Reviewer’s report

Title: Assessment of routine surveillance data as a tool to investigate measles outbreaks in Mozambique

Version: 2 Date: 7 July 2005

Reviewer: Julie Cliff

Reviewer’s report:

General
This is an interesting paper that clearly shows the flaws in the Mozambican disease surveillance system for measles and makes recommendations for improvement.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
Choosing the capital and two districts in one rural province is doubtfully representative and this should be made clear.

Results. 3.2.1. The stated results do not reflect the results in the Table. Using the total population as a denominator, rather than the estimated population of vaccinated and unvaccinated may give misleading results when comparing attack rates.
3.3. Stating simply that the pattern of the outbreaks was different is not sufficient, especially as aggregating the data from two geographically separate districts in Manica Province may well have produced the bimodal curve of Figure 2. We are not given sufficient information to know if this is a reasonable explanation. The reason for aggregating the data from the two districts should be stated, or they should be separated.

Discussion
4.1.1. The first sentence contains results (and the first part is not included in the results.
4.1.2. The reasons for the subnotification of deaths in Maputo City should be discussed.
4.1.3. See comments on 3.2.1. above. The three sites show different proportions of vaccinated cases and probably have different vaccination coverages, which should be mentioned. Generalizing to the country from three sites is probably not correct, especially as Maputo City already has a high vaccination coverage.
4.3.1. The authors state that laboratory confirmation is extremely important, but provide no evidence for misdiagnosis of measles cases, nor supporting references, nor discussion on the feasibility of the recommendation.

Conclusions and recommendations
The recommendations need to be revised in light of the study findings. Some of them are vague and do not come from the study findings, for example training, gathering information for action, and strengthening supervision and feedback.
One key recommendation, of harmonizing the age groups requires a decision at central level, and changes in the recording system, not intensified supervision and correct recording.
There is no recommendation on improved reporting of vaccination status.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Throughout the paper, ages should be corrected to 15 years old or more, 24 months of age and older, etc.
Suggest using the same headings for the same topic in the results and discussion.

Abstract
Results. The second sentence should be omitted or should be clearer.

Introduction. Third para, line 1. The poliomyelitis strategy is eradication, not elimination.

Page 5, line 8. Is meant

Results. 3.1.2. line 4. Omit the.

Table 3 is not referred to in the text. Deaths, not obits.

Discussion. 4.1.3. This section contains important information, but is confusing for the reader, probably because of unclear English. The use of the word significant is meaningless in this context and still can be ambiguous.

Data quality assurance should be a new heading.

Conclusions and recommendations

This section only contains recommendations.

Table 1. Total of health centres is 45, not 46.

Discretionary Revisions (which the author can choose to ignore)

The introduction could mention that Mozambique is currently carrying out a national measles vaccination campaign.

For the reader who does not know Mozambique, it could be more clearly explained that Maputo City has been called a province, as it is so-called in the Mozambican system and that this convention has been maintained for the purposes of this paper. It would also be clearer to state that data was collected in all health units in Maputo City.

Vaccine coverage data should be included in the paper, either in the introduction or in the description of the study sites.

The discussion could be improved by removing repetition of results and the organization. For example, the separation of registers and BES results with a final section on data quality assurance leads to repetition and lack of explanation. The under-registration of deaths is discussed under registers, the under-registration of cases under the BES (simply repeating the results) and the reasons under data quality assurance.

The assumption of the required time of 20 minutes per patient is excessive.

The authors do not mention the use of a case-based reporting system. This may not be a reasonable recommendation, given the overworked staff and logistic issues involved. But I would expect it to be included in the discussion. They come close when they mention a reporting form in their last sentence.

Table 3. Age group should be 5-14 years, not 5-15.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

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

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.