

Impact of 2-dose and 1-dose human papilloma virus (HPV) vaccination schedules on community level HPV prevalence in South African adolescent girls

This document summaries the single dose HPV catch up pilot and annual cross-sectional surveys

Background

- The WHO is asking countries to consider strategies to end cervical cancer
- Our health minister has also initiated national programs to address burdens cancers in SA
- One of the ways to prevent cervical cancer is HPV vaccination
- South Africa, introduced HPV vaccination in 2014
- While coverage for the 1st dose is about 80%, coverage for the 2nd dose is around 65%
- The effect of HIV on HPV vaccine effect is not yet known.
- Complexity in delivering 2 doses can be eliminated if one dose of HPV is effective as two doses
- We will carry out a study to assess the impact of 2 doses vs 1 dose human papilloma virus (HPV) vaccination on community level HPV prevalence in South African adolescent girls
- The study will also compare HIV-infected to HIV-uninfected adolescents to evaluate the effect of HIV on HPV vaccination

Methods

Two studies

1. One dose catch up campaign

- Unvaccinated girls aged 14-15
- Were in Grade 5 at vaccine introduction in 2014
- Would not have been vaccinated under current guidelines
- Frances Baard District, Northern Cape
- 5000 doses of vaccine over 1 month
- Coincide with school 2nd dose HPV vaccination campaign in schools (7th of August to 16 September 2018)
- Girls or parents will consent to receive one dose as per current HPV programme
- Should one dose offer less protection than 2 doses these girls will be vaccinated with a 2nd dose at end of project.

2. Annual Cross sectional surveys

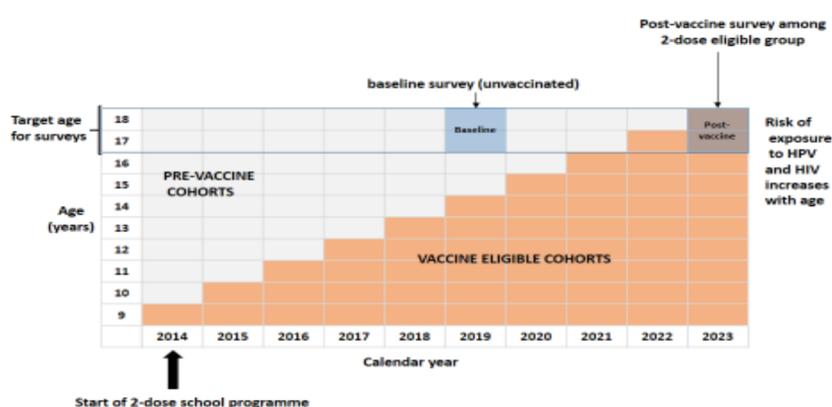
- Cohorts enrolled in six clinics in N Cape, Mpumalanga, Gauteng, North West (Hillbrow, Klerksdorp, Ehlanzeni, 3 in Frances Baard)
- Females aged 17-18 years attending primary health care will be approached to participate in the study
- 400 HIV-uninfected
- 210 HIV-infected
- Self collected vaginal swab for HPV testing

Outcome

- Prevalence of vaccine genotypes 16 and 18 over time
- Effect of HIV on vaccine effect

Aim 1

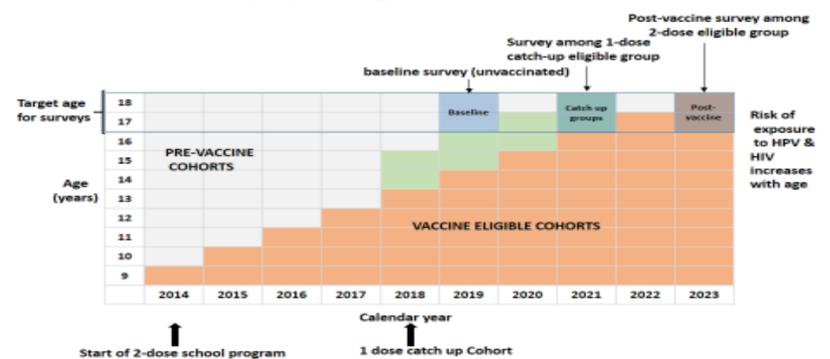
Aim 1: To evaluate population level effectiveness of the current vaccination programme delivering 2-doses at 9 years



We will compare HPV prevalence between unvaccinated group (white) and vaccinated group (orange)

Aim 2

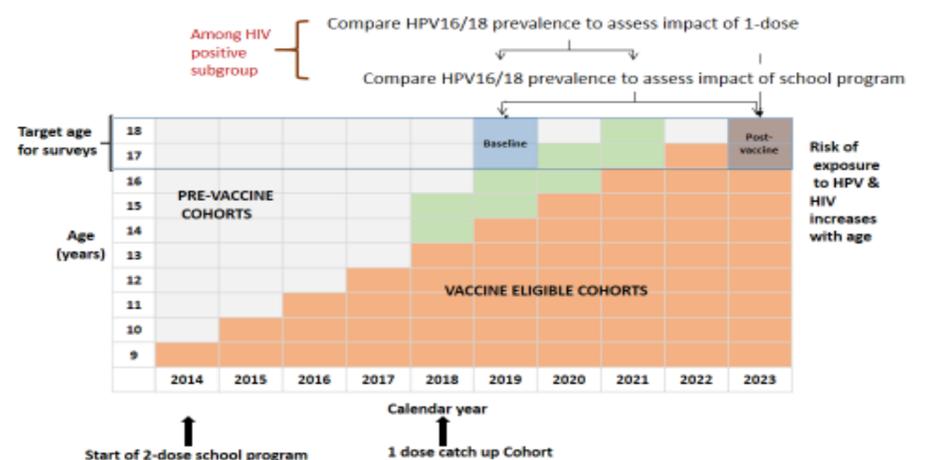
Aim 2: To evaluate population level effectiveness of a 1-dose vaccine schedule, delivered as a catch up programme via a demonstration project at ages 14-15 years



Population vaccinated with one dose is shown in green. We will compare HPV prevalence between unvaccinated group and vaccinated groups (green and orange)

Aim 3

Aim 3: To determine if both schedules are effective among HIV positive populations



We will compare HPV prevalence between HIV-infected and HIV-uninfected adolescents in all survey years

Summary

We will carry out a one dose Pilot HPV catch up campaign for girls aged 14-15 years in 2018 to coincide with 2nd dose HPV vaccination for younger girls in same schools

We will carry out cross sectional surveys in 2019 (unvaccinated girls), 2021 (vaccinated with one dose) and 2023 (vaccinated with two doses) for females aged 17-18 years

These two studies will enable us to evaluate the impact of 2-dose and 1-dose HPV vaccination schedules on community level HPV prevalence in South African adolescent girls as well as the effect of HIV on vaccine