

## **Preparation of Vital Statistics File for a Birth Audit to Evaluate Prenatal Screening Practices**

**The information below covers how to sample charts for inclusion in the audit**

### **A. Method of sampling charts for the group B streptococcal disease prevention birth audit**

#### **Objective**

To randomly sample the 1998 and 1999\* birth cohort in a surveillance area to identify labor and delivery charts for review in the birth audit.

\*(you can pick what years you want, or just do a single year; vital records data is typically available 9 months after the close of that particular calendar year)

#### **Overview of methods**

1. Determine the total number of charts (n) to review from your surveillance area. The minimum number will be 456 charts, but some areas may choose a larger number. The number you will review for each of the two years included in the audit will be  $\frac{1}{2}$  the total number (n/2)
2. Use the Vital Statistics natality data set in your surveillance area to determine the following statistics. **It is important in calculating these numbers to limit the birth cohort to babies born to mothers resident in the surveillance area at surveillance area hospitals.**

##### **A. Total births**

$N_1$  = The total number of births at surveillance area hospitals to mothers resident in the surveillance area in 1998

$N_2$  = The total number of births at surveillance area hospitals to mothers resident in the surveillance area in 1999

##### **B. Total births by hospital, for each hospital with labor and delivery services in the surveillance area.**

For example, for a given hospital h:

$N_{1h}$  = The number of births to mothers resident in the surveillance area in 1998

$N_{2h}$  = The number of births to mothers resident in the surveillance area in 1999

(Note:  $\sum_{h=1}^H N_{1h} = N_1$ , where H is the total number of hospitals in the surveillance area)

2. Calculate the number of births to audit from each hospital

For example, for Hospital h:

$n_{1h} = (N_{1h}/N_1) * (n/2)$  This is the number of 1998 births to audit from hospital h

$n_{2h} = (N_{2h}/N_2) * (n/2)$  This is the number of 1999 births to audit from hospital h

The total number of charts sampled for hospital h will equal  $n_{1h} + n_{2h}$ .

3. If the sum of 1998 and 1999 charts is <20:

Calculate  $(20 - (n_{1h} + n_{2h})) / 2$  (if this is not an even number, round it up to the nearest integer) and add that number to the 1998 total ( $n_{1h}$ ), and to the 1999 total ( $n_{2h}$ ) to ensure that the total number of charts per hospital is at least 20.

4. From the list of birth certificates, randomly select the determined number of births to audit from each hospital, for each year.

Your Vital Statistics department can use their preferred method of randomly sampling births (e.g., a simple random sample or a systematic random sample), as long as the sample frame includes the entire time period from 1 January, 1998-31 December, 1999.

5. Once the birth certificates are identified, information permitting identification of the mother's labor and delivery records should be collected. In most states the following information was sufficient to permit location of medical charts: Mother's last name, maiden name, first name, date of delivery, and mother's date of birth.

This information can be collected in an electronic format for easy data manipulation.