



# Building a Future Free from Cervical Cancer: National Strategies and Global Commitments on HPV Vaccination



## Human Papillomavirus (HPV) Vaccination

Human Papillomavirus (HPV) infection is the most common cause of cervical cancer.

Protect your girl child aged 9 -14 years with the HPV vaccine from

7th - 11th October, 2025



GOOD LIFE

**Dr. Selorm Kutsoati**  
**Ag.EPI Manager, GHS**  
**16 Sept 2025**



## Human Papillomavirus (HPV) Vaccination

All girls who are vaccinated will be provided with an immunization card as a proof of vaccination. **Keep your vaccination card safe.**



GOOD LIFE



# Outline

- Background
- Human Papilloma Virus (HPV) vaccination pilot overview
- Key lessons from demo/pilots project
- Scope and strategies for HPV vaccine introduction in RI
- Conclusions and way forward



# Background

GHANA HEALTH SERVICE

- Cervical cancer (CaCx) develops in a woman's cervix (the entrance to the uterus from the vagina)
- Human Papillomavirus (HPV) is a necessary cause for the development of cervical cancers
- 99% of cases are linked to high-risk Human Papilloma Virus: extremely common STI
  - HPV 16 and 18 are common oncogenic types associated with about 70% of Ca cervix
  - Low risk types 6, 11 cause genital warts
  - Other high risk oncogenic types 31,33,45,56 exist
- Ghana considered adding HPV vaccine into RI vaccination as part of comprehensive approach to the prevention of CaCx for over a decade
- Ghana conducted HPV vaccine pilots: 2013-2015 with the objectives of assessing feasibility, acceptability and learning lessons for introduction into RI

# Signs and Symptoms



## Cervical Cancer

- Asymptomatic- early stages
- Unusual vaginal bleeding
- Pain during intercourse
- Weight loss
- Increased or foul-smelling vaginal discharge
- Easy fatiguability/ tiredness

## Genital Warts

- Small, flesh-colored or grayish bumps in the genital area
- itching or irritation in the genital
- Bleeding when scratched/ during intercourse

Vulvar warts (Before treatment)



Vulvar warts (After treatment)



# Global Burden of Cervical Cancer



**Cervical cancer is one of the most preventable and treatable types of cancer**



Yet in 2020, more than **600 000 women were diagnosed** with cervical cancer worldwide and almost **350 000 died** from the disease



**Screening and vaccination** are key to prevent the disease



International Agency for Research on Cancer

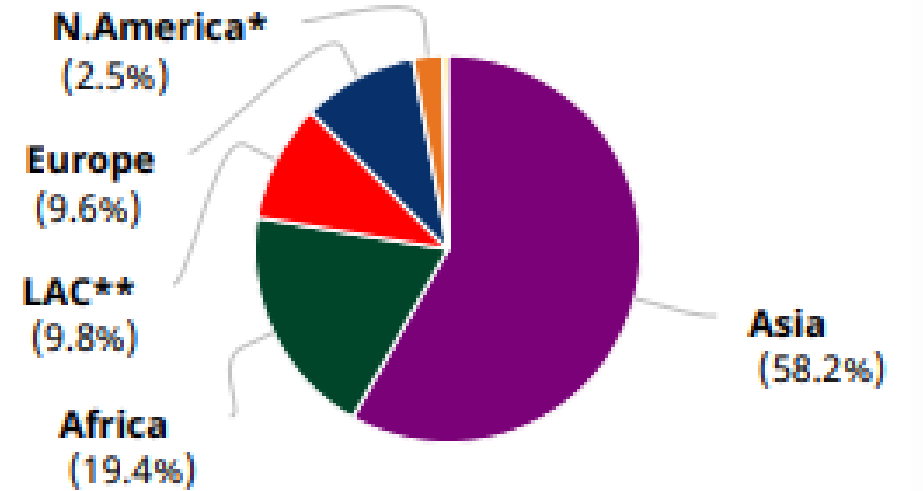


World Health Organization

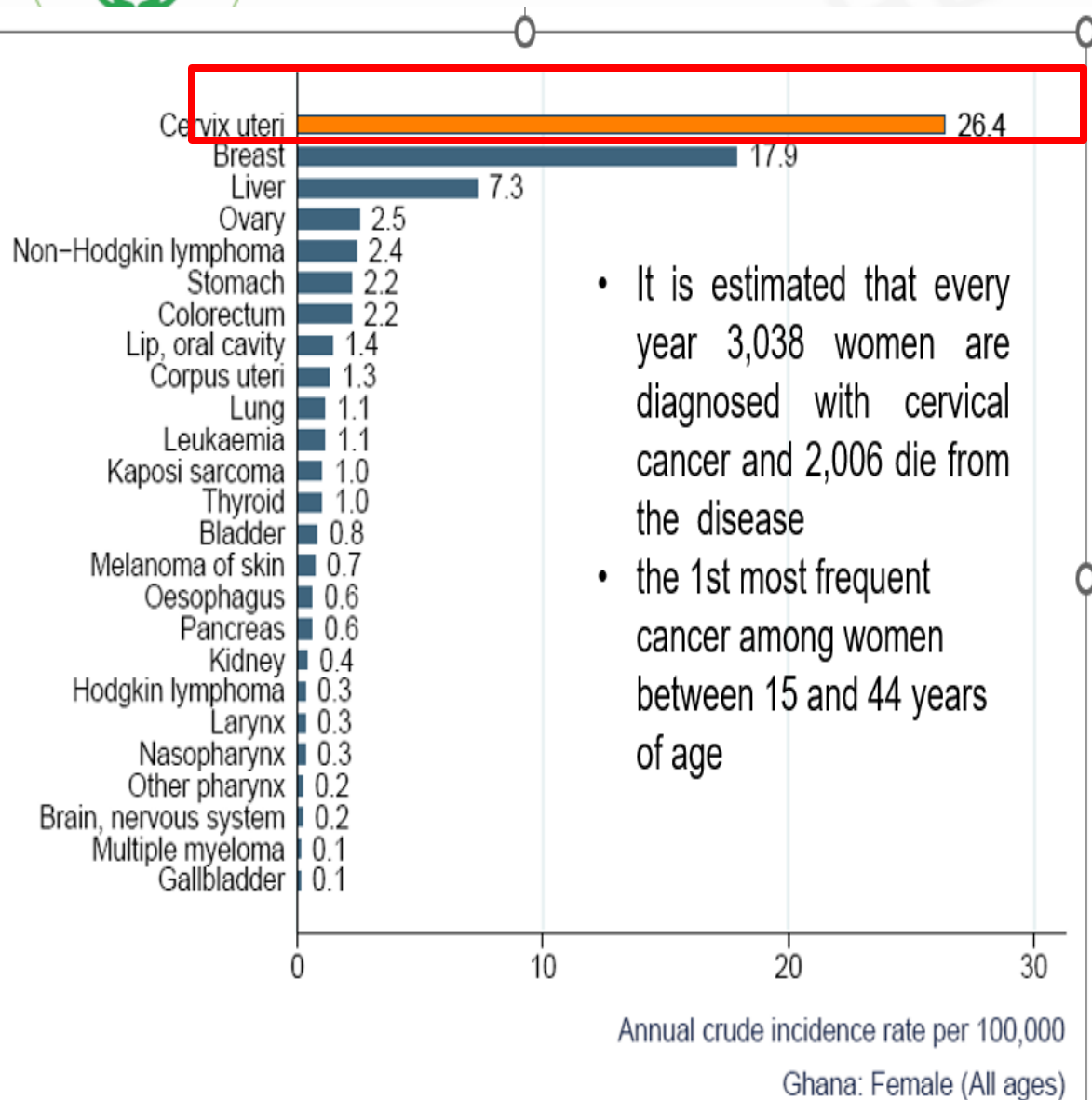
# Global Burden of Cervical Cancer

- The 4<sup>th</sup> most common cancer globally
- 604,000 new cases per year
- 341,800 deaths per year
- 84% cases occur in low- or middle-income countries
  - (86% deaths)

## Cervical Cancer Incidence



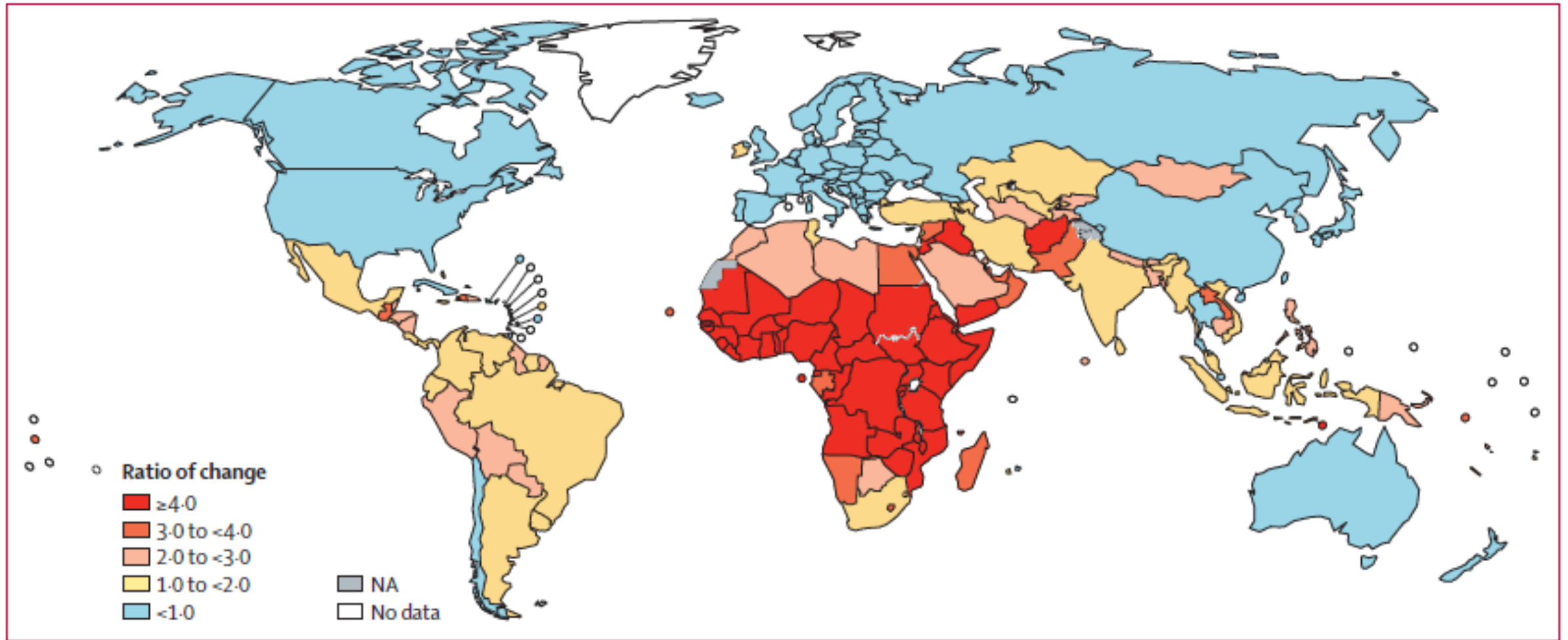
	Population	Number
Asia		351 720
Africa		117 316
**Latin America and the Caribbean		59 439
Europe		58 169
*Northern America		14 971
Oceania		2 512
<b>Total</b>		<b>604 127</b>



- It is estimated that every year 3,038 women are diagnosed with cervical cancer and 2,006 die from the disease
- the 1st most frequent cancer among women between 15 and 44 years of age

- Cervical cancer is the second most common cancer
- The second leading cause of cancer related deaths among women in Ghana; nearly 2800 new cases and 1700 deaths occurred in 2020.
- Approximately 70% of women with cervical cancer in Ghana are diagnosed when their tumours have progressed to advanced stages.
- Five-year survival rates for cervical cancer range from 95% for stage I disease to 15% for stage IV

# Growth in expected cervical cancer if vaccination is not scaled up



**Figure 3: Ratio of the average number of expected cervical cancer cases across birth cohorts born between 2005 and 2014 in the absence of vaccination versus the total number of cases estimated in 2018**

NA=not applicable.



# WHO Global strategy to eliminate cervical cancer

Vision: World where cervical cancer is eliminated as a public health problem

Threshold: 4 per 100 000 women years

2030 Targets for elimination

**90%**

of girls fully vaccinated with HPV vaccine by 15 years

**70%**

Of women screened with a high-performance test by 35 years, and again at 45

**90%**

Of women identified with cervical disease receive treatment

# HPV Vaccine Introduction into NIP



Global Map area

Country profile area

Coverage Analysis  
Global/Regional

Effectiveness studies

## 194

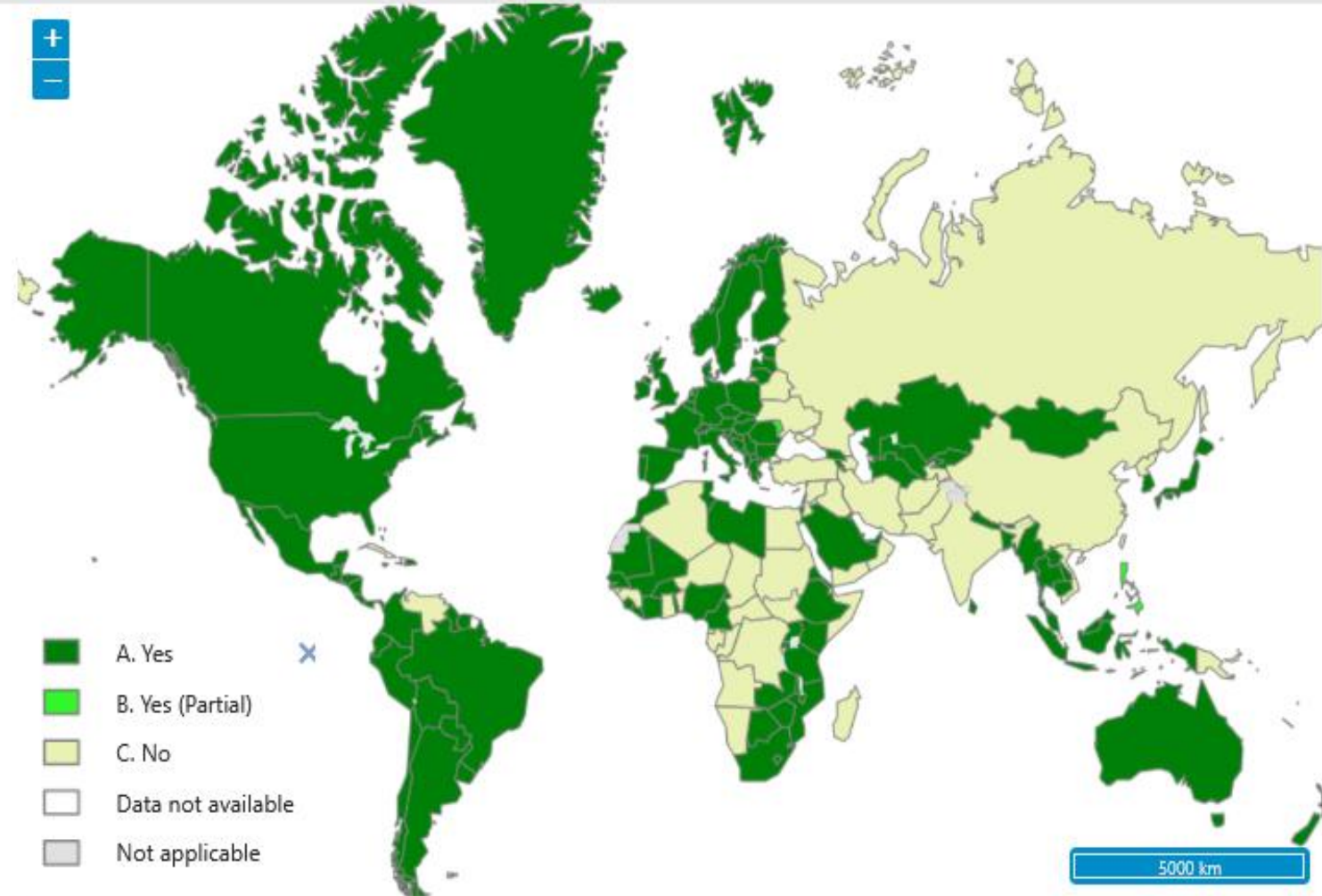
Total countries reported

HPV national schedule	No. of countries
A. Yes	147
B. Yes (Partial)	2
C. No	45

Last update:

5/29/2025 2:09:03 ...

## HPV vaccine included in national immunization programme





# Testing- 70%

- 70% Of women screened with a high-performance test by 35 years, and again at 45.
- Three testing modalities
  1. **HPV test (best option):** There are many types of HPV. This test checks dangerous HPV types that can cause cervical cancer. A woman can be taught to take their own sample for this test, or she can let a health worker take it. This test is recommended as it is very accurate and needs to be repeated only *every five years* if no virus is detected.



## Testing- 70%

- **2. Pap smear:** This test looks for abnormal changes in the cells of the cervix. A nurse or a doctor will take a small sample from your cervix and send it to the laboratory for the test. If the test result comes back normal, you will be required to repeat it *every three years*.
- **3. VIA (Visual inspection with acetic acid):** This test looks for abnormal changes on the cervix. We apply a vinegar solution to the cervix and look with our naked eyes or with magnification (colposcope) for abnormal areas on the cervix. If everything appears normal, it should be repeated *every year*.



# Treatment: 90%

- 90% of women identified with cervical cancer receive treatment (precancer treated and invasive cancer managed).
- Various modalities
  - Cryotherapy/Brachytherapy
  - Surgery
  - Radiotherapy
  - Chemotherapy

# 1<sup>st</sup> HPV Pilot was conducted in 2013 in 13 selected districts in Central and Northern Regions

01

## Ruwide-sponsored Cervarix:

- 1<sup>st</sup> HPV demo was conducted in 13 districts (Central -7; Northern-6); completed in 2013
- School-based; grade-based, girls only (Class 4/5 and few class 3)
- 80% girl child enrolment

**Target Pop: 33,725**

**Dose schedule: 0, 1, 6 months**

## Campaign dates and Coverage\*

- Dose 1 Feb 11-15, 2013: = 31,849 (94.4%)
- Dose 2 Mar 18-22, 2013: = 30,270 (89.8%)
- Dose 3 Nov 04-08, 2013: = 25,882 (76.7%)

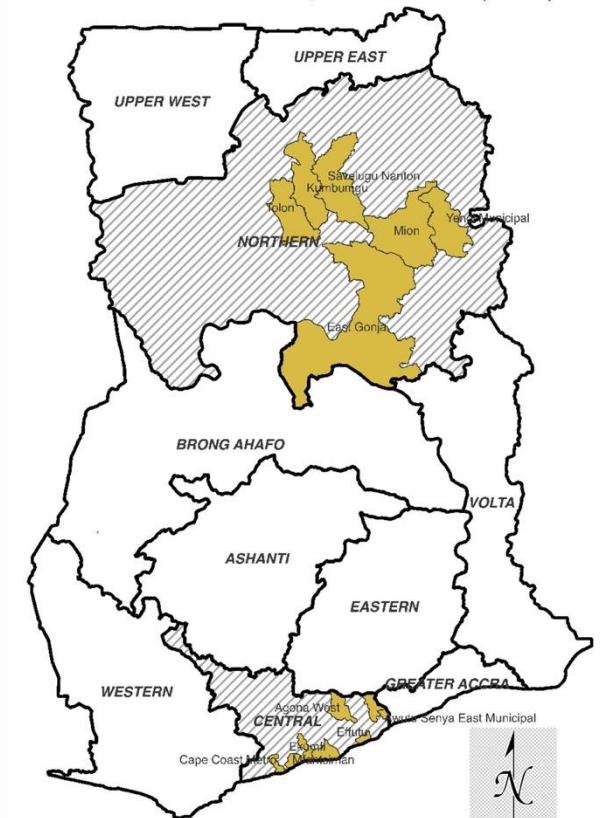
**Few reported AEFI: mild & transient**

- fever,
- headache,
- site pain
- Abd. Pain

**Safety profile: Very good**

## Ghana map showing districts involved in 1<sup>st</sup> HPV demo 2013

HPV Vaccination Pilot, Ghana 2013 (n=13)

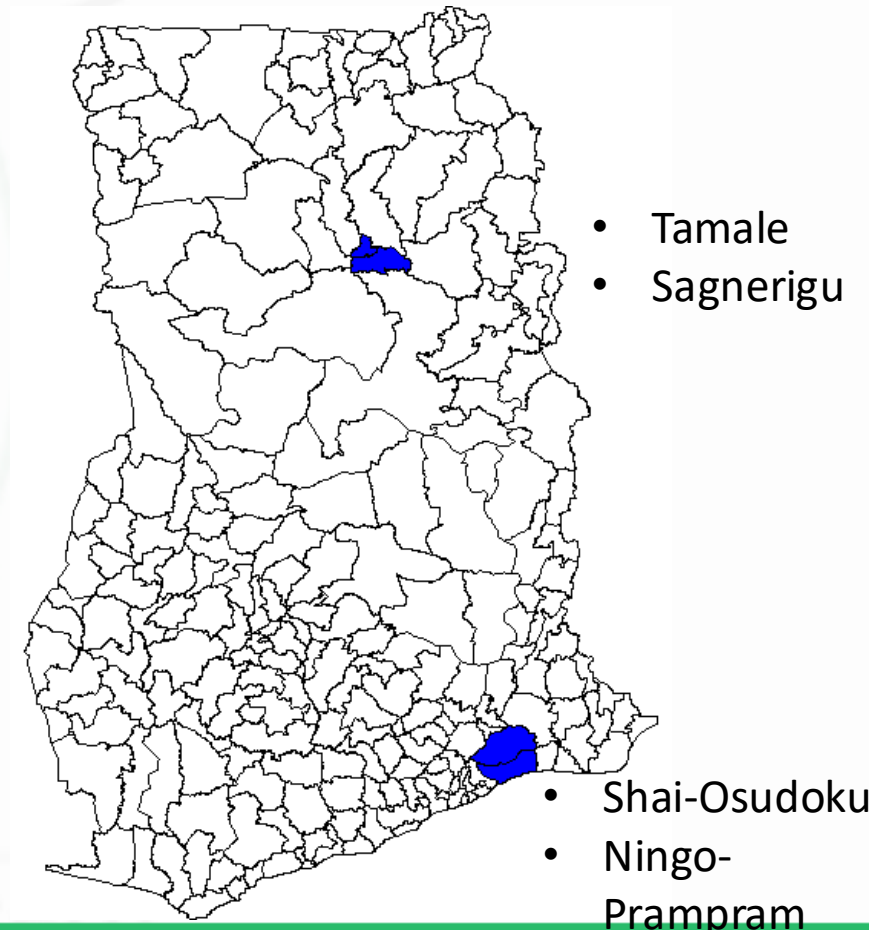


# 2nd HPV Pilot was conducted in 2013-2015 in 4 selected districts in Greater Accra and Northern Regions

02

## Gavi-sponsored Gardasil4:

- 2nd HPV demo was conducted in 2 phases in 4 districts (GAR-2; NR-2); completed in 2015
  - Ghana received Gavi support to conduct HPV demo vaccination in 2013-2015
  - Four districts involved in the pilot (demo) project
  - Two-phased implementation from 2013 – 2015
  - Phase 1: 3-dose schedule – completed in May 2014
  - Phase 2: 2-dose schedule completed in November 2015





# Targets/Strategies/Coverage

- 6,000+ girls targeted for each phase
- Phase 1 involved only in-school girls: Stage/grade four (4) – completed in May 2014

**Target Pop: 7,094**

**Coverage**

- |                                  |               |
|----------------------------------|---------------|
| • 1st dose: 4 – 8 November 2013  | 7,067 (99.6%) |
| • 2nd dose: 9 – 12 December 2013 | 6,890 (97.1%) |
| • 3rd dose: 26 – 30 May 2014     | 6,770 (95.4%) |

- Phase 2 was age-based for both in-school and out-of-school girls: 10-year-old girls – completed in Nov 2015

**Target Pop: 6,539 (272 out of school)**

**Coverage**

- |                                 |   |
|---------------------------------|---|
| • 1st dose: 24 – 28 March 2015  | 6,420 (267 out of school) [98.2 (98.2)] |
| • 2nd dose: 9 -13 November 2015 | 6,077 (244 out of school) [92.2 (89.7)] |

**Independent Evaluation (Coverage Survey): 81% of 10-year-olds in the target districts fully vaccinated**

# Political Advocacy



- Political will should be across all levels
- The then 1<sup>st</sup> Lady launched the project in 2013 in one of the implementing districts.
- It contributed to the high acceptance rate of the vaccine



# Scope and Strategies for HPV Vaccine Introduction

- Ghana plans to introduce HPV vaccine into routine immunization schedule from 07 October 2025
- **Target:** young girls aged 9-14 years; **Vaccine Type:** Gardasil 4; **Dosage:** Single dose
- **Strategy:**
- **Start with a 5-day Vaccination Campaign:**
  - Nationwide, targeting Multi Age Cohort (MAC) from 9-14 years (Total: 2,463,889 girls)
- **Followed by Routine vaccination:**
  - 9-year-old girls; (Total population: 437,759 girls)
  - Catch-up 10-14 years
- **Strategy:** Age-based In-school and Out-of-school; static, outreaches, camp-outs, etc.



# Single dose HPV vaccine strategy

- Single - dose HPV vaccination provides effective protection against cervical cancer
- A single - dose HPV vaccine is demonstrated to elicit a similar level of protection compared to multidose schedules
- Currently, no need for boosters after primary vaccination

# Evidence on single dose HPV vaccine

- **Randomized controlled trial in Kenya:**
  - Girls and women aged 15-20 showed single-dose vaccination with Gardasil<sup>®</sup>9 or Cervarix<sup>™</sup> was about **98% effective in preventing HPV 16/18 persistent infections**<sup>1</sup>
- **Study in Tanzania:**
  - The immune response 24 months post-vaccination of a single dose in girls aged 9-14 was **non-inferior to a single dose in historical cohorts for which single-dose efficacy was shown.**<sup>2</sup>
- **Studies in India and Costa Rica**
  - **A single dose was shown to elicit a similar level of protection compared to multidose schedules** in high-quality observational clinical studies to at least ten years post-vaccination.<sup>3,4</sup>



# Studies

1. Barnabas R, Brown E, Onono M, et al. **Efficacy of Single-Dose HPV Vaccination Among Young African.** *NEJM Evidence*. 2022. doi: 10.1056/EVIDoa2100056.
2. Watson-Jones D, Chagalucha J, Whitworth H, et al. **Immunogenicity and Safety Results Comparing Single Dose Human Papillomavirus Vaccine with Two or Three Doses in Tanzanian girls - the DoRIS Randomised Trial.** *Lancet*. Preprint posted online March 11, 2022. <https://dx.doi.org/10.2139/ssrn.4055429>.
3. Basu P, Malvi SG, Joshi S, et al. **Vaccine efficacy against persistent human papillomavirus (HPV) 16/18 infection at 10 years after one, two, and three doses of quadrivalent HPV vaccine in girls in India: a multicentre, prospective, cohort study** [published correction appears in *Lancet Oncol*. 2022 Jan;23(1):e16]. *Lancet Oncology*. 2021;22(11):1518-1529. doi:10.1016/S1470-2045(21)00453-8.
4. Kreimer AR, Sampson JN, Porras C, et al. **Evaluation of Durability of a Single Dose of the Bivalent HPV Vaccine: The CVT Trial.** *Journal of the National Cancer Institute*. 2020;112(10):1038-1046. doi:10.1093/jnci/

# Vaccine opportunity: Single dose

Trial	Design	Population	Vaccine	Result
CVT	Observational	18-25 yo. F	2v	VE of >80% for prevalent HPV infection (11yrs follow-up) No difference: 1,2 or 3 doses
IARC	Observational	10-18 yo. F	4v	Very low proportions of incident HPV infection (9 years follow-up). No difference: 1,2 or 3 doses
KEN SHE	RCT	15-20 yo F	2v & 9v	VE of 97.5% at month 18 for persistent HPV infection
DoRIS	RCT	9-14 yo F	2v & 9v	High seropositivity (98%) for HPV16/18 (1,2 or 3doses) No difference in Antibody avidity by number of doses Antibody levels stable over time from M12

- June 2022: SAGE permissive recommendation for 1 dose schedules for primary cohort (9-14yrs) & 15-20 year-old women
  - Exceptions: Women living with HIV infection, >20yrs
- Possible benefits of single dose: Cost-effective & efficient, simplify logistics of vaccine schedule, expansion of MACs target, increase coverage



# Conclusions/Way Forward

- The burden of cervical cancer is on the increase, with its associated mortality
- Elimination of cervical cancer is feasible with high uptake of the HPV vaccine in addition to other interventions
- Ghana has successfully implemented HPV vaccine pilots and demonstrated its feasibility with high vaccine uptake
- The country plans to introduce the HPV vaccine into routine immunisation in October 2025
- Comprehensive microplanning, continuous advocacy, targeted communication and stakeholder engagement will improve quality vaccination and uptake of the HPV vaccine

# Photo Gallery



## Prevent Cervical Cancer

Vaccinate the girl child 9-11 years now!

**1st Dose:** 4th - 8th November, 2013

**2nd Dose:**  
1 month after 1st Dose

**3rd Dose:**  
6 months after 1st Dose

**Cervical cancer**

Ministry of Health, Ghana Health Service, Ghana Education Service, Ghana Statistical Service, Ghana Communications Commission, Ghana Veterinary Service, Ghana Forestry Commission, Ghana Meteorological Agency, Ghana National Fire Service, Ghana National Commission for Civic Education, Ghana National Commission for Human Rights, Ghana National Commission on Gender and Equity, Ghana National Commission on Inter-religious and Racial Harmony, Ghana National Commission on Mental Health, Ghana National Commission on the Status of Women, Ghana National Commission on the Status of Children, Ghana National Commission on the Status of Persons with Disabilities, Ghana National Commission on the Status of the Elderly, Ghana National Commission on the Status of the Youth, Ghana National Commission on the Status of the Media, Ghana National Commission on the Status of the Environment, Ghana National Commission on the Status of the Information Sector, Ghana National Commission on the Status of the Culture Sector, Ghana National Commission on the Status of the Sports Sector, Ghana National Commission on the Status of the Arts Sector, Ghana National Commission on the Status of the Media Sector, Ghana National Commission on the Status of the Information Sector, Ghana National Commission on the Status of the Culture Sector, Ghana National Commission on the Status of the Sports Sector, Ghana National Commission on the Status of the Arts Sector.

**Introduction**  
Normally cells of a body tissue divide and produce more cells only when the body needs them. This process occurs orderly and keeps us healthy. Other cells of a body tissue become abnormal and divide without control or order and even invade other tissues then cancer has developed.

Cancers can occur in any part of the body. When it occurs in the lower narrow part of the womb known as the cervix then it is called cervical cancer.

Cervical cancer is an important cause of death of women in Ghana. It often affects women at the end of their reproductive years (40 – 50 years). However the changes in the body that may lead on to cancer can start early even during adolescence.

This calls for vaccination services to protect girls against human papillomavirus (HPV), the virus that causes cervical cancer.

**What is cervical cancer?**  
This is the cancer of the lower part of the uterus (womb) that connects to the vagina. Cervical cancer happens when the cells at the opening of the womb become abnormal and start to grow out of control.

**What causes cervical cancer?**  
The causes of cervical cancer are:  
- early initiation into sexual activity,  
- unprotected sex with multiple partners, and  
- infection with Human Papillomavirus (HPV), the virus that causes cervical cancer in most cases.

**What are symptoms of cervical cancer?**  
The symptoms of cervical cancer often occur late when the disease has spread to other tissues. They include:  
- offensive blood stained vaginal discharge,  
- bleeding between menses (inter menstrual bleeding),  
- irregular menstrual bleeding,  
- bleeding after intercourse or wearing of vagina,  
- painful intercourse,  
- bleeding after menopause.

These symptoms can also occur in other female health conditions. Therefore, it is important for women to go for regular checkups.

**How can cervical cancer be prevented?**  
Cervical cancer can be prevented by:  
- Abstaining from early sex  
- Avoiding multiple sexual partners and  
- Vaccinating against human papillomavirus (HPV).  
- Cervical cancer screening

**Who should be given the HPV vaccination during this exercise?**  
The HPV vaccine will be given to girls aged 9 to 11 years. For this demonstration project, girls in primary 4 and 5 will be vaccinated.

**Why is HPV (Gardasil) vaccine given to girls at this age?**  
It is important for girls to get HPV vaccine before their first sexual contact – because they would not have been exposed to human papillomavirus infection.

**How effective is the HPV vaccine?**  
There are two types of HPV vaccines which are Cervarix and Gardasil. For this exercise, Gardasil vaccine will be used.

The HPV (Gardasil) vaccine is safe, effective and has been approved by World Health Organization (WHO) and the Government of Ghana. It has been tested in many countries and the results show that it works. Its most effective if all three doses are completed on schedule.

**How is HPV (Gardasil) vaccination given?**  
The HPV (Gardasil) vaccine is given in the form of an injection on the left upper arm. It is given in three (3) doses over a period of 6 months. It is very important to get all 3 doses.

1st Dose	Now
2nd Dose	One (1) month after Dose 1
3rd Dose	Six (6) months after Dose 1

**How is HPV (Gardasil) vaccination given?**  
It is important for girls to get HPV vaccine before their first sexual contact – because they would not have been exposed to human papillomavirus infection.

Once a girl or woman has been infected with the virus, the vaccine might not work at all.

It is important to go for cervical cancer screening even after the vaccination from age 30.

However, the HPV vaccine does not prevent other kinds of sexually transmitted infections including HIV or genital herpes. The HPV vaccine does not cause infertility.





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All other Partners are acknowledged



Thank you