



**Asia-Pacific
Economic Cooperation**

2021/SOM3/HLM-HE/004

Agenda Item: 3

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

Purpose: Information

Submitted by: LSIF



**11th High Level Meeting on Health and
the Economy
24 August 2021**

APEC Roadmap to Promote Sustainable Economic Advancement for Women Through Cervical Cancer Prevention & Control 2021-2025

Introduction: Cervical Cancer Prevention & Control

Cervical cancer is one of the most common cancers affecting women worldwide, with more than 600,000 new cases and more than 340,000 deaths estimated in 2020.¹ Approximately 70% of cervical cancer incidence and mortality occurs in Asia, the Latin American/Caribbean regions, and North America.² Women in developing economies are more likely to be diagnosed late, when treatment is more invasive and less effective than in early stages, increasing the likelihood of disability, infertility, and death. According to the World Health Organization (WHO), the incidence of cervical cancer is nearly twice as high in low- and middle-income economies than in high-income economies;³ mortality rates are three times as high and, in 2018, nearly nine in ten cervical cancer deaths worldwide occurred in low- and middle-income economies.⁴ Disparate incidence and mortality rates in low- and middle-income economies are primarily attributable to the relative lack of high-quality cervical cancer screening and high-quality treatment of invasive cervical cancer in these economies.⁵ Most deaths occur in women at an age where they are leading productive lives, are contributing members to the workforce and economy, are attaining leadership positions, and are often simultaneously caring for their families. The death and suffering of many women could be averted with focused action on prevention, screening and treatment of pre-cancer, early diagnosis, access to modern cervical cancer treatment, and effective symptom management/palliative care.

Cervical cancer prevention and control presents a unique opportunity to not only significantly reduce the burden of this non-communicable disease (NCD), but to simultaneously improve women's empowerment and participation in the economy. Effective cervical cancer control strategies exist along the cervical cancer control continuum, including primary prevention (human papillomavirus (HPV) vaccination), early detection and secondary prevention (e.g., screening, triage, treatment of precancerous lesions, treatment of women found to have invasive cancer, and symptom management/palliative care).^{6,7} Recent research has demonstrated the relative effectiveness of lower cost screening techniques, and ongoing research is exploring additional reduced-cost cervical cancer control options.⁸ A 2017 study of 50 low- and lower-middle-income economies estimated that both HPV vaccination and screening of girls could avert 5.2 million cases, 3.7 million deaths, and 22.0 million disability-adjusted life years (DALYs) over the lifetimes of the intervention cohorts for a total 10-year program cost of 3.2 billion USD.⁹ To further reduce the prevalence of cancer-causing HPV serotypes, several economies have expanded HPV vaccination recommendations to include adolescent boys, particularly when vaccine coverage among adolescent girls is low.¹⁰ Research has also shown that extending routine vaccination programs to women of up to 30 years of age (and to the 45–50-year age groups in some settings), paired with HPV-screening tests, has the potential to accelerate the decline in cervical cancer incidence.¹¹

If HPV 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 the cancer is not recognized in early stages.¹² However, access to vaccines, diagnostics, and treatments has historically been limited, particularly in low- and middle-income economies where there is limited access to cervical cancer management despite high disease burden. Of the 147 economies offering cervical cancer screening as of 2020, treatment, early diagnosis guidelines, and palliative care are not available in 13%, 13%, and 40%, respectively. Additionally, only 11% met screening targets of 70% of the eligible population, none of which were low-income economies.¹³ As of 2019, 100 economies - representing only 30% of the global target population - had introduced the HPV vaccine into their domestic immunization schedules, and only 30% of low-income economies reported having cancer diagnosis and treatment services available in the public sector.^{14,15} There are indications that access to vaccination may be improving, however. By 2019, 65% of girls who received at least one dose of the HPV vaccine lived in low- and middle-income economies, whereas between 2006 and 2017, 95% of the 100 million adolescent girls vaccinated each year were in high-income economies.¹⁶

The large number of interventions currently available and on the horizon can facilitate integration of cervical cancer prevention and management approaches into existing health systems across economies of many different resource levels and have a substantial impact on public health, the workforce, and the broader global economy.¹⁷ Furthermore, investments in cervical cancer prevention and control across the continuum, in line with WHO targets, can simultaneously improve the health system's ability to address other cancers and NCDs. In particular, investments in screening requires a matching increase in treatment of detected lesions, as screening without access to treatment is unethical.¹⁸

Investing in the interventions geared to help meet the WHO's 90-70-90ⁱ targets offers a vast number of global economic and societal benefits. Estimates show that approximately \$3.20 USD will be returned to the economy for every \$1.00 USD invested through 2050 due to increases in women's workforce participation. After considering additional societal benefits, this figure increases dramatically to \$26.00 USD per \$1.00 USD invested.¹⁹ Further, achieving these targets would allow approximately 250,000 women to remain productive members of the workforce – ultimately leading to about \$28 billion USD in contributions to the global economy: \$70 million USD of increased workforce participation and \$27.3 billion USD from the indirect socioeconomic benefits of good public health. Additional high socioeconomic benefits would follow if 78 of the world's low- and lower-middle-income economies achieve the 90-70-90 targets by the year 2030 through spending, organizing, and implementing the estimated \$10.5 billion USD needed to upgrade cervical cancer prevention and treatment.^{20,21}

APEC Work on Cervical Cancer Prevention & Control, 2014-2021

On 15 August 2014, the 4th APEC High Level Meeting on Health and the Economy (HLM4) convened in Beijing, P.R. China and issued a Joint Statement welcoming recent work on the “development by APEC of a road map for mental health, and efforts to address cervical cancer.”²² As a preliminary step towards achievement of such a roadmap, on 16 August 2014 the APEC Health Working Group (HWG) and Life Sciences Innovation Forum (LSIF) convened a Regional Workshop on Enabling Sustainable Economic Advancement for Women through Cervical Cancer Prevention and Control in Beijing, P.R. China. The workshop, hosted by the China National Cancer Center/China Academy of Medical Sciences Cancer Hospital, convened leading global and regional cervical cancer experts from government, industry, academic institutions, and civil society to showcase the diverse cervical cancer prevention and control programs and partnerships that are being carried out in APEC economies.²³ The key output of the session, developed by a working group of experts who participated in the workshop, was a set of draft “Recommendations of the APEC Regional Workshop on Enabling Sustainable Economic Advancement for Women through HPV and Cervical Cancer Prevention and Control”. Those recommendations focused on key priorities including:²⁴

- To prioritize cervical cancer prevention and control by setting measurable targets for reduction of cervical cancer incidence and mortality and establishing evidence-based programs to meet those targets
- To improve public education and communication with regard to HPV vaccination and cervical cancer screening

At the August 2015 APEC Senior Officials Meeting 3 (SOM3), the cervical cancer recommendations were recognized by the APEC Health Working Group.²⁵ On August 23, 2016, the US National Cancer Institute (NCI) partnered with the Peruvian Instituto Nacional de Enfermedades Neoplásicas (INEN) to hold a second workshop, which focused on strategies for implementation of the APEC cervical cancer recommendations through an APEC cervical cancer roadmap.²⁶ Following the workshop, a cervical cancer expert group of interested stakeholders was convened to finalize the draft of the roadmap. In 2016, the HWG and LSIF introduced an “APEC Roadmap to Promote Sustainable Economic Advancement for Women through Cervical Cancer Prevention and Control (2016-

ⁱ The WHO's 90-70-90 targets will put all nations on the path to cervical cancer elimination by 2030. These targets aim to have 90% of girls fully vaccinated with the HPV vaccine by the age of 15, 70% of women screened using a high-performance test by the age of 35 and again by the age of 45, and 90% of women identified with cervical disease are treated. WHO Global Strategy, p. 23. In addition, the WHO's 2030 targets include a 30% reduction in deaths from cervical cancer, consistent with the UN Sustainable Development Goals, which call for a 30% reduction in deaths from non-communicable diseases, including cancer.

2021)”, with the primary goals of:

- Launching and sustaining support for an APEC hub for information exchange among APEC economies and collection of published and pilot tools and resources on best practices and initiatives, especially in low-resource settings.
- Identifying and launching pilot collaborations and public-private partnerships among all interested APEC member economies by 2021

Support for these APEC efforts was reiterated in the 2017 statement of the HLM7, which “welcomed continued APEC efforts to promote HPV prevention and cervical cancer prevention and control” and acknowledged that “HPV immunization is one of the best investments that can be made in adolescent health in developing economies.”²⁷ Work has continued to advance implementation of the roadmap in the following years, including:

- Ongoing APEC Cervical Cancer Network Technical Project ECHO webinar series
- APEC Policy Dialogues on Cervical Cancer, the 6th edition of which was held 20 and 24 November 2020

Alignment with the North Star—A 2030 Strategy

The first iteration (2016-2021) of the APEC Roadmap to Promote Sustainable Economic Advancement for Women through Cervical Cancer Prevention and Control was aligned with the Healthy Asia Pacific 2020⁶ Roadmap. This current iteration (2021-2025) of the APEC Roadmap aligns with the the *North Star—A 2030 Strategy for Enabling Resilient Health Systems and Promoting the Health of Our Populations in the Asia Pacific* (2021).

Alignment with Global Strategy from the World Health Organization and Others

The APEC Roadmap to Promote Sustainable Economic Advancement for Women through Cervical Cancer Prevention and Control (2021-2025) complements the World Health Organization’s (WHO) Global Strategy to Accelerate the Elimination of Cervical Cancer as a Public Health Problem²⁸ and the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases (2013-2020), among other strategies and guidelines.²⁹ See

Appendix I: Alignment with Global Strategy for more.

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.

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.

Goals and Key Performance Indicators

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:
 - *Outputs:*
 - Improve disease awareness strategies and initiatives, such as comprehensive sexual health education, to build and sustain vaccine confidence
 - Increase routine HPV vaccination of girls by age 15
 - Introduce and/or increase routine HPV vaccination of boys by age 15 (if applicable)
 - Introduce and/or increase catch-up HPV vaccination of adults
 - Improve access to effective prevention interventions, including safer-sex materials, harm reduction, testing, treatment, and targeted vaccination programs
 - Implement sustained interventions to facilitate empowerment and behavior change
 - Develop holistic, culturally-appropriate, and gender-based information and education resources for people to facilitate early prevention and treatment
 - Research, implement, and evaluate innovative biomedical prevention and interventions (e.g., new vaccines and PrEP) and continue to expand the reach of existing vaccines (e.g. HPV)
 - *Outcomes:*
 - Build resilient vaccination ecosystems
 - Build vaccination registries to track vaccination status for HPV and other vaccines
2. Accelerate and scale secondary prevention of cervical cancer through effective screening and treatment of precancerous lesions:
 - *Outputs:*
 - Establish a sustainable screening program with high-performance test for women by the age of 35 and again by 45, at minimum
 - Develop a network of health professionals and front-line providers equipped with the knowledge, skills, and resources to provide equitable access to prevention interventions. Establish a definitive strategy for referrals to secondary and tertiary care, including treatment of pre-cancerous lesions
 - Ensure appropriate linkages to prevention, treatment, and care resources are provided to individuals who have been diagnosed with, or are at risk of, HPV
 - Build and maintain infrastructure to run and increase access to tests
 - *Outcomes:*
 - Build screening registries to identify women eligible for screening and track their history of screening
 - Strengthen health data systems to permit tracking of individual women through the health system after an abnormal screening test as well as to evaluate quality and

- timeliness of the screening program
 - Evaluate and implement innovative and emerging testing technologies, testing approaches, and sustainable quality assurance systems.

- 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:
 - *Outputs:*
 - Invest in capacity to diagnose and treat women found to have invasive cervical cancer
 - *Outcomes:*
 - Ensure access to global standard of care for treatment and symptom management and palliative care to provide the best overall outcome for patients

- 4. Improve infrastructure to support acceleration and scaling of primary prevention, secondary prevention, treatment, and palliative care:
 - *Outputs:*
 - Assess, implement, and/or strengthen health system capacity and needs to tailor service delivery models to reach all affected and at-risk populations, particularly those who are vulnerable and marginalized
 - Introduce and increase school-based vaccination when appropriate and feasible
 - Expand facility screening capabilities and establish standardized procedures for treatment follow-up
 - Expand facility capabilities for chemotherapy and surgery
 - Build and/or integrate accessible and digital data systems, vaccine registries, cancer registries, and death registries to track program impact and monitor changes in disease burden. Establish and maintain a proficient and comprehensive information system comprised of vaccination, screening, and treatment data to guide decision-making and monitor advances toward elimination of HPV and cervical cancer
 - Tailor information systems to select priorities and corresponding key component processes and outcome measures
 - Develop evidence-based policies and programs guided by the most recent surveillance data, research, and other evidence
 - *Outcomes:*
 - Establish baseline data on vaccination, screening, treatment of pre-cancer, treatment of cancer, incidence of cancer, and deaths from cervical cancer
 - Strengthen domestic surveillance systems to provide necessary data to track progress toward WHO 2030 and UN SDG NCG goals

Approach

- Adopt and maintain an integrated approach to disease management through prevention, screening, diagnosis and treatment
- Support economies, particularly lower-resource economies, in scaling and maintaining HPV vaccination programs
- Leverage the APEC Cervical Cancer Expert Group to advise policymakers and healthcare providers
- Convene policy dialogues and capacity-building workshops, including through Project ECHO platforms
- Identify collaborative opportunities to engage broadly with global stakeholders (e.g., AOGIN, Asia Pacific HPV Coalition, Asia Pacific Immunization Coalition, International Gynecologic Cancer Society) to support and align organizational goals
- Elevate the importance of cervical cancer prevention and control among APEC senior officials and at the APEC High Level Meeting on Health & the Economy
- Cooperate with the APEC LSIF Vaccines Task Force to promote HPV vaccination of girls and boys and inclusion of HPV vaccines within domestic immunization plans as applicable
- Cooperate with the APEC Cancer Control Policy workstream to create an enabling policy environment that addresses the social determinants of health for HPV vaccination, expanded and accessible cervical cancer screening, treatment, and symptom management/palliative care within domestic cancer plans

Appendix I: Alignment with Global Strategy

The APEC Roadmap aligns with and encourages use and implementation of the:

- **Flagship 3 of [Europe's Beating Cancer Plan \(2021\)](#)**, and related efforts to extend routine vaccination against HPV of girls and boys
Europe's Beating Cancer Plan aims to tackle the cancer disease pathway through a variety of EU-wide initiatives which will advance research and innovation, utilize data and digitalization in cancer prevention and care, raise awareness of and target risk factors, improve early detection, ensure high standards of care, improve patient quality of life, and reduce cancer inequalities. Flagship initiative 3 concerns cervical cancer in particular, supporting EU member efforts to extend routine vaccination against HPV of girls and boys, with a target to vaccinate 90% of EU girls, and significantly increase the number of vaccinated boys, by 2030.
- **WHO/PAHO Plan of Action for Cervical Cancer Prevention and Control 2018-2030 (2019)**
The plan of action adapts global mandates and initiatives to meet the diverse contexts, priorities, and needs of PAHO Member States. The plan involves strategic partnerships between Member States to facilitate dialogues, implement cervical cancer tools and resources, and promote synergies and coordinate efforts with existing partner initiatives to reduce cervical cancer incidence and mortality rates in the Americas by one-third by 2030.
- **WHO Guideline for Screening and Treatment of Cervical Pre-Cancer Lesions for Cervical Cancer Prevention, Second Edition (2021)**
The guideline aims to increase access to cervical cancer screening and treatment and was created in response to the WHO 2020 Global Strategy. The guideline includes 23 recommendations and 7 good practice statements to support economies in expanding access.
- **WHO Technical Specifications of Radiotherapy Equipment for Cancer Treatment (2021)**
Improvement of access to radiotherapy is one of the strategic actions in achieving the 90% treatment target of the WHO Global strategy towards eliminating cervical cancer as a public health problem. These specifications assist clinical radiation oncologists, medical physicists, and biomedical engineers, as well as IT, financial and planning officers, in selecting among the available options for appropriate radiotherapy technologies to conduct safe and secure clinical procedures that may be selected by. The specifications also provide guidance on health technology management.
- **WHO Guide on Introducing and Scaling Up Testing for HPV as Part of a Comprehensive Programme for Prevention and Control of Cervical Cancer (2020)**
This guidance offers step-by-step process to be followed for HPV testing as part of the cervical cancer screening methodology. It lays out a comprehensive framework for the introduction of HPV testing, including (1) planning measures, (2) implementation, and (3) monitoring and scaling of testing programs.
- **WHO Technical Guidance and Specifications of Medical Devices for the Screening and Treatment of Precancerous Lesions in the Prevention of Cervical Cancer (2020)**
This guidance supports policymakers, procurement officers, manufacturers, regulators, and NGOs in the selection and procurement of high quality and affordable medical devices for screening and treatment of precancerous lesions, providing specifications for these technologies and also offering guidance on proper use.
- **WHO Framework for Strengthening and Scaling-Up Services for the Management of Invasive Cervical Cancer (2020)**
The framework serves as a reference document to support policymakers, particularly in low- and middle-income economies, in enhancing cervical cancer control, supporting the WHO goal of treating 90% of women diagnosed with invasive cancer. It defines a cervical care pathway, describes core clinical services needed for management of invasive cervical cancer, and outlines a

- practical framework for strengthening and scaling up management within a health system approach.*
- **WHO Report on Cancer (2020)**
This report provides guidance for policymakers in formulating a response to their domestic cancer burden. The report describes priority policies and programs in cancer control and evidence-based interventions along the cancer continuum.
 - **WHO Guide for Establishing a Pathology Laboratory in the Context of Cancer Control (2019)**
This guide is intended to support and health officials to understand the elements of pathology services and the minimum requirements for establishing a pathology laboratory with histopathology and cytopathology services. It also provides guidance on quality management.
 - **WHO Guidelines for the Use of Thermal Ablation for Cervical Pre-Cancer Lesions (2019)**
The guidelines provide evidence-based guidance on the use of thermal ablation to treat cervical precancer, and support economies in updating domestic guidelines for the use of thermal ablation for cervical precancer.
 - **National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Cervical Cancer (2021)**
The guidelines provide recommendations for the diagnosis, evaluation, and treatment of cervical cancer and discusses guiding principles for the workup, staging, and treatment of early stage and locally advanced cervical cancer, as well as evidence for these recommendations. These guidelines are also stratified by level of available resources.

The APEC Roadmap also aligns with the following UN and WHO resolutions:

- **World Health Assembly Resolution 73.2 (2020):** Global strategy to accelerate the elimination of cervical cancer as a public health problem and its associated goals and targets for the period 2020-30
- **World Health Assembly Resolution 70.14 (2017):** Strengthening immunization to achieve the goals for the global vaccine action program
- **United Nations General Assembly resolution 70.1 (2015):** Transforming our world: the 2030 agenda for sustainable development
- **World Health Assembly Resolution 68.15 (2015):** Strengthening emergency and essential surgical care and anesthesia as a component of Universal Health Care
- **World Health Assembly Resolution 67.19 (2014):** Strengthening of palliative care as a component of comprehensive care throughout the life cycle
- Political declaration of the 3rd High Level Meeting on Prevention and Control of Non-Communicable Diseases, resolution adopted by the UN General Assembly, 73rd session, 2018-2019

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