Policy Brief

PB

Volume 13

Issue 207 • AUG 2025

Accelerating Cervical Cancer Elimination Through Targeted Vaccination by **Quick Win Campaign:** Model-Based Analysis in Thailand

Highlight

- The Thai Ministry of Public Health (MoPH) launched the "Quick Win" campaign in 2023, aimed at providing Human Papillomavirus (HPV) vaccination among unvaccinated girls aged 11 to 20. This campaign increased vaccination coverage from 45% to 80% for girls who received at least one dose.
- The increase in HPV vaccination coverage will lead to a substantial long-term reduction in cervical cancer cases and accelerate the timeline for nationwide elimination by 3 years.
- It was estimated that every investment for 500 additional girls vaccinated would prevent one cancer case over 100 years of program implementation.
- Individual-based models (IBMs) can be helpful tools to support decision-makers in prioritizing vaccination implementation strategies as they capture herd and heterogeneity, resulting in more accurate predictions of vaccination's indirect effects.

Cervical Cancer and HPV Vaccines: The Role of Vaccination in Prevention

Cervical cancer can be prevented by HPV vaccination and routine cervical cancer screening, and follow-up treatment. HPV vaccines are designed to protect against several types of high oncogenic risk virus strains that are known to cause cancer, especially type 16 and 18.

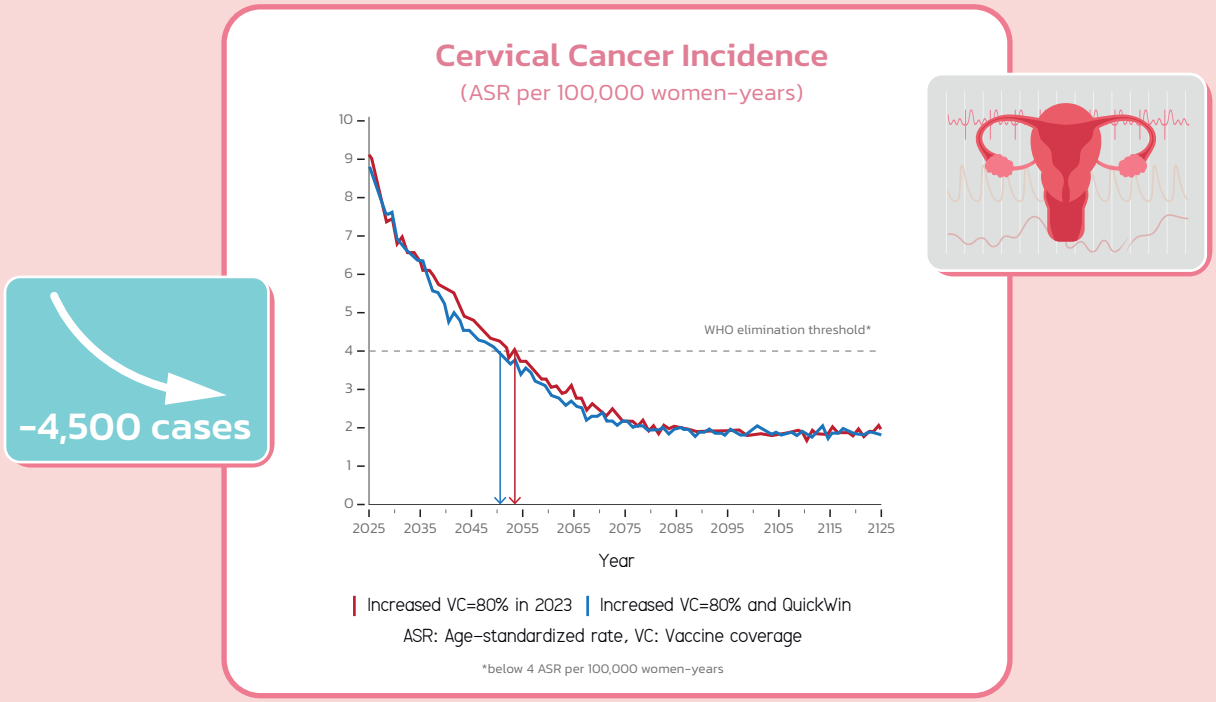
Since 2017, Thailand has included the HPV vaccine in its Expanded Program on Immunization (EPI), providing two doses of either the 2-valent (2vHPV) or 4-valent (4vHPV) vaccine to Grade 5 schoolgirls (girls aged 11 to 12 years) as part of its national strategy to prevent cervical cancer.

"Quick Win" Campaign: Reaching More Girls

Due to a global shortage of the HPV vaccine during the COVID-19 pandemic (2019–2022), many girls missed their scheduled doses. In response, the Thai MoPH launched the "Quick Win" campaign in 2023, to administer 1 million HPV vaccine doses within 100 days to unvaccinated girls aged 11 to 20, ensuring that each receives at least one dose.

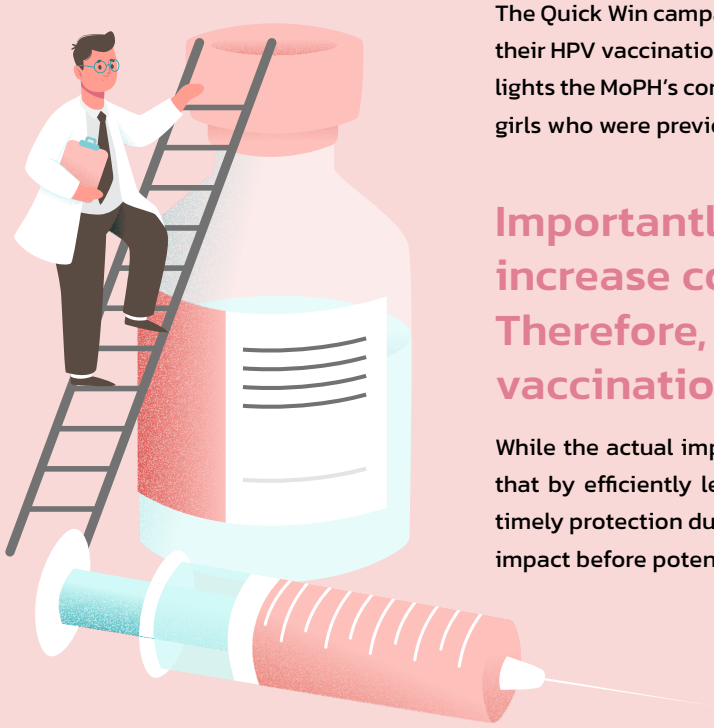
How Does the Quick Win Campaign Impact Cervical Cancer?

The results show that the Quick Win campaign has increased HPV vaccination coverage among girls aged 11–17 from **40–45% to 80%.** This campaign, implemented alongside routine vaccination at 80% coverage, is expected to lead to a significant long-term reduction in cervical cancer cases, preventing **around 4,500 additional cases** over 100 years, compared to routine vaccination at 80% coverage without the campaign.



Furthermore, the campaign accelerates Thailand's timeline for the nationwide elimination of cervical cancer, bringing the expected year of elimination from 2054 without campaign to 2051 with the campaign in place.

What Did We Learn from the Quick Win Campaign?



The Quick Win campaign was launched to reach adolescent girls who had missed their HPV vaccination during the period of vaccine shortage. This initiative highlights the MoPH's commitment to ensuring that no one is left behind, particularly girls who were previously unvaccinated due to supply constraints.

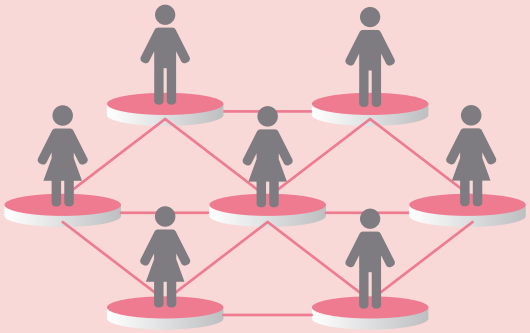
Importantly, the campaign helps increase coverage among those girls. Therefore, it improves overall vaccination coverage during that period.

While the actual impact cannot be directly observed, modeling results suggest that by efficiently leveraging available resources, the program likely provided timely protection during a critical window—when the vaccine offers the greatest impact before potential exposure to HPV.

Modeling Could Be the Tool in Vaccine Prioritization

In resource-limited settings, it is not feasible to vaccinate everyone, making vaccine prioritization essential. One tool used to assess the impact of vaccination and identify the target groups with highest potential efficiency (or most favorable cost-effectiveness) for cervical cancer prevention is modeling. This tool helps ensure the optimal allocation of available resources,

by projecting vaccination impact into the future and considering complex dynamics such as herd immunity.



Policy Recommendations

Unvaccinated girls, even those outside the current routine target age, should considered to be prioritized if resources allow. This strategy offers a high potential for health impact based on the modeling results.

Policymakers are encouraged to employ modeling to identify and prioritize population groups for HPV vaccination (that offer the greatest health impact and cost-effectiveness)

Study Methodology

This study employed an individual-based models (IBMs), the "HPV-ADVISE Model," calibrated using Thai data to reproduce HPV transmission and HPV-related diseases, and project health impact of control/prevention strategies within the Thai context.

The model incorporated sexual behavior and epidemiological data from published literature, reanalysis of existing datasets, publicly available databases, as well as vaccination coverage and dose data provided by the Quick Win program through the National Health Security Office (NHSO).

Study Details

The information provided is part of the study titled "An Economic Evaluation and Budget Impact Analysis of the 9-Valent Human Papillomavirus (9vHPV) Vaccine in Thailand."
The study aims to project the population-level impact, efficiency and cost-utility of HPV vaccination using the 9vHPV vaccine compared to the 2vHPV and 4vHPV vaccines for girls aged 11-12, assess budget implications if the Thai government invest the 9vHPV vaccine in Thailand's national immunization program, and prioritize future health investments related to HPV vaccination.

Scan QR code to follow our research

This policy brief is a part of the research "An Economic Evaluation and Budget Impact Analysis of the 9-Valent Human Papillomavirus (9vHPV) Vaccine in Thailand"

The research is conducted in collaboration with the Health Technology Assessment Program Foundation (HITAP), Laval University, CHU de Quebec Research Center-Laval University, the National University of Singapore, and New York University.

The project is funded by the National Vaccine Institute (NVI) and a Canadian Institutes of Health Research (CIHR) grant to Marc Brisson (FRN 195981). The research was enabled in part by support provided by Calcul Quebec (calculquebec.ca) and the Digital Research Alliance of Canada (alliance can .ca).

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