

# **A Study of Infant Mortality Rates in Korea**

**(1993 and 1996 birth cohorts)**

Young Ja Han(Senior Researcher)

*Korea Institute for Health and Social Affairs*

*San 42-14, Bulgwang-dong, Eunpyung-gu*

*Seoul, Korea*

*yjhan@kihasa.re.kr*

## **1. Introduction**

The Korea Institute for Health and Social Affairs (KIHASA) has developed a research strategy to produce IMR based on real data on population.<sup>1)</sup> The present study used the fact that 99% of deliveries have taken place in medical facilities under the national medical insurance system.<sup>2)</sup> The new method was applied to the infant mortality study on both 1993 and 1996 birth cohorts and the study of 1999 birth cohort is being undertaken in 2001.<sup>3)4)</sup>

## **2. Method(The infant mortality survey, 1993 and 1996 birth cohorts)**

The study subjects are a cohort of infants who were born during the period of Jan. 1 - Dec. 31, both in 1993 and 1996, and who died before reaching their first birthday.

### **Gathering existing data**

The existing data was collected before conducting the survey at the medical facilities. Since the majority of data sources on infant death were deficient, information on infant death was gathered from various sources and integrated into a single set of data. The data set includes health insurance data (the record of health insurance beneficiaries, maternity benefit data, funeral grant), resident registration record and vital registration and the report of infant deaths from the medical and health facilities.

It was assumed that all of these data are in some way inadequate and need to be supplemented by other data. The most seriously deficient among the existing data was the inadequate record of neonatal death since it is rarely ever reported. Therefore, one alternative method was to conduct investigation at medical facilities to identify instances of neonatal death, which are generally omitted from all records, by tracking down the maternity benefit data.

One of the purposes of collecting existing data is to identify infant death cases for further investigation at the medical facilities to get more information on infants.

## Medical record survey at health facilities

**Confirming survey:** A set of infant death file was constructed from the existing data sets and they were traced back to the health facilities to find out additional information to analyze. We linked the maternity benefit data with their infant from the vital registration data set. If maternity benefit data could not be linked with their infant, we traced back them at the hospital whether the outcome of delivery was live birth. If the outcome was live birth and if it was not registered, the case may be neonatal death before birth registration.

**General survey:** Even under the national health insurance system, there may be uncovered cases. In order not to drop out infant death cases, we conducted a survey at every health facilities that infant death may occur.

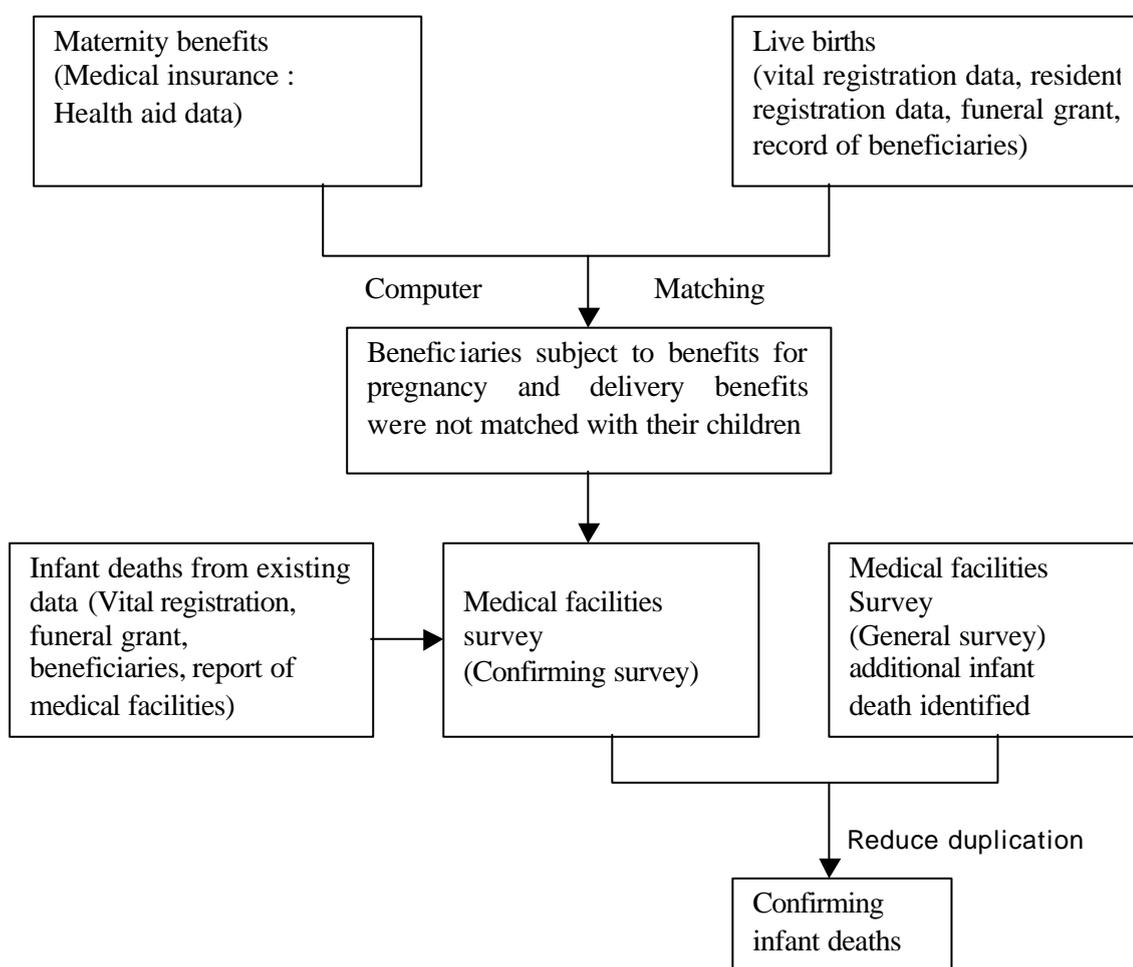


Figure 1. Process of identifying infant deaths

### 3. Results

The estimated number of infant deaths of the 1993 birth cohort by the above method was 7,088 and that of 1996 was 5,371. The proportion of neonatal deaths decreased from 66.2% in 1993 to 53.2% in 1996. IMR was also decreased from 9.9 in 1993 to 7.7 in 1996 (See Table 1).

IMR by age of mother showed a U-shape. This suggests high IMRs among teen-aged mothers and higher IMRs among mothers over 30. IMR of the teen-aged mother may be higher than the figure shown in the table because many mothers of unknown age may belong to the teen age group (See Table 2).

Table 1. IMR of the 1993 and 1996 Birth Cohorts

|               | 1993 |        |       | 1996 |        |       |
|---------------|------|--------|-------|------|--------|-------|
|               | Male | Female | Total | Male | Female | Total |
| Neonatal      | 7.0  | 6.1    | 6.6   | 4.4  | 3.8    | 4.1   |
| Post-neonatal | 3.6  | 3.1    | 3.3   | 3.7  | 3.6    | 3.6   |
| Infant        | 10.5 | 9.2    | 9.9   | 8.0  | 7.4    | 7.7   |

Table 2. IMR by Age of Mother

| Age of Mother | 1993 | 1996 | Age of Mother | 1993 | 1996 |
|---------------|------|------|---------------|------|------|
| 14 19         | 7.4  | 8.8  | 30 34         | 7.4  | 8.8  |
| 20 24         | 7.2  | 6.3  | 30 34         | 7.2  | 6.3  |
| 25 29         | 8.6  | 6.8  | 40 and over   | 8.6  | 6.8  |
|               |      |      | Total         | 9.9  | 7.7  |

## References

1. YJ Han, SR Doh, SW Lee, "A Study on Developing a New Method Producing Infant Mortality Rate in Korea", Korea Institute for Health and Social Affairs, 1995.
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3. YJ Han, SR Doh, SW Lee, HB Lee, MI Lee, "Infant Mortality Rate and Causes of Death of 1993 Birth Cohort in Korea", Korea Institute for Health and Social Affairs, 1996.
4. YJ Han, SR Doh, K S , JH Park, SW Lee, "Infant Mortality Rate, Perinatal Mortality Rate and Causes of Death of 1996 Birth Cohort in Korea", Korea Institute for Health and Social Affairs, 1998.