Reviewer's report

Title: The Impact of Prenatal Care and Ethnicity on the Incidence of Preterm Birth in New Mexico

Version: 1 Date: 25 May 2011

Reviewer: Marcelo L Urquia

Reviewer's report:

This is a descriptive study looking at variations in PTB rates in New Mexico 1991-2005 using a cross-sectional design.

Major compulsory revisions

The title does not accurately reflect the contents of the manuscript, which reports variations in PTB by predictors available in birth certificates. As some of the observed associations are well documented (U-shaped maternal age association with PTB, inverse education gradient), it is not clear what is the contribution of this study to the literature.

The manuscript would benefit from a rethinking of the points authors are trying to make. It is not clear if this study was conceived to answer specific research questions regarding the interplay between prenatal care, ethnicity and preterm birth (if this is the case please be explicit as there is no clear hypothesis) or was just a descriptive study looking how PTB varied by common risk factors (which better reflects what the manuscript is about).

In any case, authors should make clear what this paper adds to the literature.

Background

Authors did not make explicit their causal assumptions regarding the mechanisms linking prenatal care and preterm birth, particularly if this is the focus of the study. It might be possible that prenatal care and preterm birth are associated just because they are common effects of some unknown causes (e.g., unwanted pregnancy). In fact, associations between prenatal care and preterm birth have been found in observational but not in experimental studies (Kramer et al 2001, Socioeconomic disparities in preterm birth: causal pathways and mechanisms. Paediatric and Perinatal Epidemiology, 15(S2)). Consideration of alternate explanations may enrich the interpretation of results.

Methods

Page 8: Please provide more details regarding the measurement of gestational age. Was the LMP estimate or the clinical estimate? Did the measure change over the study period? Is it possible that the secular trends of increasing ultrasound use affect the observed trends in PTB during the study period? The possibility of artefacts in the measurement of PTB should be addressed in the
A breakdown of the excluded records (11%) by their criteria may be informative.

Results
A table with the characteristics of the study population was not provided.
Would it be possible that medical conditions included in the definition of high risk pregnancy were underreported among those who had missing or inadequate prenatal care? If so, many high risk pregnancies might have been misclassified as low risk pregnancies.

Would not be more appropriate to use a logarithmic scale in the Y-axis in Figures 2 to 5?

Conclusions
I am not sure that this cross-sectional study has “demonstrated”, as claimed, “that increased pregnancy surveillance by obstetric providers helps modify the risk for PTB among women with complicated pregnancies”, since the observed associations may be due to confounding. In addition, authors ignored the conflicting literature regarding the role of prenatal care on preterm birth.

References # 1 to 4 and 6 to 8 seem to be improperly formatted.

Minor essential revisions
Page 9: Part of the paragraph beginning with “A limitation of the study…” may be better placed in the discussion.

Figures 2-5 would be clearer with a footnote listing the control variables. The horizontal gridlines does not help much. One single horizontal line at OR=1 would be fine.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests