Author's response to reviews

Title: Costing nationwide HPV vaccine delivery in Low and Middle Income Countries using the WHO Cervical Cancer Prevention and Control Costing Tool: A case study of The United Republic of Tanzania

Authors:

Raymond Hutubessy (hutubessyr@who.int)
Ann Levin (annlevin@verizon.net)
Susan Wang (wangsu@who.int)
Winthrop Morgan (win@winthropmorgan.com)
Mariam Ally (mariammwakobe@yahoo.com)
Nathalie Broutet (broutetn@who.int)
Theopista John (johnt@tz.afro.who.int)

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Author's response to reviews: see over
Point-by-point response to Reviewer’s Report

Thanks for giving us the opportunity to re-submit the manuscript entitled “Costing nationwide HPV vaccine delivery in Low and Middle Income Countries using the WHO Cervical Cancer Prevention and Control Costing Tool: A case study of the United Republic of Tanzania”

We would like to thank both Professors Petry and Goldie for their very useful and constructive comments and suggestions to the manuscript.

Below you find our point-by-point response, which correspond with the “track changes” version of the revised manuscript dated 27 August 2012.

Response to Karl-Ulrich Petry

Point 1: Methods

The definition of the WHO C4P tool is stated in the Introduction section “to assist LMICs with planning and costing their nationwide HPV vaccination programme” on P6.

However, we have provided additional information in the methods section under the purpose of the generic tool subsection.

P7 L141:

*The generic costing tool is a country-specific costing and planning tool which enables the user to estimate and project the value of incremental (additional) resources required to add the delivery of HPV vaccine country wide to an existing immunization program over a 5-year period.*

In addition, the tool includes a user guide which is accessible through the WHO website – a link is provided in the text. Since a step-by-step explanation is described in the WHO C4P costing user guide, we have avoided a detailed description in the manuscript.

P8 L182:

“A beta version of the MS Excel tool including a User Guide is accessible through the WHO website (http://www.who.int/nuvi/hpv/cervical_cancer_costing_tool/en/index.html).”

Point 2: Results

The results are based on data and assumptions from Tanzania as explained in the Methods section under the sub-sections “Data sources and other assumptions of WHO CP tool” and “The WHO C4P Vaccine Module: A case study for Tanzania” with detailed assumptions in Table 2.

As Tanzania has no experience in a nation wide introduction of HPV vaccines assumptions had to be made on coverage data as explained in the sub-section “Planned activities in Tanzania”. As explained in Table 5 a phased roll-out program schedule was
assumed with 3 regions in the first year, 10 regions in the second year and the remaining 13 regions (including Zanzibar) in the 3rd, 4th and 5th years. In addition, based on national experience with their EPI program and results of the LSHTM pilot project in the region of Mwanza, the Tanzanians expect vaccination coverage rates for girls age 10 to be 85%, 77% and 65% in the 1st, 2nd and 3rd round. Based on these coverage and dropout rates assumptions the tool calculates that out of a total cohort of 2.4 million girls age 10, two thirds will receive the full three doses of the vaccine.

Point 3: Discussion, conclusion

As pointed out in the discussion it is problematic to validate the tool. In particular our experience with Tanzania is difficult to validate as to date only two African countries (Rwanda and Lesotho) have recently introduced HPV vaccine at nation wide scale. However, to validate the reliability of the WHO C4P tool with these experiences is not straightforward given Tanzania is a much larger country compared to Rwanda and Lesotho in terms of population and administrative levels. As explained in the Discussion section some attempts have been made to check for the reliability and consistency with limited HPV vaccine experiences in low and middle income countries. The findings of Tanzania using the WHO C4P tool have shown consistent results based on actual small scale pilot figures from a PATH project in Uganda and actual expenditure data from Bhutan and Rwanda.

Quality of English
We have checked English language and also followed up the proposed edits by the other Reviewer Professor Sue Goldie.

Response to Sue Goldie

Comment 1
The primary intention of the WHO C4P tool is to estimate the resource requirements for nation wide school vaccination from a public health care provider perspective. We have repeated this sentence in the Methods section on P7, L150:

“Since the WHO C4P tool focuses on estimating the incremental costs of vaccinating adolescent girls from a public health care provider perspective, no costs to the user (school girls, parents and caregivers) are included.”

Since the additional private costs and cold chain costs can be sizeable depending on the country we have added the following sentence in the Discussion section, P20 L525:

“Variation in the incremental cost to the health system of vaccinating adolescent girls by countries is expected and can potentially be explained by country characteristics, such as size of the country, population density and proximity of health facilities to schools, current infrastructure of schools and health facilities, national income level as well as the intensity of the HPV vaccine introduction effort. Secondly, monitoring and evaluation costs are restricted to production of tally sheets and vaccination cards. In reality additional quality control or evaluative measures such as cost of administrative personnel to evaluate coverage levels might be required.”
Comment 2
See also response to comment 1

Title has been changed to:

“A case study using The United Republic of Tanzania: Costing nationwide HPV vaccine delivery using the WHO Cervical Cancer Prevention and Control Costing Tool”

Comment 3
On P19 L504 we have added the following text:

“The resource requirements of IEC activities are a large component of total costs since these are considered to be important aspects for a successful introduction of HPV vaccination, a new vaccine that targets a non-traditional population of adolescent girls. The population will need to be assured of its safety and benefits and explanation of why this vaccination is given only to girls and not boys. The costs of IEC activities are calculated for the following activities: 1) sensitization meetings with community leaders to inform them of the benefits of the intended vaccination activities; 2) production of leaflets and posters on the benefits of HPV vaccinations to be placed by service providers in clinics, schools, and public locations in their catchment areas; 3) design and production of radio and/or television announcements on the HPV vaccine for the population; and 4) briefings with writers, journalists, editors, publishers and other media personnel to inform them about the benefits of the vaccine. As the HPV vaccination is scaled up in the countries, more IEC activities will be required since airing of radio and TV announcements will be most effective once the vaccination is scaled up nationally.”

Comment 4
Footnotes have been added to Tables 1 and 4

The unit cost of hall rentals, for example, includes the cost per day per hall rental for a meeting or training. This unit cost is multiplied by the number of days of a meeting or training to get the cost of hall rentals per training or meeting.

A footnote was added to Table 4 explaining the unit costs for the categories.

Comment 5
Suggested rewordings on P5 L96 have been incorporated

“The World Health Organization (WHO) recommends routine vaccination of 9-13 year old girls to protect against HPV infections with types 16 and 18, which contribute to approximately 70% of cervical cancers (3)”

Comment 6
In reference (4) we have referred to the suggested GAVI reference.

Comment 7
We have moved the sentence as suggested.
Comment 8
We have moved the sentence including the insertion of Table 2 as suggested.

Comment 9
Thanks for highlighting this important issue. Inclusion of per diems and allowances for health workers and school teachers have to be paid on top of their regular salaries. For this reason this is an actual additional expenditure to the HPV vaccination program hence needs to be included in the financial costs. We have revised the sentence on P14 L337 with the addition:

“....which have to be paid on top of their regular salaries”

Comment 10
This limitation has been added in the discussion on P20 L530:

“Secondly, monitoring and evaluation costs are restricted to production of tally sheets and vaccination cards. In reality additional quality control or evaluative measures such as cost of administrative personnel to evaluate coverage levels might be required.”

Comment 11
Both suggestions have been incorporated.

Comment 12
The suggestion has been incorporated.

Comment 13
These costs are higher because transportation costs of vaccines and personnel per diems will be higher for outreach.

This reason has been added to P17 L449:

“...because transportation costs of vaccines and personnel per diems will be higher for outreach.”

Comment 14
We mean incremental costs, as these costs are additional costs to what already is ongoing.

Comment 15
Yes, this is a 5-year total

Comment 16
The 3 $ includes both recurrent and introductory costs

Comment 17

Although we agree that these are very preliminary results we think it is important to keep the paragraph in the paper. First, the ultimate goal of the WHO C4P tool is to provide countries a comprehensive costing tool to estimate the projected scale up activities for a CxCa national plan. The announcement that the screening and treatment part eventually will be part of the tool is itself important to share with the reader. Second, the preliminary results for Tanzania were presented and discussed in detail during an oral presentation at the International IPV Conference in Berlin. It is useful for the reader to know that the screening module is under construction and preliminary results have been shared with other experts.

Comment 18

Please see the suggested text towards the end of the paper on P22 L580:

“In-country cost estimates on programmatic costs of delivering an adolescent vaccine and scaling up of cervical cancer screening and treatment interventions as an input for cost-effectiveness analysis are rare. For instance a health and economic impact study of HPV vaccination and cervical cancer screening in five Eastern African countries would have benefited from an country specific data collection and projection costing tool such as WHO C4P to estimate these programmatic costs [16].”

Perhaps the reviewer could be more specific to which costing tool she is referring to so that we can include it in the paper.

Other minor edits

Thanks for the useful minor edits. Except for comment 11 we have incorporated all minor edits.

Regarding minor comment 11, if the editors require providing the names and dates for personal communication we will provide the details.