**Reviewer's report**

**Title:** Sudden Infant Death Syndrome: a re-examination of temporal trends

**Version:** 2  **Date:** 14 March 2012

**Reviewer:** Rosemary S Horne

**Reviewer's report:**

This is an interesting paper which analyses the decline in rates of Sudden Infant Death Syndrome (SIDS) from 1995-96 to 2004-05 in the United States focusing on twin and preterm infant deaths. The data are analysed both as per number of live births which is the traditional approach and also using a fetuses-at-risk approach which is calculated as the number of SIDS cases at that gestation divided by the number of fetuses at that gestation. This latter approach assumes that SIDS has a fetal origin. Although there are some risk factors for SIDS which cross over with stillbirth, it is generally believed that SIDS involves a number of postnatal risk factors, described as the “Triple Risk Model” which the authors themselves discuss. Only one factor – the vulnerable infant has a potential in utero component. Currently the belief that SIDS and unexplained still birth are one in the same phenomena is still speculative (Ref 28).

**Major Comments:**

More rationale for why the authors believe SIDS and in utero unexplained death are one in the same would assist the reader in understanding the rationale for the data analysis approach.

It is unclear why the gestational age grouping in Table 1 has been used 22-27, 28-33, 34-36, 37-38, 39-41 and # 42 weeks. Over the period of the study there would have been a natural increase in the number of infants surviving at the younger gestational ages and a reduction in the number of infants born at post term ages and even at term due to the increase in the rate of caesarean section, how this may have affected the analysis is not discussed.

It is unclear from the discussion of the paper how the conclusion that similar causal pathways are involved in both SIDS and unexplained fetal death. Could this be expanded upon?

**Minor comments**

**Introduction**

Line 61 Could you define what is meant by a “secular change” as this term is unfamiliar and is used throughout the paper.

Line 68 Should the 28% decline be 25%?

**Level of interest:** An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
No conflicts to declare