Reviewer’s report

Title: Maternal mortality in Papua New Guinea remains high: insights from a hospital-based retrospective case review

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Reviewer: Douwe Verkuyl

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I have nothing Major. Not a bad study. There are many small items to look after see under. But study publishable

Paper is somewhat long, therefore some not too profound truths have to be removed. Perhaps some more tables will help. Difficult to follow because denominators change all the time (also easier with more Tables) on the other hand I have now already difficulties reading the paper and referring to the existing tables/figures at the same time but that will probably be better in the definite paper lay out.

“Despite their probable imprecision, these data indicate that it is unlikely that PNG will achieve MDG-5 by 2015, and a reduction of the MMR to <30/100,000 livebirths by 2030 may prove equally challenging [11, 12].

“Despite” not very logical word to use here. One would expect that the more precise (an indication of the attention given to the problem and the resources available) the more hope of improvement. Or on the other hand imprecision allows tweaking of the data to achieve MDGs. Do the authors mean that?

“Maternal mortality ratios are high: 773/100,000 in 2007; 312 in 2008; and 230 in 2010) [3, 9, 10] as are fertility rates [10, 13], “

It seems you are achieving de MDGs reduced by 70% (543/773) in just 4 years: needs some explanation

while contraception use and antenatal clinic (ANC) attendance are low (what are the likely figures for your area,?) [7, 10, 13], and the majority (how many) of deliveries are unsupervised [14, 15]. There is evidence that for some of these indicators significant rural-urban gaps exist [10].

A total of 64 probable and 52 confirmed maternal deaths and 10,891 live births were detected at MGH over the study period, resulting in institutional MMRs of 660 and
588 per 100,000 live births, respectively (Table 1).
When I calculate it I get: 588 en 477 respectively. Do I miss something?

“indicator pregnancy” = index pregnancy I think, not sure

Table 2
Ethnicity (n = 52)
Madang/Morobe
Sepik
East New Britain
Highlands

Is East New Brit a recognized ethnic group in PNG? Or Highlander? Ethnicity not the right term I think

“** Unless specified” ? (in the Table 2) not needed

“Two-thirds of women (67.3%, n = 35) died #24 hours after arrival to hospital (Table 3).” Better Two-thirds of women 67.3% (35/52) died #24 hours after .... Because the reader still thinks your denominator is 50

Forty-five women (86.5%) experienced at least one delay, and twenty-eight women (53.9%) ##2 delays, while only seven had no evidence of a delay (13.5%). Of patients with delays, 47% had evidence of phase one (n = 21), 51.1% (n = 23) of phase two, and 77.8% (n = 35) of phase three delays (at the health centre, the hospital, or both).

Denominator 52 ( 53.9 should be 53.8 ) and then denominator becomes 45, confusing

47% is 46.7 or the others should also not have decimals

“These are significant causes of maternal death previously observed in PNG [27-31], although regional heterogeneity exists [16, 17, 31, 32].

These causes of maternal death have been previously recorded as predominant in PNG. [27-31] However, regional heterogeneity exists [16, 17, 31, 32]., Or something like it

(don’t use significant in a medical paper while meaning important in the non-statistical sense.)
and “uptake of family planning”. Do you mean it was all the patients (or her partners) fault or was there also a lack of provision/service?

“to review each maternal death when it occurred” (soon after it better)

Then I would like more background, most people don’t know much about PNG except that there are beautiful birds and many languages not in text but a handy Table. Your Reference 7 gives most data

Proposed Table:

Hospital CS/rate, vacuum forceps, symphysiotomy, VVF patients seen,
TFR in the area or PNG,
HIV prevalence,
contraceptive prevalence UN. World contraceptive use, 2011.
is abortion on request legal
and Alkema L, Kantorova V, Menozzi C Biddlecom A. National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis. The Lancet, Early Online Publication, 12 March 2013
doi:10.1016/S0140-6736(12)62204-1) but also your Reference 7

in Table 3
Primigravida should be Nullipara

8/50 in multiple pregnancy is not 14%
SVD and forceps
SVD and SVD after internal podalic version
Would not call that spontaneous

>2 days <1 week
>1 week <2 weeks
> 2 weeks

Everybody understands it but should be: #2 days <1 week
#1 week <2 weeks
# 2 weeks

Table 1: Maternal deaths, live births and maternal mortality ratios (MMR) for Modilon General Hospital 2008 - 2012: comparison with Madang Provincial Health Information Office (PHIO) data

Confusing two Tables 1 and “***” does not refer to anything (2012)* should be: (2012)**

Then there are 2 identical figures (no1 and no2)

In short paper quite acceptable: Needs lots of corrections more than I have indicated. DISCUSSION very good

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

**Quality of written English:** Acceptable

**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

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