Reviewer’s report

Title: Eliciting parental support for the use of newborn blood spots for pediatric research

Version: 3 Date: 3 December 2015

Reviewer: Peter Burgard

Reviewer’s report:

The manuscript ‘Eliciting parental support for the use of newborn blood spots for pediatric research’ by Edwina Yeung et al. addresses two important questions. First, how population based data concerning epidemiological data for can be retrieved from DBS can be used for other purposes than newborn screening, and second, the attitude (possible consent) towards exploitation of available DBS specimen.

From a methodological point of view the study is well designed, particularly the report of absolute risk reduction in addition to odds ratios deserves appreciation. The items of the STROBE statement to evaluate observational studies are well addressed and document the accuracy of the approach.

Both questions have technical as well as ethical facets, which are dealt with in a paradigmatic way.

The manuscript is well drafted, however, I would like to give some comments how the message could be improved=

- Minor Essential Revisions

1. Although the sample size if large, it can be regarded as a selected sample drawn from families which have already shown that they are willing to participate in research, i.e. the KIDS study, or have had some previous – possibly beneficial - contact with the medical system, e.g. a stay of they child in a NICU. This should be discussed as a possible bias.

2. The generalizability question raised by the authors themselves needs more discussion. First, I wonder whether the fact that consent rates support the findings from another study (ref. #34) can be regarded as an argument for generalizability. Second, the authors stress that fact that the consent has been asked explicitly for the measurement of cytokines and environmental chemicals, and should be extended to a discussion of the use for other research questions, particularly for pilot studies for other potential disorder to be tested for newborn screening.

3. Page 8: It should be explained why the technical aspects of the pulling and investigation of sample cards is important. The authors report that a total of 800 hours or six months were necessary for a second tier analysis, what is a considerable amount of time.

4. The ethical aspects of the approach deserve some more discussion, e.g. referring the pertinent publication by Ross, Lainie Friedman. "Mandatory versus

5. A reference to the PCORI project also could increase the impact of the study, emphasizing the interest of patients and the general population in research strategies (e.g. Selby, Joseph V., Laura Forsythe, and Harold C. Sox. "Stakeholder-Driven Comparative Effectiveness Research: An Update From PCORI." JAMA (2015): 2235-2236.)

References # 43 and 44 are identical, and one should be discarded.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

I am involved in the German newborn screening programme and research on newborn screening