Definitions and Instructions for the Neonatal Group B Streptococcal Disease Prevention Tracking Form: (Instructions last revised: December 17, 2007)

This form should be filled out for all cases of early-onset and late-onset group B streptococcal disease (GBS). Early-onset is defined as GBS disease onset at 0-6 days of age ((Culture date-birth date) <7 days). Late onset disease is defined as GBS disease onset at 7-89 days of age (6 days< (Culture date-birth date) <90 days).

Case report forms can be completed on infants born at home.

Conventions for filling out form:
Leave unknown dates, times and numeric values blank (we are not using missing codes for numeric values on this form). For yes/no/unknown questions, please CHECK UNKNOWN when something is unknown rather than leaving it blank. Very often charts will only tell you if something happened. Charts will not tell you that something did NOT happen. For example, if a woman had a previous GBS pregnancy, we hope that it will be noted in the chart. If you can't find mention of it in the chart, then you would answer 'No' to this question. Sometimes we can tell the difference between 'No' and 'Not documented'. For example, the question 'Intrapartum temperature >100.4' can truly be answered 'Yes' or 'No'. In the case where the mother's temperature was not recorded, you will find an 'Unknown' box to check.

Record all times as military time: 1:00pm = 1300 and 1:00am = 0100. All dates should be recorded as Month/Day/4-Digit Year: 05/16/79 = 05/16/1979. Be careful around January and December; it's easy to forget to change the year when a record spans this period.

Hospital ID: This refers to the ABCs hospital id for the hospital of BIRTH.

Were labor & delivery records available: Indicate whether or not the labor & delivery medical records were available to the abstractor at the time of chart review.

Infant Information: Questions 1-10
Generally, this information can be found on a summary sheet in the baby's chart -- sometimes referred to as the *Neonatal Summary Sheet*. You may also try the *Labor and Delivery Summary Sheet* (in maternal chart), the doctor's progress notes, and nurses' notes. If the baby was readmitted for infection to the same hospital after initial discharge, the baby will usually only have 1 chart. If the baby was discharged (went home) and then was readmitted for infection to a different hospital, the baby will have 2 separate charts.

Question 1: Date & time at birth
Please record date and time of infant's birth.

If both the infant's date and time of birth are missing, please mark the "Unknown" checkbox. If the infant's date of birth is known but the time of birth is missing, indicate the date of birth and mark the "Unknown" checkbox. If the infant's time of birth is known but the date of birth is missing, indicate the time of birth and mark the "Unknown" checkbox. The unknown box should only be checked if either the date, time, or both variable are missing but have been looked for in the charts.

Question 2: Location of birth
Please record whether the birth occurred outside of a hospital, and check "Unknown" if you are not sure. If the birth occurred outside a hospital, please check one of the options for where it occurred: Home, a free standing birthing center, en route to hospital (e.g., in a car or ambulance), or other.

Question 3: Gestational age at birth
If gestational age is available as weeks and days, record exact age in weeks; do not round up. For example, if the infant was 36 weeks, 6 days at delivery (36_6), the gestational age was 36 weeks.

If discrepant values for gestational age are found throughout the chart, the gestational age should be calculated based on the dates given for the last menstrual period (LMP).

Question 4: Birthweight
Please record the newborn's birth weight in pounds and ounces **OR** grams as found in the L&D summary or doctor's progress notes.

Question 5: Discharge date & time
Record the discharge date and time of the newborn from the birth hospital.

If both the infant's date and time of hospital discharge are missing, please mark the "Unknown" checkbox. If the infant's date of hospital discharge is known but the time of hospital discharge is missing, indicate the date of hospital discharge and mark the "Unknown" checkbox. If the time of hospital discharge is known but the date of hospital discharge is missing, indicate the time of hospital discharge and mark the "Unknown" checkbox. The unknown box should only be checked if either the date, time, or both variable are missing but have been looked for in the charts.

Question 6: Outcome
Please record outcome of newborn as survived, died, or unknown.

Question 7: Readmitted to same hospital
Please answer yes to this question only for infants that were discharged home and then were readmitted from home to their birth hospital.

Question 8: Readmitted to different hospital
Please answer yes to this question only for infants that were discharged home (or born at home) and then were readmitted from home to a different hospital from their birth hospital (if they were transferred to a new hospital **without discharging to home first**, **answer NO** to this question—information about this transfer will be picked up from the case report form).

Question 9: **Discharge diagnosis**
Please record ICD-9 codes for both early- onset and late-onset cases. This information would be found in the front of the baby's chart (usually in the first few pages, sometimes on a sheet called the Attestation Sheet). The ICD-9 codes are numeric codes which often have decimal places (i.e. ###.## or 123.45). Please be careful to transcribe the code correctly with the decimal place in the right location.
If a late-onset case went home after delivery and then readmitted, use the ICD-9 code from the readmission, not the actual delivery admission.

Question 10: **Breast milk**
This information should be recorded on the Assessment form in both the mother and baby's charts. Please answer for late-onset cases *only*.

Maternal Information: Questions 11-27
Generally, maternal medical and delivery history can be found in a combination of the following locations: admission form, OB admission records, drug administration sheets, doctor's admission and progress notes, prenatal forms, discharge summary, L&D summary sheets, nurses' notes, and lab reports. Please note: labor & delivery information might be separated or in several sections for the first stage of labor compared to the second stage of labor.

Question 11: Maternal admission date & time, Maternal age at delivery, Maternal blood type
For this question, see the *Labor and Delivery Summary Sheet*. If not present here, check other Labor Information Sheets or other Intrapartum Reports. The hospital admission record may show a L&D admission time that is a bit later than the other sources (because the woman may be admitted on the floor and receiving care before she is actually in the computer's system). If there is a time discrepancy, record the earliest admission time you can find.

If age is not specifically listed in the chart, you will need to subtract delivery date from maternal date of birth. Maternal blood type is usually obtainable. Please use maternal age at delivery in years (do not round up). If a blood

type and screen was ordered, this information would be found in the Laboratory information section.

Question 12: Maternal history of penicillin allergy, Maternal history of anaphylaxis
The admission orders typically have a section for known medicine allergies. Allergy to any drug belonging to the penicillin class of antibiotics counts as a penicillin allergy. This class includes: penicillin G, penicillin V, amoxicillin, ampicillin, nafcillin, ticarcillin (combined with clavulanic acid = Timentin), Augmentin (amoxicillin and clavulanic acid), Zosyn, and many, many others. The abbreviation "NKDA" stands for "No known drug allergies". Please check "No" to maternal history of penicillin allergy if this is noted in the chart.

Please be careful with recording history of anaphylaxis. Though a woman may have had a penicillin allergy, she may not have had an anaphylactic reaction. If penicillin allergy is 'Yes', but no further documentation is found on type of reaction, mark 'No' for history of anaphylaxis. If penicillin allergy is 'Yes' and includes notation of anaphylaxis (most common), shock, required ICU/hospitalization, intubated, vascular collapse, severe allergy, immediate hypersensitivity to penicillin, angioedema or urticaria please mark 'Yes' for history of anaphylaxis. If you find a description of milder penicillin allergy (e.g., rash, diarrhea etc.) then history of anaphylaxis = "No".

Question 13: **Rupture of membranes date & time**
For this question, see the *Labor and Delivery Summary Sheet*. If the mother has ruptured membranes on admission, the rupture of membranes (ROM) date/time will be on the OB admission form. If membranes are intact on admission, the ROM date/time can be found on the L&D summary and/or the L&D/obstetric flow sheet. If membranes are ruptured at the time of C-section, record the time that the C-section began as ROM Date/Time.

Question 14: **Duration of membrane rupture**
For this question, see the *Labor and Delivery Summary Sheet*. To calculate ROM>18 hours, subtract ROM date/time from delivery date/time. Sometimes the precise time that membranes ruptured will not be known, but it will be evident that at least 18 hours elapsed between rupture of the membranes and delivery (e.g., ROM occurred prior to admission and there were 20 hours between admission and delivery). In such cases, please make sure to record ROM>18 hours = 'Yes' even though the ROM date/time may be unknown.

Question 15: **Membrane rupture <37 weeks**
Using gestational age at birth, membrane rupture at <37 weeks can be determined. If membrane rupture occurred earlier than 37 weeks gestation, record as 'Yes'.

Question 16: **Type of membrane rupture**
For this question, see the *Labor and Delivery Summary Sheet*. Spontaneous and artificial rupture of membranes may be abbreviated as SROM and AROM, respectively. If membranes are ruptured at the time of C-section, list type of rupture as 'artificial' and note time of membrane rupture from the operative report in Question 13 (Date & time of membrane rupture).

Question 17: Type of delivery
For this question, see the *Labor and Delivery Summary Sheet.* A section termed "Indications for C-section" may also be included. Forceps and vacuum may be listed under a "Complications" section. If delivery was by C-section, please answer the questions about whether labor or membrane rupture occurred before the C-section was performed (if membrane rupture was artificial as part of the C-section procedure do not answer yes to this question). The abbreviation "VBAC" stands for Vaginal After Previous C-section". Because this question is "select all that apply", more than one delivery option may be checked (e.g., a mother has vaginal birth but forceps and/or vacuum is used to suction the baby out of the birth canal.)

Question 18: Intrapartum fever (T ≥ 100.4 F or 38.0 C)
For intrapartum fever, look to the *Labor and Delivery Nursing notes* in the maternal chart for the most accurate information. Sometimes, this maternal information is also in the *Neonatal Summary Sheet* because pediatricians also request this information. There is often a column and/or graph dedicated to vital stats (e.g. temperature/BP/pulse). Sometimes pulse and temperature will be charted on the same graph, but with different scales, so make sure you are able to determine which is which.

This question ONLY refers to the mother's temperature during labor (not after delivery). Do not look in any post-partum assessment sheets. If you have a complete medical record and see no mention of intrapartum fever, answer NO to this question, not UNKNOWN (fever is something important that would almost always be recorded). Only check unknown if sections of the medical record that deal with maternal temperature are missing.

Questions 19-20: Mother's prenatal care history
Prenatal care information is usually forwarded to the hospital and included in the maternal labor and delivery chart. Prenatal data is found on ACOG forms, which are usually pink or yellow with "ACOG" printed in the corner and will be useful for obtaining number of prenatal visits, date of first/last prenatal visit, and gestational age at last visit. If you can find no prenatal information in the maternal labor and delivery chart, and no mention of prenatal care in the admission notes, answer UNKNOWN to question 19, NO to question 20, and leave 21 blank. Usually if a mother received no prenatal care there are multiple notations through all sections of a chart. If you have only partial prenatal information in the chart, you can often answer parts of 19 and 20.

Date of last prenatal visit refers to the last recorded visit in the prenatal record forwarded to the hospital; this may not have been the woman's last visit before birth, but we want to know her gestational age at the time the chart was forwarded. If the prenatal record was not in the chart, some information can be recovered from other areas of the chart. A prenatal visit will be recorded by a physician or other clinician such as a nurse. A visit for labs only does not count as a prenatal visit.

Question 21: Estimated gestational age at last documented prenatal visit
In the provider notes of the maternal prenatal record, turn to the last documented/data prenatal visit. If gestational age at the last documented prenatal visit is available as weeks and days, record the exact age in weeks and days; do not round. Use the number of days after the decimal place (e.g. 36.4 = 36 weeks and 4 days) to convert gestational age to a decimal value (36.4 should be converted to 36.57 (36 weeks and 4/7(=.57) days)).
If gestational age is available as days only, you will need to convert from days to weeks + days. For example, 207 days = 207/7 = 29 weeks, 4 days (because 7*.47=4), but the correct gestational age to record would be 29.57 (because 4/7days is 0.57). Acceptable values for gestational days are: 0, 1 =.14, 2 =.29, 3 =.43, 4 =.57, 5 =.71, 6 =.86.

If discrepant values for gestational age are found throughout the chart, the gestational age should be calculated based on the dates given for the last menstrual period (LMP).

Question 22: GBS bacteriuria
GBS bacteriuria refers to THIS pregnancy only. GBS bacteriuria is typically available in the prenatal records. Specifically, this can be found in the prenatal lab results summary (on standard ACOG forms, this is under 'urine culture/screen' in the initial lab section of the antenatal history) or the OB history sections; however this varies depending on whether the mother received prenatal care at a separate location. Sometimes, this information has been sent to the hospital, but it is separate from the admission records. Some hospitals have standing order forms for GBS prevention, which have these items on a check list. There might be mention in the discharge summary as well. If there is no mention of GBS bacteriuria during this pregnancy, record as 'No'. If there is notation of a urine culture colony count that indicates an infection, but does not say if the infection was GBS and whether the woman was treated, record as 'No'.

The colony count may be found in the maternal prenatal records or in the Laboratory Test section.

Question 23: Previous infant with invasive GBS disease
The prenatal notes and OB admission record may also have information about prior GBS birth. This item is asking about PREVIOUS births that resulted in invasive GBS disease in the baby, it is NOT asking about a previous GBS pregnancy (where the mother was colonized but the infant did not become ill).

Question 24: Previous pregnancy with GBS colonization
The prenatal notes, OB admission record, and previous pregnancy history sections may have information about previous GBS colonization. This item is asking about a previous GBS pregnancy where the mother was colonized (GBS+). It is NOT asking about PREVIOUS births that results in invasive GBS disease in the baby.

Questions 25-26: GBS cultures
The prenatal record is the best place to find test results for GBS cultures and sometimes this information can be found on the *Neonatal Summary Sheet* as well. If not present here, look for other prenatal records which specify lab data; however, actual lab reports are a rare find. Most often, you will have to rely on notations in a laboratory test summary page of the prenatal record. Lab Data may be broken down into sections, in which you might find sections for 32-36 week labs or 35-37 week labs. Lab sheets may also be in the chart if tests were done in the hospital's prenatal clinic. **Also note that a negative culture from urine should not be recorded here** (Question 22 is for recording GBS bacteriuria; this question is for recording GBS testing and urine is not an acceptable culture site. Additionally, if there is no mention of a urinary tract infection, assume the culture was either vaginal or rectal.) **Ignore any and all pediatric GBS cultures, that is, cultures taken from the infant.**

Questions 25a and 25b refer to prenatal tests (tests taken as part of routine prenatal care) BEFORE admission for delivery. **Questions 26a and 26b** refer to tests done AFTER admission, but before delivery.

The test method used to determine GBS colonization may be found in the Laboratory Test section of the chart. GBS test type may be cultures or rapid tests, either PCR or antigen. Tests on admission are more likely to be rapid tests. If a culture test is performed, it usually takes 24-48 hours to obtain results. Try to determine which type of test it was from a lab slip or doctor's notes. You may bee a notation such as "detected by selective broth culture and DNA probe" or "gen cult GBS+". If you see the word "culture" or "cult" anywhere, check the "culture" box. Susceptibility testing for clindamycin and erythromycin will usually be found in the lab slip or results section of the medical chart. If either rapid pcr or rapid antigen testing was performed, susceptibility testing will most likely be absent.

Questions 28-30: Intrapartum antibiotics
Intrapartum (IP) refers to the period from the onset of labor until the delivery of the infant. However, for the purposes of GBS prophylaxis, intrapartum is defined as the period from rupture of membranes to delivery, or admission to hospital for labor until delivery (whichever is longer). Thus, intrapartum antibiotics refers to antibiotics given during labor and prior to the delivery. **Once the infant is delivered, the intrapartum period is over.**

Question 28a: Date & time antibiotics first administered
Record the time antibiotics were administered, not the time antibiotics were ordered from the Physician's Order Forms. **Note: just because an antibiotic was ordered, does not mean it was given/administered.** Intrapartum antibiotics given can be found in the nurses' notes, L&D flow/progress chart, and drug administration sheets. (Note: nurses' notes can be confusing as often a time is written down for when a medication is scheduled, but then crossed out with initials to show that it was given at the scheduled time.) If you can't find the time an antibiotic was given, be suspicious. You may be looking at a sheet that only shows when an antibiotic is scheduled or ordered. Antibiotics ordered will be written in the MD orders.

Question 28b: Antibiotic's name, delivery, dose, and date of administration
List the name of each antibiotic given, mode of delivery, number of doses, start date and if antibiotics were terminated before delivery, stop date (leave stop date blank if it does not apply). This information is usually on the *Labor and Delivery Nursing Notes* in the maternal chart. Sometimes this maternal information is also in the *Neonatal Summary Sheet* because pediatricians also request this information. You may also try other Labor information sheets or Medication Administration Records (may have different form names). Be careful to verify that ordered antibiotics were actually administered. Common antibiotics that you may see include: Penicillin, Ampicillin, Gentamicin, Clindamycin, Erythromycin, Vancomycin, Cefazolin, etc. If an antibiotic name is not recorded, but it is evident in the chart an antibiotic was administered, write "ND" or "Not Documented". Do not leave blank unless no antibiotics were given.

In the case of a C-section delivery, only antibiotics administered <u>before</u> clamping of the umbilical cord should be noted. If antibiotics are administered after clamping of the cord, they are considered post-partum.

In the case of preterm rupture of the membranes (at <37 weeks), sometimes women receive multiple antibiotics over a long time period before delivering. There is space here to record 6 antibiotics, if you find a woman who received

more than 6 please list all IV antibiotics first and make a comment in the comment field at the end of the form about others.

Question 29: **Interval between antibiotics and delivery**
To determine the time interval between receipt of first antibiotics and delivery, subtract the date and time antibiotics were first administered from the date and time of delivery.

Question 30: Reason for intrapartum antibiotics
For reasons for intrapartum antibiotic doses given, look in the doctor's progress notes. These notes will often mention GBS prophylaxis, or suspected amnionitis, and many hospitals have standing orders for C-section prophylaxis and for Mitral valve prophylaxis. You may also find standing orders for GBS prophylaxis. There may have been more than one reason for prophylaxis in which case check all that apply. If it is not possible to determine the reason for prophylaxis, check UNKNOWN.