Accelerating Vietnam's Journey Toward Cervical Cancer Elimination: Lessons and Leadership from the APAC Region

August 2025

APAC Women's Cancer Coalition

TOGETHER for health

Table of Contents

Case Studies

About the Report

"Making Strides Towards Cervical Cancer Elimination: Insights from Vietnam and the APAC Region" is a report written by TogetHER for Health on behalf of the APAC Women's Cancer Coalition and supported by Roche.

In this report, progress to reduce the burden of cervical cancer is examined through an in-depth review of Vietnam's context and six additional countries in the Asia-Pacific (APAC) and Association of Southeast Asian Nations (ASEAN) regions: Australia, Indonesia, Malaysia, the Philippines, Singapore and Thailand.

The report examines the current disease burden of cervical cancer in Vietnam and highlights existing policies, health economics and financing, service provision, and building demand for services. The report also underscores progress to scale up cervical cancer services across the region, with a focus on the transition to development and rollout of national cervical cancer elimination strategies, based on recommendations and targets set by the World Health Organization (WHO).

The report identifies both gaps and opportunities for further progress in the Vietnamese context and aims to improve health outcomes by offering clear, actionable recommendations for Vietnam to consider as their national strategies for control and prevention of cervical cancer evolve.

To inform the development of this report, TogetHER for Health interviewed experts, national stakeholders, and conducted an evidence review.

We wish to acknowledge and thank the following experts who contributed to the development of this report:

- Dr. Dinh Anh Tuan, Director, Mother and Child Department, Ministry of Health (MOH)
- Ms. Vu Nu Anh, Deputy Head of Department of Health Insurance, MOH
- Dr. Deborah Bateson, Professor of Practice and Faculty of Medicine and Health at the University of Sydney, Co-lead of Cervical Cancer and HPV Stream: Clinical translation and implementation
- Dr. Hoang Minh Duc, Director of Department of Preventive Medicine (VNCDC)
- Dr. Ong The Due, Department Head of Health Economic Assessment, Health Strategy and Policy Institute, MOH
- Dr. Nguyen Minh Hang, Deputy Director of the Vietnam Food Administration, Ministry of Health
- Dr. Tran Thanh Huong, Vice Director of National Cancer Institute
- Prof. Nguyen Vu Quoc Huy, Headmaster at Hue Medical - Pharmaceutical University
- Dr. Woo Yin Ling, Professor of Obstetrics and Gynecology at the University of Malaya and Trustee of the ROSE Foundation
- Dr. Jan Aura Laurelle Llevado, Chief of the Cancer Control Division at the Department of Health in the Philippines
- Prof. Nguyen Viet Tien, former Deputy Minister of Health, President of Vietnam Association of O&G (VAGO), Director of Thien An Hospital
- Ms. Tran Thi Trang, Head of Department of Health Insurance, MOH

The research and writing of this report were led by Dr. Heather White and supported by Megan Wadsworth of TogetHER for Health. Editing was provided by Tom Harmon and members of the APAC consortium.

TogetHER for Health bears sole responsibility for the content of this report. The findings and views expressed do not necessarily reflect the views of the sponsor.

Executive Summary

Cervical cancer, a largely preventable and treatable disease caused by persistent infection with high-risk types of human papillomavirus (HPV), continues to impose a significant health and economic burden globally, with a disproportionate impact on low- and middle-income countries (LMICs). The global burden of disease is heavily weighted towards Asia, which currently accounts for approximately 60% of new cases and 57% of worldwide cervical cancer deaths, respectively.[1]

While several regional neighbors like Indonesia, Malaysia, Thailand, and the Philippines have all established or are implementing national elimination strategies aligned with global targets, Vietnam remains one of the few countries without a comprehensive, funded elimination strategy, despite only 12.5% HPV vaccination coverage and 30% screening coverage, far below global elimination targets.[2]

Without immediate action, Vietnam's cervical cancer incidence is predicted to increase by 22% and mortality by 32% by 2030, resulting in thousands of preventable deaths.[1] Yet the solution is clear and economically compelling: for every $1 US Dollar (USD) invested in comprehensive cervical cancer prevention, Vietnam will see returns of $5-$11 USD in economic benefits.[2] This report examines Vietnam's progress to date on cervical cancer prevention and control, drawing on insights from regional programs to provide actionable recommendations for an accelerated national response from Vietnam.

The Economic Argument for Investment in Cervical Cancer Elimination

Investing in cervical cancer elimination is both a moral imperative and a sound economic decision for Vietnam. Global models indicate that every $1 USD invested in elimination efforts yields at least $3.20 USD in economic returns due to increased female workforce participation, with broader socioeconomic returns potentially exceeding $26 per dollar invested.[3]

More specifically for Vietnam, a national return on investment (ROI) study found that by aligning coverage of HPV vaccination and cervical screening in line with the World Health Organization's (WHO) elimination targets could yield economic returns in Vietnam of $5-$11 USD and combined economic and social benefits of $8-$20 USD for every $1 USD invested.[4] Conversely, inaction leads to substantial economic losses from high treatment costs for late-stage cancer, lost productivity, and catastrophic out-of-pocket expenditures for families, pushing them into poverty. Prioritizing prevention through HPV vaccination and high-performance HPV screening, coupled with early treatment, has been demonstrated as among the most cost-effective public health interventions available across diverse settings, globally and in the ASEAN region.[5, 6, 7, 8]

Major Findings and The Call for Urgency in Vietnam

Vietnam's lack of a comprehensive, funded cervical cancer elimination strategy represents a critical policy gap – and opportunity – in protecting women's health. Unlike every other major ASEAN nation, Vietnam has yet to develop, fund, or implement a comprehensive plan aligned with WHO's cervical cancer elimination '90-70-90' targets. This policy vacuum - evidenced by the absence of a high-level cervical cancer task force, the exclusion of population-based screening from the national health insurance benefit package, and the delayed integration of HPV vaccination into routine immunization programs - signals insufficient political prioritization of this preventable disease. If unaddressed, these policy and implementation gaps will lead to increased preventable incident cases and deaths, widen health inequities, and further strain the nation's healthcare system.

Current HPV vaccination coverage in Vietnam is estimated at 12.5% of females 15-29 years, and participation in cervical cancer screening rates are 30% of eligible women in the past five years, primarily through opportunistic efforts that largely rely on Papanicolaou (Pap) tests or visual inspection.[9,10] With an approximate female population of 51.74 million in 2025, modeling estimates project roughly 3,500 new

cases and 1,900 deaths in 2025.[11] The country has made consistent progress towards control of cervical cancer since its first cancer control plan was published in 2008. Nevertheless, Vietnam has yet to implement an organized, population-based national cervical cancer screening program, and access to cervical screening with high performance tests within the public health system remains limited. Furthermore, unlike regional peers such as Indonesia, Malaysia, Thailand, and the Philippines - all of which have established or are imminently rolling out national cervical cancer elimination strategies - Vietnam currently lacks a comprehensive, fully costed, and politically endorsed roadmap aligned with the WHO's global cervical cancer elimination plan and corresponding '90-70-90' targets. Without this foundational strategy, systematic planning, resource allocation, and coordinated implementation remain impossible.

Countries like Australia are on the verge of eliminating cervical cancer due to sustained investment in high HPV vaccination coverage, a transition to primary HPV screening with self-collection options, and robust treatment pathways, all underpinned by a national elimination strategy. Other nations like Thailand - through its Universal Coverage Scheme integrating HPV testing - and Malaysia are also demonstrating significant progress. These regional successes highlight that elimination in the region is achievable with strategic planning, political will, and sustained investment.

Key Recommendations for Accelerated Action on Cervical Cancer in Vietnam

To mitigate current trends and align with regional and global progress, this report puts forth a series of time-bound, actionable recommendations for Vietnam, centered around a multi-pronged strategy:

Develop and Implement a National Cervical Cancer Elimination Strategy (2025-2026): Finalize and adopt a comprehensive National Cervical Cancer Elimination Strategy and Operational Plan aligned with WHO's 90-70-90 targets. This includes detailed plans for scaling up HPV vaccination, implementing population-based HPV testing, ensuring access to treatment, and strengthening health systems.

Secure Sustainable Financing (2026-2027): Mobilize domestic resources, including Social Health Insurance (SHI) funds and dedicated government budgets, and explore catalytic external funding and innovative financing mechanisms to ensure the long-term sustainability of the national elimination program.

Roll Out Population-Based HPV Screening (2026-2030): Initiate a phased national rollout of population-based cervical cancer screening using primary HPV testing, ideally with HPV self-collection options, aiming for at least 50% coverage of the eligible primary target cohort by 2030. Ensure these services are integrated into the national SHI benefit package.

Roll Out and Scale HPV Vaccination (2026-2030): Successfully launch and rapidly scale the HPV vaccination program within the national Expanded Program on Immunization (EPI), aiming for at least 70% coverage of the primary target cohort (girls 9-14 years) by 2030, leveraging school-based delivery and robust community engagement.

Strengthen Health System Capacity (ongoing): Invest in workforce training, especially in HPV testing, colposcopy, and treatment, and establish robust national screening and cancer registries that support disease surveillance, improve referral pathways, and ensure health facility readiness.

Enhance Public Awareness and Engagement (ongoing): Launch sustained national education campaigns to increase knowledge, address misinformation, reduce stigma, and drive demand for vaccination and screening services, actively involving communities and patient organizations. This includes continued education and promotion of HPV/cervical cancer prevention among health professionals.

By adopting such recommendations, Vietnam can make significant strides towards eliminating cervical cancer as a public health problem, saving thousands of lives, reducing economic hardship, and building a healthier future for its women and girls. The time for decisive action is now.

Introduction

Cervical cancer is the leading cause of cancer death among women in 37 countries worldwide and is the most common female cancer in 25 countries.[12] In 2022, an estimated 660,000 women were diagnosed with cervical cancer globally, and tragically, 342,000 lost their lives to this preventable and treatable disease.[13] Over 90% of cervical cancer deaths occur in LMICs, underscoring profound inequities in access to essential preventive measures for the world's most vulnerable women and girls.[14]

Almost all cases of cervical cancer are caused by high-risk subtypes of HPV, a highly prevalent virus that in most cases is cleared by the body's immune system but which can cause cancers if infection persists long-term. The tools and strategies to prevent HPV infection and thereby eliminate cervical cancer are safe, highly effective, and increasingly affordable. Unfortunately, insufficient access to these services is often compounded by a lack of educational resources, pervasive stigma, and harmful misinformation surrounding the disease, its risk factors, and the available means of prevention.

In 2020, the WHO launched its landmark Global Strategy to Accelerate the Elimination of Cervical Cancer as a Public Health Problem.[15] This strategy established ambitious 10-year targets (the '90-70-90 targets') for the comprehensive scale-up of three evidence-based interventions:

- 90% of girls fully vaccinated with the HPV vaccine by 15 years of age.
- 70% of women screened using 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.

All three pillars - vaccination, screening, and treatment - are essential components of WHO's comprehensive elimination strategy.[16] HPV vaccination is a cornerstone for preventing future infections, but its population-level impact on cervical cancer incidence will not be fully realized right away because it typically takes several years, or even decades, for persistent HPV infection to progress to pre-cancerous lesions and then to invasive cervical cancer.[17] Furthermore, current HPV vaccines do not prevent 100% of cancer-causing HPV types. Crucially, women who are already beyond the primary target age for vaccination - or who were missed by earlier, less comprehensive programs - remain at risk for disease.

Cervical cancer screening with high-performance tests, such as molecular testing for high-risk HPV, remains a critical pillar for early detection and prevention of cervical pre-cancer, early staging, and ultimately improved outcomes. Screening identifies pre-cancerous changes that can be treated effectively, preventing progression to invasive cancer, and also detects early-stage cancers when treatment

outcomes are optimal. The slow uptake of vaccination programs in many regions further amplifies the ongoing necessity of robust screening programs.[18]

Achieving the 90-70-90 targets through a comprehensive approach could effectively eliminate cervical cancer as a public health problem in the coming decades, averting an estimated 300,000 deaths by 2030 alone, and leading to a projected 42% decrease in cervical cancer incidence globally by 2045.[19] The implementation of this comprehensive strategy is recognized as cost-effective in the vast majority of countries, including Vietnam.[20]

Combined, the APAC and ASEAN regions currently bear a significant portion of this burden, accounting for the majority (57%) of global cervical cancer deaths.[21] Without strategic and comprehensive action, the regional burden is projected to escalate, with an estimated increase in new cervical cancer diagnoses of 18.9% and an increase in deaths by almost 25%.[22]

The regional response to this challenge is varied. Several APAC/ASEAN countries have initiated strategic investments in national cervical cancer elimination plans, demonstrating commendable leadership. Australia, for example, launched a formal national cervical cancer elimination strategy in 2023 and is on track to be among the first countries globally to achieve elimination.[23] Other nations, including Indonesia, Malaysia, the Philippines, Singapore, and Thailand, are each making tangible progress, driven by strategic investments, robust planning, favorable policies, and health system improvements.

Vietnam risks falling further behind its regional peers unless urgent and decisive action is taken. The most recent WHO/IARC data report 4,177 new cases and 2,420 deaths, with incidence rates of 7.1 per 100,000 women (decreasing by 0.84% annually) and mortality rates of 4.0 per 100,000 (decreasing by 1.01% annually). Based on these rates, Vietnam should anticipate approximately 3,500 new cases and 1,900 deaths in 2025.[24] The burden varies regionally, with higher incidence rates in southern regions and urban areas, while significant data gaps persist in rural areas where 70% of the population reside.[25] In major urban centers like Ho Chi Minh City and Hanoi, cervical cancer ranks among the top five cancers affecting women.[26] Without a comprehensive, fully costed, and well-coordinated national elimination strategy, the individual and societal costs of cervical cancer in Vietnam will continue to mount.

This report will highlight the progress made to address the cervical cancer burden across selected countries in the APAC/ASEAN regions, detailing the steps taken to develop and implement national plans for cervical cancer elimination. It focuses on the scale-up of HPV vaccination, robust cervical screening, and timely referrals and treatment. Ideally, each of these elements would be facilitated by a supportive policy environment, strategic financial planning, updated national cancer control plans and clinical guidance, enhanced national monitoring and surveillance systems, capacity building among frontline health workers, and the creation of culturally relevant educational campaigns for women, their families, and their communities.

***Table 1.** Global Cancer Cases, Females, All Ages*

Cancer	New Cases - Global (2022)	% New Global Cases (2022)	New Cases - Asia (2022)	% New Cases - Asia (2022)
Breast	2,296,840	23.8	985,817	20.8
Lung	903,630	9.4	547,422	11.6
Colorectal	856,979	8.9	404,243	8.5
Cervical	662,301	6.9	397,082	8.4
Thyroid	614,729	6.4	440,325	9.3

Data Source: WHO/IARC. Globocan, Cancer Today: Global and Regional Estimates, 2022.[27]

Table 2. Cervical Cancer Incidence and Mortality by Region/Income Level

Income Level (World Bank)	New Cervical Cancer Cases (2022)	% Cases (2022)	Cervical Cancer Deaths (2022)	% Deaths (2022)
Low Income Countries	57,754	11.5	40,335	11.6
Lower Middle Income Countries	280,854	7.4	169,019	7.0
Upper Middle Income Countries	256,507	3.3	110,230	2.7
High Income Countries	62,809	0.81	26,800	0.95

Data Sources: World Bank and WHO/IARC GLOBOCAN.[28,29]

The goal of the report is to support and catalyze accelerated action toward eliminating cervical cancer as a public health problem in Vietnam by outlining a series of evidence-based, actionable recommendations. These are complemented by a clear, time-bound implementation roadmap that draws upon global best practices and regional insights to support Vietnam in this effort.

Cervical Cancer Risk Factors

The vast majority (over 99%) of cervical cancers are caused by persistent infection with various cancer-causing (high-risk) strains of HPV.[30] Beyond cervical cancer, HPV infection is also a recognized etiological agent for anal, oropharyngeal, penile, vaginal, and vulvar cancers. HPV is considered the most common sexually transmitted infection globally, with estimates suggesting that approximately 80% of sexually active adults will acquire an HPV infection at some point in their lifetime.[31] In most instances, the body's immune system naturally clears the virus. However, persistent infection with high-risk HPV types over many years can lead to abnormal cellular changes (dysplasia), which, if not detected and treated in a timely manner, can progress to invasive cancer.

Several established risk factors can increase the likelihood of acquiring HPV and the subsequent risk of developing cervical and other HPV-related cancers. These include an early age of sexual debut, having multiple sexual partners, having a sexual partner with multiple partners or known HPV infection, a history of HPV-related vaginal or vulvar dysplasia, and the presence of other sexually transmitted infections, notably Human Immunodeficiency Virus (HIV).[32] Any condition leading to an immunocompromised state (e.g., immunosuppressive therapy) also elevates the risk of HPV persistence and progression to cancer. Furthermore, cigarette smoking is a known co-factor that increases the risk of cervical cancer among women with HPV infection.[33]

Global and Regional Epidemiologic Trends

Cervical cancer is a disease of inequity. Today, over 90% of global cervical cancer cases and deaths occur in LMICs.[34] This disproportionate burden is primarily due to the lack of organized, population-based screening programs capable of detecting pre-cancerous lesions or early-stage cancers and ensuring timely and effective treatment, coupled with lower HPV vaccination coverage in many regions. While the highest age-standardized incidence and mortality rates are found in sub-Saharan Africa (often mirroring the HIV/AIDS pandemic, a significant co-factor), parts of Southeast Asia, Central Asia, Latin America, and the Caribbean also report high rates.[35]

In 2022, the APAC/ASEAN regions accounted for a substantial proportion of the global cervical cancer burden, with an estimated 57% of all new cases and 60% of all deaths occurring in this vast and diverse region.[36] This is largely driven by populous countries such as India and China, but high rates relative to the global average are also seen across the region.

In 2022, cervical cancer was the second most common cancer among women in India (17.7%) and Indonesia (16.8%); the third most common female cancer in the Philippines (8.1%) and Malaysia (7.1%); and the fourth most common in Malaysia (6.8%).[37] In several APAC countries, including Thailand, India, Indonesia, and the Philippines, cervical cancer incidence rates have historically outpaced the global average, though some countries are now seeing declines due to concerted efforts. The burden of cervical cancer in the region is projected to rise by 19% by 2030, with deaths increasing by almost 25%.[38]

According to the Asian National Cancer Centers Alliance (ANCCA), while most member countries (16 out of 21, or 76%) have implemented some form of national cervical cancer screening program, coverage often remains critically low. Among women aged 30-49 years, screening coverage within the previous five years exceeded 50% in only 5 of the 21 ANCCA countries: Bhutan, Japan, South Korea, Singapore, and Thailand.[39] Furthermore, although 11 ANCCA member countries had introduced HPV vaccination by the time of the report, first-dose coverage in the WHO Western Pacific Region was estimated at only 6%, and in the WHO Southeast Asia Region at only 3%.[40]

Demographic shifts across the region - including population growth, rapid urbanization, and population aging - are driving an accelerated epidemiological transition characterized by a shift from a disease burden dominated by infectious diseases to one increasingly characterized by high rates of non-communicable diseases (NCDs), including cancers.[41] By 2050, the number of people aged 60 years and older in the APAC region is expected to more than double, reaching 1.3 billion, which will massively increase demand for cancer care and other NCD-related healthcare services.[42]

In Vietnam, cervical cancer is the eighth most common female cancer.[43] In 2022, an estimated 4,612 new cases were diagnosed, and 2,571 women lost their lives to the disease.[44] The burden of cervical cancer is not uniform across the country, with studies indicating potentially higher rates in southern regions and a general lack of comprehensive, representative data from many rural areas, where approximately 62% of Vietnam's population resides.[45]

The most recent data (2022) for Vietnam indicate an age-standardized incidence rate (ASIR) of 6.6 cases per 100,000 women and an age-standardized mortality rate (ASMR) of 3.1 deaths per 100,000 women, which, while lower than several of its regional neighbors, still represents a significant public health challenge resulting in thousands of preventable deaths annually.[46] With over 4,600 new cases and more than 2,500 deaths in Vietnam in

***Table 3.** Comparative Overview: HPV Vaccination and Cervical Cancer Screening in Selected APAC/ASEAN Countries.*

Country	HPV Vaccination Rate % (2022)	Cervical Cancer Screening Rate % (2019)
Australia	85%	95%
Indonesia	5%	10%
Malaysia	82%	52%
The Philippines	33%	2%
Singapore	89%	68%
Thailand	78%	68%
Vietnam	(no data)	28%

Sources: HPV Vaccination data - WHO/IARC HPV Vaccination Portal and UNFPA (Vietnam); Cervical Cancer Screening – Bruni et al, 2022.[47,48,49]

2022 alone, projections - if current intervention levels persist - suggest an alarming increase of over 22% in cervical cancer incidence and nearly 32% in mortality, respectively, by 2050.[50] These models further indicate that if current intervention levels remain unchanged, a devastating total of 218,907 Vietnamese women could die from cervical cancer by 2070.[51]

Prevention and Treatment Strategies

Preventing and managing cervical cancer involves a multi-pronged approach encompassing primary, secondary, and tertiary prevention.

Primary Prevention: HPV Vaccination

Primary prevention aims to prevent infection with high-risk types of HPV. While abstinence and consistent safe sexual practices can reduce the risk of HPV transmission, the most effective and widely recognized primary prevention strategy is HPV vaccination. HPV vaccines have demonstrated high efficacy, reducing the risk of infection with targeted HPV types by 70%-90% or more, depending on the specific vaccine and the populations studied.[52]

The HPV vaccine has among the highest impacts of all childhood vaccines, with an estimated 17.4 deaths averted per 1,000 children vaccinated.[53] The WHO strongly recommends that all countries incorporate HPV vaccination into their national immunization programs as part of a "coordinated and comprehensive strategy" that also includes health education, screening, early diagnosis, timely treatment, and palliative care.[54] The primary target population for HPV vaccination globally is girls aged 9-14 years, prior to sexual debut. Global estimates suggest that if 90% of girls worldwide are fully vaccinated against HPV, up to 7.7 million cases of cervical cancer could be averted by 2069.[55] Increasingly, gender-neutral vaccination strategies, which include boys, are being integrated into national programs as global vaccine supplies improve and evidence of broader population-level benefits accumulates.[56]

Despite their availability for almost two decades, global uptake of HPV vaccines has been slow. As of recent estimates, only about 27% of eligible girls globally have received at least one dose.[57] Regional estimates for single-dose coverage vary: 56% in high-income countries, 31% in upper-middle-income countries, 16% in lower-middle-income countries, and 30% in low-income countries.[58] The historical drivers of limited uptake include high initial product costs, historical supply constraints, high prices relative to other vaccines, logistical challenges in reaching adolescent girls, stigma related to HPV as a sexually transmitted infection (STI), and pervasive misinformation about the vaccine and side effects, contributing significantly to vaccine hesitancy.[59]

However, the outlook for HPV vaccination is increasingly promising. In 2022, WHO's Strategic Advisory Group of Experts on Immunization (SAGE) recommended the option of a single-dose HPV vaccine schedule for the general population (two doses for immunocompromised individuals, including those living with HIV), significantly enhancing cost-effectiveness and logistical feasibility.[60] Global HPV vaccine supply is also expected to meet demand from 2025 onwards, with new manufacturers entering the market (e.g., Innovax, Serum Institute of India, Walvax), which should improve availability and affordability in LMICs. Gavi, the Vaccine Alliance, and its partners aim to support the vaccination of 86 million girls against HPV by the end of 2025.[61] As of December 2023, a total of 143 WHO Member States had introduced HPV vaccines into their national immunization schedules.[62]

Primary Prevention in the APAC/ASEAN Regions

Across the APAC region, HPV immunization has been integrated into several national Expanded Programs on Immunization (EPI), though uptake and delivery models vary:

Australia has achieved substantial coverage through a school-based vaccination program initiated in 2007 for girls and expanded to include boys in 2013.[63] Supported by robust public health infrastructure and complemented by primary care catch-up campaigns, this program has effectively reached marginalized

populations. Australia's recent shift to a single-dose schedule is anticipated to further boost efficiency and coverage of HPV vaccine.[64]

Malaysia has also demonstrated success, achieving HPV vaccination rates above 80% for targeted cohorts through its School Health Service Program for 13-year-old girls.[65] The government transitioned from a three-dose to a two-dose schedule to improve adherence, ensuring equitable access across urban and rural areas and laying a strong foundation for elimination.

Thailand introduced HPV vaccination into its national EPI program in 2017 for girls aged 9 to 14.[66] Despite challenges like public awareness gaps and vaccine hesitancy, the government is actively considering a single-dose schedule and employs targeted education and multisectoral collaboration to improve uptake.

Indonesia made significant strides by integrating HPV vaccination into the national School Children Immunization Month (BIAS) in 2023.[67] Mobile units and community outreach extend access to out-of-school girls. These WHO- and UNFPA-supported strategies aim to bridge socioeconomic and geographic gaps.

The Philippines, while launching its school-based HPV vaccination program in 2015, continues to face low coverage rates of less than 30% among girls by 15 years of age.[68] While vaccine hesitancy remains a challenge, the Department of Health will implement a hybrid school and community-based strategy in 2025 to improve reach and acceptance.

Singapore launched its national HPV vaccination program in 2010, targeting 13-year-old female students under the national school-based health service. In 2019, the government made the HPV vaccine fully subsidized for all secondary one female students, dramatically increasing coverage from approximately 13.6% to over 90%, demonstrating the transformative impact of school-based delivery combined with full subsidization.[69] Discussions are ongoing to expand coverage to boys, in alignment with global best practices and gender-neutral vaccination strategies.

Primary Prevention in Vietnam

HPV vaccination has been available in Vietnam through the private sector since 2009. However, uptake remains low. According to the UNFPA, as of 2023, approximately 12.5% of Vietnamese females aged 15-29 years had been vaccinated against HPV, a stark contrast to the WHO's 90% target by age 15.[70] More recent data shows significant urban-rural disparities, with coverage of only 4.9% in urban areas and 3.1% in rural areas for women aged 15-49 years, indicating substantial gaps in vaccine equity.[71] Several factors contribute to low uptake of HPV vaccine across the APAC region:[72]

- **Cost**: Out-of-pocket expenses for vaccination in the private sector are a significant barrier for many families.
- **Knowledge Gaps**: Inadequate public knowledge regarding the benefits of HPV vaccination for cancer prevention, and misconceptions about who should be vaccinated present challenges for both families and for providers.
- **Safety/Efficacy Concerns**: Lingering concerns regarding vaccine safety and efficacy contribute to vaccination hesitancy.
- **Social Stigma**: Individuals seeking or receiving the vaccine may experience social stigma in the form of embarrassment or of being perceived as sexually active if seeking or receiving the vaccine.
- **Perceived Risk**: Individuals may not perceive a low personal risk for HPV infection or HPV-related cancer, including cervical cancer.
- **Access**: In predominantly rural and remote areas, limited vaccine supply and fewer access points can further inhibit uptake.
- **Limited Scale-up, Despite Success**: Pilot programs in 2011 achieved 94% coverage among 14-year-old girls in selected provinces, demonstrating the potential for successful implementation, yet national efforts have failed to replicate this success.[73]

Vietnam has announced plans to integrate HPV vaccination into its national EPI starting in 2026, with a focus on vaccinating girls and young women aged 9-26 years. The urgency of accelerated scale-up cannot be overstated. Starting from the current baseline of 12.5%, Vietnam faces an enormous challenge to reach the WHO's 90% target by 2030, requiring both ambitious political commitment and resource mobilization. However, to achieve high and equitable coverage rapidly, Vietnam can learn from the experiences of regional neighbors that have successfully implemented school-based delivery models, robust community outreach programs, and effective integration of HPV vaccination into existing health infrastructure, alongside strong public awareness campaigns.

HPV vaccination represents the most critical long-term primary prevention strategy, but cervical cancer screening remains an equally vital and independent pillar essential for achieving cervical cancer elimination and saving lives of women who are not afforded the protection of HPV vaccine. Global models demonstrate that compared to the status quo, vaccination alone would have minimal impact on cervical cancer mortality by 2030, leading to only a 0.1% (0.1–0.5) reduction, while additionally scaling up twice-lifetime screening and cancer treatment would reduce mortality by 34.2%, averting 300,000 deaths by 2030.[74] This stark difference occurs because HPV vaccination reduces incidence over 20–30 years, meaning that without screening, many currently at-risk women will die before vaccination effects are realized.[75] Neglecting screening while scaling up vaccination would mean failing to protect millions of women currently at risk of disease. This is particularly critical given Vietnam's dual challenge of low vaccination and screening coverage, which are currently well below WHO elimination targets.

Secondary Prevention: Screening and Treatment of Pre-cancerous Lesions

Secondary prevention focuses on screening for pre-cancerous cervical lesions and if necessary, removing them before they can progress to invasive cervical cancer. The most common methods to date have been cytology (Pap tests), or Visual Inspection with Acetic Acid or Visual Inspection with Lugol's Iodine (VIA/VILI).

Pap tests require specialized laboratory infrastructure, meticulously collected samples, and highly trained specialists, making them resource-intensive and challenging to implement with consistent quality in resource-limited settings.[76] VIA and VILI are subjective tests that rely on visual interpretation by a trained provider and represent the most prevalent screening methods in LMICs due to the low expense of the materials involved. Compared to HPV testing or cytology, the sensitivity of visual methods for detecting pre-cancerous lesions is generally lower, which can lead to missed cases.[77] Visual screening methods traditionally require a pelvic examination performed by a healthcare provider, which can be a barrier for some women due to discomfort, fear, or embarrassment.[78] The human resources required for these screening methods make scaling these tests to the levels necessary to achieve WHO's 70% target very difficult, especially in countries with limited health infrastructure and staff.

HPV testing is a newer method of cervical cancer screening that has been recommended by the WHO as a preferred means of screening women for cervical cancer based on robust evidence demonstrating its superior sensitivity for detecting high-grade pre-cancerous lesions compared to cytology or visual inspection.[79] HPV testing leads to improved long-term health outcomes and is more cost-effective when delivered at scale within organized screening programs, leading the WHO to recommend HPV testing as a first-choice intervention for primary testing.[80,81] When HPV tests are positive, triage tests (e.g., cytology, HPV partial genotyping, visual assessment for triage with VIA/colposcopy) may be used to determine the need for colposcopy and biopsy, followed by treatment of confirmed pre-cancerous lesions, typically using thermal ablation or Loop Electrosurgical Excision Procedure (LEEP).

HPV testing has seen slow uptake in low-resource settings, in part due to the need for investment in

testing platforms and the costs of individual tests, though some of that investment may be offset by reduced staff costs and greater health impact. Pooled procurement mechanisms to support bulk purchasing of HPV tests is a promising area to explore among regional partners with similar platforms and testing needs.[82]

Primary HPV testing has been shown to be the most effective and cost-effective screening approach in LMICs, capable of reducing cervical cancer mortality rates by 63-67% when offered every 5 to 10 years, depending on HIV status and local guidelines.[83] Strategies incorporating HPV testing are not only more effective than VIA/VILI or cytology screening every 3 years but also generate significantly fewer pre-cancer treatments compared to VIA/VILI, reducing the burden on health systems and patients.[84]

Another significant advantage of HPV testing is the option for self-collection of vaginal samples. Women can collect their own samples in a private setting (at home or in a healthcare facility), which can then be sent to a laboratory for HPV testing.[85] Meta-analyses indicate that self-collected samples are as accurate as clinician-collected cervical samples for detecting high-risk HPV.[86] Self-collection of HPV samples can offer convenience, enhance privacy, and grant women greater autonomy over their screening experience. The WHO recommends that self-collection be offered as an additional option for cervical cancer screening, as it has the potential to increase screening coverage, particularly among women who are underscreened or have never been screened due to cultural, personal, or logistical barriers.[87]

Secondary Prevention in the APAC/ASEAN Regions

Countries - with some notable examples in the APAC/ASEAN region - that have successfully implemented comprehensive screening programs alongside vaccination have witnessed the most significant reductions in cervical cancer burden. For more details on each country, please see the country profiles on pp.41-51.

Australia's National Cervical Screening Program is a global benchmark. In 2017, it transitioned from two-yearly Pap smears to primary HPV testing every five years for women aged 25-74 years.[88] A pivotal advancement occurred in July 2022 with the introduction of universal access to self-collection for HPV testing, which has helped overcome significant barriers and improve screening rates among historically underserved and never-screened populations.[89] This comprehensive, evidence-based approach positions Australia to be one of the first countries to eliminate cervical cancer, potentially by 2035.

Thailand has integrated cervical cancer screening, diagnosis, and treatment into its Universal Coverage Scheme (UCS), ensuring financial accessibility. Since 2020, Thailand has adopted HPV testing as the primary screening method, and national studies demonstrating both improvements in health outcomes and cost-effectiveness of HPV testing, when compared to traditional cytology.[90,91] Standardized national guidelines from the National Cancer Institute promote consistency in care, and financial protection mechanisms remove cost as a barrier for patients.

Malaysia's Program ROSE exemplifies a successful community-driven screening model with efficient referral pathways. Integrating self-sampling, digital registration, and SMS-based result delivery, Program ROSE has achieved a 91% treatment linkage rate for HPV-positive women.[92] Malaysia is formally transitioning to HPV testing as the primary screening method as part of its Action Plan Towards Elimination of Cervical Cancer 2021-2030.[93]

Singapore is making steady progress towards WHO elimination targets by integrating HPV testing and self-sampling into its national cervical cancer screening program, demonstrating how systematic implementation can achieve comprehensive coverage.

The Philippines has updated national guidelines to authorize general practitioners to perform thermal ablation and is institutionalizing regional cancer governance models. Critically, the Philippine Health

Technology Assessment Council (HTAC) has issued a positive recommendation for public funding of HPV testing, with national rollout via the public health system anticipated for 2026.

Indonesia's National Cervical Cancer Elimination Plan (2023-2030) explicitly recommends HPV testing as the primary screening method. In October 2023, the Ministry of Health updated protocols to prioritize HPV testing over visual screening, planning to leverage PCR laboratory capacity established during the COVID-19 pandemic. The plan targets screening 70% of women aged 30-69 by 2027 and 75% by 2030.[94]

Despite these advancements, access to high-performance screening methods such as HPV testing remains insufficient across the APAC region. Most women, especially in rural and resource-limited settings within LMICs, still lack access to this gold-standard screening tool.

Secondary Prevention in Vietnam

Cervical cancer screening coverage in Vietnam is currently well below the WHO target of 70% of eligible women. Data from the Multiple Indicator Cluster Survey 6 (MICS 6) 2020-2021 shows that 28.2% of women aged 30-49 have been screened, with urban areas at 35.2% and rural areas at 24%.[95] Wealth disparities are particularly striking, with screening coverage ranging from just 10.2% in the poorest quintile to 46.4% in the richest quintile.[96] Less than one-third (31%) have ever been screened for the disease, underscoring the urgent need for scaling up screening services and addressing barriers including cost, lack of knowledge, and limited access, particularly in rural areas.[97] For now, cervical screening is largely opportunistic, whereby women typically undergo screening either through specific pilot programs or by paying for services out-of-pocket, primarily through private healthcare providers.[98]

A critical constraint is that cervical cancer screening and diagnostic services, such as colposcopy for follow-up, are not presently included for routine, population-based prevention in the benefit package of Vietnam's national health insurance program.

Crucial Gap: Access to WHO-Recommended Molecular Testing for HPV

Vietnam faces a significant and critical gap in access to WHO-recommended HPV testing within the public health system. While the updated national clinical guidelines released in December 2024 do include HPV testing as a primary screening option, the reality is that most Vietnamese women, particularly those reliant on public sector services or living in rural/underserved areas, do not yet have routine, affordable access to this gold-standard test. Persisting with less sensitive or less efficient methods where HPV testing could be implemented will result in missed opportunities for early detection, leading to more late-stage diagnoses, higher treatment costs, and preventable deaths, thereby undermining Vietnam's progress towards cervical cancer elimination and broader UHC goals. This gap is particularly critical as HPV testing represents the most cost-effective method for achieving the WHO's 70% screening target, which has been demonstrated in multiple countries in the region and globally.[99, 100, 101] Without its integration into the Social Health Insurance (SHI) benefit package and widespread availability in the public health system, Vietnam cannot feasibly reach its cancer control goals in an equitable and sustainable manner.

Vietnam lacks a population-based program, with services relying on local budgets and external aid, which severely limits reach, especially in rural and impoverished areas where the need is greatest. This significantly curtails equitable access to cancer prevention efforts and limits the potential success of achieving Universal Health Coverage (UHC) in this domain. Given the low coverage of HPV vaccination to date and the low rates of opportunistic screening, there is an urgent and compelling need to systematically integrate evidence-based cervical cancer screening and follow-up into existing national health strategies and financing mechanisms.

Tertiary Prevention: Management of Invasive Cervical Cancer

Tertiary prevention encompasses the clinical management of invasive cervical cancer. Diagnosis is confirmed by biopsy, and staging (determining the extent of cancer spread) is crucial for disease management. Treatment options vary depending on the stage of the disease:

Early-stage disease (confined to the cervix) is typically treated with surgery (e.g., hysterectomy) and/or radiotherapy (external beam radiation and/or brachytherapy).

Locally advanced disease (spread to nearby tissues but not distant organs) is often managed with a combination of chemotherapy and radiotherapy. Metastatic disease (cancer that has spread to distant organs) may be treated with systemic therapies such as chemotherapy, targeted therapy, or immunotherapy, often with palliative intent.

Palliative care, which focuses on symptom management, pain relief, and psychosocial support, is an essential component of care for all women with cervical cancer, particularly those with advanced or terminal disease, aiming to maintain dignity and optimize quality of life for patients and their families.

It is also vital to recognize that a cervical cancer diagnosis and its treatment can have profound and lasting emotional and psychosocial consequences. Women may experience anxiety, depression, fear of recurrence, changes in body image and sexual function, and grief. Comprehensive cancer care must therefore address these psychosocial needs alongside the physical aspects of the disease.

Tertiary Prevention in the APAC/ASEAN Regions

Several countries in the Asia-Pacific region have developed stronger referral systems to ensure women with abnormal screening results or diagnosed cancer receive timely and appropriate follow-up. For instance:

- Australia's National Strategy for the Elimination of Cervical Cancer emphasizes coordinated care pathways and aims for 95% of those diagnosed with precancerous lesions or cancer to receive optimal treatment, with strong data systems to ensure monitoring and evaluation.[102]

- Thailand's Universal Coverage Scheme (UCS) integrates screening, diagnosis, and treatment, with standardized national guidelines facilitating consistent care and referral across health facilities, minimizing loss to follow-up.

- Malaysia's Program ROSE demonstrates efficient linkage to care (91% treatment for HPV-positive) through its streamlined self-sampling, digital notification, and referral model.[103]

Tertiary Prevention in Vietnam

In Vietnam, basic services and essential drugs for cervical cancer treatment (e.g., surgery, radiotherapy, some chemotherapies) are generally available, particularly at central-level hospitals, and are often covered by the national Social Health Insurance (SHI) scheme. However, significant challenges persist:

Referral Pathways: Cervical cancer guidelines cover treatment, recommend treatment by a multidisciplinary team, include a referral pathway to supportive or palliative care services, and recommend care by a multidisciplinary team.[104] In practice,

however, there may be a lack of clearly defined, consistently implemented, and actively managed referral pathways from primary care where screening occurs, to secondary or tertiary facilities for diagnosis and treatment. Patient navigation support or peer support systems to ensure adherence to follow-up and treatment are not widely established.

Access to Advanced Therapies: Access to more advanced or innovative therapies for cervical cancer (e.g., certain targeted therapies, newer immunotherapies) may offer improved survival or quality of life for specific patient groups but is limited and often not reimbursed by the national insurance plan. Countries like Vietnam, Indonesia, and the Philippines have generally seen slower uptake, approval, and reimbursement processes for innovative oncology drugs compared to some high-income countries.[105]

Shortage of Equipment and Specialists: There is a documented shortage of diagnostic equipment (e.g., for advanced imaging, pathology) and specialized cancer care professionals. A 2010 study indicated that 10 out of 63 provincial hospitals in Vietnam were unable to provide comprehensive cancer services.[106] These shortages are particularly acute in mountainous and remote regions, and specialty trained physicians, such as radiation oncologists, are few. A 2021 study found that Vietnam's seven largest public hospitals providing oncology services consisted of 434 medical oncologists, 99 radiation oncologists, 127 radiologists, 69 pathologists, and 60 palliative care specialists.[107] Moreover, per 10,000 cancer patients, the country has 194 radiation oncologists and 7 radiation oncologists.[108] This limited specialized capacity directly impacts the ability to effectively diagnose, stage, treat, and provide follow-up care for cervical cancer patients nationwide.

Addressing these systemic issues in treatment access, referral coordination, and workforce/infrastructure capacity is crucial for improving outcomes for Vietnamese women diagnosed with cervical cancer.

Health System Strengthening for Cervical Cancer in Vietnam

Scaling up of key interventions in Vietnam faces contextual barriers. These include limited health system capacity, incomplete cancer registries, and insufficient awareness of HPV infection and of cervical cancer.

Health System Capacity

The Vietnamese health system, particularly at provincial and district levels, faces limitations in specialized oncological expertise and general workforce capacity with only approximately 194 radiologists and only 7 radiation oncologists per 10,000 general practitioners or population - one of the most severe specialist shortages in the region.[109] While the MOH's updated national cervical cancer guidelines, released in December 2024, provide an essential framework for quality service standards, effective implementation is constrained by:

- **Shortage of Specialized Personnel:** As noted previously, Vietnam has a limited number of radiation oncologists, medical oncologists, gynecologic oncologists, and trained pathologists/cytotechnologists, particularly outside major urban centers. A 2010 study found that 10 out of 63 provincial hospitals were unable to provide comprehensive cancer services.[110] These shortages are especially acute in mountainous and remote areas. This critical shortage of specialists directly undermines the feasibility of scaling up advanced cervical cancer diagnostics and treatment services required to meet WHO elimination targets.

- **Training Needs for New Technologies:** With the shift towards HPV testing and related technologies (e.g., thermal ablation for pre-cancer treatment), there is a significant need for training and upskilling existing healthcare professionals (doctors, nurses, midwives, lab technicians) in these new modalities.

- **Primary Care Capacity**: Strengthening the capacity of primary healthcare workers at commune health stations to conduct health education, facilitate

The Importance of National Cancer Control Plans

Robust National Cancer Control Plans (NCCPs) can ensure that cancer control measures are implemented and monitored effectively. Ideally, NCCPs outline clear, evidence-based strategies addressing the cancer continuum, from awareness and prevention to early detection, diagnosis, treatment, and palliative care. They should provide clear goals, implementation timelines, and evidence-based clinical protocols endorsed nationally and aligned with global guidance. Crucially, NCCPs must be regularly reviewed, updated, and rigorously monitored for performance to ensure strategies remain effective and national targets are met. While most countries in the APAC region have published NCCPs, a lack of effective implementation, sustainable financing, and performance monitoring often remain key challenges.

sample collection (including supporting self-collection for HPV testing), and ensure appropriate referral and follow-up is crucial for expanding screening coverage.

To effectively progress towards WHO's 90-70-90 targets, Vietnam will need to strategically invest in its health workforce. This includes urgently aiming to increase its trained colposcopy workforce by at least 50% and ensuring that HPV testing equipment and trained personnel are available at all provincial and selected district-level health centers by 2030.

Surveillance and National Cancer Registries

Robust surveillance systems are also indispensable for effective cancer control planning, monitoring program impact, and ensuring accountability. The 2017 World Health Assembly cancer resolution urges WHO Member States to collect high-quality, population-based incidence and mortality data on cancer to inform planning and evaluation.[111] It is essential to distinguish between, and invest in, two key types of registries:

- **Population-Based Cancer Registries (PBCRs)**: PBCRs systematically collect data on all reportable cancer cases (incidence, mortality, survival) within a geographically defined population.

- **Cervical Cancer Screening Registries**: Distinct from PBCRs, a dedicated, population-based cervical cancer screening registry is vital for managing and monitoring a national screening program. Its functions include: inviting eligible women for screening, tracking screening history and results, ensuring timely follow-up for women with abnormal results, monitoring screening coverage rates, assessing program quality indicators (e.g., positivity rates, detection rates, loss to follow-up), and providing data for program evaluation and research.

Vietnam currently has two main regional PBCRs (Hanoi and Ho Chi Minh City, with some smaller ones) which cover approximately 20-23% of the Vietnamese population - leaving nearly 80% of the population without cancer surveillance data.[112] There are no dedicated national registries solely for cervical cancer beyond what is captured in these general PBCRs. Critically, the absence of a dedicated national cervical cancer screening registry makes it impossible to track progress toward the WHO's 70% screening target, monitor follow-up rates, or identify women lost to follow-up. This limited coverage and lack of specific focus severely restricts the MOH's ability to reliably track national trends in cervical cancer incidence, mortality, stage at diagnosis, and survival, which are critical for evidence-based policymaking. Without comprehensive registries, the country is challenged to reliably demonstrate progress toward its cancer control goals or make data-driven program adjustments.

Education, Awareness, and Patient-Centered Approaches

Vietnam currently lags behind several regional counterparts in national efforts to comprehensively educate the public about cervical cancer and to meaningfully integrate patient voices and experiences into policy-making and program design.

The Economist Intelligence Unit's 2023 report, *Impact and opportunity: the case for investing in women's cancers in Asia Pacific,* notably scored Vietnam the lowest among assessed countries in the "Awareness and Education" domain.[113] This reflects critical gaps in national campaigns and the limited formal integration of patient advocacy into health strategy development.

Recent research conducted in Vietnam confirms these significant knowledge gaps. A 2020 study among 807 women aged 18–49 in Hanoi found that while a majority (83.8%) had heard of cervical cancer and 71.3% were aware of HPV vaccination, their detailed knowledge was lacking.[114] The study also highlighted that rural women demonstrated significantly lower awareness and knowledge compared to their urban counterparts, underscoring the need for targeted outreach.[115] Another study revealed widespread sociocultural concerns, including unfounded fears among some parents regarding vaccine safety, potential side effects, and perceived impacts on fertility, further emphasizing the critical need for culturally sensitive and accurate educational interventions.[116]

Strong government leadership and commitment are critical to the success of any national awareness campaign. Lessons from neighboring countries illustrate the benefits of such involvement:

- **Indonesia**'s Coalition to Prevent Cervical Cancer (KICKS) collaborates closely with the Ministry of Health to promote national HPV vaccination and screening programs.
- **The Philippines** officially observes Cervical Cancer Awareness Month each May, with the Department of Health often offering free screening services at public hospitals for women aged 21 and older.
- **Thailand** launched its 'Quick Win' campaign in 2024, an ambitious and targeted 100-day campaign designed to accelerate HPV vaccination uptake among adolescent girls 11-20 years in schools, with overwhelming success. A total of 2 million girls were reached, with 1.4 million first doses given.

Currently, patient organizations in Vietnam, such as the Vietnam Breast Cancer Network and the Resilient Women's Club, primarily focus on breast cancer and often operate without formal legal recognition or sustained governmental support.[117] This lack of a robust regulatory and support framework for patient advocacy groups limits their potential reach, impact, and ability to contribute to national health goals.

In addition to dedicated national campaigns, integrating educational components into existing healthcare structures offers an efficient and sustainable pathway to broaden awareness. Thailand's National Cancer Institute (NCI) provides a strong model. Since 2005, the NCI has incorporated cervical cancer education directly into its national screening program in partnership with the Ministry of Public Health. District health promotion officers and a vast network of village health volunteers are actively involved in distributing educational materials and encouraging participation, ensuring that women at all levels of society receive

Innovations in Cervical Cancer Prevention

A number of powerful cervical cancer prevention tools in various stages of development could serve to accelerate progress towards cervical cancer elimination while reducing the burden on health systems. These include:

- Molecular testing for high-risk HPV types (HPV DNA, mRNA, or oncoprotein)
- Automated visual evaluation (AVE) to improve clinical diagnosis and quality assurance
- Mobile colposcopy units to aid in diagnosis of abnormal lesions
- Digital patient communication platforms/referral systems

consistent, accurate information about the importance of screening and vaccination.

For Vietnam, replicating and tailoring such a model - leveraging its existing network of commune health stations and community health workers - could yield substantial benefits. All education efforts must be culturally sensitive, linguistically appropriate (including materials in ethnic minority languages), and delivered through trusted community channels. Particular attention and resources should be directed towards rural and underserved areas, where lack of access to information and healthcare services often perpetuates low screening and vaccination uptake.

True patient-centered approaches require more than just education; they demand the active engagement and empowerment of patients and communities in shaping national strategies and services. Vietnam's current frameworks offer limited avenues for patient involvement in the development of clinical guidelines or national cancer control plans. Encouraging the participation of patient organizations and patient representatives in policymaking - as seen in the Philippines, where the "I Can Serve Foundation" contributes to national breast cancer guidelines - would help ensure that educational campaigns, screening programs, and care pathways are designed to be responsive to the real needs, preferences, and concerns of Vietnamese women.

Making the Investment Case for Cervical Cancer Elimination

The Economic Impact of Inaction: A Regional Perspective

The moral imperative to save women's lives and preserve family units in Vietnam is clear and urgent. Equally compelling is the economic rationale. Cervical cancer often strikes women in their prime productive years, when they are most actively contributing to their families' financial well-being and, in aggregate, to their nation's economic output. Failure to invest in and ensure sufficient uptake of effective preventive measures - such as HPV vaccination, high-performance screening, and timely pre-treatment - inevitably leads to a higher proportion of late-stage diagnoses. Treating invasive cervical cancer is significantly more complex and costly than preventing it or treating it at an early or pre-cancerous stage.

Regional evidence demonstrates the substantial economic burden of HPV-related diseases. In South Korea, healthcare costs attributable to HPV reached $180.9 million USD in 2015, with cervical cancer alone contributing $75.1 million USD - representing the largest economic burden among all HPV-associated diseases.[118] Similarly, in Taiwan, the total socioeconomic burden from cervical cancer and HPV-related head and neck cancers resulted in an annual productivity loss of $12 billion NTD in 2019, with 79.99% attributed to male head and neck cancers.[119] These studies underscore that investing in HPV prevention, including HPV screening for early detection, offers substantial cost-effectiveness benefits by preventing progression to invasive cancers. In Indonesia, it was estimated that in 2018 alone, approximately 246,000 years of life were lost due to cervical cancer mortality, resulting in a total productivity cost of around $1.7 billion USD.

The Economic Burden of Cervical Cancer in Vietnam

For cervical cancer in Vietnam, the economic implications underscore an urgent need for prioritized investment in prevention coupled with accessible and effective treatment, especially with projected increases in both incidence and mortality. The direct medical costs associated with cervical cancer treatment have been estimated to range from approximately $368 to $11,400 USD, depending on the type of hospital (public vs. private) and the complexity of the treatment regimen.[120] For breast cancer patients in Vietnam (as a comparator for cancer costs), out-of-pocket (OOP) costs were found to be 66% higher for Stage II disease and 148% higher for Stage III disease compared to

Modeling the Return on Investment for Cervical Cancer Prevention in Vietnam

In 2023, an ROI study on scale up of cervical cancer prevention measures in Vietnam was jointly conducted by The Daffodil Centre and Victoria Institute of Strategic Economic Studies, Victoria University, in consultation with UNFPA, the National Institute of Hygiene and Epidemiology (NIHE) and national experts in Vietnam. After modelling scale-up of various vaccination, screening and treatment strategies, the study concluded that:

For every dollar invested for cervical cancer prevention, Vietnam will have yields between US$5 to US$11 returned in economic benefits by scaling these highly effective interventions at the population level.

Once additional societal benefits are factored in, Vietnam will have between US$8-US$20 returned combined economic and social benefits through 2100.

HPV vaccination will save lives and be cost effective at scale. If the WHO target of reaching 90% of girls can be achieved, it will prevent more than 100,000 deaths by the end of the century, with models predicted to eliminate cervical cancer by 2084.

If primary HPV screening and adequate treatment for women with pre-cancer and invasive cancer is offered to 70% of women, Vietnam will eliminate cervical cancer almost three decades earlier (by 2055) and prevent up to 300,000 deaths over this century.

In the case of Vietnam, as in the vast majority of countries globally, strategic investments in preventive services will save lives and offer immediate economic benefits for the country. Delaying investments in these interventions causes unnecessary burden and costs for the country and its citizens.

Source: An Investment Case of HPV Vaccination in Vietnam, 2023.[121]

early-stage (Stage I) disease, illustrating the steep financial escalation with later diagnosis.[122] The current average per capita OOP healthcare expenditure in Vietnam is approximately $74.70 USD, highlighting how cancer treatment costs can dwarf average spending.[123] For households, the financial burden of treating invasive cervical cancer can be devastating.

Beyond direct medical costs, indirect costs - such as transportation to specialized facilities (often located in urban centers), food, and accommodation for patients and accompanying family members - can often exceed direct treatment costs and form a significant, often unquantified, share of the economic burden.[124] This is particularly true for patients from rural or remote areas who must travel long distances for advanced cancer care, often requiring extended time off work for both the patient and caregivers.

Call to Action: Making the Case for Strategic Investment in Cervical Cancer Elimination in Vietnam

Vietnamese policymakers and government leadership can make a strategic and urgent shift towards prioritizing comprehensive cervical cancer prevention efforts, with the ultimate aim of elimination.

The need for immediately scaling cervical cancer prevention services in Vietnam is supported by regional epidemiological trends and studies demonstrating the cost-effectiveness of screening and prevention even in resource-limited settings. A pivotal cost-effectiveness study was conducted in Vietnam by the UNFPA in partnership with the National Institute of Hygiene and Epidemiology (NIHE)/MOH, alongside international experts from

"Vietnamese policymakers and government leadership can make a strategic and urgent shift towards prioritizing comprehensive cervical cancer prevention efforts, with the ultimate aim of elimination."

Australia's Victoria University and The Daffodil Centre.[125] This study aimed to generate robust local evidence to inform national and sub-national policies on HPV vaccination and cervical cancer screening.

Vietnam stands to benefit enormously from implementing domestic policies that prioritize cervical cancer prevention and from leveraging available international funding and technical support. Unlike nations such as Thailand or Australia, which have robust national screening programs integrated into universal health coverage and higher overall public expenditure on health, Vietnam's current cancer control framework often appears fragmented and underfunded for large-scale, population-based prevention initiatives. Although the existing National Action Plan for Prevention and Control of Cervical Cancer (2016–2025) provides a foundational policy, its operationalization, sustainable financing, and alignment with WHO's more ambitious 90-70-90 elimination targets remain underdeveloped. Strategic investment now is key to changing this trajectory.

Financing Cervical Cancer Control in Vietnam

Addressing Vietnam's cervical cancer burden effectively requires a strategic, diversified, and sustainable approach. Current financial constraints, including limited explicit coverage for population-based cervical cancer screening and pre-cancer treatment within the Vietnamese NHI, coupled with rising costs associated with NCDs, underscore the need for innovative and robust financing mechanisms. This section outlines several viable avenues - ranging from strategic domestic investments and catalytic international funding to innovative financing models - that Vietnam may consider to support its national goals for cervical cancer prevention, control, and ultimately, elimination.

Strategic Government Investments and Domestic Resource Mobilization

Chronic diseases, including cancers, are an increasing financial burden on citizens and governments alike across the APAC region, and Vietnam is no exception. Now is an opportune moment for the Vietnamese government to prioritize fiscal policies that ensure sustainable funding for these life-saving interventions. This requires a long-term vision and a clear financial plan aligned with national elimination targets.

Despite strong efforts by the Vietnamese MOH and other stakeholders, dedicated funding for comprehensive cervical cancer prevention was not explicitly included for expansion in the most recent updates to the health insurance law, particularly population-based screening with high-performance tests. To address this critical gap, government officials and policymakers should consider the following:

- **Develop an Updated Investment Case for SHI Inclusion**: Build upon the existing UNFPA/Daffodil Centre findings to create a detailed investment case specifically advocating for the inclusion of WHO-recommended cervical cancer screening (e.g., HPV testing) and pre-cancer treatment services within the national SHI benefit package. This should clearly articulate the long-term cost savings and health gains.

- **Earmark NCD/UHC Budgets**: Integrate specific budget lines for cervical cancer prevention and control activities, including coverage for cervical cancer screening and diagnostics, within broader NCD prevention and UHC budgets and strategic plans.

- **Utilize WHO Planning and Costing Tools**: Employ WHO's comprehensive planning and costing tools to facilitate detailed budgeting and resource allocation for achieving national elimination targets.

Catalytic External Funding and Grants

While domestic resource mobilization is paramount for sustainability, Vietnam may also consider leveraging external funding mechanisms to catalyze initial investments, support program scale-up, or fund innovative pilot projects. Potential sources include:

- **Unitaid**: This global health initiative invests in innovations to prevent, diagnose, and treat diseases more quickly, cheaply, and effectively in LMICs. Unitaid is currently investing €22.6 million in the SUCCESS project (2022 onwards) across four priority countries, including the Philippines, to introduce and scale up effective screen-and-treat tools for cervical cancer. Unitaid-supported programs have cumulatively screened approximately 1.5 million women globally, even as the organization has expanded its financial commitments towards global cervical cancer elimination.[126]

- **Gavi, the Vaccine Alliance**: Gavi provides significant support for vaccine introduction and delivery in eligible countries. While Vietnam currently receives Gavi support for some vaccines (e.g., poliovirus) and cold chain equipment, HPV vaccination is not yet included in this co-financing portfolio.[127] As Vietnam plans its national HPV vaccine rollout for 2026, exploring Gavi co-financing or support through its HPV vaccine revitalization program (aiming to immunize 86 million adolescent girls by December 2025) could be a viable option.

Leveraging Multilateral and Development Bank Support for Health System Strengthening

Global and regional investment banks have increasingly recognized the importance of investing in women's health and NCD control. For example, in the Indian state of Tamil Nadu, the World Bank has funded comprehensive healthcare reforms aimed at improving breast and cervical cancer screening through investments in awareness campaigns, demand generation, clinical skills enhancement for healthcare providers, and upgrades to physical infrastructure. Such initiatives, if appropriately adapted, could provide a catalytic boost for countries

WHO Planning Tools for Cervical Cancer Elimination

The World Health Organization (WHO) has developed key resources to support countries in planning and budgeting for cervical cancer elimination:

- **The Costs for Prevention (C4P) Tool**:[128] This Excel-based tool helps countries estimate the resources needed for implementing and scaling up HPV vaccination and cervical cancer screening programs, considering various delivery strategies and coverage targets.

- **The WHO Cervical Cancer Elimination Planning Tool:**[129] Building on complex modelling, WHO provides tools and support that allow countries to model the epidemiological impact and resource requirements of different strategies across all three pillars (vaccination, screening, treatment) to achieve the 90-70-90 targets.

These tools enable evidence-based budget planning, facilitate advocacy by demonstrating cost-effectiveness, and help secure the necessary political and financial commitment for national programs. For more details on the C4P tool, please see the Case Study section on pp. 41-51.

like Vietnam, provided there is a clear, costed, and operational national plan for implementing cervical cancer elimination targets.

In 2024, the World Bank and Global Financing Facility (GFF) announced a commitment of $400 million USD over three years for HPV-related programs, building on prior investments to assist countries in providing HPV screening, vaccination, and treatment.[130] The Asian Development Bank (ADB) also represents a potential funding source for health system strengthening and NCD control programs in the region.

Public-Private Partnerships and Regional Collaborations

Innovative partnerships can bridge funding gaps and enhance service delivery. While direct replication may not always be feasible, models from other regions can offer inspiration:

- **The U.S. President's Emergency Plan for AIDS Relief (PEPFAR)**: While primarily focused on HIV in sub-Saharan Africa, PEPFAR's "Go Further" initiative, a public-private partnership launched in 2018, aims to reduce cervical cancer incidence by 95% among women living with HIV in the countries where it operates. As of May 2025, this program had provided over 10 million cervical cancer screenings, with roughly two-thirds% of women being screened for the first time.[131]

- **Quad Cancer Moonshot**: The recently announced partnership between the "Quad Countries" (the United States, Japan, Australia, and India) to cooperate on cervical cancer prevention in the Indo-Pacific - including through pooled procurement of commodities, investment in health and research infrastructure, and support for public-private partnerships - signals a willingness for multi-country collaboration to accelerate cervical cancer elimination.[132]

Achieving Efficiencies Through Integrated Service Delivery

To optimize resource use, lower costs, and achieve scale, Vietnam can explore holistic, patient-centered approaches that integrate cervical cancer prevention services with other relevant health programs. This can improve operational efficiencies and enhance patient convenience. Cervical screening could be integrated into:

- Family planning services
- Maternal and child health (MCH) services (e.g., postpartum visits)
- HIV care and treatment services (for screening women living with HIV)
- Broader NCD screening and management platforms

"Mother-daughter campaigns" that combine education and service delivery for both HPV vaccination (for daughters) and cervical cancer screening (for mothers) are increasingly recognized as effective community-based strategies. In late 2024, Gavi and Unitaid announced a new partnership to pilot integrated cervical cancer screening and treatment with HPV vaccination programs in Côte d'Ivoire and Nigeria, to generate evidence on feasibility, acceptability, and cost.[133]

Innovative and Blended Financing Models

To achieve national scale and ensure long-term sustainability, Vietnamese policymakers are suggested to also consider exploring innovative and blended financing models:

- **Targeted Government Funding Schemes**: Schemes directed to specific health areas or geographical regions, potentially funded by dedicated tax revenues or contributions from multiple stakeholders.

- **Blended Finance**: Utilizing catalytic capital from public or philanthropic sources to de-risk and attract private sector investment into health initiatives or infrastructure relevant to cancer control.

Financing Cervical Cancer Control in Vietnam

Critical Gap: Addressing Vietnam's cervical cancer burden effectively requires a strategic, diversified, and sustainable financing approach. Population-based screening and pre-cancer treatment are not explicitly covered for routine prevention in Vietnam's national SHI, creating a fundamental financial barrier to achieving WHO elimination targets.

- **Strategic Government Investments and Domestic Resource Mobilization**
  - Develop an updated Investment Case for SHI Inclusion Package - This is the most critical actionable recommendation, as SHI coverage would ensure financial accessibility for millions of Vietnamese women
  - Earmark NCD/UHC Budgets
  - Utilize WHO Planning and Costing Tools (C4P and CC Elimination Planner)

- **Catalytic External Funding and Grants**
  - Unitaid - for screening innovation and scale-up
  - Gavi - HPV vaccination is not yet included in Vietnam's Gavi co-financing portfolio, making this a specific and urgent funding opportunity to pursue

- **Leveraging Multilateral and Development Bank (MDB) Support for Health System Strengthening**
  - World Bank, Asian Development Bank - MDB support is conditional on having a "clear, costed, and operational national plan" - which Vietnam currently lacks, reinforcing the urgency of developing a comprehensive elimination strategy

- **Public-Private Partnerships and Regional Collaborations**
  - PEPFAR, Quad Cancer Moonshot

- **Achieving Efficiencies Through Integrated Service Delivery**
  - Integration of cervical cancer prevention with family planning services, MCH services, HIV care and treatment services, and/or broader NCD screening and management platforms

- **Innovative and Blended Financing Models**
  - Targeted Government Funding Schemes
  - Blended Finance
  - Novel Private Insurance Products
  - Crowd-Funding and Philanthropic Models
  - Innovative Financial Services for Patients

- **Novel Private Insurance Products**: Encouraging the development of private or community-based health insurance products that offer coverage for preventive services or specific patient groups not fully covered under existing SHI.

- **Crowd-Funding and Philanthropic Models**: Expanding on existing models, such as Vietnam's Cancer Patient Support Fund (which reportedly receives contributions linked to some credit card spending via the Bright Future Foundation), to broaden the base for philanthropic contributions.[134]

- **Innovative Financial Services for Patients**: Exploring micro-financing options, interest-free loan schemes, or mobile health wallets that enable individuals to save for or access healthcare services, potentially reducing the immediate OOP burden for screening or early treatment.

The challenges of funding cervical cancer elimination are significant, but the returns on these critical investments go beyond economic growth. Expanding access to cervical cancer prevention preserves lives, safeguards families, and strengthens communities.

Policy, Planning and Governance

Overview of Current Challenges and the Policy Imperative

Vietnam currently faces significant policy and governance challenges in its efforts to control cervical cancer. The most critical challenge - and what fundamentally distinguishes Vietnam from its regional peers - is the absence of a comprehensive, fully costed, and politically endorsed national cervical cancer elimination strategy aligned with the WHO's 90-70-90 global targets. While Vietnam's current National Action Plan (2016-2025) sets targets of 60% screening coverage for women aged 30-54 and 25% HPV vaccination by 2025, these fall dramatically short of WHO's elimination targets of 90% vaccination coverage, 70% screening coverage, and 90% treatment coverage.[135] This policy gap is compounded by fragmented approaches to prevention and control, persistently low screening coverage (with an estimated 31% of eligible women ever screened), and the notable absence of an organized, population-based screening program utilizing high-performance tests.[136] This policy vacuum demands urgent attention and concerted action.

Developing a National Cervical Cancer Elimination Strategy for Vietnam

Vietnam's first national cancer control plan was published in 2008. Subsequently, the Ministry of Health and UNFPA jointly launched The National Action Plan on Prevention and Control of Cervical Cancer in Vietnam for the period 2016-2025. This plan outlined specific goals: screening 60% of women aged 30-54 for cervical cancer and vaccinating 25% of eligible women and girls with the HPV vaccine by 2025.[137] However, progress towards these targets has been minimal, and the targets themselves fall significantly short of the WHO's more ambitious 90-70-90 elimination targets. As previously noted, current HPV vaccination coverage is estimated at ~12.5% among females aged 15-29, while only about 31% of eligible women have ever been screened for cervical cancer.[138]

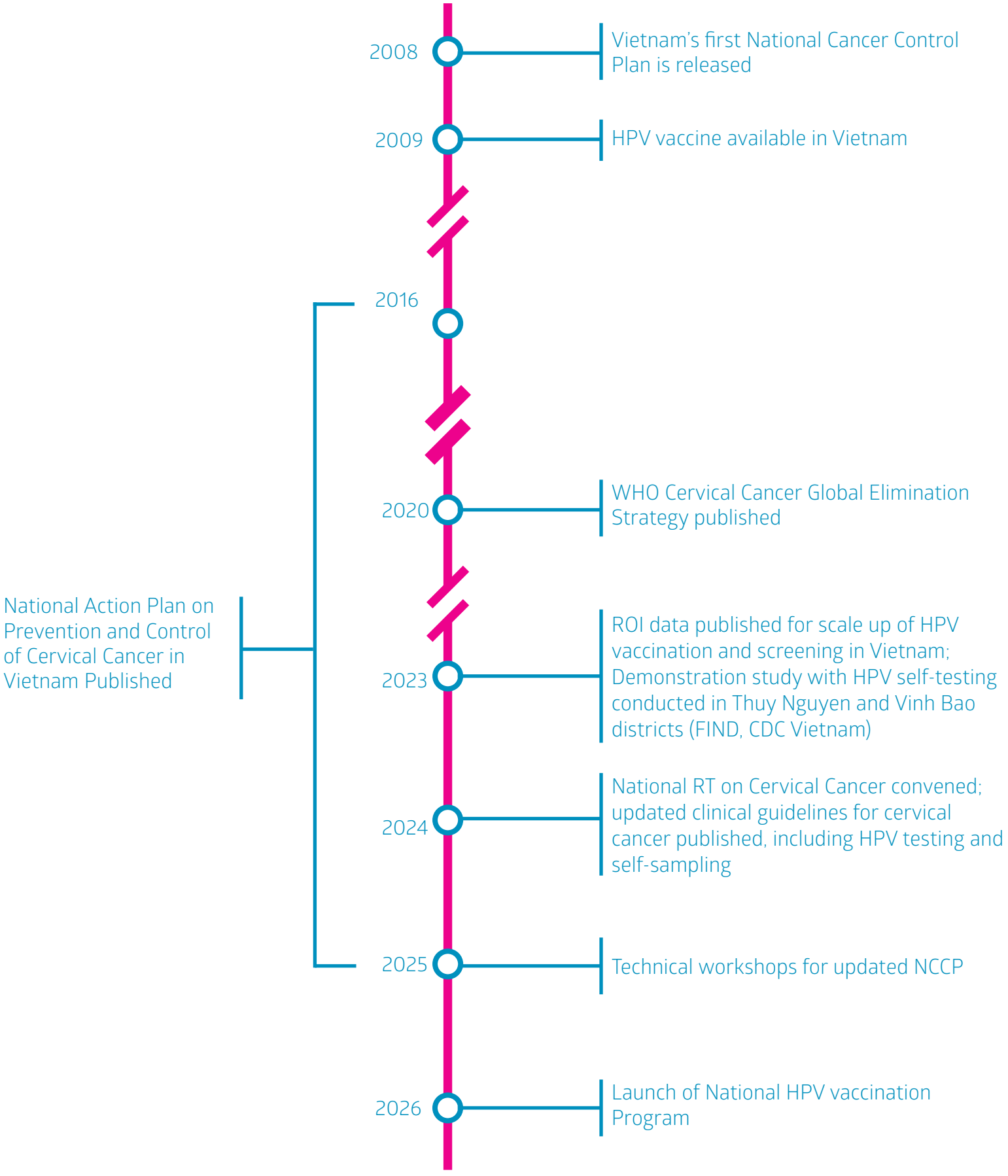
Vietnam should strongly consider developing a comprehensive, costed national plan to eliminate cervical cancer. Vietnam is currently one of the few countries in the APAC/ASEAN region that has yet to formally adopt or publish a dedicated national cervical cancer elimination strategy. This stands in contrast to several regional neighbors, several of which have formally introduced national cervical cancer elimination strategies. For more details, see the case studies for each country on pp. 41-51.

- **Indonesia**: Launched its National Cervical Cancer Elimination Plan 2023–2030.

- **Malaysia**: Implementing its Action Plan Towards Elimination of Cervical Cancer 2021–2030.

- **Thailand**: Cervical cancer elimination goals and services are integrated into its Universal Coverage Scheme, with clear targets and established screening pathways.

Figure 1. *Key Milestones in Cervical Cancer Prevention and Control in Vietnam*



- **Philippines**: Has a national operational plan for cervical cancer control with imminent rollout, and HPV testing for screening is due for national funding in 2026.

- **Singapore**: Aims to eliminate cervical cancer by 2030 with its existing national plan.

Vietnam is making strides through its updated cervical cancer clinical guidelines in December 2024. National leaders are currently updating the national control strategies for breast and cervical cancer (2026-2035). Yet, the absence of a comprehensive cervical cancer elimination strategy aligned with global targets iin Vietnam hinders systematic planning, resource allocation, inter-sectoral coordination, and progress monitoring, leaving the country at risk of falling further behind regional progress in reducing the burden of this preventable disease.

Addressing Gaps in Screening and Vaccination Coverage

To substantially increase HPV vaccination coverage, Vietnam's planned integration of the HPV vaccine into the national EPI program in 2026 is a critical and welcome step. Consideration should be given to proven, multi-sectoral delivery platforms, including a strongly supported school-based delivery strategy targeting adolescent girls aged 9-14 (which has proven highly effective in countries like Australia and Malaysia) and innovative community-based strategies to reach out-of-school girls and underserved populations.[139]

Vietnam's current lack of an organized, population-based cervical cancer screening program using high-performance tests is a primary driver of its low screening coverage. Unlike countries such as Singapore and Australia, where a majority of eligible women participate in regular screening, only about 31% of eligible women in Vietnam have ever been screened, with coverage disparities between urban (higher) and rural (lower) areas.[140] Without urgent and substantial investment in establishing school-based HPV vaccine delivery infrastructure and implementing a population-based screening program with high performance testing, Vietnam risks falling further behind its regional peers in achieving cervical cancer elimination.

In December 2024, the Vietnamese MOH released updated national clinical guidelines for cervical cancer screening and treatment. Such evidence-based clinical guidelines are crucial for standardizing care across all levels of the health system and ensuring quality. Vietnam's updated guidelines now recommend HPV testing as the primary screening test, although other methods (e.g., cytology/co-testing, VIA/VILI) are still included as options.[141] The formal inclusion of HPV testing as the primary option is a vital policy shift. It creates the enabling environment for HPV testing to become the standard of care nationwide, provided that affordable, sustainable, and scalable screening strategies utilizing this technology are identified, financed, and implemented within the public health system.

An effective and equitable cervical cancer elimination strategy in Vietnam must be built upon a strong foundation of public education, sustained awareness campaigns, and genuinely patient-centered approaches. Launching a sustained, multi-channel national awareness campaign is imperative to combat persistent knowledge gaps about cervical cancer, its link to HPV, the benefits and safety of HPV vaccination, and the importance of regular screening - particularly among underserved and rural populations. Community involvement must be a central pillar of any successful education strategy. International experience consistently demonstrates that long-term, sustainable gains in public awareness and behavior change are most effectively achieved when educational efforts are embedded at the community level, leveraging trusted local leaders, healthcare providers, community health workers, and patient organizations.

Improving Data Infrastructure to Support a Full Continuum of Care

As previously highlighted, the need for a more comprehensive Population-Based Cancer Registry (PBCR) restricts the MOH's ability to reliably track national

trends in cervical cancer incidence, mortality, stage at diagnosis, and survival, which are critical for evidence-based policymaking.

By 2030, Vietnam's Ministry of Health should aim to strategically expand PBCR coverage from the current ~20% to at least 70% of the population. This expansion should be supported by technical collaboration with institutions like IARC's Global Initiative for Cancer Registry Development (GICR), which has a regional hub for South and Southeast Asia. Priority for expansion should be given to provinces with known or suspected high cervical cancer incidence or historically low screening uptake.

Further, the MOH should prioritize the establishment of a national population-based cervical cancer screening registry. This system should ideally be digital, integrated with electronic health records or patient identification systems to ensure continuity of care, and capable of generating real-time data dashboards for program managers. Monitoring and minimizing loss to follow-up between a positive screening test and subsequent diagnosis/treatment is a critical function of such a registry.

Vietnam can actively seek technical support from global experts (e.g., IARC/WHO through GICR) who support the development and strengthening of cancer registries worldwide.

Ensuring Equity and Access to Comprehensive Care

Beyond prevention, access to cancer diagnosis, treatment, and supportive care must be timely, coordinated, patient-centered, and equitable. This is particularly critical for rural and poorer populations who often face greater barriers.

The following areas require critical attention to ensure equitable access to cervical cancer prevention, treatment, and care:

- **Referral Mechanisms and Patient Navigation**: Clear patient referral pathways and reliable patient communication platforms should be established and integrated into diagnostic and clinical protocols. Patient navigation services can help guide individuals through the complex care system, improving adherence and outcomes.

- **Access to Essential Services and Medicines**: While Vietnam's SHI plan generally provides coverage for basic cervical cancer services (surgery, radiotherapy) and essential medicines listed on the WHO Essential Medicines List (EML), access to innovative drugs beyond this list is often limited by availability and lack of full reimbursement.

The Role of the Private Sector and Integrated Approaches

The private sector can play a complementary role in expanding access to screening services. Some private diagnostic networks in Vietnam, such as Medlatec, have pioneered innovative, patient-centered HPV testing services, including home-based self-sampling models that aim to address barriers like convenience and privacy. While Vietnam's national strategy will rightly emphasize expanding access through public-sector initiatives to ensure equity, well-regulated private sector models can offer valuable complementary pathways to scale up screening coverage and provide patient choice.

Demonstration projects also provide crucial learnings. The Foundation for Innovative New Diagnostics (FIND), in collaboration with the Hai Phong Center CDC and Roche Diagnostics, launched a demonstration study in 2023 to assess the feasibility and acceptability of HPV testing with self-collection options in Hai Phong. The pilot, conducted between June and December 2023, enrolled 5,004 sexually active women (25-65 years). A significant proportion (48.6%) opted for self-sampling, with higher uptake in community-based screening drives (58.1%) compared to fixed community health centers (39.1%). **The study concluded that the model was feasible, acceptable to women, and demonstrated a viable pathway for expanding screening.** For more details on the Medlatec model for HPV self-collection and the FIND case study, please see page 52 of this report.

- **Addressing Disparities**: Concerted efforts are needed to ensure that services are geographically accessible and financially affordable for all, irrespective of socioeconomic status or location.

Task-Shifting and Service Delivery Innovation

To address workforce shortages and improve service accessibility, especially in underserved areas, strategic task-shifting (also known as task-sharing) should be formally adopted and scaled up. This involves delegating specific tasks to health workers with appropriate training and supervision, who may have shorter training pathways than specialist physicians.

- **MOH Endorsement and Protocols**: The MOH can formally develop and endorse national task-shifting policies and standardized clinical protocols for cervical cancer prevention services. These protocols need to be integrated into national guidelines and NCCPs, clearly identifying which cadres of health workers (e.g., nurses, midwives) can perform specific tasks (e.g., HPV sample collection, visual screening methods where still used, potentially thermal ablation after appropriate training and certification).

- **Training, Supervision, and Quality Assurance:** Robust training programs, competency-based certification, ongoing supervision, and quality assurance mechanisms are essential to ensure that task-shifting is implemented safely and effectively.

- **International Precedents**: Several LMICs, including Rwanda and India, have successfully trained nurses and midwives to perform HPV sampling, conduct VIA, and provide ablative treatment for pre-cancerous lesions, demonstrating the feasibility and effectiveness of this approach in expanding access to care. Vietnam can learn from these experiences.

Policies to Enhance Cervical Cancer Control in Vietnam

- **Development of a National Cervical Cancer Elimination Strategy**
- **Addressing Gaps in Screening and Vaccination Coverage**
- **Improving Data Infrastructure to Support a Full Continuum of Cancer Care**
- **Ensuring Equity and Access to Comprehensive Care**
  - Referral Mechanisms and Patient Navigation
  - Access to Essential Services and Medicines
  - Addressing Disparities
- **Task-Shifting and Service Delivery Innovation**
  - Referral Mechanisms and Patient Navigation
  - Access to Essential Services and Medicines
  - Utilization of International Precedents
- **Leveraging Public-Private Partnerships (PPPs) for Service Expansion**
  - Expanding Access Points
  - Workforce Training and Capacity Building
  - Digital Health Solutions
  - Augmenting Laboratory Capacity

Leveraging Public-Private Partnerships (PPPs) for Service Expansion

Public-private partnerships can play a valuable role in complementing public sector efforts, expanding service delivery capacity, and potentially reducing the direct burden on the public system, if well-regulated:

- **Expanding Access Points:** Private providers, like Medlatec with its home-based HPV self-collection model (see case study on page 54), can reach women who might not otherwise access facility-based services due to convenience, privacy, or other concerns.
- **Workforce Training and Capacity Building**: Healthcare companies and professional organizations can partner with the MOH to support standardized training programs and capacity-building initiatives for both public and private sector health workers.
- **Digital Health Solutions**: Technology companies can collaborate to develop and implement digital health platforms that improve patient education, appointment scheduling, results delivery, patient follow-up, and care coordination across sectors.

Augmenting Laboratory Capacity: Private laboratories, meeting national quality standards, can help augment public sector testing capacity for HPV tests or cytology, particularly during initial scale-up phases.

A recent demonstration study for HPV testing in Vietnam (FIND/Hai Phong CDC) involving commune health stations highlighted that women found HPV testing

Table 4. Policy Landscape Summary Table: Vietnam vs. WHO 90-70-90 Targets

Policy Area / Intervention Pillar & WHO Target	Vietnam: Current Estimated Status (Year)	Gap Analysis / Key Challenge for Vietnam
Pillar 1: HPV Vaccination 90% of girls fully vaccinated with HPV vaccine by age 15	~12.5% coverage (females 15-29 yrs, 2023); National EPI introduction planned for 2026.	**Critical Gap (78% to target)**: Extremely low current coverage. Success of 2026 EPI rollout depends on robust planning, funding, and delivery model (e.g. school-based).
Pillar 2: Screening 70% of women screened with a high-performance test at 35 & 45	~31% ever screened (any method); ~20% screened last 5 yrs (WHO 2021); HPV testing access is very limited in the public sector.	**Critical Gap (at least 39% to target, likely higher for high-performance test target)**: No organized nat'l program; Low coverage; Lack of HPV test access & funding.
Pillar 3: Treatment (90% of women with pre-cancer treated; 90% invasive cancer managed)	No systematic national data available on treatment completion rates for pre-cancer or coverage for invasive cancer management.	**Unknown Gap / Data Deficit:** Lack of monitoring systems for treatment uptake and outcomes. Referral pathway weaknesses identified.
Overarching: National Elimination Strategy (Comprehensive, costed plan required)	Current 2016-2025 Action Plan has lower targets & is ending; No new comprehensive WHO-aligned strategy formally adopted.	**Critical Policy Gap:** Lack of an updated, ambitious, fully-costed national elimination strategy aligned with WHO 90-70-90 targets.

services feasible and acceptable, and many expressed willingness to contribute to the cost of HPV diagnostic services. Patient-centered approaches, potentially involving co-payments for certain services within well-defined affordability frameworks, could help offset some costs to the MOH while expanding screening coverage, particularly for innovative delivery models like self-collection.

Regional policy examples can guide Vietnam's move toward eliminating cervical cancer. The first major step will be building an actionable national strategy for elimination.

Conclusions and Recommendations for Vietnam

Strategic Vision and Priorities

Vietnam has a unique and timely opportunity to align its national efforts with global and regional movements towards cervical cancer elimination. By doing so, it can position itself as a leader among lower-middle-income countries in comprehensive cervical cancer prevention and control. Over the next decade, a coordinated, strategically sequenced, and adequately financed national strategy - underpinned by strong political will and robust cross-sector collaboration - can enable Vietnam to meet the WHO 90-70-90 elimination targets while concomitantly strengthening its primary healthcare system and advancing the vision of universal healthcare for all.

Accelerating Cervical Cancer Elimination in Vietnam - Financing Recommendations:

To accelerate progress towards cervical cancer elimination, Vietnam is suggested to consider prioritizing the following financing actions:

- **Secure Sustainable Financing**: Mobilize domestic resources, including SHI funds and dedicated government budgets, and explore catalytic external funding and innovative financing mechanisms to ensure the long-term sustainability of the national elimination program.

- **Introduce and Scale HPV Vaccination**: Secure co-financing to support the launch and rapid scale-up of the national HPV vaccination program within the EPI, aiming for at least 70% coverage of the primary target cohort (girls 9-14 years) by 2030, leveraging school-based delivery and robust community engagement.

- **Roll Out Population-Based HPV Screening**: Initiate a phased national rollout of population-based cervical cancer screening using primary HPV testing (with self-collection options), aiming for at least 50% coverage of the eligible primary target cohort by 2030. Ensure these services are integrated into the SHI benefit package by 2027.

- **Strengthen Health System Capacity**: Invest in workforce training (especially in HPV testing, colposcopy, and treatment), establish robust national screening and cancer registries for M&E, improve referral pathways, and ensure health facility readiness.

- **Utilize New Models and Leverage Efficiencies**: Expand public-private partnerships and explore microinsurance or community-based financing models to improve access, particularly for high-risk or underserved populations.Support the integration of cervical cancer prevention services into programs providing women's health and NCD prevention. Adopt and utilize global resources/tools for detailed national and sub-national budgeting, resource allocation, and advocacy for achieving elimination targets.

Accelerating Cervical Cancer Elimination in Vietnam - Policy Recommendations:

To decisively accelerate progress towards cervical cancer elimination, the MOH, in collaboration with relevant ministries and stakeholders, is urged to prioritize the following actions:

- **Develop and Disseminate a National Cervical Cancer Elimination Strategy:** By 2026, develop, formally adopt, and disseminate a comprehensive, costed National Cervical Cancer Elimination Strategy and Operational Plan, fully aligned with the WHO 90-70-90 targets. This strategy must detail clear vaccination coverage goals, specific screening targets by age and region (prioritizing molecular testing), treatment capacity requirements, and robust workforce development plans.

- **Integrate Cervical Cancer Elimination Strategy into UHC**: Ensure that cervical cancer elimination targets and essential services (including HPV vaccination, HPV testing, and pre-cancer/cancer treatment) are explicitly integrated into Vietnam's UHC roadmap and benefit packages.

- **Establish Centralized Registrie**s: Create a national, centralized, population-based cervical cancer screening registry to track coverage, follow-up, and outcomes. Simultaneously, strengthen and expand population-based cancer registry (PBCR) coverage to improve incidence, mortality, and survival surveillance for data-driven planning.

- **Create a National Cervical Cancer Task Force**: Establish a high-level, multi-sectoral national cervical cancer task force or steering committee, chaired by the MOH, to oversee the implementation of the national strategy, coordinate inter-agency efforts, secure financing, and monitor progress.

- **Enhance Public Awareness and Engagement**: Launch sustained national education campaigns to increase knowledge, address misinformation, reduce stigma, and drive demand for vaccination and screening services, actively involving communities and patient organizations.

- **Mandate Progress Reporting and Monitoring**: Institute mandatory, regular reporting on progress towards national cervical cancer elimination targets, and include key cervical cancer indicators in national health performance dashboards and routine M&E systems.

- **Strengthen Inter-Ministerial Coordination**: Enhance formal coordination mechanisms between the Ministry of Health and the Ministry of Education and Training to ensure the successful implementation and sustainability of a school-based HPV vaccination delivery program.

Timebound Roadmap for Accelerated Action

Short-Term Priorities (2025–2027): Foundation Building and Initial Scale-Up

Goal: Establish a comprehensive national elimination framework, secure sustainable financing mechanisms, and significantly expand equitable access to HPV vaccination and high-performance screening.

Key Actions:

- **Secure Catalytic Funding (Ongoing from 2025)**: Actively pursue and secure a target of at least $15-20 million USD in combined domestic budget reallocation and supplementary international grants/co-financing (e.g., from MDBs like World Bank/ADB, Gavi for vaccines, Unitaid for screening innovation) to support initial program infrastructure, training, and commodity procurement for scale-up during 2026-2028.

- **National Awareness Campaign Launch (Q1 2026)**: Launch a sustained, evidence-based, multi-channel public awareness campaign in Vietnamese and appropriate ethnic minority languages, focusing on the benefits of HPV vaccination and screening, addressing misinformation, and reducing stigma. Initially target provinces with the lowest current screening rates or planned for early program rollout.

- **National Elimination Strategy Finalization (Q2 2026)**: MOH to lead the finalization, official adoption, and wide dissemination of a comprehensive, fully costed National Cervical Cancer Elimination Strategy and Operational Plan (for 2026-2030 and beyond), explicitly aligned with WHO 90-70-90 targets. This plan must detail

specific, measurable, and time-bound targets for vaccination coverage (by province/region), screening uptake (by age group, district, and socio-economic quintile, prioritizing HPV testing), and treatment access/completion. It must also outline clear workforce development plans, infrastructure requirements, M&E frameworks, and budget needs, ensuring active collaboration with the Ministry of Finance, Ministry of Education and Training, civil society organizations, academia, and professional associations in its development and endorsement.

- **Sustainable Financing for Elimination (Legislative Approval and Budget Allocation by 2026-2027)**: The MOH, in collaboration with the Ministry of Finance and Vietnam Social Security, to secure legislative and budgetary approval to fully integrate WHO-recommended cervical cancer prevention services (specifically including primary HPV testing for screening and appropriate pre-cancer treatment modalities) into the national SHI benefit package with minimal or no co-payment for eligible populations. Concurrently, secure dedicated domestic budget allocations for the national HPV vaccination program within the EPI.

- **National HPV Vaccination Program Launch and Scale-Up (Commencing 2026, targeting 50% coverage in initial cohorts by end of 2027)**: The MOH to launch the school-based national HPV vaccination program, targeting at least 50% coverage of the initial eligible cohort of girls (e.g., aged 9-11) within the first two years, prioritizing at least 10-15 underserved provinces or those with the potentially highest disease burden in the initial phase. Implement robust social mobilization and communication campaigns to support uptake.

- **Workforce Capacity Building and Task-Shifting Implementation (Ongoing from 2025)**: The MOH to develop and implement MOH-validated training curricula and certification for at least 500-1,000 nurses, midwives, and primary care physicians by end of 2027 in HPV sample collection (including supporting HPV self-collection), laboratory and clinical infrastructure, patient counseling, and, ideally coupled with thermal ablation and referral pathways for LEEP/biopsy, supported by official task-shifting protocols.

- **Phased National HPV Screening Program Rollout (Pilot expansion 2026, targeting 10% national eligible cohort coverage by end of 2027)**: The MOH to initiate a phased national rollout of population-based cervical cancer screening using primary HPV testing (with self-collection options). Aim to achieve at least 10% screening coverage of the eligible primary target cohort (e.g., women 30-49 years) by the end of 2027, leveraging learnings from the Hai Phong demonstration project and similar pilots for efficient scale-up models, initially focusing on 5-10 provinces.

Mid-Term Priorities (2028–2030): Nationwide Expansion and System Integration

Goal: Achieve significant progress towards the 90-70-90 targets nationally, with programs fully operationalized and integrated into the primary healthcare system.

Key Actions:

- **Provincial "Micro-Elimination" Pilots as Learning Hubs (2027–2029)**: Implement and evaluate intensive "micro-elimination" pilot programs in 2-3 diverse provinces (e.g., Can Tho, Da Nang, an ethnic minority mountainous province like Thai Nguyen or Lao Cai), aiming to demonstrate achievement of >70% screening coverage and >90% treatment rates within these defined populations, using learnings to refine national scale-up.

- **Full Operationalization of Registries and M&E Systems (2028)**: Ensure the national population-based cervical cancer screening registry is fully operational, utilized for program management, and provides real-time data dashboards. Expand PBCR coverage from the current ~20% to at least 70% of the population, with robust data quality assurance. Integrate cervical cancer M&E indicators into routine health information systems.

- **Deep Integration into Primary Healthcare (Ongoing to 2030)**: Fully integrate HPV screening services (including referral for diagnosis and treatment) into at least 1,000 commune health stations nationwide. Develop and implement models for integrating screening into workplace wellness programs (targeting at least 500,000 female workers) and routine MCH services (e.g., postpartum care visits).

- **Achieve National Coverage Targets (2030):**
  - Vaccination: Achieve and sustain at least 70% national coverage of the primary target cohort for HPV vaccination (girls aged 9-14).
  - Screening: Achieve at least 90% national screening coverage of the eligible primary target cohort (e.g., women 30-49 or 35-45) with a high-performance test (primarily HPV testing).
  - Treatment: Establish systems to ensure at least 70% of women with pre-cancer receive treatment and 70% of women with diagnosed invasive cancer are appropriately managed.

Long-Term Vision (2030 and Beyond): Sustaining Elimination and Continuous Improvement

Goal: Achieve and sustain the WHO 90-70-90 targets nationally, establish a resilient and equitable infrastructure for continued cervical cancer prevention, and contribute to regional elimination efforts.

Key Actions:

- **Achieve Full 90-70-90 Targets (2030 or earliest feasible date)**: Publish a comprehensive national report documenting achievement of 90% HPV vaccination coverage in target cohorts, 70% screening participation with a high-performance test, and 90% treatment completion for identified cervical disease, alongside evidence of a significant reduction in late-stage diagnoses and progress towards the <4/100,000 incidence elimination threshold.

- **Transition to Sustainable Domestic Financing (2030-2035)**: Fully transition all core cervical cancer elimination program costs to sustainable domestic financing mechanisms, primarily through the national SHI and government budgets.

- **Foster Innovation and Research (Ongoing)**: Establish a National Center of Excellence for Cervical Cancer Prevention and Control to drive ongoing research, innovation (e.g., integration of AI-assisted screening result interpretation, novel biomarkers), training, and quality improvement.

- **Continuous Monitoring, Evaluation, and Adaptation (Ongoing)**: Conduct annual program evaluations using the WHO cervical cancer elimination monitoring framework. Host and participate in regional knowledge exchange forums to share lessons learned and best practices. Continuously refine national strategies and service delivery models based on real-time registry data, research findings, and evolving global guidance.

Vietnam's Call to Action

Vietnam stands at a critical juncture. The path to eliminating cervical cancer as a public health problem is clear, paved with evidence-based interventions and illuminated by the progress of regional neighbors. With renewed and strengthened political commitment, strategic and sustained investment, and robust collaboration across all sectors of society, Vietnam can take decisive and meaningful strides towards this achievable goal. Now is the time to act - collectively, courageously, and without delay - to protect the health and future of Vietnamese women and build a healthier, more equitable nation for generations to come.

***Table 5.** Roadmap to Cervical Cancer Elimination in Vietnam*

Stage	Activity	Target Dates
Short-Term Priorities (2025–2027): Foundation Building & Initial Scale-Up	Secure Catalytic Funding	Ongoing from 2025
	National Awareness Campaign Launch	Q1 2026
	National Elimination Strategy Finalization	Q2 2026
	Sustainable Financing for Elimination	Legislative Approval & Budget Allocation by 2026-2027)
	National HPV Vaccination Program Launch & Scale-Up	Commencing 2026, targeting 50% coverage in initial cohorts by end of 2027
	Workforce Capacity Building & Task-Shifting Implementation	Ongoing from 2025
	Phased National HPV Screening Program Rollout	Pilot expansion 2026, targeting 10% national eligible cohort coverage by end of 2027
Mid-Term Priorities (2028–2030): Nationwide Expansion and System Integration	Provincial "Micro-Elimination" Pilots as Learning Hubs	2027-2029
	Full Operationalization of Registries & M&E Systems	2028
	Deep Integration into Primary Healthcare	Ongoing to 2030
	Achieve National Coverage Targets	2030
Long-Term Vision (2030 and Beyond): Sustaining Elimination & Continuous Improvement	Achieve Full 90-70-90 Targets	2030 or earliest feasible date
	Transition to Sustainable Domestic Financing	2030-2035
	Foster Innovation and Research	Ongoing
	Continuous Monitoring, Evaluation, and Adaptation	Ongoing

Works Cited

1. WHO GLOBOCAN. World Cervical Cancer Factsheet. (2020). Available from: https://gco.iarc.fr/today/data/factsheets/cancers/23-Cervix-uteri-fact-sheet.pdf.

2. Vietnam Ministry of Health, UN Populations Fund (UNFPA). (2023). An investment case study on HPV vaccination in Vietnam. Available from: https://vietnam.unfpa.org/sites/ default/files/pub-pdf/eng_final_pdf_1.pdf.

3. WHO. Global strategy to accelerate the elimination of cervical cancer as a public health problem. November 2020. Available from: https://www.who.int/publications/i/item/9789240014107.

4. Vietnam Ministry of Health, UNFPA (2024). An investment case study on HPV vaccination in Vietnam. Available from: https://vietnam.unfpa.org/sites/ default/files/pub-pdf/eng_final_pdf_1.pdf.

5. Simms KT, et al. Benefits, harms and cost-effectiveness of cervical screening, triage and treatment strategies for women in the general population. *Nat Med*. 2023;29(12):3050-3058. doi: 10.1038/s41591-023-02600-4.

6. Termrungruanglert W, et al. Cost-effectiveness analysis study of HPV testing as a primary cervical cancer screening in Thailand. *Gynecol Oncol Rep*. 2017;28;22:58-63. doi: 10.1016/j.gore.2017.09.007.

7. Lew JB, et al. Benefits, harms and cost-effectiveness of cancer screening in Australia: an overview of modelling estimates. *Public Health Res Pract*. 2019; 31;29(2):29121913. doi: 10.17061/phrp2921913.

8. Nguyen DTN, et al. Towards the elimination of cervical cancer in low-income and lower-middle-income countries: modelled evaluation of the effectiveness and cost-effectiveness of point-of-care HPV self-collected screening and treatment in Papua New Guinea. *BMJ Glob Health*. 2022; 7(3):e007380. doi: 10.1136/bmjgh-2021-007380.

9 Hao NTM, et al. HPV Vaccination by young adults in Hanoi, Vietnam: a qualitative investigation. *Vaccine: X*. 2025; (23): 100619. doi:10.1016/j.jvacx.2025.100619.

10. WHO. Cervical cancer country profile, Vietnam. (2021). Available from: https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-can cer-vnm-2021-country-profile-en.pdf?sfvrsn=efc17706_33&download=true.

11. World Population Review. 2025. Available at:https://worldpopulationreview.com/countries/vietnam.

12 WHO/IARC GLOBOCAN. World Cervical Cancer Factsheet 2022. Available from: https://gco.iarc.fr/today/data/factsheets/cancers/23-Cervix-uteri-fact-sheet.pdf.

13. Ibid.

14. Ibid.

15. WHO. Global strategy to accelerate the elimination of cervical cancer as a public health problem. November 2020. Available from: https://www.who.int/publications/i/item/9789240014107.

16. TogetHER for Health and the British Commonwealth. 2025. Strengthening the Pathway to Cervical Cancer Elimination. Available from: https://togetherforhealth.org/wp-content/uploads/Cervical_Cancer_Policy_Report_Jan17.pdf.

17. Canfell, K et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. *Lancet*. 2020; 395(10224):591-603.

18. WHO. Global strategy to accelerate the elimination of cervical cancer as a public health problem. November 2020. Available from: https://www.who.int/publications/i/item/9789240014107.

19. Canfell, K et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. *Lancet*. 2020; 395(10224):591-603.

20. Simms KT, et al. Benefits, harms and cost-effectiveness of cervical screening, triage and treatment strategies for women in the general population. *Nat Med*. 2023;29(12):3050-3058. doi: 10.1038/s41591-023-02600-4.

21 WHO/IARC GLOBOCAN: Cancer Tomorrow: Cancers Attributable to Infections. (2020). Available from: https://gco.iarc.who.int/causes/infections/tools-multi-bars.

22. WHO/IARC GLOBOCAN: Cancer Tomorrow: Regional Estimates. (2020). Available from: https://gco.iarc.fr/ tomorrow/en/dataviz/tables?sexes=2&cancers=40&populations=903_904_905_908_909_935&age_ start=4&years=2040&mode=cancer&group_populations=1&multiple_populations=1&types=1.

23. Australian Centre for the Prevention of Cervical Cancer. (2023). National Strategy for the Elimination of Cervical Cancer in Australia: A Pathway to Achieve Equitable Elimination of Cervical Cancer in Australia by 2035. Available from: https://www.health.gov.au/sites/default/files/2023-11/national-strategy-for-the-elimination-of-cervical-cancer-in-australia.pdf.

24. WHO/IARC GLOBOCAN: Cancer Tomorrow: Regional Estimates. (2020). Available from: https://gco.iarc.fr/ tomorrow/en/dataviz/tables?sexes=2&cancers=40&populations=903_904_905_908_909_935&age_ start=4&years=2040&mode=cancer&group_populations=1&multiple_populations=1&types=1.

25. Thi Nguyen DN, et al. The burden of cervical cancer in Vietnam: Synthesis of the evidence. *Cancer Epidemiol*. 2019;59:83-103. doi: 10.1016/j.canep.2018.11.008.

26 Thi Nguyen DN, et al. The burden of cervical cancer in Vietnam: Synthesis of the evidence. *Cancer Epidemiol*. 2019;59:83-103. doi: 10.1016/j.canep.2018.11.008.

27. WHO/IARC GLOBOCAN: Cancer Tomorrow: Regional Estimates. (2020). Available from: https://gco.iarc.fr/ tomorrow/en/dataviz/tables?sexes=2&cancers=40&populations=903_904_905_908_909_935&age_ start=4&years=2040&mode=cancer&group_populations=1&multiple_populations=1&types=1.

28. World Bank. World Bank Country Classification by Income Levels 2024-2025. (2024). Available from: https://blogs.worldbank.org/en/opendata/world-bank-country-classifications-by-income-level-for-2024-2025.

29. WHO GLOBOCAN: Cancer Tomorrow: Regional Estimates. (2020). Available from: https://gco.iarc.fr/ tomorrow/en/dataviz/tables?sexes=2&cancers=40&populations=903_904_905_908_909_935&age_ start=4&years=2040&mode=cancer&group_populations=1&multiple_populations=1&types=1.

30. WHO. Cervical Cancer Factsheet. (2024). Available from: https://www.who.int/news-room/fact-sheets/detail/cervical-cancer.

31. WHO. Comprehensive cervical cancer control: a guide to essential practice – 2nd ed. (2014). Available from: https://iris.who.int/bitstream/handle/10665/144785/9789241548953_eng.pdf?sequence=1.

32. WHO. Comprehensive cervical cancer control: a guide to essential practice – 2nd ed. (2014). Available from: https://iris.who.int/bitstream/handle/10665/144785/9789241548953_eng.pdf?sequence=1.

33. McIntyre-Seltman, Kathleen, et al. "Smoking is a risk factor for cervical intraepithelial neoplasia grade 3 among oncogenic human papillomavirus DNA–positive women with equivocal or mildly abnormal cytology." *Cancer Epidemiology Biomarkers & Prevention* 14.5 (2005): 1165-1170.

34. WHO/IARC GLOBOCAN. Cancer Today: Cervix Uteri. (2022). Available from: https://gco.iarc.fr/today/data/factsheets/cancers/23-Cervix-uteri-fact-sheet.pdf.

35. WHO/IARC GLOBOCAN. Cancer Today: Cervix Uteri. (2022). Available from: https://gco.iarc.fr/today/data/factsheets/cancers/23-Cervix-uteri-fact-sheet.pdf.

36. WHO/IARC GLOBOCAN: Cancer Tomorrow: Cancers Attributable to Infections. (2020). Available from: https://gco.iarc.who.int/causes/infections/tools-multi-bars.

37. WHO/IARC GLOBOCAN. Cancer Today: World Cancer Factsheet. (2022). Available from: https://gco.iarc.fr/today/data/factsheets/populations/900-world-fact-sheets.pdf.

38. WHO/IARC. GLOBOCAN: Cancer Tomorrow: Regional Estimates. (2020). Available from: https://gco.iarc.fr/ tomorrow/en/dataviz/tables?sexes=2&cancers=40&populations=903_904_905_908_909_935&age_ start=4&years=2040&mode=cancer&group_populations=1&multiple_populations=1&types=1.

39. Ong SK, et al. Towards elimination of cervical cancer–human papillomavirus (HPV) vaccination and cervical cancer screening in Asian National Cancer Centers Alliance (ANCCA) member countries. *Lancet Regional Health - Western Pacific.* 2023;39: doi: 10.1016/j.lanwpc.2023.100860.

40. Bruni L, et al. HPV vaccination introduction worldwide and WHO and UNICEF estimates of national HPV immunization coverage 2010–2019. Preventive Medicine. 2021; 144: 106399: https://doi.org/10.1016/j.ypmed.2020.106399.

41. Baeumler A, et al. Demographic Trends and Urbanization. (2021). Washington, DC: World Bank. doi:10.1596/978-1-4648-1112-9.

42. UNFPA. Population Trends: Asia and the Pacific. (2023). Available from: https://asiapacific.unfpa.org/en/topics/population-trends-9.

43. WHO/IARC GLOBOCAN. Cancer Today: Viet Nam. (2022). Available from: https://gco.iarc.who.int/media/globocan/factsheets/populations/704-viet-nam-fact-sheet.pdf.

44. WHO/IARC GLOBOCAN. Cancer Today: Viet Nam. (2022). Available from: https://gco.iarc.who.int/media/globocan/factsheets/populations/704-viet-nam-fact-sheet.pdf.

45. TISEA. Vietnam Country Report. (2022). Available from: https://tiesea.org/wp-content/uploads/2022/05/Diagnostic-Assessment-Report-Viet-Nam_TIESEA.pdf.

46. WHO/IARC GLOBOCAN. Cancer Today: Viet Nam. (2022). Available from: https://gco.iarc.who.int/media/globocan/factsheets/populations/704-viet-nam-fact-sheet.pdf.

47. WHO. HPV Vaccination Database. (2025). Available from: https://app.powerbi.com/view?r=eyJrIjoiNDIxZTFkZGUtMDQ1Ny00MDZkLThiZDktYWFlYTdkOGU2NDcwIiwidCI6ImY2MTBjMGI3LWJkMjQtNGIzOS04MTBiLTNkYzI4MGFmYjU5MCIsImMiOjh9.

48. Vietnam Ministry of Health, UNFPA (2024). An investment case study on HPV vaccination in Vietnam. Available from: https://vietnam.unfpa.org/sites/ default/files/pub-pdf/eng_final_pdf_1.pdf.

49. Bruni L, et al. Cervical cancer screening programmes and age-specific coverage estimates for 202 countries and territories worldwide: a review and synthetic analysis. *Lancet Glob Health*. 2022;10(8):e1115-e1127. doi: 10.1016/S2214-109X(22)00241-8.

50. WHO/IARC GLOBOCAN. Cancer Tomorrow: Vietnam. (2022). Available from: https://gco.iarc.who.int/tomorrow/en/dataviz/trends?multiple_populations=1&populations=900_704&cancers=23&mode=population&group_populations=0&multiple_cancers=0&sexes=2.

51. Canfell, K et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. *Lancet*. 2020; 395(10224):591-603.

52. WHO. Weekly Epidemiologic Record. HPV Vaccines: WHO Position Paper (2022 Update). (2022). Available from: https://iris.who.int/bitstream/handle/10665/365350/WER9750-eng-fre.pdf?sequence=1.

53. Global Alliance for Vaccine Initiative (GAVI). Human papillomavirus vaccine support. (2025). Available from: https://www.gavi.org/types-support/vaccine-support/human-papillomavirus.

54. WHO. Global strategy to accelerate the elimination of cervical cancer as a public health problem. November 2020. Available from: https://www.who.int/publications/i/item/9789240014107.

55. Brisson M, et al. Impact of HPV vaccination and cervical screening on cervical cancer elimination: a comparative modelling analysis in 78 low-income and lower-middle-income countries. *Lancet*. 2020; 95(10224):575-590. doi: 10.1016/S0140-6736(20)30068-4.

56. Dykens JA, et al. Gender-neutral HPV vaccination programs: Reconsidering policies to expand cancer prevention globally. *Front Public Health*. 2023;11:1067299. doi: 10.3389/fpubh.2023.1067299.

57. WHO. HPV Vaccination Database. (2025). Available from: https://app.powerbi.com/view?r=eyJrIjoiNDIxZTFkZGUtMDQ1Ny00MDZkLThiZDktYWFlYTdkOGU2NDcwIiwidCI6ImY2MTBjMGI3LWJkMjQtNGIzOS04MTBiLTNkYzI4MGFmYjU5MCIsImMiOjh9.

58. WHO. HPV Vaccination Database. (2025). Available from: https://app.powerbi.com/view?r=eyJrIjoiNDIxZTFkZGUtMDQ1Ny00MDZkLThiZDktYWFlYTdkOGU2NDcwIiwidCI6ImY2MTBjMGI3LWJkMjQtNGIzOS04MTBiLTNkYzI4MGFmYjU5MCIsImMiOjh9.

59. Zheng L, Wu J, Zheng M. Barriers to and Facilitators of Human Papillomavirus Vaccination Among People Aged 9 to 26 Years: A Systematic Review. *Sex Transm Dis*. 2021; 48(12):e255-e262. doi: 10.1097/OLQ.0000000000001407.

60. WHO Strategic Advisory Group of Experts on Immunization (SAGE). (2022). Available from: https://www.who.int/news/item/11-04-2022-one-dose-human-papillomavirus-(hpv)-vaccine-offers-solid-protection-against-cervical-cancer.

61. GAVI. Immunization partners outline ambitious plan to protect millions of girls in lower- and middle-income countries against cervical cancer. (2023). Available from: https://www.gavi.org/news/media-room/immunisation-partners-outline-ambitious-plan-protect-millions-girls-against-cervical-cancer.

62. WHO/UNICEF. HPV vaccine coverage estimates. (2024). Available from: https://cdn.who.int/media/docs/default-source/immunization/wuenic/notes-who-unicef-hpv-estimates-final-oct-2024.pdf.

63 Australian Centre for the Prevention of Cervical Cancer. (2023). National Strategy for the Elimination of Cervical Cancer in Australia: A Pathway to Achieve Equitable Elimination of Cervical Cancer in Australia by 2035. Available from: https://www.health.gov.au/sites/default/files/2023-11/national-strategy-for-the-elimination-of-cervical-cancer-in-australia.pdf.

64. Australia Department of Health and Aged Care. (2023). Change to Single Dose HPV Vaccine. Available from: https://www.health.gov.au/ministers/the-hon-mark-butler-mp/media/change-to-single-dose-hpv-vaccine.

65. WHO/UNICEF. HPV vaccine coverage estimates. (2024). Available from: https://cdn.who.int/media/docs/default-source/immunization/wuenic/notes-who-unicef-hpv-estimates-final-oct-2024.pdf.

66. WHO. Cervical Cancer Country Profiles: Thailand. (2021). Available from: https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-cancer-tha-2021-country-profile-en.pdf?sfvrsn=46b9bf49_38&download=true.

67. Wahidin M, et al. Twelve Years Implementation of Cervical and Breast Cancer Screening Program in Indonesia. *Asian Pac J Cancer Prev*. 2022;23(3):829-837. doi: 10.31557/APJCP.2022.23.3.829.

68. WHO/UNICEF. HPV vaccine coverage estimates. (2024). Available from: https://cdn.who.int/media/docs/default-source/immunization/wuenic/notes-who-unicef-hpv-estimates-final-oct-2024.pdf.

69. Vijayalakshmi K et al. Improved population coverage of the human papillomavirus vaccine after implementation of a school-based vaccination programme: the Singapore experience. 2023; *Singapore Med J.* 64(5):294-301. doi: 10.11622/smedj.2022053.

70. Vietnam Ministry of Health, UN Populations Fund (UNFPA). (2023). An investment case study on HPV vaccination in Vietnam. Available from: https://vietnam.unfpa.org/sites/ default/files/pub-pdf/eng_final_pdf_1.pdf.

71. Hao NTM, et al. HPV Vaccination by young adults in Hanoi, Vietnam: a qualitative investigation. Vaccine: X. 2025;(23):100619. doi:10.1016/j.jvacx.2025.100619.

72. Ver AT, et al. A systematic review of the barriers to implementing human papillomavirus vaccination programs in low- and middle-income countries in the Asia-Pacific. Asia Pac J Clin Oncol. 2021;17(6):530-545. doi: 10.1111/ajco.13513.

73. Hao NTM, et al. HPV Vaccination by young adults in Hanoi, Vietnam: a qualitative investigation. Vaccine: X. 2025;(23):100619. doi:10.1016/j.jvacx.2025.100619.

74. Canfell, K et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. Lancet. 2020; 395(10224):591-603.

75. Canfell, K et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. Lancet. 2020; 395(10224):591-603.

76. WHO. Comprehensive cervical cancer control: a guide to essential practice – 2nd ed. (2014). Available from: https://iris.who.int/bitstream/handle/10665/144785/9789241548953_eng.pdf?sequence=1.

77. WHO. Comprehensive cervical cancer control: a guide to essential practice – 2nd ed. (2014). Available from: https://iris.who.int/bitstream/handle/10665/144785/9789241548953_eng.pdf

78. Chua B, et al. Barriers to and Facilitators of Cervical Cancer Screening among Women in Southeast Asia: A Systematic Review. *Int J Environ Res Public Health*. 2021; 18(9):4586. doi: 10.3390/ijerph18094586.

79. WHO. Guideline for screening and treatment of cervical pre-cancer lesions for cervical cancer prevention, second edition. (2021). Available from: https://iris.who.int/bitstream/handle/10665/342365/9789240030824-eng.pdf?sequence=1.

80. WHO. WHO recommends DNA testing as a first-choice screening method for cervical cancer prevention. Available from: https://www.who.int/europe/news/item/11-09-2021-who-recommends-dna-testing-as-a-first-choice-screening-method-for-cervical-cancer-prevention.

81. Simms KT, et al. Benefits, harms and cost-effectiveness of cervical screening, triage and treatment strategies for women in the general population. *Nat Med*. 2023;29(12):3050-3058. doi: 10.1038/s41591-023-02600-4.

82. TogetHER for Health. Pooled Procurement to Expand Access to Cervical Cancer Screening in Low and Middle-Income Countries. (2024). Available from: https://togetherforhealth.org/wp-content/uploads/Pooled_report_layout_Oct3_update.pdf.

83. Simms KT, et al. Benefits, harms and cost-effectiveness of cervical screening, triage and treatment strategies for women in the general population. *Nat Med*. 2023;29(12):3050-3058. doi: 10.1038/s41591-023-02600-4.

84. WHO. Guideline for screening and treatment of cervical pre-cancer lesions for cervical cancer prevention, second edition. (2021). Available from: https://iris.who.int/bitstream/handle/10665/342365/9789240030824-eng.pdf?sequence=1.

85. WHO. Self-care interventions: human papillomavirus (HPV) self-sampling as part of cervical cancer screening and treatment. 2022. Available from: https://apps.who.int/iris/rest/bitstreams/1497132/retrieve.

86. Arbyn M, et al. Collaboration on Self-Sampling and HPV Testing. Detecting cervical precancer and reaching underscreened women by using HPV testing on self-samples: updated meta-analyses. *BMJ*. 2018;363:k4823. doi: 10.1136/bmj.k4823.

87. WHO. Self-care interventions: human papillomavirus (HPV) self-sampling as part of cervical cancer screening and treatment. 2022. Available from: https://apps.who.int/iris/rest/bitstreams/1497132/retrieve.

88. Australian Centre for the Prevention of Cervical Cancer. (2023). National Strategy for the Elimination of Cervical Cancer in Australia: A Pathway to Achieve Equitable Elimination of Cervical Cancer in Australia by 2035. Available from: https://www.health.gov.au/sites/default/files/2023-11/national-strategy-for-the-elimination-of-cervical-cancer-in-australia.pdf.

89. Australia Department of Health and Aged Care. Self-collection now available for cervical screening. (2022). Available from: https://www.health.gov.au/news/self-collection-now-available-for-cervical-screening.

90. Termrungruanglert W, et al. Cost-effectiveness analysis study of HPV testing as a primary cervical cancer screening in Thailand. *Gynecol Oncol Rep*. 2017;28;22:58-63. doi: 10.1016/j.gore.2017.09.007.

91. Tantitamit T, et al. Cost-Effectiveness of Primary HPV Screening Strategies and Triage With Cytology or Dual Stain for Cervical Cancer. *Cancer Control*. 2020; 27(1):1073274820922540. doi: 10.1177/1073274820922540.

92. Woo YL, et al. The road to cervical cancer elimination in Malaysia. *HPV World*. 2023;(225). Available from: https://www.programrose.org/wp-content/uploads/2023/07/hpvworld-225.pdf.

93. Government of Malaysia. Family Health Development Division. Action Plan for the Elimination of Cervical Cancer 2021-2030. (2021).

94. Indonesia Ministry of Health. National Cervical Cancer Elimination Plan 2023-2030. (2023). Available from: https://www.iccp-portal.org/sites/default/files/plans/National%20Cervical%20Cancer%20Elimination%20Plan%20for%20Indonesia%202023-2030_compressed.pdf.

95. Nguyen T, et al. Socioeconomic inequalities in cervical cancer screening practices in Vietnam: a decomposition analysis. *BMC Public Health*. 2025; 25:1253. doi: https://doi.org/10.1186/s12889-025-22511-y.

96. Nguyen T, et al. Socioeconomic inequalities in cervical cancer screening practices in Vietnam: a decomposition analysis. BMC Public Health. 2025; 25:1253. doi: https://doi.org/10.1186/s12889-025-22511-y.

97. WHO. Cervical cancer country profile, Vietnam. (2021). Available from: https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-can cer-vnm-2021-country-profile-en.pdf?sfvrsn=efc17706_33&download=true.

98. Nguyen T, et al. Socioeconomic inequalities in cervical cancer screening practices in Vietnam: a decomposition analysis. BMC Public Health. 2025; 25:1253. doi: https://doi.org/10.1186/s12889-025-22511-y.

99. Termrungruanglert W, et al. Cost-effectiveness analysis study of HPV testing as a primary cervical cancer screening in Thailand. *Gynecol Oncol Rep*. 2017;28;22:58-63. doi: 10.1016/j.gore.2017.09.007.

100. Tantitamit T, et al. Cost-Effectiveness of Primary HPV Screening Strategies and Triage With Cytology or Dual Stain for Cervical Cancer. *Cancer Control*. 2020; 27(1):1073274820922540. doi: 10.1177/1073274820922540.

101. Simms KT, et al. Benefits, harms and cost-effectiveness of cervical screening, triage and treatment strategies for women in the general population. *Nat Med*. 2023;29(12):3050-3058. doi: 10.1038/s41591-023-02600-4.

102. Australian Centre for the Prevention of Cervical Cancer. (2023). National Strategy for the Elimination of Cervical Cancer in Australia: A Pathway to Achieve Equitable Elimination of Cervical Cancer in Australia by 2035. Available from: https://www.health.gov.au/sites/default/files/2023-11/national-strategy-for-the-elimination-of-cervical-cancer-in-australia.pdf.

103. Woo YL, et al. The road to cervical cancer elimination in Malaysia. *HPV World*. 2023;(225). Available from: https://www.programrose.org/wp-content/uploads/2023/07/hpvworld-225.pdf.

104. The Economist Group. Impact and Opportunity: The Case for Investing in Women's Cancers in Asia Pacific. (2023). Available from: https://impact.economist.com/health/impact-and-opportunity-case-investing-womens-cancers-asia-pacific.

105. UICC. 2017 cancer resolution. Advancing universal health coverage and the sustainable development goals. Available from: https://www.uicc.org/sites/main/files/atoms/files/UICC_OnePager_Cancer%20Resolution_FA_Screen.pdf.

106. Pham T, et al. Cancers in Vietnam-Burden and Control Efforts: A Narrative Scoping Review. *Cancer Control*. 2019; 26 (1), doi: 1073274819863802.

107. Tran HT, et al. Lung Cancer in Vietnam. J Thoracic Oncol. 2021;16(9):1443-1448.

108. The Economist Group. Impact and Opportunity: The Case for Investing in Women's Cancers in Asia Pacific. (2023). Available from: https://impact.economist.com/health/impact-and-opportunity-case-investing-womens-cancers-asia-pacific.

109. Tran VT, et al. Cancer Control in Vietnam: Where Are We? AMR Cancer Control. Available from: https://www.cancercontrol.info/cc2016/cancer-control-in-vietnam-where-we-are/.

110. Ibid.

111. WHO. World Health Assembly. Cancer Prevention and Control in the Context of an Integrated Approach. (2017). Available from: https://apps.who.int/gb/ebwha/pdf_files/WHA70/A70_R12-en.pdf.

112. Tran KN, et al. Incidence and mortality of cervical cancer in Vietnam and Korea (1999-2017). *Epidemiol Health*. 2020; 42, e2020075.

113. The Economist Group. Impact and Opportunity: The Case for Investing in Women's Cancers in Asia Pacific. (2023). Available from: https://impact.economist.com/health/impact-and-opportunity-case-investing-womens-cancers-asia-pacific.

114. Phuong NTN, et al. Knowledge of Cervical Cancer and Human Papillomavirus Vaccines among Child-Bearing Aged Women in Hanoi, Vietnam. *Asian Pac J Cancer Prev*. 2020; 1;21(7):1951-1957. doi: 10.31557/APJCP.2020.21.7.1951.

115. Phuong NTN, et al. Knowledge of Cervical Cancer and Human Papillomavirus Vaccines among Child-Bearing Aged Women in Hanoi, Vietnam. *Asian Pac J Cancer Prev*. 2020; 1;21(7):1951-1957. doi: 10.31557/APJCP.2020.21.7.1951.

116. Tran NT, Urban-rural disparities in acceptance of human papillomavirus vaccination among women in Can Tho, Vietnam. Ann Ig. 2023; 35(6):641-659. doi: 10.7416/ai.2023.2575.

117. The Economist Group. Impact and Opportunity: The Case for Investing in Women's Cancers in Asia Pacific. (2023). Available from: https://impact.economist.com/health/impact-and-opportunity-case-investing-womens-cancers-asia-pacific.

118. Kim YA, et al. The Economic Burden of Breast Cancer in Korea from 2007-2010. *Cancer Res Treat.* 2015; 47: (4), 583-590.

119. Wu YH, et al. Economic Burden of Cervical and Head and Neck Cancer in Taiwan from a Societal Perspective. *Int J Environ Res Public Health*. 2023; 20(4):3717. doi: 10.3390/ijerph20043717.

120. Hoang VM, et al. Household Financial Burden and Poverty Impacts of Cancer Treatment in Vietnam. *Biomed Res Int*. 2017;2017:9350147. doi: 10.1155/2017/9350147.

121. Vietnam Ministry of Health, UN Populations Fund (UNFPA). (2023). An investment case study on HPV vaccination in Vietnam. Available from: https://vietnam.unfpa.org/sites/ default/files/pub-pdf/eng_final_pdf_1.pdf.

122. The Economist Group. Impact and Opportunity: The Case for Investing in Women's Cancers in Asia Pacific. (2023). Available from: https://impact.economist.com/health/impact-and-opportunity-case-investing-womens-cancers-asia-pacific.

123. World Bank Group. WHO Out of Pocket Expenditure Per Capita. (2025). Available from: https://data.worldbank.org/indicator/SH.XPD.OOPC.CH.ZS?most_recent_year_desc=-false&locations=VN.

124. Maurya PK, et al. Economic Burden of Cancer Treatment in a Region in South India: A Cross-Sectional Analytical Study. *Asian Pac J Cancer Prev*. 2021; 22(12):3755-3762. doi: 10.31557/APJCP.2021.22.12.3755.

125. Vietnam Ministry of Health, UN Populations Fund (UNFPA). (2023). An investment case study on HPV vaccination in Vietnam. Available from: https://vietnam.unfpa.org/sites/ default/files/pub-pdf/eng_final_pdf_1.pdf.

126. Unitaid. Unitaid accelerates push to eliminate cervical cancer by 2030 with $50 million commitment over two years to improve access to screening and treatment. 2025. Available from: https://unitaid.org/news-blog/unitaid-accelerates-push-to-eliminate-cervical-cancer-by-2030-with-us50-million-commitment-over-two-years-to-improve-access-to-screening-and-treatment/.

127. Gavi. Viet Nam Country Profile. (2025). Available from: https://www.gavi.org/programmes-impact/country-hub/western-pacific/viet-nam

128. WHO. Cervical Cancer Planning Tool for Cervical Cancer Prevention and Control. (2022). Available from:https://www.who.int/tools/who-cervical-cancer-prevention-and-control-costing-(c4p)-tool.

129. WHO. Cervical Cancer Elimination Planning Tool. (2025). Available from: https://gco.iarc.who.int/ept/about.

130. WHO. Global Cervical Cancer Elimination Commitments. (2024). Available from: https://www.who.int/initiatives/cervical-cancer-elimination-initiative/cervical-cancer-forum/commitments.

131. U.S. President's Emergency Plan for AIDS Relief (PEPFAR). Go Further: Partnership to End AIDS and Cervical Cancer. (2023). Available from: https://www.state.gov/go-further-partnership-to-end-aids-and-cervical-cancer.

132. Center for International and Strategic Studies (CSIS). The Quad's Cancer Moonshot Initiative. (2024). Available from: https://www.csis.org/analysis/quads-cancer-moonshot-initiative.

133. Gavi. Unitaid and Gavi establish a new partnership to improve access to cervical cancer prevention. (2024). Available from: https://www.gavi.org/news/media-room/unitaid-and-gavi-establish-new-partnership-improve-access-cervical-cancer.

134. Viet Nam News. 'Bright Tomorrow Fund' brings hope and belief to cancer patients. December 2, 2024. Available from: https://vietnamnews.vn/society/1688143/bright-tomorrow-fund-brings-hope-and-belief-to-cancerpatients.html.

135. Vietnam MOH. Maternal and Child Health Department. National Action Plan on Cervical Cancer Prevention and Control 2016-2015. (2016). Available from: https://platform.who.int/docs/default-source/mca-documents/policy-documents/plan-strategy/VNM-CC-10-02-PLAN-STRATEGY-2016-eng-Action-Plan-on-Cervical-Cancer-2016-2025.pdf.

136. WHO. Cervical cancer country profile, Vietnam. (2021). Available from: https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-can cer-vnm-2021-country-profile-en.pdf?sfvrsn=efc17706_33&download=true.

137. Vietnam MOH. Maternal and Child Health Department. National Action Plan on Cervical Cancer Prevention and Control 2016-2015. (2016). Available from: https://platform.who.int/docs/default-source/mca-documents/policy-documents/plan-strategy/VNM-CC-10-02-PLAN-STRATEGY-2016-eng-Action-Plan-on-Cervical-Cancer-2016-2025.pdf.

138. WHO/UNICEF. HPV vaccine coverage estimates. (2024). Available from: https://cdn.who.int/media/docs/default-source/immunization/wuenic/notes-who-unicef-hpv-estimates-final-oct-2024.pdf.

139. Woo YL, et al. The road to cervical cancer elimination in Malaysia. *HPV World*. 2023;(225). Available from: https://www.programrose.org/wp-content/uploads/2023/07/hpvworld-225.pdf.

140. WHO. Cervical cancer country profile, Vietnam. (2021). Available from: https://cdn.who.int/media/docs/default-source/country-profiles/cervical-cancer/cervical-can cer-vnm-2021-country-profile-en.pdf?sfvrsn=efc17706_33&download=true.

141. Vietnam MOH. Maternal and Child Health Department. National Action Plan on Cervical Cancer Prevention and Control 2024. Available from: https://thuvienphapluat.vn/van-ban/The-thao-Y-te/Quyet-dinh-3792-QD-BYT-2024-tai-lieu-chuyen-mon-Huong-dan-du-phong-ung-thu-co-tu-cung-635871.aspx.

Regional Case Study: Australia

Australia's Strategy for the Elimination of Cervical Cancer

Australia stands as a global leader in the fight against cervical cancer. With sustained political commitment, a strong equity lens, and evidence-based policies, the country is predicted to become one of the first countries globally to eliminate cervical cancer as a public health problem by as early as 2035.[6]

This progress has been built over decades through strategic action. In 2007, Australia launched its national HPV vaccination program, initially targeting girls and extending to boys in 2013. The program is delivered through schools and supported by a well-established public health infrastructure for delivering school-based vaccination. In 2023, following WHO recommendations, the government endorsed a transition to a single-dose vaccination schedule to improve uptake and efficiency. [1,2]

Efforts to expand access included broad catch-up campaigns and offering catch-up HPV vaccination through primary care, now available for those up until their 26th birthday. This approach ensures an opportunity for populations not reached in school - especially under-vaccinated groups – to still access protection. As Prof. Deborah Bateson highlighted in a 2025 interview with TogetHER for Health, embedding HPV vaccination within the school system, coupled with a catch-up program delivered through primary care for those missing out or not attending school, has been a critical move to extend equity and reduce barriers to access. [5]

While HPV vaccination is vital for long-term cervical cancer elimination, cervical screening remains crucial for older women who have not been vaccinated to detect and, if needed, treat, precancerous changes. In 2017, the country transformed its National Cervical Screening Program by replacing two-yearly Pap smears from age 18 to 69 years with primary HPV testing every five-years for women and people with a cervix aged 25 to 74. This major policy change was based on evidence demonstrating the superior effectiveness and modeled evidence demonstrating its improved effectiveness and efficiency. In July 2022, Australia introduced the universal option to be screened using a self-collected vaginal sample for HPV tests, which is helping to overcome barriers and improve screening rates among historically underserved groups.[7]

Another landmark was the development of Australia's National Elimination Strategy.[4] This was developed by the Australian Centre for the Prevention of Cervical cancer, guided by an expert advisory group representing all three WHO pillars – vaccination, screening and treatment. Modeling to inform the target elimination date was a central tool in this process and Prof. Bateson emphasized its importance in setting evidence-based targets and in securing political and financial backing. [4,5] The strategy has been endorsed by the Department of Health and Aged Care and has enabled coordination and appropriate targeting of funding and activities to what is needed to achieve equitable elimination.

At the heart of Australia's approach is a commitment to equity. Under-served populations - including Aboriginal and Torres Strait Islander peoples, culturally and linguistically diverse communities, LGBTQ+ individuals, and people with disabilities - are identified as priority populations at the center of targeted efforts. As Prof. Bateson explained, "The focus with our elimination strategy now really is on equity."[5] A particular focus has been placed on declining vaccination rates, especially among Indigenous adolescents, as highlighted in the latest 2024 Cervical Cancer Elimination Progress Report.[8]

While Australia's elimination targets align with the WHO's 2030 global targets, the country has set even higher goals. Australia aims for 90% HPV vaccination among all eligible individuals (girls and boys), 70% participation in five-yearly cervical screening, and 95% of those diagnosed with precancerous lesions or cancer receive optimal treatment.[4]

Vietnam and other countries can learn valuable lessons from Australia's elimination journey. Among

them are the importance of establishing national health registries to demonstrate effectiveness of prevention programs and monitor equity in access; ensuring strong political leadership; embedding community participation into strategy development and service delivery from the start; and using predictive modeling to guide investment and planning. Consistent, culturally relevant communication also plays a key role in sustaining public trust and combating vaccine hesitancy as well as in ensuring screening participation.

Australia's experience affirms that with data, dedication, and inclusive public health strategies, the elimination of cervical cancer is not only achievable - it is within reach.

References

1. WHO. Cervical cancer country profile: Australia. 2021. Available online at: https://www.who.int/publications/m/item/cervical-cancer-aus-country-profile-2021.
2. Asia Pacific Economic Cooperation (APEC). Status Report: Cervical Cancer Elimination in the APEC Region. 2023. Available online at: https://www.apec.org/publications/2023/03/status-report-cervical-cancer-elimination-in-the-apec-region.
3. Ministry of Health Australia. National Cervical Screening Program Report. 2021. Available online at: https://www.aihw.gov.au/reports/cancer-screening/national-cervical-screening-program-monitoring-rep/summary.
4. Australian Government. National Strategy for the Elimination of Cervical Cancer in Australia. 2023. Available online at: https://www.health.gov.au/resources/publications/national-strategy-for-the-elimination-of-cervical-cancer-in-australia?language=en.
5. Bateson D. Interview with TogetHER for Health. 2025.
6. Hall MT, Simms KT, Lew JB, et al. The projected timeframe until cervical cancer elimination in Australia: a modelling study. *Lancet Public Health*. 2019;4(1):e19-e27.
7. Australian Government Department of Health and Aged Care. Update on cervical screening self-collection uptake. 2025. Available online at:https://www.health.gov.au/resources/publications/update-on-cervical-screening-self-collection-uptake?language=en.
8. Brotherton J, Machalek D, Smith M et al., 2024 Cervical Cancer Elimination Progress Report: Australia's progress towards the elimination of cervical cancer as a public health problem. Available online at: https://www.cervicalcancercontrol.org.au.

Regional Case Study: Indonesia

Indonesia's Progress Toward Cervical Cancer Prevention and Control

Indonesia, the fourth most populous country in the world, has made notable progress in tackling cervical cancer, which remains the second most common cancer among Indonesian women. Despite facing persistent challenges such as low screening uptake, regional health disparities, and resource limitations, the country has demonstrated a growing political commitment and alignment with international cervical cancer elimination frameworks.

A significant institutional step came with the establishment of the National Cancer Control Committee (NCCC) under the Ministry of Health Decree No. 14/2017. This committee has coordinated strategic actions nationwide, focusing particularly on the most prevalent and preventable cancers among women - cervical and breast cancer. Building on this foundation, the government has launched the country's National Action Plan for Cancer 2024-2034 which integrates health promotion, early detection, access to treatment, and alignment with the national health insurance program (JKN).[1,2]

Indonesia's HPV vaccination strategy began with pilot programs in Jakarta and Surabaya between 2016 and 2017. These school-based initiatives successfully targeted girls in the 5th and 6th grades, demonstrating public acceptance and operational feasibility. Encouraged by these results, the government formally integrated HPV vaccination into the School Children Immunization Month (BIAS) in 2023. Under this program, 11-year-old girls receive the first dose and 12-year-olds receive the second, with the national goal of reaching 90% coverage.[3,4]

To address equity gaps, Indonesia has also extended outreach to out-of-school girls and underserved communities using mobile vaccination units and local health posts (posyandu). These initiatives, supported by WHO and UNFPA, emphasize equitable access and have explored a shift to a single-dose regimen.[4, 13]

Indonesia's National Cervical Cancer Elimination Plan (NCCE) for 2023–2030 explicitly recommends the adoption of HPV testing as the primary method for cervical cancer screening. In October 2023, the Indonesian Ministry of Health officially updated its cervical cancer screening protocol to prioritize HPV testing over previous methods like Visual Inspection with Acetic Acid (VIA). This change leverages the country's existing network of PCR laboratories, established during the COVID-19 pandemic, to facilitate more accurate and timely detection of cervical cancer. The NCCE outlines a phased implementation strategy. From 2023 to 2027 it aims to screen 70% of women aged 30–69 using HPV testing. From 2028 to 2030 it aims to increase screening coverage to 75%, with screenings conducted every ten years.

Integration with Indonesia's JKN program has also improved the affordability of cervical cancer screening and treatment for low-income populations. The national health insurance scheme now covers these services, creating greater access across income groups.[9]

Efforts to monitor progress include the expansion of PBCRs, supported by international partners such as the Union for International Cancer Control (UICC) and WHO. These registries remain limited in scope but are improving surveillance and informing policy. [10, 11] Research initiatives such as scientometric studies and implementation evaluations have further revealed disparities in service delivery and helped shape evidence-based program improvements.[12]

Indonesia still contends with key barriers. Screening uptake remains low. Fewer than 10% of women aged 30–49 have been screened in the last five years, largely due to limited awareness, stigma, and healthcare access, particularly in rural provinces. [4, 13] Vaccine hesitancy, although less prevalent in urban pilot regions, continues to pose a challenge to broader expansion of immunization efforts, underscoring the need for parent and religious leader engagement.[4,14] Many primary care centers also struggle with insufficient staffing and lack of facilities to deliver screening and treatment services.[13]

Indonesia's strategy offers several lessons for other nations. Political commitment and integration into the national insurance program reflect the country's serious investment in cancer control. Pilot programs served as a testing ground for identifying logistical and cultural challenges before scaling up. International collaboration with partners such as WHO and the United Nations Population Fund (UNFPA) has played a crucial role in providing technical and financial support.

Community involvement - particularly through schools, local leaders, and NGOs like the Indonesian Cancer Foundation and Lovepink - has bolstered public awareness and helped navigate cultural sensitivities.[13]

Indonesia's evolving approach underscores how policy, public health, and partnerships can intersect to drive meaningful change. As the country continues to address disparities and improve screening infrastructure, its HPV vaccination success story stands as a model for countries like Vietnam that are preparing to scale up their cervical cancer elimination efforts.

References

1. Ministry of Health Indonesia. National Cancer Committee (14/2017).
2. Gondhowiardjo S, et al. Indonesia National Action Plan for Cancer Control 2020–2024. Available online at: https://www.iccp-portal.org/sites/default/files/plans/Executive_Summary_National_Cancer_Plan_2024-2034.pdf.
3. Wahidin M, Febrianti R, Susanty F, Hasanah SR. Twelve years of cervical and breast cancer screening in Indonesia. Asian Pac J Cancer Prev. 2022;23(3):829-837.
4. WHO. Indonesia cervical cancer country profile. 2021. Available online at: https://www.who.int/publications/m/item/cancer-idn-2020.
5. UNFPA. 2022. Indonesia: Cervical Cancer Elimination - Country Review and Roadmap for Action. Available online at: https://asiapacific.unfpa.org/en/publications/indonesia-cervical-cancer-elimination-country-review-roadmap-action.
6. Wahidin M, Noviani R, Hermawan S, et al. Population-based cancer registration in Indonesia. Asian Pac J Cancer Prev. 2012;13(4):1709-1710.
7. Ministry of Health Indonesia. Guidelines for the Control of Breast and Cervical Cancer (34/2015).
8. Ministry of Health Indonesia. National guidelines for treatment of cervical cancer (349/2018).
9. Ministry of Health for the Republic of Indonesia. Health Service Standards in JKN.
10. Union for International Cancer Control. (UICC). Supporting Indonesia's PBCRs. Available online at: https://www.uicc.org/news-and-updates/case-studies/supporting-indonesias-population-based-cancer-registries-pbcrs.
11. Rahayu P, Suzanna E, Simamora V. Strategy to improve Indonesia's cancer registry.
12. Puspitaningtyas H, Espressivo A, Hutajulu SH, Fuad A, Allsop MJ. Mapping and visualization of cancer research in Indonesia: A scientometric analysis. Cancer Control. 2021;28:10732748211053464.
13. Robbers GML, Bennett LR, Spagnoletti BRM, Wilopo SA. Barriers to cervical cancer screening in Indonesia: A scoping review. Glob Health Action. 2021;14(1):1979280.
14. Wijayanti KE, Schütze H, MacPhail C. Parents' attitudes and uptake of the school-based HPV vaccination program in Jakarta, Indonesia. Prev Med Rep. 2021;24:101651.

Regional Case Study: Malaysia

Malaysia's Road to Cervical Cancer Elimination

Malaysia's journey toward cervical cancer elimination is a story of innovation, persistence, and culturally rooted public health leadership. Cervical cancer remains the third most common and fourth most deadly cancer among women in the country, yet Malaysia has undertaken significant efforts to reverse this trend and align with the WHO's 90-70-90 elimination targets.

In 2010, Malaysia introduced a national HPV vaccination program targeting 13-year-old girls through its School Health Service Program. This early commitment ensured equitable access across both urban and rural communities, achieving coverage rates above 80%. In 2015, the program shifted from a three-dose to a two-dose schedule, based on global guidance, to enhance adherence and reach. Building on this foundation, Malaysia is transitioning to primary HPV testing as its main screening method in 2021, phasing out Pap smears and reflecting global best practices. These changes were guided by updated national clinical guidelines and a broader strategic vision articulated in Malaysia's *National Strategic Plan for Cancer Control Program 2021–2025 and the Action Plan Towards the Elimination of Cervical Cancer in Malaysia 2021–2030.*

These policies aim to reach 90% HPV vaccination by age 15, ensure that 70% of women aged 35–45 are screened, and guarantee that 90% of those diagnosed with pre-cancer or cancer receive treatment. [1,2]

Yet Malaysia's approach to elimination extends beyond statistics and protocols. One of the earliest catalysts for change is Program ROSE (Removing Obstacles to Cervical Screening), a locally developed initiative that combines self-sampling, HPV screening, and a digital registry into a cohesive, user-friendly system. Program ROSE, born from the pilot Project ROSE, gained rapid public acceptance - 99% of women who participated said they would repeat the test. The program is designed for reach and responsiveness, offering quick result notifications via SMS and securing a 91% follow-up rate among those who tested positive. [3]

Dr. Woo Yin Ling, a leading figure behind Program ROSE and a vocal advocate for system reform, has emphasized that the success of any elimination campaign hinges on whether the health system itself is prepared to support it. While the infrastructure and tools exist, she noted, the challenge lies in aligning behavior and political will with policy. She highlighted the fragmentation between primary and tertiary care systems, a problem not unique to Malaysia but prevalent in many other LMICs, describing how the lack of electronic integration has made comprehensive monitoring and evaluation a challenge. A national cervical cancer registry is in development, but she cautioned that "systems die" without the necessary behavioral shifts to make them work.[4]

Modeling conducted through partnerships with international and local researchers has reinforced the urgency of scaling up screening efforts. If Malaysia were to continue with its vaccination program alone, projections estimate elimination could be achieved between 2066 and 2079, with over 10,000 lives saved. However, integrating HPV screening programmatically, such as that demonstrated by Program ROSE, could move the elimination timeline forward by over a decade and more than double the number of lives saved.[5]

Despite these gains, the road is not without barriers. One challenge lies in financing. HPV tests are not currently reimbursed by private insurers due to their classification as a sexually transmitted infection, and there is no centralized insurance regulator to mandate otherwise. In Malaysia, the team at ROSE Foundation have been tirelessly working to engage insurance companies individually - a tedious and politically sensitive process. They are educating insurance companies and both the need and benefit of coverage for HPV testing. Additionally, while champions within Malaysia's medical and public health communities help drive change, Dr. Woo warns that expertise can become a double-edged sword if clinicians are

too entrenched in outdated practices. There must continually be champions who drive change through education and iterative change with policymakers, healthcare providers, and the health system.

Community trust also plays a pivotal role in shaping Malaysia's cervical cancer response. Dr. Woo explained that while Malaysia acknowledges external successes and support - such as those seen in Australia - such comparisons must be made carefully to avoid perceptions of neocolonialism. Success, she insisted, must be rooted in local leadership, community narratives, and evidence produced from within. Initiatives such as the 2019 Conquering Cancer documentary which shares the story of cervical cancer patients and survivors across the world and spotlights the need for broader investment in HPV/ cervical cancer, as well as personal storytelling and social media campaigns, have become powerful tools for public engagement.[4]

For countries like Vietnam, Malaysia offers a nuanced blueprint for creating systemic change around cervical cancer prevention and control. Rather than starting with sweeping national mandates, Malaysia's strategy has focused on building readiness at the state level, where infrastructure allows for early wins. From there, successes are used to expand coverage and investment. Today, Malaysia is poised to develop a national elimination strategy due to its iterative achievements. Malaysia's experience underscores that technology and policy, though critical, must be accompanied by social trust, political continuity, and a health system genuinely prepared to deliver.

References

1. NCBI. Malaysia's HPV Vaccination Implementation Review. 2023.
2. Ministry of Health Malaysia. 2021. Action Plan Towards the Elimination of Cervical Cancer 2021-2030.
3. Woo YL, et al. The road to cervical cancer elimination in Malaysia. HPV World. 2023;(225).
4. Interview with Dr. Woo Yin Ling. TogetHER for Health. 2025.
5. Keane A, Chiu WN, Sims K, et al. The road to cervical cancer elimination in Malaysia: Evaluation of the impact and cost-effectiveness of HPV screening in Malaysia. Int J Cancer. 2021; 149(12):1997-2009.

Regional Case Study: The Philippines

Cervical Cancer Elimination in the Philippines

Over the last decade, the Philippines has undertaken a series of bold initiatives aimed at eliminating cervical cancer. While the journey has been far from linear, the country's strategic emphasis on health systems readiness, public-private collaboration, and integration into universal health coverage (UHC) offers important lessons for countries like Vietnam pursuing similar goals.

Although cervical cancer screening has been available for many years in the Philippines, predominantly through Pap smears and visual inspection with acetic acid (VIA) screening, the absence of a national, coordinated approach limited its impact. A major turning point occurred in 2021 when Jhpiego introduced HPV testing and thermal ablation at the primary care level through the Scale up Cervical Cancer Elimination with Secondary Prevention Strategy (SUCCESS) Project, marking the beginning of a more structured, systems-based approach to prevention and treatment.

The demonstration provided evidence of feasibility and helped the Department of Health (DOH) evaluate the nation›s capacity to scale primary HPV testing across decentralized health units. By 2023, the DOH had taken initial steps to plan for scale up and to be more reliant on government resources. In early 2025, HPV testing received positive evaluation through the national health technology assessment process, paving the way for procurement and government rollout beginning in 2026.[1,4]

This transition was supported by deeper systems strengthening efforts, including the institutionalization of regional cancer governance models to coordinate implementation across devolved local government units. The policy foundation supporting these developments was laid earlier through the National Integrated Cancer Control Act (NICCA) of 2019, which mandated comprehensive cancer care as a public health priority, as well as through the National Integrated Cancer Control Council Strategic Framework with screening and early detection as one of the strategic focuses.[2]

UHC reforms have since expanded coverage for both cervical cancer screening and treatment under the PhilHealth benefit package.[3]

The Cancer Assistance Fund, with an allocation of approximately 1.2 billion pesos in 2024, has helped close financial gaps by supporting diagnostics, treatment, and high-risk screening in public hospitals. While government facilities offer VIA and Pap smear screening for free, HPV testing remains prohibitively expensive in the private sector. Full public sector integration of HPV testing is expected to substantially reduce these inequities.[4]

Despite these successes, implementation challenges persist. One of the most pressing concerns is workforce readiness. Many providers remain trained in outdated modalities and lack familiarity with the newer protocols, particularly thermal ablation. During the initial rollout of the demonstration project, treatment uptake was limited to around 50%, suggesting systemic barriers both at the provider and patient levels.[1,2]

The effort to decentralize treatment to primary care providers has met reluctance from professional groups, some of whom remain skeptical of task-shifting or task sharing models. In response, national guidelines were updated in 2024 to explicitly authorize general practitioners to perform thermal ablation, with ongoing policy dialogues aimed at securing broader professional support.[4]

Data infrastructure is another area requiring investment. While both hospital- and population-based cancer registries exist, they lack full standardization and comprehensive national coverage. A screening registry is not yet in place, and current tracking is manual and fragmented. Plans are underway to develop a digital screening registry through the DOH Field Health Service Information System in 2026.[4]

The country's HPV vaccination program also highlights both innovation and complexity. First

launched in 2015, the program now targets grade four students (typically 9–10 years old) through school-based delivery. However, vaccine coverage remains low when measured against the full eligible population, largely due to logistical constraints and vaccine hesitancy.[5] Cultural and historical factors, including backlash from the controversial rollout of the dengue vaccine in 2017, have fueled public mistrust. Misconceptions persist that HPV vaccines are only appropriate for sexually active adolescents, and parental concerns remain a barrier to uptake.[4]

In response, the DOH plans to implement a hybrid school- and community-based vaccination strategy beginning in 2025 to reach out-of-school youth and students in private institutions. The National Integrated Cancer Control Council, reproductive health advocates, and civil society organizations have also played an important role in shaping public messaging around the vaccine and shifting the focus toward adolescent health and cancer prevention.[4]

The Philippine experience underscores the value of starting with demonstration projects to assess feasibility and build internal alignment before national scale-up. The application of WHO's C4P costing tool enabled policymakers to understand the budgetary implications of different screening and treatment strategies, even in the absence of formal return-on-investment modeling.[4] These efforts were further strengthened by multi-level collaboration and sustained political commitment.

Dr. Jan Llevado of the Department of Health reflected on these efforts by emphasizing that technologies alone are insufficient. "Apart from the technology itself, the entire health system, and the leadership, should be in place to make all of these moves," she noted.[4] For Vietnam, where health system decentralization and resource constraints mirror those of the Philippines, this holistic approach may offer a viable roadmap toward elimination.

References

1. Department of Health. Philippine Cancer Control Program. Available from: https://doh.gov.ph/philippine-cancer-control-program. 2025.
2. Philippines News Agency. DOH assures patients quality health care thru UHC, NICC laws. Available from: https://www.pna.gov.ph/articles/1066751. 2025.
3. PhilHealth. Cervical cancer coverage: A top priority of PhilHealth in Universal Health Care. Available from: https://www.philhealth.gov.ph/news/2023/cervical_coverage.pdf. 2025.
4. Llevado J. Interview with TogetHER for Health. PH VT Interview. 2025.
5. WHO. HPV vaccination coverage database. Available from: https://immunizationdata.who.int/pages/coverage/hpv.html. 2025.

Regional Case Study: Singapore

Cervical Cancer Elimination in Singapore

Singapore's approach to cervical cancer elimination is defined by a highly organized, technology-driven health system, strong government investment in screening infrastructure, and an evolving commitment to HPV vaccination. While the burden of cervical cancer in Singapore is lower than in many neighboring countries, due in large part to early detection and widespread access to healthcare, it remains a persistent public health issue that continues to disproportionately affect certain segments of the population.

Singapore began offering free Pap smear screenings under its national CervicalScreen Singapore program in 2004. The program targeted women aged 25 to 69, recommending triennial screening. However, screening uptake remained suboptimal for many years, particularly among low-income groups, unmarried women, and those with limited health literacy. In response, the Health Promotion Board (HPB) launched a series of public education campaigns and strengthened partnerships with primary care providers to increase screening coverage.[1]

Recognizing the limitations of cytology-based screening, Singapore transitioned to HPV testing as the primary screening modality in 2019, following global evidence that HPV testing offers higher sensitivity for detecting pre-cancerous lesions. The updated guidelines now recommend HPV testing every five years for women aged 30 to 69. This policy shift was accompanied by enhanced digital infrastructure, allowing for centralized data collection and patient recall systems, an essential step toward achieving WHO's target of 70% screening coverage.[2]

To further support participation, Singapore piloted opt-in self-sampling initiatives for cervical screening. Studies conducted through public health institutions found that self-sampling significantly improved screening rates among under-screened populations, particularly those who felt discomfort or stigma around clinic-based exams. These pilots are gradually being integrated into routine care delivery.[3]

Singapore launched its national HPV vaccination program in 2010, targeting 13-year-old female students under the national school-based health service. In 2019, the government made the HPV vaccine fully subsidized for all Secondary One female students, increasing uptake significantly. Discussions are ongoing to expand coverage to boys, in alignment with global best practices and gender-neutral vaccination strategies.[4]

Singapore's overall strategy reflects a commitment to achieving the WHO's 90-70-90 targets for cervical cancer elimination. However, its approach remains focused more heavily on robust screening systems and early detection mechanisms than on widespread public advocacy campaigns. The country's digital integration allows for real-time tracking of screening participation and outcomes, and the Ministry of Health continues to refine predictive models to identify women at highest risk of loss to follow-up.

While Singapore has not formally published a national cervical cancer elimination strategy akin to those in Australia or Malaysia, its high-functioning health infrastructure, coupled with incremental improvements in screening and vaccination, places it in a strong position to reach elimination thresholds ahead of the regional average. Continued investments in self-sampling, outreach to migrant and minority populations, and further expansion of HPV testing access will be crucial to ensure equity in elimination outcomes.

References

1. Ministry of Health Singapore. CervicalScreen Singapore Program Overview. 2021.
2. Lim YK, et al. Transition to HPV primary screening in Singapore: A review. Asian Pac J Cancer Prev. 2020;21(6):1801–1807.
3. Seah M, et al. Acceptability of HPV self-sampling among under-screened women in Singapore. BMC Public Health. 2019;19(1):1007.
4. Health Promotion Board Singapore. National HPV Vaccination Program. 2023.

Regional Case Study: Thailand

Thailand's Progress Toward Cervical Cancer Prevention and Control

Thailand has emerged as a regional leader in cervical cancer prevention and control, driven by cohesive national policies and a commitment to health equity through its Universal Health Coverage (UHC) system. Over the past decade, the country has made significant strides in expanding access to HPV vaccination, scaling up screening initiatives, and aligning national strategies with global elimination targets set by the World Health Organization (WHO). At the policy level, Thailand's Ministry of Public Health developed the National Cancer Control Program (2018–2022), which prioritizes the implementation of HPV vaccination, expanded cervical cancer screening, and improved access to treatment.[1] These efforts are reinforced by the 2018–2022 Health Service Development Plan, which integrates cancer prevention into broader health reforms. Through the Universal Coverage Scheme (UCS), managed by the National Health Security Office, Thai citizens benefit from free cervical cancer screening and subsidized HPV vaccination and treatment services. This integration ensures that financial barriers do not hinder access to lifesaving interventions.[1, 2, 3]

Thailand's vaccination efforts have been particularly notable. The country introduced HPV vaccination into its National Expanded Program on Immunization (EPI) in 2017, targeting girls aged 9 to 14. In response to WHO guidance, the government is considering a transition to a single-dose vaccination schedule to improve efficiency and increase coverage. Despite this progress, challenges persist in areas such as vaccine supply logistics, hesitancy, and public awareness. Targeted education campaigns and collaboration across sectors are being deployed to address these obstacles.[4, 5, 6]

Cervical cancer screening efforts include widespread Pap smear testing for women aged 30 to 60 and HPV testing for high-risk populations. These services are provided free of charge under UHC. Standardized national guidelines issued by the National Cancer Institute aim to ensure uniformity in screening, diagnosis, and treatment protocols across the healthcare system.

Thailand's approach also emphasizes collaboration with international organizations, including WHO, the Asia-Pacific Economic Cooperation (APEC) forum, and academic partners, to strengthen technical capacity and align with global best practices. Non-governmental organizations such as People's Hope Japan and the Thai Cancer Information Network have played a crucial role in community outreach, helping to promote cervical cancer awareness in schools and underserved communities. [10,11]

Several key factors have underpinned Thailand's success. Strong political commitment from the Ministry of Public Health has ensured consistent leadership and integration of services into UHC. Financial protection mechanisms within the UHC framework have supported equitable access to care. Programmatic consistency across national cancer control strategies and service guidelines has fostered alignment with international standards. Finally, community engagement – amplified by the work of both national and international partners – has extended prevention efforts to even the most remote areas.

Still, Thailand faces ongoing challenges. Achieving high screening coverage remains difficult, especially in rural regions where awareness and access are limited. [7, 8, 9] Limited public awareness and irregular participation in screening programs continue to hinder progress, alongside supply chain constraints and funding challenges in vaccine procurement. [6, 9]

Thailand's model demonstrates how strategic planning, universal health financing, and multisectoral collaboration can drive measurable progress toward cervical cancer elimination. The country's experience offers valuable lessons for nations like Vietnam, where building political momentum and strengthening existing systems will be essential for a scalable and sustainable response.

References

1. WHO. Cervical cancer country profile: Thailand. 2021. Available online at: https://www.who.int/publications/m/item/cancer-tha-2020.
2. Ministry of Public Health Thailand. National Cancer Control Program. 2018–2022. Available online at: https://www.iccp-portal.org/resources/national-cancer-control-programme-2018-2022.
3. National Health Security Office Thailand. Universal Coverage Scheme (UCS) details. 2023.
4. WHO. Updated guidance on HPV vaccination schedules.
5. Ministry of Public Health Thailand. Thailand Expanded Program on Immunization.
6. Panyadilokchai T, et al. Addressing HPV vaccine hesitancy in Thailand.
7. National Cancer Institute. National guidelines for cervical cancer screening. 2021.
8. WHO-AFRO. Screening coverage and rural disparities in Southeast Asia.
9. Thai Cancer Information Network. Community-level screening engagement.
10. Asia Pacific Economic Cooperation (APEC) Health Working Group. Policy and research collaborations. 2023.
11. People's Hope Japan. Cervical cancer prevention in schools and communities. 2013.

FIND Demonstration Study: Using HPV Testing for Cervical Cancer Screening

Counseling session for women before HPV sample collection at local health centers[1]

Cervical cancer remains a leading cause of morbidity and mortality among Vietnamese women, ranking as the fifth most common cancer in women aged 15 to 44 and accounting for over 2,500 deaths in 2022 alone. Persistent infection with high-risk human papillomavirus (HPV) types, particularly HPV 16 and 18, is the primary driver of cervical cancer in Vietnam, with approximately 83% of cases attributed to these strains.

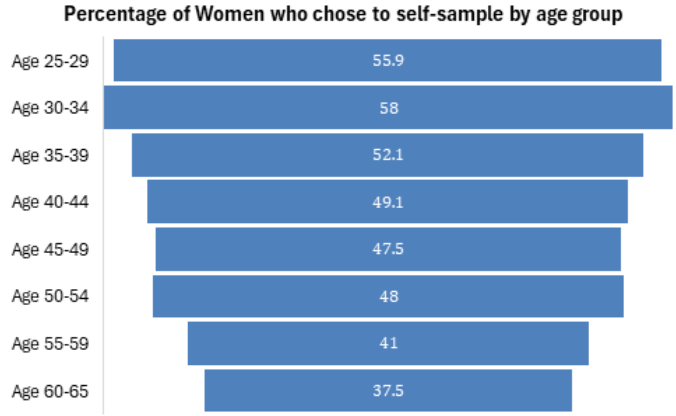
To address critical gaps in early detection and expand equitable access to screening services, the Foundation for Innovative New Diagnostics (FIND), in collaboration with the Hai Phong Center for Disease Control (CDC) and Roche Diagnostics, launched a demonstration study in 2023. The project implemented a decentralized sample collection model - leveraging both routine activities at community health stations and mobile community screening events - combined with centralized HPV testing conducted at the CDC in Hai Phong.

The pilot, conducted between June and December 2023, enrolled a total of 5,004 sexually active women between the ages of 25-65 years. Participants were given the option of vaginal self-sampling or provider-based collection. Of the total participants, 48.6% opted for self-sampling, with a higher uptake observed in the CDC-led community screening programs (58.1%) compared to community health centers (39.1%).1 This preference was attributed in part to more effective counseling and the use of educational videos in community settings.2

Overall, 8.1% of women tested positive for at least one high-risk HPV type, a consistent positivity rate across both sample collection models and sampling methods.3 HPV 16 was detected in 1.5% of participants, HPV 18 in 0.6%, and other high-risk strains in 6.9%.3 The uniform positivity rate across models suggests that self-sampling is a valid and effective approach for HPV testing and supports its inclusion in national screening guidelines.

Among the HPV-positive women tracked for follow-up, 85.3% were successfully contacted, and over half (55.3%) of those reached took some form of follow-up action. Notably, 95.8% of those who acted sought care at a district-level or higher health facility, demonstrating that when engaged, most women access appropriate diagnostic and treatment services - an encouraging sign of the model's potential to facilitate meaningful linkage to care and reduce cervical cancer burden.[3]

Figure 1: Percentage of women who chose self-sampling by age group[1]



The centralized testing model used Roche's Cobas system and was facilitated by the YTCS software, which helped manage patient tracking, logistics, and reporting. Most healthcare workers (97%) supported sample collection at community health stations and 100% were willing to either collect samples or guide women through the self-sampling process.[1] Acceptability among women was also high, with 98% expressing support for self-sampling.

Despite its success, the project revealed implementation challenges at the primary care level, including limited infrastructure for private sampling, lack of familiarity with HPV counseling at communal health stations, and variable digital literacy among community healthcare workers, affecting software adoption. These challenges underscore the need for continued investment in

training, supervision, and infrastructure improvements to enable a smooth scale-up.

This demonstration study offers compelling evidence that decentralized sample collection paired with centralized HPV testing is both feasible and acceptable in Vietnam. By integrating this model into national strategy and continuing to build capacity at the primary care level, Vietnam can make significant progress toward the WHO target of eliminating cervical cancer as a public health problem by 2030.

References

1. FIND. Project Implementation Report. March 2024.
2. HPV DNA Testing Policy Brief. August 2024.
3. FIND, Hai Phong CDC. FIND Report Presentation. April 2024.

Medlatec's Home-Based HPV Testing Model in Vietnam

Vietnam faces significant challenges in scaling cervical cancer screening efforts, particularly in rural and peri-urban areas where logistical, cultural, and psychological barriers limit access. In response, Medlatec - a prominent private diagnostics network in Vietnam - has pioneered an innovative, patient-centered HPV testing service aimed at addressing these barriers through home-based self-sampling.

The Medlatec model allows women to order HPV test kits online or by phone, collect samples themselves in the privacy of their homes, and have them picked up via courier for centralized testing at Medlatec's laboratory. Results are typically returned digitally within 24 hours, and follow-up consultations with gynecologists are offered when needed. This model prioritizes privacy, convenience, and timeliness, which are key to encouraging uptake, especially among women who might otherwise avoid facility-based screening due to stigma or time constraints.[1]

The service has gained popularity, particularly among women seeking autonomy in their preventive healthcare. Medlatec's trusted brand and logistical infrastructure have bolstered public confidence in the approach. In addition to delivering results quickly, the model integrates personalized follow-up care, helping bridge the gap between diagnosis and treatment.[1]

Despite its success, Medlatec's approach highlights several lessons. Firstly, preventive health services, particularly those for asymptomatic conditions like cervical cancer, require robust community education efforts to drive demand. Many women still do not perceive screening as urgent or essential. Secondly, strategic communication and targeted media outreach must be adapted to the needs and languages of different audiences. Thirdly, partnerships with public health agencies are critical to extending the reach of private-sector innovations and establishing credibility in new communities.[1,3]

While Vietnam's national strategy emphasizes expanding access through public-sector initiatives, private models like Medlatec's offer valuable complementary pathways. Their data and experience can inform the design of broader national strategies, particularly regarding the feasibility and acceptability of self-sampling methods. As demonstrated in similar public-sector efforts coordinated by the Hai Phong CDC and FIND, HPV self-sampling maintains consistent positivity rates compared to provider-administered methods and is supported by more than 95% of women and health workers.[4,5]

Medlatec's home-based HPV testing model underscores the importance of flexibility, user-centered design, and infrastructure in eliminating cervical cancer. As Vietnam aims to meet the World Health Organization's 2030 targets for elimination, public-private collaborations that integrate accessibility, affordability, and rapid diagnostics will be essential to scaling successful screening models.

References

1. Cervical Cancer Vietnam- Self-Sampling Models in Medlatec. Roche APAC Communities. 2024.
2. MEDLATEC. Bệnh ung thư là gì? Nguyên nhân, triệu chứng và cách điều trị. Available online at: https://medlatec.vn/tin-tuc/benh-ung-thu-s91
3. Medlatec Healthcare System. Available online at: https://medlatec.vn/dich-vu/chuong-trinh-hpv-2024.
4. Project Implementation Report. March 2024.
5. HPV DNA Testing Policy Brief. August 2024.

The WHO C4P Tool and Its Role in Cervical Cancer Elimination Planning in the Philippines

The Cervical Cancer Prevention and Control Costing (C4P) tool developed by the WHO serves as a vital resource for countries aiming to develop costed national strategies for cervical cancer prevention and control. The tool consists of two complementary modules: C4P-HPV, which estimates the costs associated with HPV vaccine delivery, and C4P-ST, which supports the costing of cervical cancer screening and treatment programs. These modules allow policymakers to estimate financial, economic, and programmatic costs, assess trade-offs between different service delivery models, and project service coverage based on population needs and health system capacity.[1]

The WHO C4P tool is designed to assist governments in planning and budgeting for interventions across all three pillars of cervical cancer elimination: HPV vaccination, cervical cancer screening, and treatment for pre-cancerous lesions and cancer. It estimates costs for various screening modalities (e.g., HPV testing, VIA, Pap smears) and treatment methods (e.g., thermal ablation, cryotherapy, LEEP, and cancer treatment services), providing flexible modeling for different scenarios. It is particularly valuable for ministries of health to understand the financial implications of scaling up services, demonstrate cost-effectiveness for advocacy efforts, and align plans with WHO's 90-70-90 targets for elimination by 2030.[2]

Vietnam, which has identified cervical cancer elimination as a national priority, could greatly benefit from incorporating the C4P tool into its planning processes. By using country-specific data or, when necessary, default values embedded in the tool, Vietnamese stakeholders can develop a costed and scalable elimination plan aligned with WHO's 90-70-90 targets. The structured costing process also facilitates multi-stakeholder engagement, helping to ensure national ownership, transparency, and accountability. The C4P-ST tool can enable Vietnamese policymakers to identify the most efficient screening approaches, estimate program scale-up costs, and assess cost-effectiveness for targeted population groups.[3]

Evidence from prior use of the C4P-HPV tool in Gavi-supported demonstration projects outside of Vietnam (e.g., the Philippines) further underscores its utility. Across diverse contexts, the tool has helped governments analyze and compare the operational costs of HPV vaccine delivery strategies, including school-based, outreach-based, and health facility-based approaches. These insights are crucial for Vietnam, where logistical and infrastructure constraints differ by district. By leveraging the C4P tool, Vietnam can better understand which strategies offer the best value and feasibility for scaling nationwide vaccination and screening and treatment services.[4]

The SUCCESS project, implemented in the Philippines and several other low- and middle-income countries, has further demonstrated the utility of the C4P tool in real-world policy planning. The Philippines used a simplified version of the C4P tool to support development of a costed transition plan for integrating cervical cancer screening and treatment within its health system under universal health coverage.5 This adaptation allowed local stakeholders to estimate resource needs more effectively, strengthening advocacy for financing and enabling evidence-based decision-making.

As part of the SUCCESS project, government stakeholders in the Philippines participated in training and capacity-building sessions on how to use the C4P tool, which helped promote national ownership of the costing process.6 The country's experience highlights the importance of embedding such tools in routine health planning, particularly when shifting from opportunistic to systematic screening strategies that include innovations like HPV testing with self-collection and thermal ablation.[7] The tool's ability to provide concrete cost estimates and illustrate the financial impact of different service delivery models made it an invaluable resource for the Philippines as it restructured its national cervical cancer elimination strategy.

Ultimately, integrating the C4P tool into national cervical cancer elimination strategies provides a data-driven, cost-conscious approach to planning. It supports decisions on resource allocation, service delivery optimization, and long-term sustainability. The use of the C4P-ST tool emphasizes inclusive, facilitated planning, requiring trained personnel, stakeholder consensus, and rigorous data entry - all of which contribute to a robust and actionable national cervical cancer control plan.[3]

References

1. WHO. Cervical Cancer Prevention and Control Costing (C4P) Tool. Available online at: https://www.who.int/tools/who-cervical-cancer-prevention-and-control-costing-(c4p)-tool.
2. Roche M. Notes on C4P Tool. 2025.
3. WHO. Prevention and Control Costing – Analysis and Planning Module for Screening and Treatment. 2022. Available online at: https://cdn.who.int/media/docs/default-source/ncds/ncd-surveillance/cxca/idccp-toolkit-section-5-prevention-and-control-costing-analysis-and-planning-module-for-screening-and-treatment.pdf.
4. Quentin W, Terris-Prestholt F, Changalucha J, et al. Experiences of operational costs of HPV vaccine delivery strategies in Gavi-supported demonstration projects. *PLoS One*. 2017;12(10):e0182663.
5. Huang M. Using costing tools to catalyze elimination. Cancer Control. 2022:39-43. https://www.cancercontrol.info/wp-content/uploads/2022/11/39-43-Hunag.pdf.
6. UICC. Cervical cancer elimination ambition project focusing on secondary prevention. nd. Available online at: https://www.uicc.org/blog/cervical-cancer-elimination-ambition-project-focusing-secondary-prevention.
7. Jhpiego. Countries We Support: Philippines. nd. Available online at: https://www.jhpiego.org/countries-we-support/philippines.

Photo credits:

Pedro Alonso, licensed onder CC 2.0
www.flickr.com/photos/pedroalonso

APAC Women's Cancer Coalition

TOGETHER for health