Reviewer's report

Title: Rapidly expanding human resources for health in Zambia to meet staffing goals by 2018: a quantitative analysis of policy options

Version: 1 Date: 3 March 2010

Reviewer: Amy Hagopian

Reviewer's report:

This paper offers an analysis of retention and training policies options for the nation of Zambia to meet its minimum human resources for health staffing requirements. It comes at a time when Zambia has established a strategic plan with employment targets for each health worker cadre, based on the WHO’s minimum staffing recommendations.

It’s a useful and timely paper, and potentially of interest to many in the health workforce field.

I have taken the liberty to offer edits that I believe clarify the text, using the Track Changes feature in Word.

May I also suggest some additional changes:

1) Clarify the source of the WHO ratios on which this model is based.
2) The authors should refer to other papers in the literature that offer modeling approaches, and indicate where their work is similar to or diverges from those approaches.
3) I have tracked all the numbers in the text to the numbers in the tables, and suggest these changes:
   a. Table 1: Create a “total” column on the right side, where the totals referred to in the text can be traced—10,679 for baseline staff, and 24,319 for minimum staff, for example
   b. Further, there should be an “outflow from attrition” total line in the middle of Table 1, with 14,030 on the right edge, and another total line at the bottom of the table with 10,307 at the right edge.
   c. Where does the number 4073 go (from the text)?
   d. Table 2 needs a caption indicating the source of the data.
   e. Table 2 needs operands (+ or -) to indicate when there is inflow or outflow. It also needs a 2018 total gain or loss line at the bottom, with a line to follow indicating the remaining size of the gap.
   f. Figure 1 needs more explanation in a caption.
4) The authors need to mention the restrictions historically placed on Ministries by lending institutions inhibiting the ability to fully employ all qualified health
5) What are the population growth assumptions in this model, which would affect ratio calculations?

6) The authors should probably at least mention the difficulty of scaling up training to meet a current need, especially at the levels of magnitude suggested are required by the model, and how the country would deal with this scaled up capacity once the current needs are met.

7) Can the authors supply spreadsheets so that other Ministries might enter their own assumptions and use the calculations?

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests