Reviewer's report

Title: Public and private pregnancy care in Reggio Emilia Province: an observational study on appropriateness of care and delivery outcomes

Version: 1 Date: 1 October 2013

Reviewer: Amanda Ampt

Reviewer's report:

Major Compulsory Revisions
This paper can be summarised into the following sections – a comparison of
• demographic differences
• ultrasound utilisation
• caesarean section rates and
• neonatal outcomes
between public and private care in an Italian region.
With no main differences in outcomes the authors conclude that there is an unnecessary increased rate of Caesareans and ultrasounds among private obstetricians. This is in contradiction to the abstract which stated ‘the probability of CS was similar in women assisted by private obstetricians and women assisted by public service’. The conclusion needs to be re-written to highlight Robson classification differences.

This is an important public health message, however in the flow and construction of the paper the methods and results are confusing. The paper requires a major re-write to improve readers’ accessibility. It would also benefit from further English language editing –although grammatically correct, some terminology and word choice is a little strange eg 1st sentence in introduction “…health in peril”. ‘received by a midwife’ in methods

Introduction
A clearer description of the two models of care should be stated – and then not repeated in the methods section. There should also be comment regarding the differences in care when the woman is in labour, and not just antenatal care – how do these models relate to actual birth care? This is only briefly mentioned in the discussion and could be a huge confounder. Did all women attend the same hospital for delivery?

Methods
This section would benefit from a major re-write and I suggest the following information under the headings:

The information regarding the clinics and the obstetric care should all be in the
introduction – it is repetitive to read when it is again in the methods.

Study design
• Statement of type of study is clear

Data sources
• Need a description of the routinely collected data on the Birth Certificate (BC) database. Are all women entered? A summary of what information is collected is necessary here. Have any validation studies been undertaken on this database? How well reported are the variables?
• What actually is the clinical record? Is it an electronic record? I presume it is the record from the clinics but needs to be stated here.
• Need a description of the linkage process - I think the only aim of the linkage was to identify those women who attended public clinics and those who attended a private obstetrician? How was the linkage undertaken? Has it been done before? Is there any prior assessment of expected linkage rate of those records expected to link?
• There is mention of another linkage with Hospital Information system – this needs a better introduction and explanation also

Population – mention exclusions here

Analysis – this needs major revision. It appears there have been many models built, it is hard to ascertain which ones and for what purpose.
• Much briefer descriptions of the variables used, but more attention should be given to the negative perineatal outcomes (‘vitality’ should be replaced by ‘birth outcome: live/sillbirth for an English audience.
• Robson groups can be described here – this is well reported in this paper
• Need to state what was actually done and reported eg first part should be something along the lines of “sociodemographic, pregnancy and delivery characteristics were compared between the two models of care”.- as were newborn characteristics.
• Clarify which modelling was done for which outcome. On what basis were co-variates chosen other than ‘a priori’? Were non-significant co-variates excluded from models? How were the models built?
• Presumably the logistic regression model for each Robson group was undertaken to compare the odds of a woman receiving a CS, NOT the frequency of CS
• There is no mention of ultrasound in this section – and I am unsure why hospitalisation during pregnancy was not included as a co-variate as it would indicate a more complex pregnancy which may need more ultrasound scans
• Why was there a need to undertake a sensitivity analysis?
• The aim of the neonatal outcome comparison (table 2) was stated in the introduction as “…as possible side effects of the reduction of pregnancy outcome”. As there were clearly differences between the women in both groups,
this comparison needs to be undertaken with adjustment

Results
There is far too much text in the reporting of results – main findings are lost and it is extremely difficult to read. Any statistical differences should be clearly reported in Tables 1 and 2. In keeping with the aim of using perinatal outcomes as an indicator of the appropriateness of medicalization, I think this tables should be reported last (but a method of adjustment should be employed as suggested previously) . There is a strong tendency to report results as demonstrating a difference, but then qualify by ‘although not significant’ as in some reporting of the Robson analysis. The authors leave themselves open to criticism in adopting this approach.

Discussion and Interpretations
There is too much discussion of other studies without reference to this study eg reporting of Cochrane findings. Although interesting only factors associated with this study should be highlighted.

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

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