; 51: 515, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 ter Meulen J, Int J Cancer 1992; 51: 515, Bosch FX, J Natl Cancer Inst 1995; 87: 796 ter Meulen J, Int J Cancer 1992; 51: 515
Tunisia	Contributing studies: KrennHrubec K, J Med Virol 2011; 83: 651, KrennHrubec K, J Med Virol 2011; 83: 651, Contributing studies: KrennHrubec K, J Med Virol 2011; 83: 651
Uganda	Bosch FX, J Natl Cancer Inst 1995; 87: 796 Odida M, BMC Infect Dis 2008; 8: 85 Odida M, Infect Agent Cancer 2010; 5: 15, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Odida M, BMC Infect Dis 2008; 8: 85 Odida M, Infect Agent Cancer 2010; 5: 15, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Odida M, BMC Infect Dis 2008; 8: 85 Odida M, Infect Agent Cancer 2010; 5: 15
Zimbabwe	Contributing studies: Stanczuk GA, Acta Obstet Gynecol Scand 2003; 82: 762, Stanczuk GA, Acta Obstet Gynecol Scand 2003; 82: 762, Contributing studies: Stanczuk GA, Acta Obstet Gynecol Scand 2003; 82: 762
Americas	
Argentina	Contributing studies: Alonio LV, J Clin Virol 2003; 27: 263 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Golijow CD, Gynecol Oncol 2005; 96: 181 Turazza E, Acta Obstet Gynecol Scand 1997; 76: 271, Contributing studies: Alonio LV, J Clin Virol 2003; 27: 263 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Golijow CD, Gynecol Oncol 2005; 96: 181 Turazza E, Acta Obstet Gynecol Scand 1997; 76: 271, Alonio LV, J Clin Virol 2003; 27: 263 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Golijow CD, Gynecol Oncol 2005; 96: 181 Turazza E, Acta Obstet Gynecol Scand 1997; 76: 271
Bolivia	Bosch FX, J Natl Cancer Inst 1995; 87: 796, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796
Brazil	Bosch FX, J Natl Cancer Inst 1995; 87: 796 Cambruzzi E, Pathol Oncol Res 2005; 11: 114 de Oliveira CM, BMC Cancer 2013; 13: 357 Eluf-Neto J, Br J Cancer 1994; 69: 114 Lorenzato F, Int J Gynecol Cancer 2000; 10: 143 Rabelo-Santos SH, Mem Inst Oswaldo Cruz 2003; 98: 181 Serrano B, Cancer Epidemiol 2014 Tomita LY, Int J Cancer 2010; 126: 703, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Cambruzzi E, Pathol Oncol Res 2005; 11: 114 de Oliveira CM, BMC Cancer 2013; 13: 357 Eluf-Neto J, Br J Cancer 1994; 69: 114 Lorenzato F, Int J Gynecol Cancer 2000; 10: 143 Rabelo-Santos SH, Mem Inst Oswaldo Cruz 2003; 98: 181 Serrano B, Cancer Epidemiol 2014 Tomita LY, Int J Cancer 2010; 126: 703, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Cambruzzi E, Pathol Oncol Res 2005; 11: 114 de Oliveira CM, BMC Cancer 2013; 13: 357 Eluf-Neto J, Br J Cancer 1994; 69: 114 Lorenzato F, Int J Gynecol Cancer 2000; 10: 143 Rabelo-Santos SH, Mem Inst Oswaldo Cruz 2003; 98: 181 Serrano B, Cancer Epidemiol 2014 Tomita LY, Int J Cancer 2010; 126: 703
Canada	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Duggan MA, Hum Pathol 1995; 26: 319 Tran-Thanh D, Am J Obstet Gynecol 2003; 188: 129, Bosch FX, J Natl Cancer Inst 1995; 87: 796 Duggan MA, Hum Pathol 1995; 26: 319 Tran-Thanh D, Am J Obstet Gynecol 2003; 188: 129, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Duggan MA, Hum Pathol 1995; 26: 319 Tran-Thanh D, Am J Obstet Gynecol 2003; 188: 129
Chile	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Roa JC, Int J Gynaecol Obstet 2009; 105: 150 Valdivia L IM, Rev Chilena Infectol 2010; 27: 11, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Roa JC, Int J Gynaecol Obstet 2009; 105: 150 Valdivia L IM, Rev Chilena Infectol 2010; 27: 11, Bosch FX, J Natl Cancer Inst 1995; 87: 796 Roa JC, Int J Gynaecol Obstet 2009; 105: 150 Valdivia L IM, Rev Chilena Infectol 2010; 27: 11

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Colombia	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Moreno-Acosta P, Virus Genes 2008; 37: 22 Murillo R, Infect Dis Obstet Gynecol 2009; 2009: 653598 Muñoz N, Int J Cancer 1992; 52: 743, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Moreno-Acosta P, Virus Genes 2008; 37: 22 Murillo R, Infect Dis Obstet Gynecol 2009; 2009: 653598 Muñoz N, Int J Cancer 1992; 52: 743, Bosch FX, J Natl Cancer Inst 1995; 87: 796 Moreno-Acosta P, Virus Genes 2008; 37: 22 Murillo R, Infect Dis Obstet Gynecol 2009; 2009: 653598 Muñoz N, Int J Cancer 1992; 52: 743
Costa Rica	Contributing studies: Herrero R, J Infect Dis 2005; 191: 1796, Contributing studies: Herrero R, J Infect Dis 2005; 191: 1796, Herrero R, J Infect Dis 2005; 191: 1796
Cuba	Bosch FX, J Natl Cancer Inst 1995; 87: 796, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796
Ecuador	Mejía L, J Med Virol 2016; 88: 144, Contributing studies: Mejía L, J Med Virol 2016; 88: 144, Contributing studies: Mejía L, J Med Virol 2016; 88: 144
Honduras	Contributing studies: Ferreira M, Mod Pathol 2008; 21: 968, Contributing studies: Ferreira M, Mod Pathol 2008; 21: 968, Ferreira M, Mod Pathol 2008; 21: 968
Jamaica	Strickler HD, J Med Virol 1999; 59: 60, Contributing studies: Strickler HD, J Med Virol 1999; 59: 60, Contributing studies: Strickler HD, J Med Virol 1999; 59: 60
Mexico	Aguilar-Lemarray A, J Med Virol 2015; 87: 871 Alarcón-Romero Ldel C, Salud Publica Mex 2009; 51: 134 Carrillo-García A, Gynecol Oncol 2014; 134: 534 Flores-Miramontes MG, Virol J 2015; 12: 161 González-Losa Mdel R, J Clin Virol 2004; 29: 202 Guardado-Estrada M, PLoS ONE 2014; 9: e109406 Illades-Aguir B, Cancer Detect Prev 2009; 32: 300 Meyer T, J Infect Dis 1998; 178: 252 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Serrano B, Cancer Epidemiol 2014 Torroella-Kouri M, Gynecol Oncol 1998; 70: 115, Contributing studies: Aguilar-Lemarray A, J Med Virol 2015; 87: 871 Alarcón-Romero Ldel C, Salud Publica Mex 2009; 51: 134 Carrillo-García A, Gynecol Oncol 2014; 134: 534 Flores-Miramontes MG, Virol J 2015; 12: 161 González-Losa Mdel R, J Clin Virol 2004; 29: 202 Guardado-Estrada M, PLoS ONE 2014; 9: e109406 Illades-Aguir B, Cancer Detect Prev 2009; 32: 300 Meyer T, J Infect Dis 1998; 178: 252 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Serrano B, Cancer Epidemiol 2014 Torroella-Kouri M, Gynecol Oncol 1998; 70: 115, Contributing studies: Aguilar-Lemarray A, J Med Virol 2015; 87: 871 Alarcón-Romero Ldel C, Salud Publica Mex 2009; 51: 134 Carrillo-García A, Gynecol Oncol 2014; 134: 534 Flores-Miramontes MG, Virol J 2015; 12: 161 González-Losa Mdel R, J Clin Virol 2004; 29: 202 Guardado-Estrada M, PLoS ONE 2014; 9: e109406 Illades-Aguir B, Cancer Detect Prev 2009; 32: 300 Meyer T, J Infect Dis 1998; 178: 252 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Serrano B, Cancer Epidemiol 2014 Torroella-Kouri M, Gynecol Oncol 1998; 70: 115
Nicaragua	Contributing studies: Hindryckx P, Sex Transm Infect 2006; 82: 334, Hindryckx P, Sex Transm Infect 2006; 82: 334, Contributing studies: Hindryckx P, Sex Transm Infect 2006; 82: 334
Panama	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796, Bosch FX, J Natl Cancer Inst 1995; 87: 796
Paraguay	Contributing studies: Kasamatsu E, J Med Virol 2012; 84: 1628 Rolón PA, Int J Cancer 2000; 85: 486, Kasamatsu E, J Med Virol 2012; 84: 1628 Rolón PA, Int J Cancer 2000; 85: 486, Contributing studies: Kasamatsu E, J Med Virol 2012; 84: 1628 Rolón PA, Int J Cancer 2000; 85: 486
Peru	Contributing studies: Martorell M, Genet Mol Res 2012; 11: 2099 Santos C, Br J Cancer 2001; 85: 966, Contributing studies: Martorell M, Genet Mol Res 2012; 11: 2099 Santos C, Br J Cancer 2001; 85: 966, Martorell M, Genet Mol Res 2012; 11: 2099 Santos C, Br J Cancer 2001; 85: 966
Suriname	Contributing studies: De Boer MA, Int J Cancer 2005; 114: 422, Contributing studies: De Boer MA, Int J Cancer 2005; 114: 422, De Boer MA, Int J Cancer 2005; 114: 422
Trinidad and Tobago	Contributing studies: Hosein F, Rev Panam Salud Publica 2013; 33: 267, Hosein F, Rev Panam Salud Publica 2013; 33: 267, Contributing studies: Hosein F, Rev Panam Salud Publica 2013; 33: 267

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Country	Study
United States of America	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 Bryan JT, J Med Virol 2006; 78: 117 Burger RA, J Natl Cancer Inst 1996; 88: 1361 Burnett AF, Gynecol Oncol 1992; 47: 343 de Sanjose S, Lancet Oncol 2010; 11: 1048 Ferguson AW, Mod Pathol 1998; 11: 11 Guo M, Mod Pathol 2007; 20: 256 Hariri S, PLoS ONE 2012; 7: e34044 Hopenhayn C, J Low Genit Tract Dis 2014; 18: 182 Joste NE, Cancer Epidemiol Biomarkers Prev 2015; 24: 230 Paquette RL, Cancer 1993; 72: 1272 Patel DA, J Virol Methods 2009; 160: 78 Pirog EC, Am J Pathol 2000; 157: 1055 Quint KD, Gynecol Oncol 2009; 114: 390 Resnick RM, J Natl Cancer Inst 1990; 82: 1477 Schwartz SM, J Clin Oncol 2001; 19: 1906 Sebbelov AM, Microbes Infect 2000; 2: 121 Wentzensen N, Int J Cancer 2009; 124: 964 Wheeler CM, J Natl Cancer Inst 2009; 101: 475 Wistuba II, Cancer Res 1997; 57: 3154 Zuna RE, Mod Pathol 2007; 20: 167, Bosch FX, J Natl Cancer Inst 1995; 87: 796 Bryan JT, J Med Virol 2006; 78: 117 Burger RA, J Natl Cancer Inst 1996; 88: 1361 Burnett AF, Gynecol Oncol 1992; 47: 343 de Sanjose S, Lancet Oncol 2010; 11: 1048 Ferguson AW, Mod Pathol 1998; 11: 11 Guo M, Mod Pathol 2007; 20: 256 Hariri S, PLoS ONE 2012; 7: e34044 Hopenhayn C, J Low Genit Tract Dis 2014; 18: 182 Joste NE, Cancer Epidemiol Biomarkers Prev 2015; 24: 230 Paquette RL, Cancer 1993; 72: 1272 Patel DA, J Virol Methods 2009; 160: 78 Pirog EC, Am J Pathol 2000; 157: 1055 Quint KD, Gynecol Oncol 2009; 114: 390 Resnick RM, J Natl Cancer Inst 1990; 82: 1477 Schwartz SM, J Clin Oncol 2001; 19: 1906 Sebbelov AM, Microbes Infect 2000; 2: 121 Wentzensen N, Int J Cancer 2009; 124: 964 Wheeler CM, J Natl Cancer Inst 2009; 101: 475 Wistuba II, Cancer Res 1997; 57: 3154 Zuna RE, Mod Pathol 2007; 20: 167
Venezuela	Contributing studies: Sánchez-Lander J, Cancer Epidemiol 2012; 36: e284, Sánchez-Lander J, Cancer Epidemiol 2012; 36: e284, Contributing studies: Sánchez-Lander J, Cancer Epidemiol 2012; 36: e284
Asia	Contributing studies: Cai HB, Eur J Gynaecol Oncol 2008; 29: 72 Cai HB, Oncology 2009; 76: 157 Chan PK, Int J Cancer 2009; 125: 1671 Chan PK, Int J Cancer 2012; 131: 692 Chen W, Cancer Causes Control 2009; 20: 1705 Ding X, J Med Virol 2014; 86: 1937 Gao YE, Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 2003; 35: 1029 Hong D, Int J Gynecol Cancer 2008; 18: 104 Huang S, Int J Cancer 1997; 70: 408 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Lin QQ, Int J Cancer 1998; 75: 484 Liu GB, J First Mil Med Univ 2005; 25: 1236 Liu J, Gynecol Oncol 2004; 94: 803 Liu SS, Tumour Biol 2008; 29: 105 Liu X, Int J Gynecol Cancer 2010; 20: 147 Lo KW, Gynecol Obstet Invest 2001; 51: 202 Lo KW, Int J Cancer 2002; 100: 327 Peng HQ, Int J Cancer 1991; 47: 711 Qiu AD, Gynecol Oncol 2007; 104: 77 Serrano B, Cancer Epidemiol 2014 Shah W, Clin Oncol (R Coll Radiol) 2009; 21: 768 Stephen AL, Int J Cancer 2000; 86: 695 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wang L, J Med Virol 2015; 87: 516 Wu EQ, BMC Cancer 2008; 8: 202 Wu EQ, Int J Gynecol Cancer 2009; 19: 919 Wu Y, J Med Virol 2008; 80: 1808 Yu MY, Int J Cancer 2003; 105: 204 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhao Y, Pathol Int 2008; 58: 643, Cai HB, Eur J Gynaecol Oncol 2008; 29: 72 Cai HB, Oncology 2009; 76: 157 Chan PK, Int J Cancer 2009; 125: 1671 Chan PK, Int J Cancer 2012; 131: 692 Chen W, Cancer Causes Control 2009; 20: 1705 Ding X, J Med Virol 2014; 86: 1937 Gao YE, Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 2003; 35: 1029 Hong D, Int J Gynecol Cancer 2008; 18: 104 Huang S, Int J Cancer 1997; 70: 408 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Lin QQ, Int J Cancer 1998; 75: 484 Liu GB, J First Mil Med Univ 2005; 25: 1236 Liu J, Gynecol Oncol 2004; 94: 803 Liu SS, Tumour Biol 2008; 29: 105 Liu X, Int J Gynecol Cancer 2010; 20: 147 Lo KW, Gynecol Obstet Invest 2001; 51: 202 Lo KW, Int J Cancer 2002; 100: 327 Peng HQ, Int J Cancer 1991; 47: 711 Qiu AD, Gynecol Oncol 2007; 104: 77 Serrano B, Cancer Epidemiol 2014 Shah W, Clin Oncol (R Coll Radiol) 2009; 21: 768 Stephen AL, Int J Cancer 2000; 86: 695 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wang L, J Med Virol 2015; 87: 516 Wu EQ, BMC Cancer 2008; 8: 202 Wu EQ, Int J Gynecol Cancer 2009; 19: 919 Wu Y, J Med Virol 2008; 80: 1808 Yu MY, Int J Cancer 2003; 105: 204 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhao Y, Pathol Int 2008; 58: 643, Contributing studies: Cai HB, Eur J Gynaecol Oncol 2008; 29: 72 Cai HB, Oncology 2009; 76: 157 Chan PK, Int J Cancer 2009; 125: 1671 Chan PK, Int J Cancer 2012; 131: 692 Chen W, Cancer Causes Control 2009; 20: 1705 Ding X, J Med Virol 2014; 86: 1937 Gao YE, Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 2003; 35: 1029 Hong D, Int J Gynecol Cancer 2008; 18: 104 Huang S, Int J Cancer 1997; 70: 408 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Lin QQ, Int J Cancer 1998; 75: 484 Liu GB, J First Mil Med Univ 2005; 25: 1236 Liu J, Gynecol Oncol 2004; 94: 803 Liu SS, Tumour Biol 2008; 29: 105 Liu X, Int J Gynecol Cancer 2010; 20: 147 Lo KW, Gynecol Obstet Invest 2001; 51: 202 Lo KW, Int J Cancer 2002; 100: 327 Peng HQ, Int J Cancer 1991; 47: 711 Qiu AD, Gynecol Oncol 2007; 104: 77 Serrano B, Cancer Epidemiol 2014 Shah W, Clin Oncol (R Coll Radiol) 2009; 21: 768 Stephen AL, Int J Cancer 2000; 86: 695 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wang L, J Med Virol 2015; 87: 516 Wu EQ, BMC Cancer 2008; 8: 202 Wu EQ, Int J Gynecol Cancer 2009; 19: 919 Wu Y, J Med Virol 2008; 80: 1808 Yu MY, Int J Cancer 2003; 105: 204 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhao Y, Pathol Int 2008; 58: 643
China	
Georgia	Contributing studies: Alibegashvili T, Cancer Epidemiol 2011; 35: 465, Alibegashvili T, Cancer Epidemiol 2011; 35: 465, Contributing studies: Alibegashvili T, Cancer Epidemiol 2011; 35: 465

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Country	Study
India	Contributing studies: Basu P, Asian Pac J Cancer Prev 2009; 10: 27 Bhatla N, Int J Gynecol Pathol 2006; 25: 398 Deodhar K, J Med Virol 2012; 84: 1054 Franceschi S, Int J Cancer 2003; 107: 127 Gheit T, Vaccine 2009; 27: 636 Munagala R, Int J Oncol 2009; 34: 263 Munirajan AK, Gynecol Oncol 1998; 69: 205 Munjal K, Int J Gynecol Pathol 2014; 33: 531 Nagpal JK, Eur J Clin Invest 2002; 32: 943 Nair P, Pathol Oncol Res 1999; 5: 95 Nambaru L, Asian Pac J Cancer Prev 2009; 10: 355 Neyaz MK, Biomarkers 2008; 13: 597 Peedicayil A, Int J Gynecol Cancer 2006; 16: 1591 Peedicayil A, J Low Genit Tract Dis 2009; 13: 102 Serrano B, Cancer Epidemiol 2014 Sowjanya AP, BMC Infect Dis 2005; 5: 116, Contributing studies: Basu P, Asian Pac J Cancer Prev 2009; 10: 27 Bhatla N, Int J Gynecol Pathol 2006; 25: 398 Deodhar K, J Med Virol 2012; 84: 1054 Franceschi S, Int J Cancer 2003; 107: 127 Gheit T, Vaccine 2009; 27: 636 Munagala R, Int J Oncol 2009; 34: 263 Munirajan AK, Gynecol Oncol 1998; 69: 205 Munjal K, Int J Gynecol Pathol 2014; 33: 531 Nagpal JK, Eur J Clin Invest 2002; 32: 943 Nair P, Pathol Oncol Res 1999; 5: 95 Nambaru L, Asian Pac J Cancer Prev 2009; 10: 355 Neyaz MK, Biomarkers 2008; 13: 597 Peedicayil A, Int J Gynecol Cancer 2006; 16: 1591 Peedicayil A, J Low Genit Tract Dis 2009; 13: 102 Serrano B, Cancer Epidemiol 2014 Sowjanya AP, BMC Infect Dis 2005; 5: 116, Contributing studies: Basu P, Asian Pac J Cancer Prev 2009; 10: 27 Bhatla N, Int J Gynecol Pathol 2006; 25: 398 Deodhar K, J Med Virol 2012; 84: 1054 Franceschi S, Int J Cancer 2003; 107: 127 Gheit T, Vaccine 2009; 27: 636 Munagala R, Int J Oncol 2009; 34: 263 Munirajan AK, Gynecol Oncol 1998; 69: 205 Munjal K, Int J Gynecol Pathol 2014; 33: 531 Nagpal JK, Eur J Clin Invest 2002; 32: 943 Nair P, Pathol Oncol Res 1999; 5: 95 Nambaru L, Asian Pac J Cancer Prev 2009; 10: 355 Neyaz MK, Biomarkers 2008; 13: 597 Peedicayil A, Int J Gynecol Cancer 2006; 16: 1591 Peedicayil A, J Low Genit Tract Dis 2009; 13: 102 Serrano B, Cancer Epidemiol 2014 Sowjanya AP, BMC Infect Dis 2005; 5: 116
Indonesia	Bosch FX, J Natl Cancer Inst 1995; 87: 796 De Boer MA, Int J Cancer 2005; 114: 422 Schellekens MC, Gynecol Oncol 2004; 93: 49 Tobing MD, Asian Pac J Cancer Prev 2014; 15: 5781, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 De Boer MA, Int J Cancer 2005; 114: 422 Schellekens MC, Gynecol Oncol 2004; 93: 49 Tobing MD, Asian Pac J Cancer Prev 2014; 15: 5781, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 De Boer MA, Int J Cancer 2005; 114: 422 Schellekens MC, Gynecol Oncol 2004; 93: 49 Tobing MD, Asian Pac J Cancer Prev 2014; 15: 5781
Iran	Contributing studies: Esmaeili M, Gynecol Obstet Invest 2008; 66: 68 Hamkar R, East Mediterr Health J 2002; 8: 805 Khodakarami N, Int J Cancer 2012; 131: E156 Mortazavi S, Asian Pac J Cancer Prev 2002; 3: 69 Salehi-Vaziri M, Arch Virol 2015; 160: 1181, Esmaeili M, Gynecol Obstet Invest 2008; 66: 68 Hamkar R, East Mediterr Health J 2002; 8: 805 Khodakarami N, Int J Cancer 2012; 131: E156 Mortazavi S, Asian Pac J Cancer Prev 2002; 3: 69 Salehi-Vaziri M, Arch Virol 2015; 160: 1181, Contributing studies: Esmaeili M, Gynecol Obstet Invest 2008; 66: 68 Hamkar R, East Mediterr Health J 2002; 8: 805 Khodakarami N, Int J Cancer 2012; 131: E156 Mortazavi S, Asian Pac J Cancer Prev 2002; 3: 69 Salehi-Vaziri M, Arch Virol 2015; 160: 1181
Israel	Bassal R, J Low Genit Tract Dis 2015; 19: 161 Laskov I, Int J Gynecol Cancer 2013; 23: 730, Contributing studies: Bassal R, J Low Genit Tract Dis 2015; 19: 161 Laskov I, Int J Gynecol Cancer 2013; 23: 730, Contributing studies: Bassal R, J Low Genit Tract Dis 2015; 19: 161 Laskov I, Int J Gynecol Cancer 2013; 23: 730

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Country	Study
Japan	Contributing studies: Asato T, J Infect Dis 2004; 189: 1829 Azuma Y, Jpn J Clin Oncol 2014 Fujinaga Y, J Gen Virol 1991; 72 (Pt 5): 1039 Harima Y, Int J Radiat Oncol Biol Phys 2002; 52: 1345 Imajoh M, Virol J 2012; 9: 154 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Ishikawa H, Cancer 2001; 91: 80 Kanao H, Cancer Lett 2004; 213: 31 Kashiwabara K, Acta Pathol Jpn 1992; 42: 876 Maehama T, Infect Dis Obstet Gynecol 2005; 13: 77 Maki H, Jpn J Cancer Res 1991; 82: 411 Nakagawa H, Anticancer Res 2002; 22: 1655 Nakagawa S, Cancer 1996; 78: 1935 Nawa A, Cancer 1995; 75: 518 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Gynecol Obstet Invest 2000; 49: 190 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Watari H, Pathobiology 2011; 78: 220 Yamakawa Y, Gynecol Oncol 1994; 53: 190 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100 Yoshida T, Virchows Arch 2009; 455: 253, Asato T, J Infect Dis 2004; 189: 1829 Azuma Y, Jpn J Clin Oncol 2014 Fujinaga Y, J Gen Virol 1991; 72 (Pt 5): 1039 Harima Y, Int J Radiat Oncol Biol Phys 2002; 52: 1345 Imajoh M, Virol J 2012; 9: 154 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Ishikawa H, Cancer 2001; 91: 80 Kanao H, Cancer Lett 2004; 213: 31 Kashiwabara K, Acta Pathol Jpn 1992; 42: 876 Maehama T, Infect Dis Obstet Gynecol 2005; 13: 77 Maki H, Jpn J Cancer Res 1991; 82: 411 Nakagawa H, Anticancer Res 2002; 22: 1655 Nakagawa S, Cancer 1996; 78: 1935 Nawa A, Cancer 1995; 75: 518 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Gynecol Obstet Invest 2000; 49: 190 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Watari H, Pathobiology 2011; 78: 220 Yamakawa Y, Gynecol Oncol 1994; 53: 190 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100 Yoshida T, Virchows Arch 2009; 455: 253, Contributing studies: Asato T, J Infect Dis 2004; 189: 1829 Azuma Y, Jpn J Clin Oncol 2014 Fujinaga Y, J Gen Virol 1991; 72 (Pt 5): 1039 Harima Y, Int J Radiat Oncol Biol Phys 2002; 52: 1345 Imajoh M, Virol J 2012; 9: 154 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Ishikawa H, Cancer 2001; 91: 80 Kanao H, Cancer Lett 2004; 213: 31 Kashiwabara K, Acta Pathol Jpn 1992; 42: 876 Maehama T, Infect Dis Obstet Gynecol 2005; 13: 77 Maki H, Jpn J Cancer Res 1991; 82: 411 Nakagawa H, Anticancer Res 2002; 22: 1655 Nakagawa S, Cancer 1996; 78: 1935 Nawa A, Cancer 1995; 75: 518 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Gynecol Obstet Invest 2000; 49: 190 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Watari H, Pathobiology 2011; 78: 220 Yamakawa Y, Gynecol Oncol 1994; 53: 190 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100 Yoshida T, Virchows Arch 2009; 455: 253
Jordan	Contributing studies: Sughayer MA, Int J Gynaecol Obstet 2010; 108: 74, Contributing studies: Sughayer MA, Int J Gynaecol Obstet 2010; 108: 74, Sughayer MA, Int J Gynaecol Obstet 2010; 108: 74
Malaysia	Contributing studies: Cheah PL, Malays J Pathol 2008; 30: 37 Hamzi Abdul Raub S, Asian Pac J Cancer Prev 2014; 15: 651 Quek SC, Int J Gynecol Cancer 2013; 23: 148 Sharifah NA, Asian Pac J Cancer Prev 2009; 10: 303 Yadav M, Med J Malaysia 1995; 50: 64, Contributing studies: Cheah PL, Malays J Pathol 2008; 30: 37 Hamzi Abdul Raub S, Asian Pac J Cancer Prev 2014; 15: 651 Quek SC, Int J Gynecol Cancer 2013; 23: 148 Sharifah NA, Asian Pac J Cancer Prev 2009; 10: 303 Yadav M, Med J Malaysia 1995; 50: 64, Cheah PL, Malays J Pathol 2008; 30: 37 Hamzi Abdul Raub S, Asian Pac J Cancer Prev 2014; 15: 651 Quek SC, Int J Gynecol Cancer 2013; 23: 148 Sharifah NA, Asian Pac J Cancer Prev 2009; 10: 303 Yadav M, Med J Malaysia 1995; 50: 64
Mongolia	Chimeddorj B, Asian Pac J Cancer Prev 2008; 9: 563, Contributing studies: Chimeddorj B, Asian Pac J Cancer Prev 2008; 9: 563, Contributing studies: Chimeddorj B, Asian Pac J Cancer Prev 2008; 9: 563
Nepal	Contributing studies: Sherpa AT, Cancer Causes Control 2010; 21: 323, Sherpa AT, Cancer Causes Control 2010; 21: 323, Contributing studies: Sherpa AT, Cancer Causes Control 2010; 21: 323
Pakistan	Contributing studies: Khan S, Int J Infect Dis 2007; 11: 313 Raza SA, Br J Cancer 2010; 102: 1657, Contributing studies: Khan S, Int J Infect Dis 2007; 11: 313 Raza SA, Br J Cancer 2010; 102: 1657, Khan S, Int J Infect Dis 2007; 11: 313 Raza SA, Br J Cancer 2010; 102: 1657
Philippines	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 de Sanjose S, Lancet Oncol 2010; 11: 1048 Ngelangel C, J Natl Cancer Inst 1998; 90: 43 Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 de Sanjose S, Lancet Oncol 2010; 11: 1048 Ngelangel C, J Natl Cancer Inst 1998; 90: 43 Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 de Sanjose S, Lancet Oncol 2010; 11: 1048 Ngelangel C, J Natl Cancer Inst 1998; 90: 43 Quek SC, Int J Gynecol Cancer 2013; 23: 148
Republic of Korea	Contributing studies: An HJ, Cancer 2003; 97: 1672 An HJ, Mod Pathol 2005; 18: 528 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang T, J Korean Med Sci 1999; 14: 593 Hwang TS, Gynecol Oncol 2003; 90: 51 Kim JY, J Clin Oncol 2009; 27: 5088 Kim KH, Yonsei Med J 1995; 36: 412 Lee HS, Int J Gynecol Cancer 2007; 17: 497 Oh JK, Asian Pac J Cancer Prev 2010; 11: 993 Quek SC, Int J Gynecol Cancer 2013; 23: 148 Song ES, J Korean Med Sci 2007; 22: 99 Tong SY, Int J Gynecol Cancer 2007; 17: 1307, Contributing studies: An HJ, Cancer 2003; 97: 1672 An HJ, Mod Pathol 2005; 18: 528 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang T, J Korean Med Sci 1999; 14: 593 Hwang TS, Gynecol Oncol 2003; 90: 51 Kim JY, J Clin Oncol 2009; 27: 5088 Kim KH, Yonsei Med J 1995; 36: 412 Lee HS, Int J Gynecol Cancer 2007; 17: 497 Oh JK, Asian Pac J Cancer Prev 2010; 11: 993 Quek SC, Int J Gynecol Cancer 2013; 23: 148 Song ES, J Korean Med Sci 2007; 22: 99 Tong SY, Int J Gynecol Cancer 2007; 17: 1307, An HJ, Cancer 2003; 97: 1672 An HJ, Mod Pathol 2005; 18: 528 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang T, J Korean Med Sci 1999; 14: 593 Hwang TS, Gynecol Oncol 2003; 90: 51 Kim JY, J Clin Oncol 2009; 27: 5088 Kim KH, Yonsei Med J 1995; 36: 412 Lee HS, Int J Gynecol Cancer 2007; 17: 497 Oh JK, Asian Pac J Cancer Prev 2010; 11: 993 Quek SC, Int J Gynecol Cancer 2013; 23: 148 Song ES, J Korean Med Sci 2007; 22: 99 Tong SY, Int J Gynecol Cancer 2007; 17: 1307

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Country	Study
Saudi Arabia	Contributing studies: Alsbeih G, Gynecol Oncol 2011; 121: 522, Alsbeih G, Gynecol Oncol 2011; 121: 522, Contributing studies: Alsbeih G, Gynecol Oncol 2011; 121: 522
Singapore	Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148, Quek SC, Int J Gynecol Cancer 2013; 23: 148
Sri Lanka	Contributing studies: Karunaratne K, BMC Cancer 2014; 14: 116 Samarawickrema NA, Int J Gynaecol Obstet 2011; 115: 180, Karunaratne K, BMC Cancer 2014; 14: 116 Samarawickrema NA, Int J Gynaecol Obstet 2011; 115: 180, Contributing studies: Karunaratne K, BMC Cancer 2014; 14: 116 Samarawickrema NA, Int J Gynaecol Obstet 2011; 115: 180
Syria	Contributing studies: Darnel AD, Clin Microbiol Infect 2010; 16: 262, Contributing studies: Darnel AD, Clin Microbiol Infect 2010; 16: 262, Darnel AD, Clin Microbiol Infect 2010; 16: 262
Thailand	Contributing studies: Bhattarakosol P, J Med Assoc Thai 1996; 79 Suppl 1: S56 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Chansaenroj J, J Med Virol 2014; 86: 601 Chichareon S, J Natl Cancer Inst 1998; 90: 50 Chopjitt P, Int J Infect Dis 2009; 13: 212 Natphopsuk S, Asian Pac J Cancer Prev 2013; 14: 6961 Settheetham-Ishida W, Microbiol Immunol 2005; 49: 417 Siriaunkgul S, Gynecol Oncol 2008; 108: 555 Siritantikorn S, Southeast Asian J Trop Med Public Health 1997; 28: 707, Bhattarakosol P, J Med Assoc Thai 1996; 79 Suppl 1: S56 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Chansaenroj J, J Med Virol 2014; 86: 601 Chichareon S, J Natl Cancer Inst 1998; 90: 50 Chopjitt P, Int J Infect Dis 2009; 13: 212 Natphopsuk S, Asian Pac J Cancer Prev 2013; 14: 6961 Settheetham-Ishida W, Microbiol Immunol 2005; 49: 417 Siriaunkgul S, Gynecol Oncol 2008; 108: 555 Siritantikorn S, Southeast Asian J Trop Med Public Health 1997; 28: 707
Turkey	Contributing studies: Oztug N, J Obstet Gynaecol Res 2008; 34: 865 Usubütün A, Int J Gynecol Pathol 2009; 28: 541, Oztug N, J Obstet Gynaecol Res 2008; 34: 865 Usubütün A, Int J Gynecol Pathol 2009; 28: 541, Contributing studies: Oztug N, J Obstet Gynaecol Res 2008; 34: 865 Usubütün A, Int J Gynecol Pathol 2009; 28: 541
Viet Nam	Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148
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Belarus	Kulmala SM, J Med Virol 2007; 79: 771, Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771, Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771
Belgium	Baay MF, Eur J Gynaecol Oncol 2001; 22: 204, Contributing studies: Baay MF, Eur J Gynaecol Oncol 2001; 22: 204, Contributing studies: Baay MF, Eur J Gynaecol Oncol 2001; 22: 204
Bosnia and Herzegovina	Contributing studies: Iljazovic E, Cancer Epidemiol 2014; 38: 504, Iljazovic E, Cancer Epidemiol 2014; 38: 504, Contributing studies: Iljazovic E, Cancer Epidemiol 2014; 38: 504
Bulgaria	Contributing studies: Todorova I, J Clin Pathol 2010; 63: 1121, Todorova I, J Clin Pathol 2010; 63: 1121, Contributing studies: Todorova I, J Clin Pathol 2010; 63: 1121
Croatia	Dabic MM, Acta Obstet Gynecol Scand 2008; 87: 366 Hadzisejdic I, Coll Antropol 2006; 30: 879, Contributing studies: Dabic MM, Acta Obstet Gynecol Scand 2008; 87: 366 Hadzisejdic I, Coll Antropol 2006; 30: 879, Contributing studies: Dabic MM, Acta Obstet Gynecol Scand 2008; 87: 366 Hadzisejdic I, Coll Antropol 2006; 30: 879
Czechia	Slama J, Int J Gynecol Cancer 2009; 19: 703 Tachezy R, J Med Virol 1999; 58: 378 Tachezy R, PLoS ONE 2011; 6: e21913, Contributing studies: Slama J, Int J Gynecol Cancer 2009; 19: 703 Tachezy R, J Med Virol 1999; 58: 378 Tachezy R, PLoS ONE 2011; 6: e21913, Contributing studies: Slama J, Int J Gynecol Cancer 2009; 19: 703 Tachezy R, J Med Virol 1999; 58: 378 Tachezy R, PLoS ONE 2011; 6: e21913
Denmark	Contributing studies: Hording U, APMIS 1997; 105: 313 Kirschner B, Acta Obstet Gynecol Scand 2013; 92: 1023 Kjær SK, Cancer Causes Control 2014; 25: 179 Sebbelov AM, Microbes Infect 2000; 2: 121, Hording U, APMIS 1997; 105: 313 Kirschner B, Acta Obstet Gynecol Scand 2013; 92: 1023 Kjær SK, Cancer Causes Control 2014; 25: 179 Sebbelov AM, Microbes Infect 2000; 2: 121, Contributing studies: Hording U, APMIS 1997; 105: 313 Kirschner B, Acta Obstet Gynecol Scand 2013; 92: 1023 Kjær SK, Cancer Causes Control 2014; 25: 179 Sebbelov AM, Microbes Infect 2000; 2: 121
Finland	Contributing studies: Iwasawa A, Cancer 1996; 77: 2275, Iwasawa A, Cancer 1996; 77: 2275, Contributing studies: Iwasawa A, Cancer 1996; 77: 2275
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Greece	Contributing studies: Adamopoulou M, Anticancer Res 2009; 29: 3401 Dokianakis DN, Oncol Rep 1999; 6: 1327 Koffa M, Int J Oncol 1994; 5: 189 Labropoulou V, Sex Transm Dis 1997; 24: 469 Pantotopoulou E, J Med Virol 2007; 79: 1898, Adamopoulou M, Anticancer Res 2009; 29: 3401 Dokianakis DN, Oncol Rep 1999; 6: 1327 Koffa M, Int J Oncol 1994; 5: 189 Labropoulou V, Sex Transm Dis 1997; 24: 469 Pantotopoulou E, J Med Virol 2007; 79: 1898, Contributing studies: Adamopoulou M, Anticancer Res 2009; 29: 3401 Dokianakis DN, Oncol Rep 1999; 6: 1327 Koffa M, Int J Oncol 1994; 5: 189 Labropoulou V, Sex Transm Dis 1997; 24: 469 Pantotopoulou E, J Med Virol 2007; 79: 1898
Hungary	Contributing studies: Kónya J, J Med Virol 1995; 46: 1, Contributing studies: Kónya J, J Med Virol 1995; 46: 1, Kónya J, J Med Virol 1995; 46: 1
Iceland	Sigurdsson K, Int J Cancer 2007; 121: 2682, Contributing studies: Sigurdsson K, Int J Cancer 2007; 121: 2682, Contributing studies: Sigurdsson K, Int J Cancer 2007; 121: 2682
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Italy	Carozzi FM, Cancer Epidemiol Biomarkers Prev 2010; 19: 2389 Ciotti M, Oncol Rep 2006; 15: 143 Del Mistro A, Infect Agents Cancer 2006; 1: 9 Gargiulo F, Virus Res 2007; 125: 176 Garzetti GG, Cancer 1998; 82: 886 Mariani L, BMC Cancer 2010; 10: 259 Rolla M, Eur J Gynaecol Oncol 2009; 30: 557 Sideri M, Vaccine 2009; 27 Suppl 1: A30 Spinillo A, J Med Virol 2014; 86: 1145 Tornesello ML, Gynecol Oncol 2011; 121: 32 Tornesello ML, J Med Virol 2006; 78: 1663 Voglino G, Pathologica 2000; 92: 516, Contributing studies: Carozzi FM, Cancer Epidemiol Biomarkers Prev 2010; 19: 2389 Ciotti M, Oncol Rep 2006; 15: 143 Del Mistro A, Infect Agents Cancer 2006; 1: 9 Gargiulo F, Virus Res 2007; 125: 176 Garzetti GG, Cancer 1998; 82: 886 Mariani L, BMC Cancer 2010; 10: 259 Rolla M, Eur J Gynaecol Oncol 2009; 30: 557 Sideri M, Vaccine 2009; 27 Suppl 1: A30 Spinillo A, J Med Virol 2014; 86: 1145 Tornesello ML, Gynecol Oncol 2011; 121: 32 Tornesello ML, J Med Virol 2006; 78: 1663 Voglino G, Pathologica 2000; 92: 516, Contributing studies: Carozzi FM, Cancer Epidemiol Biomarkers Prev 2010; 19: 2389 Ciotti M, Oncol Rep 2006; 15: 143 Del Mistro A, Infect Agents Cancer 2006; 1: 9 Gargiulo F, Virus Res 2007; 125: 176 Garzetti GG, Cancer 1998; 82: 886 Mariani L, BMC Cancer 2010; 10: 259 Rolla M, Eur J Gynaecol Oncol 2009; 30: 557 Sideri M, Vaccine 2009; 27 Suppl 1: A30 Spinillo A, J Med Virol 2014; 86: 1145 Tornesello ML, Gynecol Oncol 2011; 121: 32 Tornesello ML, J Med Virol 2006; 78: 1663 Voglino G, Pathologica 2000; 92: 516
Latvia	Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771 Silins I, Gynecol Oncol 2004; 93: 484, Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771 Silins I, Gynecol Oncol 2004; 93: 484, Kulmala SM, J Med Virol 2007; 79: 771 Silins I, Gynecol Oncol 2004; 93: 484
Lithuania	Contributing studies: Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910 Simanaviciene V, J Med Virol 2014, Contributing studies: Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910 Simanaviciene V, J Med Virol 2014, Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910 Simanaviciene V, J Med Virol 2014
Luxembourg	Contributing studies: Ressler S, Clin Cancer Res 2007; 13: 7067, Ressler S, Clin Cancer Res 2007; 13: 7067, Contributing studies: Ressler S, Clin Cancer Res 2007; 13: 7067
Netherlands	Contributing studies: Baalbergen A, Gynecol Oncol 2013; 128: 530 Baay MF, J Clin Microbiol 1996; 34: 745 Bulk S, Br J Cancer 2006; 94: 171 De Boer MA, Int J Cancer 2005; 114: 422 Krul EJ, Int J Gynecol Cancer 1999; 9: 206 Resnick RM, J Natl Cancer Inst 1990; 82: 1477 Tang N, J Clin Virol 2009; 45 Suppl 1: S25 Van Den Brule AJ, Int J Cancer 1991; 48: 404 Zielinski GD, J Pathol 2003; 201: 535, Contributing studies: Baalbergen A, Gynecol Oncol 2013; 128: 530 Baay MF, J Clin Microbiol 1996; 34: 745 Bulk S, Br J Cancer 2006; 94: 171 De Boer MA, Int J Cancer 2005; 114: 422 Krul EJ, Int J Gynecol Cancer 1999; 9: 206 Resnick RM, J Natl Cancer Inst 1990; 82: 1477 Tang N, J Clin Virol 2009; 45 Suppl 1: S25 Van Den Brule AJ, Int J Cancer 1991; 48: 404 Zielinski GD, J Pathol 2003; 201: 535, Baalbergen A, Gynecol Oncol 2013; 128: 530 Baay MF, J Clin Microbiol 1996; 34: 745 Bulk S, Br J Cancer 2006; 94: 171 De Boer MA, Int J Cancer 2005; 114: 422 Krul EJ, Int J Gynecol Cancer 1999; 9: 206 Resnick RM, J Natl Cancer Inst 1990; 82: 1477 Tang N, J Clin Virol 2009; 45 Suppl 1: S25 Van Den Brule AJ, Int J Cancer 1991; 48: 404 Zielinski GD, J Pathol 2003; 201: 535
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Russian Federation	Contributing studies: Kleter B, J Clin Microbiol 1999; 37: 2508 Kulmala SM, J Med Virol 2007; 79: 771, Kleter B, J Clin Microbiol 1999; 37: 2508 Kulmala SM, J Med Virol 2007; 79: 771, Contributing studies: Kleter B, J Clin Microbiol 1999; 37: 2508 Kulmala SM, J Med Virol 2007; 79: 771
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Spain	Contributing studies: Alemany L, Gynecol Oncol 2012; 124: 512 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Darwich L, Int J Gynecol Cancer 2011; 21: 1486 González-Bosquet E, Gynecol Oncol 2008; 111: 9 Herraiz-Hernandez E, J Virol Methods 2013; 193: 9 Martró E, Enferm Infecc Microbiol Clin 2012; 30: 225 Mazarico E, Gynecol Oncol 2012; 125: 181 Muñoz N, Int J Cancer 1992; 52: 743 Rodríguez JA, Diagn Mol Pathol 1998; 7: 276, Alemany L, Gynecol Oncol 2012; 124: 512 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Darwich L, Int J Gynecol Cancer 2011; 21: 1486 González-Bosquet E, Gynecol Oncol 2008; 111: 9 Herraiz-Hernandez E, J Virol Methods 2013; 193: 9 Martró E, Enferm Infecc Microbiol Clin 2012; 30: 225 Mazarico E, Gynecol Oncol 2012; 125: 181 Muñoz N, Int J Cancer 1992; 52: 743 Rodríguez JA, Diagn Mol Pathol 1998; 7: 276
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United Kingdom	Contributing studies: Arends MJ, Hum Pathol 1993; 24: 432 Crook T, Lancet 1992; 339: 1070 Cuschieri K, Br J Cancer 2010; 102: 930 Cuschieri K, Int J Cancer 2014; 135: 2721 Cuzick J, Br J Cancer 2000; 82: 1348 Giannoudis A, Int J Cancer 1999; 83: 66 Howell-Jones R, Br J Cancer 2010; 103: 209 Mesher D, J Clin Pathol 2015; 68: 135 Powell N, Int J Cancer 2009; 125: 2425 Tawfik El-Mansi M, Int J Gynecol Cancer 2006; 16: 1025, Arends MJ, Hum Pathol 1993; 24: 432 Crook T, Lancet 1992; 339: 1070 Cuschieri K, Br J Cancer 2010; 102: 930 Cuschieri K, Int J Cancer 2014; 135: 2721 Cuzick J, Br J Cancer 2000; 82: 1348 Giannoudis A, Int J Cancer 1999; 83: 66 Howell-Jones R, Br J Cancer 2010; 103: 209 Mesher D, J Clin Pathol 2015; 68: 135 Powell N, Int J Cancer 2009; 125: 2425 Tawfik El-Mansi M, Int J Gynecol Cancer 2006; 16: 1025
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Algeria	Contributing studies: Hammouda D, Int J Cancer 2011; 128: 2224, Hammouda D, Int J Cancer 2011; 128: 2224
Cameroon	Contributing studies: Untiet S, Int J Cancer 2014; 135: 1911, Untiet S, Int J Cancer 2014; 135: 1911
Côte d'Ivoire	La Ruche G, Int J Cancer 1998; 76: 480, Contributing studies: La Ruche G, Int J Cancer 1998; 76: 480
DR Congo	Contributing studies: Hovland S, Br J Cancer 2010; 102: 957, Hovland S, Br J Cancer 2010; 102: 957
Equatorial Guinea	García-Espinosa B, Diagn Pathol 2009; 4: 31, Contributing studies: García-Espinosa B, Diagn Pathol 2009; 4: 31
Ethiopia	Abate E, J Med Virol 2013; 85: 282, Contributing studies: Abate E, J Med Virol 2013; 85: 282
Guinea	Contributing studies: Keita N, Br J Cancer 2009; 101: 202, Keita N, Br J Cancer 2009; 101: 202
Kenya	De Vuyst H, Cancer Causes Control 2010; 21: 2309 De Vuyst H, Int J Cancer 2012; 131: 949 De Vuyst H, Sex Transm Dis 2003; 30: 137, Contributing studies: De Vuyst H, Cancer Causes Control 2010; 21: 2309 De Vuyst H, Int J Cancer 2012; 131: 949 De Vuyst H, Sex Transm Dis 2003; 30: 137
Morocco	Contributing studies: Alhamany Z, J Infect Dev Ctries 2010; 4: 732, Alhamany Z, J Infect Dev Ctries 2010; 4: 732
Nigeria	Gage JC, Int J Cancer 2012; 131: 2903 Haghsheenas M, Infect Agents Cancer 2013; 8: 20, Contributing studies: Gage JC, Int J Cancer 2012; 131: 2903 Haghsheenas M, Infect Agents Cancer 2013; 8: 20
Rwanda	Contributing studies: Singh DK, J Infect Dis 2009; 199: 1851, Singh DK, J Infect Dis 2009; 199: 1851
Senegal	Chabaud M, J Med Virol 1996; 49: 259 Xi LF, Int J Cancer 2003; 103: 803, Contributing studies: Chabaud M, J Med Virol 1996; 49: 259 Xi LF, Int J Cancer 2003; 103: 803
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Tanzania	Contributing studies: Dartell MA, Int J Cancer 2014; 135: 896, Dartell MA, Int J Cancer 2014; 135: 896
Zimbabwe	Sawaya GF, Obstet Gynecol 2008; 112: 990, Contributing studies: Sawaya GF, Obstet Gynecol 2008; 112: 990
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Belize	Contributing studies: Cathro HP, Hum Pathol 2009; 40: 942, Cathro HP, Hum Pathol 2009; 40: 942
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Chile	Contributing studies: Ili CG, J Med Virol 2011; 83: 833, Ili CG, J Med Virol 2011; 83: 833

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Costa Rica	Contributing studies: Herrero R, J Infect Dis 2005; 191: 1796, Herrero R, J Infect Dis 2005; 191: 1796
Cuba	Soto Y, Sex Transm Dis 2007; 34: 974, Contributing studies: Soto Y, Sex Transm Dis 2007; 34: 974
Ecuador	Mejía L, J Med Virol 2016; 88: 144, Contributing studies: Mejía L, J Med Virol 2016; 88: 144
Honduras	Ferreira M, Mod Pathol 2008; 21: 968, Contributing studies: Ferreira M, Mod Pathol 2008; 21: 968
Jamaica	Rattray C, J Infect Dis 1996; 173: 718 Strickler HD, J Med Virol 1999; 59: 60, Contributing studies: Rattray C, J Infect Dis 1996; 173: 718 Strickler HD, J Med Virol 1999; 59: 60
Mexico	Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Illades-Aguir B, Gynecol Oncol 2010; 117: 291 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Torroella-Kouri M, Gynecol Oncol 1998; 70: 115 Velázquez-Márquez N, Int J Infect Dis 2009; 13: 690, Contributing studies: Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Illades-Aguir B, Gynecol Oncol 2010; 117: 291 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Torroella-Kouri M, Gynecol Oncol 1998; 70: 115 Velázquez-Márquez N, Int J Infect Dis 2009; 13: 690
Nicaragua	Contributing studies: Hindryckx P, Sex Transm Infect 2006; 82: 334, Hindryckx P, Sex Transm Infect 2006; 82: 334
Paraguay	Mendoza LP, J Med Virol 2011; 83: 1351, Contributing studies: Mendoza LP, J Med Virol 2011; 83: 1351
Peru	Martorell M, Genet Mol Res 2012; 11: 2099, Contributing studies: Martorell M, Genet Mol Res 2012; 11: 2099
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Venezuela	Sánchez-Lander J, Cancer Epidemiol 2012; 36: e284, Contributing studies: Sánchez-Lander J, Cancer Epidemiol 2012; 36: e284
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Bangladesh	Banik U, Cytojournal 2013; 10: 14, Contributing studies: Banik U, Cytojournal 2013; 10: 14
China	Chan MK, Gynecol Oncol 1996; 60: 217 Chan PK, Int J Cancer 2006; 118: 243 Chan PK, Int J Cancer 2012; 131: 692 Chan PK, J Med Virol 1999; 59: 232 Ding X, J Med Virol 2014; 86: 1937 Guo J, Scand J Infect Dis 2010; 42: 72 Jin Q, Chin Med J 2010; 123: 2004 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li J, Int J Gynaecol Obstet 2011; 112: 131 Li J, J Clin Microbiol 2012; 50: 1079 Liu SS, Tumour Biol 2008; 29: 105 Singh S, Int J Clin Exp Pathol 2015; 8: 11901 Sun B, Arch Virol 2014; 159: 1027 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wu CH, Sex Transm Dis 1994; 21: 309 Wu EQ, Cancer Causes Control 2013; 24: 795 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhang R, Cancer Epidemiol 2013; 37: 939 Zhao FH, Int J Cancer 2014; 135: 2604 Zhao Y, Pathol Int 2008; 58: 643, Contributing studies: Chan MK, Gynecol Oncol 1996; 60: 217 Chan PK, Int J Cancer 2006; 118: 243 Chan PK, Int J Cancer 2012; 131: 692 Chan PK, J Med Virol 1999; 59: 232 Ding X, J Med Virol 2014; 86: 1937 Guo J, Scand J Infect Dis 2010; 42: 72 Jin Q, Chin Med J 2010; 123: 2004 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li J, Int J Gynaecol Obstet 2011; 112: 131 Li J, J Clin Microbiol 2012; 50: 1079 Liu SS, Tumour Biol 2008; 29: 105 Singh S, Int J Clin Exp Pathol 2015; 8: 11901 Sun B, Arch Virol 2014; 159: 1027 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wu CH, Sex Transm Dis 1994; 21: 309 Wu EQ, Cancer Causes Control 2013; 24: 795 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhang R, Cancer Epidemiol 2013; 37: 939 Zhao FH, Int J Cancer 2014; 135: 2604 Zhao Y, Pathol Int 2008; 58: 643
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Israel	Contributing studies: Bassal R, J Low Genit Tract Dis 2015; 19: 161 Laskov I, Int J Gynecol Cancer 2013; 23: 730, Bassal R, J Low Genit Tract Dis 2015; 19: 161 Laskov I, Int J Gynecol Cancer 2013; 23: 730
Japan	Azuma Y, Jpn J Clin Oncol 2014 Ichimura H, Int J Clin Oncol 2003; 8: 322 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Konno R, Cancer Sci 2011; 102: 877 Matsumoto K, Int J Cancer 2011; 128: 2898 Nagai Y, Gynecol Oncol 2000; 79: 294 Nakamura Y, Int J Clin Oncol 2015; 20: 974 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Niwa K, Oncol Rep 2003; 10: 1437 Okadome M, J Obstet Gynaecol Res 2014; 40: 561 Onuki M, Cancer Sci 2009; 100: 1312 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100, Contributing studies: Azuma Y, Jpn J Clin Oncol 2014 Ichimura H, Int J Clin Oncol 2003; 8: 322 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Konno R, Cancer Sci 2011; 102: 877 Matsumoto K, Int J Cancer 2011; 128: 2898 Nagai Y, Gynecol Oncol 2000; 79: 294 Nakamura Y, Int J Clin Oncol 2015; 20: 974 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Niwa K, Oncol Rep 2003; 10: 1437 Okadome M, J Obstet Gynaecol Res 2014; 40: 561 Onuki M, Cancer Sci 2009; 100: 1312 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100
Kuwait	Al-Awadhi R, Diagn Cytopathol 2013; 41: 107 Al-Awadhi R, J Med Virol 2011; 83: 453, Contributing studies: Al-Awadhi R, Diagn Cytopathol 2013; 41: 107 Al-Awadhi R, J Med Virol 2011; 83: 453
Malaysia	Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148
Myanmar	Mu-Mu-Shwe, Acta Med Okayama 2014; 68: 79, Contributing studies: Mu-Mu-Shwe, Acta Med Okayama 2014; 68: 79
Pakistan	Raza SA, Br J Cancer 2010; 102: 1657, Contributing studies: Raza SA, Br J Cancer 2010; 102: 1657
Philippines	Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148
Republic of Korea	Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang TS, Gynecol Oncol 2003; 90: 51 Kahng J, Ann Lab Med 2014; 34: 127 Kang WD, Int J Gynecol Cancer 2009; 19: 924 Oh YL, Cytopathology 2001; 12: 75 Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang TS, Gynecol Oncol 2003; 90: 51 Kahng J, Ann Lab Med 2014; 34: 127 Kang WD, Int J Gynecol Cancer 2009; 19: 924 Oh YL, Cytopathology 2001; 12: 75 Quek SC, Int J Gynecol Cancer 2013; 23: 148
Singapore	Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148
Sri Lanka	Karunaratne K, BMC Cancer 2014; 14: 116, Contributing studies: Karunaratne K, BMC Cancer 2014; 14: 116
Thailand	Contributing studies: Chansaenroj J, Asian Pac J Cancer Prev 2010; 11: 117 Chansaenroj J, J Med Virol 2014; 86: 601 Limpiboon T, Southeast Asian J Trop Med Public Health 2000; 31: 66 Sukasem C, J Med Virol 2011; 83: 119 Suwannarurk K, Cancer Epidemiol 2009; 33: 56 Swangvaree SS, Asian Pac J Cancer Prev 2013; 14: 1023, Chansaenroj J, Asian Pac J Cancer Prev 2010; 11: 117 Chansaenroj J, J Med Virol 2014; 86: 601 Limpiboon T, Southeast Asian J Trop Med Public Health 2000; 31: 66 Sukasem C, J Med Virol 2011; 83: 119 Suwannarurk K, Cancer Epidemiol 2009; 33: 56 Swangvaree SS, Asian Pac J Cancer Prev 2013; 14: 1023
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Viet Nam	Quek SC, Int J Gynecol Cancer 2013; 23: 148, Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148
Europe	
Austria	Contributing studies: Rössler L, Wien Klin Wochenschr 2013; 125: 591, Rössler L, Wien Klin Wochenschr 2013; 125: 591
Belarus	Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771, Kulmala SM, J Med Virol 2007; 79: 771
Belgium	Arbyn M, Cancer Epidemiol Biomarkers Prev 2009; 18: 321 Baay MF, Eur J Gynaecol Oncol 2001; 22: 204 Beerens E, Cytopathology 2005; 16: 199 Depuydt CE, Br J Cancer 2003; 88: 560, Contributing studies: Arbyn M, Cancer Epidemiol Biomarkers Prev 2009; 18: 321 Baay MF, Eur J Gynaecol Oncol 2001; 22: 204 Beerens E, Cytopathology 2005; 16: 199 Depuydt CE, Br J Cancer 2003; 88: 560
Croatia	Grce M, Anticancer Res 2001; 21: 579 Grce M, J Clin Microbiol 2004; 42: 1341, Contributing studies: Grce M, Anticancer Res 2001; 21: 579 Grce M, J Clin Microbiol 2004; 42: 1341
Czechia	Tachezy R, PLoS ONE 2011; 6: e21913, Contributing studies: Tachezy R, PLoS ONE 2011; 6: e21913

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France	Contributing studies: Monsonego J, Int J STD AIDS 2008; 19: 385 Prétet JL, Int J Cancer 2008; 122: 424 Vaucel E, Arch Gynecol Obstet 2011; 284: 989, Monsonego J, Int J STD AIDS 2008; 19: 385 Prétet JL, Int J Cancer 2008; 122: 424 Vaucel E, Arch Gynecol Obstet 2011; 284: 989
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Greece	Agorastos T, Eur J Obstet Gynecol Reprod Biol 2005; 121: 99 Argyri E, BMC Infect Dis 2013; 13: 53 Daponte A, J Clin Virol 2006; 36: 189 Kroupis C, Epidemiol Infect 2007; 135: 943 Labropoulou V, Sex Transm Dis 1997; 24: 469 Panotopoulou E, J Med Virol 2007; 79: 1898 Paraskevaidis E, Gynecol Oncol 2001; 82: 355 Tsiodras S, Clin Microbiol Infect 2011; 17: 1185, Contributing studies: Agorastos T, Eur J Obstet Gynecol Reprod Biol 2005; 121: 99 Argyri E, BMC Infect Dis 2013; 13: 53 Daponte A, J Clin Virol 2006; 36: 189 Kroupis C, Epidemiol Infect 2007; 135: 943 Labropoulou V, Sex Transm Dis 1997; 24: 469 Panotopoulou E, J Med Virol 2007; 79: 1898 Paraskevaidis E, Gynecol Oncol 2001; 82: 355 Tsiodras S, Clin Microbiol Infect 2011; 17: 1185
Hungary	Szoke K, J Med Virol 2003; 71: 585, Contributing studies: Szoke K, J Med Virol 2003; 71: 585
Iceland	Sigurdsson K, Int J Cancer 2007; 121: 2682, Contributing studies: Sigurdsson K, Int J Cancer 2007; 121: 2682
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Lithuania	Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910 Simanaviciene V, J Med Virol 2014, Contributing studies: Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910 Simanaviciene V, J Med Virol 2014
Netherlands	Bulkmans NW, Int J Cancer 2005; 117: 177 Cornelissen MT, Virchows Arch, B, Cell Pathol 1992; 62: 167 Prinsen CF, BJOG 2007; 114: 951 Reesink-Peters N, Eur J Obstet Gynecol Reprod Biol 2001; 98: 199 Tang N, J Clin Virol 2009; 45 Suppl 1: S25 van Duin M, Int J Cancer 2003; 105: 577, Contributing studies: Bulkmans NW, Int J Cancer 2005; 117: 177 Cornelissen MT, Virchows Arch, B, Cell Pathol 1992; 62: 167 Prinsen CF, BJOG 2007; 114: 951 Reesink-Peters N, Eur J Obstet Gynecol Reprod Biol 2001; 98: 199 Tang N, J Clin Virol 2009; 45 Suppl 1: S25 van Duin M, Int J Cancer 2003; 105: 577
Norway	Kraus I, Br J Cancer 2004; 90: 1407 Molden T, Cancer Epidemiol Biomarkers Prev 2005; 14: 367 Roberts CC, J Clin Virol 2006; 36: 277 Sjoeborg KD, Gynecol Oncol 2010; 118: 29, Contributing studies: Kraus I, Br J Cancer 2004; 90: 1407 Molden T, Cancer Epidemiol Biomarkers Prev 2005; 14: 367 Roberts CC, J Clin Virol 2006; 36: 277 Sjoeborg KD, Gynecol Oncol 2010; 118: 29
Portugal	Contributing studies: Medeiros R, Eur J Cancer Prev 2005; 14: 467 Nobre RJ, J Med Virol 2010; 82: 1024 Pista A, Clin Microbiol Infect 2011; 17: 941 Pista A, Int J Gynecol Cancer 2013; 23: 500, Medeiros R, Eur J Cancer Prev 2005; 14: 467 Nobre RJ, J Med Virol 2010; 82: 1024 Pista A, Clin Microbiol Infect 2011; 17: 941 Pista A, Int J Gynecol Cancer 2013; 23: 500
Romania	Anton G, APMIS 2011; 119: 1 Ursu RG, Virol J 2011; 8: 558, Contributing studies: Anton G, APMIS 2011; 119: 1 Ursu RG, Virol J 2011; 8: 558
Russian Federation	Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771, Kulmala SM, J Med Virol 2007; 79: 771
Slovenia	Contributing studies: Kovanda A, Acta Dermatovenerol Alp Pannonica Adriat 2009; 18: 47, Kovanda A, Acta Dermatovenerol Alp Pannonica Adriat 2009; 18: 47

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Sweden	Andersson S, Br J Cancer 2005; 92: 2195 Kalantari M, Hum Pathol 1997; 28: 899 Zehbe I, Virchows Arch 1996; 428: 151, Contributing studies: Andersson S, Br J Cancer 2005; 92: 2195 Kalantari M, Hum Pathol 1997; 28: 899 Zehbe I, Virchows Arch 1996; 428: 151
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Cameroon	Contributing studies: Untiet S, Int J Cancer 2014; 135: 1911
Côte d'Ivoire	La Ruche G, Int J Cancer 1998; 76: 480, Contributing studies: La Ruche G, Int J Cancer 1998; 76: 480
DR Congo	Contributing studies: Hovland S, Br J Cancer 2010; 102: 957, Hovland S, Br J Cancer 2010; 102: 957
Ethiopia	Abate E, J Med Virol 2013; 85: 282, Contributing studies: Abate E, J Med Virol 2013; 85: 282
Guinea	Contributing studies: Keita N, Br J Cancer 2009; 101: 202, Keita N, Br J Cancer 2009; 101: 202
Kenya	De Vuyst H, Cancer Causes Control 2010; 21: 2309 De Vuyst H, Int J Cancer 2012; 131: 949 De Vuyst H, Sex Transm Dis 2003; 30: 137, Contributing studies: De Vuyst H, Cancer Causes Control 2010; 21: 2309 De Vuyst H, Int J Cancer 2012; 131: 949 De Vuyst H, Sex Transm Dis 2003; 30: 137
Morocco	Contributing studies: Alhamany Z, J Infect Dev Ctries 2010; 4: 732, Alhamany Z, J Infect Dev Ctries 2010; 4: 732
Nigeria	Gage JC, Int J Cancer 2012; 131: 2903 Thomas JO, Br J Cancer 2004; 90: 638, Contributing studies: Gage JC, Int J Cancer 2012; 131: 2903 Thomas JO, Br J Cancer 2004; 90: 638
Senegal	Chabaud M, J Med Virol 1996; 49: 259 Xi LF, Int J Cancer 2003; 103: 803, Contributing studies: Chabaud M, J Med Virol 1996; 49: 259 Xi LF, Int J Cancer 2003; 103: 803
South Africa	Allan B, J Clin Microbiol 2008; 46: 740, Contributing studies: Allan B, J Clin Microbiol 2008; 46: 740 van Aardt MC, Personal communication Unpublished
Zimbabwe	Sawaya GF, Obstet Gynecol 2008; 112: 990, Contributing studies: Sawaya GF, Obstet Gynecol 2008; 112: 990
Americas	
Argentina	Contributing studies: Abba MC, Rev Argent Microbiol 2003; 35: 74 Chouhy D, Int J Mol Med 2006; 18: 995 Deluca GD, Rev Inst Med Trop Sao Paulo 2004; 46: 9 Eiguchi K, J Low Genit Tract Dis 2008; 12: 262 Tonon SA, Infect Dis Obstet Gynecol 1999; 7: 237 Venezuela RF, Rev Inst Med Trop Sao Paulo 2012; 54: 11, Abba MC, Rev Argent Microbiol 2003; 35: 74 Chouhy D, Int J Mol Med 2006; 18: 995 Deluca GD, Rev Inst Med Trop Sao Paulo 2004; 46: 9 Eiguchi K, J Low Genit Tract Dis 2008; 12: 262 Tonon SA, Infect Dis Obstet Gynecol 1999; 7: 237 Venezuela RF, Rev Inst Med Trop Sao Paulo 2012; 54: 11
Belize	Contributing studies: Cathro HP, Hum Pathol 2009; 40: 942, Cathro HP, Hum Pathol 2009; 40: 942

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Country	Study
Brazil	Contributing studies: Carestiatto FN, Rev Soc Bras Med Trop 2006; 39: 428 Fernandes JV, Int J Gynaecol Obstet 2009; 105: 21 Franco E, Rev Panam Salud Publica 1999; 6: 223 Freitas TP, Rev Inst Med Trop Sao Paulo 2007; 49: 297 Krambeck WM, Clin Exp Obstet Gynecol 2008; 35: 175 Lorenzato F, Int J Gynecol Cancer 2000; 10: 143 Pitta DR, Rev Bras Ginecol Obstet 2010; 32: 315 Resende LS, BMC Infect Dis 2014; 14: 214 Ribeiro AA, Int J Gynecol Pathol 2011; 30: 288 Tomita LY, Int J Cancer 2010; 126: 703, Carestiatto FN, Rev Soc Bras Med Trop 2006; 39: 428 Fernandes JV, Int J Gynaecol Obstet 2009; 105: 21 Franco E, Rev Panam Salud Publica 1999; 6: 223 Freitas TP, Rev Inst Med Trop Sao Paulo 2007; 49: 297 Krambeck WM, Clin Exp Obstet Gynecol 2008; 35: 175 Lorenzato F, Int J Gynecol Cancer 2000; 10: 143 Pitta DR, Rev Bras Ginecol Obstet 2010; 32: 315 Resende LS, BMC Infect Dis 2014; 14: 214 Ribeiro AA, Int J Gynecol Pathol 2011; 30: 288 Tomita LY, Int J Cancer 2010; 126: 703
Canada	Antonishyn NA, Arch Pathol Lab Med 2008; 132: 54 Coutlée F, J Med Virol 2011; 83: 1034 Jiang Y, J Infect Public Health 2011; 4: 219 Koushik A, Cancer Detect Prev 2005; 29: 307 Moore RA, Cancer Causes Control 2009; 20: 1387 Richardson H, Cancer Epidemiol Biomarkers Prev 2003; 12: 485 Sellors JW, CMAJ 2000; 163: 503 Sellors JW, CMAJ 2000; 163: 513 Tran-Thanh D, Am J Obstet Gynecol 2003; 188: 129, Contributing studies: Antonishyn NA, Arch Pathol Lab Med 2008; 132: 54 Coutlée F, J Med Virol 2011; 83: 1034 Jiang Y, J Infect Public Health 2011; 4: 219 Koushik A, Cancer Detect Prev 2005; 29: 307 Moore RA, Cancer Causes Control 2009; 20: 1387 Richardson H, Cancer Epidemiol Biomarkers Prev 2003; 12: 485 Sellors JW, CMAJ 2000; 163: 503 Sellors JW, CMAJ 2000; 163: 513 Tran-Thanh D, Am J Obstet Gynecol 2003; 188: 129
Chile	Contributing studies: Ili CG, J Med Virol 2011; 83: 833 López M J, Rev Med Chil 2010; 138: 1343, Ili CG, J Med Virol 2011; 83: 833 López M J, Rev Med Chil 2010; 138: 1343
Colombia	García DA, Open Virol J 2011; 5: 70 Molano M, Br J Cancer 2002; 87: 1417, Contributing studies: García DA, Open Virol J 2011; 5: 70 Molano M, Br J Cancer 2002; 87: 1417
Cuba	Soto Y, Sex Transm Dis 2007; 34: 974, Contributing studies: Soto Y, Sex Transm Dis 2007; 34: 974
Ecuador	Tornesello ML, J Med Virol 2008; 80: 1959, Contributing studies: Tornesello ML, J Med Virol 2008; 80: 1959
Honduras	Ferreira M, Mod Pathol 2008; 21: 968, Contributing studies: Ferreira M, Mod Pathol 2008; 21: 968
Jamaica	Rattray C, J Infect Dis 1996; 173: 718 Strickler HD, J Med Virol 1999; 59: 60, Contributing studies: Rattray C, J Infect Dis 1996; 173: 718 Strickler HD, J Med Virol 1999; 59: 60
Mexico	Carrillo A, Salud Publica Mex 2004; 46: 7 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 González-Losa Mdel R, J Clin Virol 2004; 29: 202 Illades-Aguir B, Gynecol Oncol 2010; 117: 291 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Torroella-Kouri M, Gynecol Oncol 1998; 70: 115 Velázquez-Márquez N, Int J Infect Dis 2009; 13: 690, Contributing studies: Carrillo A, Salud Publica Mex 2004; 46: 7 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 González-Losa Mdel R, J Clin Virol 2004; 29: 202 Illades-Aguir B, Gynecol Oncol 2010; 117: 291 Piña-Sánchez P, Int J Gynecol Cancer 2006; 16: 1041 Torroella-Kouri M, Gynecol Oncol 1998; 70: 115 Velázquez-Márquez N, Int J Infect Dis 2009; 13: 690
Nicaragua	Contributing studies: Hindryckx P, Sex Transm Infect 2006; 82: 334, Hindryckx P, Sex Transm Infect 2006; 82: 334
Paraguay	Mendoza LP, J Med Virol 2011; 83: 1351 Tonon SA, Infect Dis Obstet Gynecol 1999; 7: 237, Contributing studies: Mendoza LP, J Med Virol 2011; 83: 1351 Tonon SA, Infect Dis Obstet Gynecol 1999; 7: 237
Peru	Martorell M, Genet Mol Res 2012; 11: 2099, Contributing studies: Martorell M, Genet Mol Res 2012; 11: 2099
United States of America	Adam E, Am J Obstet Gynecol 2000; 182: 257 Bell MC, Gynecol Oncol 2007; 107: 236 Brown DR, Sex Transm Dis 2002; 29: 763 Castle PE, Cancer Epidemiol Biomarkers Prev 2011; 20: 946 Einstein MH, Int J Cancer 2007; 120: 55 Evans MF, Cancer 2006; 106: 1054 Evans MF, Mod Pathol 2002; 15: 1339 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Guo M, Mod Pathol 2007; 20: 256 Hu L, Mod Pathol 2005; 18: 267 Jarboe EA, Hum Pathol 2004; 35: 396 Kong CS, Am J Surg Pathol 2007; 31: 33 Kulasingam SL, JAMA 2002; 288: 1749 Lee SH, Int J Gynaecol Obstet 2009; 105: 210 Liaw KL, J Natl Cancer Inst 1999; 91: 954 Moscicki AB, Obstet Gynecol 2008; 112: 1335 Park K, Int J Gynecol Pathol 2007; 26: 457 Schiff M, Am J Epidemiol 2000; 152: 716 Stoler MH, Am J Clin Pathol 2011; 135: 468 Swan DC, J Clin Microbiol 1999; 37: 1030 Tortolero-Luna G, Cad Saude Publica 1998; 14 Suppl 3: 149 Vidal AC, Cancer Causes Control 2014; 25: 1055 Voss JS, Anal Quant Cytol Histol 2009; 31: 208 Wentzensen N, Int J Cancer 2009; 124: 964 Wheeler CM, J Infect Dis 2006; 194: 1291 Wheeler CM, J Natl Cancer Inst 2009; 101: 475 Zuna RE, Mod Pathol 2007; 20: 167, Contributing studies: Adam E, Am J Obstet Gynecol 2000; 182: 257 Bell MC, Gynecol Oncol 2007; 107: 236 Brown DR, Sex Transm Dis 2002; 29: 763 Castle PE, Cancer Epidemiol Biomarkers Prev 2011; 20: 946 Einstein MH, Int J Cancer 2007; 120: 55 Evans MF, Cancer 2006; 106: 1054 Evans MF, Mod Pathol 2002; 15: 1339 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2001; 10: 1129 Guo M, Mod Pathol 2007; 20: 256 Hu L, Mod Pathol 2005; 18: 267 Jarboe EA, Hum Pathol 2004; 35: 396 Kong CS, Am J Surg Pathol 2007; 31: 33 Kulasingam SL, JAMA 2002; 288: 1749 Lee SH, Int J Gynaecol Obstet 2009; 105: 210 Liaw KL, J Natl Cancer Inst 1999; 91: 954 Moscicki AB, Obstet Gynecol 2008; 112: 1335 Park K, Int J Gynecol Pathol 2007; 26: 457 Schiff M, Am J Epidemiol 2000; 152: 716 Stoler MH, Am J Clin Pathol 2011; 135: 468 Swan DC, J Clin Microbiol 1999; 37: 1030 Tortolero-Luna G, Cad Saude Publica 1998; 14 Suppl 3: 149 Vidal AC, Cancer Causes Control 2014; 25: 1055 Voss JS, Anal Quant Cytol Histol 2009; 31: 208 Wentzensen N, Int J Cancer 2009; 124: 964 Wheeler CM, J Infect Dis 2006; 194: 1291 Wheeler CM, J Natl Cancer Inst 2009; 101: 475 Zuna RE, Mod Pathol 2007; 20: 167
Uruguay	Ramas V, J Med Virol 2013; 85: 845, Contributing studies: Ramas V, J Med Virol 2013; 85: 845

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Country	Study
Venezuela	Correnti M, Gynecol Oncol 2011; 121: 527, Contributing studies: Correnti M, Gynecol Oncol 2011; 121: 527
Asia	
Bangladesh	Banik U, Cytojournal 2013; 10: 14, Contributing studies: Banik U, Cytojournal 2013; 10: 14
China	Chan PK, Int J Cancer 2006; 118: 243 Chan PK, Int J Cancer 2012; 131: 692 Chan PK, J Med Virol 1999; 59: 232 Ding X, J Med Virol 2014; 86: 1937 Guo J, Scand J Infect Dis 2010; 42: 72 Hong D, Int J Gynecol Cancer 2008; 18: 104 Jin Q, Chin Med J 2010; 123: 2004 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li J, J Clin Microbiol 2012; 50: 1079 Liu SS, Tumour Biol 2008; 29: 105 Liu X, Int J Gynecol Cancer 2010; 20: 147 Sun B, Arch Virol 2014; 159: 1027 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wu D, Eur J Obstet Gynecol Reprod Biol 2010; 151: 86 Wu EQ, Cancer Causes Control 2013; 24: 795 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhang R, Cancer Epidemiol 2013; 37: 939 Zhao FH, Int J Cancer 2014; 135: 2604 Zhao Y, Pathol Int 2008; 58: 643, Contributing studies: Chan PK, Int J Cancer 2006; 118: 243 Chan PK, Int J Cancer 2012; 131: 692 Chan PK, J Med Virol 1999; 59: 232 Ding X, J Med Virol 2014; 86: 1937 Guo J, Scand J Infect Dis 2010; 42: 72 Hong D, Int J Gynecol Cancer 2008; 18: 104 Jin Q, Chin Med J 2010; 123: 2004 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li J, J Clin Microbiol 2012; 50: 1079 Liu SS, Tumour Biol 2008; 29: 105 Liu X, Int J Gynecol Cancer 2010; 20: 147 Sun B, Arch Virol 2014; 159: 1027 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wu D, Eur J Obstet Gynecol Reprod Biol 2010; 151: 86 Wu EQ, Cancer Causes Control 2013; 24: 795 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhang R, Cancer Epidemiol 2013; 37: 939 Zhao FH, Int J Cancer 2014; 135: 2604 Zhao Y, Pathol Int 2008; 58: 643
India	Berlin Grace VM, Indian J Cancer 2009; 46: 203 Franceschi S, Br J Cancer 2005; 92: 601 Nagpal JK, Eur J Clin Invest 2002; 32: 943 Nair P, Pathol Oncol Res 1999; 5: 95 Singh M, Tumour Biol 2009; 30: 276, Contributing studies: Berlin Grace VM, Indian J Cancer 2009; 46: 203 Franceschi S, Br J Cancer 2005; 92: 601 Nagpal JK, Eur J Clin Invest 2002; 32: 943 Nair P, Pathol Oncol Res 1999; 5: 95 Singh M, Tumour Biol 2009; 30: 276
Iran	Contributing studies: Esmaeili M, Gynecol Obstet Invest 2008; 66: 68 Ghaffari SR, Asian Pac J Cancer Prev 2006; 7: 529 Khodakarami N, Int J Cancer 2012; 131: E156, Esmaeili M, Gynecol Obstet Invest 2008; 66: 68 Ghaffari SR, Asian Pac J Cancer Prev 2006; 7: 529 Khodakarami N, Int J Cancer 2012; 131: E156
Japan	Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Konno R, Cancer Sci 2011; 102: 877 Matsumoto K, Int J Cancer 2011; 128: 2898 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Jap J Obstet Gynecol Pract 2001; 50: 871 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100, Contributing studies: Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Konno R, Cancer Sci 2011; 102: 877 Matsumoto K, Int J Cancer 2011; 128: 2898 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Jap J Obstet Gynecol Pract 2001; 50: 871 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100
Kuwait	Al-Awadhi R, Diagn Cytopathol 2013; 41: 107 Al-Awadhi R, J Med Virol 2011; 83: 453, Contributing studies: Al-Awadhi R, Diagn Cytopathol 2013; 41: 107 Al-Awadhi R, J Med Virol 2011; 83: 453
Malaysia	Sharifah NA, Asian Pac J Cancer Prev 2009; 10: 303, Contributing studies: Sharifah NA, Asian Pac J Cancer Prev 2009; 10: 303
Myanmar	Mu-Mu-Shwe, Acta Med Okayama 2014; 68: 79, Contributing studies: Mu-Mu-Shwe, Acta Med Okayama 2014; 68: 79
Pakistan	Raza SA, Br J Cancer 2010; 102: 1657, Contributing studies: Raza SA, Br J Cancer 2010; 102: 1657
Republic of Korea	An HJ, Cancer 2003; 97: 1672 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang TS, Gynecol Oncol 2003; 90: 51 Kang WD, Int J Gynecol Cancer 2009; 19: 924 Lee HS, Int J Gynecol Cancer 2007; 17: 497 Oh YL, Cytopathology 2001; 12: 75, Contributing studies: An HJ, Cancer 2003; 97: 1672 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang TS, Gynecol Oncol 2003; 90: 51 Kang WD, Int J Gynecol Cancer 2009; 19: 924 Lee HS, Int J Gynecol Cancer 2007; 17: 497 Oh YL, Cytopathology 2001; 12: 75
Thailand	Bhattarakosol P, J Med Assoc Thai 2002; 85 Suppl 1: S360 Chaiwongkot A, Asian Pac J Cancer Prev 2007; 8: 279 Chansaenroj J, Asian Pac J Cancer Prev 2010; 11: 117 Chansaenroj J, J Med Virol 2014; 86: 601 Ekalaksananan T, J Obstet Gynaecol Res 2001; 27: 117 Suwannarurk K, Cancer Epidemiol 2009; 33: 56, Contributing studies: Bhattarakosol P, J Med Assoc Thai 2002; 85 Suppl 1: S360 Chaiwongkot A, Asian Pac J Cancer Prev 2007; 8: 279 Chansaenroj J, Asian Pac J Cancer Prev 2010; 11: 117 Chansaenroj J, J Med Virol 2014; 86: 601 Ekalaksananan T, J Obstet Gynaecol Res 2001; 27: 117 Suwannarurk K, Cancer Epidemiol 2009; 33: 56
Turkey	Ergünay K, Mikrobiyol Bul 2008; 42: 273 Ozgul N, J Obstet Gynaecol Res 2008; 34: 865 Sahiner F, Mikrobiyol Bul 2012; 46: 624 Tezcan S, Asian Pac J Cancer Prev 2014; 15: 3997 Yuce K, Arch Gynecol Obstet 2012; 286: 203, Contributing studies: Ergünay K, Mikrobiyol Bul 2008; 42: 273 Ozgul N, J Obstet Gynaecol Res 2008; 34: 865 Sahiner F, Mikrobiyol Bul 2012; 46: 624 Tezcan S, Asian Pac J Cancer Prev 2014; 15: 3997 Yuce K, Arch Gynecol Obstet 2012; 286: 203
Europe	
Belarus	Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771, Kulmala SM, J Med Virol 2007; 79: 771

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Country	Study
Belgium	Arbyn M, Cancer Epidemiol Biomarkers Prev 2009; 18: 321 Baay MF, Eur J Gynaecol Oncol 2001; 22: 204 Beerens E, Cytopathology 2005; 16: 199 Depuydt CE, Br J Cancer 2003; 88: 560 Weyn C, Cancer Epidemiol 2013; 37: 457, Contributing studies: Arbyn M, Cancer Epidemiol Biomarkers Prev 2009; 18: 321 Baay MF, Eur J Gynaecol Oncol 2001; 22: 204 Beerens E, Cytopathology 2005; 16: 199 Depuydt CE, Br J Cancer 2003; 88: 560 Weyn C, Cancer Epidemiol 2013; 37: 457
Croatia	Grce M, Anticancer Res 2001; 21: 579 Grce M, Eur J Epidemiol 1997; 13: 645 Grce M, J Clin Microbiol 2004; 42: 1341, Contributing studies: Grce M, Anticancer Res 2001; 21: 579 Grce M, Eur J Epidemiol 1997; 13: 645 Grce M, J Clin Microbiol 2004; 42: 1341
Czechia	Tachezy R, PLoS ONE 2011; 6: e21913, Contributing studies: Tachezy R, PLoS ONE 2011; 6: e21913
Denmark	Hording U, Eur J Obstet Gynecol Reprod Biol 1995; 62: 49 Kjaer SK, Int J Cancer 2008; 123: 1864 Kjaer SK, Cancer Causes Control 2014; 25: 179, Contributing studies: Hording U, Eur J Obstet Gynecol Reprod Biol 1995; 62: 49 Kjaer SK, Int J Cancer 2008; 123: 1864 Kjaer SK, Cancer Causes Control 2014; 25: 179
France	Contributing studies: Bergeron C, Am J Surg Pathol 1992; 16: 641 Humbey O, Eur J Obstet Gynecol Reprod Biol 2002; 103: 60 Monsonego J, Int J STD AIDS 2008; 19: 385 Pr��t��t JL, Gynecol Oncol 2008; 110: 179 Vaucel E, Arch Gynecol Obstet 2011; 284: 989, Bergeron C, Am J Surg Pathol 1992; 16: 641 Humbey O, Eur J Obstet Gynecol Reprod Biol 2002; 103: 60 Monsonego J, Int J STD AIDS 2008; 19: 385 Pr��t��t JL, Gynecol Oncol 2008; 110: 179 Vaucel E, Arch Gynecol Obstet 2011; 284: 989
Germany	Contributing studies: de Jonge M, Acta Cytol 2013; 57: 591 Klug SJ, J Med Virol 2007; 79: 616 Merkelbach-Bruse S, Diagn Mol Pathol 1999; 8: 32 Meyer T, Int J Gynecol Cancer 2001; 11: 198 Nindl I, J Clin Pathol 1999; 52: 17, de Jonge M, Acta Cytol 2013; 57: 591 Klug SJ, J Med Virol 2007; 79: 616 Merkelbach-Bruse S, Diagn Mol Pathol 1999; 8: 32 Meyer T, Int J Gynecol Cancer 2001; 11: 198 Nindl I, J Clin Pathol 1999; 52: 17
Greece	Adamopoulou M, Anticancer Res 2009; 29: 3401 Argyri E, BMC Infect Dis 2013; 13: 53 Kroupis C, Epidemiol Infect 2007; 135: 943 Labropoulou V, Sex Transm Dis 1997; 24: 469 Mamas IN, Oncol Rep 2008; 20: 141 Panotopoulou E, J Med Virol 2007; 79: 1898 Tsiodras S, Clin Microbiol Infect 2011; 17: 1185, Contributing studies: Adamopoulou M, Anticancer Res 2009; 29: 3401 Argyri E, BMC Infect Dis 2013; 13: 53 Kroupis C, Epidemiol Infect 2007; 135: 943 Labropoulou V, Sex Transm Dis 1997; 24: 469 Mamas IN, Oncol Rep 2008; 20: 141 Panotopoulou E, J Med Virol 2007; 79: 1898 Tsiodras S, Clin Microbiol Infect 2011; 17: 1185
Ireland	Contributing studies: Butler D, J Pathol 2000; 192: 502 Keegan H, J Virol Methods 2014; 201: 93 Murphy N, J Clin Pathol 2003; 56: 56, Butler D, J Pathol 2000; 192: 502 Keegan H, J Virol Methods 2014; 201: 93 Murphy N, J Clin Pathol 2003; 56: 56
Italy	Contributing studies: Agarossi A, J Med Virol 2009; 81: 529 Agodi A, Int J Gynecol Cancer 2009; 19: 1094 Astori G, Virus Res 1997; 50: 57 Capra G, Virus Res 2008; 133: 195 Chironna M, J Prev Med Hyg 2010; 51: 139 Gargiulo F, Virus Res 2007; 125: 176 Giorgi Rossi P, BMC Infect Dis 2010; 10: 214 Laconi S, Pathologica 2000; 92: 524 Menegazzi P, Infect Dis Obstet Gynecol 2009; 2009: 198425 Sandri MT, J Med Virol 2009; 81: 271 Spinillo A, Gynecol Oncol 2009; 113: 115 Spinillo A, J Med Virol 2014; 86: 1145 Tornesello ML, J Med Virol 2006; 78: 1663 Venturoli S, J Clin Virol 2002; 25: 177 Venturoli S, J Med Virol 2008; 80: 1434 Voglino G, Pathologica 2000; 92: 516 Zerbini M, J Clin Pathol 2001; 54: 377, Agarossi A, J Med Virol 2009; 81: 529 Agodi A, Int J Gynecol Cancer 2009; 19: 1094 Astori G, Virus Res 1997; 50: 57 Capra G, Virus Res 2008; 133: 195 Chironna M, J Prev Med Hyg 2010; 51: 139 Gargiulo F, Virus Res 2007; 125: 176 Giorgi Rossi P, BMC Infect Dis 2010; 10: 214 Laconi S, Pathologica 2000; 92: 524 Menegazzi P, Infect Dis Obstet Gynecol 2009; 2009: 198425 Sandri MT, J Med Virol 2009; 81: 271 Spinillo A, Gynecol Oncol 2009; 113: 115 Spinillo A, J Med Virol 2014; 86: 1145 Tornesello ML, J Med Virol 2006; 78: 1663 Venturoli S, J Clin Virol 2002; 25: 177 Venturoli S, J Med Virol 2008; 80: 1434 Voglino G, Pathologica 2000; 92: 516 Zerbini M, J Clin Pathol 2001; 54: 377
Latvia	Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771, Kulmala SM, J Med Virol 2007; 79: 771
Lithuania	Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910, Contributing studies: Gudleviciene Z, Medicina (Kaunas) 2005; 41: 910
Netherlands	Bollen LJ, Am J Obstet Gynecol 1997; 177: 548 Prinsen CF, BJOG 2007; 114: 951 Reesink-Peters N, Eur J Obstet Gynecol Reprod Biol 2001; 98: 199, Contributing studies: Bollen LJ, Am J Obstet Gynecol 1997; 177: 548 Prinsen CF, BJOG 2007; 114: 951 Reesink-Peters N, Eur J Obstet Gynecol Reprod Biol 2001; 98: 199
Norway	Molden T, Cancer Epidemiol Biomarkers Prev 2005; 14: 367 Roberts CC, J Clin Virol 2006; 36: 277, Contributing studies: Molden T, Cancer Epidemiol Biomarkers Prev 2005; 14: 367 Roberts CC, J Clin Virol 2006; 36: 277
Portugal	Contributing studies: Medeiros R, Eur J Cancer Prev 2005; 14: 467 Nobre RJ, J Med Virol 2010; 82: 1024, Medeiros R, Eur J Cancer Prev 2005; 14: 467 Nobre RJ, J Med Virol 2010; 82: 1024
Romania	Anton G, APMIS 2011; 119: 1 Ursu RG, Virol J 2011; 8: 558, Contributing studies: Anton G, APMIS 2011; 119: 1 Ursu RG, Virol J 2011; 8: 558
Russian Federation	Kulmala SM, J Med Virol 2007; 79: 771, Contributing studies: Kulmala SM, J Med Virol 2007; 79: 771
Spain	Conesa-Zamora P, BMC Infect Dis 2009; 9: 124 de M��ndez MT, Acta Cytol 2009; 53: 540 de O��a M, J Med Virol 2010; 82: 597 Dom��nech-Peris A, Gynecol Obstet Invest 2010; 70: 113 Garc��a-Sierra N, J Clin Microbiol 2009; 47: 2165 Herra��ez-Hernandez E, J Virol Methods 2013; 193: 9 Mart��n P, BMC Infect Dis 2011; 11: 316, Contributing studies: Conesa-Zamora P, BMC Infect Dis 2009; 9: 124 de M��ndez MT, Acta Cytol 2009; 53: 540 de O��a M, J Med Virol 2010; 82: 597 Dom��nech-Peris A, Gynecol Obstet Invest 2010; 70: 113 Garc��a-Sierra N, J Clin Microbiol 2009; 47: 2165 Herra��ez-Hernandez E, J Virol Methods 2013; 193: 9 Mart��n P, BMC Infect Dis 2011; 11: 316

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Country	Study
Sweden	Andersson S, Br J Cancer 2005; 92: 2195 Brismar-Wendel S, Br J Cancer 2009; 101: 511 Kalantari M, Hum Pathol 1997; 28: 899 Söderlund-Strand A, Am J Obstet Gynecol 2011; 205: 145.e1 Zehbe I, Virchows Arch 1996; 428: 151, Contributing studies: Andersson S, Br J Cancer 2005; 92: 2195 Brismar-Wendel S, Br J Cancer 2009; 101: 511 Kalantari M, Hum Pathol 1997; 28: 899 Söderlund-Strand A, Am J Obstet Gynecol 2011; 205: 145.e1 Zehbe I, Virchows Arch 1996; 428: 151
Switzerland	Dobec M, J Med Virol 2011; 83: 1370, Contributing studies: Dobec M, J Med Virol 2011; 83: 1370
United Kingdom	Contributing studies: Anderson L, J Med Virol 2013; 85: 295 Arends MJ, Hum Pathol 1993; 24: 432 Cuschieri KS, J Clin Pathol 2004; 57: 68 Cuzick J, Br J Cancer 1994; 69: 167 Cuzick J, Br J Cancer 1999; 81: 554 Giannoudis A, Int J Cancer 1999; 83: 66 Hibbitts S, Br J Cancer 2008; 99: 1929 Howell-Jones R, Br J Cancer 2010; 103: 209 Jamison J, Cytopathology 2009; 20: 242 Sargent A, Br J Cancer 2008; 98: 1704 Southern SA, Hum Pathol 2001; 32: 1351 Woo YL, Int J Cancer 2010; 126: 133, Anderson L, J Med Virol 2013; 85: 295 Arends MJ, Hum Pathol 1993; 24: 432 Cuschieri KS, J Clin Pathol 2004; 57: 68 Cuzick J, Br J Cancer 1994; 69: 167 Cuzick J, Br J Cancer 1999; 81: 554 Giannoudis A, Int J Cancer 1999; 83: 66 Hibbitts S, Br J Cancer 2008; 99: 1929 Howell-Jones R, Br J Cancer 2010; 103: 209 Jamison J, Cytopathology 2009; 20: 242 Sargent A, Br J Cancer 2008; 98: 1704 Southern SA, Hum Pathol 2001; 32: 1351 Woo YL, Int J Cancer 2010; 126: 133
HPV type distribution for invasive anal cancer	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Africa	
Mali	Aleman L, Int J Cancer 2015; 136: 98
Nigeria	Aleman L, Int J Cancer 2015; 136: 98
Senegal	Aleman L, Int J Cancer 2015; 136: 98
Americas	
Canada	Ouhoumane N, Cancer Epidemiol 2013; 37: 807
Chile	Aleman L, Int J Cancer 2015; 136: 98
Colombia	Aleman L, Int J Cancer 2015; 136: 98
Ecuador	Aleman L, Int J Cancer 2015; 136: 98
Guatemala	Aleman L, Int J Cancer 2015; 136: 98
Honduras	Aleman L, Int J Cancer 2015; 136: 98
Mexico	Aleman L, Int J Cancer 2015; 136: 98
Paraguay	Aleman L, Int J Cancer 2015; 136: 98
United States of America	Aleman L, Int J Cancer 2015; 136: 98 Daling JR, Cancer 2004; 101: 270 Palefsky JM, Cancer Res 1991; 51: 1014 Zaki SR, Am J Pathol 1992; 140: 1345
Asia	
Bangladesh	Aleman L, Int J Cancer 2015; 136: 98
India	Aleman L, Int J Cancer 2015; 136: 98
Republic of Korea	Aleman L, Int J Cancer 2015; 136: 98 Yhim HY, Int J Cancer 2011; 129: 1752 Youk EG, Dis Colon Rectum 2001; 44: 236
Europe	
Bosnia and Herzegovina	Aleman L, Int J Cancer 2015; 136: 98
Czechia	Aleman L, Int J Cancer 2015; 136: 98 Tachezy R, PLoS ONE 2011; 6: e21913
Denmark	Serup-Hansen E, J Clin Oncol 2014; 32: 1812
France	Abramowitz L, Int J Cancer 2011; 129: 433 Aleman L, Int J Cancer 2015; 136: 98 Valmary-Degano S, Hum Pathol 2013; 44: 992 Vincent-Salomon A, Mod Pathol 1996; 9: 614
Germany	Aleman L, Int J Cancer 2015; 136: 98 Rödel F, Int J Cancer 2015; 136: 278 Varnai AD, Int J Colorectal Dis 2006; 21: 135
Italy	Indinnimeo M, J Exp Clin Cancer Res 1999; 18: 47
Poland	Aleman L, Int J Cancer 2015; 136: 98
Portugal	Aleman L, Int J Cancer 2015; 136: 98
Slovenia	Aleman L, Int J Cancer 2015; 136: 98
Spain	Aleman L, Int J Cancer 2015; 136: 98
Sweden	Laytragoon-Lewin N, Anticancer Res 2007; 27: 4473
United Kingdom	Aleman L, Int J Cancer 2015; 136: 98 Baricevic I, Eur J Cancer 2015; 51: 776
HPV type distribution for anal intraepithelial neoplasia (AIN)	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Americas	
Canada	Gohy L, J Acquir Immune Defic Syndr 2008; 49: 32 Salit IE, Cancer Epidemiol Biomarkers Prev 2009; 18: 1986, Gohy L, J Acquir Immune Defic Syndr 2008; 49: 32 Salit IE, Cancer Epidemiol Biomarkers Prev 2009; 18: 1986
Chile	Aleman L, Int J Cancer 2015; 136: 98, Aleman L, Int J Cancer 2015; 136: 98
Colombia	Aleman L, Int J Cancer 2015; 136: 98, Aleman L, Int J Cancer 2015; 136: 98
Ecuador	Aleman L, Int J Cancer 2015; 136: 98, Aleman L, Int J Cancer 2015; 136: 98
Guatemala	Aleman L, Int J Cancer 2015; 136: 98, Aleman L, Int J Cancer 2015; 136: 98

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Country	Study
Honduras	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
Mexico	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
Paraguay	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
United States of America	Sahasrabuddhe VV, J Infect Dis 2013; 207: 392, Sahasrabuddhe VV, J Infect Dis 2013; 207: 392
Asia	
Thailand	Phanuphak N, PLoS ONE 2013; 8: e78291, Phanuphak N, PLoS ONE 2013; 8: e78291
Europe	
Bosnia and Herzegovina	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
Czechia	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
France	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
Germany	Alemaný L, Int J Cancer 2015; 136: 98 Hampl M, Obstet Gynecol 2006; 108: 1361 Silling S, J Clin Virol 2012; 53: 325 Varnai AD, Int J Colorectal Dis 2006; 21: 135 Wieland U, Arch Dermatol 2006; 142: 1438, Alemaný L, Int J Cancer 2015; 136: 98 Hampl M, Obstet Gynecol 2006; 108: 1361 Silling S, J Clin Virol 2012; 53: 325 Varnai AD, Int J Colorectal Dis 2006; 21: 135 Wieland U, Arch Dermatol 2006; 142: 1438
Italy	Tanzi E, Vaccine 2009; 27 Suppl 1: A17, Tanzi E, Vaccine 2009; 27 Suppl 1: A17
Netherlands	Richel O, J Infect Dis 2014; 210: 111, Richel O, J Infect Dis 2014; 210: 111
Poland	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
Portugal	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
Slovenia	Alemaný L, Int J Cancer 2015; 136: 98, Alemaný L, Int J Cancer 2015; 136: 98
Spain	Alemaný L, Int J Cancer 2015; 136: 98 García-Espinoza B, Diagn Pathol 2013; 8: 204 Sirera G, AIDS 2013; 27: 951 Torres M, J Clin Microbiol 2013; 51: 3512, Alemaný L, Int J Cancer 2015; 136: 98 García-Espinoza B, Diagn Pathol 2013; 8: 204 Sirera G, AIDS 2013; 27: 951 Torres M, J Clin Microbiol 2013; 51: 3512
United Kingdom	Alemaný L, Int J Cancer 2015; 136: 98 Fox PA, Sex Transm Infect 2005; 81: 142, Alemaný L, Int J Cancer 2015; 136: 98 Fox PA, Sex Transm Infect 2005; 81: 142
HPV type distribution for invasive vulvar cancer	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Africa	
Mali	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Mozambique	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Nigeria	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Senegal	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Americas	
Argentina	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Brazil	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Pinto AP, Gynecol Oncol 1999; 74: 61
Chile	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Colombia	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Ecuador	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Guatemala	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Honduras	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Mexico	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Paraguay	de Sanjosé S, Eur J Cancer 2013; 49: 3450
United States of America	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Gargano JW, J Low Genit Tract Dis 2012; 16: 471 Kim YT, Hum Pathol 1996; 27: 389 Madeleine MM, J Natl Cancer Inst 1997; 89: 1516 Riethdorf S, Hum Pathol 2004; 35: 1477 Sutton BC, Mod Pathol 2008; 21: 345 Tate JE, Gynecol Oncol 1994; 53: 78
Uruguay	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Venezuela	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Asia	
Bangladesh	de Sanjosé S, Eur J Cancer 2013; 49: 3450
India	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Israel	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Japan	Nagano H, J Obstet Gynaecol Res 1996; 22: 1 Osakabe M, Pathol Int 2007; 57: 322
Kuwait	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Lebanon	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Philippines	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Republic of Korea	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Thailand	Ngamkham J, Asian Pac J Cancer Prev 2013; 14: 2355
Turkey	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Europe	
Austria	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Belarus	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Bosnia and Herzegovina	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Czechia	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Tachezy R, PLoS ONE 2011; 6: e21913

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Country	Study
Denmark	Bryndorf T, Cytogenet Genome Res 2004; 106: 43 Hørding U, Gynecol Oncol 1994; 52: 241 Hørding U, Int J Cancer 1993; 55: 394 Madsen BS, Int J Cancer 2008; 122: 2827
Finland	Iwasawa A, Obstet Gynecol 1997; 89: 81
France	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Germany	Choschzick M, Int J Gynecol Pathol 2011; 30: 497 de Sanjosé S, Eur J Cancer 2013; 49: 3450 Hampl M, Obstet Gynecol 2006; 108: 1361 Milde-Langosch K, Int J Cancer 1995; 63: 639 Reuschenbach M, J Low Genit Tract Dis 2013; 17: 289 Riethdorf S, Hum Pathol 2004; 35: 1477
Greece	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Italy	Bonvicini F, J Med Virol 2005; 77: 102 de Sanjosé S, Eur J Cancer 2013; 49: 3450
Netherlands	Kagie MJ, Gynecol Oncol 1997; 67: 178 Trietsch MD, Br J Cancer 2013; 109: 2259 van de Nieuwenhof HP, Cancer Epidemiol Biomarkers Prev 2009; 18: 2061 van der Avoort IA, Int J Gynecol Pathol 2006; 25: 22
Poland	Bujko M, Acta Obstet Gynecol Scand 2012; 91: 391 de Sanjosé S, Eur J Cancer 2013; 49: 3450 Liss J, Ginekol Pol 1998; 69: 330
Portugal	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Spain	Alonso I, Gynecol Oncol 2011; 122: 509 de Sanjosé S, Eur J Cancer 2013; 49: 3450 Guerrero D, Int J Cancer 2011; 128: 2853 Lerma E, Int J Gynecol Pathol 1999; 18: 191
Sweden	Larsson GL, Int J Gynecol Cancer 2012; 22: 1413 Lindell G, Gynecol Oncol 2010; 117: 312
United Kingdom	Abdel-Hady ES, Cancer Res 2001; 61: 192 de Sanjosé S, Eur J Cancer 2013; 49: 3450
Oceania	
Australia	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Tan SE, Sex Health 2013; 10: 18
HPV type distribution for vulvar intraepithelial neoplasia (VIN)	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Americas	
Argentina	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Brazil	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Chile	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Colombia	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Ecuador	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Guatemala	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Honduras	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Mexico	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Paraguay	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
United States of America	Gargano JW, J Low Genit Tract Dis 2012; 16: 471 Madeleine MM, J Natl Cancer Inst 1997; 89: 1516 Riethdorf S, Hum Pathol 2004; 35: 1477 Srodon M, Am J Surg Pathol 2006; 30: 1513, Gargano JW, J Low Genit Tract Dis 2012; 16: 471 Madeleine MM, J Natl Cancer Inst 1997; 89: 1516 Riethdorf S, Hum Pathol 2004; 35: 1477 Srodon M, Am J Surg Pathol 2006; 30: 1513
Uruguay	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Venezuela	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Asia	
Bangladesh	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
India	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Israel	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Kuwait	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Lebanon	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Philippines	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Republic of Korea	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Turkey	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Europe	
Austria	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Belarus	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Bosnia and Herzegovina	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Czechia	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Tachezy R, PLoS ONE 2011; 6: e21913, de Sanjosé S, Eur J Cancer 2013; 49: 3450 Tachezy R, PLoS ONE 2011; 6: e21913
Denmark	Junge J, APMIS 1995; 103: 501, Junge J, APMIS 1995; 103: 501
France	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Germany	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Hampl M, Obstet Gynecol 2006; 108: 1361 Riethdorf S, Hum Pathol 2004; 35: 1477, de Sanjosé S, Eur J Cancer 2013; 49: 3450 Hampl M, Obstet Gynecol 2006; 108: 1361 Riethdorf S, Hum Pathol 2004; 35: 1477
Greece	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Tsimplaki E, J Oncol 2012; 2012: 893275, de Sanjosé S, Eur J Cancer 2013; 49: 3450 Tsimplaki E, J Oncol 2012; 2012: 893275
Italy	Bonvicini F, J Med Virol 2005; 77: 102 de Sanjosé S, Eur J Cancer 2013; 49: 3450, Bonvicini F, J Med Virol 2005; 77: 102 de Sanjosé S, Eur J Cancer 2013; 49: 3450

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Country	Study
Netherlands	van Beurden M, Cancer 1995; 75: 2879 van der Avoort IA, Int J Gynecol Pathol 2006; 25: 22 van Esch EM, Int J Cancer 2014; 135: 830, van Beurden M, Cancer 1995; 75: 2879 van der Avoort IA, Int J Gynecol Pathol 2006; 25: 22 van Esch EM, Int J Cancer 2014; 135: 830
Poland	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Portugal	de Sanjosé S, Eur J Cancer 2013; 49: 3450, de Sanjosé S, Eur J Cancer 2013; 49: 3450
Spain	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Lerma E, Int J Gynecol Pathol 1999; 18: 191, de Sanjosé S, Eur J Cancer 2013; 49: 3450 Lerma E, Int J Gynecol Pathol 1999; 18: 191
United Kingdom	Abdel-Hady ES, Cancer Res 2001; 61: 192 Baldwin PJ, Clin Cancer Res 2003; 9: 5205 Bryant D, J Med Virol 2011; 83: 1358 Daayana S, Br J Cancer 2010; 102: 1129 de Sanjosé S, Eur J Cancer 2013; 49: 3450 Winters U, Clin Cancer Res 2008; 14: 5292, Abdel-Hady ES, Cancer Res 2001; 61: 192 Baldwin PJ, Clin Cancer Res 2003; 9: 5205 Bryant D, J Med Virol 2011; 83: 1358 Daayana S, Br J Cancer 2010; 102: 1129 de Sanjosé S, Eur J Cancer 2013; 49: 3450 Winters U, Clin Cancer Res 2008; 14: 5292
Oceania	
Australia	de Sanjosé S, Eur J Cancer 2013; 49: 3450 Tan SE, Sex Health 2013; 10: 18, de Sanjosé S, Eur J Cancer 2013; 49: 3450 Tan SE, Sex Health 2013; 10: 18
HPV type distribution for invasive vaginal cancer	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Africa	
Mozambique	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Nigeria	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Americas	
Argentina	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Brazil	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Chile	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Colombia	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Ecuador	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Guatemala	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Mexico	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Paraguay	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
United States of America	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Uruguay	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Venezuela	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Asia	
Bangladesh	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
India	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Israel	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Kuwait	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Lebanon	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Philippines	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Republic of Korea	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Turkey	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Europe	
Austria	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Belarus	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Czechia	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Denmark	Madsen BS, Int J Cancer 2008; 122: 2827, Madsen BS, Int J Cancer 2008; 122: 2827
France	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Germany	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Greece	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Poland	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Portugal	Ferreira M, Mod Pathol 2008; 21: 968, Ferreira M, Mod Pathol 2008; 21: 968
Spain	Aleman L, Eur J Cancer 2014; 50: 2846 Fuste V, Histopathology 2010; 57: 907, Aleman L, Eur J Cancer 2014; 50: 2846 Fuste V, Histopathology 2010; 57: 907
Sweden	Larsson GL, Gynecol Oncol 2013; 129: 406, Larsson GL, Gynecol Oncol 2013; 129: 406
United Kingdom	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
HPV type distribution for vaginal intraepithelial neoplasia (VAIN)	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Americas	
Argentina	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Brazil	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846
Chile	Aleman L, Eur J Cancer 2014; 50: 2846, Aleman L, Eur J Cancer 2014; 50: 2846

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Country	Study
Colombia	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Ecuador	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Guatemala	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Mexico	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Paraguay	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
United States of America	Alemaný L, Eur J Cancer 2014; 50: 2846 Daling JR, Gynecol Oncol 2002; 84: 263 Srodon M, Am J Surg Pathol 2006; 30: 1513, Alemaný L, Eur J Cancer 2014; 50: 2846 Daling JR, Gynecol Oncol 2002; 84: 263 Srodon M, Am J Surg Pathol 2006; 30: 1513
Uruguay	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Venezuela	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Asia	
Bangladesh	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
India	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Israel	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Japan	Sugase M, Int J Cancer 1997; 72: 412, Sugase M, Int J Cancer 1997; 72: 412
Kuwait	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Lebanon	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Philippines	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Republic of Korea	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Turkey	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Europe	
Austria	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Belarus	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Czechia	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
France	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Germany	Alemaný L, Eur J Cancer 2014; 50: 2846 Hampl M, Obstet Gynecol 2006; 108: 1361, Alemaný L, Eur J Cancer 2014; 50: 2846 Hampl M, Obstet Gynecol 2006; 108: 1361
Greece	Alemaný L, Eur J Cancer 2014; 50: 2846 Tsimplaki E, J Oncol 2012; 2012: 893275, Alemaný L, Eur J Cancer 2014; 50: 2846 Tsimplaki E, J Oncol 2012; 2012: 893275
Italy	Frega A, Cancer Lett 2007; 249: 235, Frega A, Cancer Lett 2007; 249: 235
Poland	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
Spain	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
United Kingdom	Alemaný L, Eur J Cancer 2014; 50: 2846, Alemaný L, Eur J Cancer 2014; 50: 2846
HPV type distribution for invasive penile cancer	
General sources	The ICO HPV Information Centre has updated data until June 2015. Reference publications (up to 2008): 1) Bouvard V, Lancet Oncol 2009;10:321 2) Miralles-Guri C, J Clin Pathol 2009;62:870
Africa	
South Africa	Lebelo RL, J Med Virol 2014; 86: 257, Lebelo RL, J Med Virol 2014; 86: 257
Uganda	Tornesello ML, Cancer Lett 2008; 269: 159, Tornesello ML, Cancer Lett 2008; 269: 159
Americas	
Argentina	Picconi MA, J Med Virol 2000; 61: 65, Picconi MA, J Med Virol 2000; 61: 65
Brazil	Afonso LA, Mem Inst Oswaldo Cruz 2012; 107: 18 Bezerra AL, Cancer 2001; 91: 2315 Calmon MF, PLoS ONE 2013; 8: e53260 Fonseca AG, Int Braz J Urol 2013; 39: 542 Levi JE, Int J Cancer 1998; 76: 779 Scheiner MA, Int Braz J Urol 2008; 34: 467, Afonso LA, Mem Inst Oswaldo Cruz 2012; 107: 18 Calmon MF, PLoS ONE 2013; 8: e53260 de Sousa ID, BMC Urol 2015; 15: 13 Fonseca AG, Int Braz J Urol 2013; 39: 542 Scheiner MA, Int Braz J Urol 2008; 34: 467
Canada	Maden C, J Natl Cancer Inst 1993; 85: 19, Maden C, J Natl Cancer Inst 1993; 85: 19
Mexico	López-Romero R, Int J Clin Exp Pathol 2013; 6: 1409 Salazar EL, Arch Androl 2005; 51: 327, López-Romero R, Int J Clin Exp Pathol 2013; 6: 1409
Paraguay	Cubilla AL, Am J Surg Pathol 2010; 34: 104 Gregoire L, J Natl Cancer Inst 1995; 87: 1705 Rubin MA, Am J Pathol 2001; 159: 1211, Cubilla AL, Am J Surg Pathol 2010; 34: 104 Rubin MA, Am J Pathol 2001; 159: 1211
United States of America	Alemaný L, Eur Urol 2016; 69: 953 Cupp MR, J Urol 1995; 154: 1024 Daling JR, Int J Cancer 2005; 116: 606 Hernandez BY, Front Oncol 2014; 4: 9 Rubin MA, Am J Pathol 2001; 159: 1211, Cupp MR, J Urol 1995; 154: 1024 Daling JR, Int J Cancer 2005; 116: 606 Gregoire L, J Natl Cancer Inst 1995; 87: 1705 Rubin MA, Am J Pathol 2001; 159: 1211 Sarkar FH, J Urol 1992; 147: 389 Varma VA, Hum Pathol 1991; 22: 908
Asia	
China	Chan KW, J Clin Pathol 1994; 47: 823, Chan KW, J Clin Pathol 1994; 47: 823
Japan	Iwasawa A, J Urol 1993; 149: 59 Suzuki H, Jpn J Clin Oncol 1994; 24: 1 Yanagawa N, Pathol Int 2008; 58: 477, Iwasawa A, J Urol 1993; 149: 59 Suzuki H, Jpn J Clin Oncol 1994; 24: 1 Yanagawa N, Pathol Int 2008; 58: 477
Thailand	Senba M, J Med Virol 2006; 78: 1341, Senba M, J Med Virol 2006; 78: 1341
Viet Nam	Do HT, Br J Cancer 2013; 108: 229, Do HT, Br J Cancer 2013; 108: 229
Europe	
Austria	Aumayr K, Int J Immunopathol Pharmacol 2013; 26: 611 Mannweiler S, J Am Acad Dermatol 2013; 69: 73, Mannweiler S, J Am Acad Dermatol 2013; 69: 73
Belgium	D'Hauwers KW, Vaccine 2012; 30: 6573, D'Hauwers KW, Vaccine 2012; 30: 6573

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Country	Study
Denmark	Krustrup D, Int J Exp Pathol 2009; 90: 182
France	Humbey O, Eur J Cancer 2003; 39: 684 Perceau G, Br J Dermatol 2003; 148: 934, Humbey O, Eur J Cancer 2003; 39: 684
Germany	Perceau G, Br J Dermatol 2003; 148: 934 Poetsch M, Virchows Arch 2011; 458: 221, Poetsch M, Virchows Arch 2011; 458: 221
Italy	Barzon L, Am J Pathol 2014; 184: 3376 Gentile V, Int J Immunopathol Pharmacol 2006; 19: 209 Tornesello ML, Cancer Lett 2008; 269: 159, Gentile V, Int J Immunopathol Pharmacol 2006; 19: 209 Tornesello ML, Cancer Lett 2008; 269: 159
Netherlands	Heideman DA, J Clin Oncol 2007; 25: 4550 Lont AP, Int J Cancer 2006; 119: 1078, Heideman DA, J Clin Oncol 2007; 25: 4550
Spain	Ferrándiz-Pulido C, J Am Acad Dermatol 2013; 68: 73 Guerrero D, BJU Int 2008; 102: 747 Pascual A, Histol Histopathol 2007; 22: 177, Ferrándiz-Pulido C, J Am Acad Dermatol 2013; 68: 73 Guerrero D, BJU Int 2008; 102: 747 Pascual A, Histol Histopathol 2007; 22: 177
Sweden	Kirrandar P, BJU Int 2011; 108: 355
HPV type distribution for penile intraepithelial neoplasia (PEIN)	
General sources	The ICO HPV Information Centre has updated data until June 2014. Reference publication (up to 2008): Bouvard V, Lancet Oncol 2009;10:321
Africa	
South Africa	Boy S, J Oral Pathol Med 2006; 35: 86 Van Rensburg EJ, Anticancer Res 1996; 16: 969
Sudan	Herrero R, J Natl Cancer Inst 2003; 95: 1772
Americas	
Argentina	González JV, Medicina (B Aires) 2007; 67: 363 Ribeiro KB, Int J Epidemiol 2011; 40: 489
Brazil	Oliveira MC, Auris Nasus Larynx 2009; 36: 450 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Rivero ER, Braz Oral Res 2006; 20: 21
Canada	Herrero R, J Natl Cancer Inst 2003; 95: 1772 Lingen MW, Oral Oncol 2013; 49: 1 Noble-Topham SE, Arch Otolaryngol Head Neck Surg 1993; 119: 1299
Cuba	Herrero R, J Natl Cancer Inst 2003; 95: 1772 Ribeiro KB, Int J Epidemiol 2011; 40: 489
Mexico	López-Romero R, Int J Clin Exp Pathol 2013; 6: 1409, Anaya-Saavedra G, Arch Med Res 2008; 39: 189 Ibieta BR, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005; 99: 311, López-Romero R, Int J Clin Exp Pathol 2013; 6: 1409
United States of America	Cupp MR, J Urol 1995; 154: 1024, Cupp MR, J Urol 1995; 154: 1024, Chuang AY, Oral Oncol 2008; 44: 915 Furniss CS, Int J Cancer 2007; 120: 2386 Ha PK, Clin Cancer Res 2002; 8: 1203 Harris SL, Head Neck 2011; 33: 1622 Holladay EB, Am J Clin Pathol 1993; 100: 36 Hooper JE, Appl Immunohistochem Mol Morphol 2015; 23: 266 Liang XH, J Oral Maxillofac Surg 2008; 66: 1875 Lingen MW, Oral Oncol 2013; 49: 1 Lohavanichbutr P, Arch Otolaryngol Head Neck Surg 2009; 135: 180 Paz IB, Cancer 1997; 79: 595 Schlecht NF, Mod Pathol 2011; 24: 1295 Schwartz SM, J Natl Cancer Inst 1998; 90: 1626 Smith EM, Int J Cancer 2004; 108: 766 Walline HM, JAMA Otolaryngol Head Neck Surg 2013; 139: 1320 Zhao M, Int J Cancer 2005; 117: 605
Venezuela	Miller CS, Oral Surg Oral Med Oral Pathol 1994; 77: 480 Premoli-De-Percoco G, J Oral Pathol Med 2001; 30: 355
Asia	
China	Gan LL, Asian Pac J Cancer Prev 2014; 15: 5861 Lee LA, Medicine (Baltimore) 2015; 94: e2069 Tang X, J Oral Pathol Med 2003; 32: 393 Wen S, Anticancer Res 1997; 17: 307 Zhang ZY, Int J Oral Maxillofac Surg 2004; 33: 71
India	Balaram P, Int J Cancer 1995; 61: 450 Bhattacharya N, J Oral Pathol Med 2009; 38: 759 Chaudhary AK, Virol J 2010; 7: 253 D'Costa J, Oral Oncol 1998; 34: 413 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Laprise C, Int J Cancer 2016; 138: 912 Mishra A, Int J Cancer 2006; 119: 2840 Sebastian P, J Oral Pathol Med 2014; 43: 593
Iran	Saghravanian N, Acta Odontol Scand 2011; 69: 406
Japan	Bhawal UK, Arch Otolaryngol Head Neck Surg 2008; 134: 1055 Chiba I, Oncogene 1996; 12: 1663 Deng Z, Head Neck 2013; 35: 800 Higa M, Oral Oncol 2003; 39: 405 Kojima A, Oral Oncol 2002; 38: 591 Shima K, Br J Oral Maxillofac Surg 2000; 38: 445 Shimizu M, J Dermatol Sci 2004; 36: 33 Sugiyama M, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2003; 95: 594 Tang X, J Oral Pathol Med 2003; 32: 393 Tsuchiko K, J Oral Pathol Med 2000; 29: 70
Malaysia	Lim KP, Oncol Rep 2007; 17: 1321
Republic of Korea	Shin KH, Int J Oncol 2002; 21: 297
Europe	
Austria	Mannweiler S, J Am Acad Dermatol 2013; 69: 73, Mannweiler S, J Am Acad Dermatol 2013; 69: 73
Belarus	Gudleviciene Z, J Med Virol 2014; 86: 531
Belgium	D'Hauwers KW, Vaccine 2012; 30: 6573, D'Hauwers KW, Vaccine 2012; 30: 6573, Duray A, Laryngoscope 2012; 122: 1558
Czechia	Ribeiro KB, Int J Epidemiol 2011; 40: 489
Finland	Koskinen WJ, Int J Cancer 2003; 107: 401 Mork J, N Engl J Med 2001; 344: 1125
Germany	Klussmann JP, Cancer 2001; 92: 2875 Kröger M, J Craniomaxillofac Surg 2014; 42: 1506 Ostwald C, Med Microbiol Immunol 2003; 192: 145 Weiss D, Head Neck 2011; 33: 856
Greece	Aggelopoulou EP, Anticancer Res 1999; 19: 1391 Blioumi E, Oral Oncol 2014; 50: 840 Romanitan M, Anticancer Res 2008; 28: 2077
Hungary	Nemes JA, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2006; 102: 344 Szarka K, Oral Microbiol Immunol 2009; 24: 314

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Country	Study
Ireland	Herrero R, J Natl Cancer Inst 2003; 95: 1772
Italy	Badaracco G, Anticancer Res 2000; 20: 1301 Badaracco G, Oncol Rep 2007; 17: 931 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Rittà M, Head Neck 2009; 31: 318 Scapoli L, Mod Pathol 2009; 22: 366
Netherlands	Braakhuis BJ, J Natl Cancer Inst 2004; 96: 998 Cruz IB, Eur J Cancer, B, Oral Oncol 1996; 32B: 55 van Monsjou HS, Int J Cancer 2012; 130: 1806
Norway	Matzow T, Acta Oncol 1998; 37: 73 Mork J, N Engl J Med 2001; 344: 1125
Poland	Herrero R, J Natl Cancer Inst 2003; 95: 1772 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Snietura M, Pol J Pathol 2010; 61: 133
Romania	Ribeiro KB, Int J Epidemiol 2011; 40: 489
Russian Federation	Ribeiro KB, Int J Epidemiol 2011; 40: 489
Serbia	Kozomara R, J Craniomaxillofac Surg 2005; 33: 342
Slovakia	Ribeiro KB, Int J Epidemiol 2011; 40: 489
Slovenia	Kansky AA, Acta Virol 2003; 47: 11
Spain	García-de Marcos JA, Int J Oral Maxillofac Surg 2014; 43: 274 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Llamas-Martínez S, Anticancer Res 2008; 28: 3733
Sweden	Wikström A, J Eur Acad Dermatol Venereol 2012; 26: 325, Kirrander P, BJU Int 2011; 108: 355 Wikström A, J Eur Acad Dermatol Venereol 2012; 26: 325, Dahlgren L, Int J Cancer 2004; 112: 1015 Mork J, N Engl J Med 2001; 344: 1125 Sand L, Anticancer Res 2000; 20: 1183
The anogenital prevalence of HPV-DNA in men: HPV in men	
General sources	Based on published systematic reviews, the ICO HPV Information Centre has updated data until October 2015. Reference publications: 1) Dunne EF, J Infect Dis 2006; 194: 1044 2) Smith JS, J Adolesc Health 2011; 48: 540 3) Olesen TB, Sex Transm Infect 2014; 90: 455 4) Hebnnes JB, J Sex Med 2014; 11: 2630.
Africa	
Kenya	Ng'ayo MO, Sex Transm Infect 2008; 84: 62 Smith JS, Int J Cancer 2010; 126: 572
Rwanda	Veldhuijzen NJ, Sex Transm Dis 2012; 39: 128
South Africa	Auvert B, J Acquir Immune Defic Syndr 2010; 53: 111 Mbulawa ZZ, J Gen Virol 2010; 91: 3023
Tanzania	Olesen TB, Sex Transm Dis 2013; 40: 592
Uganda	Tobian AA, Sex Transm Infect 2013; 89: 122
Americas	
Brazil	Franceschi S, Br J Cancer 2002; 86: 705 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2008; 17: 2036 Nyitray AG, J Infect Dis 2011; 203: 49 Rosenblatt C, Int J Gynaecol Obstet 2004; 84: 156 Vardas E, J Infect Dis 2011; 203: 58
Canada	Vardas E, J Infect Dis 2011; 203: 58
Chile	Guzmán P, Rev Med Chil 2008; 136: 1381
Colombia	Franceschi S, Br J Cancer 2002; 86: 705
Mexico	Giuliano AR, Cancer Epidemiol Biomarkers Prev 2008; 17: 2036 Lazcano-Ponce E, Sex Transm Dis 2001; 28: 277 Nyitray AG, J Infect Dis 2011; 203: 49 Sánchez-Alemán MA, Salud Publica Mex 2002; 44: 442 Vaccarella S, Int J Cancer 2006; 119: 1934 Vardas E, J Infect Dis 2011; 203: 58
United States of America	Giuliano AR, J Infect Dis 2008; 198: 827 Giuliano AR, Cancer Epidemiol Biomarkers Prev 2008; 17: 2036 Hernandez BY, J Infect Dis 2008; 197: 787 Nielson CM, Cancer Epidemiol Biomarkers Prev 2007; 16: 1107 Nyitray AG, J Infect Dis 2011; 203: 49 Partridge JM, J Infect Dis 2007; 196: 1128 Vardas E, J Infect Dis 2011; 203: 58 Weaver BA, J Infect Dis 2004; 189: 677
Asia	
China	Liu F, Sci Rep 2015; 5: 27
India	Gupta A, J Clin Virol 2006; 37: 190
Japan	Takahashi S, Sex Transm Dis 2003; 30: 629
Philippines	Franceschi S, Br J Cancer 2002; 86: 705
Republic of Korea	Shin HR, J Infect Dis 2004; 190: 468
Thailand	Franceschi S, Br J Cancer 2002; 86: 705
Europe	
Croatia	Grce M, Anticancer Res 1996; 16: 1039 Vardas E, J Infect Dis 2011; 203: 58
Denmark	Hebnnes JB, Sex Transm Dis 2015; 42: 463 Kjaer SK, Cancer Epidemiol Biomarkers Prev 2005; 14: 1528
Finland	Hippeläinen M, Sex Transm Dis 1993; 20: 321 Kero K, J Sex Med 2011; 8: 2522
Germany	Grussendorf-Conen EI, Arch Dermatol Res 1987; 279 Suppl: S73 Vardas E, J Infect Dis 2011; 203: 58
Italy	Lorenzon L, J Clin Virol 2014; 60: 264 Nasca MR, Int J Dermatol 2006; 45: 681
Spain	Franceschi S, Br J Cancer 2002; 86: 705 Vardas E, J Infect Dis 2011; 203: 58
Sweden	Forslund O, J Clin Microbiol 1993; 31: 1975 Kataoka A, J Med Virol 1991; 33: 159
The anogenital prevalence of HPV-DNA in men: HPV in special subgroups (HIV, MSM, etc)	
General sources	Based on published systematic reviews, the ICO HPV Information Centre has updated data until October 2015. Reference publications: 1) Dunne EF, J Infect Dis 2006; 194: 1044 2) Smith JS, J Adolesc Health 2011; 48: 540 3) Olesen TB, Sex Transm Infect 2014; 90: 455 4) Hebnnes JB, J Sex Med 2014; 11: 2630.
Africa	

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Country	Study
South Africa	Firnhaber C, Int J STD AIDS 2011; 22: 107 Mbulawa ZZ, J Gen Virol 2010; 91: 3023 Müller EE, Sex Transm Infect 2010; 86: 175 Vogt SL, Front Oncol 2013; 3: 68
Uganda	Tobian AA, Sex Transm Infect 2013; 89: 122
Americas	
Argentina	Pando MA, PLoS One 2012; 7: 127
Brazil	de Lima Rocha MG, PLoS ONE 2012; 7: 128 Franceschi S, Br J Cancer 2002; 86: 705 Freire MP, Int Braz J Urol 2014; 40: 67 Goldstone S, J Infect Dis 2011; 203: 66 Guimarães MD, J Acquir Immune Defic Syndr 2011; 57 Suppl 3: S217 Nicolau SM, Urology 2005; 65: 251 Nyitray AG, J Infect Dis 2011; 203: 49 Rombaldi RL, Braz J Med Biol Res 2006; 39: 177 Rosenblatt C, Int J Gynaecol Obstet 2004; 84: 156
Canada	de Pokomandy A, J Infect Dis 2009; 199: 965 Goldstone S, J Infect Dis 2011; 203: 66 Ogilvie GS, Sex Transm Infect 2009; 85: 221 Salit IE, Cancer Epidemiol Biomarkers Prev 2009; 18: 1986 Salit IE, AIDS 2010; 24: 1307
Colombia	Franceschi S, Br J Cancer 2002; 86: 705
Mexico	Goldstone S, J Infect Dis 2011; 203: 66 Leyva-López AG, Salud Publica Mex 2003; 45 Supp 5: S589 Mendez-Martinez R, BMC Infect Dis 2014; 14: 104 Nyitray AG, J Infect Dis 2011; 203: 49 Torres-Ibarra L, Prev Med 2014; 69C: 157
Peru	Blas MM, PLoS One 2015; 10: 124 Quinn R, AIDS Res Hum Retroviruses 2012; 28: 1734
United States of America	Baken LA, J Infect Dis 1995; 171: 429 Baldwin SB, J Infect Dis 2003; 187: 1064 Berry JM, Dis Colon Rectum 2009; 52: 239 Caussy D, Int J Cancer 1990; 46: 214 Chin-Hong PV, J Infect Dis 2004; 190: 2070 Chin-Hong PV, Ann Intern Med 2008; 149: 300 Colón-López V, PLoS ONE 2014; 9: 132 Conley L, J Infect Dis 2010; 202: 1567 Critchlow CW, AIDS 1998; 12: 1177 Fife KH, Sex Transm Dis 2003; 30: 246 Friedman HB, J Infect Dis 1998; 178: 45 Gandra S, HIV AIDS Auckl 2015; 7: 29 Goldstone S, J Infect Dis 2011; 203: 66 Hood JE, Int J STD AIDS 2016; 27: 353 Kiviat NB, AIDS 1993; 7: 43 Moscicki AB, AIDS 2003; 17: 311 Nyitray AG, J Infect Dis 2011; 203: 49 Palefsky JM, Genitourin Med 1997; 73: 174 Palefsky JM, J Infect Dis 1998; 177: 361 Palefsky JM, AIDS 2005; 19: 1407 Wiley DJ, PLoS ONE 2013; 8: 131 Wilkin TJ, J Infect Dis 2004; 190: 1685
Asia	
China	Gao L, PLoS ONE 2010; 5: 125 Li Z, PLoS One 2015; 10: 122 Tang X, Biomed Environ Sci 2006; 19: 153 Yang Y, PLoS ONE 2012; 7: 126 Zhang DY, PLoS ONE 2014; 9: 134
India	Gupta A, J Clin Virol 2006; 37: 190
Japan	Nagata N, PLoS One 2015; 10: 123 Shigehara K, Int J Urol 2010; 17: 563 Takahashi S, Sex Transm Dis 2003; 30: 629 Takahashi S, J Infect Chemother 2005; 11: 270
Philippines	Franceschi S, Br J Cancer 2002; 86: 705
Thailand	Franceschi S, Br J Cancer 2002; 86: 705 Leaugwutiwong P, Sex Transm Dis 2015; 42: 208 Phanuphak N, J Acquir Immune Defic Syndr 2013; 63: 472 Supindham T, PLoS One 2015; 10: 121
Europe	
Croatia	Goldstone S, J Infect Dis 2011; 203: 66
Denmark	Svare EI, Sex Transm Infect 2002; 78: 215
France	Aynaud O, Urology 2003; 61: 1098 Damay A, J Med Virol 2010; 82: 592 Philibert P, J Clin Med 2014; 3: 1386 Piketty C, Sex Transm Dis 2004; 31: 96
Germany	Goldstone S, J Infect Dis 2011; 203: 66 Schneider A, J Urol 1988; 140: 1431 Wieland U, Int J Med Microbiol 2015; 305: 689
Greece	Hadjivassiliou M, Int J STD AIDS 2007; 18: 329
Ireland	Sadler C, HIV Med 2014; 15: 499
Italy	Barzon L, J Med Virol 2010; 82: 1424 Benevolo M, J Med Virol 2008; 80: 1275 Chiarini F, Minerva Urol Nefrol 1998; 50: 225 Della Torre G, Am J Pathol 1992; 141: 1181 Dona MG, J Infect 2015; 71: 74 Garbuglia A, J Clin Virol 2015; 72: 49 Giovannelli L, J Clin Microbiol 2007; 45: 248 Orlando G, J Acquir Immune Defic Syndr 2008; 47: 129 Pierangeli A, AIDS 2008; 22: 1929 Sammarco ML, J Med Virol 2016; 88: 911
Netherlands	Bleeker MC, J Am Acad Dermatol 2002; 47: 351 Bleeker MC, Int J Cancer 2005; 113: 36 Bleeker MC, Clin Infect Dis 2005; 41: 612 van der Snoek EM, Sex Transm Dis 2003; 30: 639 Van Doornum GJ, Genitourin Med 1994; 70: 240 van Rijn VM, PLoS ONE 2014; 9: 133 Vriend HJ, PLoS ONE 2013; 8: 130 Welling CA, Sex Transm Dis 2015; 42: 297
Russian Federation	Wirtz AL, Euro Surveill 2015; 20: 23
Slovenia	Golob B, Biomed Res Int 2014; 2014: 117 Milosevic M, Cent Eur J Med 2010; 5: 698
Spain	Álvarez-Argüelles ME, PLoS ONE 2013; 8: 129 Franceschi S, Br J Cancer 2002; 86: 705 Goldstone S, J Infect Dis 2011; 203: 66 Hidalgo-Tenorio C, PLoS One 2015; 10: 120 Sendagorta E, Dis Colon Rectum 2014; 57: 475 Sendagorta E, J Med Virol 2015; 87: 1397 Torres M, J Clin Microbiol 2013; 51: 3512 Videla S, Sex Transm Dis 2013; 40: 03
Sweden	Kataoka A, J Med Virol 1991; 33: 159 Löwhagen GB, Int J STD AIDS 1999; 10: 615 Strand A, Genitourin Med 1993; 69: 446 Voog E, Int J STD AIDS 1997; 8: 772 Wikström A, Int J STD AIDS 1991; 2: 105 Wikström A, Int J STD AIDS 2000; 11: 80
United Kingdom	Bissett SL, J Med Virol 2011; 83: 1744 Cuschieri K, J Med Virol 2011; 83: 1983 Hillman RJ, Genitourin Med 1993; 69: 187 Jalal H, Int J STD AIDS 2007; 18: 617 King EM, Br J Cancer 2015; 112: 1585 Lacey HB, Sex Transm Infect 1999; 75: 172
HPV prevalence and type distribution in oral specimens collected from healthy population	

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Country	Study
General sources	Systematic review and meta-analysis was performed by ICO HPV Information Centre until July 2012. Pubmed was searched using the keywords oral and papillomavirus. Inclusion criteria: studies reporting oral HPV prevalence in healthy population in Europe; n > 50. Exclusion criteria: focused only in children or immunosuppressed population; not written in English; case-control studies; commentaries and systematic reviews and studies that did not use HPV DNA detection methods.
Africa	
South Africa	Davidson CL, S Afr Med J 2014;104(5):358-61 Marais DJ, BMC Infect Dis 2006;6:95
Sudan	Herrero R, J Natl Cancer Inst 2003;95(23):1772-83
Americas	
Argentina	Ribeiro KB, Int J Epidemiol 2011;40(2):489-502
Brazil	Araujo MV, Cad Saude Publica 2014;30(5):1115-9 Cavenaghi VB, Braz J Otorhinolaryngol 2013;79(5):599-602 do Sacramento PR, J Med Virol 2006;78(5):614-8 Esquenazi D, Braz J Otorhinolaryngol 2010;76(1):78-84 Kreimer AR, Cancer Epidemiol Biomarkers Prev 2011;20(1):172-82 Machado AP, Braz J Infect Dis 2014;18(3):266-70 Ribeiro KB, Int J Epidemiol 2011;40(2):489-502
Canada	Dahlstrom KR, Cancer Epidemiol Biomarkers Prev 2014;23(12):2959-64 Pintos J, Oral Oncol 2008;44(3):242-50
Costa Rica	Lang Kuhs KA, J Infect Dis 2013;208(10):1643-52
Cuba	Ribeiro KB, Int J Epidemiol 2011;40(2):489-502
Mexico	Anaya-Saavedra G, Arch Med Res 2008;39(2):189-97 Gonzalez-Ramirez I, Oral Dis 2013;19(8):796-804 Kreimer AR, Cancer Epidemiol Biomarkers Prev 2011;20(1):172-82
Trinidad and Tobago	Ragin CC, Biomarkers 2007;12(5):510-22
United States of America	Cook RL, Sex Transm Dis 2014;41(8):486-92 Chaturvedi AK, Cancer Res 2015;75(12):2468-77 D'Souza G, J Infect Dis 2009;199(9):1263-9 D'Souza G, J Infect Dis 2009;199(9):1263-9 Edelstein ZR, Sex Transm Dis 2012;39(11):860-7 Kreimer AR, Cancer Epidemiol Biomarkers Prev 2011;20(1):172-82 Pickard RK, Sex Transm Dis 2012;39(7):559-66 Ragin C, Int J Mol Sci 2011;12(6):3928-40 Sauter SL, Cancer Epidemiol Biomarkers Prev 2015;24(5):864-72 Schwartz SM, J Natl Cancer Inst 1998;90(21):1626-36 Smith EM, J Natl Cancer Inst 2004;96(6):449-55 Smith EM, Pediatr Infect Dis J 2007;26(9):836-40 Smith EM, Sex Transm Dis 2004;31(1):57-62 Summersgill KF, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2001;91(1):62-9 Winer RL, Am J Epidemiol 2003;157(3):218-26
Asia	
China	Hang D, Cancer Epidemiol Biomarkers Prev 2014;23(10):2101-10
India	Herrero R, J Natl Cancer Inst 2003;95(23):1772-83 Koppikar P, Int J Cancer 2005;113(6):946-50
Iran	Seifi S, Iran J Public Health 2013;42(1):79-85
Japan	Kurose K, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2004;98(1):91-6
Malaysia	Saini R, J Investig Clin Dent 2011;2(4):241-7
Europe	
Denmark	Eike A, Clin Otolaryngol 1995;20:171, Eike A, Clin Otolaryngol Allied Sci 1995;20(2):171-3
Finland	Kero K, Eur Urol 2012;62(6):1063-70 Leimola-Virtanen R, Clin Infect Dis 1996;22(3):593-4, Kero K, J Sex Med 2011;8:2522, Kero K, Eur Urol 2012;62(6):1063-70
Germany	Meyer MF, Oral Oncol 2014;50(1):27-31
Greece	Lambropoulos AF, Eur J Oral Sci 1997;105(4):294-7, Lambropoulos AF, Eur J Oral Sci 1997;105:294
Hungary	Szarka K, Oral Microbiol Immunol 2009;24(4):314-8 Tatar TZ, J Oral Pathol Med 2015;44(9):722-7
Italy	Migaldi M, J Oral Pathol Med 2012;41:16, Montaldo C, J Oral Pathol Med 2007;36:482, Migaldi M, J Oral Pathol Med 2012;41(1):16-20 Montaldo C, J Oral Pathol Med 2007;36(8):482-7 Morbini P, Oral Surg Oral Med Oral Pathol Oral Radiol 2013;116(4):474-84
Spain	Herrero R, J Natl Cancer Inst 2003;95(23):1772-83, Cañadas MP, J Clin Microbiol 2004;42:1330
Sweden	Hansson BG, Acta Otolaryngol 2005;125(12):1337-44 Nordfors C, Scand J Infect Dis 2013;45(11):878-81
United Kingdom	Kujan O, Oral Oncol 2006;42:810
HPV prevalence and type distribution in invasive oral cavity squamous cell carcinoma	
General sources	Based on systematic reviews and meta-analysis performed by ICO. Reference publications: 1) Ndiaye C, Lancet Oncol 2014; 15: 1319 2) Kreimer AR, Cancer Epidemiol Biomarkers Prev 2005; 14: 467
Africa	
South Africa	Boy S, J Oral Pathol Med 2006; 35: 86 Van Rensburg EJ, Anticancer Res 1996; 16: 969, Boy S, J Oral Pathol Med 2006; 35: 86 Van Rensburg EJ, Anticancer Res 1996; 16: 969
Sudan	Herrero R, J Natl Cancer Inst 2003; 95: 1772, Herrero R, J Natl Cancer Inst 2003; 95: 1772
Americas	
Argentina	González JV, Medicina (B Aires) 2007; 67: 363 Ribeiro KB, Int J Epidemiol 2011; 40: 489, González JV, Medicina (B Aires) 2007; 67: 363 Ribeiro KB, Int J Epidemiol 2011; 40: 489
Brazil	Oliveira MC, Auris Nasus Larynx 2009; 36: 450 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Rivero ER, Braz Oral Res 2006; 20: 21, Oliveira MC, Auris Nasus Larynx 2009; 36: 450 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Rivero ER, Braz Oral Res 2006; 20: 21
Canada	Herrero R, J Natl Cancer Inst 2003; 95: 1772 Lingen MW, Oral Oncol 2013; 49: 1 Noble-Topham SE, Arch Otolaryngol Head Neck Surg 1993; 119: 1299, Herrero R, J Natl Cancer Inst 2003; 95: 1772 Lingen MW, Oral Oncol 2013; 49: 1 Noble-Topham SE, Arch Otolaryngol Head Neck Surg 1993; 119: 1299
Cuba	Herrero R, J Natl Cancer Inst 2003; 95: 1772 Ribeiro KB, Int J Epidemiol 2011; 40: 489, Herrero R, J Natl Cancer Inst 2003; 95: 1772 Ribeiro KB, Int J Epidemiol 2011; 40: 489

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Country	Study
Mexico	Anaya-Saavedra G, Arch Med Res 2008; 39: 189 Ibieta BR, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005; 99: 311, Anaya-Saavedra G, Arch Med Res 2008; 39: 189 Ibieta BR, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005; 99: 311
United States of America	Chuang AY, Oral Oncol 2008; 44: 915 Furniss CS, Int J Cancer 2007; 120: 2386 Ha PK, Clin Cancer Res 2002; 8: 1203 Harris SL, Head Neck 2011; 33: 1622 Holladay EB, Am J Clin Pathol 1993; 100: 36 Hooper JE, Appl Immunohistochem Mol Morphol 2015; 23: 266 Liang XH, J Oral Maxillofac Surg 2008; 66: 1875 Lingen MW, Oral Oncol 2013; 49: 1 Lohavanichbutr P, Arch Otolaryngol Head Neck Surg 2009; 135: 180 Paz IB, Cancer 1997; 79: 595 Schlecht NF, Mod Pathol 2011; 24: 1295 Schwartz SM, J Natl Cancer Inst 1998; 90: 1626 Smith EM, Int J Cancer 2004; 108: 766 Walline HM, JAMA Otolaryngol Head Neck Surg 2013; 139: 1320 Zhao M, Int J Cancer 2005; 117: 605, Chuang AY, Oral Oncol 2008; 44: 915 Furniss CS, Int J Cancer 2007; 120: 2386 Ha PK, Clin Cancer Res 2002; 8: 1203 Harris SL, Head Neck 2011; 33: 1622 Holladay EB, Am J Clin Pathol 1993; 100: 36 Hooper JE, Appl Immunohistochem Mol Morphol 2015; 23: 266 Liang XH, J Oral Maxillofac Surg 2008; 66: 1875 Lingen MW, Oral Oncol 2013; 49: 1 Lohavanichbutr P, Arch Otolaryngol Head Neck Surg 2009; 135: 180 Paz IB, Cancer 1997; 79: 595 Schlecht NF, Mod Pathol 2011; 24: 1295 Schwartz SM, J Natl Cancer Inst 1998; 90: 1626 Smith EM, Int J Cancer 2004; 108: 766 Walline HM, JAMA Otolaryngol Head Neck Surg 2013; 139: 1320 Zhao M, Int J Cancer 2005; 117: 605
Venezuela	Miller CS, Oral Surg Oral Med Oral Pathol 1994; 77: 480 Premoli-De-Percoco G, J Oral Pathol Med 2001; 30: 355, Miller CS, Oral Surg Oral Med Oral Pathol 1994; 77: 480 Premoli-De-Percoco G, J Oral Pathol Med 2001; 30: 355
Asia	
China	Gan LL, Asian Pac J Cancer Prev 2014; 15: 5861 Lee LA, Medicine (Baltimore) 2015; 94: e2069 Tang X, J Oral Pathol Med 2003; 32: 393 Wen S, Anticancer Res 1997; 17: 307 Zhang ZY, Int J Oral Maxillofac Surg 2004; 33: 71, Gan LL, Asian Pac J Cancer Prev 2014; 15: 5861 Lee LA, Medicine (Baltimore) 2015; 94: e2069 Tang X, J Oral Pathol Med 2003; 32: 393 Wen S, Anticancer Res 1997; 17: 307 Zhang ZY, Int J Oral Maxillofac Surg 2004; 33: 71
India	Balaram P, Int J Cancer 1995; 61: 450 Bhattacharya N, J Oral Pathol Med 2009; 38: 759 Chaudhary AK, Virol J 2010; 7: 253 D'Costa J, Oral Oncol 1998; 34: 413 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Laprise C, Int J Cancer 2016; 138: 912 Mishra A, Int J Cancer 2006; 119: 2840 Sebastian P, J Oral Pathol Med 2014; 43: 593, Balaram P, Int J Cancer 1995; 61: 450 Bhattacharya N, J Oral Pathol Med 2009; 38: 759 Chaudhary AK, Virol J 2010; 7: 253 D'Costa J, Oral Oncol 1998; 34: 413 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Laprise C, Int J Cancer 2016; 138: 912 Mishra A, Int J Cancer 2006; 119: 2840 Sebastian P, J Oral Pathol Med 2014; 43: 593
Iran	Saghravanian N, Acta Odontol Scand 2011; 69: 406, Saghravanian N, Acta Odontol Scand 2011; 69: 406
Japan	Bhawal UK, Arch Otolaryngol Head Neck Surg 2008; 134: 1055 Chiba I, Oncogene 1996; 12: 1663 Deng Z, Head Neck 2013; 35: 800 Higa M, Oral Oncol 2003; 39: 405 Kojima A, Oral Oncol 2002; 38: 591 Shima K, Br J Oral Maxillofac Surg 2000; 38: 445 Shimizu M, J Dermatol Sci 2004; 36: 33 Sugiyama M, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2003; 95: 594 Tang X, J Oral Pathol Med 2003; 32: 393 Tshako K, J Oral Pathol Med 2000; 29: 70, Bhawal UK, Arch Otolaryngol Head Neck Surg 2008; 134: 1055 Chiba I, Oncogene 1996; 12: 1663 Deng Z, Head Neck 2013; 35: 800 Higa M, Oral Oncol 2003; 39: 405 Kojima A, Oral Oncol 2002; 38: 591 Shima K, Br J Oral Maxillofac Surg 2000; 38: 445 Shimizu M, J Dermatol Sci 2004; 36: 33 Sugiyama M, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2003; 95: 594 Tang X, J Oral Pathol Med 2003; 32: 393 Tshako K, J Oral Pathol Med 2000; 29: 70
Malaysia	Lim KP, Oncol Rep 2007; 17: 1321, Lim KP, Oncol Rep 2007; 17: 1321
Republic of Korea	Shin KH, Int J Oncol 2002; 21: 297, Shin KH, Int J Oncol 2002; 21: 297
Europe	
Belarus	Gudleviciene Z, J Med Virol 2014; 86: 531, Gudleviciene Z, J Med Virol 2014; 86: 531
Belgium	Duray A, Laryngoscope 2012; 122: 1558, Duray A, Laryngoscope 2012; 122: 1558
Czechia	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Finland	Koskinen WJ, Int J Cancer 2003; 107: 401 Mork J, N Engl J Med 2001; 344: 1125, Koskinen WJ, Int J Cancer 2003; 107: 401 Mork J, N Engl J Med 2001; 344: 1125
Germany	Klussmann JP, Cancer 2001; 92: 2875 Krüger M, J Craniomaxillofac Surg 2014; 42: 1506 Ostwald C, Med Microbiol Immunol 2003; 192: 145 Weiss D, Head Neck 2011; 33: 856, Klussmann JP, Cancer 2001; 92: 2875 Krüger M, J Craniomaxillofac Surg 2014; 42: 1506 Ostwald C, Med Microbiol Immunol 2003; 192: 145 Weiss D, Head Neck 2011; 33: 856
Greece	Aggelopoulou EP, Anticancer Res 1999; 19: 1391 Blioumi E, Oral Oncol 2014; 50: 840 Romanitan M, Anticancer Res 2008; 28: 2077, Aggelopoulou EP, Anticancer Res 1999; 19: 1391 Blioumi E, Oral Oncol 2014; 50: 840 Romanitan M, Anticancer Res 2008; 28: 2077
Hungary	Nemes JA, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2006; 102: 344 Szarka K, Oral Microbiol Immunol 2009; 24: 314, Nemes JA, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2006; 102: 344 Szarka K, Oral Microbiol Immunol 2009; 24: 314
Ireland	Herrero R, J Natl Cancer Inst 2003; 95: 1772, Herrero R, J Natl Cancer Inst 2003; 95: 1772
Italy	Badaracco G, Anticancer Res 2000; 20: 1301 Badaracco G, Oncol Rep 2007; 17: 931 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Rittà M, Head Neck 2009; 31: 318 Scapoli L, Mod Pathol 2009; 22: 366, Badaracco G, Anticancer Res 2000; 20: 1301 Badaracco G, Oncol Rep 2007; 17: 931 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Rittà M, Head Neck 2009; 31: 318 Scapoli L, Mod Pathol 2009; 22: 366

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Country	Study
Netherlands	Braakhuis BJ, J Natl Cancer Inst 2004; 96: 998 Cruz IB, Eur J Cancer, B, Oral Oncol 1996; 32B: 55 van Monsjou HS, Int J Cancer 2012; 130: 1806, Braakhuis BJ, J Natl Cancer Inst 2004; 96: 998 Cruz IB, Eur J Cancer, B, Oral Oncol 1996; 32B: 55 van Monsjou HS, Int J Cancer 2012; 130: 1806
Norway	Matzow T, Acta Oncol 1998; 37: 73 Mork J, N Engl J Med 2001; 344: 1125, Matzow T, Acta Oncol 1998; 37: 73 Mork J, N Engl J Med 2001; 344: 1125
Poland	Herrero R, J Natl Cancer Inst 2003; 95: 1772 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Snietura M, Pol J Pathol 2010; 61: 133, Herrero R, J Natl Cancer Inst 2003; 95: 1772 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Snietura M, Pol J Pathol 2010; 61: 133
Romania	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Russian Federation	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Serbia	Kozomara R, J Craniomaxillofac Surg 2005; 33: 342, Kozomara R, J Craniomaxillofac Surg 2005; 33: 342
Slovakia	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Slovenia	Kansky AA, Acta Virol 2003; 47: 11, Kansky AA, Acta Virol 2003; 47: 11
Spain	García-de Marcos JA, Int J Oral Maxillofac Surg 2014; 43: 274 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Llamas-Martínez S, Anticancer Res 2008; 28: 3733, García-de Marcos JA, Int J Oral Maxillofac Surg 2014; 43: 274 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Llamas-Martínez S, Anticancer Res 2008; 28: 3733
Sweden	Dahlgren L, Int J Cancer 2004; 112: 1015 Mork J, N Engl J Med 2001; 344: 1125 Sand L, Anticancer Res 2000; 20: 1183, Dahlgren L, Int J Cancer 2004; 112: 1015 Mork J, N Engl J Med 2001; 344: 1125 Sand L, Anticancer Res 2000; 20: 1183
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Africa	
South Africa	Paquette C, Head Neck Pathol 2013; 7: 361
Americas	
Argentina	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Brazil	Cortezzi SS, Cancer Genet Cytogenet 2004; 150: 44 Ribeiro KB, Int J Epidemiol 2011; 40: 489, Cortezzi SS, Cancer Genet Cytogenet 2004; 150: 44 Ribeiro KB, Int J Epidemiol 2011; 40: 489
Canada	Nichols AC, J Otolaryngol Head Neck Surg 2013; 42: 9
Cuba	Herrero R, J Natl Cancer Inst 2003; 95: 1772 Ribeiro KB, Int J Epidemiol 2011; 40: 489, Herrero R, J Natl Cancer Inst 2003; 95: 1772 Ribeiro KB, Int J Epidemiol 2011; 40: 489
United States of America	Agoston ES, Am J Clin Pathol 2010; 134: 36 Chaturvedi AK, J Clin Oncol 2011; 29: 4294 Cohen MA, Acta Otolaryngol 2008; 128: 583 D'Souza G, N Engl J Med 2007; 356: 1944 Ernster JA, Laryngoscope 2007; 117: 2115 Furniss CS, Int J Cancer 2007; 120: 2386 Kingma DW, Anticancer Res 2010; 30: 5099 Kong CS, Int J Radiat Oncol Biol Phys 2009; 74: 553 Lohavanichbutr P, Arch Otolaryngol Head Neck Surg 2009; 135: 180 Posner MR, Ann Oncol 2011; 22: 1071 Schlecht NF, Mod Pathol 2011; 24: 1295 Schwartz SM, J Natl Cancer Inst 1998; 90: 1626 Smith EM, Int J Cancer 2004; 108: 766 Strome SE, Clin Cancer Res 2002; 8: 1093 Tezal M, Arch Otolaryngol Head Neck Surg 2009; 135: 391 Zhao M, Int J Cancer 2005; 117: 605, Agoston ES, Am J Clin Pathol 2010; 134: 36 Chaturvedi AK, J Clin Oncol 2011; 29: 4294 Cohen MA, Acta Otolaryngol 2008; 128: 583 D'Souza G, J Clin Oncol 2014; 32: 2408 D'Souza G, N Engl J Med 2007; 356: 1944 Ernster JA, Laryngoscope 2007; 117: 2115 Furniss CS, Int J Cancer 2007; 120: 2386 Hooper JE, Appl Immunohistochem Mol Morphol 2015; 23: 266 Isayeva T, Hum Pathol 2014; 45: 310 Jordan RC, Am J Surg Pathol 2012; 36: 945 Kerr DA, Am J Surg Pathol 2015; 39: 1643 Kingma DW, Anticancer Res 2010; 30: 5099 Kong CS, Int J Radiat Oncol Biol Phys 2009; 74: 553 Lohavanichbutr P, Arch Otolaryngol Head Neck Surg 2009; 135: 180 Posner MR, Ann Oncol 2011; 22: 1071 Schlecht NF, Mod Pathol 2011; 24: 1295 Schwartz SM, J Natl Cancer Inst 1998; 90: 1626 Sethi S, Int J Cancer 2012; 131: 1179 Smith EM, Int J Cancer 2004; 108: 766 Steinau M, Emerging Infect Dis 2014; 20: 822 Strome SE, Clin Cancer Res 2002; 8: 1093 Tezal M, Arch Otolaryngol Head Neck Surg 2009; 135: 391 Walline HM, JAMA Otolaryngol Head Neck Surg 2013; 139: 1320 Zhao M, Int J Cancer 2005; 117: 605
Asia	
China	Li W, Pathology 2007; 39: 217, Li W, Pathology 2007; 39: 217
India	Bahl A, Head Neck 2014; 36: 505
Japan	Deng Z, Head Neck 2013; 35: 800 Hama T, Oncology 2014; 87: 173 Hatakeyama H, Oncol Rep 2014; 32: 2673
Republic of Korea	Kim SH, Int J Cancer 2007; 120: 1418 Oh TJ, J Clin Microbiol 2004; 42: 3272, Kim SH, Int J Cancer 2007; 120: 1418 Oh TJ, J Clin Microbiol 2004; 42: 3272
Turkey	Tural D, Asian Pac J Cancer Prev 2013; 14: 6065
Europe	
Czechia	Klozar J, Eur Arch Otorhinolaryngol 2008; 265 Suppl 1: S75 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Rotnáglová E, Int J Cancer 2011; 129: 101, Klozar J, Eur Arch Otorhinolaryngol 2008; 265 Suppl 1: S75 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Rotnáglová E, Int J Cancer 2011; 129: 101
Finland	Jouhi L, Tumour Biol 2015; 36: 7755
France	Charfi L, Cancer Lett 2008; 260: 72 Fouret P, Arch Otolaryngol Head Neck Surg 1997; 123: 513, Charfi L, Cancer Lett 2008; 260: 72 Fonmarty D, Eur Ann Otorhinolaryngol Head Neck Dis 2015; 132: 135 Fouret P, Arch Otolaryngol Head Neck Surg 1997; 123: 513

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Greece	Romanitan M, Anticancer Res 2008; 28: 2077, Romanitan M, Anticancer Res 2008; 28: 2077
Italy	Boscolo-Rizzo P, J Cancer Res Clin Oncol 2009; 135: 559 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Licitra L, J Clin Oncol 2006; 24: 5630 Rittà M, Head Neck 2009; 31: 318, Boscolo-Rizzo P, J Cancer Res Clin Oncol 2009; 135: 559 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Licitra L, J Clin Oncol 2006; 24: 5630 Rittà M, Head Neck 2009; 31: 318
Netherlands	Braakhuis BJ, J Natl Cancer Inst 2004; 96: 998, Braakhuis BJ, J Natl Cancer Inst 2004; 96: 998 Henneman R, Anticancer Res 2015; 35: 4015 van Monsjou HS, Int J Cancer 2012; 130: 1806
Norway	Hannisdal K, Acta Otolaryngol 2010; 130: 293, Hannisdal K, Acta Otolaryngol 2010; 130: 293
Poland	Ribeiro KB, Int J Epidemiol 2011; 40: 489 Snietura M, Pol J Pathol 2010; 61: 133 Szkaradkiewicz A, Clin Exp Med 2002; 2: 137, Ribeiro KB, Int J Epidemiol 2011; 40: 489 Snietura M, Pol J Pathol 2010; 61: 133 Szkaradkiewicz A, Clin Exp Med 2002; 2: 137
Romania	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Russian Federation	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Slovakia	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Spain	Herrero R, J Natl Cancer Inst 2003; 95: 1772, Herrero R, J Natl Cancer Inst 2003; 95: 1772
Sweden	Attner P, Int J Cancer 2010; 126: 2879 Dahlgren L, Int J Cancer 2004; 112: 1015 Hammarstedt L, Int J Cancer 2006; 119: 2620 Lindquist D, Anticancer Res 2012; 32: 153 Näsman A, Int J Cancer 2009; 125: 362, Attner P, Int J Cancer 2010; 126: 2879 Dahlgren L, Int J Cancer 2004; 112: 1015 Hammarstedt L, Int J Cancer 2006; 119: 2620 Lindquist D, Anticancer Res 2012; 32: 153 Näsman A, Int J Cancer 2009; 125: 362
Switzerland	Lindel K, Cancer 2001; 92: 805, Lindel K, Cancer 2001; 92: 805
United Kingdom	Anderson CE, J Clin Pathol 2007; 60: 439 Schache AG, Clin Cancer Res 2011; 17: 6262 Thavaraj S, J Clin Pathol 2011; 64: 308, Anderson CE, J Clin Pathol 2007; 60: 439 Conway C, J Mol Diagn 2012; 14: 104 Evans M, BMC Cancer 2013; 13: 220 Schache AG, Clin Cancer Res 2011; 17: 6262 Thavaraj S, J Clin Pathol 2011; 64: 308 Wells LA, J Clin Pathol 2015; 68: 849
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Americas	
Argentina	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Brazil	Miranda FA, J Histochem Cytochem 2009; 57: 665 Ribeiro KB, Int J Epidemiol 2011; 40: 489, Miranda FA, J Histochem Cytochem 2009; 57: 665 Ribeiro KB, Int J Epidemiol 2011; 40: 489
Canada	Fliiss DM, Laryngoscope 1994; 104: 146, Fliiss DM, Laryngoscope 1994; 104: 146
Chile	Gheit T, J Med Virol 2014; 86: 642 Torrente MC, Acta Otolaryngol 2005; 125: 888, Gheit T, J Med Virol 2014; 86: 642 Torrente MC, Acta Otolaryngol 2005; 125: 888
Cuba	García-Milián R, Acta Otolaryngol 1998; 118: 754 Ribeiro KB, Int J Epidemiol 2011; 40: 489, García-Milián R, Acta Otolaryngol 1998; 118: 754 Ribeiro KB, Int J Epidemiol 2011; 40: 489
United States of America	Brandwein MS, Ann Otol Rhinol Laryngol 1993; 102: 309 Chernock RD, Mod Pathol 2013; 26: 223 Furniss CS, Int J Cancer 2007; 120: 2386 Paz IB, Cancer 1997; 79: 595 Schlecht NF, Mod Pathol 2011; 24: 1295 Shen J, Mod Pathol 1996; 9: 15 Zhao M, Int J Cancer 2005; 117: 605, Brandwein MS, Ann Otol Rhinol Laryngol 1993; 102: 309 Chernock RD, Mod Pathol 2013; 26: 223 Furniss CS, Int J Cancer 2007; 120: 2386 Paz IB, Cancer 1997; 79: 595 Schlecht NF, Mod Pathol 2011; 24: 1295 Shen J, Mod Pathol 1996; 9: 15 Zhao M, Int J Cancer 2005; 117: 605
Asia	
China	Liu B, Neoplasma 2010; 57: 594 Ma XL, J Med Virol 1998; 54: 186, Liu B, Neoplasma 2010; 57: 594 Ma XL, J Med Virol 1998; 54: 186
India	Jacob SE, J Surg Oncol 2002; 79: 142, Jacob SE, J Surg Oncol 2002; 79: 142
Japan	Anwar K, Int J Cancer 1993; 53: 22 Deng Z, Head Neck 2013; 35: 800 Mineta H, Anticancer Res 1998; 18: 4765 Ogura H, Jpn J Cancer Res 1991; 82: 1184 Shidara K, Laryngoscope 1994; 104: 1008, Anwar K, Int J Cancer 1993; 53: 22 Deng Z, Head Neck 2013; 35: 800 Mineta H, Anticancer Res 1998; 18: 4765 Ogura H, Jpn J Cancer Res 1991; 82: 1184 Shidara K, Laryngoscope 1994; 104: 1008
Turkey	Bozdayi G, J Otolaryngol Head Neck Surg 2009; 38: 119 Dönmez M, Kuwait Med J 2000 Gungor A, J Laryngol Otol 2007; 121: 772, Bozdayi G, J Otolaryngol Head Neck Surg 2009; 38: 119 Dönmez M, Kuwait Med J 2000 Gungor A, J Laryngol Otol 2007; 121: 772
Europe	
Belarus	Gudleviciene Z, J Med Virol 2014; 86: 531, Gudleviciene Z, J Med Virol 2014; 86: 531
Belgium	Duray A, Int J Oncol 2011; 39: 51, Duray A, Int J Oncol 2011; 39: 51
Czechia	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Denmark	Lindeberg H, Cancer Lett 1999; 146: 9, Lindeberg H, Cancer Lett 1999; 146: 9
Finland	Koskinen WJ, Int J Cancer 2003; 107: 401 Koskinen WJ, J Cancer Res Clin Oncol 2007; 133: 673 Mork J, N Engl J Med 2001; 344: 1125, Koskinen WJ, Int J Cancer 2003; 107: 401 Koskinen WJ, J Cancer Res Clin Oncol 2007; 133: 673 Mork J, N Engl J Med 2001; 344: 1125

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Country	Study
France	Fouret P, Arch Otolaryngol Head Neck Surg 1997; 123: 513, Fouret P, Arch Otolaryngol Head Neck Surg 1997; 123: 513
Germany	Fischer M, Acta Otolaryngol 2003; 123: 752 Hoffmann M, Acta Otolaryngol 1998; 118: 138 Hoffmann M, Anticancer Res 2006; 26: 663 Hoffmann M, Oncol Rep 2009; 21: 809 Kleist B, J Oral Pathol Med 2000; 29: 432 Klussmann JP, Cancer 2001; 92: 2875 Krupar R, Eur Arch Otorhinolaryngol 2014; 271: 1737, Fischer M, Acta Otolaryngol 2003; 123: 752 Hoffmann M, Acta Otolaryngol 1998; 118: 138 Hoffmann M, Anticancer Res 2006; 26: 663 Hoffmann M, Oncol Rep 2009; 21: 809 Kleist B, J Oral Pathol Med 2000; 29: 432 Klussmann JP, Cancer 2001; 92: 2875 Krupar R, Eur Arch Otorhinolaryngol 2014; 271: 1737
Greece	Gorgoulis VG, Hum Pathol 1999; 30: 274 Vlachtsis K, Eur Arch Otorhinolaryngol 2005; 262: 890, Gorgoulis VG, Hum Pathol 1999; 30: 274 Vlachtsis K, Eur Arch Otorhinolaryngol 2005; 262: 890
Hungary	Major T, J Clin Pathol 2005; 58: 51, Major T, J Clin Pathol 2005; 58: 51
Italy	Azzimonti B, Histopathology 2004; 45: 560 Badaracco G, Anticancer Res 2000; 20: 1301 Badaracco G, Oncol Rep 2007; 17: 931 Boscolo-Rizzo P, J Cancer Res Clin Oncol 2009; 135: 559 Cattani P, Clin Cancer Res 1998; 4: 2585 Gallo A, Otolaryngol Head Neck Surg 2009; 141: 276, Azzimonti B, Histopathology 2004; 45: 560 Badaracco G, Anticancer Res 2000; 20: 1301 Badaracco G, Oncol Rep 2007; 17: 931 Boscolo-Rizzo P, J Cancer Res Clin Oncol 2009; 135: 559 Cattani P, Clin Cancer Res 1998; 4: 2585 Gallo A, Otolaryngol Head Neck Surg 2009; 141: 276
Lithuania	Gudleviciene Z, J Med Virol 2014; 86: 531 Gudleviciene Z, Oncology 2009; 76: 205, Gudleviciene Z, J Med Virol 2014; 86: 531 Gudleviciene Z, Oncology 2009; 76: 205
Norway	Koskinen WJ, J Cancer Res Clin Oncol 2007; 133: 673 Lie ES, Acta Otolaryngol 1996; 116: 900 Mork J, N Engl J Med 2001; 344: 1125, Koskinen WJ, J Cancer Res Clin Oncol 2007; 133: 673 Lie ES, Acta Otolaryngol 1996; 116: 900 Mork J, N Engl J Med 2001; 344: 1125
Poland	Morshed K, Eur Arch Otorhinolaryngol 2008; 265 Suppl 1: S89 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Snietura M, Eur Arch Otorhinolaryngol 2011; 268: 721, Morshed K, Eur Arch Otorhinolaryngol 2008; 265 Suppl 1: S89 Ribeiro KB, Int J Epidemiol 2011; 40: 489 Snietura M, Eur Arch Otorhinolaryngol 2011; 268: 721
Romania	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Russian Federation	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Slovakia	Ribeiro KB, Int J Epidemiol 2011; 40: 489, Ribeiro KB, Int J Epidemiol 2011; 40: 489
Slovenia	Poljak M, Acta Otolaryngol Suppl 1997; 527: 66, Poljak M, Acta Otolaryngol Suppl 1997; 527: 66
Spain	Alvarez Alvarez I, Am J Otolaryngol 1997; 18: 375 Pérez-Ayala M, Int J Cancer 1990; 46: 8, Alvarez Alvarez I, Am J Otolaryngol 1997; 18: 375 Pérez-Ayala M, Int J Cancer 1990; 46: 8
Sweden	Koskinen WJ, J Cancer Res Clin Oncol 2007; 133: 673 Mork J, N Engl J Med 2001; 344: 1125, Koskinen WJ, J Cancer Res Clin Oncol 2007; 133: 673 Mork J, N Engl J Med 2001; 344: 1125
Switzerland	Adams V, Anticancer Res 1999; 19: 1, Adams V, Anticancer Res 1999; 19: 1

10 Glossary

Table 48: Glossary

Term	Definition
Incidence	Incidence is the number of new cases arising in a given period in a specified population. This information is collected routinely by cancer registries. It can be expressed as an absolute number of cases per year or as a rate per 100,000 persons per year (see Crude rate and ASR below). The rate provides an approximation of the average risk of developing a cancer.
Mortality	Mortality is the number of deaths occurring in a given period in a specified population. It can be expressed as an absolute number of deaths per year or as a rate per 100,000 persons per year.
Prevalence	The prevalence of a particular cancer can be defined as the number of persons in a defined population who have been diagnosed with that type of cancer, and who are still alive at the end of a given year, the survivors. Complete prevalence represents the number of persons alive at certain point in time who previously had a diagnosis of the disease, regardless of how long ago the diagnosis was, or if the patient is still under treatment or is considered cured. Partial prevalence, which limits the number of patients to those diagnosed during a fixed time in the past, is a particularly useful measure of cancer burden. Prevalence of cancers based on cases diagnosed within one, three and five years are presented as they are likely to be of relevance to the different stages of cancer therapy, namely, initial treatment (one year), clinical follow-up (three years) and cure (five years). Patients who are still alive five years after diagnosis are usually considered cured since the death rates of such patients are similar to those in the general population. There are exceptions, particularly breast cancer. Prevalence is presented for the adult population only (ages 15 and over), and is available both as numbers and as proportions per 100,000 persons.
Crude rate	Data on incidence or mortality are often presented as rates. For a specific tumour and population, a crude rate is calculated simply by dividing the number of new cancers or cancer deaths observed during a given time period by the corresponding number of person years in the population at risk. For cancer, the result is usually expressed as an annual rate per 100,000 persons at risk.
ASR (age-standardised rate)	An age-standardised rate (ASR) is a summary measure of the rate that a population would have if it had a standard age structure. Standardization is necessary when comparing several populations that differ with respect to age because age has a powerful influence on the risk of cancer. The ASR is a weighted mean of the age-specific rates; the weights are taken from population distribution of the standard population. The most frequently used standard population is the World Standard Population. The calculated incidence or mortality rate is then called age-standardised incidence or mortality rate (world). It is also expressed per 100,000. The world standard population used in GLOBOCAN is as proposed by Segi [1] and modified by Doll and al. [2]. The age-standardised rate is calculated using 10 age-groups. The result may be slightly different from that computed using the same data categorised using the traditional 5 year age bands.
Cumulative risk	Cumulative incidence/mortality is the probability or risk of individuals getting/dying from the disease during a specified period. For cancer, it is expressed as the number of new born children (out of 100, or 1000) who would be expected to develop/die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.
Cytologically normal women	No abnormal cells are observed on the surface of their cervix upon cytology.
Cervical Intraepithelial Neoplasia (CIN) / Squamous Intraepithelial Lesions (SIL)	SIL and CIN are two commonly used terms to describe precancerous lesions or the abnormal growth of squamous cells observed in the cervix. SIL is an abnormal result derived from cervical cytological screening or Pap smear testing. CIN is a histological diagnosis made upon analysis of cervical tissue obtained by biopsy or surgical excision. The condition is graded as CIN 1, 2 or 3, according to the thickness of the abnormal epithelium (1/3, 2/3 or the entire thickness).
Low-grade cervical lesions (LSIL/CIN-1)	Low-grade cervical lesions are defined by early changes in size, shape, and number of abnormal cells formed on the surface of the cervix and may be referred to as mild dysplasia, LSIL, or CIN-1.
High-grade cervical lesions (HSIL / CIN-2 / CIN-3 / CIS)	High-grade cervical lesions are defined by a large number of precancerous cells on the surface of the cervix that are distinctly different from normal cells. They have the potential to become cancerous cells and invade deeper tissues of the cervix. These lesions may be referred to as moderate or severe dysplasia, HSIL, CIN-2, CIN-3 or cervical carcinoma in situ (CIS).
Carcinoma in situ (CIS)	Preinvasive malignancy limited to the epithelium without invasion of the basement membrane. CIN 3 encompasses the squamous carcinoma in situ.
Invasive cervical cancer (ICC) / Cervical cancer	If the high-grade precancerous cells invade the basement membrane is called ICC. ICC stages range from stage I (cancer is in the cervix or uterus only) to stage IV (the cancer has spread to distant organs, such as the liver).
Adenocarcinoma	Invasive tumour with glandular and squamous elements intermingled

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Institut Català d'Oncologia (ICO), in alphabetic order

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International Agency for Research on Cancer (IARC)

Note to the reader

Anyone who is aware of relevant published data that may not have been included in the present report is encouraged to contact the HPV Information Centre for potential contributions.

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