Reviewer's report

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

Version: 1 Date: 2 August 2012

Reviewer: Sue J Goldie

Reviewer's report:

Comments for authors

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


This is description of the WHO C4P tool which can be used to estimate both financial and economic costs for either school, health facility, or outreach-based programs, and provides estimates by category of expense. Resulting estimates may be used for cost-effectiveness and budget impact analyses. The authors use Tanzania as a case study for application of the vaccination program component of the newly developed tool. The paper would benefit in terms of readability from streamlining many areas of the text, and moving some of the less essential detail to an appendix.

Comments

1. The authors mention in the abstract that costs to schoolgirls, parents, and caregivers are not included. While this may not be much of an issue for the school-based vaccination programs in Tanzania, it could be a sizable cost for health facility or outreach-based programs in other countries. While this likely will not alter the main results presented here, it is the kind of example that should be included to depict to readers where variation in costing components may vary across countries. An additional example, relates to the assumption that no additional costs for the cold chain will be required, and that only existing transport will be required – this may very well vary by country. [The point being that assumptions made for one analysis may or may not be reasonable for other countries].

2. Would suggest that the paper be retitled to mainly focus on Tanzania - and then describe applicability to other countries in the discussion and also point out what are the likely factors that will vary across countries and might have implications for data collection and/or analysis using the tool.
3. The authors might provide some detail about in-country cost data collection, particularly for IEC-related costs. As a large component of total costs, and perhaps the costs associated with the greatest level of uncertainty for an adolescent vaccine, the effort involved in local data collection is an important issue for countries using the C4P tool. Even if this is described somewhat in ref 6, the methodology of scaling cost estimates for the entire country deserves some discussion or alternatively placed in an appendix to this paper.

4. Footnotes should be added to the tables in which specific unit costs are mentioned so that readers can determine exactly what costs are included in which category (e.g., Table 1, Table 4).

5. Several areas of text could be reworded or moved to improve clarity and readability, as well as to provide sufficient descriptive information about the virus and disease for unfamiliar readers. For instance, on p. 5, line 86, the opening sentence could be reworded to read: "Cervical cancer, caused by infection with carcinogenic types of human papillomavirus (HPV), is the second most common cancer in women worldwide." And on P. 5, line 95: might consider rewording to "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 [add ref], in countries where 1) the prevention of...; 2)...; etc.

6. P. 5, line 103: The cited reference (4) actually makes no mention of the indicated price; a better source from the GAVI website might be: http://www.gavi.org/support/nvs/human-papillomavirus-vaccine-support/. GAVI is apparently still working with vaccine manufacturers to try to reduce prices below $5 per dose; the phrase about "co-payments to GAVI eligible countries" is also unclear, because countries provide copayments to GAVI.

7. P. 8, line 158: Consider moving the last sentence of the paragraph ("The generic version...") to the second sentence of the next paragraph, where it seems to fit more appropriately.

8. P. 12, line 277: Consider moving "An overview of the basic assumptions...is summarized in Table 2" (and insertion of Table 2) up to the beginning of the section on "Proposed HPV vaccine delivery strategy in Tanzania".

9. P. 13, line 297: ..... per diem costs for teachers are included in financial costs of service delivery.....this is somewhat confusing because of the wording in the section explaining the difference between financial and economic costs’.

On page 11 lines 236-240 - The main differences between financial and economic costing are: 1) The time spent by health personnel, school teachers, and volunteers is valued in economic costing since there is an opportunity cost to this time – i.e. the workers are unable to spend time on other activities when they are occupied with HPV vaccination - but are not included in financial costs since these are already paid for with government salaries; 2) The value of donated goods and services is included in economic costs but not in financial costs since
there is an opportunity cost to their use; and 3) Capital costs are calculated
differently for financial and economist costs.

Please explain more clearly to readers what was done and why, especially since
previously it is mentioned (pg 11 lines 236-240) that the time spent by school
teachers is not included in the financial costs since these are already paid for
with government salaries. I think I know what the authors did but this is such an
important difference that this section must be clear.

10. P. 13, line 300: Monitoring and evaluation costs appear to be restricted to
production of tally sheets and vaccination cards. In the Discussion, the authors
should mention this as a possible limitation, because other quality control or
evaluative measures (such as cost of administrative personnel to evaluate
coverage levels) might be required.

11. MINOR - P. 14: Consider moving the "Data Collection in Tanzania" text to the
short section on "Data Sources and other assumptions". Line 321: Consider a
separate sentence for UNDP data and cMYP data, since these don't fit in with
IEC costs.

12. MINOR - P. 16, line 353: The separate paragraph on Figure 2 could be
incorporated into the previous paragraph discussing Table 4, as they appear to
be closely related.

13. P. 17, Results: Please comment on why the recurrent costs per dose and for
3 doses for eligible girls would be higher for a school-based compared to health
facility based delivery scenario.

14. P.17, line 391 – do you mean "recurrent" instead of "incremental"?

15. P. 17, line 393: Is this 5-year total (and results in Table 4) recurrent costs
only? Please clarify – forgive me if I missed it elsewhere in the text.

16. P. 19, line 434: Please clarify – is this $3 figure for recurrent and introductory
costs, or just recurrent, or just introductory?

17. P. 20, paragraph 2: As it stands, this paragraph seems out of place in a
paper devoted entirely to the vaccination program costing tool. That is the point
of the paper, would refrain from bringing in screening unless prepared to provide
far more detail.

18. P. 21, paragraph 1. “For instance a health and economic impact study of
HPV vaccination and cervical cancer screening in five Eastern African countries
would have benefited from a costing tool such as WHO C4P to estimate these
programmatic costs.” It is unclear to me why this would the final sentence of this
paper. The main purpose of this tool is for country-specific data collection and
projection rather than to estimate costs for an exploratory analysis. Moreover, a
similar costing tool was indeed used to derive the estimate of the $25 per
vaccinated girl (e.g., $5 per dose) and the range used for sensitivity analysis, in
an earlier series of papers.
Other minor edits

1. P. 6, line 108: Eliminate "previously"

2. P. 6, line 131: "Tanzania's experience" is not really presented in the paper; the country is used as a case study, but no in-country perspectives are presented.

3. P. 7, line 149: "Experience FROM"

4. P. 8, line 156: "per vaccinated girl RELATIVE to a new infant vaccine"

5. P. 8, line 167: Consider rewording to "…defined as the DELIVERY cost per dose multiplied by the total number of doses delivered over three vaccination rounds divided by the total number of girls who received three doses, thus incorporating the costs of incomplete delivery due to dropouts."

6. P.8, line 172: "…experience OF Tanzania"

7. P. 10, line 207: change "they" to "the user" throughout text

8. P. 10, line 209: change "buyer" to "payer"

9. P. 15, line 339: Specify that this is the five-year FINANCIAL cost.

10. P. 17, line 392: "Tanzanian"

11. P.18, line 420: Depending on the journal requirements, you may need names and dates for the personal communication citation

12. P. 20, line 450: vaccines is misspelled; "currently" is redundant

13. P. 21, line 479: Instead of "Good cost estimates", consider saying "In-country cost estimates...are rare"

14. P. 21, line 494: consider "expected" instead of "projected"

**Declaration of competing interests:**

I declare that I have no competing interests