## Abstract

**Title:** Cost Analysis of HPV vaccination in Kitui County, Kenya

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**Abstract (word count; (maximum of 400))**

**Background**-Annually Kenya experiences 4,802 new cases of cervical cancer, which is about a tenth of 45,707 new cases in the Eastern African. Crude incidence rate of cervical cancer is 22.5 per thousand with age-standardized incidence rate of 40.1 per thousand. Cumulative risk of 4.4 compares closely with contiguous rates from Eastern African regions. This pilot study was implemented in Kitui County to inform Kenyan Ministry of Health planners about the financial resources to be secured for HPV vaccine introduction

**Objectives :** To draw lessons from costing HPV vaccine introduction as a demonstration to inform plans for national scale up.

**Methods-** The demonstration project in Kitui County adopted astrategy to provide 3 doses of the HPV vaccines for every eligible girl between the age of 9 and 13 years old in schools. The estimated population of the female age group in Kitui was 20,934. School enrollment and attendance for the age bracket of 9 to 13 years was estimated to about 96%. Using program and cost data from a wide range of primary and secondary sources, the WHO Cervical Cancer Prevention and Control (C4P) tool was deployed to estimate the incremental costs of vaccination from a provider perspective. The costing exercise piggy-backed on an ongoing HPV vaccination in the Kitui County and obtained direct and indirect unit-cost data relevant to the delivery of vaccines. Secondary data was obtained from direct interviews of key officials of the Ministry of Health, Ministry of Education, and County level health officials

**Findings** : Analysis showed 17,219 eligible girls attending 1,326 primary schools in Kitui County were fully immunized out of the 20934 girls that were eligible for HPV vaccination in 2014. The costs per fully immunized girl with the vaccine costs was US$20.67 (KSh 1,785.86) and US$43.77 (KSh 3,781.80) for the financial and economic costs respectively, while the costs without vaccine cost were US$18.69 (KSh 1,615.04) and US$26.323 (KSh 2,274.01) for the financial and economic costs respectively. The financial and economic costs per dose administered were US$6.68 (KSh 577.25) and US$14.15 (KSh 1,222.40) respectively, including vaccine costs, while the respective financial and economic costs per dose administered excluding vaccine cost were US$6.04 (KSh 522.03) and US$8.51 (KSh 735.04). Service delivery, and micro-planning were cost drivers at 34% and 19%.

**Conclusions :** Kenya faces significant incremental costs for a nationwide introduction of HPV vaccines to cover the population of eligible girls. Kenya may need to review its preferred schools-based strategy to explore other combination of strategy which may be less costly