



**Asia-Pacific  
Economic Cooperation**

**Advancing** Free Trade  
for Asia-Pacific **Prosperity**

# **Status Report: Cervical Cancer Elimination in the APEC Region**

**Health Working Group**

**March 2023**

# Status Report:

## Cervical Cancer Elimination in the APEC Region

---

Measuring Progress Towards the APEC  
Roadmap to Promote Sustainable Economic  
Advancement for Women Through Cervical  
Cancer Prevention and Control 2021-2025

## Introduction and Table of Contents

Cervical cancer is the fourth most common cancer among women worldwide, with an estimated 600,000 new cervical cancer cases and more than 340,000 estimated deaths in 2020 alone. However, cervical cancer presents an opportunity for prevention, screening, early detection, and treatment. By implementing interventions across the prevention and control continuum, APEC economies can reduce the disease burden and enable women to lead healthy and productive lives. Nevertheless, despite the compelling case for investing in strategies for cervical cancer prevention and control, there remains insufficient investment, particularly in preventive measures.

In 2016, the APEC Health Working Group (HWG) and Life Sciences Innovation Forum (LSIF) introduced a multi-year roadmap to scale efforts to build technical capacity and support policies that improve primary and secondary prevention, treatment, and palliative care, with the ultimate goal of cervical cancer elimination. In August 2021, APEC member economies endorsed an updated [APEC Roadmap to Promote Sustainable Economic Advancement for Women through Cervical Cancer Prevention and Control](#) ('Roadmap') through 2025. The updated roadmap aligns with the WHO's [Global Strategy to Accelerate the Elimination of Cervical Cancer as a Public Health Problem](#), which launched in November 2020 with targets set for 2030.

### Introduction

*Introduction to the Dashboard* [2](#)

*Methodology* [3](#)

### Regional Progress Towards the APEC Roadmap

*Meeting WHO Targets for Cervical Cancer Elimination as a Public Health Problem* [4](#)

*The Status of Cervical Cancer Elimination Planning in APEC* [5](#)

*Programming and Funding Across the Cervical Cancer Prevention and Care Continuum* [6](#)

*Introducing and Expanding HPV Vaccination* [7](#)

*Advancing Cervical Cancer Screening* [8](#)

*Progressing from Diagnosis to Monitoring and Treatment* [9](#)

*Tracking Uptake of the Prevention and Care Continuum* [10](#)

*Introducing Communications Strategies to Reduce Disease Burden* [11](#)

### Conclusion

*Key Findings* [12](#)

*Summary and Limitations* [13](#)

### Appendix

*Sources* [24](#)

## Methodology

### *Status Report Overview*

The *Status Report on Cervical Cancer Elimination in the APEC Region* is an initiative to understand current status of the goals included within the APEC Roadmap, including implementation of comprehensive HPV vaccination, cervical screening, treatment, and elimination programs within APEC economies.

The report aims to measure the progress of programs across the prevention and control continuum throughout the region. The report presents data on a regional basis, although economy-specific information has been collected and can be used to develop specific capacity-building activities.

The report is organized by different HPV and cervical cancer interventions, policies, and health system enablers. Each measure in the report is based on the goals and outputs/outcomes of the Roadmap. Spotlights from APEC economies share existing practices that can inform implementation and expansion of interventions and programs, and support progress towards meeting the Roadmap goals more broadly.

This project supports HWG 05 2022S, [Promoting Sustainable Economic Advancement for Women by Addressing Policy Barriers to Prevention, Control, and Elimination of HPV and Cervical Cancer](#).

### *Acknowledgements*

This report was prepared by the project overseers' partners. Principal authors include Ms. Alexa Trost and Ms. Anne Blatchford of C&M International. Special thanks to the project overseers, Dr. Suleeporn Sangrajrang of the Thailand National Cancer Institute and Dr. Edward Trimble of the United States National Cancer Institute, as well as to the APEC Secretariat for their support. The views expressed in this paper are those of the authors and do not necessarily represent those of APEC Member Economies.

### *Methodology*

The report was created using a mixed methodology to understand the current status of the Action Plan's key indicators in the APEC region. The primary data source was a survey disseminated to all 21 APEC member economies via email. 17 economies responded (81%) ("Reporting Economies") between September 2022 and February 2023. The survey was then supplemented through a review of existing literature and data repositories, including WHO cervical cancer [economy] profiles and WHO/UNICEF Immunization Dashboard. Supplemental data was used both for reporting economies and non-reporting economies.

Survey results were collected from the following APEC member economies: Australia; Brunei Darussalam; Canada; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; Peru; the Philippines; the Russian Federation; Singapore; Chinese Taipei; Thailand; the United States of America; Viet Nam.

Supplemental research was exclusively used for the following economies: Chile; People's Republic of China; New Zealand; Papua New Guinea.

Unless indicated, all measures are calculated using 21 as the denominator, counting missing data as 'no data.' Additional methodology can be found in footnotes and the Appendix.

## Meeting WHO Targets for Cervical Cancer Elimination

In August 2020, the WHO adopted the [Global Strategy for cervical cancer elimination](#) by 2030, which is centered around three pillars and their corresponding targets. Achieving the WHO 90-70-90 targets by 2030 is estimated to avert more than **74 million** new cases of cervical cancer and over **62 million deaths** by 2120:



**90%** of girls fully vaccinated with HPV vaccine by age 15



**70%** of women screened with a high-performance test by 35 years of age and again by 45 years of age



**90%** of women identified with cervical disease receive treatment

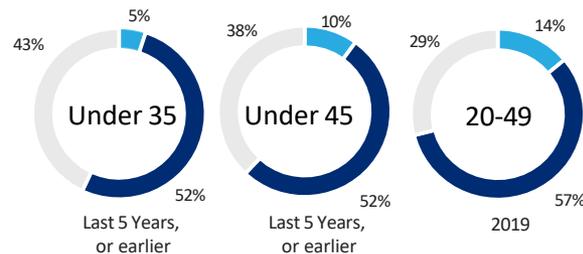
### Progress towards meeting 2030 targets<sup>1</sup> by % of APEC economies

*% of complete dose HPV vaccine coverage, domestically eligible population or females<sup>2</sup> 2021 or earlier years*



■ No Data ■ <70% ■ 70%-90% ■ >90%

*% of women screened for cervical cancer, by age<sup>3</sup>*



■ No Data ■ <70% ■ 70%-90% ■ >90%

*% of women identified with cervical cancer who received treatment<sup>4</sup> 2021 or earlier years*



■ No Data ■ 70%-90% ■ >90%

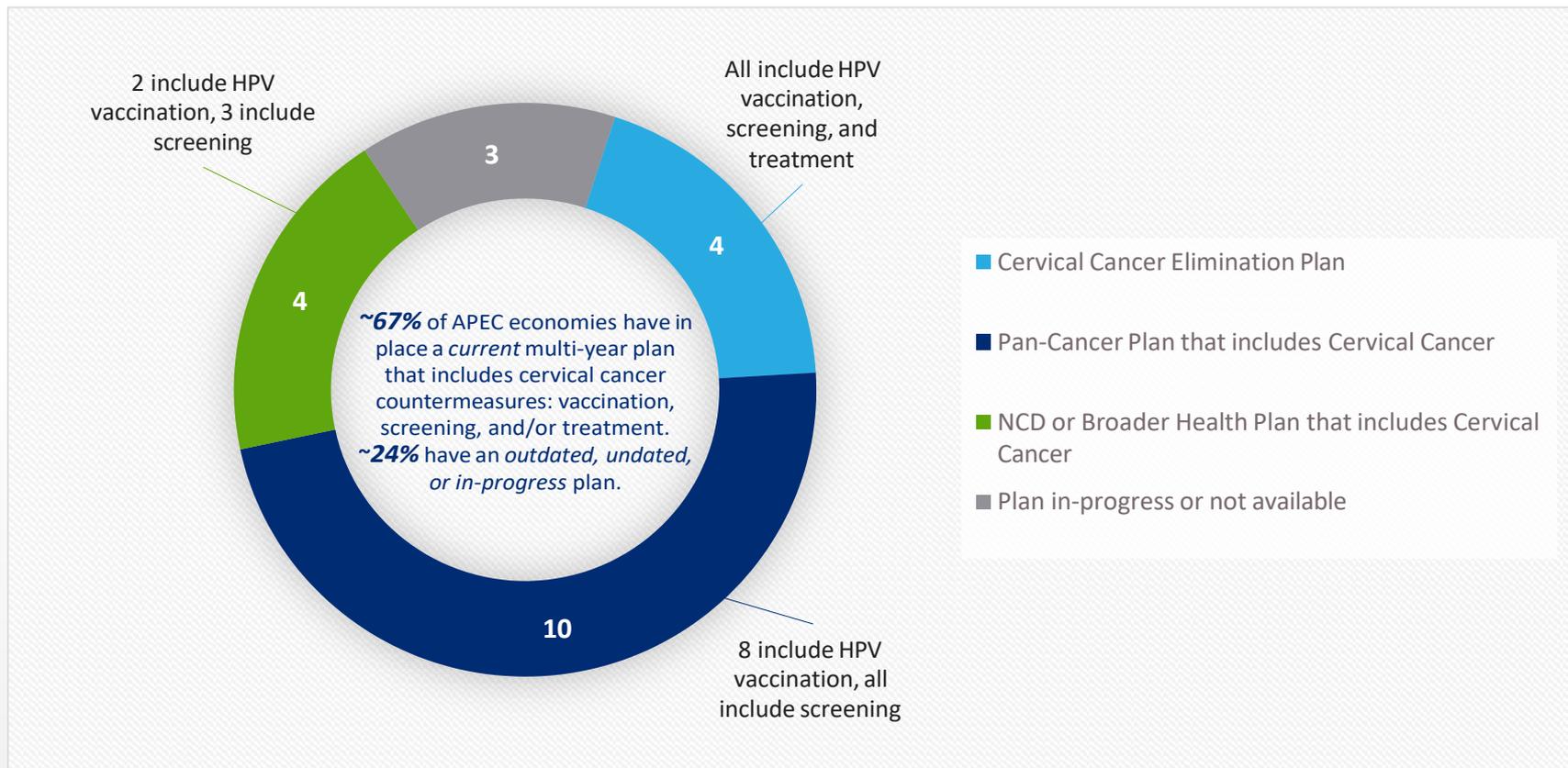
- Percentages are calculated using 21 as the denominator, counting missing economies as 'no data.'
- Survey responses on vaccination of domestically eligible populations are supplemented by [WHO data](#) on vaccination of females.
- Survey responses on screening (using any screening method) are supplemented by [WHO data](#). Data for the 'Under 35' and 'Under 45' categories exclusively reflect survey responses. Data for the '20-49' category reflect [WHO data](#), in addition to two survey responses.
- Survey data has not been supplemented.

View data and limitations by economy on [page 16](#).

## The Status of Cervical Cancer Elimination Planning in APEC

A comprehensive cervical cancer elimination strategy requires multi-year commitments to the cervical cancer prevention and control continuum. Strategic planning for cervical cancer elimination should include considerations for health system capacity and infrastructure, including comprehensive information systems.

*# of APEC economies with current or outdated/undated multi-year plans that include cervical cancer elimination<sup>1</sup>*

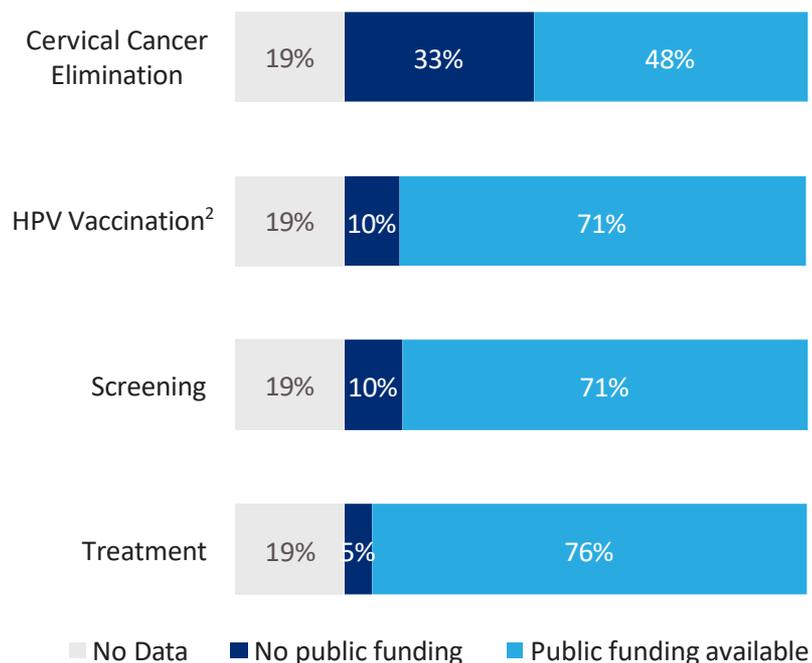


1. View all plans on [page 15](#).

## Programming and Funding Across the Cervical Cancer Prevention and Care Continuum

Several economies do not report public funding for all cervical cancer interventions, even those reported to be included in domestic elimination programs. Additionally, in the absence of a funded domestic cervical cancer elimination program, some economies report funding via domestic budgets or universal health coverage.

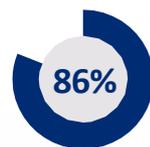
### Approximate % of APEC economies which report funding for cervical cancer interventions in domestic elimination programs, budgets, or universal health coverage:<sup>1</sup>



### % of APEC economies that report:



of APEC economies report **cervical cancer elimination programs**, which introduce and/or provide funding for cervical cancer interventions to varying degrees.



of APEC economies report **including HPV vaccines in schedules or programs**;<sup>3</sup> of these economies, only **7** report funding for the entire domestically eligible population.<sup>4</sup>



of APEC economies report programs or capabilities for **HPV/cervical cancer screening**,<sup>4</sup> however, access to public funding may be dependent on factors such as diagnostic outcome and income level.



of APEC economies report including **treatment in domestic cervical cancer elimination programs**; **~76%** provide public funding, indicating that some economies provide treatment funding outside of elimination programs.<sup>4</sup>

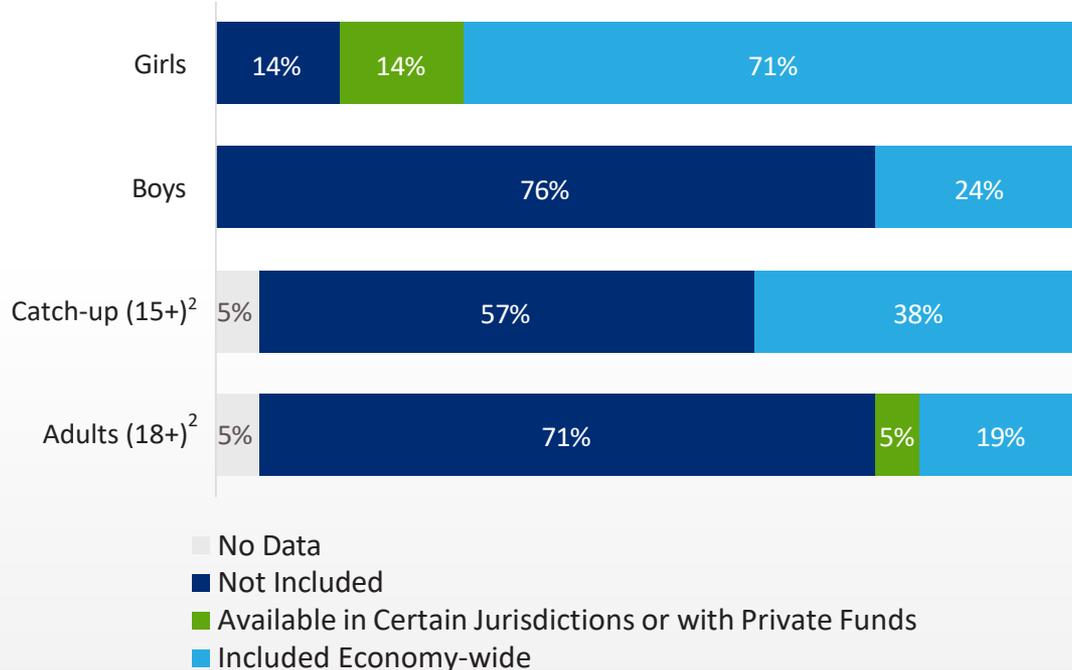
1. Survey data on public funding has not been supplemented. Percentages are calculated using 21 as the denominator, counting missing economies as 'no data.'
2. Economies measured as having public funding available for HPV vaccination include those which only provide public funding for *some populations* included in domestic immunization programs.
3. Inclusion of HPV vaccines in domestic programs could include cervical cancer elimination programs, vaccine-specific programs, or partial programs that only cover certain jurisdictions or populations.
4. Data on inclusion of [vaccination](#) and [screening](#) in cervical cancer elimination programs are supplemented by WHO data. Survey data on treatment has not been supplemented. Percentages are calculated using 21 as the denominator, counting missing economies as 'no data.'

View data and limitations by economy on pages [17](#) and [18](#).

## Introducing and Expanding HPV Vaccination

Since the approval of the first commercial HPV vaccine in 2006, **71%** of economies report including HPV vaccines in economy-wide immunization schedules or programs; in an additional **14%** of economies, HPV vaccines are reported to be available in certain jurisdictions and/or only for private purchase. Vaccine-eligible populations vary across economies and include girls, boys, and adults, with the primary target cohort typically being young adolescent girls, aged 9-14.

*Approximate % of APEC economies which report including HPV vaccination for certain populations in economy-wide immunization schedules or programs, 2021-2023:<sup>1</sup>*



As of 2021, only one APEC economy reached the WHO target of 90% 2-dose vaccination coverage:

### *Meeting WHO 2030 Vaccination Targets: Progress as of 2021*



**10%** of APEC economies reached >90% *first dose* coverage for domestically eligible cohorts or girls in 2021. **33%** achieved rates between 70% and 90%.<sup>3</sup>



**5%** of APEC economies reached >90% *complete dose* coverage for domestically eligible cohorts or girls. **24%** have achieved rates above 70%, but below the 90% WHO target.<sup>3</sup>

- Survey data has been supplemented with [data from WHO](#) for all [populations](#). Data are only considered complete for inclusion of girls and boys. Percentages for all populations are calculated using 21 as the denominator, counting missing economies as 'no data.'
- Some economies have removed catch-up or adult programs due to successful adolescent vaccination.
- Survey data has been supplemented with data collected by [WHO on immunization coverage](#). Data are missing for both first dose coverage and complete dose coverage. Percentages are calculated using 21 as the denominator, counting missing economies as 'no data.'

View data and limitations by economy on pages [16](#) and [19](#).

## Advancing Cervical Cancer Screening

If chronic HPV infection cannot be prevented and pre-cancerous lesions develop and are not diagnosed and treated in time, they have the potential to become an invasive cancer, decreasing the likelihood of survival if not recognized in early stages. Several types of screening are currently available in APEC economies, most commonly cervical cytology (also known as PAP tests) (~86%), followed by HPV DNA testing (~52%), and visual inspection with acetic acid (~19%). As economies begin shifting screening programs to include HPV DNA testing – the WHO preferred method as of 2021 – at least **19%** have introduced collection through self-sampling, which is increasingly viewed as a promising intervention due to its simplicity of delivery and the potential to reduce stigma.<sup>1</sup>



In Malaysia, HPV DNA testing, commenced in phases by the MOH in 2019 using a 'screen-triage-treat' approach, is offered to women aged 30 to 65 years in primary care facilities in 13/15 states. Women who are HPV positive undergo cytology triage at primary care facilities prior to further intervention. The MOH is the primary provider for cervical cancer screening using cytology and HPV DNA tests; the MOH provides ~65% of screening coverage while the remaining 35% is afforded by other agencies, private practitioners, and NGOs,\* with whom the MOH collaborates to monitor cervical cancer screening data. This is vital as Malaysia is committed towards achieving the targets for cervical cancer elimination.

Additionally, the ROSE Foundation - a collaboration between University of Malaya and the Australian Centre for the Prevention of Cervical Cancer - offers HPV self-sampling to women in several primary care settings.

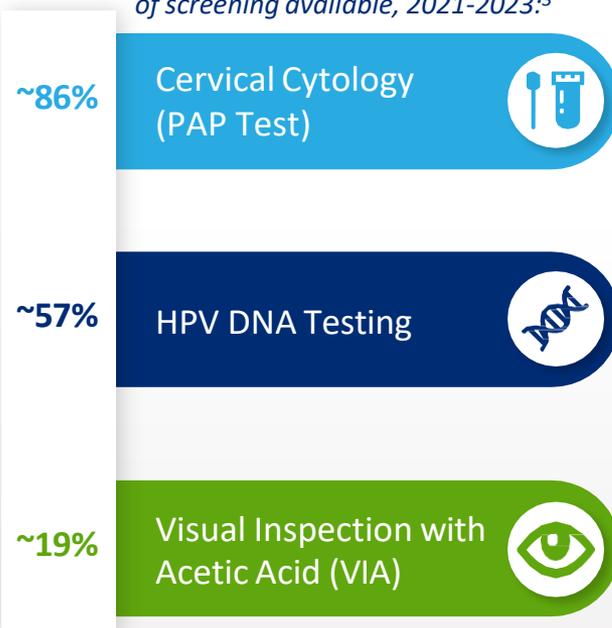
\*e.g., National Population and Family Development Board, National Cancer Society of Malaysia, Ministry of Higher Education Hospitals

1. Survey data has not been supplemented. Percentages are calculated using 21 as the denominator, counting missing economies or data as 'no data.'
2. Data on screening capabilities are supplemented with [data from WHO](#) and calculated using 21 as the denominator. Data are available for all economies. For screening coverage, measured populations include 'Under 35,' 'Under 45,' and '20-49.' Survey responses on screening coverage (using any screening method) are supplemented by [WHO data](#).
3. Data on availability of screening interventions are supplemented with data from WHO; supplemental data only measures *primary* screening tests and may not be fully representative of the full range of interventions available in each economy. Percentages are calculated using 21 as the denominator, counting potentially missing data (e.g., availability of screening methods other than the primary method) as 'no data.'

View data and limitations by economy on pages [16](#) and [20](#).

**95%** of APEC economies report domestic capabilities to conduct screening and diagnostic testing, however, only **24%** report screening >70% of at least one measured population: Under 35, Under 45, and/or Ages 20-49.<sup>2</sup>

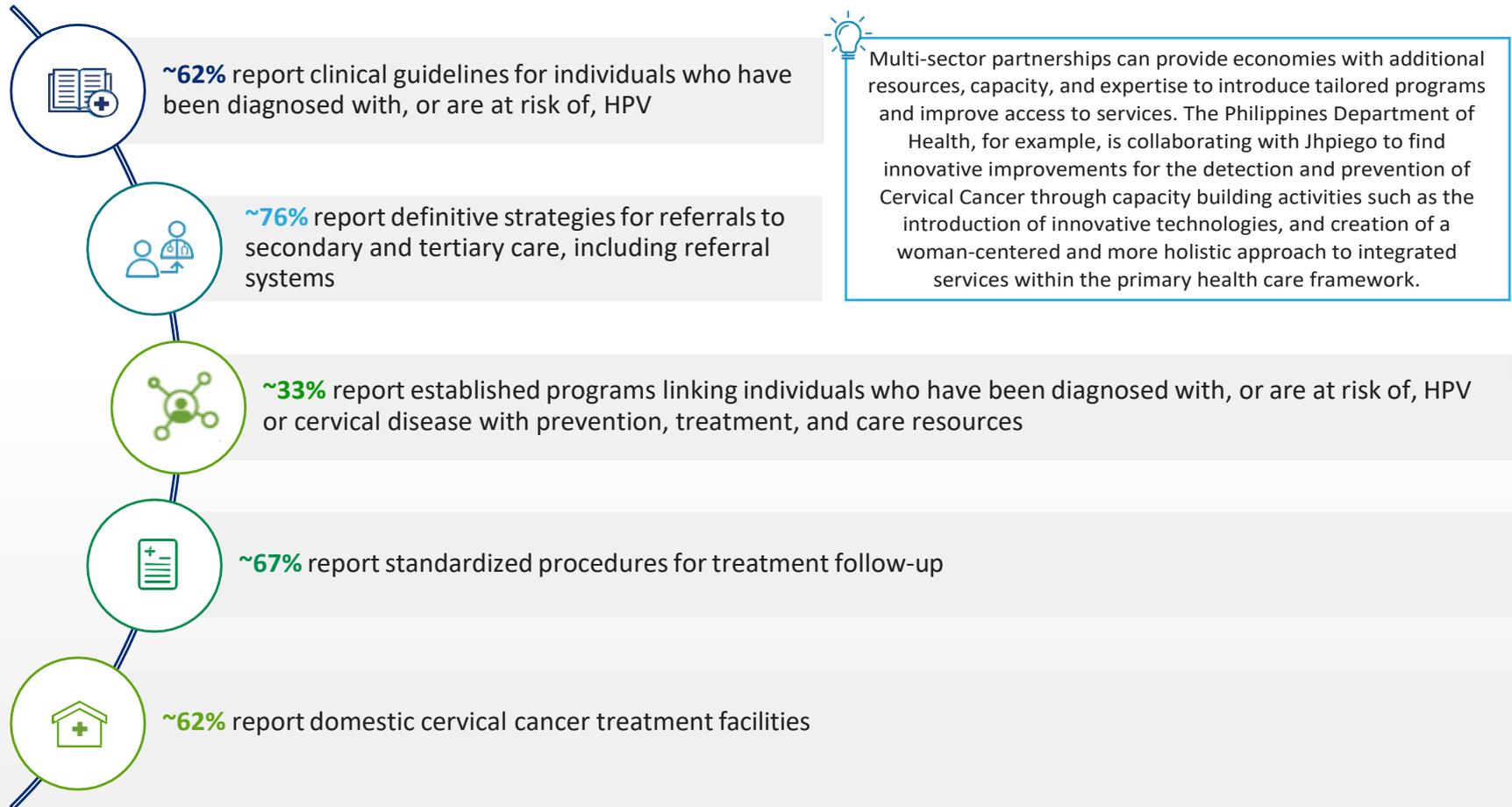
*% of Economies reporting different types of screening available, 2021-2023:<sup>3</sup>*



View data and limitations by economy on pages [16](#) and [20](#).

## Progressing from Diagnosis to Monitoring and Treatment

Clearly defined clinical guidelines and referral systems from secondary to tertiary care following diagnosis of HPV or cervical disease underpin effective interventions across the continuum.<sup>1</sup>



1. With the exception of strategies for referral systems using [WHO data](#), survey data has not been supplemented. Percentages are calculated using 21 as the denominator, counting missing economies as 'no data.'

View data and limitations by economy on [page 21](#).

## Tracking Uptake of the Prevention and Care Continuum

The APEC Roadmap calls for economies to build and/or integrate accessible and digital data systems and registries for vaccination, screening, cancer/treatment, and deaths in order to better track program impact and monitor changes in disease burden. Establishing and maintaining proficient and comprehensive information systems can support development of evidence-based policies and programs guided by the most recent surveillance data, research, and other evidence. Establishing and linking registries can support clinical and policy decision-making by providing a comprehensive overview of access to cervical cancer interventions at the individual and population level.



Australia is working to link domestic health registries through the [National Cancer Screening Register \(NCSR\)](#) to ensure a more comprehensive representation of the population within their health data system. This ensures that underreported groups - such as Indigenous communities - are accounted for.

### *% of APEC economies reporting registries to track vaccination, screening, cancer/treatment, and deaths:*



Vaccination<sup>1</sup>

Comprehensive, interoperable vaccination registries that enable providers to report administration and access all immunization records can support economies in accurately capturing and encouraging HPV vaccination.



Screening<sup>1</sup>

Screening registries and health data systems should be able to fully capture screening rates and support program implementation – however, only ~38% of economies have health data systems to track individuals through the health system after an abnormal screening test, and evaluate quality and timeliness of the screening program.<sup>3</sup>



Cancer<sup>2</sup>

Cancer registries can facilitate the systematic collection of data on cancer incidence, diagnosis, and treatment, in order to ensure patients receive appropriate and timely care. Data is also used by policymakers to make informed decisions on funding and program implementation.



Death<sup>1</sup>

Establishing death registries to collect mortality data can be used to [improve quality and safety of care](#), but data in registries is often incomplete or inaccessible to general practitioners.

1. Data for vaccination, screening, death, and digital health data systems was limited to survey results. Percentages are calculated using 21 as the denominator, counting missing economies as 'no data.'
2. Survey data on existence of cancer registries are supplemented by [WHO data](#), and is available for all 21 APEC economies.
3. Data on existence of health data systems were not supplemented and are missing from 4 economies. Percentages are calculated using 21 as the denominator, counting missing economies as 'no data.'

View data and limitations by economy on [page 22](#).

## Introducing Communication and Delivery Strategies to Reduce Disease Burden

Effective communications strategies and delivery systems should be evidence-based and targeted to eligible populations in order to bolster awareness and uptake of vaccines, screening, and treatment, as well as improve health equity. Educational programs are most effective when they target all stakeholders involved in prevention and care – including adolescents, parents, adults, and providers.

**~57%** of APEC economies report clinical HPV and cervical cancer educational programs targeted towards providers, which can support providers to optimize patient care.<sup>1</sup>

**~71%** of economies report vaccine confidence or communications programs, either targeted towards adolescents/their parents.<sup>1</sup>

**~62%** of economies report screening communications programs that are targeted towards eligible adults.<sup>1</sup>

**~62%** of economies report requiring comprehensive sexual health educations in schools to provide adolescents with the knowledge and tools they need to promote their own health.<sup>1</sup>

**~71%** of economies report school-based vaccination programs.<sup>2</sup>



In Hong Kong, China, there is ongoing publicity by the government to raise public awareness and empower women in cervical cancer prevention and screening, including dissemination of messages to correct common misconceptions which may keep some women from regular cervical screening - such as having no family history of cervical cancer, no symptoms, and having been vaccinated against HPV. Messages are disseminated via multiple channels, including social media and other traditional means, such as TV and radio, websites, printed materials, published articles, media interviews, and telephone education hotlines. Relevant resources can be accessed at the [thematic website of Cervical Screening Programme](#). Individual counselling is provided for women attending Maternal and Child Health Centers and DOH Women Health Centers.



The Public Health Agency of Canada (PHAC) [Immunization Partnership Fund](#) (IPF) funds over 100 diverse community-based initiatives to encourage vaccine confidence and uptake. An example of a project specific to HPV vaccine, in Quebec, Canada developed and evaluated parent-focused strategies, such as motivational interviewing, education, decision-making tools, and consent form reminders to increase HPV vaccination coverage rates in select elementary schools.



In 2012, Brunei Darussalam introduced a [domestic school-based HPV vaccination program](#) offering free or subsidized HPV vaccines to all female students ages 10-17 years old in both government and private schools. Parental or guardian consent is obtained in writing before the HPV vaccine is provided. In 2021, 94.4% of the eligible Bruneian students was fully vaccinated.

1. Survey data has not been supplemented. Percentages are calculated using 21 as the denominator, counting missing economies or data as 'no data.'

2. Survey data has been supplemented with [data collected by WHO](#) on school-based vaccination. Percentages are calculated using 21 as the denominator, counting missing economies as 'no data.'

## Key Findings

The results of *Status Report: Cervical Cancer Elimination in the APEC Region* indicate that while most economies have implemented some strategies for cervical cancer elimination, whether through a comprehensive cervical elimination program, ongoing development of a plan, or intervention strategies included in a broader cancer plan, there remain gaps in implementation.

Of the 44 measures included in this report, reporting economies (n=17) met an average of 26 measures.<sup>1</sup>

*Of the WHO pillars, economies appear to be most successful in reaching targets for cervical cancer treatment. This reflects a traditional focus of health systems, but in order to reduce the disease incidence, increasing investment and uptake of vaccination and screening is an urgent imperative to prevent cervical cancer from occurring.*

***Although APEC economies have made progress towards the WHO 90-70-90 targets, none have reached all 3 targets for vaccination, screening, and treatment.***<sup>2</sup>

**48%**<sup>2</sup> of APEC economies meet one or more of the WHO 90-70-90 targets:

**5%**<sup>2</sup> of APEC economies administered 2 doses of HPV vaccine to 90% of girls, although 71% have introduced HPV vaccines into their economy-wide schedules. To bolster vaccination rates, economies can develop targeted disease awareness strategies, introduce and increase routine vaccination of eligible populations, and build comprehensive vaccination registries to track progress.

**24%**<sup>2</sup> of APEC economies screened 70% of one or more age groups included in this analysis,<sup>3</sup> despite 95% of economies measured as having domestic screening programs or capabilities to conduct screening and diagnostic testing. Introducing high-performance tests, providing public coverage for services, establishing referral strategies, and ensuring linkages to prevention, treatment, and care resources can support economies in preventing progression to cervical cancer by detecting abnormalities early.

**~33%**<sup>2</sup> of APEC economies treated 90% of women identified with cervical cancer. Ensuring access to a global standard of care for treatment, symptom management, and palliative care can provide the best overall outcome for patients. Adopting preventive interventions can make treatment less intensive and costly.

1. This calculation is based on economies for whom a definitive 'Yes' was measured in responses to the survey and/or external research. Economies measured as 'ND' may have additional measures in place that are not captured in this report.
2. Survey responses on vaccination of domestically eligible populations are supplemented by [WHO data](#) on vaccination of females. Survey responses on screening (using any screening method) are supplemented by [WHO data](#). Survey data for treatment has not been supplemented, and is based on survey data indicating that 7 reporting economies have treated 90% of women identified with cervical cancer. Percentages for all measures are calculated using 21 as the denominator, counting missing economies as 'no data.'
3. Data for the 'Under 35' and 'Under 45' categories exclusively reflect survey responses. Data for the '20-49' category reflect [WHO data](#), in addition to two survey responses.

## Summary

In order to achieve the goals of the [APEC Roadmap to Promote Sustainable Economic Advancement for Women through Cervical Cancer Prevention](#) by 2025, as well as to support the vision and mission (right), economies should plan to invest in holistic strategies across the prevention and care continuum. Continuing to strengthen data systems, introduce countermeasures, and develop communication and delivery strategies will support the health and well-being of women during the years of peak productivity and contribution to society, as well as the years in which many women attain leadership positions and raise families.

This status report aims to support economies in their domestic and collective efforts to introduce comprehensive cervical cancer elimination plans, implement the APEC Cervical Cancer Roadmap, and collaborate to enhance elimination programs by sharing best practices.

APEC economies can also support progress towards cervical cancer elimination through use of other APEC resources, such as the [APEC Healthcare Financing Roadmap](#) and the Health Working Group's [Best Practices and Recommendations for APEC Collaboration on Cancer Control](#).

## Limitations

The research conducted in this study has some limitations. The primary limitation was receiving responses to the survey from only 17 of 21 APEC economies; given limited aggregated external data options for many measures and economies, results do not reflect the full status of the measured cervical cancer elimination strategies within the APEC region and individual economies. Data caveats have been added throughout the report to indicate where supplemental data is unavailable. Second, the report measured the extent to which measures have been introduced. Within each measure, the authors expect differences in scope (e.g., eligible populations, funding levels, jurisdictional vs. economy-wide) and status of implementation (e.g., pilot projects vs. ongoing legislation, newly introduced measures vs. comprehensive long-term programs) across APEC economies.

### Mission

To foster exchange of best practices, build technical capacity, and support policy decision-making to address barriers to primary and secondary prevention of cervical cancer and invasive cervical cancer treatment and palliative care.

### Vision 2025

Women and girls in APEC member economies live healthy and productive lives, with a substantially reduced burden of HPV-related cervical cancer morbidity and mortality.

### Goals

The Roadmap aims to support efforts by APEC member economies to eliminate cervical cancer as a public health problem and to:

1. Accelerate and scale primary prevention of cervical cancer through HPV vaccination of eligible populations\*
2. Accelerate and scale secondary prevention of cervical cancer through effective screening and treatment of precancerous lesions
3. Expand the application of health-systems tools, including communications technologies and electronic health records management systems, to improve the quality of treatment and palliative care for people with HPV and cervical cancer
4. Improve infrastructure to support acceleration and scaling of primary prevention, secondary prevention, treatment, and palliative care

\*Vaccine-eligible populations may include girls, boys, and adults at-risk for HPV infection

## APPENDIX | Acronyms

APEC: Asia-Pacific Economic Cooperation

DIP: Domestic Immunization Program

DNA: Deoxyribonucleic acid

HPV: Human papillomavirus

HWG: Health Working Group

IPF: Immunization Partnership Fund

Jhpiego: Johns Hopkins Program for International Education in Gynecology and Obstetrics

KPI: Key performance indicator

LSIF: Life Sciences Innovation Forum

MOH: Ministry of Health

NCSR: National Cancer Screening Registry

PHAC: The Public Health Agency of Canada

ROSE: Removing Obstacles to Cervical Screening

UNICEF: United Nations Children's Fund

VIA: Visual inspection with acetic acid

WHO: World Health Organization

## APPENDIX | Data by APEC Economy

Multi-year plans that include references to HPV and/or cervical cancer

### *Cervical Cancer Elimination Plans or Regulations*

Canada: [Action Plan 2020-2030](#)

Indonesia: Regulations [2015](#), amended [2017](#) (NCD/Health Strategic Actions)

Malaysia: [Action Plan 2021-2030](#) (Pan-Cancer [Plan 2021-2025](#))

Peru: [Plan 2017-2021](#) (Pan-Cancer [Plan 2020-2024](#))

### *Pan-Cancer Plans that include Cervical Cancer*

Chile: [Plan 2018-2028](#)

Hong Kong, China: [Strategy 2019-2025](#)

Japan: [Plan](#)

Republic of Korea: [Plan 2016-2020](#)

Mexico: [Program \(2016\)](#)

New Zealand: [Action Plan 2019-2029](#)

Papua New Guinea: [Action Priorities 2017-2021](#)

Russian Federation: [Plan 2019-2024](#)

Chinese Taipei: [Plan](#)

Thailand: [Program](#)

### *Non-Communicable Disease (NCD) or Broader Health Plans that include Cervical Cancer*

Brunei Darussalam: [NCD Action Plan 2021-2025](#)

People's Republic of China: [Health Initiative 2019-2030](#)

The United States: [Health Plan 2020-2030](#); 64 [plans](#) from states, jurisdictions, tribes/tribal organizations, and the Cancer Council of the Pacific Islands

Viet Nam [NCD Strategy](#)

### *Plan in-progress or not available*

Australia: [Cervical Cancer Strategy](#) development in progress; expected April 2023 ([Draft](#); [Draft Appendices](#)); [10-year pan-cancer plan](#) development in progress, expected April 2023

The Philippines: Cancer Control plan in drafting process

Singapore: N/A

## APPENDIX | Data by APEC Economy

### Meeting WHO Targets for Cervical Cancer Elimination

<b>Measure</b> Coverage rates reported for 2021 or earlier years	Australia*	Brunei Darussalam*	Canada*	Chile	People's Republic of China	Hong Kong, China*	Indonesia*	Japan*	Republic of Korea*	Malaysia*	Mexico*	New Zealand	Papua New Guinea	Peru*	Philippines*	Russian Federation*	Singapore*	Chinese Taipei*	Thailand*	United States of America*	Viet Nam*	Total
% first dose HPV vaccination (domestic cohort) <sup>1</sup>	87%	98%	ND		ND	88% <sup>3</sup>	80%	3.3%	88%	16% <sup>6</sup>	10%		ND		~4% <sup>7</sup>	ND	>90% <sup>9</sup>	85%	0%	77%	ND	2
HPV Vaccination program coverage, first dose, females <sup>2</sup>			87%	67%	ND							68%	ND			ND						
% complete dose HPV vaccination (domestic cohort) <sup>1</sup>	81%	95%	ND		ND	86% <sup>3</sup>	61%	1.9%	66%	14% <sup>6</sup>	10%		ND		<1% <sup>7</sup>	ND	88% <sup>9</sup>	76%	0%	62%	ND	1
HPV Vaccination program coverage, last dose, females <sup>2</sup>			87%	57%	ND							58%	ND	53%		ND						
% of women screened in last five years, or earlier <sup>1</sup>	<35	62%	25%	ND		29% <sup>3</sup>		15%-49% <sup>5</sup>	44%	42-48%	30%			20%		ND	31% <sup>9</sup>	64%	70%	ND	15%	1
	<45	67%	28%	ND		38% <sup>3</sup>		15%-56% <sup>5</sup>	52%	29-30%	50%			30%	<1% <sup>7</sup>	ND	43% <sup>9</sup>	84%	70%	ND	30%	2
Proportion of women 20-49 report screening, 2019 <sup>1, 8</sup>	50-70	50-70	>70	ND	10-50	ND	<10 <sup>4</sup>	10-50	10-50	10-50	ND	>70	ND	10-50	ND	50-70	50-70	ND	50-70	>70 <sup>10</sup>	10-50	3
% of women with cervical cancer treated <sup>1</sup>	94%	100%	ND			91% <sup>3</sup>	ND	ND	ND	>90%	ND			ND	100%	76%	89.8% <sup>9</sup>	90%	95%	ND	ND	7

\*Submitted survey responses

- Source: Survey of APEC Economies. All decimals have been rounded to the nearest whole number.
- Source: WHO/UNICEF Joint Reporting Form on Immunization. [Human Papillomavirus \(HPV\) vaccination coverage](#). All decimals have been rounded to the nearest whole number.
- In Hong Kong, China, in school year 2020-2021 first dose HPV vaccination was measured in primary five female students and complete dose HPV vaccination was measured in primary six female students. For screening, based on the Health Behaviour Survey 2018/19, a local survey covering the land-based non-institutional female population: 29.0% of women aged 25-34 and 37.5% of women aged 25-44 were screened in 2018/19. For treatment, 91.4% of patients with cervical cancer had received surgery, radiotherapy or chemotherapy (or a combination).
- According to the Indonesia survey response, 9.35% of woman aged 30-50 years old were screened in the last three years, 2020-2022
- In Japan, according to the interview-based survey conducted every three years, the latest participation rates across 5-year age groups in 2019 are as follows: 15.1% of 20—25 year-olds, 36.6% of 25—30 year-olds, 49.4% of 30—35 year-olds, 53.0% of 35—40 year-olds, 56.1% of 40—45 year-olds.
- In Malaysia, there was no HPV vaccine supply in 2021 due to global shortages, hence the low coverage. The average HPV vaccination coverage before 2021 has been consistently more than 95%.
- In the Philippines, out of 1,036,009 target population, 43,960 received the first dose of HPV vaccine in 2021. Out of 1,036,009 target population, 3,519 completed the HPV vaccine in 2021. Currently Philippine data aggregates women screened for cervical cancer age 20 y/o and above. 2021-74,900 women screened out of 33,455,399 eligible population; 2020-40,420 women screened out of 32,789,368 eligible population; 2019-224,620 women screened out of 31,508,155 eligible population
- Source: WHO. [Maternal, Newborn, Child and Adolescent Health and Ageing Data portal](#).
- According to the Singapore survey response, >90% of the 15-year-old cohort had received 1 and 2 doses of HPV vaccine under the school-based vaccination programme in 2021; >87% of 15-year-olds in the resident population, which is similar but not identical to the school-based programme, had received 2 doses. 30.5% of women aged 18-35 years and 42.7% of women aged 18-45 years reported screening. The National Population Health Survey captures self-reported data for women screened at appropriate intervals for cervical cancer (last 5 years for HPV testing, and last 3 years for pap smear). Treatment coverage reflects women who were diagnosed in 2020 and received treatment thereafter; data on treatment is limited to up to 6 months post-diagnosis.
- According to the United States survey response, 80% of women between the ages of 21-65 years have been screened within the last 3 years.

## APPENDIX | Data by APEC Economy

Programming and Funding Across the Cervical Cancer Prevention and Care Continuum (1/2)

Measure	Australia*	Brunei Darussalam*	Canada*	Chile	People's Republic of China	Hong Kong, China*	Indonesia*	Japan*	Republic of Korea*	Malaysia*	Mexico*	New Zealand	Papua New Guinea	Peru*	Philippines*	Russian Federation*	Singapore*	Chinese Taipei*	Thailand*	United States of America*	Viet Nam*	Total Yes
% of APEC economies with interventions available through cervical cancer elimination or intervention-specific programs																						
Domestic cervical cancer elimination program <sup>1</sup>	Yes	Yes	Yes	ND	ND	No	Yes	No	Yes	Yes	Yes	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	14
HPV Vaccination <sup>1</sup>	Yes	Yes	Yes			Yes <sup>3</sup>	Yes <sup>4</sup>	No	Yes	Yes	Yes			Yes	Yes <sup>5</sup>	No	Yes	Yes	Yes	Yes	No	18
HPV included in vaccination programme or schedule <sup>2</sup>				Yes	No			Yes <sup>2a</sup>				Yes	No								R <sup>2a, 6</sup>	
Screening <sup>1</sup>	Yes	Yes	Yes			Yes <sup>3</sup>	Yes	No	No	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	20
Screening programme for cervical cancer exists <sup>2</sup>				Yes	Yes			Yes <sup>2a</sup>	Yes <sup>2a</sup>			Yes	No								Yes <sup>2a</sup>	
Treatment <sup>1</sup>	Yes	Yes	Yes			Yes <sup>3</sup>	Yes	No	No	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	14

\*Submitted survey responses

R: Restricted to private purchase

- Source: Survey of APEC Economies. Economies measured as 'Yes' assume HPV vaccines are available for girls, at minimum. More detailed data can be found in page 19.
- Source: WHO/UNICEF data on [Vaccination schedule for Human papilloma virus](#) and WHO [Cervical Cancer \[Economy\] Profiles](#) were used for economies which did not submit survey responses.
  - This data was also used for Japan, Republic of Korea, and Viet Nam, which, for example, may not report interventions in broader cervical cancer elimination programs as is asked in the survey, but instead have standalone programs (e.g., screening programs or HPV in immunization programs) as is measured in the WHO Profiles.
- Although there is no cervical cancer elimination program in Hong Kong - China, HPV vaccination, screening, and treatment are in place
- In Indonesia, the introduction of HPV immunization has been carried out in stages: in 2021 20 districts had implemented HPV immunization, in 2022 132 districts had implemented HPV immunization, and in 2023 HPV immunization will be expanded domestically.
- According to WHO/UNICEF data on [Vaccination schedule for Human papilloma virus](#) in the [Philippines](#), the HPV vaccine is administered to girls in certain regions.
- In Viet Nam, the Ministry of Health has licensed the use of HPV vaccines for ages 9-26, but the vaccine is only available for private purchase at this time. Viet Nam plans to include HPV vaccines in the [Expanded Program on Immunization \(EPI\)](#) by 2026.

## APPENDIX | Data by APEC Economy

Programming and Funding Across the Cervical Cancer Prevention and Care Continuum (2/2)

Measure	Australia*	Brunei Darussalam*	Canada*	Chile	People's Republic of China	Hong Kong, China*	Indonesia*	Japan*	Republic of Korea*	Malaysia*	Mexico*	New Zealand	Papua New Guinea	Peru*	Philippines*	Russian Federation*	Singapore*	Chinese Taipei*	Thailand*	United States of America*	Viet Nam*	Total Yes
% of APEC economies with publicly funded coverage available through domestic cervical cancer elimination program, domestic budget, or universal health coverage, by intervention <sup>1</sup>																						
Cervical cancer elimination	Yes	Yes	Yes	ND	ND	No	Yes	No	No	Yes	No	ND	ND	Yes	No	No	Yes	Yes	Yes	Yes	No	10
HPV vaccination for all populations included in the domestic immunization program	Yes	Yes	ND	ND	ND	No	No	Yes	No	Yes	No	ND	ND	Yes	No	No	No	No	Yes	Yes	No	7
HPV vaccination for some populations included in the domestic immunization program	Yes	Yes	Yes	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	ND	ND	Yes	Yes	No	Yes	Yes	Yes	Yes	No	15
Cervical cancer screening	Yes	Yes	Yes	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	16
Treatment of invasive cervical cancer	Yes	Yes	Yes	ND	ND	Yes	Yes	Yes	No	Yes	Yes	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	16

\*Submitted survey responses

1. Data was limited to survey results. Percentages in the report are calculated using 21 as the denominator, counting missing economies or data as 'no data.'

## APPENDIX | Data by APEC Economy

### Introducing and Expanding HPV Vaccination

Measure	Australia*	Brunei Darussalam*	Canada*	Chile	People's Republic of China	Hong Kong, China*	Indonesia*	Japan*	Republic of Korea*	Malaysia*	Mexico*	New Zealand	Papua New Guinea	Peru*	Philippines*	Russian Federation*	Singapore*	Chinese Taipei*	Thailand*	United States of America*	Viet Nam*	Total Yes
Approximate % of APEC economies which include HPV vaccination for certain populations in immunization schedules or programs																						
Girls <sup>1</sup>	Yes	Yes	Yes <sup>3</sup>	Yes	No	Yes	Yes <sup>4</sup>	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes <sup>5</sup>	No <sup>6</sup>	Yes <sup>7</sup>	Yes	Yes	Yes	Yes (R) <sup>8</sup>	18
Boys <sup>2</sup>	Yes	No	Yes	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No	Yes	No	5
Catch-up (15+) <sup>2</sup>	Yes	Yes	Yes	ND	No	No	No	Yes	No	No	No	Yes	No	Yes	No	No	Yes	No	Yes	No	No	8
Adults (18+) <sup>2</sup>	Yes	No	Yes	ND	No	No	No	No	No	No	No	Yes	No	No	No	No	Yes	No	No	No	Yes (R) <sup>8</sup>	5

\*Submitted survey responses

R: Restricted to private purchase

- Source: WHO [Cervical Cancer \[Economy\] Profiles](#): WHO [Economy] Profiles were used to measure whether Domestic Immunization Programs (DIP) include HPV vaccines for girls in Chile, China, New Zealand, and Papua New Guinea. This data measures if HPV is included in the DIP.
- Source: WHO/UNICEF data on [Vaccination Schedule for Human papilloma virus](#) was used to measure whether DIPs include HPV for males in Chile, China, New Zealand, and Papua New Guinea. The report was also used to measure inclusion of populations 15+ and 18+ in New Zealand.
- In Canada, HPV vaccination is under the jurisdiction of Provincial and Territorial governments, so programs vary across regions. HPV vaccination programs in Canada include all genders and all jurisdictions now have HPV immunization catch-up programs.
- In Indonesia, HPV vaccines are administered to elementary school girls ages 11-12. The introduction of HPV immunization has been carried out in stages: in 2021 20 districts had implemented HPV immunization, in 2022 132 districts had implemented HPV immunization, and in 2023 HPV immunization will be expanded domestically.
- According to WHO/UNICEF data on [Vaccination schedule for Human papilloma virus](#) in the [Philippines](#), the HPV vaccine is administered to girls in certain regions.
- In the Russian Federation, HPV vaccines are not included in the immunization program, however, 17 regions conduct HPV vaccination of girls ages 12-14.
- In Singapore, HPV vaccination is recommended for all females ages 9 to 26 years, under the National Childhood Immunisation Schedule (NCIS) and National Adult Immunisation Schedule (NAIS).
- In Viet Nam, the Ministry of Health has licensed the use of HPV vaccines for ages 9-26, but the vaccine is only available for private purchase at this time. Viet Nam plans to include HPV vaccines in the [Expanded Program on Immunization \(EPI\)](#) by 2026.

## APPENDIX | Data by APEC Economy

### Advancing Cervical Cancer Screening

Measure	Australia*	Brunei Darussalam*	Canada*	Chile	People's Republic of China	Hong Kong, China*	Indonesia*	Japan*	Republic of Korea*	Malaysia*	Mexico*	New Zealand	Papua New Guinea	Peru*	Philippines*	Russian Federation*	Singapore*	Chinese Taipei*	Thailand*	United States of America*	Viet Nam*	Total Yes
Does your economy have:																						
Domestic capabilities to conduct screening and diagnostic testing <sup>1</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	20
What type of screenings for cervical cancer are available in your economy?																						
HPV DNA test <sup>2</sup>	Yes	No	Yes	Yes <sup>3</sup>		Yes	No <sup>4</sup>	No	No	Yes	Yes			Yes	No	No	Yes	Yes	Yes	Yes	Yes	12
Pap test <sup>2</sup>	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	18
Visual Inspection with Acetic Acid (VIA) <sup>2</sup>	No	No	No			No	Yes	No	No	No	No			Yes	Yes	No		No	No	No	Yes	4
Self-sampling <sup>2</sup>	Yes	No	No			Yes	No	No	No	Yes	No			Yes	No	No		No	No	No	No	4

\*Submitted survey responses

1. Source: WHO [Cervical Cancer \[Economy\] Profiles](#) were used to measure whether [domestic] screening programs exist in Chile, China, New Zealand, and Papua New Guinea.
2. WHO [Cervical Cancer \[Economy\] Profiles](#) were used to measure primary screening tests used in Chile, China, and New Zealand. The profiles do not measure all types of screening available in these economies.
3. Source: HPV Information Center. [Human Papillomavirus and Related Diseases Report, Chile](#)
4. Indonesia has plans to conduct a pilot project to introduce HPV DNA testing in restricted populations.

## APPENDIX | Data by APEC Economy

Progressing from Diagnosis to Monitoring and Treatment

Measure	Australia*	Brunei Darussalam*	Canada*	Chile	People's Republic of China	Hong Kong, China*	Indonesia*	Japan*	Republic of Korea*	Malaysia*	Mexico*	New Zealand	Papua New Guinea	Peru*	Philippines*	Russian Federation*	Singapore*	Chinese Taipei*	Thailand*	United States of America*	Viet Nam*	Total Yes	
Clinical guidelines for individuals who have been diagnosed with, or are at risk of, HPV	Yes	No	Yes	ND	ND	Yes	Yes	No	Yes	Yes	Yes	ND	ND	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	12
Definitive strategies for referrals to secondary and tertiary care <sup>1</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	16
Established programs linking individuals who have been diagnosed with, or are at risk of, HPV with prevention, treatment, and care resources	Yes	No	Yes	ND	ND	No	Yes	No	No	No	No	ND	ND	No	Yes	Yes	No	Yes	No	Yes	No	No	6
Standardized procedures for treatment follow-up	Yes	Yes	Yes	ND	ND	Yes	Yes	No	ND	Yes	Yes	ND	ND	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	13
Domestic cervical cancer treatment facilities	Yes	Yes	Yes	ND	ND	No	Yes	Yes	ND	Yes	Yes	ND	ND	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	12

\*Submitted survey responses

- Source: WHO [Cervical Cancer \(Economy\) Profiles](#) were used to measure whether clearly defined referral systems exist from primary care to secondary and tertiary care in Chile, China, New Zealand, and Papua New Guinea. Although the profiles indicated that such systems exist in Japan, Republic of Korea, Peru, the Philippines, and Singapore, survey responses were given preference.

## APPENDIX | Data by APEC Economy

Tracking Uptake of the Prevention and Control Continuum

Measure	Australia*	Brunei Darussalam*	Canada*	Chile	People's Republic of China	Hong Kong, China*	Indonesia*	Japan*	Republic of Korea*	Malaysia*	Mexico*	New Zealand	Papua New Guinea	Peru*	Philippines*	Russian Federation*	Singapore*	Chinese Taipei*	Thailand*	United States of America*	Viet Nam*	Total Yes
Vaccination registries <sup>1</sup>	Yes	Yes	No	ND	ND	No	Yes	Yes	Yes	Yes	No	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	13
Screening registries <sup>1</sup>	Yes	Yes	Yes	ND	ND	Yes	Yes	No	No	Yes	Yes	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	No	No	13
Cancer registries <sup>2</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	18
Death registries <sup>1</sup>	Yes	Yes	Yes	ND	ND	Yes	No	No	Yes	Yes	Yes	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	15
Digital health data systems	Yes	Yes	Yes	ND	ND	Yes	Yes	No	Yes	Yes	No	ND	ND	Yes	No	Yes	Yes	Yes	Yes	Yes	No	13
Health data systems to track individual women through health system after abnormal screening tests and evaluate quality and timeliness of the screening program	Yes	Yes	No	ND	ND	Yes	No	No	No	No	No	ND	ND	No	No	Yes	Yes	Yes	Yes	Yes	No	8
Does your economy have: <sup>3</sup>																						
Screening registries to identify women eligible for screening	Yes	Yes	No	ND	ND	No	Yes	No	Yes	No	No	ND	ND	No	Yes	Yes	Yes	Yes	Yes	No	No	8
Screening registries that can track women's history of screening	Yes	Yes	No	ND	ND	Yes	Yes	No	Yes	No	No	ND	ND	No	No	Yes	Yes	Yes	Yes	No	No	8

\*Submitted survey responses

1. Data for vaccination, screening, death, and digital health data systems was limited to survey results. Percentages in the report are calculated using 21 as the denominator, counting missing economies or data as 'no data.'
2. Source: WHO [Cervical Cancer \[Economy\] Profiles](#) were used to measure whether population-based cancer registries exist in Chile, China, New Zealand, and Papua New Guinea.
3. This data was measured using the survey and is not explicitly included in the KPI report, but is included in the appendix for reference.

## APPENDIX | Data by APEC Economy

*Introducing Communication and Delivery Strategies to Reduce Disease Burden*

Measure	Australia*	Brunei Darussalam*	Canada*	Chile	People's Republic of China	Hong Kong, China*	Indonesia*	Japan*	Republic of Korea*	Malaysia*	Mexico*	New Zealand	Papua New Guinea	Peru*	Philippines*	Russian Federation*	Singapore*	Chinese Taipei*	Thailand*	United States of America*	Viet Nam*	Total Yes	
Clinical HPV and cervical cancer educational programs targeted towards providers <sup>1</sup>	Yes	No	Yes	ND	ND	Yes	Yes	No	ND	Yes	No	ND	ND	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	12
Vaccine confidence communications programs targeted towards adolescents and/or their parents <sup>1</sup>	Yes	Yes	Yes	ND	ND	Yes	Yes	Yes	Yes	Yes	Yes	ND	ND	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	15
Screening communications programs targeted towards eligible adults <sup>1</sup>	Yes	No	Yes	ND	ND	Yes	Yes	No	No	Yes	Yes	ND	ND	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	13
Comprehensive sexual health education required in schools <sup>1</sup>	Yes	No	Yes <sup>4</sup>	ND	ND	Yes	Yes	Yes	ND	Yes	No	ND	ND	Yes	Yes	ND	Yes	Yes	Yes	Yes <sup>2</sup>	Yes	Yes	13
School-based vaccination programs, that include HPV vaccination, for domestically eligible populations <sup>1,3</sup>	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	15

\*Submitted survey responses

1. Source: Survey of APEC Economies
2. Only some jurisdictions require comprehensive sexual health education in the United States.
3. Survey responses were prioritized for most economies. WHO/UNICEF data on [Routine Vaccines Delivered at School](#) was used to measure whether HPV vaccines are administered in schools in Chile, China, New Zealand, and Papua New Guinea. School-based programs were not defined in the survey and may include pilot programs and educational programs.
4. In Canada, most Provinces and Territories require sexual health education be included in elementary school curriculums, though ages at which topics are introduced vary amongst jurisdictions.

## SOURCES

- i. APEC. (2021). APEC Healthcare Financing Roadmap. <https://www.apec.org/docs/default-source/satellite/healthfinancing/apec-healthcare-financing-roadmap.pdf>
- ii. APEC. (2021). APEC Roadmap to Promote Sustainable Economic Advancement for Women Through Cervical Cancer Prevention and Control. Retrieved from [http://mddb.apec.org/Documents/2021/MM/HLM-HE/21\\_hlm-he\\_004.pdf](http://mddb.apec.org/Documents/2021/MM/HLM-HE/21_hlm-he_004.pdf)
- iii. APEC. (2021). Promoting Sustainable Economic Advancement for Women by Addressing Policy Barriers to Prevention, Control, and Elimination of HPV and Cervical Cancer. <https://aimp2.apec.org/sites/PDB/Lists/Proposals/DispForm.aspx?ID=3080>
- iv. APEC. (2022). Best Practices and Recommendations for APEC Collaboration on Cancer Control. Retrieved from <https://www.apec.org/publications/2022/09/best-practices-and-recommendations-for-apec-collaboration-on-cancer-control>
- v. Australian Government. National Cancer Screening Registry. <https://www.ncsr.gov.au/>
- vi. Baker R, Sullivan E, Camosso-Stefinovic J, Rashid A, et al. (2007). Making use of mortality data to improve quality and safety in general practice: a review of current approaches. *Qual Saf Health Care*. 2007 Apr;16(2):84-9. DOI: 10.1136/qshc.2006.019885. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2653161/>
- vii. Bruni L, Albero G, Serrano B, Mena M, Collado JJ, Gómez D, Muñoz J, Bosch FX, de Sanjosé S. ICO/IARC Information Centre on HPV and Cancer (HPV Information Centre). Human Papillomavirus and Related Diseases in Chile. Summary Report 10 March 2023 <https://hpvcentre.net/statistics/reports/XWX.pdf>
- viii. Chaw LL, Lim STW, Md Yusof SR. (2019). Human Papillomavirus vaccine coverage among female students in Brunei Darussalam: results from the first 4 years of the national school-based vaccination programme. *Heliyon*. 2019 Oct 18;5(10):e02588. DOI: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6806404/>
- ix. Government of Canada. Immunization Partnership Fund. <https://www.canada.ca/en/public-health/services/immunization-vaccine-priorities/immunization-partnership-fund.html>
- x. HPV Information Center. Human Papillomavirus and Related Diseases Report. Chile. <https://hpvcentre.net/statistics/reports/CHL.pdf>
- xi. The Government of Hong Kong. Cervical Screening Programme. <https://www.cervicalscreening.gov.hk/en/resources.html>
- xii. WHO. (2023). Maternal, Newborn, Child, and Adolescent Health and Ageing. <https://platform.who.int/data/maternal-newborn-child-adolescent-ageing/indicator-explorer-new/MCA/proportion-of-women-aged-20-49-who-report-they-were-screened-for-cervical-cancer>
- xiii. WHO. Cervical Cancer Elimination Initiative. <https://www.who.int/initiatives/cervical-cancer-elimination-initiative#cms>
- xiv. WHO. Phillipeans Cervical Cancer Profile. [https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-cancer-phl-2021-country-profile-en.pdf?sfvrsn=d5b7903b\\_38&download=true](https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-cancer-phl-2021-country-profile-en.pdf?sfvrsn=d5b7903b_38&download=true)
- xv. WHO. Vaccination schedule for Human papilloma virus. [https://immunizationdata.who.int/pages/schedule-by-disease/hpv.html?ISO\\_3\\_CODE=&TARGETPOP\\_GENERAL=](https://immunizationdata.who.int/pages/schedule-by-disease/hpv.html?ISO_3_CODE=&TARGETPOP_GENERAL=)
- xvi. WHO/UNICEF. Joint Reporting Form on Immunization. Human Papillomavirus (HPV) vaccination coverage. <https://immunizationdata.who.int/pages/coverage/hpv.html>
- xvii. World Health Organization. (2020). Global Strategy to Accelerate the Elimination of Cervical Cancer As a Public Health Problem. Retrieved from <https://www.who.int/publications/i/item/9789240014107>
- xviii. World Health Organization. (2021). Cervical cancer country profiles. Retrieved from <https://www.who.int/teams/noncommunicable-diseases/surveillance/data/cervical-cancer-profiles>