

Exploring the 2003 Revision of the U.S. Standard Certificate of Live Births:
Results of cognitive interviews conducted in State 4 of 4
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1. Introduction

This report documents findings from the fourth and final part of a larger study whose purpose is to understand how medical and health items on the Facility Worksheet for the 2003 Revision of the U.S. Standard Certificate of Live Birth are collected. A total of four states were studied. Part 1 of the study took place in June, 2009. Part 2 of the study took place in October, 2009 and the third phase occurred in December, 2009. The fourth phase, discussed here, occurred in April, 2010. Each phase was conducted in a different state.¹ The identity of State 4 (and all states) is withheld to ensure confidentiality.

This is a study of how hospitals in State 4 structure the task of collecting data on live births, as well as how hospital personnel go about completing this task. Cognitive interviews were conducted using the Hospital Worksheet for Birth Registration that was commonly used prior to the transition to the Electronic Birth Certificate (EBC) system. The focus of data collection was on the medical and health information portion of the birth certificate worksheet, not on the parents' demographic information. For example, probing centered on specified pregnancy history and prenatal care items, as well as *all* other medical and health information section of the worksheet. Issues for other items are reported to the extent that the discussion was initiated by the respondents (not the interviewer). Interviews took place with hospital employees who are responsible for completing the state form and for transmitting data to the EBC database.

The next section briefly describes the qualitative methodology of cognitive interviewing, including the procedure for sampling interview respondents, the data collection method, and analysis plan. The third section of the report presents a summary of general findings, followed by a more detailed item-by-item analysis.

¹ Each state is a separate case study; therefore, an individual final report exists for each.

2. Methodology

Sampling and Respondent Demographics

Testing took place in State 4 in April, 2010. We conducted a total of 15 interviews at 15 different hospitals. Sixteen interviews were originally scheduled, but one person cancelled.

Respondents were selected with a purposive sample in mind. The goal of a purposive sample is *not* to obtain a statistically representative sample. Instead, respondents were chosen who are responsible for obtaining the information required for completing the Facility Worksheet and for transmitting the information to the EBC.² Additionally, respondents were required to have been doing this job for six months or more.

Table 1 provides a breakdown of some respondent characteristics in a comparison by state. The overall pattern among states, including State 4, is that birth clerks tend to be over 40 years old and have a high school diploma as their highest degree attained.

Table 1: Demographic summary of respondents by state

	<u>State 4 Total</u> (N=15)	<u>State 3 Total</u> (N=15)	<u>State 2 Total</u> (N=11)	<u>State 1 Total</u> (N=14)
<u>Respondent Age</u>				
Under 40	2 (13%)	4 (27%)	2 (18%)	5 (36%)
40 and Over	13 (87%)	11 (73%)	9 (82%)	9 (64%)
<u>Highest Degree Attained</u>				
HS Diploma	12 (80%)	11 (73%)	6 (55%)	12 (86%)
Associate's degree	1 (7%)	2 (13%)	3 (27%)	2 (14%)
Bachelor's degree or higher	2 (13%)	2 (13%)	2 (18%)	0 (0%)

Respondents were recruited through their workplace. A flyer was placed in various hospital newsletters and a letter of invitation was sent to hospital personnel to identify the birth clerks and request their participation in the study. Prior to participation, respondents were screened over the telephone in order to confirm that they met the criteria for inclusion.

At the time of the interview, respondents filled out paperwork whereby they agreed to the interview being audio-taped. The interviewer then explained the purpose of NCHS, described the study, and told respondents the manner in which the interview would be conducted. After these introductory remarks, the interviewer asked about the process by which the birth certificate form is completed in each respondent's hospital, including the respondent's role in this process.

² Although many job titles exist for this occupation, this report will heretofore refer to respondents as "birth clerks" for ease of reference.

This was followed by item-specific probes designed to reveal respondents' interpretation of the item, the source of information for the item, and the ease with which they acquire the information necessary to complete it. Interviews were designed to last 60 minutes and a \$75 token of appreciation was given to respondents at the conclusion of the interview. Because it was necessary to speak specifically and exclusively with personnel responsible for completing the birth certificate form (i.e., birth clerks), remuneration was higher than the standard rate of \$40.

Data Collection

Cognitive interviewing, as a qualitative methodology, offers the ability to understand the interpretive process respondents go through in order to complete the Facility Worksheet form. It is a method that allows the researcher to collect detailed information on how the form is being completed from start to finish, and on respondents' understandings of their role in the process. Interviews usually began with a discussion of how the form is supposed to be completed in their hospital, followed by an explanation of how the form actually *is* filled out. Respondents were prompted to discuss any problems they encounter in completing the form and how they resolve these problems.

Additionally, the method allows the researcher to uncover respondents' interpretations of items on the form. This is important to the extent that their interpretation of the item shapes the type of information they seek to collect, where they get this information, and how they decide to record the information on the form. In the second part of the interview, the interviewer and respondent discussed specific items on the Facility Worksheet. The interviewer probed respondents for their understanding of what the item was asking, where they get the information for this item, and any problems they have in tracking this information down.

Finally, respondents were asked whether they had a copy of the guidebook (*Guide to Completing the Facility Worksheets for the Certificate of Live Birth and Report of Fetal Death*), what they do if they have questions in relation to the worksheets, and whether or not they received any training for their job.

Method of Analysis

Data analysis proceeded according to the grounded theory approach which does *not* aim to test existing hypotheses, but instead generates explanations of how respondents complete the birth certificate form. The goal is to produce explanations that are closely tied to the empirical data. The process of analysis is a constant comparison of data in several steps. The first step occurs within the interview as the interviewer attempts to understand how one respondent has come to understand, process and then fill out an item on the form. The second step in analysis occurs once the interview is over, and is a systematic comparison *across* all State 4 interviews. This level of comparative analysis reveals patterns in the way birth clerks complete the worksheet.

3. Results

General Findings

The birth certificate worksheet

A copy of the worksheet used in State 4 was taken to each interview as a point of reference for both the interviewer and the respondent. While hospitals use slight variations of this worksheet to suit their own needs, most are very similar to the version we had, and all respondents recognized the items. Pages two and three of the worksheet contains the items of specific interest to this study. Table 2 shows the breakdown of each page by the items that were specifically probed during the interviews.

Table 2: Organization of the worksheet by items probed and page number

<u>Page</u>	<u>Items of research interest</u>
Two	44: Previous live births 44a: Now living 47: Date of first prenatal visit 48: Date of last prenatal visit 49: Prenatal visits (total) 50: Date last normal menses began 51: Obstetric estimate of gestation 56: Is infant being breastfed at discharge 58: Principle source of payment
Three	64: Medical risk factors 64.7: pregnancy resulted from infertility treatment 64.8: mother had a previous cesarean 65: Method of delivery 65.1: forceps attempted 65.2: vacuum extraction attempted 65.4: if cesarean, was trial of labor attempted 66: Obstetrical procedures 67: Onset of labor 68: Characteristics of labor and delivery 68.3: non-vertex presentation 68.4: steroids for fetal lung maturation 69: Maternal morbidity 70: Infections present and/or treated 71: Abnormal conditions of newborn 70.3: NICU admission 70.4: newborn given surfactant replacement therapy 70.5: antibiotics received by newborn for suspected neonatal sepsis 70.7: significant birth injury

Responsibility for completing the birth certificate worksheet: Three patterns

Three basic patterns of collecting information for the birth certificate worksheet were observed in State 4. By far the most common pattern (n=10) was one where someone other than the birth clerk has primary responsibility for completing the birth certificate worksheet (refer to Table 2 for specific items by page). In 9 cases, page two of the worksheet (containing pregnancy history items) is given to the mother to fill out and page three (comprised of other medical and health information) is given to the nurses (or doctors). In one case both pages are given to the nursing staff to complete. Once they have been filled out by their respective parties, the worksheets are forwarded to the birth clerk who is then responsible for entering the data into the EBC.

A second, less common, pattern (n=3) is one where the birth clerk fills out a portion of the birth certificate worksheet, but not the whole worksheet. In two cases, the birth clerk has responsibility for collecting the information on page two and the nurses (or doctors) have responsibility for page three. In one case the birth clerk completes page three and the mother completes page two.

In the final pattern, the birth clerk completes the entire worksheet, including pages two and three. However, this occurred in only two cases.

In all 15 cases, the birth clerk is the person who enters information from the worksheets into the state EBC.

The occurrence of missing information

An important finding is that the method for completing the worksheets, as described above, is not always how the information gets collected. This is due to missing data. To summarize, birth clerks have several ways of obtaining information they need for the EBC. They either obtain worksheets with the information they need directly from nurses and/or mothers *or* they collect the information themselves (to record on the worksheet). In both scenarios information can be missing.

Worksheets from nurses and mothers: Birth clerks rely on mothers and nurses to fill out some or all of the worksheets in 13 of the 15 hospitals studied. (In two hospitals, the birth clerk is solely responsible for completing all items on the worksheets.) However, all birth clerks reported that the worksheets given to them by the mothers or nurses are missing data at least some of the time. When asked how often they receive incomplete worksheets, estimates ranged from 5% to 80% of the time to “everyday”.

When information is missing, all respondents attempt to find at least some of the missing information. The sources they use include the mother’s medical chart (including the prenatal record), mother, and nurses. In 11 cases, mothers are given page two to complete. When items are left blank, all birth clerks said they use the prenatal records to find information missing on the worksheet. However, two said they ask the mother first, and if she does not remember, then the birth clerk will check the prenatal record. In 12 cases the nurses are responsible for completing page three. When information is missing, six birth clerks use the mother’s chart to

obtain the missing information, four ask a nurse (and do not use medical charts), one uses and medical chart and/or asks a nurse, and one reported leaving all missing items on page three as missing.

Worksheets completed by birth clerks: Missing data is possible not only when nurses or mothers fill out a worksheet. When the birth clerk is the person responsible for filling out the worksheet, the sources that she uses can also be missing data. This is especially true for the prenatal record in the mother's medical chart, a primary source for page two of the worksheet. As a result, birth clerks must make decisions about how to deal with missing data on the worksheet *and* in the medical records.

Problems faced by birth clerks

Difficulties associated with the medical records: All respondents use medical records to complete the birth certificate worksheets, regardless of whether it is their primary responsibility to do so, or whether they fill in worksheets left incomplete by nurses and/or mothers. In so doing, they may find that the medical records (i.e., the mother's chart, including the prenatal record) either contain insufficient detail for their needs or are not straightforward to decipher.³

- 1) Problems with prenatal records: Missing and/or Not up-to-date
Birth clerks find that prenatal records are often not complete. The items most likely to be missing are 48 (date of last prenatal care) and 49 (prenatal visits-total). Largely this is due to the prenatal records being sent to the hospital prior to prenatal care ending. Other items can be missing as well, such as 50, date of last normal menses. Most respondents reported that prenatal records are incomplete because they arrive at the hospital before prenatal care ends.

Additionally, prenatal records can be missing altogether. Eight respondents said this is sometimes the case, but they did not report it as a pervasive problem. When asked how often prenatal records are missing, estimates ranged from 2% of the time to 10% of the time. One respondent said that it is more problematic with mothers who have seen an OB who is not affiliated with the hospital – which she suggested is about 40% of their patients. Another respondent reported that missing prenats are more common among Hispanic mothers who use one particular OB group. Even when she receives the prenatal records from this office, they are difficult to understand because of translation issues. She explains that these records are not very “user friendly” and that she often cannot make “heads or tails” of them. She estimated this to be around 40% of their patients.

- 2) Problems with mothers' medical chart (not the prenatal record)
 - a. Confusing information
Items on page three (that consist largely of other medical and health information) are sometimes difficult for birth clerks to answer using the medical charts. Five respondents said some of the items can be confusing, such as 65 (vacuum, trial of

³ The following discussion is an overview of general patterns found in the data. See the item-by-item section for an individualized analysis of each item in Table 2.

labor), 66 (cerclage), 67 (prolonged labor), 68 (non-vertex presentation, steroids), and 71 (abnormal conditions of newborn).

One respondent said that she has to find item 65 (vacuum extraction) on the EMR delivery record. She has to figure it out by looking at several things. For example, spontaneous delivery might be listed along with vacuum extraction, and that's how she knows the vacuum was successful. Another respondent illustrated the same point with a different example. For item 66 (cervical cerclage) the medical chart might say "cerclage removed" and that's how she knows that the mother had it to begin with. Additionally, the chart might say that the mother had a vaginal delivery, and that's how the respondent knows that the external cephalic version was successful – it is not directly stated as "successful". This birth clerk also mentioned that item 67 (onset of labor) can be confusing. She can't always answer the question on prolonged labor because "it's not charted well" to the extent that the times are missing. If it does not specifically say 12 or more hours on the chart, the respondent will leave the item blank. She said that the chart is much more thorough about documenting details for precipitous labor than it is for prolonged labor.

Another respondent said she is often confused by 68 (characteristics of labor & delivery). In her mind non-vertex presentation is the same as breech in item 65, and she's not sure why the same information would be in two places. As a result, if she sees that breech was checked in item 65 and the nurses have NOT checked non-vertex presentation, she will check the non-vertex box to ensure consistency in the form. Another respondent offered the same opinion of these two items and said she was confused about them. She said she knows it's non-vertex "if they are breech", but she has never seen the words "non-vertex presentation" in the charts. She said, "It's kind of vague. It's never recorded as 'non-vertex', so I don't know what qualifies." She reasons that if it truly were the same thing as breech, why would they have it listed twice on the worksheet? A third respondent expressed the same confusion. An additional problem she noted is for mothers who delivered prematurely. In those cases this information is not charted well.

Finally, one respondent reported confusion over item 71 (abnormal conditions of the newborn). Specifically, she remarked that #4 (surfactant) is unclear in the charts. She has never marked that item, but reasons that it probably has happened. She said it's just not stated clearly in the charts and she might not know what to look for or where. The same is true of #5 (antibiotics). The respondent has never checked this either. She assumes this is because it is listed under the actual drug name, so the language she sees on the worksheet doesn't match what she sees on the chart. As a result, things get missed. On this item in general she suggests that "the language is at a higher level than what the unit secretary would be looking for." [Note: the "unit secretary" is the title used for birth clerks in this hospital.]

b. Information not easy to find (leading to false negatives)

The previous example suggests an additional (but related) difficulty faced by the birth clerks. When terms are unclear or information is hard to find on (or missing from) the charts, false negatives are possible. In other words, there is a higher likelihood that birth clerks will miss the information and leave an item blank on the form when it should have been checked. This was, in fact, suggested by several respondents.

One birth clerk reported that infertility information (item 64) is “never indicated” on the chart. She explained that if infertility treatment is part of the mother’s history, then it would be documented during the admission interview (and, thus, noted in her chart). But the respondent strongly suspects that this information is sometimes missed in the admission interview. She suspects this because she sees many older mothers. It seems logical that at least some of them would have received infertility treatment, and yet it rarely indicates this on their chart.

One respondent used steroids as an example (item 69). She said this information would be in the chart, but it would not be listed as steroids – it would have the name of the drug instead. The problem is that she might not know what drugs fall into this category. About this item she said, “This is hard to find. Or not always clear. This is no easy place to find it.” She summed it up by saying that they are a high-risk hospital, and this leads her to believe that “some of these things must be happening” but she just can’t tell.

Another respondent used STD’s (item 70) as an example of information that can be missed. She reported that HPV and HIV are “right there and obvious” on the charts, but that “others are deeper in the record.” Her hypothesis is that the conditions that are harder to treat are in the initial summary, so she can easily catch them. But she believes that she does not always “catch the more mundane ones” that are easily treatable. She would have to search for them and doesn’t have time to do so. As a result, she suspects a certain level of false negatives on this item.

The same sentiment was expressed by another respondent who cited six items on page three that likely suffer from false negatives because they are not easy to find in the medical charts. She mentioned diabetes and infertility treatment as examples of information that is not easily obtained in the charts and admits that she “probably doesn’t catch everything.” (She said the same of items 66 through 70.)

c. Incomplete information

Finally, some birth clerks expressed the idea that the medical charts do not always have all the information they need to completely and accurately fill out the worksheets. As mentioned earlier, details such as times for labor (needed for item 67), number of previous cesareans (item 64), and reasons for taking steroids or antibiotics (items 68 and 70) are reported as sometimes missing in the charts.

3) Problem resolution strategies

a. Obtain missing prenatal records

Of the eight respondents who reported that prenatal records are late or missing, almost all (5) said they will call the OB office to get the most current version sent to the hospital. Those who do not call for the records find it easier to ask the mother for this information.

b. Ask the mother or a nurse

In addition to asking mothers for information related to prenatal care when the prenatal records are missing or incomplete, birth clerks (n=7) will also ask mothers or nurses for information that is missing or difficult to find on other parts of the medical charts. Who they ask depends on the item. They are more likely to ask mothers about information related to items on page two of the worksheet and ask nurses for items on page three.

Some birth clerks ask mothers or nurses first, but others consult the medical charts first. For example, one respondent said she always starts with the charts and fills out what she can on the worksheets. Then she interviews the mothers for clarification and for information that she could not obtain from the charts. She said the most time consuming items are on page two. This is because she either has to “dig for it” in the charts or estimate a value, especially for total number of prenatal visits (item 49). However, she also mentioned that other birth clerks do it differently – some start by interviewing the mothers first, and then using the medical charts to fill in what the mother did not know or remember.

c. Estimate a value

When information in the charts is confusing, incomplete, or missing, birth clerks will sometimes piece together an answer based on other information.

Last normal menses (item 50) is a good example. Five respondents said that this is frequently missing from the prenatal record and in those cases they will use “the wheel” to figure back from the mother’s delivery date. All realize this is just an estimate, but judge it to be fairly accurate.

Total number of prenatal visit is also often missing from the prenatal records. Some respondents estimate when the last visit occurred because, as one respondent explained, if she were to ask the mother, “No one ever says, ‘I’ve been to the doctor 15 times.’” So she simply asks the mother if she went to the doctor once a month, once a week, etc., and then does the math from there. One respondent explained, “If we have a mom who’s last office visit was the 10th of April and she delivered today, and she was supposed to come back every week and it looks like she was diligent, I’ll go to the calendar and add a date.” Another respondent has the same approach. She said coming up with the total number of visits “is not an exact science...we have a formula.” When asked what the formula is, she replied that if she knows the date of the first prenatal visit, and

knows that she had a “normal pregnancy” (meaning 40 weeks gestation), and knows that the mother went to all her appointments (which she knows from asking the mother), then this means that the mother had a total number of 13 prenatal visits. However, the respondent said that it gets more difficult if the mother had a complicated pregnancy, which is common because they are a high-risk hospital. This means the mother had more visits, and this has to be factored into the formula. For example, it is common for high-risk pregnancies to have stress tests done on the baby, which they do once a week for the last 4-5 weeks of the pregnancy. If the respondent knows that the baby had stress tests done, she will add 5 visits to the normal number of 13 for item 49.

Another good example is trial of labor (item 65). This information is not directly stated in the medical charts, and it can be confusing. One respondent reports that she can figure this out several ways. If she sees that a mother had a previous cesarean, then the respondent knows that no trial of labor was attempted. She can also tell by the length of the delivery period. Or she may see that the mother dilated to 7 or 8 cm, but then stopped and ended up having a cesarean. The respondent knows this was a trial of labor. Another respondent said she knows whether a trial of labor was attempted by knowing what words to look for. The delivery record may say “induction”. She explained that doctors only do this if they try to deliver a baby vaginally first. Or the delivery record might say that the mother arrived at the hospital already in labor – then the respondent knows that a trial of labor was attempted. A third respondent also looks for the chart to say that the mother was “pushing.” Conversely, if she sees that the mother was scheduled for a cesarean, she knows that no trial of labor was attempted. In sum, there are a number of ways that birth clerks determine whether a trial of labor was attempted because the medical charts never directly state “trial of labor was attempted”.

Short on time: Five respondents mentioned that the state has given them a 5-day deadline to submit birth certificate information and that this can be a challenge. The deadline is difficult in two ways. First, it is more difficult in relation to the information they have to send in hard copy to the state. Two respondents said it was not problematic for submitting on-line information, but a 5-day deadline is hard to meet for documents they must send by regular mail.

A second problem occurs when it is mothers who fill out a portion of the worksheet. As one respondent put it, “You have to make sure to stay on top of things.” They try to get mothers to fill out their portion of the worksheets within 12 to 24 hours after the delivery – in other words, before they leave the hospital.

Use of guidebook/Question resolution

None of the 15 respondents have or are aware of the NVSS *Guide to Completing the Facility Worksheets for the Certificate of Live Birth and Report of Fetal Death*. Some do have guidebooks, but they seem to have been provided by their own hospital or, perhaps, the state.

When they have questions about filling out the birth certificate worksheets, all respondents said they call the state for answers. Most said these calls were related to odd or unusual cases surrounding paternity, questions about still births, or questions about how to use the computer. No one reported calling the state about questions related to page two or three of the worksheet. When asked about these items, one respondent said she only calls with questions on page one, “not the statistical stuff because the majority of stuff I can figure out.” Expressing a similar perspective, another respondent said, “by the time you are to this portion of it [i.e., pages two and three], it’s pretty cut and dry.”

Some respondents indicated interest in having such a guidebook, but others did not. For example, one respondent said, “I feel as though I don’t need it. I’ve been doing this a long time.” She adds, “You waste too much time trying to look through a guidebook.” Another respondent said she was instructed by the state to call them with questions. She said the state budget doesn’t allow them to produce a guidebook to distribute – and that she wouldn’t use it anyway.

Training

When asked about training, most respondents (10) said they were trained by their predecessor. Fourteen respondents mentioned a training session sponsored by the state. Nine have been to this training, but three hospitals sent a co-worker, not the respondent. Three have not been to the training. Of those three, two would be interested (although one said her boss wasn’t willing to send her) and one was not aware of any state training. When asked if she would be interested, she replied “no” explaining that the birth certificate worksheet is “self explanatory anyway.”

Electronic Medical Records (EMR’s)

Four hospitals in the study use electronic medical records. None of the systems automatically populate fields in the EBC, so in many ways the EMR’s function no differently from paper medical records. However, two respondents did say that the EMR made it easier to extract information for the birth certificate worksheets. This seems true when the EMR has been designed with the birth certificate information in mind. For example, one respondent reported that even though the delivering doctors are supposed to fill out page three of the worksheet, she can do it when they leave it blank because the EMR is easy to read. The hospital has a programmer that can add or alter fields in the EMR to match its organization to the worksheet. Another respondent said that the EMR makes her job easier (it’s her primary responsibility to extract information for both pages 2 and 3 of the worksheet) because she no longer has to decipher doctors’ handwriting on paper records. Additionally, she used to interview the mothers for information on page 2, but now finds it much easier to reference the EMR instead.

Item-by-Item Analysis of the Worksheet Used in State 4

This section presents an item-by-item analysis of the worksheet for birth registration. A copy of the worksheet was used in each interview to guide the discussion for specific information. Data were not collected for all items on the worksheet, only for items of research interest as outlined in Table 2.

Items on Page 2: (Pregnancy history items)

Overall, 10 mothers, one nurse, and four birth clerks have primary responsibility for completing page two of the worksheet. However, recall that even when mothers or nurses are tasked with completing page two, all birth clerks will attempt to complete items that are left blank on this page.

44: Previous live births & 44a: Number now living

In the 10 cases where mothers are responsible for these items, respondents reported that they have confusion over how to answer. Seven birth clerks said that mothers tend to include the current baby in this number. As a result, the birth clerks routinely check this item and correct it if necessary (using the prenatal record).

47: Date of first prenatal visit

In 10 cases mothers are responsible for this section (i.e., completing page 2). Six respondents reported that mothers have difficulty with this item because the date is hard to remember. As a result, it tends to be left blank. Most birth clerks reference the prenatal record when this happens. However, a couple respondents either do not refer to the prenatal record, or find it missing from the hospital. Two respondents reporting having to estimate a value for this. For example, one person said she can estimate based on when the mother's last menstrual cycle was.

48: Date of last prenatal visit

Many birth clerks (10) mentioned this as a difficult item. If mothers fill out page two, they sometimes leave it blank. If birth clerks are responsible for page two, they find that this date can be missing from the prenatal records. One respondent said that this date is never in the prenatal record because the record is sent too early to the hospital. Standard procedure is for the hospital to receive the prenatal record three weeks before delivery, so the respondent said she has to estimate the date. Another respondent mentioned that for the same reasons, she has to estimate too. When asked how she estimates, she said "If we have a mom who's last office visit was the 10th of April and she delivered today, and she was supposed to come back every week and it looks like she was diligent, I'll go to the calendar and add a date."

Another respondent reported a similar difficulty in relying on the prenatal records, adding that over the weekend she cannot obtain a copy of the prenatal record because OB offices are closed. She said she cannot afford to wait until Monday to call for the records because the goal of the hospital is to have the worksheets done within 24 hours of a delivery in order to meet the 5-day deadline by mail.

49: Prenatal visits (total)

This item was identified as a problematic item by nine respondents, largely because of its relation to the previous item. In other words, it is commonly missing from the prenatal records

and mothers do not remember. Some respondents estimate when the last visit occurred because, as one respondent explained, if she were to ask the mother, “No one ever says, ‘I’ve been to the doctor 15 times.’” So she simply asks the mother if she went to the doctor once a month, once a week, etc., and then does the math from there. One respondent explained how she overcomes this problem: “If we have a mom who’s last office visit was the 10th of April and she delivered today, and she was supposed to come back every week and it looks like she was diligent, I’ll go to the calendar and add a date.” Another respondent has the same approach. She said coming up with the total number of visits “is not an exact science...we have a formula.” When asked what the formula is, she replied that if she knows the date of the first prenatal visit, and knows that she had a “normal pregnancy” (meaning 40 weeks gestation), and knows that the mother went to all her appointments (which she knows from asking the mother), then this means that the mother had a total number of 13 prenatal visits. However, the respondent said that it gets more difficult if the mother had a complicated pregnancy, which is common because they are a high-risk hospital. This means the mother had more visits, so that has to be factored into the formula. For example, it is common for high-risk pregnancies to have stress tests done on the baby, which they do once a week for the last 4-5 weeks of the pregnancy. If the respondent knows that the baby had stress tests done, she will add 5 visits to the normal number of 13 for item 49.

50: Date last normal menses began

In 11 cases respondents said this item can be missing. Either mothers leave it blank on the form or it’s missing from the prenatal record. Six respondents said that when this happens they estimate a value. Four estimate a date by using “the wheel”. Others may ask the mother. If the mother doesn’t remember the full date, they may get a partial date (only a month or year). For example, one respondent said it is easy to estimate if the pregnancy went full term. In that case she can get a month and a year. Additionally, if the mother remembers that it was between the 13th and the 15th of the month, the birth clerk will record the 14th as the day. But if the mothers only remembers that it was in August, she will not put the 15th as the day, she would record a 99 for missing.

51: Obstetric estimate of gestation

In 10 cases the mothers fill this out, and six respondents said there are times when mothers leave it blank. When this happens, the birth clerk checks either the baby’s chart or the mother’s chart to find the answer. No specific problems in using the charts were noted by the respondents. A couple said when the charts give weeks and days, they round down to the closest week.

56: Is infant being breastfed at discharge

When mothers are responsible for this item, they sometimes leave it blank. Six respondents said they will check the charts (baby’s or mother’s) to find the answer, but some find it easier to go back and ask the mother.

A few respondents said it’s not entirely clear what counts as “breastfeeding at discharge”. Three mentioned that it is a little confusing to answer when mothers are both breastfeeding and using a bottle. They aren’t sure if the intent is that the baby is receiving 100% breast milk. All three

have decided to answer “yes” to this question when the mother is doing both. Another person was uncertain if pumping should be counted as a “yes”, but she has decided that it does.

Finally two respondents said the words “at discharge” can be confusing. For example, one person commented that this item is especially difficult for her because she works in a high-risk hospital. This means that many babies end up in the NICU and stay in the hospital longer than normal. So when filling out the worksheet, the mother has no idea whether or not she will be breastfeeding at discharge. The respondent has decided to ask her, “Is it your intention to breastfeed?” and supply that as the answer. Another respondent expressed a similar difficulty. She said that when the worksheet is being filled out, mothers might not know if they will be breastfeeding by the time they leave the hospital. But because the birth clerk has to send the information to the state “as quickly as possible,” she doesn’t have time to record what was happening when the mother is actually discharged.

58: Principle source of payment

Some difficulties with this item were expressed by birth clerks. Mothers are often asked to complete this information and some do not like to provide it. One respondent said, “They think it’s just government wanting to know a bunch of information.” Another said it is difficult to get mothers to fill out this item because they don’t think it is anyone’s business.

Other problems relate to confusion over definitions of Medicaid and “other government”. Some mothers will mark “other government” because they do not realize that their plan is a form of Medicaid (Medicaid goes by several names in State 4, as it does in most states). In fact, one birth clerk herself also records these individual names as “other government”. Another respondent admitted that she is not sure which government-sponsored health plans are technically Medicaid, so she marks “other government” as well. One respondent adds that military mothers are sometimes confused about how to classify their plans, and mark them as “other government” instead of CHAMPUS/TRICARE.

Other respondents are confused about how to classify mothers who come into the hospital as “self pay” (they have no health insurance), but leave with Medicaid (because the hospital helps them complete the paperwork). One respondent used to put “other government” but got a call from the state asking her to record it as “Medicaid.” Two other respondents have the same experience, but mark “other government” because one doesn’t know if the mother qualified by the time she leaves the hospital and, similarly, the other said she “can’t wait around and see” if the mother actually receives Medicaid. Another respondent chooses to mark “self pay” when the mother enters the hospital with no insurance. Even if she leaves with Medicaid, the birth clerk interprets this item as asking what the mother had upon admittance to the hospital.

Items on Page 3: (Other medical and health information)

Three birth clerks, 12 clinicians (four doctors and eight nurses), and no mothers are given responsibility for completing page three of the worksheet. Many birth clerks will attempt to complete items left blank by clinicians, but five said they leave it blank because they either lack

expertise, have been told that clinicians *must* complete this page, or they simply do not have time to check it.

64: Medical risk factors (64.7: pregnancy resulted from infertility treatment & 64.8: mother had a previous cesarean)

In the majority of cases a clinician (eight nurses and four doctors) complete this item. In four of these cases, birth clerks said the worksheet is filled out adequately and there are no problems with this page in general.

Eight respondents said that this item can be left blank by the clinician. Three of those respondents will ask the clinician to fill it out. Five will attempt to complete it themselves, and four expressed no difficulty in finding this information in the mother's medical chart. One did express some difficulty. She said that sometimes she "only knows these things through word-of-mouth." Specifically she suggested that she only knows about the diabetes item and infertility treatment if she hears the nurses talking about it. Mostly this is because she does not have time to sit and go through the entire chart. The respondent said she will use the medical chart to find this information, but only if it's obvious. She will not review all parts of the medical record.

In three cases the birth clerk is responsible for completing this item. Two said they had no problem finding this information in the mother's chart. One respondent reported that this item can pose some difficulty. For example, she never sees information in the chart about infertility treatments. She reasons that this must be an oversight, especially when she sees lots of older moms. She figures at least some of them have received infertility treatment, but she will not ask the mother because she deems it too personal. Further, she said that previous cesareans are always on the chart, but the number of previous cesareans might be missing – she estimated this to be the case about 33% of the time. If this information is missing, the respondent may estimate the number based on other information. If, for example, the mother has only one other child, the respondent knows that the mother had only one previous cesarean. But if the mother has more than one previous child, the respondent will ask the mother how many cesareans she's had because it doesn't seem as personal (as questions about infertility treatment).

65: Method of delivery (65.1: forceps attempted, 65.2: vacuum extraction attempted & 65.4: if cesarean, was trial of labor attempted)

In 12 cases, clinicians are responsible for this item. Five respondents reported that the nurses generally complete this item without fail. Seven said that it can be missing. One respondent said that she'll simply ask the nurses to finish it if they missed this item. The other six said they will attempt to finish it themselves, and four of those six said they had no problem doing so. However, two encounter some difficulties in trying to complete this item. One birth clerk said it is not easy to determine if a trial of labor was attempted. The other respondent determines trial of labor by looking for certain words in the chart. For example, if she sees "failure to progress" or "intolerance to labor" then she knows that a trial of labor was attempted. She also has to look for certain words associated with vacuum extraction to know whether it was unsuccessful. If she sees spontaneous delivery listed along with vacuum, then she knows the vacuum extraction was not successful.

In three cases the birth clerk is responsible for this item. All three reported some issues in completing it. Most of these issues relate to being able to understand the charts, and most respondents seem to have developed a system for doing this. One respondent said that trial of labor is not easy to see, and that she has to look for other things. For example, if she sees that the mother had a previous cesarean, then she knows that no trial of labor was attempted. If it was attempted, the respondent said that she can tell by reading how long the mother was in labor. The chart might also indicate that the mother progressed to 7 or 8 cm, but then had a cesarean. In this situation the respondent knows to mark that a trial of labor was attempted. Another respondent also said she has to look for certain words. She said the delivery record will say something like “induction” and that’s when the respondent knows that a trial of labor was attempted. Doctors only do this if they try to deliver the baby vaginally. Or the record may show that the mother arrived at the hospital already in labor. This is another case where the respondent can tell that a trial of labor was attempted.

66: Obstetrical procedures

Of the 12 cases where the clinician completes this item, six respondents said that it is always filled out. One said it can be blank, but she leaves it as blank because it’s too difficult to find in the chart. Two respondents said they will call the nurses when it’s blank; they will not attempt to complete it themselves. Three other respondents also said it can be left blank by the clinician, but that they do attempt to find the information – and report no trouble doing so.

Three birth clerks are responsible for completing this item. One reports no difficulty doing so, but noted that she almost never sees anything in the record related to this item. Another respondent also said she almost never marks it because she will not search the charts for the information. The last respondent said she does search the chart for this information and has learned to look for certain things. She said the record might say “cerclage removed” and that’s how she knows the mother had it to begin with. She also said that if the mother had a vaginal delivery, then it means that the external cephalic version was successful – but the chart will not specifically say this. It seems as though false negative are possible when birth clerks complete this item because the information is not obvious or directly stated in the charts.

67: Onset of labor

Of the 12 cases where the clinician completes this item, 9 respondents said it is always filled out. One said it can be left blank, but that she leaves it as blank. Two who said it can be blank will call the nurses to fill it out – they will not do it themselves.

Three respondents have responsibility for this item. Two reported no trouble finding it in the medical charts. However, one person did say that details can be missing, such as the number of hours in labor. If it doesn’t specifically say 12 hours or more, the respondent will record it as unknown. She said the chart is more accurate about providing details for precipitous labor than for prolonged labor.

68: Characteristics of labor and delivery (68.3: non-vertex presentation, 68.4: steroids for fetal lung maturation)

Of the 12 cases where clinicians are responsible for this item, four respondents reported that it is always completed. Eight said it can be left blank. Of those eight, three will ask the clinician for the information. Two will find the information themselves and report not problem doing so – it is easy to get this from the mother’s chart. Three others who attempt to complete the item themselves have some difficulty with it. One person said that non-vertex and breech are the same thing, so she’s not sure why it’s on the worksheet in two places. Nevertheless, if she sees that breech was checked in item 65 and the nurses have not checked non-vertex here, the respondent will check non-vertex to make sure the form is consistent. Two other respondents said the information related to use of steroids is not straightforward. One explains that she will not know if steroids are used unless she looks through the entire chart. She doesn’t have the time to do this and leaves it blank. Another respondent expressed the same idea – that knowing whether and why steroids were used is not a simple process.

Three respondents are responsible for this item, and two expressed some difficulty with it. Similar to problems discussed above, one explained that it’s a bit confusing that breech and non-vertex are the same thing. She said that information for this item “is not charted well”, so she often asks the mother for details. The other also expressed confusion over breech and non-vertex. She said she has never seen the word “non-vertex” in the charts. She sums it up by saying, “It’s kind of vague. It’s never in the record as ‘non-vertex’, so I don’t know what qualifies.” She also reported that although the use of steroids is in the charts, it is not listed generically as steroids. Rather, it is listed by the drug name, and she said she does not know the name of all the drugs that fall under this category. She said, “This is hard to find. Or it’s not always clear. There is no easy place to find it.” One person expressed no difficulty with this item, but she also admitted that she has never seen non-vertex presentation or use of steroids in the charts. As a result, she has never marked this item. This suggests the possibility of false negatives for reasons expressed by other respondents; that is, the information is not readily apparent or easy to find.

69: Maternal morbidity

Of the 12 cases where clinicians complete this item, six respondents said it is always filled out. The other six said it can be blank. If this is the case, two will ask a nurse to finish it and three will attempt to do it themselves. They said they had no trouble doing so because complications are obvious in the charts. However, one birth clerk who attempts to complete the item herself did identify an issue. She said she does not know much about this item. She said if an unplanned hysterectomy occurred, she would know because it was an emergency. However, she said she would only know if she was working on that day. If she was not working, she would not know and would miss it. There are some false negatives here because she said she does not “actively look” for this item in the charts.

Three birth clerks are directly responsible for this item. Two said they have no problem completing it, but one admitted that she doesn’t see it often. Similarly, the other respondent said she doesn’t specifically search for these things, assuming that, because they are complications,

they would be obvious in the record. If it's not obvious, she doesn't go looking. The third respondent stated that there are likely false negatives on this item. She believes there are some things she just wouldn't know about. For sub-item 4 she said a hysterectomy at this stage "is almost always unplanned" so if she sees the word hysterectomy in the chart, she marks this item on the worksheet (the chart does not specifically say "unplanned hysterectomy").

70: Infections present and/or treated

Twelve clinicians are responsible for this item, and four respondents reported that they always complete it. Eight said it can be blank. Four will ask the clinician for the information, but one person leaves it blank and records it as 'none of the above.' Three respondents fill it out themselves when it is blank and report no trouble doing so because the information is easy to see in the medical charts.

Three respondents have responsibility for this item, and one said the information is obvious in the charts. However, two respondents said the details can be difficult to decipher. One respondent said she cannot tell if the infection is present during this pregnancy or not. So she only marks it if the chart specifies a date of infection (so she knows to associate it with this pregnancy). The other respondent expressed a similar sentiment. She said HPV and HIV are "right there and obvious". However, others are "deeper in the record." She believes that the ones that are hardest to treat will be in the initial summary, so they are easiest to catch. But she would not necessarily catch "the more mundane ones" that are easily treatable. She would have to search for them and doesn't have time to do so. She suspects a certain number of false negatives on this item.

71: Abnormal conditions of newborn (70.3: NICU admission, 70.4: newborn given surfactant replacement therapy, 70.5: antibiotics received by newborn for suspected neonatal sepsis & 70.7: significant birth injury)

In 12 cases the clinician is responsible for this item. Seven respondents said the nurses/doctors always fill it out. Four said the item can be left blank, and if it is, they will ask the clinician for the information. One said she will fill it out herself because the information is easy to find in the baby's chart.

Three birth clerks have responsibility for this item. One said she has no difficulties with it, but has only seen sub-item 5 (antibiotics) listed in the charts. The fact that she has never seen the others suggests the possibility of false negatives. Two other respondents also expressed thoughts that suggest a certain amount of false negatives.

For example, one reported that she cannot tell from the delivery record whether ventilation was used for more than six hours. She only knows if the baby received it immediately. She further explained that "the charts are lax on surfactant," meaning that it won't be indicated and is not charted well. She believes she should follow up and ask the mothers, but does not have the time. There are too many births she's dealing with and "doesn't have time to do this kind of research on one case." She argued, "We can't put down what isn't there." Another respondent discusses similar concerns. She said it is easy to see if the baby was admitted to the NICU. However, she

said sub-item 4 (surfactant) is unclear. She's never marked it, but suspects it has happened. She said it's not stated this way in the charts and she might not know what to look for. The same is true for sub-item 5 (antibiotics). She has never seen this. She figures it must be listed under the drug name, so that the language on the worksheet doesn't match what she would see in the record. On the other hand, even though she has also never marked sub-item 7 (birth injury) she believes she would know if it happened because the baby would be in the NICU and an explanation would be apparent. She summed up this item by saying, "The language is at a higher level than what the unit secretary would be looking for." [Note: the unit secretary is another name for the birth clerk.]