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       Potential Risk Factors in Air Force Women

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Reproductive health outcomes and their potential risk factors have not been previously studied among Active Duty Air Force (ADAF) women. Phase I describes natality and adverse pregnancy outcome rates among women over a 20-year period (1975-1994) by age, race, rank, occupation, marital status, pay grade, geographic region, and Air Force Command. Accurate natality and adverse reproductive outcome rates indicate where improved health care planning are needed. The results provide a framework within which to interpret the reproductive consequences of future Air Force deployments.

Phase II case-control studies evaluate ADAF women from 1990-1998. Causal hypotheses evaluate possible effects of occupational exposures and operational factors on risks of preterm delivery, pregnancy induced hypertension, and spontaneous abortion. The proposed cases (n=1875) and controls (n=1875) are ascertained using the Air Force Medical Support Agency (AFMSA) Standard Inpatient Record. Cases are matched with controls who are selected randomly within 2 months of conception and the Air Force Base assignment. Exposure data recorded prior to pregnancy eliminates potential recall bias.

The results provide: (1) descriptions of natality and adverse reproductive outcome rates from 1975-1994; (2) projected rates stratified by AF Command and geographic region; and (3) two case-control studies examining the etiology of adverse outcomes.

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FOREWORD

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N/A In the conduct of research involving hazardous organisms, the investigator(s) adhered to the CDC-NIH Guide for Biosafety in Microbiological and Biomedical Laboratories.

Diana Echeverria 11/22/99
PI - Signature   Date

TABLE OF CONTENTS

| PROGRESS REPORT SUMMARY | CONTRACT NUMBER: DAMD17-96-C-6103 |
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TITLE OF PROJECT
An Investigation of Reproductive Health Outcomes and Potential Risk Factors in Air Force Women

A. Introduction

Phase I of this two phase study focuses on longitudinal descriptive analyses of natality and pregnancy outcomes among Active Duty Air Force (ADAF) women, from the years 1975 to 1994. Observed rates for normal reproductive outcomes and rates of adverse pregnancy outcomes are compared for the first time across different demographic strata within the US Air Force. The distributions of such rates indicate where interventions in prevention are needed and where improvements in health care planning could reduce adverse rates. The results also provide a framework within which to interpret the reproductive consequences of future deployments as well as the more recent deployment in Desert Storm and Desert Shield. The primary sources of data are the Air Force Medical Support Agency (AFMSA) Standard Inpatient Record and the Armstrong Laboratory Human Resources Directorate historical files.

The descriptive epidemiologic information developed in Phase I is used as a background for Phase II analytic epidemiologic studies which evaluates causal hypotheses regarding the possible effects of Air Force service, among ADAF enlisted women and officers, on risks of preterm delivery, pregnancy induced hypertension, and spontaneous abortion. A case control study among a cohort of ADAF women from 1990 to 1996 examines potential associations between lifestyle and occupational risk factors and these three adverse pregnancy outcomes.

Phase I
Evaluating ADAF women provides a unique opportunity to examine factors influencing natality rates and adverse pregnancy outcomes over time. Unlike civilian studies, ADAF women's natality statistics provide insights into the role of maternal demographics,[1] such as the age at childbirth, race/ethnicity, marital status, income, education, and occupational considerations, eliminating the confounding influence of variable access to health care and income.[2-11] Poor control of these factors complicates the interpretation of civilian-based studies. The structure and quality of AF data is excellent, providing more accurate analyses of demographic and work-related factors. On a practical level, 20-year baseline rates for a range of pregnancy outcomes provide a standard against which, for example, the rate of spontaneous abortions among women deployed at Desert Storm or Desert Shield might be compared. The results not only increase our understanding of the demographics of reproduction among ADAF women, but also assure more successful interventions, health care planning, and ultimately, force readiness.

Natality -- Civilian natality rates vary significantly with age and race.[12] Marital status also affects fertility as rates are higher among unmarried minority women.[13] But it has been demonstrated

1

that much of the reported variations associated with single, nonwhite status are related to financial barriers to care,[14] which is not a problem in the AF. Natality rates are also dramatically reduced by active employment where for example a 2.78-fold decrease in rates was observed for employed women of the same age.[12] However, the effects of marital status, race, income, and access to health care on ADAF women's natality rates are different because they are all employed.

Evidence based on military studies indicates the impact of employment on natality rates--Within the military, natality rates vary with the type of employment. For example, Army women in traditional military occupational specialties (MOS) experience almost double the pregnancy related hospitalization rates compared to women in nontraditional jobs (95 vs 55/1,000 women).[15] In the AF, the rates are comparable (per 1,000) at 87 (for 18-24 year olds), 114 (for 25-29 year olds) and 45 (for 30-44 year olds).[12] Natality rates among ADAF women will be different than those of the general US female population due to recognized differences in social structure, economic background, and more uniform access to health care. For example, national age-specific rates indicate that employment can reduce natality rates from 142 to 67 per 1,000 women for 15-29 year olds. The rates are even further reduced from 73 to 35 for 30 to 44 year olds.[13] As noted above, comparable age-specific rates in the AF are higher. However, such comparisons are not as useful as the comparisons proposed in this study, which focus upon internal strata and longitudinal trends within the AF. This approach better defines the ADAF experience, providing estimates of the impact of both traditional demographic variables and those specific to ADAF.

Within the AF, no studies have examined how natality rates vary with employment. For example, it is not clear whether rates are lower among women employed in administrative white collar jobs, as observed in civilian studies.[16,17] The withdrawal of women from the work force following childbirth may partially explain this effect. Being employed may also result in a history of adverse reproductive events (more stillbirths and spontaneous or induced abortions).[18] On the other hand, women with a history of adverse problems may avoid working for fear of repeated pregnancy problems.[19] We examined such factors using the USAF natality data.

Military studies under-utilize available data-- Previous natality estimates[15,20,21] provide comparisons between the Army and Navy that differ due to differences in computation of rates[21] and incomplete differentiation of rates.[15,20] These studies[15,20] both use hospital accessions to compute pregnancy-related hospitalization rates. The rate per 1,000 women for combined pregnancy-related conditions (ICD9 630-676) was 110 among Army women[15] and ranged between 54 and 71 among Navy women over the chronological years. The difference between the Army and Navy rates most likely reflects attrition, where women leave employment once they became pregnant. Using more comprehensive self-reported survey data to ascertain rates of pregnancy, a third Navy study[21] reported race-specific rates of 82, 97, and 104 per 1,000 women for "Whites," "Blacks," and "Other" races, respectively. These rates approach the overall rate reported in the previous Navy study[15] where, for example, the pregnancy rate among women between the age of 20-24 years old was 110 per 1,000 women. But rates in other age strata were significantly lower. The lowest rate reported was for 35-39 year olds (20/1,000 women) which is probably due to active employment and achieving desired family size.

2

More definite comparisons between these studies cannot be made due to a lack of consistent reporting of important factors such as year, age, race, rank, occupation, income, geographic region, and command. The omissions limit the use of these analyses in health service planning. The Army study did not report race or ethnic differences in pregnancy outcome.[15] The first Navy study also failed to account for race and ethnicity, as well as marital status and income.[20] The second Navy study improved upon the former studies by stratifying pregnancy rates by age, marital status, and race. However, multivariate analyses determining the contribution of these factors was omitted.[21] This study overcame these limitations by presenting more refined analyses that established overall rates of natality,[12,13] and also emphasize internal rates by standard demographic factors as well as military factors such as rank and work assignment across various divisions of the Air Force. The analyses were conducted based on births from 1975 to 1994, covering the time interval of Desert Storm and Desert Shield. Hence the results provide a framework within which to interpret the impact of historical deployments and future deployments including comparisons with between the Army and Navy. To our knowledge, no prior study has taken advantage of the detailed data available in the AF to characterize the natality experience of active duty women.

Active duty status and adverse reproductive outcomes-- The recent deployment of troops in Desert Shield and Desert Storm[22] reemphasizes the importance of documenting the history and frequency of adverse pregnancy experiences over time among ADAF women. Studies have examined the relationship between adverse pregnancy outcomes and race and active duty status, but none have examined changes in rates over a 20-year interval of time, as conducted in this study. An Army study[6] showed that women employed in physically demanding jobs have increased odds of preterm delivery, up to 75 percent greater than women employed in jobs with low physical demand. When compared to military dependent wives, active duty women have been shown to be at increased risk for ectopic pregnancy,[5] pregnancy induced hypertension,[8] pregnancy toxemia, anemia, and preterm labor.[2] Another AF study[3] reported that preeclampsia, perinatal mortality, and low birth weight infants were more frequent among active duty women, but the increase was not statistically significantly compared with the frequency among dependent military wives of similar age who use the same medical care system. Therefore, military jobs were a potential risk factor for adverse reproductive outcomes. In contrast, two other studies have demonstrated that active duty women have fewer preterm births[4] and lower neonatal death rates[7] when compared to military dependents of comparable age, marital status, and socioeconomic status (SES).

Based on these studies, it is not clear whether ADAF women are at greater risk for an adverse pregnancy. The disagreement between studies may be partially explained by problems in study design and failure to control for confounding factors. Our study addressed these issues. For example, our data includes pregnancy outcomes from all AFB medical facilities eliminating potential selection bias present in previous studies that only selected records from military referral hospitals.[2,3,5,7] Our data also permits better analytic control of potential confounders such as maternal race, marital status, smoking, and socioeconomic status, that were not well controlled for in those studies.[2-5]

More importantly, methodologic differences in civilian studies contribute to contradictory reports on the effects of maternal job-related activity and occupational exposures on pregnancy

outcomes. Occupational stress,[23,24] increased physical exertion and prolonged standing[6,25-29] and exposures to toxicants,[30-32] have been associated with adverse pregnancy outcomes. However, these associations were often based on comparisons between employed and unemployed women where the choice of a suitable control group is difficult, and often results in an observed "healthy worker effect,"[17,33-35] primarily because employed women have higher SES and income, and better health care coverage than unemployed women.[17] The study is different because it describes the rates of adverse pregnancy outcomes across jobs, making internal comparisons only among employed women. The results fill an important gap in the literature since these women are all employed in a unique setting that minimizes the impact of confounding factors and permits a more accurate assessment of potential associations between work, exposure, and adverse reproductive outcomes. These longitudinal rates also serve as background for evaluating potential changes in adverse pregnancy outcome rates associated with deployment.

The Public Health Significance of Phase I Studies -- We conducted, for the first time, a longitudinal natality and pregnancy outcome study among ADAF women from 1975 to 1994, a 20-year time period encompassing deployment in Desert Shield and Desert Storm. Observed age-specific rates for normal and adverse pregnancy outcomes were demographically compared within the AF by year, age, race, rank, occupation, marital status, pay grade, geographic region, and command. Note that the largest proportion of total hospitalizations for ADAF women are due to pregnancy-related admissions, exceeding the hospitalization rates for males. Therefore, improved descriptions of ADAF rates are essential to more effectively target allocation of funds for prevention and health planning. The USAF currently is considering the merits of managed health care centers. Given, that obstetrical services and associated adverse outcomes are expensive, the Air Force will need to model future needs based on the demographic characteristics of ADAF women. Lastly, the results fill a gap in our interpretation of the reproductive consequences of deployment. For example, the natality and adverse outcome rates observed for women deployed in Desert Storm/Shield could be compared with the previous history of reproductive rates among ADAF women.

Phase II
A nested case control study among a cohort of ADAF women from 1990 to 1996 was used to examine potential associations between lifestyle and occupational risk factors and these three adverse pregnancy outcomes. The outcomes were selected based upon previous evidence suggesting potential associations with employment per se, specific military occupations, and exposure to work-related factors. The outcomes occur frequently enough to provide an adequate sampling pool to examine these potential associations using industrial hygiene (IH) and medical records maintained by the AF. Exposures were evaluated from one year prior to conception through the duration of pregnancy without the possibility of recall bias. Additional data collected by maternal questionnaire provided important detail but is susceptible to recall bias, which we estimated and analytically controlled for by comparing self-reported data to existing records. The ability to rely upon existing records greatly enhances the reliability of the proposed risk estimates over what is possible with most case control studies. This reliability is further enhanced by the uniformity of access to medical care within the military, increasing the comparability of cases to controls.

4

Preterm Delivery -- Maternal employment during pregnancy has been associated with both preterm delivery[36,37] and low birthweight.[38] With respect to preterm births, findings from studies of military populations are mixed. No differences were observed in risk of preterm labor for active duty women versus dependent wives in a hospital-based study at Camp Lejeune.[8] Comparisons between singleton births to primiparous women among a group of active duty women and civilian spouses from the Naval Medical Center in San Diego, also found no difference in gestational age at delivery.[39] Other studies have observed higher rates of preterm delivery in active duty Army populations.[9] As noted earlier, significant increases in odds were reported for preterm delivery in Army women employed in jobs with the most physical activity.[6] The first study[9] was based on deliveries in four tertiary-level Army medical centers, while the second study[6] was based on singleton live births to Army active duty enlisted women. A third study[4] did not show an increased risk of preterm delivery among ADAF women, but there were methodologic problems with the design.

Pregnancy Induced Hypertension -- Preeclampsia (a major form of pregnancy induced hypertension) has been reported to be twice as common in a cohort of women ADAF members as in the nonactive duty populations served by the same clinics.[2] Within the proposed scope of research, potential associations between shift work,[40] physical activity,[41] and risk of pregnancy induced hypertension have been studied. The risks of preeclampsia were reduced among women who preformed regular leisure time physical activity. These results require replication. A more recent study of active duty Navy enlisted personnel found that nulliparous women employed in jobs with high levels of physical activity were at a significantly decreased risk of pregnancy induced hypertension compared to nulliparous women working at low levels of physical activity.[10] Importantly, this latter study was based on a cohort of all active duty women delivering in military hospitals, as opposed to cases coming from tertiary care centers. In addition to physical work, we also evaluated potential associations with occupational exposure to solvents[37,40,42] and noise.[40] One study examined solvents alone[42] and found evidence that solvent exposed women are approximately four times more likely to develop preeclampsia when compared to unexposed women. Further study of exposure to solvents may be particularly important in the AF, in light of the fact that exposure to jet fuels, methyl ethyl ketone, and noise extends to over 20 percent of the female work.

Spontaneous Abortions -- A number of studies have found associations between spontaneous abortions and physical activity during pregnancy[25] and occupational exposures to specific agents such as heavy metals,[43] organic solvents,[44,45] anesthetic gases,[36,46] and other chemical agents.[38] Associations between occupational exposures and congenital malformations are somewhat less firmly established than for spontaneous abortions.[47] There is, however, increasing evidence for teratogenic risks associated with some occupations and specific exposures, such as organic solvents,[42,44] heavy metals,[48] and pesticides.[44,47] The number of cases of congenital malformations in most populations, along with low levels and frequencies of specific exposures, makes the epidemiologic study of congenital malformations problematic.

Overall, it is clear that there are a variety of potential reproductive hazards in the ADAF working environment. While programs designed to mitigate potentially hazardous exposures to pregnant women have been implemented, risks associated with unknown hazards, exposures which lead

to internal doses remaining active in the body, and exposures which are toxic during the earliest stages to pregnancy, may persist. Questions remain about the precise timing of the interval of exposure.[43] For example, it is biologically possible that exposures to some substances, such as heavy metals, prior to the onset of pregnancy may result in a body burden (internal dose) that has effects later in time. More importantly, adverse effects in the form of congenital malformations and embryotoxicity leading to spontaneous abortion may be induced very early in gestation, prior to the time pregnancy is diagnosed and exposure is reduced. Both scenarios were evaluated in this study.

The public health significance of the Phase II case control study-- The study evaluated a range of occupational risk factors previously found to be associated with preterm delivery, pregnancy induced hypertension, and spontaneous abortion. These associations are best evaluated in a large military setting where one can more accurately identify occupational exposures and other risk factors during the critical time interval for each study pregnancy and can minimize the confounding effects of variable access to health care, income, and SES, which are common in civilian studies. The strengths of the study are: 1) the cases and controls were selected from the same assigned AFB, increasing the comparability of the two groups on local factors and reducing potential confounding from uneven medical reporting across AFBs; 2) exposure information was collected prior to conception and throughout the pregnancy so one can identify known risk factors, unknown risk factors, and early risk factors prior to delivery; 3) there is minimal opportunity to introduce recall bias since medical and exposure data were recorded prior to the outcomes, and other maternal self-reported information, collected after the index pregnancy outcome is known to the women, were compared to the historical information in order to estimate potential information bias; and 4) and lastly the study interval covers the period of deployment in Desert Storm and Desert Shield. The study interval (January 1, 1990 to December 31, 1996) is appropriate because it provided a sufficiently large number of cases over a period of time when; 1) occupational exposures are recorded in each women's outpatient file by index pregnancy (facilitating access to the data), and 2) ADAF women have been deployed in a war. Evaluating reproductive risk factors during this interval of time fills this gap in literature.

Phase I: The longitudinal study is a descriptive assessment of reproductive experience among ADAF women providing background for Phase II hypothesis testing. The last 5 years of data will be used to model outcomes and project future natality and adverse pregnancy outcomes by geographic region and command.

1. Describe the natality and adverse reproductive outcome experience of ADAF women over 20 years from 1975 to 1994.
2. Describe differences in natality and adverse reproductive outcome rates for ADAF women by age, race, rank, occupation, marital status, pay grade, geographic region, and command.
3. Use 1990-1994 data to model future rates of natality and adverse reproductive outcomes for geographic region and Air Force Commands.

Phase II: Occupational exposures in the Air Force are associated with adverse pregnancy outcomes among ADAF women.

(formal hypothesis testing)
1. Are there associations between employment pertaining to AF occupations and preterm delivery, spontaneous abortion, or pregnancy induced hypertension?

2. Are there associations between chemical or physical exposures in AF occupations and preterm delivery, spontaneous abortions, or pregnancy induced hypertension?

3. Do the resultant odds ratios differ by age, race, smoking, alcohol consumption,rank, duration of service, occupation.

B. Results from Two Technical Reports

Herbold JR, Grayson JK, An Investigation of Reproductive Health Outcomes and Potential Risk Factors in Air Force Women, Phase 1: Technical Report 2-Active Duty Status and Adverse Reproductive Outcomes of Air Force Women, 1980-1994, US Army Medical Research and Materiel Command, September, 1998.

Herbold JR, Grayson JK, An Investigation of Reproductive Health Outcomes and Potential Risk Factors in Air Force Women, Phase 1: Technical Report 1-Natality Experience of Air Force Women, 1975-1994, US Army Medical Research and Materiel Command, December 1997.

Two abstracts have been presented and three manuscripts are pending (see Section D).

C. Phase II Case Control Study

The Phase II study formally started in October 1, 1998. Over the last year all preparatory stages were completed and the mailing and interviews start February 15, 2000. To achieve this stage we had to complete ten critical steps: 1) meeting human subject requirements, 2) conducting a pilot study, 3) revising the CATI, 4) ascertaining permission from 82 Air Force Bases and minor installations, 5) ascertaining the final cohort, 6) ascertaining contact information, 7) ascertaining phone numbers, 8) designing the tracking database, 9) designing the tracing and tracking procedures, and 10) data collection.

1) Meeting Human Subject Requirements

From October 1, 1998 to August 15, 1999 – the case control Phase II study was reviewed and rereviewed (2 times) by 8 human subject review boards. These were:

1. The US Army Materiel Command
2. OMB (to ascertain clearance)
3. Battelle CPHRE
4. University of Texas
5. USAF AFSMOA
6. USAF Brooks Air Force Base
7. USAF Travis
8. USAF Hill
(Copies of original signed documents are available upon request.)

The materials were submitted in November 1998 and again in August 1999 (after being revised based on the results of our pilot study). The final revisions of all documents are based on the pilot study and there have been no revisions since this time period. We received final approval to conduct this study in September, 1999.

A major change in protocol was introduced by the Human Subject reviews. Each board was unanimous that we should ascertain a written human consent form from the 8036 women that will be contacted. The step introduced a massive change in scope from what was approved in the original proposal. We originally proposed to merely call each woman. Now we had to mail, phone, and track two consent forms in triplicate from all women. The process resulted in adding 2 new research assistants to complete the work at considerable expense. It also introduced an 8-month delay in data collection. The benefit is that all parties are fully appraised and we do not anticipate new revisions.

2) Conducting a Pilot Study

In the summer of 1999, we conducted a pilot study where we interviewed women from McChord Air Force Base.

Our goal was to streamline the computerized telephone interview and revise questions as necessary. This step was very informative. We determined that there were a number of previously unreported risk factors including personal injury (slips and falls), use of OTC drugs, involuntary separation, location of prenatal care, and history of several medical complications.

Further, the design of the interview was improved to reduce the time of administration to 1 hour.

3) Revising the CATI

Based on the new information obtained from the pilot study, we revised the CATI V9.6 to include new questions. The programming took 1 month and then the results were sent to the Human Subject Committees for approval. In addition, we completed the CATI Interviewer Training Manual, Question by Question Specifications for Supervisor's, Telephone Scripts, and CATI Code Book (see Appendix A).

The team also had the opportunity to observe CATI administration on a computer from remote terminals and provided feedback to the research team on how to train CATI administrators.

The research products include:

1. The Women in the Military Interview CATI Questionnaire (draft 9.6)
2. Question by Question Specifications (Section IV) for Supervisors Manual
3. CATI Interviewer Training Manual for Interviewers
4. A Brochure
5. A press release for all AF Bases
6. Three telephone scripts
7. A tracking database described in section 8 below (located in Appendix B)

4) Ascertaining Permission from 82 Air Force Bases and Minor Installations

Concurrent with the Human Subject activity, the research team initiated and completed the process of ascertaining access to all CONUS AF Bases (major and minor installations). The first step was to obtain a letter from the AF Surgeon General. A packet was assembled containing 9 documents listed below and was sent to 8 major commands (see Appendix C).

1. AFMOA/CC Letter dated 29 January 1999 and 2 August 1999
2. Study Talking Paper
3. Briefing Slides
4. Battelle IRB Approval Letter
5. University of Texas Health Science Center IRB Approval Letter
6. Army and Air Force IRB Letters
7. Study Pamphlet
8. Informed Consent Document
9. Medical Records Release Form

Contacts at each of the 8 major commands provided the research team with a point of contact for each AF Base. These 82 individuals are located at each AF Base. They inform the Base Commander of all study activity. As we gain confirmation that each Base Commander is aware of the scope and their involvement in the research project, we propose to mail out recruitment letters to those women under his command. At this time we have cleared 28 AF Bases and anticipate the remaining ones to be cleared by February 28, 2000.

In addition we have written a newspaper release that will be sent to all AF Bases in February, 2000. This short paragraph alerts Base personnel that the study is being conducted.

This step was also used to program a large tracking program that can be used across Battelle sites.

5) Ascertaining the Final Cohort

Seven data sources were used to obtain cohort data to date. They include five military data sources: Standard Inpatient Data Record (SIDR), Central Researcher's Database (CRDB), Air Force Inpatient Data System (also known as Pentagon), Defense Manpower Data Center (DMDC), and the Air Force Personnel Center's Worldwide Locater (WWL). In addition, 2 civilian data sources have been used: Transunion LLC (TU) and the National Change of Address (NCOA).

Battelle placed the request to Brooks AF personnel on October 5th 1998 and received the Standard Inpatient Data Record (SIDR), the Central Researcher's Database (CRDB), and the Air Force Inpatient Data System (also known as Pentagon) on August 18, 1999.

The Defense Manpower Data Center (DMDC) was received by Battelle on November 26, 1999.

The Air Force Personnel Center's Worldwide Locater (WWL) data set was received on December 23, 1999.

Subject Ascertainment

In order to select subjects to participate in this study, a formal request was made to the Population Health Support Office (PHSO) at Brooks Air Force Base, Texas. The criteria consisted of the following:

- all events with a ICD-CM9 code of 634, 642, 644, or 650,
- the women must have been on Active Duty status at the time of the event, and
- the event must have occurred between January 1, 1990 and December 31, 1998.

PHSO fulfilled that request by providing three electronic datasets to the research team; one file each from the SIDR, Pentagon, and the CRDB. A distribution of those data is contained in Table 1. The original CRDB file contained 7541 events. However, 795 of those events occurred in 1989 and were withdrawn from the sample. The original Pentagon file contained 7899 events. However, 1435 of those events did not have an admission date and were withdrawn from the sample.

Table 1. Subject and Event File Distribution

Source	Available Events	Non-duplicate Events	Selected Events (1st/subject)	Selected PIH Events	Selected PT Events	Selected SA Events	Selected Normal Events
SIDR	8507	8507	7850	1160	1364	1566	3760
CRDB$_1$	6746	1213	1077	80	142	49	806
Pentagon$_2$	6464	6	5	2	2	0	1
Totals		9726	8932				

[1] The original CRDB file contained 7541 Events. However, 795 of those events occurred in 1989 and were withdrawn from the sample. [2] The original Pentagon file contained 7899 Events. However, 1435 of those events did not have an admission date and were withdrawn from the sample.

On October 5, 1998, we sent the AF a final request to ascertain all eligible cases and controls from January 1, 1990 to December 31, 1998. Table 1 displays the final numbers. We did not receive a valid sample until August, 1999. The 9-month effort involved AF personnel who spliced together data tapes and files. It took from October to June to gain permission from the correct AF Office and from June to August to actually receive the data. We were mailed a sample with incomplete data at least three times. However, a duplicate run yielded the same values so we are confident that we have obtained a valid set of subjects.

The SIDR was used as the primary source of the events. However, the SIDR contains information only on admissions that occurred at military treatment facilities. The additional cases and controls were selected from the CRDB and Pentagon datasets since they contained events that occurred at both military and civilian medical treatment facilities. Once all non-duplicate events were identified, the first occurrence by each woman was selected as the study event. However, the CRDB and Pentagon datasets served as the primary sources for job and duty location information where second and third jobs and some missing duty information was only available through the DMDC dataset.

Described below is a history of our activity over this year.

10

History of Battelle's Requests for the SIDR Air Force Dataset

Date	Event
10/14/98	First letter sent by Diana Echeverria (PI) to Brooks AF Base (John Mellman) requesting the cases and control be pulled. This letter included the criteria and definition of events as well as the demonstrated subset from 1990-1994.
11/17/98	All research staff was present at a conference call including John Mellman where we discussed the data pull.
11/23/98	Kevin Grayson, Nick Heyer, and Steve Wilkins resubmitted a more refined set of definitions to John Mellman. This included SIRD and CRDB variable listings.
12/18/98	John Mellman said he needed AF IRB approval but he would pull the data now and have it ready in December (not done).
01/12/99	Diana Echeverria (PI) and Kevin Grayson (AF) met with John Mellman and Mike Snedecor in San Antonio. We reiterated our request that he prepare data file to be ready once Air Force IRB approval is received.
02/10/99	Steve Wilkins met with John Mellman in San Antonio. John Mellman gave us a preliminary event count at that meeting and we asked that he prepare the data file to be ready once Air Force IRB approval received.
04/12/99	PI resent SIRD and CRDB variable listings to John Mellman.
04/22/99	Requested progress on the dataset from John Mellman and sent a second more formal request letter to Major Snedecor.
05/04/99	Major Snedecor gave John Mellman his approval to release data.
06/18/99	Battelle received the initial SIDR & CRDB datasets from John Mellman.
06/21/99	Battelle converted the SAS data format to dbf fromat - partially worked.
06/22/99	Battelle notified John Mellman that date fields were formatted as SAS text strings not SAS date fields. John Mellman was asked if he would resubmit files in proper format.
06/28/99	Battelle requested contact information (phone and address) from DMDC. Received a date-corrected dataset from John Mellman but no duty zip on 1996-1998 data. We requested that Roger Gibson access the data from California Manpower. Roger Gibson agreed to assist the team and felt it should be no problem - at most 1 week.
07/26/99	Battelle received a new CRDB dataset from John Mellman which contained some births not in the SIDR among women who delivered in non military hospitals but no cases beyond 1996. Further, 1800 subset of the SIDR dataset was also resent to Roger 07/27/99 with a second request to provide duty zips and UIC fields. After reviewing the received dataset Battelle found it was a recreation of the first dataset and did not contain more info for events between 6/96 and 12/98. John Mellman concluded that he could not provide us with the missing data.
	Status:
	Entire SIDR -1990-1998 missing zero duty on all subjects
	CRDB 1990-1996 has duty zip on a subset but also is missing 1996-1998 data
	DMDC 1996-1998
08/23/99	Battelle finally received a duty zip and UIC dataset from DMDC but it only contained 106 subjects (we needed 1800).
08/25/99	Battelle notified Shari Shanklin (Roger Gibson's DMDC contractor) that dataset only contained 106 records. Format was discussed. Support staff went on vacation for three weeks. Was notified by Shari that no work could be done until September.
09/15/99	Battelle was notified we should receive 1800 subjects' dutyzip data sometime this month.
11/29/99	Battelle received the complete Manpower dataset.

Between August and November, we reexamined the distribution of subjects by Base and found that the number of normal events was dramatically lower than expected. As seen below, the ICD Code "650" is for a normal birth and the prevalence of events decreased over time. We examined the number of events and their percentage over all events from 1990 to 1998. The percentage dropped from 11% to ~2%. We believe that trends in coding are affected by insurance forms and other AF medical care factors. However, we also believe this code is the most valid code for a normal birth. Therefore, we decided to alter our study to include all CONUS AF Bases in order to obtain our target of 650 subjects for each type of case and control.

Table 2. Trends in Natality Among USAF Active Duty Women, 1990-1998

		1990			1995	
	ICD9CM	Events	%		Events	%
SA	634	352	3.972		147	1.659
PIH	642	180	2.031		121	1.365
PT	644	212	2.392		153	1.726
Normal	650	1001	11.294		388	4.378
	Totals:	1745	19.689		809	9.128
		1991			1996	
	ICD9CM	Events	%		Events	%
SA	634	285	3.216		106	1.196
PIH	642	150	1.692		133	1.501
PT	644	205	2.313		123	1.388
Normal	650	853	9.624		279	3.148
	Totals:	1493	16.845		641	7.232
		1992			1997	
	ICD9CM	Events	%		Events	%
SA	634	236	2.663		52	0.587
PIH	642	158	1.783		128	1.444
PT	644	207	2.336		115	1.298
Normal	650	694	7.830		189	2.132
	Totals:	1295	14.611		484	5.461
		1993			1998	
	ICD9CM	Events	%		Events	%
SA	634	191	2.155		27	0.305
PIH	642	122	1.377		122	1.377
PT	644	208	2.347		120	1.354
Normal	650	515	5.811		181	2.042
	Totals:	1036	11.689		450	5.077
		1994			Totals	
	ICD9CM	Events	%		Events	%
SA	634	185	2.087		1581.00	17.84
PIH	642	126	1.422		1240.00	13.99
PT	644	154	1.738		1497.00	16.89
Normal	650	445	5.021		4545.00	51.28
	Totals:	910	10.267		8863.00	100.00

SA = spontaneous abortion   PT = preterm delivery
PIH = pregnancy induced hypertension Normal = normal birth

12

6) Ascertaining Contact Information (names, addresses, phone numbers)

Once the cases and controls were selected, the task of ascertaining contact information became a central task. The list of 8932 subjects was submitted to DMDC and Transunion with a social security number and date of birth. The combined file was then updated using the World Wide Locator.

DMDC

Within two months of time from the initial request, the DMDC provided address information on 5045 of those subjects. The DMDC had no data for the remaining 3883 subjects. Further, the DMDC dataset did not contain a zip code field and was returned to DMDC in order to obtain complete names and addresses for all 5045 subjects that the DMDC had on the file (5 had insufficient data). We received the updated dataset on November 26, 1999.

Transunion

With respect to the initial file of 8932 subjects sent to Transunion LLC, we received over 104,904 addresses and names for 7850 women. A second request was made to Transunion for the remaining 1082 not previously obtained. Addresses and names were provided for 1076 women. There was no information available for the remaining six subjects where it was assumed that the social security number was incorrect (this was verified using DMDC data). The two Transunion datasets were combined and multiple occurrences of the same address were deleted leaving 30,480 possible addresses with recent dates from Transunion LLC.

World Wide Locator

The same list of 8932 subjects was then submitted to the Air Force Worldwide Locator office at Randolph Air Force Base, Texas. The goal was to determine active duty status and current address. The first file provided by the WWL failed to contain a link between the social security numbers provided by the research team and the contact information supplied by the WWL office. A second file was generated to link social security numbers with the names and addresses provided by the WWL. The WWL was then able to successfully match and provide us with 5410 addresses; the work address for all active service subjects and the home address for all retired subjects. Further, we were also able to obtain current duty information as part of the WWL dataset. The final distribution of the subject duty status is described in Table 3 below.

13

Table 3. Distribution of Subject Duty Status

Duty Status	Count
Active Service – Stateside	4323
Active Service – Overseas	771
Separated	3295
Retired	423
Decreased	4
Protected Airmen	4
Serving in Other Branch of Service	63
Deserted	1
Unknown/No Record	48

As described above, the process of selecting a working address is very complex. First, all addresses from the DMDC dataset (N = 5050) and the address with most current source date from the Transunion datasets (N = 8932), were resubmitted to the NCOA. We deleted from both these datasets, subjects who were located overseas, subjects who were deceased or deserted, subjects who were protected, and subjects employed in other military branches of service. This left us with 8041 eligible subjects.

NCOA received the data set containing 8041 subjects and updated 832 addresses from the DMDC source and 1117 addresses from the Transunion source. The changes from both sources were combined and duplicates removed leaving 1571 unique addresses from NCOA.

We then combined the different address sets into a single dataset of 42,506 potential final addresses. The distribution of cross-referenced addresess from the different datasets is given in Table 4. Through this process, we can now define the study population as n=8036.

Table 4. Contact Data Correlation

Source	Received	Updated DMDC	Updated TransUnion	Matched NCOA
NCOA	8041	832	1117	1571

Source	Available Addresses	Matched DMDC	Matched TransUnion	Matched NCOA	Matched WWL	Used Initial Mailing
DMDC	5045	5045	248	180	467	4
TransUnion	30480	248	30480	46	53	2827
NCOA	1571	180	46	1571	40	456
WWL	5410	467	53	40	5410	4749
						8036

7) Ascertaining Phone Numbers

Obtaining telephone numbers is considerably simpler. The list of 8036 women's names and addresses was sent to the National Telematch Telephone Directory, a service that matches names and addresses with telephone numbers.

TeleMatch found phone numbers for 3549 of the civilian records of which 906 are duplicates. Given 4323 are still on active duty, it will be easy to contact these women directly on the AF Base.

8) Designing the Tracking Database

In December 2000 the 8,036 cases and controls were entered into a tracking database that contains seven screens. This tracking database is our primary management tool that will be used to run the study. It will be used to maintain addresses, phone calls, follow-up interactions, CATI dates, reports, mailing dates, and file transfers. Initially, it will be used by study assistants to track the status of subjects with respect to completion of consent and medical release forms, contact by phone, and scheduling. A report generator will be used to track our progress. Initially, the information already collected on duty location and assignment at time of hospitalization for pregnancy, event dates and outcomes, current addresses and phone number are loaded into the program. These are updated as the study progresses. The screens are described below.

The first screen summarizes the information on the subject, and, using a set of status variables, identifies the subject's progress through the study (see the Data Dictionary in Appendix B).

Dates that important phases of the study have been completed are recorded in the lower left of this screen. Check boxes keep track of whether or not we have received informed consent, medical release and medical record documents.

The second and third forms are used for tracing subjects. We have multiple addresses and phone numbers on many of the subjects, and many may have moved or changed phone numbers since these data were obtained. These forms are used to track which phone numbers are or are not valid. Addresses or phone numbers from the grids on these screens may be made active by clicking on them. This brings the information into the editing fields, where the information may be corrected and assigned a status of valid or invalid (for various reasons). A new record of information may be added for any subject (see below).

As there are over 8,000 women who may be called during this study, keeping a clear record of tracking procedures is essential. The next screen will be used by study assistants to keep track of who they have called, and the outcomes of these calls (see below). It is also during these calls that the majority of the updating of the above screens will be done. Moving from one screen to another is as simple as clicking on a tab.

16

Additional screens will track our mailings and their returns, file transfers (medical records and consent forms) between the research team and the military, as well as automatic report generation. These final screens are in the final process of design.

9) Designing Tracing and Tracking Procedures

The subject tracing and tracking procedures described below are diagrammed in the AF Women Process Flow Charts located at the end of this section. The subject's status ranges from Tracing, Pre-Mailing, Mailing, Consents, Interviewing, Recordkeeping, Complete, or Dropped.

Tracing

The tracing process has three levels, (1) initial tracing, (2) intermediate tracing, and (3) advanced tracing. Our goal is to obtain the most accurate address to send the subject's information package. In the initial tracing stage, military data sets from the World Wide Locator (WWL) were considered the most accurate. If an address was found for a subject in WWL, we used this as the mailing address and the status is changed to Mailing. If no WWL information was available, we compared the Defense Manpower Data Center (DMDC) information with standard tracing databases including the National Change of Address (NCOA), TransUnion Credit Reporting (TU), and Telematch to obtain a set of names, addresses, and phone numbers for each subject. NCOA captures address changes with US Postal Service change of address cards filed by postal customers over the past three years. TU obtains addresses and phone numbers submitted to credit card companies, and Telematch is a computerized is a residential telephone number look-up service. Between these remaining DataSets, we chose the mailing address if two of the most current addresses matched. If there were no matches, the subject was sent to intermediate tracing.

The intermediate tracing effort focused on a verbal confirmation of a correct mailing address using telephone number obtained in the initial tracing and supplemented with telephone search engines including CD-Rom based Phone Select, and Internet based locators switchboard, lookupusa, people, and netcenter. The exchange is very minimal and involves the callers identifying themselves, asks if they may send the subject the packet, and confirms the mailing address-the subject's status is now Mailing. If all searches are exhausted without a confirmation, the subject is sent to advanced tracing.

The advanced tracing procedures will be determined once we know how many subjects fall into this category because the level of effort is cost related.

Tracking

Once a reliable address has been obtained either through initial, intermediate, or advanced tracing, the subject is moved to the Pre-mailing stage. Because we are sending packages to Active Duty women at their base, we first determined a POC to inform their Wing Commander of the study. When it is confirmed that the base has been informed, they are ready to be mailed. The mailing is then clustered into a batch of Non-Active Duty and Active Duty with an approximate ratio of 2:1.

17

Using a tracking database described in Section 8, all mailing dates, consent form status, and possible address/phone numbers obtained from tracing are entered in this database and are readily available to researchers. The status of the subject is determined by the return of the subject package or contact with the subject.

If both the informed consent document and medical record release forms are returned either by fax or mail and all signatures are complete (Consents status met), the subject's status will be moved to Interviewing. For review of the materials sent to the study participants, see the Study Population Package in Appendix D.

If there is no return of any materials one week after the mailing date or the returned material is incomplete, the Subject Coordinator will call them using the "Follow-up script". In the event the package has not been received by the respondent, the subject coordinator will verify the subjects mailing address and have Durham mail a second package to them. If the subject has the forms signed but have not returned them, the subject coordinator will facilitate their immediate return by fax or mail. In the event the forms have been returned either by fax or mail and are either incomplete or there are questions posed by the subjects, the interviewer will clarify any questions or, if necessary, have new forms sent by Durham/faxed directly by the subject coordinator. If the person does not want to participate, the subject coordinator will ask them to give their reason for refusal and ask to obtain basic job information from them over the phone. They will not be contacted again. The status of the subject will either be Mailing, Consents, or Dropped.

In the event the entire package is returned by the post office due to an incorrect address or forwarding information has expired, the subject is shuttled back to Tracing status into the next level of tracing (intermediate, advanced) by means of the tracking database.

INTERMEDIATE TRACING
TELEPHONE SCRIPT

INTRODUCTION

Hello. My name is <**Interviewer's Name**>. May I speak with <**First and Last Name of Mother**> regarding her participation in an Air Force sponsored research study?

IF <First and Last Name of Mother> ISN'T HOME

When would be a good time for us to call back?

IF THEY KNOW

Date:_____ Time: _____

Can she be reached at this same telephone number?

[Verify telephone number.]

Phone number (if different) _____

18

Thank you, I will call her back on (date) at (time). Good bye.
[END CALL]

IF THEY DON'T KNOW

Can you please give her this toll free number (read number) so she can leave us a message arranging a time for us to call her back?

Thank you. Good bye.
[END CALL]

LEAVING MESSAGE ON AN ANSWERING MACHINE

Hello, this is **<Interviewer's Name>**. I am calling **<First and Last Name of Mother>** concerning an Air Force sponsored research study. Would you please have **<First Name of Mother>** call us collect at (PHONE NUMBER) and leave us a message arranging a time for us to call her back. Thank you. Good bye.

[END CALL]

WHEN PARTICIPANT IS ON THE PHONE:

Hello, My name is **<Interviewer's Name>** and I am calling regarding the Air Force study entitled "An Investigation of Reproductive Health and Potential Risk Factors among Active Duty Air Force Women".

I would like to mail an information packet to you regarding this study. May I confirm your mailing address?

POTENTIAL SUBJECT ADDRESS

FIRST NAME: _____   LAST NAME: _____

STREET: _____

CITY, STATE: _____   ZIP: _____

Thank you. Either I or one of my colleagues will be calling to confirm that you received the packet and to answer any questions you may have. Is this the best telephone number and time of day where you can be reached? Verify Telephone Number

Phone Number _____

Air Force Women
Process Flow Chart

No Action Taken

Cluster Mailing

Initial Tracing
Page 2

random subset of Non AD cases and controls + AD cases & controls on base with Wing Commander informed of study. First cluster to be sent in a 2:1 ratio.

Match

No → Intemediate Tracing
Page 3

Yes

Intemediate Tracing → Match

Yes → Send Information Package
Page 5

No

Advanced Tracing
Page 4

Match

Yes → Send Information Package

No

Final Disposition
Page 9

~ 2 weeks

No Response

Subject Coordinator
Page 6

Go To
Send Information
Package
Page 5

Package Returned

If coming from Initial Tracing
Go to
Intermediate Tracing
Page 3

If coming from Intermediate Tracing
Go to
Advanced Tracing
Page 4

ICD / MRR Received

Interview
Page 7

Recordkeeping
Page 8

Final Disposition
Page 9

20

Air Force Women
Initial Tracing
Flow Chart

```
   ┌─────────────┐
   │ Get DataSets│
   └──────┬──────┘
          │
          ▼
   ┌─────────────┐
   │  Examine    │
   │    WWL      │
   └──────┬──────┘
          │
          ▼
       ◇ Address ◇ ─── Yes ──►  GoTo
       ◇Available◇              Send Info
          │                     Package (p5)
          No
          │
          ▼
   ┌──────────────────────────┐
   │      Compare             │
   │ DMDC / TransUnion / NCOA │
   └──────────┬───────────────┘
              │
              ▼
          ◇ Match ◇ ─── Yes ──►  GoTo
          ◇ Any 2 ◇              Send Info
              │                  Package (p5)
             No
              │
              ▼
           GoTo
        Intermediate
        Tracing (p3)
```
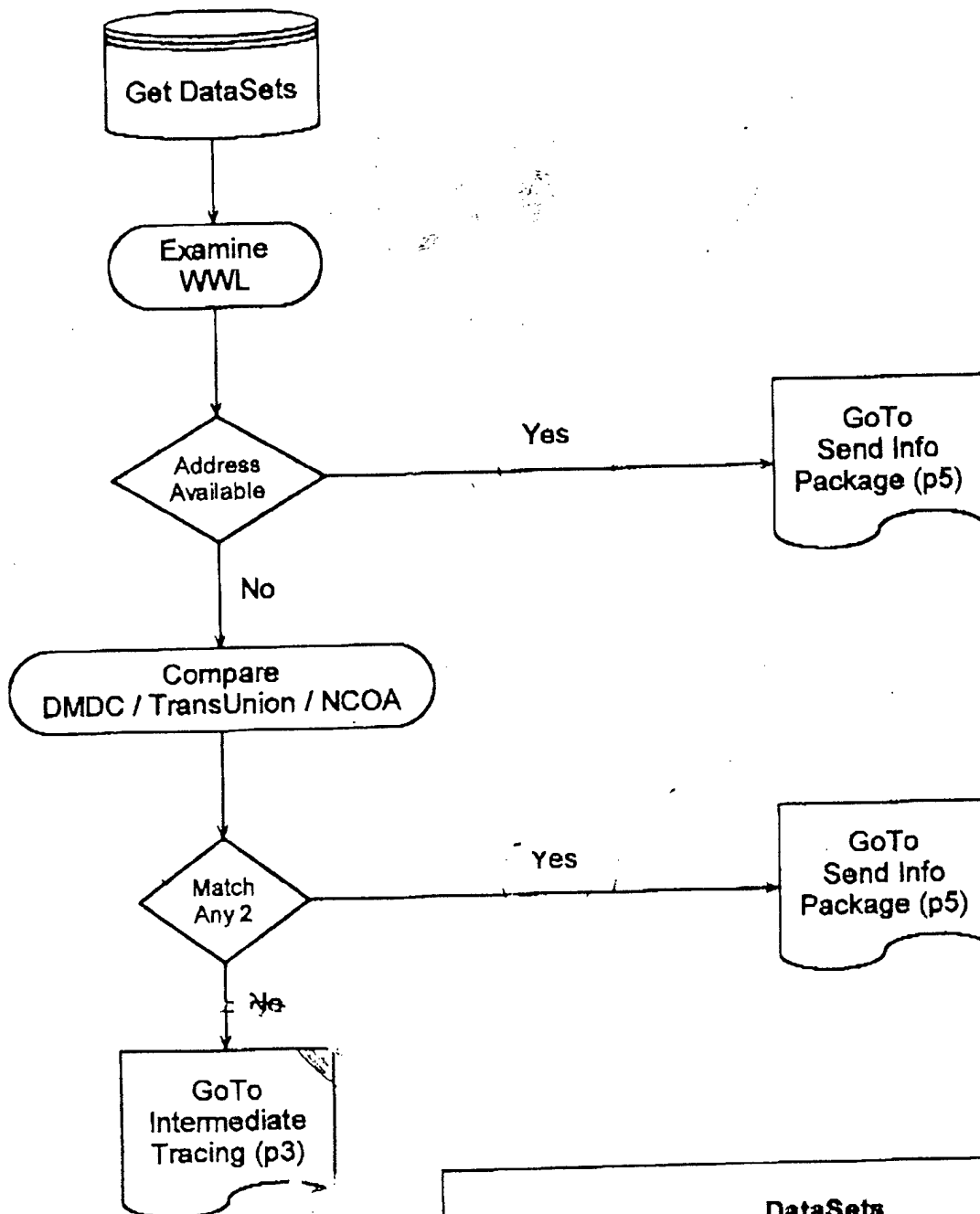
DataSets

WWL - World Wide Locator (AD, retired, and reserve)
DMDC - Defense Manpower Data Center
NCOA - National Change of Address
TransUnion Credit Reporting
TeleMatch

Air Force Women
Intermediate Tracing*
Flow Chart

(Durham)

Call Available
Phone Numbers Using
Telephone Script *tracingscript.doc*

Locate Subject →(Yes)→ GoTo Send Info Package pg.5

(No)

Perform PhoneSelect Search

Locate Subject →(Yes)→ GoTo Send Info Package pg.5

(No)

Perform Internet Search

Locate Subject →(Yes)→ GoTo Send Info Package pg.5

(No)

GoTo Advanced Tracing (p4)

Internet Locators

www..switchboard.com
www.lookupusa.com
people.yahoo.com
www.netcenter.com

* - Verbal Verification Required

Air Force Women
Advanced Tracing
Flow Chart
(St. Louis)

Under Construction

Cost and level of effort used to locate subject
will need to be determined by group.

Recommend waiting to see how may subjects fall into this category.

Air Force Women
Send Information Package
Flow Chart

```
┌─────────────────┐
│     Print       │
│   Que Sheet     │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│    Prepare      │
│ Mailing Labels  │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│   Assemble      │
│   Contents*     │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│  Add SampleID   │
│     Labels      │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│  Stuff Envelops │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│ QC Mailing Labels│
└─────────────────┘
         │
         ▼
┌─────────────────┐
│     Apply       │
│ Mailing Labels  │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│ Sort by ZipCode │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│ Take to Post Office│
└─────────────────┘
         │
         ▼
┌─────────────────┐
│ Update Tracking │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│   Return to     │
│ Process Chart   │
│     Page 1      │
└─────────────────┘
```
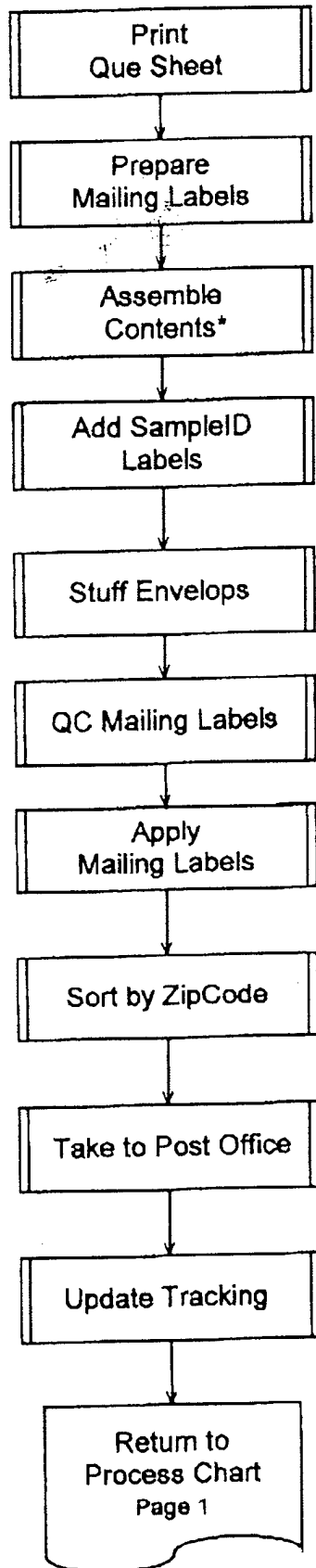
Envelope Contents
ICD
MRR
Participant Letter
Fax Cover Sheet
Cue Sheet*
Return Mail Envelope
Brochure

*Memory Jogger. Gives study period
dates; suggests having useful info
such as vaccination records handy, etc.

24

Air Force Women
Subject ~~Coordinator~~
Flow Chart
(Seattle/Vancouver)

```
          ┌─────────────────────────┐
          │     Generate Daily      │
          │      Calling List       │
          │     From Database       │
          └────────────┬────────────┘
                       │
          ┌────────────▼────────────┐
         (  Call available phone numbers and use  )
         (       Follow-up script v. 10           )
          └────────────┬────────────┘
                       │
                       ▼                  No          ┌──────────────────┐
                    ◇ Locate ◇ ──────────────────────▶│ Perform Internet │
                    ◇ Subject ◇                        │     Search       │
                       │                              └─────────┬────────┘
                      Yes                                       │
                       │                         Yes            ▼
          ┌────────────▼────────────────────┐           ◇  Locate  ◇
          │ Record outcome in database using │◀──────────◇  Subject ◇
          │   Subject Tracking Codes         │              │
          └────────────┬────────────────────┘             No │
                       ┊                                      ▼
                       ┊                         ┌──────────────────────────┐
          ┌────────────▼────────────┐            │   Send to Intermediate   │
          │ Report overall study progress │      │ Tracing For Phone Number │
          │          weekly               │      └──────────────────────────┘
          └─────────────────────────┘
```
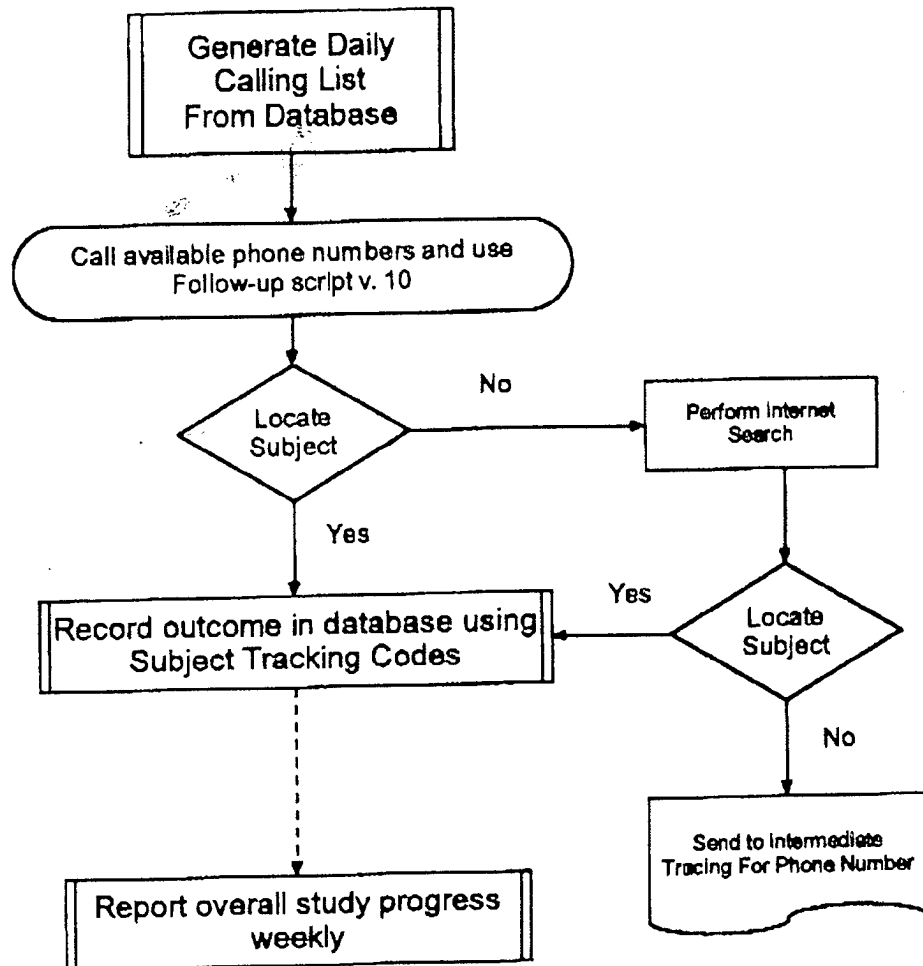
┌──┐
│   Subject tracking Codes   │
│   │
│   Reschedule call-back time   │
│   Update Telephone number   │
│   Update Fax Number   │
│ Durham needs to resend information package by fax │
│ Durham needs to resend information package by mail │
│   Verbal consent   │
│   Indicated that they sent in MRR and ICD   │
│   Refused to participate   │
│   Refused by person other than participant   │
│   Answer Machine (Message Left)   │
│   Answer Machine (No Message Left)   │
│ Sent to intermediate tracing to get phone number │
└──┘

Air Force Women Interviewing Flow Chart

(St. Louis)

Target is 825 cases each of SA, PIHT and PT (total cases = 1875). Number of Controls is (1875?).

Group will need to determine method for determining who will be interviewed from the pool of subects with ICD/MRR returned to us giving consent to participate

```
┌─────────────────────┐
│  Receive Subject    │
│     Dataset*        │
│  (From Durham)      │
└─────────────────────┘
          │
          ▼
   Call subject to schedule interview
       │                    │
       ▼                    ▼
┌──────────────────┐  ┌──────────────────┐
│ Conduct interview│  │ Conduct interview│
│ during initial   │  │ at scheduled time│
│ scheduling call  │  │                  │
└──────────────────┘  └──────────────────┘
```
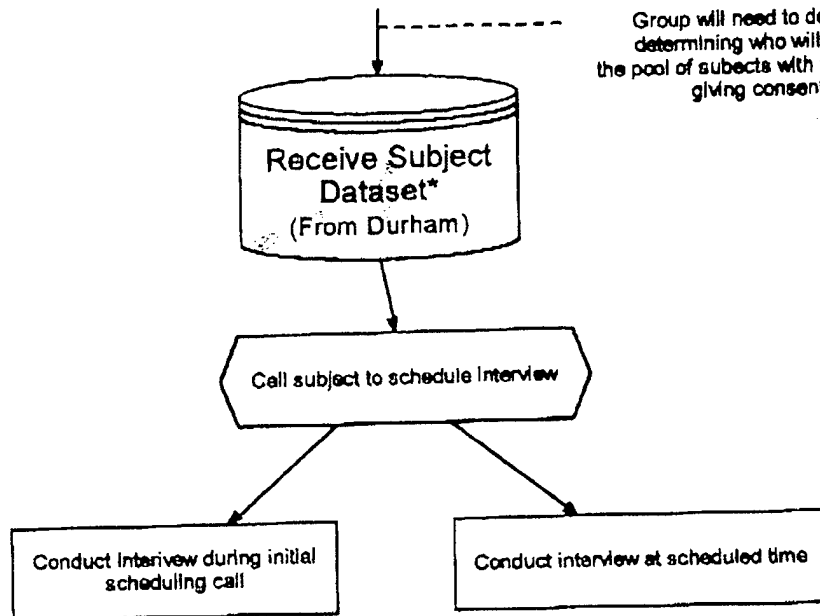
Air Force Women
Recordkeeping
Flow Chart
(Durham)

```
┌─────────────────────────┐
│    Forward ICD \ MRR     │
│      Travis IRB &        │
│  Medical Records Unit    │
│                          │
└────────────┬────────────┘
             │
             ▼
┌─────────────────────────┐
│                          │
│     File ICD \ MRR       │
│                          │
│                          │
└────────────┬────────────┘
             │
             ▼
┌─────────────────────────┐
│                          │
│        Update            │
│    Tracking System       │
│                          │
└─────────────────────────┘
```
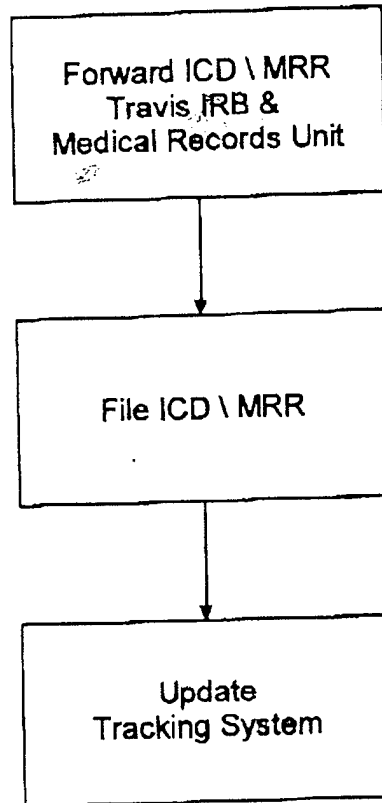
Air Force Women
Final Dispositions

```
┌─────────────────────────┐
│        Completed        │
└─────────────────────────┘
             │
┌─────────────────────────┐
│     Partial Complete    │
└─────────────────────────┘
             │
┌─────────────────────────┐
│      Never Located      │
└─────────────────────────┘
             │
┌─────────────────────────┐
│       Unable to         │
│       Participate        │
└─────────────────────────┘
             │
┌─────────────────────────┐
│         Refusal         │
└─────────────────────────┘
             │
┌─────────────────────────┐
│          Other          │
└─────────────────────────┘
```
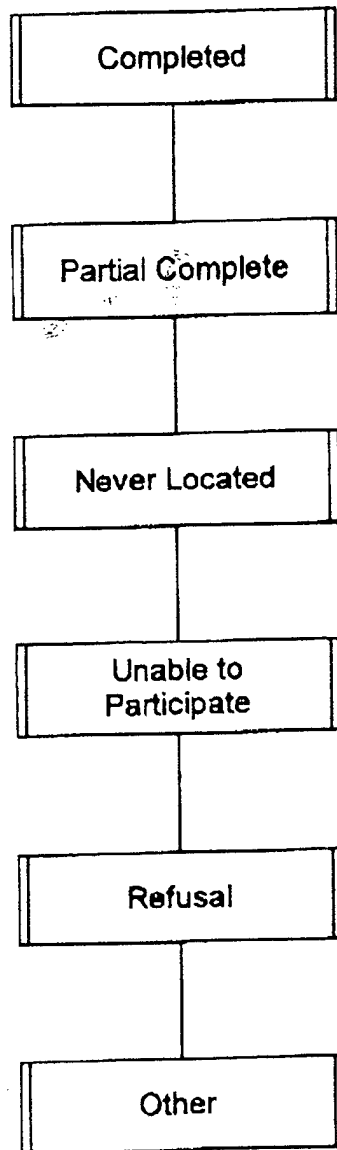
10) Data Collection

Battelle subcontracted with a mailing firm (Triangle Direct) to mail out 2,000 letters per week during the month of February 2000. We anticipate receiving 33% of the consent forms in the next 6 weeks. This means that ~2,800 subjects will be interviewed in the next 2 months. The remaining subjects will require multiple contacts to fully ascertain. This will take 5 months starting in February, 2000.

During this period, the senior members of the research team will be publishing manuscripts from Phase I studies.

D. Presented Abstracts

1. Baselining Air Force Working Women's Natality Rates, 1980-1994

J. Herbold*, J. Grayson**, B. Bradshaw*, L. Sever***, D. Echeverria***, N. Heyer***, and B. Bell*
*Univ. Texas-Houston Health Science Center School of Public Health, Houston, TX
**Armstrong Laboratory, Brooks AFB, San Antonio TX
***Battelle Centers for Public Health Research and Evaluation, Seattle, WA

ABSTRACTS

of the Society for
Epidemiologic Research[1]

133

EXTENT OF POSSIBLE BIAS FROM USING COMPENSATION CLAIMS: SILICOSIS AND LUNG CANCER. DF Goldsmith* (Department of Environmental and Occupational Health, George Washington University, Washington, DC 20037).

Background: Epidemiologists are warned not to use data from Workers' Compensation claims because of the possible biases introduced into studies, and this is particularly true regarding the link between silicosis and lung cancer. The present investigation was specifically designed to evaluate whether degree of bias could be measured by comparing the lung cancer risks from compensation claims versus medically derived cases of silicosis. Given the likelihood of bias, the hypothesis was that lung cancer risks would be higher among compensation-based sources. Methods: From the international published literature since 1980, the author compared 13 compensation based epidemiology studies and 23 studies using hospital records or disease registries as sources of silicosis study subjects. The mean and range of the lung cancer relative risk (RR) estimates were compared, adjusted for study power. Results: Only three studies showed RR~1.0 between silisiosis and lung cancer, all from noncompensation sources of silicosis; the remainder demonstrated significantly ($p < 0.05$) elevated lung cancer RR. There was a range of RR from 1.36 to 6.94 for compensation claimants with an average risk of 2.03, while for medical cases the range was from 1.1 to 6.5 with an average RR of 2.44. Conclusions: These results suggest that the lung cancer risks derived from compensation sources of silicosis are not greater than from noncompensation data sources.**

134

ISCHEMIC HEART DISEASE MORTALITY AMONG RUBBER MANUFACTURING WORKERS. Mary M. Prince,* Elizabeth M. Ward, Avima Ruder, Alberto Salvan, and Dennis R. Roberts (National Institute for Occupational Safety and Health (NIOSH), Cincinnati, OH 45226).

A retrospective cohort mortality study evaluated ischemic heart disease (IHD) risk among workers in the "rubber chemicals" manufacturing department in a chemical plant in Western New York. Mortality experience of workers employed at the study plant from 1946 through 1988 was followed through December 31, 1994. Mortality was compared to US population rates and to local county rates (Niagra County, 1960-1994)) using the NIOSH lifetable analysis system. There were 708 workers with "definite exposure" to the rubber chemicals department, 291 workers with possible exposure to this department, and 750 who were considered "probably not exposed" to the rubber chemicals department. The standardized mortality ratio (SMR) for IHD among workers in the rubber chemicals department was 1.51 (95% confidence interval (CI) = 0.94-2.3) based on U.S. rates and 1.19 (CI = 0.75-1.8) based on Niagara County rates. Increased mortality from IHD was most pronounced at younger ages (< 50, U.S. based SMR = 2.4; CI = 1.1-4.8; Niagara County based SMR = 1.93; CI = 0.9-3.8). Workers "probably not exposed" to the rubber chemicals department also had elevated IHD mortality in the <50 age group (U.S. based SMR = 1.56; CI = 0.6-3.3; Niagara County based SMR = 1.36; CI = 0.54-2.9). The analysis found that IHD mortality among workers in the rubber chemicals department was elevated relative to IHD mortality in the U.S. population; some of this excess may be related to higher rates of IHD mortality in the county where the plant is located.**

135

BASELINING AIR FORCE WORKING WOMEN'S NATALITY RATES, 1980-1994. J. Herbold,* J. Grayson, B. Bradshaw, L. Sever, D. Echeverria, N. Heyer, and B. Bell (Univ. of Texas-Houston Health Science Center School of Public Health, Houston, TX 77225).

Since 1975, Air Force policy has been to allow pregnant women to remain on active duty and to continue in the work force after the birth of their child. Further legislation in 1993 gave women in the military access to all occupational categories, including combat. This report provides the descriptive framework to understand better the relationship between fully employed work status (active duty) and patterns of natality. Natality among Air Force women is particularly relevant as women enter all career fields except for the very few restricted by law. We describe the natality experience of active duty Air Force women over a 15-year period, 1980 through 1994 and describe the differences in natality rates by age, race, and marital status. Natality rates were based on inpatient data records. The historical natality profile provides a framework within which to interpret the reproductive consequences of an increasing integration of women into a traditionally male workforce. Variability in natality rates across different demographic and occupational strata provide direction for targeted programs for occupational exposure protection, provision of health services, and personal implementation of lifestyle changes to protect the health of the mother and child. The baselines developed also provide the required background of descriptive information for analytic studies that evaluate hypotheses identified in the literature regarding the possible adverse occurrence of pre-term delivery, pregnancy induced hypertension, and spontaneous abortion among active duty Air Force women.**

136

RECREATIONAL FIREARMS AND HEARING LOSS. D.M. Nondahl,* K.J. Cruickshanks, T.L. Wiley, R. Klein, B.E.K. Klein, and T.S. Tweed (University of Wisconsin, Madison, WI 53705).

Although military noise exposure has been shown to be associated with hearing loss, few studies have assessed the association between recreational firearm use and hearing loss. As part of a population-based study of hearing loss in adults (48-92 years of age; n=3,753) conducted in Beaver Dam, Wisconsin, self-reported firearm use during target practice and hunting were assessed by interview. Hearing loss was measured by pure tone audiometry. Few women were involved in gun-related activities, so our report is limited to findings in men (n=1,538). We defined a marked high frequency hearing loss (MHFHL) as the pure tone average of hearing thresholds at 4, 6 and 8 kHz > 60 decibels in the worse ear. After adjusting for age, occupational noise exposure, smoking, alcohol consumption, cardiovascular disease, education and head injury, men who had ever regularly engaged in target practice (15.6%) were more likely to have a MHFHL than those who had not (odds ratio (OR) = 1.71, 95% confidence interval (CI) = 1.23,2.37). Relatively few men older than 65 years had regularly engaged in target practice or hunting within the past year. Among younger men, recent target practice and recent hunting were associated with an increased risk of having a MHFHL (target practice OR=2.93, 95% CI=1.59,5.38; hunting OR = 1.53, 95% CI = 1.10,2.13). Thirty-eight percent of recent target shooters never wore hearing protection while shooting. These results indicate that use of recreational firearms is associated with MHFHL in men. Target shooters should consider following recommendations for use of hearing protection.

ABSTRACTS OF THE 32ND ANNUAL MEETING
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BALTIMORE, MARYLAND, JUNE 10-12, 1999

SESSIONS:

2. Paper #15616
Disparity Between Working Women's Natality Rates and Vital Statistics - Implications for Occupational Hazard Assessment of Adverse Reproductive Outcomes

John R. Herbold, DVM,MPH,PhD[1], J. Kevin Grayson, DVM,MPH,PHD[2], Benjamin S. Bradshaw, PhD[1], B. Sue Bell, PhD[1], Diana Echeverria, PhD[3], and Nicholas Heyer, PhD[3]. (1) Border Campus, Univ. of Texas School of Public Health, Mail Code 7976, 7703 Floyd Curl Drive, San Antonio, TX 78229-3900, fax: 2105675942, (2) United States Air Force, (3) Battelle Memorial Institute

This study describes the natality experience of active duty Air Force women and compares this experience with US vital statistics over a 15-year period. Maternal occupation has been reported to have adverse effects on pregnancy outcomes and some investigators have described military pregnancies as "high risk. However, without base-lining the unique natality patterns of this working population, it is impossible to accurately evaluate whether adverse reproductive outcomes are high, low, and/or confounded by age, race, and marital status. Summary demographic measures of natality are provided for comparison to those for women in the general United States population. The trends are the same in both the white and black Air Force population and, except for the early 1980's, black and white women had virtually identical fertility. While period fertility rates of the general US female population on average are higher than those of women in the Air Force, Air Force women have had consistently higher fertility rates than employed women in the United States labor force. This finding is among the more surprising results of this study. Trends over time indicate that many Air Force women found no conflict between active duty status and raising a family. As the proportion of women in uniform increases and restrictions against employment in potentially hazardous occupations are relaxed, it is essential that studies of occupational risks in the workplace are not biased by an incomplete understanding of the demographic characteristics of the women in a particular work setting.

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APPENDIX A

Women in the Military

Interview (CATI) Questionnaire

Draft # 9.6

November 24, 1999

Battelle CPHRE

4000 NE 41st

Seattle, WA 98105

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PROGRAMMER'S NOTES:

This questionnaire is designed to be administered orally over the telephone. Subject to pilot testing, it may take about one hour to complete the questionnaire. Based on the distribution of jobs across the test population, we estimate that 10% will be in administrative positions, 27% in health care, 39% in tradition jobs, and 22% in non-tradition positions. With respect to this questionnaire, we anticipate that a significant proportion of the questionnaire will not be applicable to the subject, thereby reducing the personal burden in time to complete the questionnaire. For example, health care workers, who represent 27% of the study population, are only selectively exposed to a subset of chemicals, most of the physical section would not be asked by the interviewer. Only approximately 20% of the study population are women employed in non-tradition jobs. It is estimated that cohort only would require completion of more than 50% of the questionnaire.

Therefore, to reduce the amount of time to administrate this questionnaire, we will use screening questions to allow the interviewer to skip complete sections of the questionnaire when appropriate.

It is assumed that a trained Interviewer will administer the questionnaire using standard Blaze data-entry screens. Data collected using this questionnaire will be analyzed using SAS software. Therefore, use SAS naming conventions for all data variables.

	SA	Pre-Term	Hypertension	Controls
Administrative	10%	11%	10%	11%
Health Care	27%	24%	32%	28%
Traditional	41%	41%	35%	40%
Non-Traditional	21%	23%	23%	20%

Table 1. Percentage of Women in Job Categories by Birth Event.

PROGRAMMER'S NOTE

The questionnaire includes a work history and a reproductive history. Components of the two major sections are listed below. In addition, the percentage of participants anticipated completing that specific section, as well as the amount of time estimated to complete that section is given. These times will be verified by pilot testing.

Women in the Military Interview (CATI) Questionnaire

I. Exposures Recorded from Work Histories

	Section	Expected Completion Percentage	Expected Completion Time (min)
A.	Work History	100%	5
B.	Military Risk Factors	100%	5
C.	Physical Exposures		
	Thermal & Radiation	10%	
	Noise	30%	3
	Ergonomics	100%	3
D.	Physical Exertion at Work and Home	100%	5
E.	Job Satisfaction and Job Stress	100%	4
F.	Chemical Exposures on the Job	20%	8

II. Reproductive History and Other Risk Factors

	Section	Expected Completion Percentage	Expected Completion Time (min)
G.	Demographics	100%	2
H.	Pregnancy History	100%	4
I.	Prenatal Care Tests	100%	4
J.	Procedures Not Related to Your Pregnancy	100%	5
E.	Personal Habits: Smoking	100%	3
F.	Personal Habits: Alcohol and Food Consumption	100%	3

III. Interview Wrap-up

	Section	Expected Completion Percentage	Expected Completion Time (min)
G.	Closing	100%	1
H.	Interviewer's Remarks	0%	N/A

PROGRAMMER'S NOTES:

The primary purpose of this questionnaire is to obtain potential exposures and other risk factor data directly from the study subject. Questions will be asked according to duty positions, first, then by trimester as necessary to meet study goals.

All case-control subjects will be selected from the Department of Defense's Standard Inpatient Record Database (SIRD). Additional information, to include the subjects job history, will be obtained from the USAF Human Resource Central Researchers Database (CRDB). Information from those two data sets will be combined into a Subject Tracking Database. That database in turn will provide the subject name, contact information, duty AF Specialty Codes (AFSC), base of assignment, and infant information to use to populate this CATI.

The first section of this risk factor questionnaire begins by establishing dates and duty positions for use throughout the rest of the interview. Data must be reportable to a minimal one-month period. The program must be aware and allow for adjustments due to pre-term delivery dates or spontaneous abortions. The program must calculate time periods for the questions accordingly as well as the appropriate question branching, e.g. live birth formatted question vs. a pregnancy that ended in a miscarriage.

The study period of interest is generally the year before the delivery date of live births, which starts three months before conception and ends on the date of birth. This would include most pregnancy induced hypertension cases and all controls. For pre-term delivery cases, the study period of interest starts the three months before conception and ends on the date of birth. The start date will be determined by asking the mother for the estimated due date and allowing the computer to calculate an estimated date of conception. Finally, for spontaneous abortions, the study period of interest is the three months before conception until termination of pregnancy (DOPT). The date of conception will be calculated the same as for the pre-term delivery cases.

Once the interviewer has the expected due date, a list of various jobs, positions, and duties will be developed. We need to identify if and when the woman has switched occupational environments. The woman may have performed other duties outside the normal scope of her primary job. These duties could be in the form of restricted duties, details or even training courses.

A brief work history will be used to collect all duties in order to construct that list. The list will include all duty AFSC positions, restricted duty positions and details and training positions that lasted longer than two weeks during the specified period of interest. We anticipate subjects will have 1-3 duties during the year of interest. After collecting these data, the program will calculate a timeline to use in the remainder of the interview. All questions will be presented according to this timeline of positions. When asking a specific question, the interviewer must ask the question for each position prior to advancing to the next series of questions. For example, if a women had worked as a pilot up until the time she found out she was pregnant. After that she was assigned as the squadron's flight scheduler. The questions would be presented in the following order.

F77. As a pilot, did you work with or around solvents that contained alcohols?

Subject: Yes.

F78. About how many hours?

Subject: maybe 1

[Interviewer would prompt for the unit of frequency. In this case acceptable responses are "week", "month", "quarter" (every 3 months), or year.]

Interviewer: per

Subject: week

Interviewer: How about as a Flight scheduler?

Subject: No

CATI would automatically go to the next question.

Again, I would like to thank you for volunteering your valuable time to participant in this important study. In this interview we will be asking you questions about your family, health, work history, and lifestyle. Remember, your individual answers will remain confidential. While we talk, my supervisor may listen in to make sure I am conducting the interview properly.

ESTABLISHING REFERENCE DATES:

(FOR LIVE BIRTHS BEGIN)
I will be asking you questions primarily about your pregnancy in (SIRD:ADMDATE, YEAR ONLY).

O1. What was your baby's date of birth? (DOIB)

O2. What date did the doctor give you as the due date for the baby's birth? That is, when was the baby expected to be born? (EDD)

O2a. In order to establish a starting point for this study, do you know your estimated date of conception (EDOC)?

     YES............. Continue TO O2b..........1
     NO............... Go To O2c....................2

O2b. What was your estimated date of conception? (EDOC) (Skip to O3)

O2c. Do you recall the date of your last menstrual cycle prior to the pregnancy?

     YES............. Continue TO O2d..........1
     NO............... Go To O2e....................2

PROGRAMMER'S NOTES:

     BSTDYPRD = EDOC – 12 weeks

O2d. What was the date of your last menstrual cycle? (DLMC) (Skip to O3)

PROGRAMMER'S NOTES:

     BSTDYPRD = DLMC – 10 weeks

O2e. What week of pregnancy were you in at the time of delivery? (DWOP)

O3. What is your baby's first name? (NOIB)

Many of the questions I am going to ask will be about the year between (-3) to (DOIB). This includes the three months prior to the date you became pregnant, and the months of your pregnancy. Please think about this year for a moment; about where you lived, the work you performed, and how you spent your time.

(END LIVE BIRTH) **SKIP TO SECTION A**

(For SPONTANEOUS ABORTION BEGIN)

During this interview I will be asking questions about your pregnancy that ended around (SIRD:ADMDATE). These questions will be primarily about the three months prior to becoming pregnant, and the months during your pregnancy. I will refer to this pregnancy as the study pregnancy when I ask you questions. Please think about this time for a moment; about where you lived, the work you performed, and how you spent your time.

O4. When did the study pregnancy end? (DOPT)

O5. In order to establish a starting point for this study, do you know your estimated date of conception (EDOC)?

     YES.............. Continue TO O5a.........1
     NO................ Go To O5b...................2

O5a. What was your estimated date of conception? (EDOC) (Skip to A1)

PROGRAMMER'S NOTES:

    BSTDYPRD = EDOC – 12 weeks

O5b. Do you recall the date of your last menstrual cycle prior to the pregnancy?

     YES.............. Continue TO O5c.........1
     NO................ Go To O5d...................2

O5c. What was the date of your last menstrual cycle? (DLMC) (Skip to A1)

PROGRAMMER'S NOTES:

    BSTDYPRD = DLMC – 10 weeks

O5d. What week of pregnancy were you in at the time the pregnancy ended? (TWOP)

PROGRAMMER'S NOTES:
Mother must best guess the TWOP if exact week is unknown.

    BSTDYPRD = DOPT – (TWOP + 12 weeks)

Based upon the EDOC and the DOPT, the program should determine which trimester the pregnancy ended. The program should not ask questions about events that occurred in non-applicable trimesters.

The BSTDYPRD date in conjunction with the DOPT will define the study period. The month and year of the study period must be on the screen at all times to ensure that the interviewer would have the dates available in case the subject can not recall the study period at any time during the interview.

(END SPONTANEOUS ABORTION)

PROGRAMMER'S NOTES:
    BSTDYPRD = DLMC – 10 weeks

SECTION A: WORK HISTORY

> **PROGRAMMER'S NOTES:**
>
> A five or six alphanumeric Air Force Specialty Code (AFSC) and the base of assignment at the time of pregnancy will be supplied by the CRDB. The current AFSCs replaced a five digit numeric AFSC in 1993. The instrument should be able to use a lookup table containing new AFSCs, previous AFSCs, and formal job titles to complete the section below.

We are interested in all jobs or duty positions you held between (-3) and (DOIB/DOPT), which is three months prior to your conception through your delivery. These jobs could be in your normal duty AFSC, restricted duty within your normal duty AFSC, details which lasted for more than two weeks, or training courses you attended that lasted more than two weeks. Again, we are only interested in the duties you performed during the study period.

A1. Our work history records show that you worked at <BASE> as a <JOB TITLE1> which is Air Force Specialty Code, <AFSC> between <Month/Year> and <Month/Year> until you took time off or took maternity leave in <Month/Year>.

Is that correct?

```
        YES.............. SKIP TO A2 .................1
        NO............... Enter Corrections.........2
```

ENTER CORRECTIONS HERE:

BASE:
AFSC:
JOB TITLE1: [STATIC]   Assign Position(1) = JOB TITLE1
DATES ASSIGNED: (BEGIN DATE) (END DATE)
MATERNITY LEAVE:

> **PROGRAMMER'S NOTES:**
>
> Repeat A1 for each AFSC supplied by the CRDB.

A2. During the study period were you assigned to any restricted duties, details, or training courses that lasted more than two weeks?

```
        YES............. ....................................1
        NO............... SKIP TO A7 .................2
```

A3. At what base did you perform this/these restricted duties? (BASE)

A4. What was the title or an identifiable name for this position? [position(n)]:

A5. What dates were you assigned to this position? (START DATE) (END DATE)

A6. Did this position change at any time during the remainder of the pregnancy in the form of any addition restricted duty, detail, or training courses that lasted more than two weeks?

     YES............. RETURN TO A3 1
     NO............... 2

PROGRAMMERS NOTE:

Repeat this sequence until interviewee response is NO.

Once all positions have been identified, the program must construct the list of positions and arrange the positions in a chronological order. All remaining questions in the CATI will be asked by this list of positions.

The remaining questions in this section will be used to assist the IH abstractors in locating BEE case files. The workplace descriptions, duties performed, material and exposure summaries will be reported on an IH Exposure Abstract Summary Form. This report will serve as the subject's job identification sheet.

The following questions are about your workplace, job title, activities, materials, and exposures for each duty you performed.

Next, I would like to ask about your job as a <position(n)>.

Programmer's note: (If more than one job, repeat "Next" for the second, third etc. jobs).

A7. What was your Organization? _____ ORGANIZATION

A8. What was your Office Symbol? _____ OFFICESYMBOL

A9. What was the Duty Section Name? _____ SHOPNAME

A10. Can you briefly describe your physical surroundings at work? (TEXT FIELD - 2 LINES)

[We are looking for general characteristics such as whether it was in a hospital or on the flight line, indoors or outdoors, desk job, clean or dirty work area, etc.]

A11. What were your primary job activities or duties? (TEXT FIELD - 8 LINES)

A12. List all chemicals or physical conditions you worked with or were around. (TEXT FIELD 4 LINES)

Considering items such as chemicals, emissions, car exhaust, loud noises, radioactive materials, and high-powered electronic equipment

A13. List all medical devices, vehicles, machines, hand tools, and other apparatus you worked with or used. (TEXT FIELD 4 LINES)

D4. Did you work rotating shifts?

```
YES ........... .................................... 1
NO ............ .................................... 2
REF ........... .................................... 7
DK ............ .................................... 8
```

D5. Did you work more than 45 hours per week?

```
YES ........... .................................... 1
NO ............ .................................... 2
REF ........... .................................... 7
DK                                               8
```

PROGRAMMER'S NOTE:
Repeat questions A7 through A13, D4, D5 for each position.

SECTION B: Military Risk Factors

Now I am going to ask questions about military activities that you may have been involved in between (-3) and (DOIB/DOPT).

B1. Were you involved in any physical testing or training such as the bicycle test (the annual fitness test)?

```
YES............ .....................................1
NO.............. SKIP TO B3 .................2
REF............. SKIP TO B3 .................7
DK .............. SKIP TO B3 .................8
```

B2. In what position(s)?

Position 1
Position 2
.
.
.
Position (n)

> **PROGRAMMER'S NOTE:**
> Subject must be able to choose one, more than one, or all the positions from the list. If they only held one position, no need for interviewer to ask the follow-up question (B2,B4, etc.)

B3. Were you involved in any physiological training or testing such as flight qualification, centrifuge, virtual reality, hypobaric (dive) chamber, or hyperbaric (altitude) chamber?

```
YES............ .....................................1
NO.............. SKIP TO B5 .................2
REF............. SKIP TO B5 .................7
DK .............. SKIP TO B5 .................8
```

B4. In what positions?

Position 1
Position 2
.
.
.
Position (n)

PROGRAMMER'S NOTE:
Subject must be able to choose one, more than one, or all the positions from the list.

B5. Were you involved in any training qualifications, such as small arms, mask confidence, MOPP gear, respirator, or HAZWOPER?

```
YES............ .....................................1
NO............... SKIP TO B8 .................2
REF ............ SKIP TO B8 .................7
DK ............... SKIP TO B8 .................8
```

B6. In which type of training were you involved? Was it ...

	YES	NO
❑ small arms	1	2
❑ gas chamber (tear gas)	1	2
❑ MOPP gear (i.e. chemical warfare gear)	1	2
❑ Respirator	1	2
❑ HAZWOPER	1	2

FOR EACH YES, ASK B7

B7. In what position(s) were you involved in <TRAINING TYPE> training?

Position 1
.
.
.
Position (n)

B8. Were you involved in any field exercises that involved training in hot, cold or wet conditions with long hours and sleep loss?

```
YES........... ...................................... 1
NO............... SKIP TO B10 ............... 2
REF ............. SKIP TO B10 ............... 7
DK ............... SKIP TO B10 ............... 8
```

B9. In which position(s)?

Position 1
Position 2
.
.
.
Position (n)

B10. Were you deployed to any combat areas that involved working in hot, cold or wet conditions with long hours and sleep loss?

```
YES........... ...................................... 1
NO............... SKIP TO B12 ............... 2
REF ............. SKIP TO B12 ............... 7
DK ............... SKIP TO B12 ............... 8
```

B11. In what position(s)?

Position 1
Position 2
.
.
.
Position (n)

B12. Did you receive any immunizations, vaccines, flu shots, or injections?

```
YES............ .....................................1
NO............... SKIP TO B15 ...............2
REF............. SKIP TO B15 ...............7
DK............... SKIP TO B15 ...............8
```

B13. Which of the following did you take? Was it ...

		YES	NO	REF	DK
❑	Vaccines..	1	2	7	8
❑	Anthrax	1	2	7	8
❑	Pyridostigmine..	1	2	7	8
❑	Scopolamine	1	2	7	8

FOR EACH YES, ASK B14
NO, REF, and DK, Skip to B15.

B14. In which position(s) did you receive <INOCULATION TYPE> ?

Position 1
Position 2
.
.
.
Position (n)

B15. During the study period were you on active flying status?

```
YES............ .....................................1
NO............... SKIP TO B18 ...............2
REF............. SKIP TO B18 ...............7
DK............... SKIP TO B18 ...............8
```

B16. In which of the following aircraft did you obtain flight time? Was it ...

	YES	NO	REF	DK
☐ (Rotary) Helicopter	1	2	7	8
☐ Turbo Prop	1	2	7	8
☐ Jet	1	2	7	8
☐ Glider	1	2	7	8

FOR EACH YES, ASK B17
ELSE SKIP to B18.

B17. In what position(s) did you accrue flight time in the <AIRCRAFT TYPE> ?

Position 1
Position 2
.
.
.
Position (n)

PROGRAMMER'S NOTE:
Subject must be able to choose one, more than one, or all the positions from the list.

B18. Did you train in fire fighting using halon or other fire retardants?

```
YES ............................................. 1
NO ............... SKIP TO C1 ............... 2
REF ............. SKIP TO C1 ............... 7
DK ............... SKIP TO C1 ............... 8
```

B19. In what position(s)?

Position 1
Position 2
.
.
.
Position (n)

PROGRAMMER'S NOTE:
Subject must be able to choose one, more than one, or all the positions from the list.

SECTION C: PHYSICAL EXPOSURES (HEAT, EMF, AND NOISE)

Now I am going to ask questions about working with or around various physical conditions such as heat, radiation, and noise. We need the number of hours you were exposed to each condition either by week, month, quarter, or year.

> **P. Note:** If there is more than one position, add the following text: "I will be asking you these questions for the (n) jobs that you held during the study period. I will read the entire question for <position (1)>, and then ask for your answer to the same question for <position (2)> and <position (3)>. I can repeat the entire question at any time if you wish."

C1. While working as a <position(n)>, did you experience excessively hot, humid, and sticky air temperatures on this job? .

[such as you might find in a laundry room, around a dishwasher, working in a summer harvest, doing hot metal work, working outside in the heat or wearing protective clothing in hot environments?]

```
YES................................................1
NO.............. SKIP TO C3.................2
REF............. SKIP TO C3.................7
DK.............. SKIP TO C3.................8
```

> **Programmer's. Note:** If there is only one position, only say "While working as a <position (n)> for C1, then eliminate the text "As a <position (n)>" for the remaining questions in this section. If there is more than one position, read "While workings a <position (n)" for the first job, then say "As a <position (n)" for the remaining jobs rather than repeating the entire question (do this for all questions in this section).

C2. How many hours ___ per *week/month/quarter/year*?

> **Programmer's Note:**
>
> Throughout this questionnaire, the subject will be asked to quantify the amount of exposure time to the various agents. In order to capture the exposure correctly we must obtain the number of hours of exposure per frequency unit of time. For example, using C2, the response could be "8 hours per week", 8 hours per month, 8 hours per quarter (i.e. every 3 months), or per year. The subject can only respond in the frequency units given.

When asking this type of question, the interviewer would ask "How many hours", give the subject time to respond with a number, then prompt them for a unit of frequency by saying "per".

P. Note: Ask for each position.

C3. As a <position(n)>, did you experience cold temperatures that may have reduced your ability to move around on the job?

[such as might be experienced while wearing heavy, bulky clothing in the cold.]

```
YES............. ....................................1
NO.............. SKIP TO C5.................2
REF............. SKIP TO C5.................7
DK.............. SKIP TO C5.................8
```

C4. How many hours ___ per *week/month/quarter/year?*

P. Note: Ask for each position.

C5. As a <position(n)>, did you work with or around sources of ionizing radiation such as X-rays or radioactive materials?

```
YES............. ...................................1
NO.............. SKIP TO C8.................2
REF............. SKIP TO C8.................7
DK.............. SKIP TO C8.................8
```

C6. How many hours ___ per *week/month/quarter/year?*

P. Note: Ask for each position.

C7. Were you enrolled in the U.S. Air Force Radiation Dosimetry Program?

    YES..1

    NO..2

    REF..7

    DK..8

C8. As a <position(n)>, did you work with or around direct or active emissions of non-ionizing radiation sources? Such as from radar antennas, communication equipment, high voltage wires, large electrical motors, high powered lasers, or other high intensity light such as from welding. This does not include operators who would only monitor activities from a remote terminal.

    YES..1

    NO............... SKIP TO C10...............2

    REF............. SKIP TO C10...............7

    DK............... SKIP TO C10...............8

C9. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

C10. As a <position(n)>, were you exposed to such excessively loud noise that if you were 3 feet or less from someone you would have to yell to be heard, or to machinery that vibrated and was noisy?

    YES..1

    NO............... SKIP TO C12...............2

    REF............. SKIP TO C12...............7

    DK............... SKIP TO C12...............8

C11. How many hours ___ per *day/week/month/quarter/*year?

P. Note: Ask for each position.

The next few questions ask about exposure to machines that result in your whole body vibrating.

C12a. As a <position(n)>, on the average, how many hours per week did you spend at work riding in cars?

C12b. In trucks, jeeps, boats, trains, airplanes or helicopters ?

Programmer's Note: Ask for each position.

C13. As a <position(n)>, how many hours per week did you travel in a vehicle to and from work?

C14. As a <position(n)>, how many hours per week did you spend riding in a vehiclewhile not at work or commuting?

C15. As a <position(n)>, did you work on elevated platforms or walkways with grids that vibrated or around vibrating machines?

```
YES ............ ................................... 1
NO .............. SKIP TO C17 .............. 2
REF ............. SKIP TO C17 .............. 7
DK .............. SKIP TO C17 .............. 8
```

C16. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

Now we are going to ask questions concerning the design of your workstation.

C17. As a <position(n)>, was your posture constrained by the design of your workstation or work materials. For example, sitting in a poor chair setting, standing more than 3 hours per day, performing tasks with rigid arms, or using poorly designed tools?

YES............ 1

NO............... SKIP TO C19...............2

REF............. SKIP TO C19...............7

DK............... SKIP TO C19...............8

C18. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position. Do not repeat the examples after the first time through.

C19. As a <position(n)>, did your duties require that you use heavy or paced machinery, such as loading ramps, forklifts, paced conveyors, or required using strenuous effort?

YES............ 1

NO............... SKIP TO D1.................2

REF............. SKIP TO D1.................7

DK............... SKIP TO D1.................8

C20. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

SECTION D: PHYSICAL EXERTION AT WORK AND HOME

The next set of questions asks about physical exertion at work and at home.

D1. As a <position(n)> did your job require a lot of physical effort?

[considering factors such as bending, lifting, lowering, carrying heavy loads, walking, manual manipulation, pushing and pulling]

```
YES............ .....................................1
NO............. .....................................2
REF............. .....................................7
DK............. .....................................8
```

P. Note: Ask for each position.

Consider a full day's work to be 100%.   We would like to know what proportion of time you spent sitting, standing, walking while at work, or being active. First, I'll define each category:

Programmer's Note:
Allow the following definitions to remain visible for the interviewer to repeat as needed. When assigning percent of time validate that a 100% of time is accounted.

Sitting: isdefined as work performed while sitting at a workstation with less than one hour of standing per day

Standing: is defined as work requiring standing for more than three hours.

Walking work: is defined as work requiring walking from point to point for more than one hour per day and standing less than three hours per day.

Active work: is defined as work performed with moderate physical loads and bending more than one hour per day.

Now, lets go through each category one at a time.

D2. As a <position(n)>, what percent of your physical activity on the job was (TYPE OF ACTIVITY)?.

Sitting
_____%
Standing
_____%
Work involving walking
_____%
Active work
_____%
Total _____ % **(Must = 100%)**

Programmer's Note:

REPEAT D2 for each position. . For all questions, omit reading "as a <position> if they only had one job. Do this for the remaining questions in this section.

D3. As a <position(n)>, overall would you say the physical effort required at your job was

Negligible 1
Light 2
Moderate..... 3
Heavy......... 4
Maximum..... 5
REF 7
DK 8

P. Note: Ask for each position. Omit reading entire question for job #2, 3, etc.

The next questions are about your physical effort at home.

D6. During (-3, T1, T2, T3), how much light housework did you do? Was it...

[general childcare or other duties including cooking, cleaning up after meals, making beds, changing diapers, and folding clothes]

- ❑ None 0
- ❑ Equally shared 1
- ❑ Most 2
- ❑ All....... 3

> **Programmer's Note:**
>   Repeat for each trimester. (As applicable). Read the entire question for (-3) only. Omit restating the entire question for each trimester. Read the dates associated with the trimesters for D6 only. After that, refer to it as "1st trimester, 2nd trimester, etc..

D7. During (-3, T1, T2, T3), how much heavy housework did you do? Was it...

[carrying out the garbage, washing windows, vacuuming, cleaning the bathroom or oven, mopping the floor, loading the clothes washer, etc]

- ❑ None 0
- ❑ Equally shared 1
- ❑ Most...... 2
- ❑ All....... 3

> **Programmer's Note:**
>   Repeat for each trimester. (As applicable)

D8. During (-3, T1, T2, T3), how many children or adults that required a significant amount of assistance from you lived with you? ___# CHILDREN/ADULTS

> **Programmer's Note:**
>   Repeat for each trimester. (As applicable)

D9. During (-3, T1, T2, T3), did you regularly climb stairs with more than 4 steps in your house?

```
YES.......... ....................................1
NO.......... .......................................2
REF.......... .....................................7
DK.......... ......................................8
```

Programmer's Note:
    Repeat for each trimester. (As applicable)

D10. During (-3, T1, T2, T3) did you experience stress at home related to:?

		YES	NO	REF	DK
❑	A death in the family?......................................	1	2	7	8
❑	Involuntary family separation such as deployment ,......... or reassignment?	1	2	7	8
❑	Other family separation such as divorce?..................	1	2	7	8
❑	major illness in the family?	1	2	7	8
❑	Lack of assistance at home?...........................	1	2	7	8
❑	Change in residence?	1	2	7	8

Programmer's Note:
    Repeat for each trimester. (As applicable)

D11. During (-3, T1, T2, T3) did you experience physical trauma from

		YES	NO	REF	DK
❑	Slips, trips, or falls?...	1	2	7	8
❑	Major accidents (such as a car accident)?............................	1	2	7	8
❑	Sports injury?...	1	2	7	8
❑	Physical abuse?...	1	2	7	8
❑	Other? (SPECIFY_____)	1	2	7	8

Programmer's note: Read the entire question for (-3) only. Omit restating the entire question for each trimester. Don't read dates unless the respondent asks .

D12 Were you married at the time of conception?

YES.............. 1

NO.............. 2

REF.............. 7

DK   8

D13 Were you married at the time (of delivery/ the pregnancy ended)?

YES.............. 1

NO.............. 2

REF.............. 7

DK   8

Programmer's Note:
    Use the proper ending depending to D13 depending on whether it was a live birth or spontaneous abortion.

SECTION E: JOB SATISFACTION AND JOB STRESS

Now, I would like to ask you about the level of stress you experienced in your jobs during the study period.

E1. Overall, were you satisfied with your job as a <position(n)>?

    YES 1
    NO 2
    REF 7
    DK 8

P. Note: Ask for each position. Omit "as a <position>" if only one position held. Don't repeat entire question if multiple jobs held (as in Section D).

E2. In general, as a <position(n)>, was the job ...

    Boring 1
    Interesting 2
    Just OK 3
    REF 7
    DK 8

P. Note: Ask for each position.

E3. As a <position(n)>, did you set your own work rate?

    YES 1
    NO 2
    REF 7
    DK 8

E4. Was this rate ....

    Too slow 1
    Too fast 2
    About right 3
    REF 7
    DK 8

P. Note: Ask E3 & E4 for each position.

E5. As a <position(n)>, were your deadlines ...

    Too short 1
    Too long 2
    About right 3
    REF 7
    DK 8

P. Note: Ask for each position.

E6. As a <position(n)>, were your relationships with co-workers usually ...

    Good 1
    Average 2
    Poor 3
    Really Bad... 4
    REF 7
    DK 8

P. Note: Ask for each position.

E7. As a <position(n)>, was your relationship with your supervisor usually ...

    Good 1
    Average 2
    Poor 3
    Really Bad... 4
    REF 7
    DK 8

P. Note: Ask for each position.

E8. As a <position(n)>, was the general level of conflict ...

    High 1
    Low 2
    About what you would expect 3
    REF 7
    DK 8

P. Note: Ask for each position.

E9. As a <position(n)>, was the recognition you received for your efforts …

     More than expected 1
     Less than expected 2
     About what expected.........................3
     REF............. 7
     DK............. 8

P. Note: Ask for each position.

E10. As a <position(n)>, was the overall pressure to perform …

     Extremely low....................................1
     Somewhat low...................................2
     About right... 3
     Somewhat excessive 4
     Substantially excessive 5
     REF............. 7
     DK............. 8

P. Note: Ask for each position.

E11a. As a <position (n)>, did any of the following pregnancy related conditions increase your level of stress on the job?

	YES	**NO**	**REF**	**DK**
Back pain	1	2	7	8
Swelling in your legs, arms, fingers	1	2	7	8
Nerve pain (sciatica)	1	2	7	8

E11b Did any of these conditions adversely affect your performance on the job?

YES	**NO**	**REF**	**DK**
1	2	7	8

P. Note: Ask this two-part question for each position.

SECTION F: Chemical Exposures on the Job

Now I am going to ask questions about working with chemicals in each of your jobs.

F1. For positions held during the study period, did you work with or around any chemicals including dust, common detergents and soaps, anesthetic gases, sterilants, chemotherapy drugs, other drugs and medications, fuels and hydraulic fluids, exhaust emissions, antifreeze, solvents, paints, welding fumes, lead, metal, pesticides, fire retardant, or NBC agents?

```
    YES........... ....................................1
    NO.............. SKIP TOF53 ...............2
    REF............ SKIP TOF53 ...............7
    DK............. ...................................8
```

> Programmer's note: Omit "in each of your jobs" (text above) and "For positions held"
> (F1) if they only held one position.

F2. Which of the following exposure groups did you work with or around?

	YES	NO	REF	DK
❑ Dust, 1	2	7	8	
❑ Common detergents and soaps	1	2	7	8
❑ Anesthetic gases, sterilants, chemotherapy drugs	1	2	7	8
❑ Other drugs and medications	1	2	7	8
❑ Fuels, hydraulic fluids, exhaust, and antifreeze	1	2	7	8
❑ Solvents and paints	1	2	7	8
❑ Metals	1	2	7	8
❑ Pesticides, PCBs, Fire retardant, or NBC agents	1	2	7	8

F3. As a <position(n)>, did you work with or around ....

	YES	NO	REF	DK
❑ Construction dirt or soil dusts	1	2	7	8
❑ Fibrous dust as from asbestos, fiberglass, or textiles	1	2	7	8
❑ Chemical dust from detergents, TSP, HTC, etc	1	2	7	8
❑ Cadmium dust from paint removal, metal working, etc	1	2	7	8
❑ Lead dusts from paint removal, metal working, etc	1	2	7	8
❑ Other Metal dusts as from iron, chrome, etc	1	2	7	8
❑ Organic dusts as from wood, grains, flours	1	2	7	8

F4. How many hours ____ per week/month/quarter/year?

P. Note: Ask for each position. Go to next required subsection.

F6 As a <position(n)>, how many hours ____ per *week/month/quarter/year did you work around detergents and soaps?*

P. Note: Ask for each position.

****

F7. As a <position(n)>, did you use or work around anesthetic gases?

[such as nitrous oxide, halothane, cyclopropane, or diethyl ether]

```
YES........... ...................................1
NO.............. SKIP TO F9 .................2
REF............. SKIP TO F9 .................7
DK.............. SKIP TO F9 .................8
```

F8. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F9. As a <position(n)>, did you use or work around sterilants?

[such as ethylene oxide]

```
YES........... ...................................1
NO.............. SKIP TO F11 ...............2
REF............. SKIP TO F11 ...............7
DK.............. SKIP TO F11 ...............8
```

F10. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F11. As a <position(n)>, did you use or work around any type of chemotherapy drugs?

```
YES........... ...................................1
NO.............. ...................................2
REF............. ...................................7
DK.............. ...................................8
```

P. Note: If yes to F11, ask F12.   If no, ref, dk, go to next required subsection.

F12. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position. Go to next required subsection.

F14. As a <position(n)>, how often did you work around drugs and medications? Hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

Programmer's Note:
This completes the Anesthetic gases, sterilants, drugs questions. Go to next required section.

****

F15. As a <position(n)>, did you work around car, truck, or aircraft exhaust emissions?

```
YES............ .....................................1
NO.............. SKIP TO F17 ...............2
REF............. SKIP TO F17 ...............7
DK............... SKIP TO F17 ...............8
```

F16. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F17. As a <position(n)>, did you use or work around armament, missile, or other rocket fuel emissions?

```
YES............ .....................................1
NO.............. SKIP TO F19 ...............2
REF............. SKIP TO F19 ...............7
DK............... SKIP TO F19 ..............8
```

F18. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F19. As a <position(n)>, did you use or work around any fuels or hydraulic fluids?

[such as gasoline, diesel, jet fuel, kerosene, propane, natural gas, MOGAS, or cooking fuels]

```
YES............ .....................................1
NO.............. SKIP TO F21 ...............2
REF............. SKIP TO F21 ...............7
DK............... SKIP TO F21 ...............8
```

F20. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F21. As a <position(n)>, did you work around charcoal, tar, diesel fuel, creosote or soot generated from incomplete combustion?

```
YES............ .....................................1
NO.............. SKIP TO F23 ...............2
REF............. SKIP TO F23 ...............7
DK............... SKIP TO F23 ...............8
```

F22. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F23. As a <position(n)>, did you use or work around antifreeze, deicers, ethers or glycols.

```
YES............ .....................................1
NO.............. End subsection ............2
REF............. End subsection ............7
DK............... End subsection ............8
```

F24. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

Programmer's Note:
This completes the Fuels, exhaust, and antifreeze questions. Go to next required subsection.

****

F25. As a <position(n)>, did you use or work around industrial solvents?

[benzene, ethyl-benzene, styrene, xylene, or toluene. methyl ethyl ketone (MEK), acetone, and ketones. They are typically found in paint solvents.]

```
YES............ .....................................1
NO............... SKIP TO F27 ...............2
REF............. SKIP TO F27 ...............7
DK............... SKIP TO F27 ...............8
```

F26. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F27. As a <position(n)>, did you use or work around solvents that contained alcohols?

[ethanol, methanol, isopropyl alcohol - general cleaners and cleaning solutions]

```
YES............ .....................................1
NO............... SKIP TO F29 ...............2
REF............. SKIP TO F29 ...............7
DK............... SKIP TO F29 ...............8
```

F28. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F29. As a <position(n)>, did you work with or around chlorinated solvents such as PD680 or freon?

[trichloroethylene (TCE), 1,1,1 trichloroethane, methylene chloride, dichloroethane, perchloroethane, and freons. - paint strippers, dry cleaning solvents, and metal degreasers]

```
YES............ .....................................1
NO............... SKIP TO F31 ...............2
REF............. SKIP TO F31 ...............7
DK............... SKIP TO F31- ..............8
```

F30. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F31. As a <position(n)>, did you use or work around formaldehyde or other aldehydes?

[Found in bio-preservation, plywood, and wood paneling.]

```
YES.......... .................................1
NO.............. SKIP TO F33 ...............2
REF............ SKIP TO F33 ...............7
DK.............. SKIP TO F33 ...............8
```

F32. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F33. As a <position(n)>, did you use or work around carbon disulfide, typically used in laboratories?

```
YES.......... .................................1
NO.............. SKIP TO F35 ...............2
REF............ SKIP TO F35 ...............7
DK.............. SKIP TO F35 ...............8
```

F34. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F35. As a <position(n)>, did you use or work around ......

	YES	NO	REF	DK
❑ water-based latex paint	1	2	7	8
❑ oil-based enamels, lacquers or varnishes	1	2	7	8
❑ epoxy or polyurethane paints	1	2	7	8

```
┌──────────────────────────────────────────────────────┐
│ PROGRAMMER'S NOTE:                                     │
│ For each yes, ask F36                                  │
│ IF NO, REF, OR DK TO ALL        SKIP TO F37            │
└──────────────────────────────────────────────────────┘
```

F36. For <Type of Paint>, how many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F37. As a <position(n)>, did you use or work around epoxies?

[epoxy glues]

YES............. 1
NO............... End subsection 2
REF............. End subsection 7
DK............... End subsection 8

F38. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

Programmer's Note:
This completes the Solvent and paint questions. Go to next required subsection.

****

F39. As a <position(n)>, did you work around welding fumes?

YES............. 1
NO............... SKIP TO F41 2
REF............. SKIP TO F41 7
DK............... SKIP TO F41 8

F40. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F41. As a <position(n)>, did you use or work with light metals?

[aluminum, titanium, magnesium, manganese, or molybdenum]

YES............. 1
NO............... SKIP TO F43 2
REF............. SKIP TO F43 7
DK............... SKIP TO F43 8

F42. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F43. As a <position(n)>, did you use or work with heavy metals?

[lead, mercury, beryllium, barium, or depleted uranium]

YES.............. 1
NO.............. End subsection 2
REF............. End subsection 7
DK.............. End subsection 8

F44. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

Programmer's Note:
This completes the Metals questions. Go to next required subsection.

****

F45. As a <position(n)>, did you use or work around any type of pesticides, herbicides, insecticides, fungicides, or rodentacides?

YES.............. 1
NO.............. SKIP TO F47 2
REF............. SKIP TO F47 7
DK.............. SKIP TO F47 8

F46. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F47. As a <position(n)>, did you use or work around polychlorinated biphenyls (PCBs), formerly found in electrical transformers and other electrical components?

YES.............. 1
NO.............. SKIP TO F49 2
REF............. SKIP TO F49 7
DK.............. SKIP TO F49 8

F48. How many hours ___ per *week/month/quarter/year*?

P. Note: Ask for each position.

F49. As a <position(n)>, did you use or work around any of the various fire fighting chemicals?

[halon, aircraft fire fighting form (AFFF), fire retardants, or dry chemical fire extinguishers]

```
YES.......... ....................................1
NO.............. SKIP TO F51 ...............2
REF............. SKIP TO F51 ...............7
DK.............. SKIP TO F51 ...............8
```

F50. How many hours ___ per *week/month/quarter/year?*

P. Note: Ask for each position.

F51. As a <position(n)>, did you use or work around any nuclear, chemical or biological warfare agents?

```
YES.......... ....................................1
NO.............. SKIP TO F53 ...............2
REF............. SKIP TO F53 ...............7
DK.............. SKIP TO F53 ...............8
```

F52. In what country were you exposed to these agents? _____ COUNTRY

F53. Are there any other chemicals that you worked with during this study period that I didn't mention?

```
YES.......... ....................................1
NO.............. SKIP TO G1.................2
REF............. SKIP TO G1.................7
DK          SKIP TO G1              8
```

F54 Please list the chemicals(TEXT FIELD 4 LINES)

SECTION G: DEMOGRAPHICS

That completes all the exposure questions. Next we will ask a few questions that cover background information about you and the baby's father.

G1. Were you born in the USA?

```
YES ............ SKIP TO G3 ................ 1
NO ............. .................................... 2
REF ............ SKIP TO G3 ................ 7
DK .............. SKIP TO G3 ................ 8
```

G2. In what country were you born? _____COUNTRY

G3. What is your race or ethnic group? (DO NOT READ OPTIONS)

White, black, hispanic or Spanish, Asian/Pacific Islander, Native American, or any others not listed.

```
❑   WHITE ....................................................................... 1
❑   BLACK ...................................................................... 2
❑   HISPANIC OR SPANISH ................................................ 3
❑   ASIAN/PACIFIC ISLANDER ........................................... 4
❑   NATIVE AMERICAN ..................................................... 5
❑   OTHER (SPECIFY_____) ....................... 6
❑   REF    ........................................................................ 7
❑   DK      ........................................................................ 8
```

G4. Was the baby's father born in the USA?

```
YES ............ SKIP TO G6 ................ 1
NO ............. .................................... 2
REF ............ SKIP TO G6 ................ 7
DK .............. SKIP TO G6 ................ 8
```

G5. In what country was the father born? _____COUNTRY

G6. What is the father's race or ethnic group? (DO NOT READ OPTIONS)(

White, black, hispanic or Spanish, Asian/Pacific Islander, Native American, or any others not listed.

- ❑ WHITE..1
- ❑ BLACK 2
- ❑ HISPANIC OR SPANISH 3
- ❑ ASIAN/PACIFIC ISLANDER 4
- ❑ NATIVE AMERICAN 5
- ❑ OTHER (SPECIFY_____) 6
- ❑ REF 7
- ❑ DK 8

G7. What is the father's date of birth? MM DD YYYY
     (REF =9999 9998) (DK = 9999 9999)

G8. Was the father on active duty in the military service

	YES	NO	REF	DK
at the time of conception	1	2	7	8
at the time the pregnancy ended?	1	2	7	8

G9 What was the father's occupation? _____ Text (1 line)

SECTION H: REPRODUCTIVE HISTORY

Now I would like to ask about each one of your pregnancies, including those that ended in a live birth, still birth, induced abortion, miscarriage, tubal pregnancy or molar pregnancy.

H1. How many times have you been pregnant? _____ # PREGNANCIES

Programmer's note: IF only one pregnancy, then make sure following wording is non-repetitive and correctly stated.

❑

H2. What was the outcome of the (PREGNANCY # i.e. this, first, second, etc.) pregnancy?

❑ LIVE BIRTH...........(Go to H2a).. 1
❑ STILLBIRTH.. 2
❑ INDUCED ABORTION 3
❑ MISCARRIAGE 4
❑ TUBAL PREGNANCY 5
❑ MOLAR PREGNANCY... 6
❑ REF   7
❑ DK   8

H2a. Was it a premature birth? That is, was it earlier than 37 weeks?

        YES............. SKIP TO H2b............... 1
        NO............... SKIP TO H2c............... 2
        REF............. SKIP TO H2c............... 7
        DK............... SKIP TO H2c............... 8

H2b. At what week into the pregnancy was your delivery?_____(Week #)

H2c. Did the baby have a low birth weight? (Less than 5 lbs)

        YES............. 1
        NO............... 2
        REF............. 7
        DK............... 8

Programmer's Note:
Ask for each pregnancy identified in H1.

H3. Did you intend to get pregnant for the (PREGNANCY#) pregnancy?

```
        YES.............. ...............................1
        NO............... ...............................2
        REF............... ...............................7
        DK................ ...............................8
```

> **Programmer's Note:**
> Ask for each pregnancy identified in H1.

H4. What date did the (PREGNANCY#) pregnancy end? MM DD YYYY
     (REF =9999 9998)   (DK = 9999 9999)

> **Programmer's Note:**
> Ask H4 for each pregnancy identified in H1.

(LIVE BIRTH)
Now I would like to ask more detailed questions about your pregnancy with NOIB.

(STILLBIRTH and SPONTANEOUS ABORTION)
Now I would like to ask more detailed questions about your study pregnancy.

(Continue)

H5. Of the (PREGNANCY#) pregnancies, which number was this pregnancy? _____
#POSITION

H6. How much did you weigh before your pregnancy? _____#POUNDS

H7. Did you lose or gain weight during this pregnancy?

```
        LOST................................. ...............................................1
        GAINED .............................. SKIP TO H9............................2
        STAYED THE SAME .......... SKIP TO H10.........................3
        REF..................................... SKIP TO H10.........................7
        DK...................................... SKIP TO H10.........................8
```

H8. How much weight did you lose during this pregnancy? _____ #PoundsLost
    SKIP TO H10.

H9. How much weight did you gain during this pregnancy? _____ #PoundsGain

H10. What is your height without shoes? _____#FEET _____#INCHES

H11. How far along in weeks were you when you found out you were pregnant? ___ #WEEKS

H12. Were you actively using any method of contraception or birth control from (-3) to (DOIB/DOPT)?

```
YES..................................................1
NO.............. SKIP TO H15...............2
REF............. SKIP TO H15...............7
DK.............. SKIP TO H15...............8
```

H13. What was the last month that you used contraception or birth control prior to or during this pregnancy? MM YYYY

H14. Which of the following statements applies to you?

- ❑ You stopped using contraception to get pregnant 1
- ❑ You got pregnant during an interruption in using contraception 2
- ❑ You got pregnant while consistently using contraception 3

H15. From (-3) to (DOIB/DOPT)did you use the "morning after pill"?

```
YES..................................................1
NO.............. SKIP TO H17...............2
REF............. SKIP TO H17...............7
DK.............. SKIP TO H17...............8
```

H16. What was the last month that you used morning after pills prior to or during this pregnancy? MM YYYY

H17. Between (-3) and (DOIB/DOPT) did you take any medications to help you become pregnant?

```
YES..................................................1
NO....................................................2
REF...................................................7
DK....................................................8
```

H18 Are you aware of any hereditary factors that may explain the outcome of the study pregnancy?

```
YES..................................................1
NO....................................................2
REF...................................................7
DK                                                 8
```

IF yes, please explain. (TEXT FIELD 4 LINES)

H19 During the study pregnancy, were you diagnosed with

	YES	NO	REF	DK
❑ Pre-Eclampsia	1	2	7	8
❑ Eclampsia	1	2	7	8
❑ Toxemia	1	2	7	8
❑ Other (Specify)	1	2	7	8

SECTION I: PRENATAL TESTS

(LIVE BIRTH)
The next few questions are about prenatal tests you may have had during your pregnancy with NOIB.

(SPONTANEOUS ABORTION)
The next few questions are about prenatal tests you may have had during your study pregnancy.

I1. Did you have prenatal health care during this pregnancy?

```
YES............. ...............................1
NO............... SKIP TO J1...................2
REF............. SKIP TO J1...................7
DK............... SKIP TO J1...................8
```

I1a Of the following choices, where did you obtain your primary prenatal care? Was it...

	YES	NO
Air Force military treatment facility	1	2
Non-Air Force military treatment facility?	1	2
Civilian HMO	1	2
Private physician or clinic	1	2
Other?	1	2

I1b Where else did you obtain prenatal care? (CHOOSE ALL THAT APPLY)

	YES	NO
Air Force military treatment facility	1	2
Non-Air Force military treatment facility?	1	2
Civilian HMO	1	2
Private physician or clinic	1	2
Other?	1	2

I2. What was the date or week of pregnancy when you had your first prenatal visit, not counting the visit when you first learned you were pregnant?
MM DD YYYY   OR   WEEK __# OF PREGNANCY

I3. Did you have any ultrasound examinations that showed any abnormality with the fetus, placenta, or fluid?

     YES............ 1
     NO............... SKIP TO I9...................2
     REF............. SKIP TO I9...................7
     DK............... SKIP TO I9...................8

I4. What was the abnormality (List all)? _____ABNORMALITY

I5. What was the date or week of pregnancy when this abnormality was discovered?
MM DD YYYY   OR   WEEK __# OF PREGNANCY

I6. Did you have any other ultrasound examinations that showed a different abnormality?

     YES............ 1
     NO............... SKIP TO I9...................2
     REF............. SKIP TO I9...................7
     DK............... SKIP TO I9...................8

I7. What was the abnormality (List all)? _____ABNORMALITY

I8. What was the date or week of pregnancy when this different abnormality was discovered?
          MM DD YYYY   OR   WEEK __# OF PREGNANCY

I9. Did you have an Amniocentesis (or amnio)?

     YES............ 1
     NO............... SKIP TO I14.................2
     REF............. SKIP TO I14.................7
     DK............... SKIP TO I14.................8

I10. What was the date, or week of pregnancy, when you had this amniocentesis?
          MM DD YYYY   OR   WEEK __# OF PREGNANCY

I11. Did the amniocentesis show any abnormality?

     YES............ 1
     NO............... SKIP TO I13.................2
     REF............. SKIP TO I13.................7
     DK............... SKIP TO I13.................8

I12. What was the abnormality (List all)? _____ ABNORMALITY

I13. Was dye injected as part of the amniocentesis?

```
YES............. ...................................1
NO............. ...................................2
REF............ ...................................7
DK............. ....................................8
```

I14. Did you have a Chorionic Villus Sampling or CVS?

```
YES............. ...................................1
NO.............. SKIP TO I19................2
REF............. SKIP TO I19................7
DK.............. SKIP TO I19................8
```

I15. What was the date, or week of pregnancy when you had the CVS?
          MM DD YYYY   OR   WEEK __# OF PREGNANCY

I16. Did this test show any abnormalities?

```
YES............. ...................................1
NO.............. SKIP TO I18................2
REF............. SKIP TO I18................7
DK.............. SKIP TO I18................8
```

I17. What were the abnormalities (List all)? _____ ABNORMALITY

I18. This question is about the type of CVS that was administered. Did the CVS involve
.....

	YES	NO	REF	DK
❑ a needle inserted into your abdomen or belly, or 1		2	7	8
❑ a catheter or needle inserted into your vagina or birth canal?.. 1		2	7	8

I19. Did you have any other prenatal diagnostic test or medical procedure, such as a fetal echocardiography, blood transfusion, or blood test during this pregnancy?

```
YES............. ...................................1
NO.............. SKIP TO I21................2
REF............. SKIP TO I21................7
DK.............. SKIP TO I21................8
```

I20. What was the name of the prenatal diagnostic test or procedure (List all)? _____
TEST

I21. Did you have any complications after any prenatal diagnostic tests or medical procedures?

```
YES..............................................1
NO............... SKIP TO J1...................2
REF............. SKIP TO J1...................7
DK............... SKIP TO J1...................8
```

I22. After which procedure (List all)? _____ PROCEDURE

FOR EACH PROCEDURE IN I22 ASK I23 – I25

I23. After the <Procedure>, did you have …

	YES	NO	REF	DK
❑ Bleeding?	1	2	7	8
❑ Pain/cramps?	1	2	7	8
❑ Infection?	1	2	7	8
❑ Other ?[SPECIFY] _____	1	2	7	8

I24. Were you hospitalized?

```
YES..............................................1
NO.................................................2
REF................................................7
DK.................................................8
```

I25. Did you take any medicines before the procedure, after the procedure or both?

```
BEFORE ........................................1
AFTER ..........................................2
BOTH ...........................................3
NONE...........................................4
REF................................................7
DK.................................................8
```

SECTION J: CONDITIONS AND PROCEDURES NOT RELATED TO YOUR PREGNANCY

Next I will ask you about certain medical conditions that may have existed prior to your pregnancy and procedures not related to your pregnancy you may have had performed, such as x-rays or scans.

J1. At any time during the study period did you have any form of diabetes?

```
    YES............ .....................................1
    NO.............. Skip to J3.....................2
    REF............. Skip to J3.....................7
    DK.............. Skip to J3.....................8
```

J2. Did you take any medication to control the diabetes?

```
    YES............ .....................................1
    NO.............. ....................................2
    REF............. ....................................7
    DK.............. ....................................8
```

J3. Did you take any medications during the study pregnancy such as blood thinners, anti hypertensives, anti depressants or mood altering medications?

```
    YES............ .....................................1
    NO.............. ....................................2
    REF............. ....................................7
    DK.............. ....................................8
    If yes, list (text 2 lines)
```

J4. Up to and including this pregnancy, have you ever been diagnosed with ......

		YES	NO	REF	DK
❑	High Blood Pressure?	1	2	7	8
❑	Diabetes?	1	2	7	8
❑	Thyroid disease?	1	2	7	8
❑	Asthma?	1	2	7	8
❑	Seizures?	1	2	7	8
❑	Cancer?	1	2	7	8
❑	Kidney disease?	1	2	7	8
❑	Sexually transmitted diseases	1	2	7	8
❑	Other? (SPECIFY_____)	1	2	7	8

J5. Between (-3) and (DOIB/DOPT) did you have any of the following?

		YES	NO	REF	DK
❑	Dental X-rays	1	2	7	8
	Mammograms, upper GI, IVP, and other X-rays	1	2	7	8
❑	CT/CAT scans?	1	2	7	8
❑	Magnetic Resonance Imaging (MRI)?	1	2	7	8
❑	Radionuclide study or scan?	1	2	7	8
❑	Other? (SPECIFY_____)	1	2	7	8

PROGRAMMER'S NOTE:
FOR EACH YES, ASK J6 – J9 (except for J6 if a "YES" to dental)
If NO, REF, DK ...... Skip to K1

J6. What part of your body was examined _____ (PRECODE)

J7. What month or months were the test conducted? (List All) _____ (MONTH)

PROGRAMMER'S NOTE:
FOR EACH MONTH ASK J8

J8. How many tests did you have in (MONTH)?

PROGRAMMER'S NOTE:
For each Test ask J9

J9. Was your pelvis shielded with a lead apron?

     YES 1
     NO 2
     REF 7
     DK 8

SECTION K: PERSONAL HABITS - SMOKING

The next questions are about tobacco use.

K1. Between (-3) and (DOIB/DOPT) did you ever

	YES	NO	REF	DK
❑ Smoke cigarettes	1	2	7	8
❑ Smoke cigars/pipes	1	2	7	8
❑ Chew smokeless tobacco	1	2	7	8

PROGRAMMER'S NOTE:

If Smoke Cigarettes is Yes ASK K2
If Smoke cigars/pipes is Yes ASK K6
If Chew smokeless tobacco is Yes ASK K10

If NO, REF, or DK ..... Skip to K14

K2. On the average, about how many cigarettes did you initially smoke per day during this period? (DON'T READ OPTIONS)

<1/Day, 1/day, 2-4/day, ½ PK/day, 1 PK, 1.5 PKS/day, 2 PKS/ DAY, >2 PKS/DAY

```
<1/ DAY ................................. 01
1/ DAY ................................... 02
2-4 / DAY .............................. 03
1/2 PK / DAY.......................... 04
1 PK ...................................... 05
1.5 PKS / DAY ....................... 06
2 PKS / DAY .......................... 07
>2 PKS / DAY ........................ 08
REF........................................ 97
DK ......................................... 98
```

K3. Did the amount you smoked change at any time during this period?

```
YES......... ................................ 1
NO.............. SKIP TO K14 ............... 2
REF ........... SKIP TO K14 ............... 7
DK .............. SKIP TO K14 ............... 8
```

K4. What month did you change your amount of smoking? _____(MONTH)

K5. About how many cigarettes did you typically smoke per day after you changed your level of smoking? (DON'T READ OPTIONS)

```
<1/ DAY ................................01
1/ DAY .................................02
2-4 / DAY ............................03
1/2 PK / DAY.......................04
1 PK...................................05
1.5 PKS / DAY ....................06
2 PKS / DAY ........................07
>2 PKS / DAY ......................08
REF.....................................97
DK ......................................98
```

K6. About how many cigars or pipes did you initially smoke per day during this period?

(DON'T READ OPTIONS)

```
<1 / DAY ...............................1
1 / DAY................................2
2-4/DAY ...............................3
5 OR MORE/DAY ....................4
REF.......................................7
DK .......................................8
```

K7. Did the amount you smoked change at any time during this period?

```
YES............ ...............................1
NO............... SKIP TO K14 .............2
REF............. .................................7
DK............. .................................8
```

K8. What month did you change the amount you smoked? _____(MONTH)

Have the program calculate the reference month from the month giving above.

K9. About how many did you smoke per day after the change?
(DON'T READ OPTIONS)

      <1 / DAY 1
      1 / DAY 2
      2-4/DAY 3
      5 OR MORE/DAY 4
      REF...7
      DK 8

PROGRAMMER'S NOTE:
If Chew smokeless tobacco is Yes ASK K10
   Else Skip to K14

K10. How many hours per day did you chew smokeless tobacco?

(DON'T READ OPTIONS)

      <1 HOUR / DAY.........................1
      1 – 3 HOURS / DAY...................2
      > 3 HOURS / DAY 3
      REF...7
      DK 8

K11. Did the amount you chew change at any time during this period?

      YES........... 1
      NO............... SKIP TO K14 2
      REF 7
      DK............. 8

K12. What month did you change your chewing habits? _____(MONTH)

PROGRAMMER'S NOTE:
Have the program calculate the reference month from the month giving above.

K13. How many hours per day did you chew smokeless tobacco after the change?

(DON'T READ OPTIONS)

    <1 HOUR / DAY..........................1
    1 – 3 HOURS / DAY...................2
    > 3 HOURS / DAY 3
    REF...7
    DK 8

K14. Were you routinely exposed to second hand smoke at home or work?

    YES............ 1
    NO.............. 2
    REF............. 7
    DK.............. 8

SECTION L: PERSONAL HABITS - ALCOHOL AND FOOD CONSUMPTION

Now I'm going to ask you some questions about drinking alcoholic beverages during the study period. We define an alcoholic drink as one beer, one glass of wine, one mixed drink, or one shot of liquor.

L1. From (-3) to (DOIB/DOPT), did you drink any alcoholic beverages?

        YES............. 1
        NO.............. SKIP TO L12................2
        REF............. SKIP TO L12................7
        DK.............. SKIP TO L12................8

L2. On the average, how many days per month did you drink alcoholic beverages at the beginning of this period? (max 31)

L3. On days when you drank, how many drinks per day did you have? (max 20)

L4. What is the greatest number of drinks you had on any one occasion? (max 20)

L5. What type(s) of alcohol did you usually drink?

		YES	NO	REF	DK
❑	Beer..	1	2	7	8
❑	Wine..	1	2	7	8
❑	Mixed drinks	1	2	7	8
❑	Shot of liquor..	1	2	7	8
❑	Other alcohol (SPECIFY:_____)	1	2	7	8

L6. Did the amount of drinks or frequency of drinking change at any time during this period of time?

        YES............. 1
        NO.............. SKIP TO L12................2
        REF............. SKIP TO L12................7
        DK.............. SKIP TO L12................8

L7. What month did you change the amount you drank? _____(MONTH)

PROGRAMMER'S NOTE:
Have the program calculate the reference month from the month giving above.

L8. On the average, how many days per month did you drink after the change?

L9. On the average, how many drinks per day did you have? (max 20)

L10. What was the greatest number of drinks you had on any one occasion after the change? (max 20)

L11. What type(s) of alcohol did you usually drink?

		YES	NO	REF	DK
❑	Beer	1	2	7	8
❑	Wine	1	2	7	8
❑	Mixed drinks	1	2	7	8
❑	Shot of liquor	1	2	7	8
❑	Other alcohol (SPECIFY:_____)	1	2	7	8

L12. During the study period, how frequently did you consume processed or smoked meat and fish, such as sausage, salami, bologna, chorizo, smoked ham or hot dogs?

```
Never ..................... 1
< Once a Month ..... 2
Monthly ................. 3
Weekly ................. 4
Daily ..................... 5
REF ....................... 7
DK ......................... 8
```

L13. Did the frequency change at any time during this period?

```
YES ................................................1
NO .............. SKIP TO M201 .............2
REF ............. SKIP TO M201 .............7
DK .............. SKIP TO M201 .............8
```

L14. How frequently did you consume processed or smoked meat and fish after the change?

```
Never ..................... 1
< Once a Month ..... 2
Monthly ................. 3
Weekly ................. 4
Daily ..................... 5
REF ....................... 7
DK ......................... 8
```

SECTION M: CLOSING

M1. That completes the interview. In case you move, please provide the name and address of someone who should always know how to contact you? This information will remain confidential.

```
YES.............. ......................................1
NO............... SKIP TO CLOSING .....2
```

ADDITIONAL CONTACT INFORMATION:

FIRST NAME: _____   LAST NAME: _____

STREET: _____

CITY, STATE: _____   ZIP: _____

HOME PHONE:_____   WORK PHONE: _____

RELATIONSHIP: _____

(Closing)

We would like to thank you for your participation in this study. The results will improve women's reproductive health in and out of the Air Force. Thank you.

SECTION N: INTERVIEWER'S REMARKS

N1. The overall quality of this interview was

    HIGH QUALITY................................1
    GENERALLY RELIABLE 2
    QUESTIONABLE. 3
    UNSATISFACTORY.........................4

N2. Did the father contribute to the mother's answers?

    YES............. 1
    NO............. 2
    DK................. 3

N3. Did some other person contribute to the mother's answers?

    YES............. 1
    NO............. 2
    DK............. 3

    WHO WAS IT? _____

N4. Use this space for any other comments you have which may affect the interpretation of the respondent's answers. (INTERVIEWER COMMENTS. 4 lines)

SECTION IV   QUESTION BY QUESTION SPECIFICATIONS

The respondents you will be calling were sent information about the study by mail and the subject coordinator has received the respondents signed Informed Consent document and Medical Record Release form either by fax or by mail agreeing to participate in the study. If the participant is unable to conduct the interview at the time of the call, try to reschedule the interview within the next week if possible.

INTRODUCTION

"Hello. My name is <**Interviewer's Name**>. May I speak with <**First and Last Name of Mother**> regarding her participation in an Air Force sponsored research study?"

IF <First and Last Name of Mother> ISN'T HOME

"When would be a good time for us to call back?"

IF THEY KNOW

Date:_____ Time: _____

"Can she be reached at this same telephone number?"

[VERIFY TELEPHONE NUMBER.]

Phone number (if different) _____

Thank you, I will call her back on (date) at (time). Goodbye."

[END CALL]

IF THEY DON'T KNOW

"Can you please give her this toll free number (1 800 444-5234, extension 114) so she can leave us a message to arrange a time to call her back?"

Thank you. Goodbye."

[END CALL]

LEAVING MESSAGE ON AN ANSWERING MACHINE

"Hello, this is <**Interviewer's Name**>. I am calling <**First and Last Name of Mother**> concerning an Air Force sponsored research study. Would you please have <**First Name of Mother**> call us toll free at (1 800 444-5234, extension 114) and leave us a message arranging a time for us to call her back. Thank you. Goodbye."

[END CALL]

WHEN PARTICIPANT IS ON THE PHONE:

"Hello. My name is <**Interviewer's Name**> and I am calling regarding the Air Force Reproductive Health study.

"We have received your consent forms and would like to schedule the telephone interview with you. The interview will take no longer than one hour. Is now a good time for us to conduct the interview?"

IF YES

Proceed to QUESTIONNAIRE.

IF NO

"We would like to schedule the interview within the next week. When would be a good day and time for you?"

[RECORD DATE AND TIME.]

Date: _____ Time: _____

[VERIFY TELEPHONE NUMBER.]

"Can you be reached at this same telephone number?"

[RECORD PHONE NUMBER (if different).]

Phone _____

"Thank you. We will call you back at (PHONE NUMBER) on (DATE) at (TIME). Goodbye. "

..............................[END CALL]

QUESTIONNAIRE

INTRODUCTION

The introduction, read in a clear and friendly tone, will aid in establishing rapport with the respondent and reaffirm the importance of her participation.

"Again, I would like to thank you for volunteering your valuable time to participant in this important study. In this interview we will be asking you questions about your family, health, work history, and lifestyle. Remember, your individual answers will remain confidential. While we talk, my supervisor may listen in to make sure I am conducting the interview properly."

ESTABLISHING REFERENCE DATES:

The goal of this section is to obtain accurate reference dates for key events in the study pregnancy to allow the computer to calculate dates referred to in the remainder of the CATI. Because we will be interviewing both women whose pregnancies resulted in live birth and women whose pregnancies terminated in a spontaneous abortion (miscarriage) or stillbirth, the following questions, which establish reference dates, are asked in two ways. The computer program generates the appropriate questions.

"To begin, what is your date of birth?"

(FOR LIVE BIRTHS BEGIN)

"I will be asking you questions primarily about your pregnancy in (date)."

This question identifies the pregnancy of interest since the respondent may have had more than one pregnancy. The computer screen will display the year the respondent was admitted to the hospital for this pregnancy. This information was gathered from a military database called the Standard Inpatient Record Database (SIRD) and refers to a particular admission date for the study pregnancy of interest.

O1. "What was your baby's date of birth?"

Record the month, date, and year of baby's birth (MM/DD/YYYY).

O2. "What date did the doctor give you as the due date for the baby's birth? That is, when was the baby expected to be born?"

This is the date diagnosed by the doctor as the expected due date and is not necessarily the baby's birthday. If the respondent does not remember the exact expected due date, we would like her to provide her best guess. She will probably remember approximately how

close to the expected due date her child was born. Have her estimate the month and day as early (01) middle (15) or late (28) in the month. For example, if was late May, 1995, enter 05 28 1995, and choose "estimated" in the flag field which follows the date field on the screen.

From the preceding two questions we will learn if the pregnancy was full term or an early birth and we will be able to establish the end date of the study period.

Questions 02a-02e establish the beginning of the study period, which is three months prior to the date of conception. In the event the respondent does not know the estimated date of conception (asked in questions 02a and 02b), additional information will be gathered in questions 02c-02e in order to obtain the most accurate estimate.

O2a. "In order to establish a starting point for this study, do you know your estimated date of conception?

> YES .... Continue TO O2b 1
> NO .... Go To O2c 2

The date of conception (the date the woman's egg was fertilized) can be determined either from her own knowledge or from her doctor's diagnosis.

O2b. "What was your estimated date of conception?" (Skip to O3)

With this information, the computer will calculate the beginning of the study period (three months prior to the date of conception) and skip to question O3.

O2c. "Do you recall the date of your last menstrual cycle prior to the pregnancy?"

> YES .... Continue TO O2d 1
> NO .... Go To O2e 2

In most cases, a pregnant woman's menstrual cycle stops temporarily between the date of conception through the end of her pregnancy. This question is asking about the last menstrual cycle the woman experienced prior to her pregnancy, and more specifically, the date this cycle began. (The date the cycle began is the first day of her last menstrual period.)

O2d. "What was the date of your last menstrual cycle?" (Skip to O3)

If the respondent knows this date, the computer will calculate the beginning of the study period as being ten weeks prior to the date of the last menstrual cycle. The questions will then skip to O3. If the respondent does not know this date, continue to O2e.

O2e. What week of pregnancy were you in at the time of delivery?

Probe for her best estimate if the exact week is unknown.

O3. "What is your baby's first name?"

Enter the baby's first name in the text field. Confirm the correct spelling.

"Many of the questions I am going to ask will be about the year between (three months prior to conception) to (date of baby's birth). This includes the three months prior to the date you became pregnant, and the months of your pregnancy. Please think about this year for a moment; about where you lived, the work you performed, and how you spent your time."

Note: the dates in parenthesis will be inserted automatically by the computer.

(END LIVE BIRTH) SKIP TO SECTION A

(For SPONTANEOUS ABORTION BEGIN)

"During this interview I will be asking questions about your pregnancy that ended around (date). These questions will be primarily about the three months prior to becoming pregnant, and the months during your pregnancy. I will refer to this pregnancy as the study pregnancy when I ask you questions. Please think about this time for a moment; about where you lived, the work you performed, and how you spent your time."

The preceding paragraph will appear on the computer screen if the pregnancy ended in spontaneous abortion (miscarriage) or still birth. Again, the date that appears on the screen will identify which pregnancy determines the study period.

O4. "When did the study pregnancy end?"

If the mother doesn't know the exact date of the pregnancy termination (the date they lost the baby), we must have an estimate. Ask her to estimate the month and day as early (01) middle (15) or late (28) in the month. For example, if it was _late_ May, 1995, enter 05 28 1995, and choose "estimated" in the flag field which follows the date field on the screen. This date determines the end of the study period.

O5. "In order to establish a starting point for this study, do you know your estimated date of conception?"

        YES .... Continue TO O5a 1
        NO .... Go To O5b 2

The date of conception (the date the woman's egg was fertilized) can be determined either from her own knowledge or from her doctor's diagnosis.

O5a. "What was your estimated date of conception?" (Skip to A1)

With this information, the computer will calculate the beginning of the study period (three months prior to the date of conception) and skip to Section A.

O5b. "Do you recall the date of your last menstrual cycle prior to the pregnancy?"

```
YES .................Continue TO O5c ................1
NO ...................Go To O5d...........................2
```

The date we need to identify is the first day of the last menstrual period before pregnancy began.

O5c. "What was the date of your last menstrual cycle? (Skip to A1)

If the respondent knows this date, the computer will calculate the beginning of the study period as being ten weeks prior to the date of the last menstrual cycle. The questions will then skip to A1. If the respondent does not know this date, continue to O5d.

O5d. "What week of pregnancy were you in at the time the pregnancy ended?"

Although the respondent may be sensitive about this event, we must have at least an approximate time from which to calculate the duration of the study period. Gently probe for her best estimate if the respondent is not sure in what week of her pregnancy the miscarriage occurred.

(END SPONTANEOUS ABORTION)

SECTION A: WORK HISTORY

"We are interested in all jobs or duties you held between (date) and (date), which is three months prior to your date of conception through the duration of your pregnancy. These jobs could be in your normal duty AFSC, restricted duty within your normal duty AFSC, details which lasted for more than two weeks, or training courses you attended that lasted more than two weeks. Again, we are only interested in the duties you performed during the study period."

Although we have information about the Air Force Specialty Code (AFSC) and the base where the respondent was stationed during the study period, we need to confirm that this information is correct. We also need to learn if she performed any additional duties, was placed on restricted duty, assigned a particular detail, or took training courses during the study period that we may not know about. In military terminology, a duty is an assigned task, occupation, or place of service and may be used interchangeably with JOB, JOB TITLE, or DUTY POSITION. Details refer to an appointment or assignment for a special task. It is important to note that we are ONLY looking at duties, details, restricted duties, or courses that lasted more than two weeks.

For each position lasting more than two weeks, we want to gain open ended, self-report responses from the women describing the position. Because we will be asking very specific exposure questions in later sections, this is an opportunity for the respondent to explain her job from her perspective. It also will serve to jog her memory for the later sections.

A1. "Our work history records show that you worked at <BASE> as a <JOB TITLE1> which is Air Force Specialty Code, <AFSC> between <Month/Year> and <Month/Year> until (took maternity leave/when your study pregnancy ended).

Proper ending will appear on screen depending on live birth or spontaneous abortion.

Is that correct?"

YES .... SKIP TO A2 1
NO .... Enter Corrections 2

The computer program will display on the screen the respondent's work history information (base, job title, AFSC, dates) recorded in the Subject Tracking Database. This information is supposed to be limited to the study period. If this information is not accurate, it needs to be corrected at this time. It is possible that the respondent may have more than one job listed in the database (this computer program allows the input of a maximum of nine jobs-unlikely they will have more than 2). This question, and the opportunity to make corrections, will be repeated for each job title listed. Note: the Air Force Specialty Code (AFSC) is generally a numeric code designating a general class of jobs. Within each AFSC, there may be multiple job skill levels.

ENTER CORRECTIONS HERE:
BASE:
AFSC:
JOB TITLE1:   **Assign Position(1) = JOB TITLE1**
DATES ASSIGNED: (BEGIN DATE) (END DATE)

When did you take maternity leave?

Maternity leave question is only asked for live birth.

A2. "During the study period were you assigned to any restricted duties, details, or training courses that lasted more than two weeks?"

    YES...1
    NO..................SKIP TO A7......................2

If the respondent answers "yes" to this question, we need to know at what base she performed this additional assignment, the title or name of the position, and the start and end dates. If she answers "no", the program will skip to question A7. Restricted duties refer to changes in their normal activities. For example, pilots may be restricted from flying and switched to a temporary desk job; hospital workers may be restricted from working with radiation.

A3. "At what base did you perform this/these restricted duties?"

Record the name of the base in the text field (such as Travis AFB) where the restricted duties (or details, or training courses) were performed. If the respondent had only one restricted duty, say "at what base did you perform this restricted duty." If they had more than one duty, say "at what base did you perform these restricted duties."

A4. "What was the title or an identifiable name for this position?"

Record the title or identifiable name in the text field. Ideally, the title or identifiable name should be the official name of the job title used by the Air Force if there is an "official" name, but most cases there may not be. Probe the respondent for the name, but if they don't know, record their best guess.

A5. "What dates were you assigned to this position?"

Dates need to be recorded (MM/YYYY). If the respondent is not sure of the exact dates, probe for her best guess.

A6. "Did this position change at any time during the remainder of the pregnancy in the form of any additional restricted duty, detail, or training courses that lasted more than two weeks?"

    YES................RETURN TO A3 1
    NO...2

We are interested in every additional duty the respondent performed for more than two weeks in the study year. Question A6 will be repeated until the respondent answers "no" (up to a maximum of 9 positions).

"The following questions are about your workplace, job title, activities, materials, and exposures for each duty you performed."

The program will now ask a series of questions about each job the respondent performed during the study period. Each job will be discussed in chronological order.

"Next I would like to ask about your job as a <position(n)>".

A7. "What was your Organization?" _____

**This refers to the specific organization they were under, such as 22 Fighter Wing, 12th
Tactical Fighter wing. These are common designations that the respondent should know.**

A8. "What was your Office Symbol?"_____

Again, they should know this. Example: 22 FW/OPS, 22FW/14FS

A9. "What was the Duty Section Name?" _____

Example: Facilities Management, Warehouse, MEMO (Medical Equipment Management Office).

**You need to record the respondent's answers to A10 – A12, open-ended questions, in
limited text fields. Record the responses as clearly and concisely as possible.**

A10. "Can you briefly describe your physical surroundings at work?"

**The following is an interviewer prompt. This highlighted information is for you to use
ONLY if the respondent needs additional guidance or clarification.**

[We are looking for general characteristics such as whether it was in a hospital or on the
flight line, indoors or outdoors, desk job, clean or dirty work area, etc.]]

**We want a brief physical description to get an idea of the surroundings where they worked,
including such items as being indoors or outdoors. You can enter up to two lines of text.**

A11. "What were your primary job activities or duties?"

**The goal of this question is to get the respondent to think about their job to aid in recall for
later questions. We are looking for the activities or duties they performed a majority of the
time. Some examples may include driving a fork lift, drawing blood, word processing, etc.
Verbs/Action Words.**

You can enter up to eight lines of text.

A12. "A12. "List all chemicals or physical conditions you worked with or were around."
(TEXT FIELD 4 LINES)

Considering items such as chemicals, emissions, car exhaust, loud noises, radioactive
materials, and high-powered electronic equipment

**Again, this is a question to aid in the respondents recall for later questions. Only read the
prompt if the respondent needs guidance or clarification. .. You can enter up to 8 lines of
text.**

A13. "List all medical devices, vehicles, machines, hand tools, and other apparatus you worked with or used." (TEXT FIELD 4 LINES)

We would like to know what sort of machinery, equipment, and tools they worked with. The answers are not limited to what is listed above, but make sure they do not get off track.

Note: the following two questions are coded D4 and D5 rather than A14 and A15 for programming purposes.

D4. Did you work rotating shifts?

       YES...1
       NO..2

The respondent should know if they worked rotating shifts.

Work shifts can be generally classified as DAY (day time hours), SWING (late afternoon to night), and NIGHT (late evening to early morning). An example of working a rotating shift would mean working a variety of shifts (DAY, SWING, or NIGHT) for a given position. The question is really asking if there is a drastic change in the hours in which they work versus a constant schedule. A change resulting in only a few hours, or working weekends versus the week day would not be considered a rotating shift.

D5. Did you work more than 45 hours per week?

       YES...1
       NO..2

A "YES" would apply to respondents who work more than 45 hours a week on a regular basis (at least 2 weeks a month).

The preceding nine questions (A7 through A13, D4, and D5) will be asked for each position listed in the study period.

SECTION B: Military Risk Factors

In this section we will ask the respondents questions about various military activities they may have engaged in <u>during the study period</u>. For each position, we want to find out the specific military activities in which the respondent participated. Therefore, after a "yes" response to any of the activities in this section, the computer screen will display a list of the respondent's positions held during the study period. You will read the list and record all positions in which that particular activity took place.

"Now I am going to ask questions about military activities that you may have been involved in between (date) and (date)."

The dates will be automatically inserted by the computer, and correspond to three months prior to conception to the end of the pregnancy.

B1. "Were you involved in any physical testing or training such as the bicycle test (THE ANNUAL FITNESS TEST)?"

      YES...1
      NO.................SKIP TO B3.....................2

This question refers to general aerobic capacity testing. In theory, all Air Force personnel would go through this so it is likely that most if not all respondents would answer "yes".

B2. "In what position(s)?"

Position 1
Position 2
.
.
.
Position (n)

Check all that apply. If the respondent only held one position, do not ask question. Enter "1" to proceed.

B3. Were you involved in any physiological training or testing such as flight qualification, centrifuge, virtual reality, hypobaric (DIVE) chamber, or hyperbaric (ALTITUDE) chamber?

      YES...1
      NO.................SKIP TO B5.....................2

This training or testing is mainly for flight crews, to include pilots, navigators, electronic warfare officers, and flight nurses. Relatively few positions require this type of extensive testing.

B4. In what positions?

Position 1
Position 2
.
.
.
Position (n)

Check all that apply. If the respondent only held one position, do not ask question. Enter "1" to proceed.

B5. "Were you involved in any training qualifications, such as small arms, mask confidence, MOPP gear, respirator, or HAZWOPER?"

YES..1
NO..................SKIP TO B8.....................2

Any Air Force job could require one or more type of this training. The respondent should know if they had any of these training qualifications.

For interviewer background information:
- *Small arms*: **guns**
- *Mask confidence*: **gas chamber or tear gas training**
- *MOPP gear*: **Military Oriented Protective Posture. Includes chemical warfare gear.**
- *Respirator*: **a device worn over the nose and mouth to prevent the inhalation of hazardous substances.**
- *HAZWOPER:* **Hazardous waste operations and emergency response.**

B6. "In which type of training were you involved? Was it ..."

	YES	NO
❑ small arms 1		2
❑ gas chamber (TEAR GAS) 1		2
❑ MOPP gear (i.e. CHEMICAL WARFARE GEAR).............1		2
❑ Respirator...1		2
❑ HAZWOPER 1		2

All we want to know is YES or NO. Be sure to keep them on track for B5 and B6 (they may get sidetracked – try to keep them focused). Instead of going directly to "In what positions", we want the respondent to specify exactly in which of the training she was involved. Check all that apply.

For interviewer background information:
- *Small arms*: **common in all Air Force jobs**
- *Mask confidence*: **common in all Air Force jobs**

- *MOPP gear*: common in all Air Force jobs
- *Respirator*: usually for industrial areas such as maintenance workers or painters. Also some medical personnel.
- *HAZWOPER:* anyone trained to perform disaster response....mainly civil engineers, Bio-environmental engineers (BEE's), public health personnel, support service personnel.

FOR EACH YES, ASK B7

B7. "In what position(s) were you involved in <TRAINING TYPE> training?"

Position 1
.
.
.
Position (n)

Check all that apply. If the respondent only held one position, do not ask question. Enter "1" to proceed.

If the respondent held more than one position, the computer will cycle through each training type checked in B6 (small arms, mask confidence, etc.).

B8. "Were you involved in any field exercises that involved training in hot, cold or wet conditions with long hours and sleep loss?"

```
YES........................................................1
NO.................SKIP TO B10...................2
```

This question is somewhat subjective. What one person may consider "hot" may be comfortable for someone else. The respondent's perception of the conditions in the field exercises determines the response. This question is asking about field exercises under non-hostile conditions.

B9. "In which position(s)?"

Position 1
Position 2
. . .
Position (n)

Check all that apply. If the respondent only held one position, do not ask question. Enter "1" to proceed.

B10. "Were you deployed to any combat areas that involved working in hot, cold or wet conditions with long hours and sleep loss?"

YES..1
NO..................SKIP TO B12....................2

As in the previous question about field exercises, the respondent determines if the conditions in the combat areas where she was deployed warrant a "yes" response to this question. Note, this refers to activities under HOSTILE conditions and may include peace keepers, deployment in Desert Storm, Desert Shield, Bosnia, Panama, etc. Be sure to keep the respondent on track.

B11. "In what position(s)?"

Position 1
Position 2
. . .
Position (n)

Check all that apply. If the respondent only held one position, do not ask question. Enter "1" to proceed.

B12. "Did you receive any immunizations, vaccines, flu shots, or injections?"

YES 1
NO ....SKIP TO B15 2

If the answer is "YES" we first want the respondent to specify the type of immunizations they received. Then, we will ask them "in what positions" by immunization.. Again, be sure to keep them on track.

B13. "Which of the following did you take? Was it ..."

	YES	NO	REF	DK
❑ Vaccines	1	2	7	8
❑ Anthrax	1	2	7	8
❑ Pyridostigmine	1	2	7	8
❑ Scopolamine	1	2	7	8

FOR EACH YES, ASK B14
NO, REF, and DK, Skip to B15.

If they don't know, have them choose their best guess.

For interviewer background information:
- *Vaccines:* **Such as Hepatitis B, influenza (flu), measles**
- *Anthrax*: **Mostly given to those who are "on mobility", but eventual goal is to have all active and reserve service members vaccinated.**
- *"On mobility"*- **This is a status that many Air Force members can be assigned. It means that the person is "on call and can be called upon to deploy anywhere in the world in only a few hours time". The deployment at can be overseas or stateside such as after a hurricane. When a member is assigned to a "mobility" position, they are required to have all vaccines up to date.**
- *Pyridostigmine:* **Nerve Gas antidote.**
- *Scopolamine:* **Motion sickness**

B14. "In which position(s) did you receive <INOCULATION TYPE>?"

Position 1
Position 2
.
.
.
Position (n)

Check all that apply. If the respondent only held one position, do not ask question. Enter "1" to proceed.

B15. "During the study period were you on active flying status?"

YES 1
NO .... SKIP TO B18 2

If the respondent was on active flying status, we want to know specifically in what type of aircraft she obtained flight time.

B16. "In which of the following aircraft did you obtain flight time? Was it ..."

	YES	NO	REF	DK
❑ (ROTARY) Helicopter 1		2	7	8
❑ Turbo Prop 1		2	7	8
❑ Jet 1		2	7	8
❑ Glider 1		2	7	8

Check all that apply.

FOR EACH YES, ASK B17
ELSE SKIP to B18.

For interviewer's information:
Rotary helicopter-includes all helicopters. Examples are the "Jolly Green" and "Black Hawk".
Turbo props-only a few types used, includes 130's.
Jets-planes with jet engines such as fighters, bombers, aircraft carriers, C5's
Gliders-a special class of aircraft. Mainly only used at the Air Force Academy.

B17. "In what position(s) did you obtain flight time in the <AIRCRAFT TYPE> aircraft?"

Position 1
Position 2
.
.
.
Position (n)

Check all that apply. If the respondent only held one position, do not ask question. Enter "1" to proceed.

B18. "Did you train in fire fighting using halon, AFFF or other fire retardants?"

YES..1
NO...................SKIP TO C1......................2

This does not refer to basic small hand-held fire extinguisher training. We are looking for actual training in fighting fires with exposures to chemical fire retardants such as halon or AFFF (aircraft fire fighting foam) during the study period.

B19. "In what position(s)?"

Position 1
Position 2
.
.
.
Position (n)

Check all that apply. If the respondent only held one position, do not ask question. Enter "1" to proceed.

Note, the job title could be something other than fire fighter.

SECTION C: PHYSICAL EXPOSURES (HEAT, EMF, AND NOISE)

"Now I am going to ask questions about working with or around various physical conditions such as heat, radiation, and noise. We need the number of hours you were exposed to each condition either by week, month, quarter, or year."

If the respondent held more than one position, the following text will appear on the screen:

"I will be asking you these questions for all jobs that you held during the study period. I will read the entire question for the first position, and then ask for your answer to the same question for the other positions. I can repeat the entire question at any time if you wish."

We want to limit unnecessary repetition.

In this section we want to learn about the respondent's exposures to the physical conditions mentioned above (heat, radiation and noise). Additionally, we will address in this section the respondent's exposure to whole body vibration, the physical conditions experienced in her work station, and the level of effort required by her jobs. The program will display on the screen each of the questions in this section for every position held by the respondent in the study year. In order to analyze the degree of exposure to these various conditions, we need to determine the amount of exposure time, if any, to each condition. After each question answered "yes", we will ask the respondent the number of hours she was exposed to the various conditions. The number of hours can be recorded per week, per month, per quarter, or per year. It is very important to accurately record the hours in the correct frequency unit of time.

C1. "While working as a <position(n)>, did you experience excessively hot, humid, and sticky air temperatures on this job?"

[such as you might find in a laundry room, around a dishwasher, working in a summer harvest, doing hot metal work, working outside in the heat or wearing protective clothing in hot environments?]

        YES..1
        NO..................SKIP TO C3....................2

In this question we are asking about <u>excessively</u> hot, humid, and sticky air temperatures experienced <u>on the job.</u> The respondent may feel that an assignment in the study year was in a particularly hot climate or that the summer was unusually hot that year. Unless the respondent's position required that she work outside in the heat, the climatic conditions are not pertinent.

C2. "How many hours ___ per week/month/quarter/year?"

Be sure that you carefully record the number of hours in the correct frequency unit of time. If the respondent answers "six hours every day" you must probe for the number of hours per week.

For the remaining questions in the sections below, underlined text will not appear if only one position was held by the respondent.

C3. "<u>As a <position(n)></u>, did you experience cold temperatures that may have reduced your ability to move around on the job?"

Only read prompt if respondent needs additional guidance or clarification.

[such as might be experienced while wearing heavy, bulky clothing in the cold.]

```
    YES ............................................................. 1
    NO ................ SKIP TO C5 ..................... 2
```

C4. "How many hours ___ per week/month/quarter/year?"

As before, make sure you're recording the number of hours in the correct frequency unit of time.

C5. "<u>As a <position(n)></u>, did you work with or around sources of ionizing radiation such as X-rays or radioactive materials?"

```
    YES ............................................................. 1
    NO ................ SKIP TO C8 ..................... 2
```

This is a screening question for OCCUPATIONAL exposure to ionizing radiation. The respondent should know if she worked with or around sources of ionizing radiation. If she says she is unsure, record "don't know".

For interviewer background information: Ionizing radiation includes both electromagnetic waves and/or particulate radiation capable of producing IONS by interaction with matter. Note, electromagnetic FIELDS are non-ionizing.

C6. "How many hours ___ per week/month/quarter/year?"

C7. "Were you enrolled in the U.S. Air Force Radiation Dosimetry Program?"

The respondent should know if she was enrolled in the Radiation Dosimetry Program.

For interviewer background information: Radiation Dosimetry Program participants are issued whole body radiation monitors in the form of film badges or dosimeters (instrument worn on lapel recording the intensity of exposure). In some cases they may also wear finger rings to monitor extremities. These monitoring methods are assessed on an annual, quarterly, or monthly basis to assure ionizing radiation doses remain well below established exposure limits.

C8. "As a <position(n)>, did you work with or around direct or active emissions of non-ionizing radiation sources?"

```
         YES........................................................1
         NO.................SKIP TO C10....................2
```

Such as from radar antennas, communications equipment, high voltage wires, large electrical motors, high-powered lasers, or other high intensity light such as from welding. This does not include operators who would only monitor activities from a remote terminal.

The prompt lists typical sources of non-ionizing radiation emitted by electromagnetic fields.
Only read prompt if respondent needs additional guidance or clarification. If the respondent's only exposure to any of the above involved monitoring from a remote terminal exclusively, the correct answer would be "no".

C9. "How many hours ____ per week/month/quarter/year?"

Record hours in the correct frequency unit of time.

C10. "As a <position(n)>, were you exposed to such excessively loud noise that if you were 3 feet or less from someone you would have to yell to be heard, or to machinery that vibrated and was noisy?"

```
         YES........................................................1
         NO.................SKIP TO C12....................2
```

The respondent's perception of the noise level in her work environments during the study period will determine if the criteria described above were met. Although this is a subjective question, our example is given a guide.

C11. "How many hours ___ per day/week/month/quarter/year?"

"The next few questions are about exposure to machines that result in your whole body vibrating."

C12a. "As a <position(n)>, on the average, how many hours per week did you spend at work riding in cars?"

This is a two-part question. In 12a we are only interested in the respondent's time spent riding in cars while she was on the job.

C12b. "In trucks, jeeps, boats, trains, airplanes, or helecopters?"

This second part of the question asks about respondent's time spent riding in vehicles other than cars while she was on the job.

C13. "As a <position(n)>, how many hours per week did you travel in a vehicle to and from work?"

Vehicle includes cars, trucks, jeeps, boats, trains, airplanes, helicopters. Again, be sure to record hours in the correct frequency unit of time (per week). Probe if necessary to be sure the respondent's answer refers to a total for a week's commuting time. If respondent says her commuting time varied, probe for respondent's typical commuting time.

C14. "As a <position(n)>, how many hours per week did you spend riding in a vehicle while not at work or commuting?"

This question may be harder for the respondent to answer than the previous one. Riding in a vehicle (car, truck, jeep, boat, train, airplane, helicopter) during free time may vary a great deal more than time spent commuting. If the respondent is unsure and hesitant to provide an answer, suggest that we're just interested in learning an approximate number of hours "on the average" per week during the study period and her best guess is fine. The answers for each position may vary, of course.

C15. "As a <position(n)>, did you work on elevated platforms or walkways with grids that vibrated or around vibrating machines?"

    YES...1
    NO..................SKIP TO C17....................2

***Elevated platforms or walkways with grids that vibrated* refer to walkways such as catwalks normally found in an industrial setting. These structures tend to be made out of metal in an open grid pattern. Some examples of vibrating machines include industrial pumps, compressors, turbines, engines, and power generators.**

C16. "How many hours ___ per week/month/quarter/year?"

"Now we are going to ask questions concerning the design of your workstation."

C17. "As a <position(n)>, was your posture constrained by the design of your workstation or work materials. For example, sitting in a poor chair setting, standing more than 3 hours per day, performing tasks with rigid arms, or using poorly designed tools?"

YES...1
NO.................SKIP TO C19...................2

This question contains various examples of job situations that may constrain the posture of the respondent. It is likely that respondents will suggest other examples that they have encountered in their various positions. Any situation on the job that the respondent feels constrained her posture is acceptable. Although this question will be asked for every position held during the study period, the examples will only be read for the first position.

C18. "How many hours ___ per week/month/quarter/year?"

C19. "As a <position(n)>, did your duties require that you use heavy or paced machinery, such as loading ramps, forklifts, paced conveyors, or required using strenuous effort?"

YES...1
NO.................SKIP TO D1.....................2

Again, the examples used in this question are not all inclusive. Although in all probability the respondent will remember if she used heavy or paced machinery, her own judgement will determine if her duties required a level of effort that was strenuous. Heavy machinery is a general term for industrial-type equipment including such items as forklifts. Paced machinery refers to equipment that is moving at a continous rate that is not under the control of the worker, such as conveyor belts or assembly lines.

C20. "How many hours ___ per week/month/quarter/year?"

SECTION D: PHYSICAL EXERTION AT WORK AND HOME

In this section we will be asking the respondent to evaluate her levels of physical exertion both at work and at home. As in previous sections, the questions related to WORK will be asked for each position held during the study period. The questions related to HOME, however, will be asked by trimester (three-month periods): the trimester prior to conception and the three trimesters of the study pregnancy. The computer will automatically calculate these dates based on the answers given in Section 1. If the pregnancy resulted in spontaneous abortion, stillbirth, or early delivery, the program will determine the trimesters or dates to include. Questions will not appear on the screen for the dates in which the respondent was no longer pregnant.

"The next set of questions asks about physical exertion at work and at home".

D1. "As a <position(n)> did your job require a lot of physical effort?"

Only read prompt if respondent needs additional guidance or clarification.

[considering factors such as bending, lifting, lowering, carrying heavy loads, walking, manual manipulation, pushing and pulling]

YES..1
NO..2

This question asks the respondent for her general perception of the overall physical effort required for each position she held during the study period. Physical effort refers to activities that require extra energy expenditure such as the examples given above. "A lot" of physical effort is whatever it means to the respondent.

"Consider a full day's work to be 100%. We would like to know what proportion of time you spent sitting, standing, walking while at work, or being active. First, I'll define each category:

Sitting is defined as work performed while sitting at a workstation with less than one hour of standing per day

Standing is defined as work requiring standing for more than three hours.

Walking work is defined as work requiring walking from point to point for more than one hour per day and standing less than three hours per day.

Active work is defined as work performed with moderate physical loads and bending more than one hour per day.

Read the four physical activity definitions to the respondent.

The four levels of physical activity defined for this question will remain visible on the screen. As the respondent determines what percentage of time on the job to assign to each level of activity, she may need to have the definitions repeated. The total of the four percentage categories must equal 100%. This question is designed to get a more detailed description of the type of physical activity performed on the job and the frequency in which it is performed.

"Now, let's go through each category one at a time."

D2. "As a <position(n)>, what percent of your physical activity on the job was (**sitting, standing, work involving walking or active work)?**."

Sitting
_____%
Standing
_____%
Work involving walking
_____%
Active work
_____%
Total _____% (Must = 100%)

Remind the respondent that the total must equal 100% You may need to repeat their answers and probe them for additional information to obtain 100%

D3. "As a <position(n)>, overall would you say the physical effort required at your job was"

```
Negligible..............................................1
Light.....................................................2
Moderate..............................................3
Heavy...................................................4
Maximum.............................................5
```

This question is designed to get a more detailed description of the overall level of physical effort required for the job compared to question D1. It is based on the perception of the respondent.

Negligible: **Because it occurs so infrequently or for such a short period of time it can be disregarded.**
Light: **Occasional lifting, bending, or pulling.**
Moderate: **Routine lifting of anything 5-10 lbs.**

Heavy: **Daily routine lifting above 10–30 lbs.**
Maximum: **The greatest amount possible. Lifting over 30 lbs.**

"The next questions are about your physical effort at home."

This will begin the series of questions that ask about physical effort during the four trimesters established in the first section of the CATI. They are as follows: three months prior to conception (-3), pregnancy months 1-3 (T1), pregnancy months 4-6 (T2), and pregnancy month 7 through the date the pregnancy ended either in live birth or miscarriage(T3). The computer will automatically enter the dates for the trimesters.

For D6, you will be reading the entire question and dates associated with each trimester. Omit restating the entire question for each trimester. After D6, you will refer to the time periods as the three months prior to the date of conception, 1st trimester, 2nd trimester, and 3rd trimester.

We are interested in learning about the distribution of housework among the respondent and the other household members, not the amount of time the respondent spends on these physical tasks.

Note: D4 and D5 are missing for programming purposes.
D6. "During (-3, T1, T2, T3), how much light housework did you do? Was it..."

Only read prompt if respondent needs additional guidance or clarification.

[general childcare or other duties including cooking, cleaning up after meals, making beds, changing diapers, and folding clothes]

- ❏ None..0
- ❏ Equally shared..................................1
- ❏ Most..2
- ❏ All 3

D7. "During (-3, T1, T2, T3), how much heavy housework did you do? Was it... "

Only read prompt if respondent needs additional guidance or clarification.

[carrying out the garbage, washing windows, vacuuming, cleaning the bathroom or oven, mopping the floor, loading the clothes washer, etc]

- ❏ None..0
- ❏ Equally shared..................................1
- ❏ Most..2
- ❏ All 3

The respondent may ask you to categorize household chores not listed in the examples. Let the respondent determine whether other chores are "light" or "heavy" housework.

D8. "During (-3, T1, T2, T3), how many children or adults that required a significant amount of assistance from you lived with you?"

Record the total number of children and/or adults.

Some examples of "significant amount of assistance" may include laundry, cooking, and cleaning. However, "significant…" is whatever it means to the respondent. "Lived with you" would include anyone living with the respondent for more than two weeks per month over the course of the trimester.

D9. "During (-3, T1, T2, T3), did you regularly climb stairs with more than 4 steps in your house?"

We want to learn if stair climbing was part of the respondent's typical activities at home. A flight of stairs with less than five steps would not require enough exertion to be of interest.

D10. During (-3, T1, T2, T3) did you experience stress at home related to:?

		YES	NO	REF	DK
❑	A death in the family?	1	2	7	8
❑	Involuntary family separation such as deployment , or reassignment?	1	2	7	8
❑	Other family separation such as divorce?	1	2	7	8
❑	A major illness in the family?	1	2	7	8
❑	Lack of assistance at home?	1	2	7	8
❑	Change in residence?	1	2	7	8

D11. During (-3, T1, T2, T3) did you experience physical trauma from

		YES DK	NO	REF	
❑	Slips, trips, or falls?	1	2	7	8
❑	Major accidents such as a car accident?	1	2	7	8
❑	Sports injury?	1	2	7	8
❑	Physical abuse?	1	2	7	8
❑	Other? (SPECIFY_____)	1	2	7	8

D12 Were you married at the time of conception?

YES 1
NO...2
REF 7
DK...8

D13 Were you married at the time (of delivery/ the pregnancy ended)?

     YES..1
     NO..2
     REF..7
     DK..8

If it was a live birth, the ending "at the time of delivery" will appear on the screen. If a spontaneous abortion, "at the time the pregnancy ended" will appear.

SECTION E: JOB SATISFACTION AND JOB STRESS

This section will cover a number of factors that might influence the respondent's sense of satisfaction and/or stress related to her positions held during the study period. The questions are self-explanatory. Answers to these questions should reflect the respondent's perception of these various factors. You may need to reassure her that there are no right or wrong answers to these questions; we are only interested in her opinion.

The underlined text "as a position" will be omitted by the computer if there is only one position held. If there are multiple positions, do not repeat entire question for each one.

"Now, I would like to ask you about the level of stress you experienced in your jobs during the study period."

E1. "Overall, were you satisfied with your job <u>as a <position(n)></u>?"

Have them use their own definition of satisfaction.

E2. "In general<u>, as a <position(n)></u>, was the job ..."

    Boring 1
    Interesting 2
    Just OK..3

E3. "<u>As a <position(n)></u>, did you set your own work rate?"

Work rate **refers to self imposed versus externally controlled (paced).**

E4. "Was this rate ...."

    Too slow 1
    Too fast 2
    About right 3

E5. "<u>As a <position(n)></u>, were your deadlines ..."

    Too short 1
    Too long 2
    About right 3

Again, let them determine what was too short or too long.

E6. "<u>As a <position(n)></u>, were your relationships with co-workers usually ..."

    Good 1
    Average 2
    Poor 3
    Really Bad...4

E7. "As a <position(n)>, was your relationship with your supervisor usually …"

Good 1
Average 2
Poor 3
Really Bad..4

E8. "As a <position(n)>, was the general level of conflict …"

High 1
Low 2
About what you would expect 3

E9. "As a <position(n)>, was the recognition you received for your efforts …"

More than expected 1
Less than expected 2
About what expected...............................3

Recognition received for efforts includes verbal praise, awards, paid leave, or bonuses.

E10. "As a <position(n)>, was the overall pressure to perform …"

Extremely low..1
Somewhat low...2
About right..3
Somewhat excessive 4
Substantially excessive 5

E11a. As a <position (n)>, did any of the following pregnancy related conditions
increase your level of stress on the job?

	YES	NO	REF	DK
Back pain	1	2	7	8
Swelling in your legs, arms, fingers	1	2	7	8
Nerve pain (sciatica)	1	2	7	8

Let the respondent determine if their stress level was increased due to their pregnancy related condition.

E11b Did any of these conditions adversely affect your performance on the job?

YES	NO	REF	DK
1	2	7	8

SECTION F: Chemical Exposures on the Job

This section will focus on possible exposures the respondent may have had to various chemicals while performing her duties in any of the positions she held during the study period. Most respondents will occasionally be exposed to some of the chemicals mentioned, (i.e. detergents, dust, fuels, paints, etc.) in the course of their normal routines. Only chemical exposures that occur <u>on the job</u> are of interest. We want to learn about any chemicals the respondent actually worked with as part of her job responsibilities or that were typically present in her work environment. If the respondent says that she did not work with or around chemicals, this entire section will be skipped.

"Now I am going to ask questions about working with chemicals in each of your jobs."

Read the following list of chemicals slowly with a brief pause between each one.

F1. "For positions held during the study period, did you work with or around any chemicals including dust, common detergents and soaps, anesthetic gases, sterilants, chemotherapy drugs, other drugs and medications, fuels and hydraulic fluids, exhaust emissions, antifreeze, solvents, paints, welding fumes, lead, metal, pesticides, PCBs, fire retardant, or NBC agents?"

```
        YES..........................................1
        NO................SKIP TO F53 ..................2
        REF ...............SKIP TO F53 ..................7
        NO..........................................8
```

The phrase "work with" refers to chemicals she used DIRECTLY as part of her job. "Work around" refers to chemicals that she could potentially come in direct contact with either by inhalation or skin contact because they were in her immediate work environment. Note that even if the respondent answers that she is not sure if she worked with or around the aforementioned chemical agents ("don't know"), we will ask her the more specific questions that follow.

Anesthetic gases- such as nitrous oxide, halothane, cyclopropane, or diethyl ether are commonly used in a medical environment.
Sterilants- such as ethylene oxide are used to sterilize surgical instruments and other supplies.
NBC refers to nuclear, biological, or chemical agents.

F2. "Which of the following exposure groups did you work with or around?"

Pause after each group and record the respondent's answer.

	YES	NO	REF	DK
❑ Dusts	1	2	7	8
❑ Common detergents and soaps	1	2	7	8
❑ Anesthetic gases, sterilants, chemotherapy drugs	1	2	7	8
❑ Other drugs and medications	1	2	7	8
❑ Fuels, hydraulic fluids, exhaust, and antifreeze	1	2	7	8

	YES	NO	REF	DK
❑ Solvents and paints	1	2	7	8
❑ Metals, welding fumes, or lead	1	2	7	8
❑ Pesticides, PCBs, Fire retardant, or NBC agents	1	2	7	8

This list of chemical groups will be read to the respondent if she answered "yes" or "don't know" to the previous question. We need to learn specifically what types of chemical exposures may have occurred. For each chemical group to which the respondent answers that she was or may have been exposed, a series of questions will follow that will further clarify the nature of the agents to which she was exposed.

PCBs (polychlorinated biphenyls) were banned in the late 1970's with the exception of use in sealed containers for electrical purposes (transformers). Later, they were banned from most transformers as well. The Air Force started a program in 1983 to phase out all transformers that contained PCBs. If transformers need repair or replacement they are first tested for PCBs. If they contain more than 50 parts per million PCBs, they are labeled "Contains PCBs" if repairable, or sent taken out of service for disposal if they needed replacement.

"Now I will ask you some specific questions about these exposures."

F3. As a <position(n)>, did you work with or around ....

	YES	NO	REF	DK
❑ Construction dirt or soil dusts	1	2	7	8
❑ Fibrous dust as from asbestos, fiberglass, or textiles	1	2	7	8
❑ Chemical dust from detergents, TSP, HTC, etc	1	2	7	8
❑ Cadmium dust from paint removal, metal working, etc	1	2	7	8
❑ Lead dusts from paint removal, metal working, etc	1	2	7	8
❑ Other Metal dusts as from iron, chrome, etc	1	2	7	8
❑ Organic dusts as from wood, grains, flours	1	2	7	8

TSP (trisodium phosphate) and HTC (a commercial product) are commonly used cleaners and in chemical warfare decontamination solutions.

The preceding question will be asked if the respondent answered "yes" or "don't know" to "worked with or around dust and detergents" in question F2. This list of types of dust will be repeated for every position held during the study period.

F4. "How many hours ___ per week/month/quarter/year?"

The program will prompt you to ask "How many hours per week/month/quarter/year?" for each type of dust listed above that the respondent worked with or around. Be sure to record the number of hours in the correct frequency unit of time.

F6 "As a <position(n)>, how many hours ___ per week/month/quarter/year did you work around detergents and soaps?"

This is the only question that will be asked if the respondent answered "yes" or "don't know" when asked in question F2 if she worked with or around common detergents and soaps. This includes common cleaning agents.

Questions F7 – F12 will automatically appear on the screen if the respondent answered "yes" or "don't know" when asked in question F2 if she worked with or around anesthetic gases, sterilants, or chemotherapy drugs.

F7. "As a <position(n)>, did you use or work around anesthetic gases?"

[such as nitrous oxide, halothane, cyclopropane, or diethyl ether]
Only read prompt if respondent needs additional guidance or clarification.

```
YES......................................................1
NO.................SKIP TO F9 ....................2
```

F8. "How many hours ___ per week/month/quarter/year?"

Again, we want the respondent to estimate the amount of time she was exposed to anesthetic gases in each pertinent position held during the study period.

F9. "As a <position(n)>, did you use or work around sterilants?"

[such as ethylene oxide] – (**A gas used to sterilize surgical instruments and other supplies.**)

```
YES......................................................1
NO.................SKIP TO F11 ...................2
```

F10. "How many hours ___ per week/month/quarter/year?"

For each position that involved exposure to sterilants, we want to know the amount of time she worked with or around the sterilants.

F11. As a <position(n)>, did you use or work around any type of chemotherapy drugs?

```
YES......................................................1
NO.......................................................2
```

Drugs used in chemotherapy include a wide variety of generic and brand names.

F12. "How many hours ___ per week/month/quarter/year?"

That completes the section on anesthetic gases, sterilants, and chemotherapy drugs.

Question F14 will automatically appear on the screen if the respondent answered "yes" or "don't know" when asked in question F2 if she worked with or around drugs and medications.

A-93

F14. "As a <u><position(n)></u>, how often did you work around drugs and medications? Hours ___ per week/month/quarter/year?"

Questions F15 –F24 will automatically appear on the screen if the respondent answered "yes" or "don't know" when asked in question F2 if she worked with or around fuels, hydraulic fluids, exhaust, and antifreeze

F15. "As a <position(n)>, did you work around car, truck, or aircraft exhaust emissions?"

    YES..1
    NO.................SKIP TO F17....................2

If the respondent answered "yes" or "don't know" to the chemical group "fuels, exhaust, and antifreeze" in question F2, this question about exhaust emissions will begin the next series of questions. The series will be repeated for each position held during the study period.

F16. "How many hours ___ per week/month/quarter/year?"

F17. "As a <position(n)>, did you use or work around armament, missile, or other rocket fuel emissions?"

    YES..1
    NO.................SKIP TO F19....................2

In this question, we want to determine if the respondent was exposed to emissions from a particular mixture of fuel referred to as "rocket fuel" used for deploying armament or missiles. Exposure to other fuels will be addressed in a later question.

F18. "How many hours ___ per week/month/quarter/year?"

F19. "As a <position(n)>, did you use or work around any fuels or hydraulic fluids?"

[such as gasoline, diesel, jet fuel, kerosene, propane, natural gas, MOGAS, or cooking fuels]

This question is asking about any general work around fuels (such as fueling airplanes).

    YES..1
    NO.................SKIP TO F21....................2

F20. "How many hours ___ per week/month/quarter/year?"

F21. "As a <position(n)>, did you work around charcoal, tar, diesel fuel, creosote or soot generated from incomplete combustion?"

```
YES.............................................................1
NO..................SKIP TO F23....................2
```

This question is focusing on work around the **burning or combustion** of fuels (wood, gasoline, diesel fuel). The incomplete combustion of this fuel results in such by-products as soot and creosote.

F22. "How many hours ___ per week/month/quarter/year?"

F23. "As a <position(n)>, did you use or work around antifreeze, deicers, ethers or glycols."

```
YES.............................................................1
NO..................End section........................2
```

This question is looking for products used in the prevention of freezing or ice formation, but does not include rock salt for walkways. Coolants and deicers are generally made from the chemical class called "glycols" such as ethylene glycol and propylene glycol. In addition, ether is added to high altitude fuels to prevent freezing.

F24. "How many hours ___ per week/month/quarter/year?"

Question F25-F38 will automatically appear on the screen if the respondent answered "yes" or "don't know" to "did you work with or around solvents or paints" in question F2.

F25. "As a <position(n)>, did you use or work around industrial solvents?"

Only read prompt if additional guidance or clarification is needed.

[benzene, ethyl-benzene, styrene, xylene, or toluene. methyl ethyl ketone (MEK), acetone, and ketones. They are typically found in paint solvents.]

```
YES.............................................................1
NO..................SKIP TO F27....................2
```

F26. "How many hours ___ per week/month/quarter?"

F27. "As a <position(n)>, did you use or work around solvents that contained alcohols?"

Only read prompt if additional guidance or clarification is needed.

[ethanol, methanol, isopropyl alcohol - general cleaners and cleaning solutions]

      YES...1
      NO..................SKIP TO F29 2

F28. "How many hours ___ per week/month/quarter/year?"

F29. "As a <position(n)>, did you work with or around chlorinated solvents such as PD680 or freon?"

Only read prompt if additional guidance or clarification is needed.

[trichloroethylene (TCE), 1,1,1 trichloroethane, methylene chloride, dichloroethane, perchloroethane, and freons - paint strippers, dry cleaning solvents, and metal degreasers]

      YES...1
      NO..................SKIP TO F31 2

F30. "How many hours ___ per week/month/quarter/year?"

F31. "As a <position(n)>, did you use or work around formaldehyde or other aldehydes?"

Only read prompt if additional guidance or clarification is needed.

[Found in bio-preservation, plywood, and wood paneling.]

YES...1
NO.................SKIP TO F33 2

F32. "How many hours ___ per week/month/quarter/year?"

F33. "As a <position(n)>, did you use or work around carbon disulfide, typically used in laboratories?"

YES..…..1
NO.................SKIP TO F35 2

Carbon disulfide is a solvent used for specific laboratory analysis processes. It isn't something that every laboratory worker would use.

F34. How many hours ___ per week/month/quarter/year?

F35. As a <position(n)>, did you use or work around ……

		YES	NO	REF	DK
❑	water-based latex paint	1	2	7	8
❑	oil-based enamels, lacquers or varnishes	1	2	7	8
❑	epoxy or polyurethane paints	1	2	7	8

For each individual type of paint listed above that the respondent has used or worked around, the question regarding hours per week/month/quarter/year will be asked.

F36. For <Type of Paint>, how many hours ___ per week/month/quarter/year?

F37. As a <position(n)>, did you use or work around epoxies?

Only read prompt if additional guidance or clarification is needed.

[epoxy glues]

YES...1
NO.................End section.......................2

Epoxy glues normally come in two separate containers. The components are mixed in small batches and used immediately because of their fast curing rate.

F38. "How many hours ___ per week/month/quarter/year?"

Question F39-F44 will automatically appear on the screen if the respondent answered "yes" or "don't know" to "did you work with or around metals" in question F2.

F39. "As a <position(n)>, did you work around welding fumes?"

    YES...1
    NO..................SKIP TO F41 2

F40. "How many hours ___ per week/month/quarter/year?"

F41. "As a <position(n)>, did you use or work with light metals?"

Only read prompt if additional guidance or clarification is needed.

[aluminum, titanium, magnesium, manganese, or molybdenum]

    YES...1
    NO .... SKIP TO F43.......................2

Aluminum, titanium, magnesium, manganese, or molybdenum may be used in the production of electrical devices used for aviation.

F42. "How many hours ___ per week/month/quarter/year?"

F43. "As a <position(n)>, did you use or work with heavy metals?"

Only read prompt if additional guidance or clarification is needed.

[lead, mercury, beryllium, barium, or depleted uranium]

    YES...1
    NO..................End section.......................2

The term "Heavy Metals" is generally interpreted to include those metals from periodic table groups IIA through VIA. This may include heavy metal compounds such as barium oxide or methyl mercury.

Lead and mercury may be used in the production of electrical devices used for aviation.
Barium has a wide variety of uses including medical diagnostic tests.
Beryllium is used in specialty weapons.
Depleted uranium is normally placed on tips of 50 mm shells to penetrate armor or is added to B52 wings for balance.

F44. How many hours ___ per week/month/quarter/year?

Question F45-F52 will automatically appear on the screen if the respondent answered "yes" or "don't know" to "did you work with or around pesticides, PCBs, fire retardant, or NBC agents" in question F2.

F45. As a <position(n)>, did you use or work around any type of pesticides, herbicides, insecticides, fungicides, or rodentacides?

```
YES........................................................1
NO................SKIP TO F47...................2
```

This question refers to any of a variety of products used to kill plants, insects, fungus, or rodents.

F46. How many hours ___ per week/month/quarter/year?

This question and the three following, will be asked if the respondent indicated in question F2 exposure to pesticides, fire retardant, or nuclear, biological, or chemical agents.

F47. As a <position(n)>, did you use or work around polychlorinated biphenyls (PCBs), formerly found in electrical transformers and other electrical components?

```
YES........................................................1
NO................SKIP TO F49...................2
```

F48. How many hours ___ per week/month/quarter/year?

F49. As a <position(n)>, did you use or work around any of the various fire fighting chemicals?
Only read prompt if additional guidance or clarification is needed.

[halon, aircraft fire fighting foam (AFFF), fire retardants, or dry chemical fire extinguishers]

```
YES........................................................1
NO................SKIP TO F51...................2
```

F50. How many hours ___ per week/month/quarter/year?

F51. As a <position(n)>, did you use or work around any nuclear, chemical or biological warfare agents?

```
YES........................................................1
NO................SKIP TO G1....................2
```

F52. In what country were you exposed to these agents? _____ COUNTRY

If the respondent indicates exposure to nuclear, chemical or biological warfare agents, we need to learn in what country the exposure took place.

F53. Are there any other chemicals that you worked with during this study period that I didn't mention?

YES...1
NO................SKIP TO G1....................2

F54 Please list the chemicals(TEXT FIELD 4 LINES)

SECTION G: DEMOGRAPHICS

The questions in this section are very brief and self-explanatory. We will already have the respondent's date of birth from the Subject Tracking Database.

"That completes all the exposure questions. Next we will ask a few questions that cover background information about you and the baby's father."

G1. "Were you born in the USA?"

This question is <u>not</u> asking about citizenship. The respondent must have been <u>born</u> in the USA for "YES" to be the correct answer.

> YES...............SKIP TO G3.....................1
> NO...2

G2. "In what country were you born?"

G3. "What is your race or ethnic group?" (DO NOT READ OPTIONS)

White, Black, Hispanic or Spanish, Asian/Pacific Islander, Native American, or any other
s not listed.
Only read prompt if respondent needs further clarification.

> ❑ White...1
> ❑ Black...2
> ❑ Hispanic or Spanish 3
> ❑ Asian/Pacific Islander 4
> ❑ Native American 5
> ❑ Other (SPECIFY_____)..............................6
> ❑ REF...7
> ❑ DK..8

Occasionally a respondent chooses to describe her race or ethnic group by naming her nationality of origin (e.g. Italian). Enter "Other" and specify whatever the respondent says if she chooses an answer other than those listed. Be sure to read all the options to the respondent.

G4. "Was the baby's father born in the USA?"

> YES...............SKIP TO G6.....................1
> NO...2

G5. "In what country was the father born?"

G6. "What is the father's race or ethnic group?" (DO NOT READ OPTIONS)

White, Black, Hispanic or Spanish, Asian/Pacific Islander, Native American, or any other s not listed.

Only read prompt if respondent needs further clarification.

- ❑ White..1
- ❑ Black..2
- ❑ Hispanic or Spanish 3
- ❑ Asian/Pacific Islander..4
- ❑ Native American...5
- ❑ Other (SPECIFY_____).............................6
- ❑ REF..7
- ❑ DK...8

Again, read the options to the respondent even though you already read them in G3. Enter other and specify if the respondent chooses an ethnic group not listed.

G7. "What is the father's date of birth?" MM DD YYYY
(REF = 99999998) (DK =99999999)

If the respondent does not remember the exact date, record the month and year (which she'll probably be able to recall), and record the day of the month as 01. Choose "estimated" in the flag field which follows the date field on the screen.

The mother may not know the baby's father's date of birth. If she cannot give a date of birth, fill the date field with all 9s. If for some reason she chooses to refuse to give his birth date, fill the date field with all 9's <u>except for the last digit</u>, which should be <u>8</u>.

G8. "Was the father on active duty in the military service?"

	YES	NO	REF	DK
at the time of conception	1	2	7	8
at the time the pregnancy ended?	1	2	7	8

G9 "What was the father's occupation? _____ Text (1 line)
PROBE FOR PRIMARY OCCUPATION. ONE OR TWO WORDS.

We want to know if they were military or civilian, and what line of work they were in (ie, doctor, teacher, plumber, steelworker, pharmacist, etc.

SECTION H: REPRODUCTIVE HISTORY

In this section we will ask the respondent both general questions about her pregnancy history and detailed questions about the study pregnancy. First, we ask her to list each of her pregnancies in chronological order. Then, for each pregnancy we need to learn the outcome, if the pregnancy was planned, and the date the pregnancy ended.

We then turn to the study pregnancy and ask questions about weight changes and contraception use. Because we will be interviewing both women whose pregnancies resulted in live birth and women whose pregnancies terminated in a spontaneous abortion (miscarriage) or stillbirth, the questions are asked in two ways. The computer program generates the appropriate questions.

Note that sensitivity issues such as the confidentiality of their answers may need to be reiterated. In addition, these questions may uncover some emotional stress associated with the loss of a baby. In the event that the woman becomes upset, refer to Section III "Sensitivity Issues" for guidance.

"Now I would like to ask about each one of your pregnancies, including those that ended in a live birth, still birth, induced abortion, miscarriage, tubal pregnancy or molar pregnancy".

H1. "How many times have you been pregnant?"

H2. "What was the outcome of the (PREGNANCY # i.e. first, second, etc.) pregnancy?"

- ❏ LIVE BIRTH......(Go to H2a)...1
- ❏ STILLBIRTH...2
- ❏ INDUCED ABORTION...3
- ❏ MISCARRIAGE...4
- ❏ TUBAL PREGNANCY..5
- ❏ MOLAR PREGNANCY...6
- ❏ REF...7
- ❏ DK..8

Stillbirth refers to a child born dead whose weight was high enough (> 1000 grams or approximately 2 pounds, 3 ounces) that the child would have been expected to live. Miscarriage is another term for spontaneous abortion; the fetus aborted spontaneously prior to the 20th week of pregnancy. A tubal pregnancy is a pregnancy where the fetus develops in a fallopian tube instead of the uterus. A molar pregnancy is a pregnancy in which a mass forms in the uterus from the trophoblastic tissue of the embryo.

H2a. Was it a premature birth? That is, was it earlier than 37 weeks?

YES...............SKIP TO H2b...................1
NO.................SKIP TO H2c...................2

The definition of a premature birth is a live birth before the 37th week of pregnancy.

H2b. At what week into the pregnancy was your delivery?_____(Week #)

H2c. Did the baby have a low birth weight? (Less than 5 lbs)

     YES..1
     NO..2

We are defining low birth weight to be less than 5 lbs.

H3. "Did you intend to get pregnant for the (PREGNANCY#) pregnancy?"

Although the respondent may be ambivalent when responding to this question, the question requires the respondent to choose just one answer.

     YES..1
     NO..2

H4. "What date did the (PREGNANCY#) pregnancy end?"

(REF=99 99 9998) (DK=99 99 9999)

If the pregnancy did not end in a live birth, the respondent may not remember the exact date. Record the month and year (which she'll probably be able to recall), and record the day of the month as 01. A question will appear on the screen asking if the date is approximate. Answer "YES".

(LIVE BIRTH)

"Now I would like to ask more detailed questions about your pregnancy with (baby's name)".

If the study pregnancy was a live birth, the preceding statement will appear on the screen.

(STILLBIRTH and SPONTANEOUS ABORTION)

"Now I would like to ask more detailed questions about your study pregnancy."

If the study pregnancy was not a live birth, the preceding statement will appear on the screen.

(Continue)

H5. "Of the (PREGNANCY#) pregnancies, which number was this pregnancy?"

The program will automatically insert the number of pregnancies recorded in Question H1. Enter the chronological position of the study pregnancy.

Example: Let's say the study pregnancy started 1/1/90 (date of conception). If she had a total of three pregnancies, starting on 1/1/88, 1/1/89, and 1/1/90, then the study pregnancy would be the third pregnancy.

H6. "How much did you weigh before your pregnancy?"

The respondent's best guess is fine.

H7. "Did you lose or gain weight during this pregnancy?"

LOST..1
GAINED ....SKIP TO H9................................2
STAYED THE SAME.............SKIP TO H10..............................3

During the course of the pregnancy the respondent may have lost <u>and</u> gained weight. If she says "both", probe to find out whether she weighed more or less at the time of delivery/termination, than she weighed before the pregnancy.

H8. "How much weight did you lose during this pregnancy?"

This question will only be asked if the respondent said she lost weight for Question H7.

SKIP TO H10.

H9. "How much weight did you gain during this pregnancy?"

This question will only be asked if the respondent said that she gained weight in question H7.

H10. "What is your height without shoes?"

Height must be recorded in feet and inches (not fractions such as 5 ½ feet). They may report their height in inches only (ie, 60 inches). For reference, there are 12 inches in a foot. So, 60 inches would be 60/12=5 feet.

H11. "How far along in weeks were you when you found out you were pregnant?"

This question must be answered in "weeks". If the respondent is not sure, probe for her best guess.

H12. "Were you actively using any method of contraception or birth control from (date) to (date)?

YES...1
NO..................SKIP TO H15...................2

We are interested in learning if the respondent was using contraception or birth control such oral contraceptives, diaphragm, IUD, rhythm method, etc. any time during the study period.

H13. "What was the last month that you used contraception or birth control prior to or during this pregnancy? "

This question will only be asked if the respondent said that she used contraception in the study period.

H14. Which of the following statements applies to you?

- ❏ You stopped using contraception to get pregnant...1
- ❏ You got pregnant during an interruption in using contraception............................2
- ❏ You got pregnant while consistently using contraception 3

If the respondent said that she used contraception in the study period, we want to learn how her contraceptive usage related to the study pregnancy.

H15. "From (date) to (date) did you use the "morning after pill"?

YES...1
NO..................SKIP TO H17...................2

We want to learn if the respondent used the "morning after pill" at any time during the study period and if so, when she discontinued using it. The "morning after pill" is a drug therapy involving high doses of ordinary birth control pills containing the hormones estrogen and progestin to prevent pregnancy after unprotected sexual intercourse. This is not the same as RU 486, the two-step pill that uses the drugs mifepristone and misoprostol to induce abortions.

H16. "What was the last month that you used morning after pills prior to or during this pregnancy?"
Record month and year.

H17. Between (date) and (date) did you take any medications to help you become pregnant?

YES...1
NO..2

This question is to be answered subjectively by the respondent.

H18 Are you aware of any hereditary factors that may explain the outcome of the study pregnancy?

YES...1
NO..2

Hereditary factors are conditions passed genetically from parents to offspring. So, if there is a family history of pregnancy induced high blood pressure-such as the respondent's mother, sister, or grandmother had this condition, then this may explain why the subject experienced this condition.

IF yes, please explain. (TEXT FIELD 4 LINES)

H19 During the study pregnancy, were you diagnosed with

		YES	NO	REF	DK
❑	Pre-Eclampsia	1	2	7	8
❑	Eclampsia	1	2	7	8
❑	Toxemia	1	2	7	8
❑	Other (specify)	1	2	7	8

Pre-eclampsia-condition resulting in high blood pressure and protein in urine. Also called toxemia.
Eclampsia-Toxemia or pre-eclampsia with seizures.
Toxemia- condition resulting in high blood pressure and protein in urine. Also called pre-eclampsia.
Other- any other condition that the respondent was diagnosed with during pregnancy, such as heart disease, measles, epilepsy, cancer.

SECTION I: PRENATAL TESTS

This section will cover various prenatal tests and/or procedures, such as ultrasound examinations and amniocentesis, that the respondent may have had during the <u>study pregnancy</u>. We are interested in learning the results of these tests and any complications that may have occurred as a result of the tests/procedures. This section <u>does not</u> cover diagnostic testing for medical conditions unrelated to the pregnancy. Medical conditions, tests, and procedures of interest that the respondent may have had during the study period but that were unrelated to the pregnancy, will be covered later in Section J.

(LIVE BIRTH)

"The next few questions are about prenatal tests you may have had during your pregnancy with (baby's name)"

If the study pregnancy resulted in a live birth the introduction above will appear on the computer screen.

(SPONTANEOUS ABORTION)

"The next few questions are about prenatal tests you may have had during your study pregnancy."

If the study pregnancy resulted in spontaneous abortion, the above statement will appear on the screen.

I1. "Did you have prenatal health care during this pregnancy?"

```
YES............................................................1
NO..................SKIP TO J1......................2
```

Prenatal care is health care received between the time of conception and the time the baby is born by medical practitioners or nurse-midwives. This may include a variety of tests, exams, and recommendations for diet and exercise.

I1a Of the following choices, where did you obtain your primary prenatal care? Was it...

	YES	NO
Air Force military treatment facility......................................	1	2
Non-Air Force military treatment facility?.............................	1	2
Civilian HMO	1	2
Private physician or clinic..	1	2
Other?..	1	2

We want to know where a majority of the pre-natal care took place. If she counted all her visits, where did she go most often? Question I1b will cover any additional treatment facility types if she visited more than one.

I1b Where else did you obtain prenatal care? (CHOOSE ALL THAT APPLY)

	YES	NO
Air Force military treatment facility 1		2
Non-Air Force military treatment facility? 1		2
Civilian HMO 1		2
Private physician or clinic...1		2
Other?..1		2

We want to know if she obtained this care at a treatment facility type that was different than her answer in I1a. This would not include care at two different Air Force treatment facilities.

I2. "What was the date or week of pregnancy when you had your first prenatal visit, not counting the visit when you first learned you were pregnant?"

MM DD YYYY   OR   WEEK __# OF PREGNANCY

This question is looking for the date of the visit to the healthcare provider that focused on the baby's health. This doesn't count the visit that confirmed that the respondent was pregnant. Since women often use a home pregnancy test, there may be an instance where their first visit to a medical professional after testing at home was focused on the baby's health.

I3. Did you have any ultrasound examinations that showed any abnormality with the fetus, placenta, or fluid?

YES..1
NO.................SKIP TO I9......................2

Ultrasound examinations are routine in prenatal care, but we are only interested in learning about ultrasound examinations that detected any abnormality with the fetus, placenta or fluid. Be sure to emphasize the last part of this question.

An abnormality may include bleeding, problems with the fetus such as small size, lack of heart beat, improper placement (ectopic or molar pregnancy), structural problems with the placenta, or lack of fluid.

I4. "What was the abnormality (LIST ALL)?"

Question 14 asks you to list only the abnormalities found with this particular ultrasound examination. (The computer will accept up to 5 abnormalities). If additional abnormalities were found with a later ultrasound, you will list those abnormalities in Question 17.

I5. "What was the date or week of pregnancy when this abnormality was discovered?"
MM DD YYYY   OR   WEEK __# OF PREGNANCY

The date of the ultrasound examination can be recorded in one of two ways, the calendar date or the week of pregnancy. If the date field is used, and the respondent does not

remember the exact day, have her estimate the date as early (01) middle (15) or late (28) in the month. Enter the date and choose "estimated" in the flag field which follows the date field on the screen.

I6. "Did you have any other ultrasound examinations that showed a different abnormality?"

Although the respondent may have had additional ultrasound examinations after the one discussed in the previous questions, we are only interested in an additional ultrasound that showed a <u>different</u> abnormality.

    YES..1
    NO.................SKIP TO I9.....................2

I7. "What was the abnormality (List all)?"

Question 17 should not duplicate any abnormalities previously mentioned.

I8. "What was the date or week of pregnancy when this different abnormality was discovered?"
         MM DD YYYY   OR   WEEK __# OFPREGNANCY

Again, record the date of the ultrasound <u>or</u> the week of pregnancy, not both.

I9. "Did you have an Amniocentesis (or amnio)?"
An amniocentesis is an obstetrical procedure in which a small amount of amniotic fluid is removed for laboratory analysis by inserting a needle through the mother's abdomen into the amniotic sac surrounding the fetus.

    YES..1
    NO.................SKIP TO I14.....................2

I10. "What was the date, or week of pregnancy, when you had this amniocentesis?"

         MM DD YYYY   OR   WEEK __# OF PREGNANCY

Again, record the date of the procedure <u>or</u> the week of the pregnancy when the procedure took place, not both.

I11. "Did the amniocentesis show any abnormality?"

    YES..1
    NO.................SKIP TO I13.....................2

I12. "What was the abnormality (LIST ALL)?"

I13. "Was dye injected as part of the amniocentesis?"

```
YES....................................................1
NO.....................................................2
```

In some instances, dye is injected as part of the amniocentesis procedure. The respondent should know if this was the case.

I14. "Did you have a Chorionic Villus Sampling or CVS?"

Chorionic Villus Sampling (CVS) is a procedure similar to amniocentesis, but it can be performed much earlier in the pregnancy. CVS is accomplished with the use of ultrasound equipment and either a needle aspiration (like amniocentesis) or a catheter through the vagina.

```
YES........................................................1
NO.................SKIP TO I19....................2
```

I15. "What was the date, or week of pregnancy when you had the CVS?"

MM DD YYYY   OR   WEEK __# OF PREGNANCY

Record the calendar date of the procedure or the week of pregnancy.

I16. "Did this test show any abnormalities?"

```
YES........................................................1
NO.................SKIP TO I18....................2
```

I17. "What were the abnormalities (LIST ALL)?"

Note, the abnormalities may be the same as those listed from the amniocentesis.

I18. "This question is about the type of CVS that was administered. Did the CVS involve ....."

	YES	NO
❑ a needle inserted into your abdomen or belly, or.................................1		2
❑ a catheter or needle inserted into your vagina or birth canal?"..........1		2

I19. "Did you have any other prenatal diagnostic test or medical procedure, such as afetal echocardiography, blood transfusion, or blood test during this pregnancy?"

```
YES........................................................1
NO.................SKIP TO I21....................2
```

Refers to medical tests and procedures prescribed as a result of prenatal care. Fetal echocardiography refers to heart tests on the fetus.

I20. "What was the name of the prenatal diagnostic test or procedure?" (List all)

Examples of prenatal diagnostic tests and procedures (other than those asked in previous questions) include fetal echocardigraphy, blood transfusions, umbilical cord blood sampling.

I21. "Did you have any complications after any prenatal diagnostic tests or medical procedures?"

```
YES.........................................................1
NO.................SKIP TO J1......................2
```

I22. "After which procedure (List all)?"

If a procedure or test was repeated, be sure to identify them specifically (i.e. "first amniocentesis", "second amniocentesis") in order to identify after which procedure each complication occurred. The computer program will display questions I23 through I25 for each test or procedure listed.

FOR EACH PROCEDURE IN I22 ASK I23 – I25

I23. "After the <Procedure>, did you have …"

		YES	NO
❏	Bleeding?	1	2
❏	Pain/cramps?	1	2
❏	Infection?	1	2
❏	Other ?[SPECIFY] _____	1	2

If the respondent says that there were complications, we want to know after which procedure they occurred and the nature of the complications. Complications that the respondent believes are attributable to diagnostic tests or procedures, other than bleeding, pain/cramps, or infection, should be coded "other" and described.
The other category would be any other complication resulting from the test, including the loss of the baby.

I24. "Were you hospitalized?"

```
YES.........................................................1
NO...........................................................2
```
We want to know if they were admitted to a hospital as a result of this procedure.

I25. "Did you take any medicines before the procedure, after the procedure or both?"

We are looking for medications specifically related to the prenatal care taken within 1 or 2 days of the procedure.

```
BEFORE.................................................1
AFTER....................................................2
BOTH......................................................3
NONE .....................................................4
```

SECTION J: CONDITIONS AND PROCEDURES NOT RELATED TO YOUR PREGNANCY

"Next I will ask you about certain medical conditions that may have existed prior to your pregnancy and procedures not related to your pregnancy you may have had performed, such as x-rays or scans."

J1. "At any time during the study period did you have any form of diabetes?"

      YES..1
      NO..................Skip to J3 2

This question is looking for <u>any</u> form of diabetes. Gestational diabetes (gestational Diabetes Mellitus) would be included in this question, as well as forms of diabetes unrelated to the pregnancy such as Type I, or insulin-dependent diabetes mellitus or Type II, or non-insulin-dependent diabetes mellitus.

J2. "Did you take any medication to control the diabetes?"

Limit answers to <u>prescribed medications</u> only.

J3. "Did you take any medications during the study pregnancy such as blood thinners, anti hypertensives, anti depressants, or mood altering medications?"
      YES..1
      NO..2

      If yes, list (text 2 lines)

We are interested only in prescribed medications, not unprescribed herbal remedies. Anti-hypertensive medications control high blood pressure.

J4. "Up to and including this pregnancy, have you ever been diagnosed with

		YES	NO	REF	
		DK			
❑	High Blood Pressure?............1	2	7	8
❑	Diabetes?............1	2	7	8
❑	Thyroid disease?............1	2	7	8
❑	Asthma?............1	2	7	8
❑	Seizures? 1	2	7	8
❑	Cancer?............1	2	7	8
❑	Kidney disease?............1	2	7	8
❑	Sexually transmitted diseases............1	2	7	8
❑	Other? (SPECIFY_____) 1	2	7	8

We are interested in the time period stated. This would not include conditions diagnosed after the date the study pregnancy ended.

J5. "Between (date) and (date) did you have any of the following?"

This question covers exposures the respondent may have had during the study period to various procedures involving electromagnetic radiation or radioactive materials. For each procedure the respondent experienced, we want to know what part of her body was examined, and in what month or months the tests were conducted. Additionally, we want to know if her pelvic area was shielded (with a lead apron) from exposure to the radiation.

		YES	NO	REF	DK
❑	Dental X-rays?	1	2	7	8
❑	Mammograms, upper GI, IVP, and other X-rays?	1	2	7	8
❑	CT/CAT scans?	1	2	7	8
❑	Magnetic Resonance Imaging (MRI)?	1	2	7	8
❑	Radionuclide study or scan?	1	2	7	8
❑	Other? (SPECIFY_____)	1	2	7	8

For interviewers information:

Dental X-rays-**any medical X-rays including dental (teeth/jaw)**
Other X-rays-mammograms (breast), upper GI (stomach), IVP (intravenous pylogram—or kidney).
CT/CAT scans- **Computed tomography/computed axial tomography. Images are taken from several directions, computerized, and viewed on a computer monitor.**
MRI- Magnetic Resonance Imaging. **A large magnet and radiowaves are used instead of X-Rays to take picture of the body's tissues. The machine is shaped like a long tube. The patient must lie flat on a table in the middle of the machine.**
Radionuclide study or scan-**Radioactive tracers are injected into the blood stream. Using cameras, the amount of gamma rays coming from these radioactive tracers are collected and analyzed. This study is performed to look at activity in a particular organ.**
Other-**any other test involving electromagnetic radiation or radioactive materials not listed. Must specify type of test.**

J6. "What part of your body was examined?"

This question will be asked for every procedure coded as "YES" in the previous question. Precoded body areas will be listed on the screen.

J7. "In what month or months (was/were) the test(s) conducted?" (List All)

This question will be asked for each procedure coded as "YES" in question J5.

J8. "How many tests did you have in (MONTH)?"

The months named in Q-J7 will appear on the screen. Record the number of tests the respondent had in each month listed. "Tests" refers to the procedures previously listed in Q-J5 (tests involving radiation).

J9. "Was your pelvis shielded with a lead apron?"
Pelvis region includes hips and lower stomach. The lead apron blocks X-rays.

A-114

SECTION K: PERSONAL HABITS – SMOKING

The following questions will address the respondent's use of tobacco during the study period. Women sometimes change their use of tobacco while pregnant. We are interested in learning if the respondent's tobacco usage changed, and to what extent it changed, at any time during the study period.

"The next questions are about tobacco use."

K1. "Between (date) and (date) did you ever"

		YES	NO
❑	Smoke cigarettes	1	2
❑	Smoke cigars/pipes	1	2
❑	Chew smokeless tobacco	1	2

This is asking about tobacco use at any time during the study period-including the three months prior to her pregnancy though the date the pregnancy ended.

K2. "On the average, about how many cigarettes did you initially smoke per day during this period?" (DON'T READ OPTIONS)

<1/Day, 1/day, 2-4/day, ½ PK/day, 1 PK, 1.5 PKS/day, 2 PKS/ DAY, >2 PKS/DAY

If the respondent answered yes to cigarette smoking in K1, this question regarding her initial usage per day will be asked. Let the respondent answer first. Only read the prompt if additional guidance or clarification is needed. If the respondent answers in number of cigarettes (i.e. "10 per day"), there are 10 cigarettes in ½ pack (20 cigarettes per pack). Code the answer that most closely reflects the number given.

```
<1/ DAY or none ........................................ 01
1/ DAY .................................................... 02
2-4 / DAY ............................................... 03
1/2 PK / DAY ........................................... 04
1 PK ...................................................... 05
1.5 PKS / DAY .......................................... 06
2 PKS / DAY ............................................ 07
>2 PKS / DAY .......................................... 08
```

K3. "Did the amount you smoked change at any time during this period?"

This question will also be asked if the respondent answered "yes" to cigarette smoking during the study period. Women sometimes lower or cease their usual tobacco consumption during pregnancy or for other reasons. We are looking for a change in quantity, not change in brand or type (filtered v. unfiltered).

```
YES ...................................................... 1
NO ................ SKIP TO K14 .................... 2
```

K4. "What month did you change your amount of smoking?"

If the respondent changed her amount of smoking, we want to learn when this occurred in the study period. Enter the correct month from the precoded list of months, which will appear on the screen.

K5. "About how many cigarettes did you typically smoke per day after you changed your level of smoking?" (DON'T READ OPTIONS)

Again, only read options if she needs additional guidance or clarification. Convert number of cigarettes (if greater than four) to packs per day.

```
<1/ DAY or none........................................01
1/ DAY.....................................................02
2-4 / DAY.................................................03
1/2 PK / DAY.............................................04
1 PK........................................................05
1.5 PKS / DAY...........................................06
2 PKS / DAY..............................................07
>2 PKS / DAY ...........................................08
```

K6. "About how many cigars or pipes did you initially smoke per day during this period?"
(DON'T READ OPTIONS)
If the respondent answered "yes" to smoking cigars or pipes, this question will be asked. Only read options if additional guidance or clarification is needed. If they smoked both pipes and cigars, then combine the two for the total number per day.

```
<1 / day ..............................................1
1 / day................................................2
2-4/day ..............................................3
5 or more/day .....................................4
```

K7. "Did the amount you smoked change at any time during this period?"

```
YES.........................................................1
NO.................SKIP TO K14...................2
```

We are looking for a change in <u>quantity</u>, not change in brand or type (filtered v. unfiltered).

K8. "What month did you change the amount you smoked?"

If the respondent answered "yes" there was a change in the amount of cigars or pipes smoked during the study period, we want to know in what month the change took place.

K9. "About how many did you smoke per day after the change?"

(DON'T READ OPTIONS)

<1 / day 1
1 / day...2
2-4/day 3
5 or more/day 4

Only read options if additional guidance or clarification is needed.

K10. "How many hours per day did you chew smokeless tobacco?"
(DON'T READ OPTIONS)

We want the respondent's <u>best estimate</u> of the average hours per day she chewed smokeless tobacco.

<1 hour / day....................................1
1 – 3 hours / day...............................2
> 3 hours / day 3

Only read options if additional guidance or clarification is needed.

K11. "Did the amount you chew change at any time during this period?"

YES...1
NO.................SKIP TO K14...................2

K12. "What month did you change your chewing habits?"

K13. "How many hours per day did you chew smokeless tobacco after the change?"
(DON'T READ OPTIONS)

<1 hour / day....................................1
1 – 3 hours / day...............................2
> 3 hours / day 3
Only read options if additional guidance or clarification is needed.

K14. "Were you routinely exposed to second hand smoke at home or work?"

This question applies to the study period only. "Routinely exposed" means that someone in the respondent's household regularly smoked inside their house when the respondent was at home, or one or more co-workers smoked in the vicinity of the respondent's work station on a regular basis (more than twice a week).
Second hand smoke is the smoke inhaled when in the vicinity of cigarette, pipe, or cigar smokers.

YES...1
NO...2

SECTION L: PERSONAL HABITS - ALCOHOL AND FOOD CONSUMPTION

In this section we are going to ask the respondent about her consumption of alcoholic beverages and processed or smoked meat and fish during the study period. Because women sometimes change the amount of alcoholic beverages they drink during pregnancy, we are interested in learning if changes occurred, when they occurred, and if the type of alcohol consumed changed.

"Now I'm going to ask you some questions about drinking alcoholic beverages during the study period. We define an alcoholic drink as one beer, one glass of wine, one mixed drink, or one shot of liquor."

L1. "From (date) to (date), did you drink any alcoholic beverages?"

```
        YES...........................................................1
        NO.................SKIP TO L12...................2
```

This is asking if she drank alcohol <u>at any time</u> during the study period-including the three months prior to her pregnancy though the date the pregnancy ended.

L2. "On the average, how many days per month did you drink alcoholic beverages at the beginning of this period?" (max 31)

If the respondent answers "yes" to Question L1, we are interested in learning the frequency with which she drank alcoholic beverages in the beginning of the study period in days per month. If the respondent is hesitant to answer this question and says that it varied, remind her that we just need an approximate number ("on the average"). Be sure to probe if necessary to get a response "per month". Some respondents may think in terms of "per week". Note, the maximum number of days is 31.

The beginning of this period starts with three months prior to her pregnancy. Note that in question L6 we will be asking if her drinking habits changed at any time during this period.

L3. "On days when you drank, how many drinks per day did you have?" (max 20)

The respondent's consumption of alcoholic beverages may have been erratic and she may find this question difficult to answer. Again, we are interested in "on the average" or her consumption on a typical day when she drank alcoholic beverages. Her best guess is fine.

L4. "What is the greatest number of drinks you had on any one occasion?" (max 20)

This question still refers to the beginning of the study period. The computer will accept up to 20 drinks.

L5. "What type(s) of alcohol did you usually drink?"

		YES DK	NO	REF	
❑	Beer	1	2	7	8
❑	Wine	1	2	7	8
❑	Mixed drinks...	1	2	7	8
❑	Shot of liquor..	1	2	7	8
❑	Other alcohol (SPECIFY:_____)	1	2	7	8

The respondent may answer "yes" to more than one of the alcohol types listed above. Examples of other types of alcohol might be ethanol.

L6. "Did the amount of drinks or frequency of drinking change at any time during this period of time?"

Women sometimes lower or cease their usual alcohol consumption during pregnancy or for other reasons. It is also possible that the respondent's drinking increased for some reason at some time during the study period. We want to learn if the respondent's drinking changed either way.

YES...1
NO.................SKIP TO L12...................2

L7. "What month did you change the amount you drank?"

Enter the correct month from the pre-coded list of months that will appear on the screen.

L8. "On the average, how many days per month did you drink after the change?"

Again, be sure the response is in days per month.

L9. "On the average, how many drinks per day did you have?" (max 20)

If the respondent is unsure, repeat "on the average".

L10. "What was the greatest number of drinks you had on any one occasion after the change?" (max 20)

Probe for respondent's best guess of an exact number; a range (i.e. "4 or 5") is not acceptable. (Example: "Would you say it was closer to "4" or "5"?")

L11. "What type(s) of alcohol did you usually drink?"

		YES	NO
❑	Beer	1	2
❑	Wine	1	2
❑	Mixed drinks..	1	2
❑	Shot of liquor..	1	2
❑	Other alcohol (SPECIFY:_____)	1	2

Again, more than one "yes" answer is acceptable.

L12. "During the study period, how frequently did you consume processed or smoked meat and fish, such as sausage, salami, bologna, chorizo, smoked ham or hot dogs?"

Never....................1
< Once a Month...2
Monthly...............3
Weekly 4
Daily....................5

Only read the choices listed above if she doesn't give an answer right away. Probe for an answer if the respondent says she's just not sure or doesn't know.

(Chorizo is a common spicy Mexican sausage.)

L13. "Did the frequency change at any time during this period?"

YES...1
NO..................SKIP TO M201.................2

Sometimes a woman's eating patterns will change, particularly during pregnancy. The changes could be due to an effort to control weight, nausea, cravings, or an effort to make healthier eating choices. We are interested in learning if the respondent made any change in the frequency with which she consumed processed or smoked meats at any time during the study period.

L14. "How frequently did you consume processed or smoked meat and fish after the change?"

Never 1
< Once a Month...2
Monthly 3
Weekly 4
Daily 5

Read the choices and probe for an answer if the respondent says she is not sure or doesn't know.

SECTION M: CLOSING

Now that you have completed the survey questions, both you and the respondent are probably eager to bring the interview to a close and get off the phone. It is crucial, however, that we obtain contact information at this point. As a rule, the respondent's mother or other female relatives are often good future contact sources. We need the name, address and phone number of someone who lives in the United States but does not live at the same address as the respondent, and preferably someone who is not her spouse or partner.

M1. "That completes the interview. In case you move, please provide the name and address of someone who should always know how to contact you. This information will remain confidential."

M1 is read as a statement rather than a question in order to reduce the likelihood of the respondent refusing to provide us with this information. Code "YES" unless the respondent refuses. If the respondent declines, try to convert her decision by reassuring her that the locating information will not be used for any purpose other than contacting her in the future. You also might mention that the future contact person would not be given any information about the respondent.

```
YES .......................................................1
NO .................SKIP TO CLOSING ........2
```

Be sure to have the respondent verify the spelling of first and last names, the street name, and the city (unless you're positive of the spelling). It is very important to include complete street designations such as "Drive", "Avenue" or "Street". Always ask if there is an apartment number. If the respondent is not sure of the address, ask if she would mind looking it up in an address book or phone book. Record the contact's home phone number (and work number if applicable) and read the number back to the respondent for verification.

If we need to call the contact person, it is important to have the relationship of the contact person to the respondent. For example, being able to say "Your name was given to us by your niece, Karen Smith" should help in allaying suspicions.

```
ADDITIONAL CONTACT INFORMATION:
FIRST NAME: _____      LAST NAME:_____

STREET: _____

CITY, STATE:_____          ZIP:_____

HOME PHONE:_____      WORK PHONE: _____

RELATIONSHIP: _____
```

(Closing)
We would like to thank you for your participation in this study. The results will improve women's reproductive health in and out of the Air Force. Thank you.

SECTION N: INTERVIEWER'S REMARKS

In this section we would like you to evaluate the quality of the interview. If for any reason you rate the overall quality as "QUESTIONABLE" or "UNSATISFACTORY", please elaborate in "Interviewer Comments" (N4). Note any details or unusual circumstances that made you feel the interview was questionable. Some things to consider might include: 1) did there appear to be unusual distractions going on?; or 2) was the respondent feeling rushed to the point of cutting some answers short?

N1. The overall quality of this interview was

HIGH QUALITY..................................1
GENERALLY RELIABLE 2
QUESTIONABLE. 3
UNSATISFACTORY 4

N2. Did the father contribute to the mother's answers?

YES...1
NO..2

N3. Did some other person contribute to the mother's answers?

YES...1
NO..2

WHO WAS IT? _____

N4. Use this space for any other comments you have which may affect the interpretation of the respondent's answers. (INTERVIEWER COMMENTS. 4 lines)

CATI INTERVIEWER TRAINING MANUAL

"An Investigation of Reproductive Health and Potential Risk Factors Among Active Duty Air Force Women"

Battelle

. . . Putting Technology To Work

Battelle Center for Public Health Research and Evaluation

February, 2000

Section II Introduction and Overview

The research study "An *Investigation of Reproductive Health and Potential Risk Factors Among Active Duty Air Force Women*" is a Department of Defense sponsored study conducted by researchers from the Battelle Centers for Public Health Research and Evaluation, the University of Texas-Houston Health Science Centers School of Public Health, and the US Air Force. The purpose of the study is to compare the occupational histories, workplace environments and lifestyles of many different women—both those who experienced problems with their pregnancy, and those with an uncomplicated pregnancy — and see if there are any factors which may have influenced the outcomes.

The women you will be interviewing are among 4000 former and current active duty Air Force women randomly selected to participate in the study. Air Force women were selected as the study population because of their occupation and uniform access to health care. The Air Force has long supported women in the military. It has the highest percentage of women on active duty of any service, the most career fields available to women, and the strongest programs to protect pregnant women and their offspring. Thus, studies of Air Force women and their pregnancies could provide answers to medical questions which are available nowhere else.

This is the only study of pregnancy, miscarriage, and births currently being conducted on Air Force women. The study is evaluating factors related to the occurrence of four different pregnancy experiences: **normal birth without complications, high blood pressure during pregnancy, miscarriage,** and **early or pre-term delivery**. One benefit of the study design is the ability to discover whether work environments influence pregnancy outcomes and hopes to identify areas where intervention and improved heath care planning for pregnant women can make a difference in the outcome of their pregnancy.

In the first phase of this study, researchers reviewed twenty years of hospitalization records for active duty Air Force women. These records were reviewed to determine baseline levels of births and adverse pregnancy-related outcomes. The researchers found that birth rates were higher among active duty Air Force women than their civilian counterparts. Miscarriages and high blood pressure during pregnancy decreased over time. However, early deliveries have been increasing—reflecting similar patterns in civilian populations.

The second phase of this study is centered on the CATI interview. Your role as a CATI interviewer may include scheduling the women for the telephone interview and or conducting the interview itself. The goal of this interview is to obtain very accurate work, exposure, and reproductive histories on the Air Force women we are interviewing. The women you will be interviewing have already received a package of information explaining the study and have signed informed consent forms and medical record release forms giving the researchers permission to include them in the study.

After the interviews are completed, the study researchers will review available Air Force workplace case files to extract additional exposure information for the job title held by the respondents. In addition, the subject's medical records will also be reviewed for information pertaining to the study pregnancy. These follow-up steps will be performed by Battelle researchers and do not require any contact with the respondents.

In your role as the interviewer, you will be unlocking crucial information from the subjects that cannot be gathered from medical records or files. This verbal interview is designed to capture information stored in the respondent's memory that may not be documented elsewhere. Some pitfalls that you may encounter include having the respondent get off track and deluge you with information on a particular event. Or, you may experience a situation where the respondent is only giving you a partial answer to the question. By using your interviewing techniques learned in your training sessions, you will keep the interview running smoothly.

In an ideal situation, the women you are interviewing would know the exact level of exposure they experienced during the study period. For example, they would be able to tell you that they were exposed to a noise level of 75 dBA (intensity) on every day of the study period (frequency). Instead, we must get an **estimate** of the intensity and frequency of exposure through a structured series of questions asked for each job they held during the study period (or during their pregnancy trimesters). The basic design starts with screening questions asking for basic YES/NO answers to the question "Were you exposed to noise?". If the answer is "no", then no more questions are asked. If the answer is "yes", then we ask for an estimate of frequency by asking them how many hours per week/month/quarter/or year that this exposure occurred. This information is then supplemented with questions on their activities, tasks, and routinely used materials. By asking these closed-ended questions, you will be collecting information that will assist researchers with the best estimate of the exposures these women experienced during the study period.

It is very important that you take the time to read the background material provided in this manual so that you fully understand the goals and procedures of the study. The project's success hinges on how well the interviewers carry out their responsibilities to the research project and the survey respondent.

Thank you for making a contribution toward improving pregnancy outcomes for all women!

Section III Sensitivity issues

<u>Confidentiality</u>

The information gathered in this study, including the telephone CATI interview, is considered **confidential**-no one except the interviewer knows from whom the information came. A potential risk for participants is the unintentional loss of their confidentiality through their participation in the study. Although the majority of the information we are gathering already exists in record form and is available to the military, and the data being collected is generally of minimal confidentiality risk and does not focus on illegal or stigmatized activities, this is an issue to be taken very seriously. While it is possible that personal and medical information could be unintentionally released, it is important that the respondent feels that they can speak freely and honestly and to assure the respondent that all information they provide will be treated confidentially.

Several safeguards have been built into the study's design to protect the subject's confidentiality. First, all personal identifiers such as social security numbers and names will be removed from all data and stored separately. Codes, known only to the research team will be used to identify records. Second, all the data will be stored in a secured area with access limited to the investigators. Personal names will never appear on any reports and only summary information will be released or published. The information collected for this study will be kept secure and maintained for five years from the completion of the study. At that time, it will be destroyed.

Interviewers shall not discuss information about respondents with anyone not associated with the project. Interviewers must not conduct interviews with friends, relatives, or acquaintances. If you discover that you know a respondent during the course of the interview, promptly terminate the interview, note the reason, and notify your supervisor.

<u>Crying respondents</u>

Crying may occur when the respondent is thinking of something very distressing such as the loss of an unborn child. It is natural for the interviewer to feel uncomfortable if the respondent begins to cry. You should wait patiently, allowing the respondent to cry. By responding with a kind remark you can convey that you accept and understand the crying. You should remember not to introduce a new question until the respondent has fully expressed herself and regained control-this may take a few minutes. If the crying and distress continues, you may repeat your kind remarks and remind the respondent that she can decline to answer any questions; and you may state your willingness to continue the interview at another time. In addition, you may offer some available **resources** to help the subject deal with her grief:

> <u>Telephone numbers</u>
> Suggest that they contact their military health services center for assistance, or provide them with the following National Toll-Free phone numbers:
> United Way Help Line 800 572-HELP
> Women's Crisis Line 888 235-5333

<u>Counseling</u>
Suggest that they contact their physician, local hospitals or health clinics for
recommendations of appropriate counseling help.

<u>Support Groups</u>
Support groups are available through many local hospitals. Suggest that they look in
the phone book under "hospital" or "support group" for more information.

<u>Internet</u>
The internet offers a wealth of resources. Ask them if they have access to the internet.
If they don't, internet access is available at most local libraries. Here is a short list of
web pages that you may want to offer to them:

- *Hygeia, online journal for pregnancy and infant loss:* <u>www.connix.com/~hygeia</u>
- **Perinatal loss,** <u>www.teleport.com/~grieving</u>
- **GriefNet Support Group,** <u>www.griefnet.org</u>
- **HAND, Helping After Neonatal Death,** <u>www.h-a-n-d.org</u>
- **Mental health, psychology, psychiatry,** <u>www.cmhc.com</u>

<u>Other</u>
A letter to the following address will stop about 75% of baby related mail.

Mail Preference Service
Direct Marketing Association
P.O. Box 3861
New York, NY 10063-3817

<u>Angry or hostile respondents</u>

Because the subjects in this study have already agreed to participate, there should be a
minimal number of angry or hostile respondents, if any. Maintaining **emotional control** is
the key to effectively dealing with a respondent's anger or hostility. Your initial response to
anger should be calm neutrality yet sincere interest. Allow the respondent to rant on and to
register their complaints, **uninterrupted**. The worst response you can give the complaint-
bearing individual is anger or retaliation. To intervene or defend yourself is to risk escalation.
Few people will continue to attack or argue with a reasonable, receptive, and empathetic
listener. Once the respondent is finished, use appropriate probing techniques to clarify and
understand the nature of their anger or complaint. When you have determined that you do
understand the problem, you may offer clarifications if their viewpoint is founded on
incomplete or distorted information. When the anger is directed at a third party, you should
follow basic interviewing techniques and avoid "taking sides."

<u>Anxious or nervous respondents</u>

An excellent technique when interviewing anxious or nervous subjects is to provide a more
thorough or extensive background to the interview process. After exchanging basic
pleasantries and basic rapport-building, clearly outline the flow of the interview, basic topics

to be covered, the rationale for covering them, and the ultimate uses of the data. Using reassuring vocalizations or probes, sharing humor, and so on, will help set your respondent at ease. Finally, a relaxed state can be contagious; if you are relaxed, your respondent is more likely to relax.

Refusals

Sometimes, in spite of your best efforts, a respondent will refuse to participate. Although they would have already sent their consent forms to us by the time you contact them, you may still encounter refusals. Experience will help you to avoid refusals and to lessen your disappointment when they happen. There are a few techniques that have been proven useful in minimizing permanent refusals.

- Be polite.
- Respect the priorities of the respondent.
- Emphasize their importance to the study.
- Explain that all information will be kept confidential.
- Emphasize your flexibility about scheduling the interview (but try to encourage them to do the interview at this time).
- Explain the importance of the study
- Explain that they represent many other Air Force women.
- Refer them to the names and numbers provided on the informed consent form whom they can call to verify your purpose.
- Tell the respondent that they may refuse any individual questions they do not wish to answer.

It is important that you do not coerce the subject to participate when they refuse. Note: refer to SECTION VI "Frequently asked questions" for assistance.

Undecided respondents:

Survey research requires a high participation rate (at least 60% to 80% of persons selected for the study) to produce valid research results. A number of approaches are necessary to achieve high participation rates. We need to minimize refusal responses and encourage as many subjects as possible to participate in all aspects of the study.

Minimizing refusals may broadly encompass situations in which potential participants seem undecided or hesitant to participate, as well as subjects expressing disinterest in participating. It is not possible to create one general script to handle the variety of circumstances involving reluctance or hesitancy of potential participants. As interviewers, it is important to use sensitivity and personal communication skills to maximize participation in the study. Approaches are not always straightforward. They often involve creativity and personalized approaches, and are situational. It is important to listen carefully to what the respondent says, and then choose and emphasize points that address the respondent's particular concerns or worries about participating in the study. Select, repeat, and emphasize the parts of the information provided in the Informed Consent Script that are most pertinent to the subject's concerns and questions.

A non-exhaustive list of approaches for encouraging participation and minimizing refusals follows. These are loose guidelines that can be modified and enhanced.

1. **One of the most important tools you can use is to possess an understanding of the purpose of the study, and to be able to answer reasonable questions about the study**. Be very familiar with the information provided in the Informed Consent Form, Medical Records Release Form, and Information Pamphlet found in the Appendix and keep a copy handy for reference.

2. **Try to feel in a relaxed mood before you call**. Your voice should sound relaxed, warm, comfortable, and positive (subtly confident).

3. **Be sincerely empathetic**. What this means is to listen for words as well as for the feelings of the subject. What is she really saying/feeling? Is she feeling overwhelmed, tired, grief, anger, confusion, betrayed, etc? Then, you may reflect those perceived feelings (e.g.: "It must be a challenge to take care of three young children." OR "I can understand that you may be upset...."). This may allow the subject to work through her feelings a bit, and to feel more trusting and comfortable. You can also try other suggested scripts/approaches, based on your perceptions of what the respondent has stated. As you listen empathetically for what is being said, you should be able to focus on the subject's feelings more than your own; then your responses may begin to feel more spontaneous.

4. **Try not to obtain a refusal to begin with** (sometimes this is easier said than done). If a subject hesitates or sounds negative, try to listen empathetically, and respond with understanding and sensitivity. When necessary, try to leave the door open for someone else to call later. For example:

   "I imagine this must be a difficult time for you. I'd like to have someone check back with you in a month or so to see if you feel up to an interview."

   "I'm certain this is hard for you. We really would like you to participate. Could we spend a few minutes going through a few questions to see how it goes?"

5. **Try to avoid, when possible, wording statements and questions in a way that allows a quick or easy "No" response from the subject**. Ask questions or make suggestions that cannot be answered with a "Yes/No" response. To do this, you need to practice, and review the scripts before you call. It is a good idea to quickly review the scripts each day that you work.

   For example:

   "What might be a good day and time for you?" rather than "Is there a good time and day for you?"

   "We could try parts of the survey for a few minutes to see how it goes."

6. **For hesitant persons, remind them that their answers are confidential.**

   "All your answers will be kept confidential and will be used for group statistics only."

"Your name won't be connected with your answers." "Your identity will remain private."

"The answers will be entered in a computer without your name. The results look at the number of people answering a question the same way. ."

"If you're uncomfortable with certain questions, you can choose the ones you want to answer." OR, "You may refuse to answer any specific questions. You are free to stop the interview at any time."

7. **Be considerate of the time constraints of participants, and be flexible.**

"I could ask you questions for about 10 (or 15) minutes if you want to give it a try; then, perhaps we could complete the survey on several different days or weeks?"

"What is a good time of day for you?"

"What is a good day for you?"

"If you prefer, we can get started and you can let me know when you've had enough for one session." OR, "We can start now and see how far we get."

"I can set an appointment with you to call back at a convenient time."

8. **Let them know how valuable their contribution would be.** Help them to feel helpful, but in a non-coercive way. Although their participation is voluntary, emphasize the positive contribution their participation would make.

"Your participation is voluntary; however, the success of the study depends on the cooperation (inclusion) of as many people as possible (from those selected for the study)."

"I'm very sorry. I understand that it may be difficult for you to think and talk about your experience; but you would be a valued participant in the study. (I'd like to have someone check back with you in a month or so to see if you feel up to an interview.)"

9. **If the subject has questions or concerns about the study that you cannot answer, tell her that you will ask your Supervisor, the Study Manager, or the Principal Investigator to speak with her or call her back.**

Remind the subject: If you have concerns about how the study is conducted, you may contact Diana Echeverria, Principle Investigator, at (206) 528-3131 (collect) or Lieutenant Colonel Kevin Grayson at DSN 350-6535 or Commercial at (707) 424-6535. If you have any questions or concerns about your rights as a research subject, you can call the Institutional Review Board representative Margaret Pennybacker at (919) 544-3717."

10. Try to speak directly with the subject about the study rather than another person such as a spouse or family member who may try to serve as a "gatekeeper" and refuse for

the subject.   **Always try to obtain a refusal directly from the respondent rather than another person.**

- Leave general messages for the respondent when trying to trace or contact the subject. **Never** tell a contact person or leave a message that you are calling about a reproductive health study

- Try to determine the schedule when the respondent is usually at home and call at times when you think she will be there, preferably when the spouse or other "gatekeeper" is not apt to be at home.

11.   **Have another interviewer or supervisor try to call the subject at a later date if the person remains undecided or maintains her reluctance.**

Section VI   Respondents' questions

A respondent may ask the interviewer many questions that may or may not be related to the study. Follow the study guidelines for responses to commonly asked questions about the study found in this section. When you do not know the answer, write down the questions and tell the respondent you will ask the study investigators. Also, remind the respondent that they may call investigators and refer them to the consent form where they are listed. (Have the phone numbers handy in case the respondent's copy of the consent form is misplaced.)

When a respondent asks medical questions, the interviewer should refer her to her doctor or medical care provider. **Interviewers should never provide medical advice or health education**. Interviewers may only state the simple clarifying definitions written in the CATI instrument to describe certain illnesses or treatments and clarify the meaning of questionnaire items.

When a respondent asks you a personal question, such as whether you have children, you may respond if you feel comfortable about answering. Some respondents may ask a personal question in a challenging manner in response to a personal question directed to them. For example, in response to a question about using alcohol or smoking, a subject may retort "Did you ever drink alcohol (or smoke)?" usually because the respondent feels accused. A brief honest answer is the best, e.g., "Yes, I have" or "I would feel very upset."

The following is a list of potential questions that you may be asked when scheduling or conducting the CATI interview. **In the event that you are asked a question that you are unable to answer, ask your supervisor for assistance. If you both still cannot answer the respondents question, write down the questions and tell the respondent you will ask the study investigators and get back to her with the answer.**

Q: **What is the purpose of the study?**

A: The overall purpose of the study is to improve reproductive health outcomes for all women. By focusing on Air Force women, researchers hope to be able to answer questions that are very difficult to answer in the general population due to unequal access to health care and varied socioeconomic status.

Q: **What are the benefits of the study?**

A: Although there are no direct benefits such as services or payments, your participation will help give researchers a better understanding of pregnancy risk factors which will benefit all men and women. In particular, a better understanding of military related risk factors will benefit active duty military women.

Q: **What are the procedures involved in the study?**

After reading the literature you received from us and signing and returning the consent form and medical record release forms, we will schedule and conduct the telephone interview. This interview will last up to one hour and will be your only time commitment to this study. Additional data will be collected from your work history and medical records, but we will not need to contact you for this information.

Q: **What are the risks to me?**

One potential risk is the unintentional loss of your confidentiality. To prevent this from occurring, several safeguards have been established. First, all personal identifiers such as social security numbers and names will be removed from all data and stored separately. Codes, known only to the research team will be used to identify records. Second, all the data will be stored in a secured area with access limited to the investigators. Personal names will never appear on any reports and only summary information will be released or published. The information collected for this study will be kept secure and maintained for five years from the completion of the study. At that time, it will be destroyed.

Q: **What are the goals of the study?**

A: The main goal of the study is to identify potential associations between a woman's work environment and lifestyle with the risk of having pregnancy related high blood pressure, miscarriage, or pre-term delivery. In addition, researchers hope to identify areas where intervention and improved health care planning for pregnant women can make a difference in their pregnancy outcome.

Q: Who is conducting the research?

A: The Battelle Centers for Public Health Research and Evaluation, the University of Texas-Houston Health Sciences Center School of Public Health, and the US Air Force. Battelle is a Research Institute focused on improving the public's health and welfare by offering research services and facilitating research studies.

Q: Who is sponsoring the study?

A: The Department of Defense. This is supported by the Defense Advisory Committee on Women in the Services initiative.

Q: Who can I contact regarding my concerns about how the study is conducted?

A: You may contact Diana Echeverria, Principal Investigator collect at (206) 528-3131 Or, Lietenant Colonel Kevin Grayson at DSN 350-6535 or collect at his commerical telephone number (707) 424-6535.

Q: Who can I contact regarding my rights as a research subject?

A: You may contact Battelle's Institutional Review Board representative Margaret Penneybacker collect at (919) 544-3717.

Q: How was I selected for the study?

A: You were selected from the Air Force Medical Support Agency Standard Inpatient Data Record because your record showed either a normal pregnancy, or early delivery, miscarriage, or pregnancy induced high blood pressure.

Q: How did you get my address and telephone number?

A: Your contact information was gathered through the Monterey Military Manpower Center and standard credit company searches.

Q: How can I get a copy of the results of the study/Will you be sending me a final copy of the results?

A: Copies of an executive summary of this study can be requested from
Air Force Women's Health Study
Battelle CPHRE, 100 Capitola Drive, Suite 301
Durham, NC 27713-4411

Or by calling (919) 544-3717 and asking for the Air Force Women's Health Study representative.

Q: Why do they need access to my medical records?

A: This will supplement the information gathered in the telephone interview. Researchers are interested in only the time period three months prior to conception to the end of the pregnancy.

Q: What kind of questions will you be asking in the telephone interview?

A: Questions will cover work history, military activities, physical and chemical exposures, physical exertion, job satisfaction, demographics, reproductive history, prenatal tests, and personal habits during the study period three months prior to conception to the end of the pregnancy.

Section VI Definitions

Active work: Work performed with moderate physical loads and/or bending more than one hour per day.

AFSC Air Force Specialty Code

Alcohol containing solvents General cleaners and cleaning solutions containing the following alcohols: methanol, isopropyl alcohol.

Amniocentesis: (amnio) *am-knee-oh-scent-esis* An obstetrical procedure in which a small amount of amniotic fluid is removed for laboratory analysis by inserting a needle through the mother's abdomen into the amniotic sac surrounding the fetus.

Anesthetic gases *anne-iss-thet-ick* Includes such gases as nitrous oxide, halothane (*hah-low-thane*), cyclopropane (*sigh-clow-pro-pane*), or diethyl ether (*dye-eth-ill*) used in a medical setting for removing the sensation of pain.

Anthrax *anne-thrax* A biological warfare agent. The Department of Defense is implementing a vaccination program consisting of a series of six inoculations over an 18 month period.

Anti-neoplastic drugs Drugs used in chemotherapy for attacking abnormal tissue (neoplastic) growth such as cancer.

Carbon disulfide *Carbon dye-sulf-ide* A solvent used for specific laboratory analysis processes

CATI: COMPUTER ASSISTED TELEPHONE INTERVIEW

Chlorinated solvents Solvents that have chlorine as a component-commonly found in paint strippers, dry cleaning solvents, and metal degreasers. Examples include commercial products such as PD680, or chemical compounds such as freon, trichloroethylene (TCE), 1,1,1 trichloroethane, methylene chloride, dichloroethane, perchloroethane.
(*free-on*) (*try-cloro-ethyl-een*) (*dye-cloro-methane*)

Chorionic Villus Sampling or CVS *Core-ee-onic* Chorionic Villus Sampling (CVS) is a procedure similar to amniocentesis, but it can be performed much earlier in the pregnancy. CVS is accomplished with the use of ultrasound equipment and either a needle aspiration (like amniocentesis) or a catheter inserted through the vagina.

Chorizo *Chore-eee-zoe* A common spicy Mexican sausage.

CT or CAT scans Computed tomography/computed axial tomography. A medical diagnostic tool where images are taken from several directions, computerized, and viewed on a computer monitor.

Due date The date diagnosed by the doctor as the expected due date based on the date of conception and is not necessarily the baby's birthday.

Duty	An assigned task, occupation, or place of service. This term may be used interchangeably with JOB, JOB TITLE, or DUTY POSITION.
Eclampsia (*ee-clamp-see-a*)	Condition resulting in high blood pressure and protein in urine.
Formaldehyde or other aldehydes (*Fore-mald-a-hide)*	A chemical compound found in bio-preservation, plywood, and wood paneling.
Gliders	A special class of aircraft.
HAZWOPER	Specialized training and certification in hazardous waste operations and emergency response.
Heavy metals	Includes lead, mercury, barium, or depleted uranium. Lead and mercury may be used in the production of electrical devices used for aviation. Barium-wide variety of uses including medical diagnostic tests. Beryllium (burr-illy-um) nuclear weapons Depleted uranium is normally placed on tips of 50 mm shells to penetrate armor or is added to B52 wings for balance.
Industrial solvents	Solvents typically containing benzene, ethyl-benzene, styrene, xylene, or toluene. methyl ethyl ketone (MEK), acetone, and ketones often found in paint solvents. (Ben-zeen) (ethyl ben-zeen) (sty-reen) (zye-leen) (taul-you-lean) (methyl-ethyl-key-tone) (ass-i-tone) (key-tone)
Ionizing radiation	A special class of radiation that includes both electromagnetic waves and/or particulate radiation capable of producing IONS by interaction with matter. Examples include X-rays or radioactive materials.
IVP	Kidney-intravenous pylogram (intra-vein-us pile-o-gram)
Jets	Planes with jet engines such as fighters, bombers, aircraft carriers, C5's.
Light metals	Include aluminum, titanium, magnesium, manganese, or molybdenum (a-lou-min-um) (tie-tain-ee-um) (mag-knee-zee-um) (man-gan-ese) (mo-libb-den-um)
Mask confidence	Gas chamber or tear gas training
Miscarriage	Another term for <u>spontaneous abortion</u>. The fetus aborted prior to the 20th week of pregnancy and the baby was lost.
Molar pregnancy	An abnormal pregnancy where a mass forms in the uterus from the trophoblastic tissue of the embryo.
MOPP gear	Military Oriented Protective Posture. Includes chemical warfare gear.
Morning after pill	A drug therapy involving high doses of ordinary birth control pills containing the hormones estrogen and progestin. This is not the same as RU 486.
MRI	Magnetic Resonance Imaging. A large magnet and radiowaves are used

instead of X-Rays to take picture of the body's tissues. The machine is shaped like a long tube. The patient must lie flat on a table in the middle of the machine.

NBC Rrefers to nuclear, biological, or chemical agents.

Non-ionizing radiation Includes sources emitted by electromagnet fields from radar antennas, communications equipment, high voltage wires, large electrical motors, high-powered lasers, or high intensity light such as from welding. (This **does not** include operators who would only monitor activities from a remote terminal.)

Office symbol Example: 22 FW/OPS, 22FW/14FS. This is a common Air Force designation that the respondent should know.

Organization This refers to the specific organization they were under, such as 22 Fighter Wing, 12th Tactical Fighter wing. These are common designations that the respondent should know.

Paced machinery Refers to equipment that is moving at a continuous rate that is not under the control of the worker, such as conveyor belts or assembly lines.

Prenatal care Health care from medical practitioners or nurse-midwives received between the time of conception and the time the baby is born (or the pregnancy ends). This may include a variety of tests, exams, and recommendations for diet and exercise.

Pyridostigmine: (Pie-rid-o-stig-mean) Nerve Gas antidote.

Radionuclide study or scan Radioactive tracers are injected into the blood stream. Using cameras, the amount of gamma rays coming from these radioactive tracers are collected and analyzed. This study is performed to look at activity in a particular organ.

Respirator A device worn over the nose and mouth to prevent the inhalation of noxious substances.

Rotary helicopter Includes general helicopters or the "Jolly Green" and "Black Hawk".

Sciatica Sigh-at-ick-a Pain or irritation of the sciatic nerve, which stretches through the thigh muscle, leg and foot.

Scopolamine *Scope-all-a-mean* Motion sickness antidote.

Sitting Defined as work performed while sitting at a workstation with less than one hour of standing per day

Shop Name or Duty Section Name Common Air Force designation that the respondent should know.

Small arms Guns

Spontaneous abortion	Another term for <u>miscarriage.</u> The fetus aborted prior to the 20th week of pregnancy and the baby was lost.
Standing:	Defined as work requiring standing for more than three hours.
Sterilants	A gas such as ethylene oxide used to sterilize surgical instruments and other supplies.
Stillbirth	Refers to a child born dead whose weight was high enough (> 1000 grams or approximately 2 pounds, 3 ounces) that the child would have been expected to live.
Study period:	Up to a one year period beginning three months prior to conception through the date of delivery (for live birth) or date of pregnancy termination (for spontaneous abortion or stillbirth).
Trimester	A three month period. Pregnancies are commonly divided into three trimesters.
Tubal pregnancy	The fetus develops in a fallopian tube instead of the uterus.
Turbo props	A type of aircraft including 130's.
Vaccine	A protective injection for diseases such as Hepatitis B, influenza (flu), or measles that is given as a preventative innoculate to render the person immune in the event of a future exposure to the disease.
Walking work	Defined as work requiring walking from point to point for more than one hour per day and standing less than three hours per day.
X-rays	Any medical X-rays including dental (teeth/jaw), mammograms (breast), upper GI (stomach), IVP (intravenous pylogram—kidney).

Air Force Bases

Alconbury RAF, England (USAFE)
Alexandria AFB, (LA)
Ali Al Salem AB, Kuwait (AMC)
Altus AFB (OK)
Andersen AFB, Guam (PACAF)
Andrews AFB (MD)
Araxos AB, Greece
Arnold AFB (TN)
Aviano AB, Italy (USAFE)
Avon Park AS, Florida (ACC)

Barksdale AFB (LA)
Beale AFB (CA)
Bergstrom AFB, (TX)
Blytheville AFB, (AR)
Bolling AFB (D.C.)
Brooks AFB (TX)
Bunker Hill AFB, (IN)

Camp Darby, Italy (USAFE)
Cannon AFB (N.M.)
Cape Canaveral AS, Florida (AFSPC)
Cape Cod AS, Mass (AFSPC)
Carswell AFB, (TX)
Castle AFB, (CA)
Cavalier AS, N.D. (AFSPC)
Chanute AFB, (IL)
Charleston AFB (SC)
Cheyene Mountain AS, Colorado (AFSPC)
Cheyenne Mountain AFB, (CO)
Clear AS, Alaska (AFSPC)
Columbus AFB (MS)
Connally AFB, (TX)
Croughton RAF, England (USAFE)

Datelan AFB, (AZ)
Davis-Monthan, (AZ)
Diego Garcia, (AMC/PACAF/AFSPC)
Dobbins ARB, Georgia (AFRC)
Dover AFB (DE)
Duke Field AS, Florida (AFSOC)
Dyess AFB (TX)

Eaker AFB, (AK)
Eareckson AFS (AS)
Earekson AS, Alaska (AFSPC)
Edwards AFB (CA)
Eglin AFB (FL)
Eielson AFB (AK)
El Dorado AS, Texas (AFSPC)
Ellsworth AFB (SD)
Elmendorf AFB (AK)
England AFB, (LA)

F.E. Warren AFB (WY)
Fairchild AFB (WA)
Fairford, RAF England (USAFE)
Fort Eustis, Viginia (ACC)
Fort Gordon, Georgia (AETC)
Fort Hood, Texas (ACC)

Galena Airport, Alaska (PACAF)
George AFB, (CA)
Ghedi AB Italy (USAFE)
Gila Bend AF Auxiliary Fld, Arizona (AETC)
Gila Bend AFB, (AZ)Goodfellow AFB (TX)Grand Forks AFB (ND)
Grandview AFB, (MO)
Greenville AFB, (SC)
Griffiss AFB, (NY)

Grissom AFB, (IN)
Gunter AFB (AL)
Gunter AFB, (AL)

Hanscom AFB (MA)
Hickam AFB (HI)
Hill AFB (UT)
Holloman AFB (NM)
Homestead AFB, (FL)
Howard AFB, Panama (ACC)
Hurlburt Field, (FL)

Incirlik, AB, Turkey (USAFE)
Indian Spring AF Aux Fld, Nevada
Istres AB, France (USAFE)
Izmir AB Turkey (USAFE)

James Connally AFB, (TX)
Johnston Island AFB

K.I. Sawyer AFB, (MI)
Kadena AB, Japan (PACAF)
Keesler AFB (MS)
Keflavick NAS, Iceland (ACC)
Kelly AFB (TX)
King Salmon Airport, Alaska (PACAF)
Kinross AFB, (MI)
Kirtland AFB N.M.
Kunsan AB, South Korea (PACAF)

Lackland AFB (TX)
Lajes Field, Azores, Portugal (ACC)
Lakenheath RAF, UK (USAFE)
Langley AFB (VA)
Laughlin AFB (TX)
Limestone AFB, (ME)
Little Rock AFB (AR)
Loring AFB, (ME)
Los Angeles, (CA)
Lowry AFB, (CO)
Luke AFB (AZ)

MacDill AFB (FL)
Malmstrom AFB (MT)
Mannheim AS, Germany (USAFE)
March AFB, (CA)
Marietta AFB, (GA)
Mather AFB, (CA)
Maui , Hawaii (AFMC)
Maxwell AFB (AL)
McChord AFB (WA)
McClellan AFB (CA)
McConnell AFB (KS)
McGuire AFB (NJ)
Mildenhall RAF, UK (USAFE)
Minot AFB (ND)
Misawa AB, Japan (PACAF)
Molesworth RAF, England (USAFE)
Moody AFB (GA)
Moron AS, Spain (USAFE)
Mountain Home, (ID)
Myrtle Beach AFB, (SC)

Nellis AFB (NV)
New Boston AS, N.H. (AFSPC)
Newark AFB, (OH)
North Bay, Canada (NORAD/ACC)
Norton AFB, (CA)

Offutt AFB (NE)
Onizuka AFB, (CA)
Onizuka AS (CA)
Onizuka AS, California (AFSPC)
Osan AB, South Korea (PACAF)
Oscoda AFB, (MI)

Patrick AFB (FL)
Pease AFB, (NH)
Peterson AFB (CO)
Pinecastle AFB, (FL)
Plattsburgh AFB, (NY)
Pope AFB (NC)
Port Hueneme, California
Portsmouth AFB, (NH)
Prince Sultan, AB Saudi Arabia

Ramey Solar Observatory (Puerto Rico)
Ramstein AB, Germany (USAFE)
Randolph AFB (TX)
Reese AFB, (TX)
Rhein-Main AB, Germany (USAFE)
Richmond RAAF, Australia (AMC)
Robins AFB (GA)
Rome (AFRL/IF), New York (AFMC)

San Vito AS, Italy (USAFE)
Schriever AFB (CO)
Scott AFB (IL)
Seymour Johnson AFB, (NC)
Shaw AFB (SC)
Sheppard AFB (TX)
Smoky Hill AFB, (KS)
Smyrna AFB, (TN)
Sola Sea AS, Norway (USAFE)
Soto Cano AB, Honduras (US SOUTHCOM)
Spangdahlem AB, Germany (USAFE)
Stavanger, Norway (USAFE)
Stewart AFB, (GA)
Stuttgart, Germany (USAFE)

Taszar AB, Hungary (USAFE)
Thule AB, Greenland
Tinker AFB (OK)
Topeka AFB, (KS)
Travis AFB (CA)
Tulza AB, Bosnia-Herzegovina (USAFE)
Tyndall AFB (FL)

Upwood RAF, England (USAFE)
USAF Academy (CO)

Vance AFB (OK)
Vandenberg AFB (CA)
Victorville AFB, (CA)

Waco AFB, (TX)
Wake Island AFB
Wheeler AFB, (HI)
Whiteman AFB (MO)
Williams AFB, (AZ)
Woomera AS, Australia (AFSPC)
Wright-Patterson AFB, (OH)
Wurtsmith AFB, (MI)

Yokota AB, Japan (PACAF)

Health Care and Medical

8C000	Family Support Center		93P0	Patient
40C0D	Dental Medical Commander		4A091	Health Services Mgmt Superintendent
43B4A	Chiropractor Biomedical Scientist Staff		4A151	Medical Materiel Journeyman
43M4	Medical Entomologist Staff		4A251	Biomedical Equip Journeyman
43T3A	Biomedical Laboratory Science Biomedical Laboratory Qualified		4C031	Mental Health Service Apprentice
43T3E	Blood Bank Biomedical Laboratory Qualified		4D000	Diet Therapy Chief Enlisted Manager
43T1H	Hematology Biomedical Laboratory Student		4.00E+51	Public Health Journeyman
43V3E	Laboratory Animal Veterinary Clinician Qualified		4F051	Aeromedical Journeyman
43Y3A	Medical Health Physicist Qualified		4H091	Cardiopulmonary Lab Superintendent
44D4D	Forensic Pathologist Staff		4J031	Occ Therapy Apprentice
44D4K	Dermatology Pathologist Staff		4J000	Biomedical Therapy Chief Enlisted Manager
44D3F	Pediatric Pathologist Qualified		4J052	Physical Therapy Journeyman
44E4A	Emergency Medicine Specialist Emergency Services Physician Staff		4M031	Aerospace Physiol Apprentice
44G4	General Practice Physician Staff		4N091	Medical Service Superintendent
44K4G	Hematology Pediatrician Staff		4N111C	Surgical Service/Orthopedics Helper
44K4K	Infectious Diseases Pediatrician Staff		4P091	Pharmacy Superintendent
44K3B	Cardiology Pediatrician Qualified		4R071A	Diagnostic Imaging/Nuclear Medicine Craftsman
44K3E	Neonatalogy Pediatrician Qualified		4T071	Medical Lab Craftsman
44K3J	Pulmonology Pediatrician Qualified		4T072	Histopathology Craftsman
44M4F	Rheumatology Internist Staff		4T013	Cytotechnology Helper
44M3D	Gastroenterology Internist Qualified		4U071	Orthotic Craftsman
45G1D	Maternal-Fetal Medicine Obstetrician And Gynecologist Student		4V051A	Optometry/Ophthalmology Journeyman
45S3B	Colon And Rectal Surgeon Qualified		4V090	Optometry Superintendent
			4Y031	Dental Asst Apprentice

Example Base Specific

2E653	Telephone Systems Journeyman		3M071	Services Craftsman
2T091	Traffic Management Superintendent		3N031	Public Affairs Apprentice
2T191	Vehicle Operations Superintendent		3N072	Rdo/Tv Brdcst Craftsman
2T357	Veh Maintenance Control & Analysis Journeyman		3N291	Premier Band Superintendent
3.00E+71	Electrical Systems Craftsman		3S090	Personnel Superintendent
3.00E+12	Electric Power Production Helper		3S100	Equal Opportunity And Treatment Chief Enlisted Manager
########	Heating, Vent, A/C, & Refrig Apprentice		3S231	Education & Training Apprentice
########	Pavements & Const Equip Craftsman		3U091	Manpower & Quality Management Superintendent
3E351	Structural Journeyman			
3E490	Utilities Systems Superintendent		4B091	Bioenvironmental Engineering Superintendent
3E472	Liquid Fuel Systems Maintenance Craftsman			
3E473	Environmental Craftsman		6C091	Contracting Superintendent
3E511	Engineering Helper		8B100	Military Training Leader
3E691	Operations Superintendent		21S1	Supply Student
3E731	Fire Protection Apprentice		32E4F	Mechanical Engineer Civil Engineer Staff
3E891	Explosive Ord Disposal Superintendent		32E3A	Architect/Architectural Engineer Civil Engineer Qualified
3E991	Readiness Superintendent			
3H071	Historian Craftsman		91W0	Wing Commander

Example Airplane

1A011	In-Flight Refueling Helper
1A190	Flight Engineer Superintendent
1A111B	Flight Engineer Helicopter Helper
1A231	Aircraft Loadmaster Apprentice
1A371	Airborne Comm Systems Craftsman
1CO51	Airfield Management Journeyman
1C072	Operations Resource Management Craftsman
1C100	Air Traffic Control Chief Enlisted Manager
1C600	Space Systems Operations Chief Enlisted Manager
1T171	Aircrew Life Support Craftsman
1T231	Pararescue Apprentice
1W071A	Weather Forecaster Craftsman
2A031A	F-15 Avionics Test Stn & Cmpnt Apprentice
2A051B	F-16/F-117/A-10/B-1b/C-17 Avionics Test Stn & Cmpnt Journeyman
2A172	Avionics Guidance & Control Systems Craftsman
2A173	Comm & Nav Systems Craftsman
2A174	Abn Surveillance Radar Systems Craftsman
2A351A	F-15/F-111 Avionic Systems Attack Control Journeyman
2A333A	F-15 Tac Acft Maintenance Apprentice
2A353J	Gen (Except F-15/F-16/F-117) Tac Acft Maintenance Journeyman
2A313G	T-37/Oa-37 Tac Acft Maintenance Helper
2A471	Acft Guidance & Control Craftsman
2A472	Acft Comm & Nav Systems Craftsman
2A551J	C-5/C-9/C-12/C-17/C-20/C-21/C-22/C-26/C-27/C-130/C-141/T-39/T-43 Aerospace Maintenance Journeyman
2A531F	B-52 Aerospace Maintenance Apprentice
2A532B	H-60 Heli Maintenance Apprentice
2A573A	Bomber Avionics Systems/Off Avionic Systems, Cits, Obts, Doppler Radar Systems Craftsman
2A553C	Bomber Avionics Systems/Comm, Nav, & Def Avionic Journeyman
2A651A	Aerospace Propulsion/Jet Engines Journeyman
2A632	Aerospace Ground Equip Apprentice
2A653	Aircrew Egress Systems Journeyman
2A615	Acft Hydraulic Systems Helper
2A635	Acft Hydraulic Systems Apprentice
2A711	Acft Metals Technology Helper

2A772	Nondestructive Inspection Craftsman
2.00E+71	Ground Radar Systems Craftsman
########	Satellite & Wideband Comm Equip Craftsman
########	Meterorological & Nav Systems Journeyman
2F091	Fuels Superintendent
2R191	Maintenance Scheduling Superintendent
2T271	Air Trans Craftsman
8A000	In-Flight Passenger Service Specialist
9T000	Basic Airman
11A4A	Staff C-5 Airlift Pilot
11A4J	Staff C-27 Airlift Pilot
11A4W	Staff Intra Theater Airlift Pilot
11A3E	Aircraft Commander C-20
11A2F	C-21 Airlift Pilot/Copilot
11A1C	C-12 Airlift Pilot Student
11B4A	Staff B-1 Bomber Pilot
11B2C	B-52 Bomber Pilot/Copilot
11E1S	Supt Phase Ii Instructor Experimental Test Pilot Student
11F3Q	Aircraft Commander At-38
11H4Y	Staff General Helicopter Pilot
11R3C	Aircraft Commander Ec-130
11R2F	EC-135 Reconnaissance/Surveillance/Electronic Warfare Pilot/Copilot
11S4G	Staff MC-130H Special Operations Pilot
11S3P	Aircraft Commander Sunt
11S1Z	Other Special Operations Pilot Student
11T4A	Staff KC-10 Tanker Pilot
11T2Y	General Tanker Pilot Student
12E1A	Airlift/Tanker/Bomber Experimental Test Navigator Student
12F4T	Sunt Instructor Fighter Navigator Staff
12F1G	F-15e Ewo Fighter Navigator Student
12K4B	Ewo, General/Other Trainer Navigator Staff
12R1S	Sunt Instructor Ewo Reconnaissance/Surveillance/Electronic Warfare Navigator Student
12S4W	Ewo, General Special Operations Navigator Staff
12T4A	Kc-135 Tanker Navigator Staff
13M1	Air Traffic Control Student
92T0	Pilot Trainee

Example Military Specific

1A471D	Airborne Battle Management Systems/Weapons Dir/Craftsman	1C451	Tac Air Command & Control Journeyman
1A571	Airborne Missons Systems Craftsman	1C511A	Aerospace Control & Warnings Sys/Manual Systems Helper
1C291	Combat Control Superintendent		
1C371	Command And Control Craftsman		
1N331	Germanic Cryptologic Linguist Apprentice	2R071	Maintenance Data Systems Analysis Craftsman
1N312	Romance Cryptologic Linguist Helper		
1N353	Slavic Cryptologic Linguist Journeyman	2S071	Supply Management Craftsman
1N334	Far East Cryptologic Linguist Apprentice	2W000	Munitions Maintenance Chief Enlisted Manager
1N355	Mid East Cryptologic Linguist Journeyman		
1N451	Signals Intel Analysis Journeyman	2W100	Acft Armament Chief Enlisted Manager
1N551	Electronicsig Intel Exploit Journeyman	2W111H	F-111 Acft Armament Systems Helper
1N651	Electronic Systems Security Assess Journeyman	2W131Z	All Other Acft Armament Systems Apprentice
		2W211	Nuclear Wpns Helper
1S031	Safety Apprentice	2W271	Nuclear Wpns Craftsman
1T031	Survival, Evasion, Resist, & Escape Training Apprentice	3A071	Information Management Craftsman
		3C071	Comm-Computer Systems Operations Craftsman
2A774	Survival Equipment Craftsman		
########	Ground Radio Comm Apprentice	3C191	Radio Comm Systems Superintendent
########	Visual Imagery & Intrusion Detection Systems Craftsman	3C211	Comm-Computer Systems Control Helper
		3C351	Comm-Computer Systems Plan & Imp Journeyman
2E391	Secure Comm Systems Superintendent		
2E471	Space Systems Craftsman	3N151	Regional Band Journeyman
2E671	Comm & Ant Systems Craftsman	3P031A	Security Forces/Mil Working Dog Handler Apprentice
2E800	Instrumentation & Telemetry Systems Chief Enlisted Manager		
		3P091	Security Forces Superintendent
2G000	Logistics Plans Chief Enlisted Manager	7S091	Special Investigations Superintendent
2M090	Msl & Space Systems Maintenance Superintendent	16F4H	Europe Foreign Area Staff
		21A1A	Nuclear Munitions Aircraft Maintenance And Munitions Student
2M011B	Aclm Msl & Space Systems Elect Maintenance Helper		
2M013A	Icbm Msl & Space Facilities Helper	21M4B	Spacelift Space And Missile Maintenance Staff
2P000	Precision Measurement Equip Lab Chief Enlisted Manager		

Example support related

1N051	Intel Applications Journeyman	5J071	Paralegal Craftsman
1N171	Imagery Analysis Craftsman	5R011	Chaplain Service Support Helper
1N211	Signals Intel Production Helper	16G3	Air Force Operations Staff Officer Qualified
3V051	Visual Information Journeyman	21L1	Logistician Student
3V072	Still Photographic Craftsman	35B1	Band Student
3V053	Visual Info Production- Documentation Journeyman	52R4C	Roman Catholic Chaplain Staff

INFORMED CONSENT DOCUMENT

60TH MEDICAL GROUP
David Grant Medical Center
101 Bodin Circle
Travis AFB, CA 94535-1800

Privacy Act of 1974 applies. DD Form 2005 filed in Clinical/ Medical Records.

PRIVACY ISSUES: *Records of my participation in this study may only be disclosed in accordance with federal law, including the Federal Privacy Act, 5 USC 552a, and its implementing regulations. DD Form 2005 contains the Privacy Act Statement for the records. I understand that the U.S. Food and Drug Administration (FDA), the sponsoring agency and/or their designee may inspect records of this study, if applicable.*

TITLE OF STUDY

"An Investigation of Reproductive Health and Potential Risk Factors among Active Duty Air Force Women"

INVESTIGATORS' NAMES, DEPARTMENTS, PHONE NUMBERS

Principal Investigator	Diana Echeverria, Ph.D.	206-528-3131	Battelle, Seattle, WA
Co-Investigator	John Herbold, Ph.D.	210-567-5930	University of Texas, Houston
Co-Investigator	Lt.Col. Kevin Grayson	707-424-6535	U.S. Air Force, Travis AFB
Co-Investigator	Lowell Sever Ph.D.	206-528-3348	Battelle, Seattle, WA
Project Contact	Nicholas Heyer, Ph.D.	206-528-3224	Consultant, Seattle, WA
Human Subject Comm.	Margaret Pennybacker,PhD	919-544-6587	Battelle, Durham, NC

INTRODUCTION

It is important that I read and understand several general principles that apply to all who take part in research studies: (a) taking part in the study is entirely voluntary; (b) personal benefit may not result from taking part in the study, but knowledge may be gained that will benefit others; (c) I may withdraw from the study at any time without penalty or loss of any benefits to which I am otherwise entitled.

PURPOSE OF STUDY
(This section will explain the nature, purpose(s), approximate number of subjects, and the duration of participants' involvement.)

I, _____ (SSN: ___ - ___ - _____), understand that I am being asked to participate in the only study of pregnancy, miscarriage, and births currently being conducted among former and current active duty Air Force women. The Air Force has an excellent track record of supporting active duty women who become pregnant. Since 1975 it has allowed women who become pregnant to remain on active duty. This may partly explain why the Air Force has the highest reenlistment rate among active duty women in all branches of the US military. Earlier studies have shown that birth rates among active duty Air Force women generally exceed those of the US working population. Air Force women also have better pregnancy outcomes, reflecting their good health, excellent health benefits, and the safety of Air Force workplaces. Nevertheless, it is possible that Air Force work environments may have influenced unsatisfactory pregnancy outcomes on active duty women. I understand that this study intends to investigate these connections with the hope of preventing unsatisfactory pregnancy outcomes among active duty Air Force women in the future.

I understand that this study will evaluate possible associations between three pregnancy outcomes; high blood pressure

during pregnancy, miscarriage, early delivery, and a broad range of personal and work-related factors previously suspected of being associated with these outcomes. I have been randomly selected for this study because my hospital records indicate my experience with one of these outcomes, or I had a completely normal delivery between 1990 and 1998. If I decide to participate, I understand that a collection of information will be requested from my work history and military records data, and also, a telephone interview will be required.

PROCEDURES

(This section will explain all procedures and the purpose of the procedures to be undergone as part of this study. Any experimental procedures will be explained as such.)

The study will be conducted over a two-year period and will include approximately 1,900 pregnancies with one of the three outcomes being studied, and an additional 1,900 pregnancies without any complication for comparison. If I decide to participate, the following is required:

1) written permission to use my pregnancy-related Air Force inpatient and outpatient medical records, and

2) written permission to schedule me for a telephone interview to be conducted at my convenience.

The telephone interview, which will take an hour or less, will collect information on:

* my work history over a period starting three months prior to conception and continuing until the end of that pregnancy

* a review of chemicals (including solvents, metals, pesticides, etc.) and other factors (including level of physical activity, stress, noise, vibration, etc.) I may have encountered in my workplace during my pregnancy

* a brief medical history with associated medications

* a reproductive history including voluntary abortions

* personal habits including smoking and alcohol consumption for each pregnancy

BENEFITS

I understand that no benefit can be guaranteed. **I understand I will not receive payment for participating in this study, and I may not directly benefit from its findings. It is hoped that this study will establish a better understanding of the relationships between personal characteristics, Air Force workplaces, and pregnancy among active duty Air Force women.**

ALTERNATIVES

(This section will explain your alternative treatment possibilities)

The alternative is not to participate in this study.

RISKS/INCONVENIENCES

(Any discomfort, risks, and inconveniences caused from procedures or drugs used that may be expected from participation in this study.)

I understand that the only risk from my participation in this study is the possible loss of privacy and confidentiality. While it is possible that my personal and medical information could be unintentionally released, the investigator for this study will be taking stringent precautions to avoid this. First, the investigators will remove my name and Social Security Number from all of my files and store them separately. Codes, known only to the research team, will be used to identify my records. Second, all the data will be stored in a secured area with access limited to the investigators. My name will never appear on any reports and only summary information will be published. The information collected for this study will be kept secure and maintained for five years from the completion of the study. At that time, it will be destroyed.

DECISION TO PARTICIPATE

The decision to participate in this study is completely voluntary on my part. No one has coerced or intimidated me into participating in this program. I am participating because I want to. The study investigator(s) has adequately answered any and all questions I have about this study, my participation, and the procedures involved. I understand that the investigators will be available to answer any questions concerning procedures throughout this study. I understand that if significant new findings develop during the course of this study that may relate to my decision to continue participation, I will be informed. I further understand that I may withdraw this consent at any time and discontinue further participation in this study without prejudice to my entitlement to care. I will be provided with a copy of this consent form.

I understand that I may refuse to participate in all or any part of this study, or refuse to answer any specific question without penalty. All information obtained about me, as an individual will be considered privileged and held in strict confidence. My identity will remain private. I will not be identified in any presentation of the results. No individual data about me will be released; only summary data will be published.

If I decide to participate, I will read and sign the signature page of this informed consent document, as well as the attached medical records release form.

1. I have read this informed consent document and understand the purpose and benefits, procedures, and risks associated with my participation in the study.

2. I agree to participate in the study. I understand that my participation is voluntary and that I may decide not to participate in any or all portions of this study at any time without penalty; and that I may decide not to answer any particular question or part of a question.

3. I give permission to allow the study researchers to schedule a one-hour interview at my convenience.

   If I decide to participate I will be contacted in the next few weeks to schedule a convenient time for the telephone interview. Otherwise, if I decide not to participate, I will not be contacted again.

4. I may also give written permission to use my pregnancy related USAF inpatient and outpatient medical records using the attached "Medical Record Release Form". I understand that the information obtained from my medical records will be limited to my pregnancy and these and my telephone interview will remain strictly confidential.

5. I understand that my name will never appear on any reports; and that only summary data from the study will be published.

6. I understand that this study is in compliance with standards for treatment of human subjects by our various research institutions and the US Air Force.

7. I understand this investigation is a Defense Advisory Committee on Women in the Services (DACOWITS) study. It should be noted that representatives of the U.S. Army Medical Research and Materiel Command are eligible to review research records as part of their responsibility to protect human subjects in research.

8. I understand copies of an Executive Summary of this study can be obtained by requesting a copy from the following address:

Air Force Women's Health Study
Battelle CPHRE, 100 Capitola Drive, Suite 301
Durham, NC 27713-4411

Questions? Please call
Toll Free 1-877-810-9530

or by calling (919) 544-3717 and asking for the Air Force Women's Health Study representative.

_____
(e-mail address)

My signature below indicates my willingness to participate in this research study.

_____
(Subject's Printed Name)

_____
(Subject's SSN)

_____
(Subject's Signature)

_____
(Best commercial phone number to reach you)

_____
(Date)

INSTRUCTIONS
Informed consent document (4 pages)

- Fill in name and social security number in Purpose of Study section of page 1;
- Initial each page at the bottom right corner;
- Compete the section above, including your signature indicating your willingness to participate in the study.

Medical records release form (1 page) *attached*

- Complete form including location of Medical treatment facility where treated or delivered and the location of your medical records.

The signed forms (5 pages total) should be either mailed in the enclosed envelope or faxed with the enclosed fax cover sheet to Mr. Stephen Wilkins at (919) 544-0830. An additional copy of each form is provided for your records.

And finally, to aid us in the collection of the workplace Industrial Hygiene casefiles, please complete the following information about your workplace during the study period defined on the Que Sheet:

Job Title _____ AFSC _____ Base Assigned

Organization _____ Office Symbol _____ Duty Section

Briefly describe your immediate workplace:

MEDICAL RECORD RELEASE FORM

I give my consent for the _____

(Name of Medical Treatment Facility where you were treated or delivered)

and the _____

(Name of Medical Treatment Facility where your outpatient medical records are located)

to provide my pregnancy related USAF inpatient and outpatient medical records to members of the

Investigation of Reproductive Health and Potential Risk Factors Among Active Duty Air Force

Women research staff. The medical information that is collected will only be used for research

purposes by the research staff and that the information obtained will remain

confidential.

Signature: _____

Printed name: _____

Social security number: _____

Date: ___/___/___

This consent is effective upon signing and shall remain valid until September 31, 2000 or
until the end of the study, whichever occurs first.

Information Pamphlet
<INSERT INFORMATION PAMPHLET>

CATI INTERVIEWER TRAINING MANUAL UPDATE

for

"An Investigation of Reproductive Health and Potential Risk Factors Among
Active Duty Air Force Women"

Section ___

Effective date:

Instructions:

*Air Force Women
Focus of Pregnancy
Study.....*

Here's your chance to make
a contribution toward
improving pregnancy
outcomes for all women

UNITED STATES
AIR FORCE

THE UNIVERSITY OF TEXAS - HOUSTON
HEALTH SCIENCE CENTER

Battelle
... Putting Technology To Work

Battelle Centers for Public Health Research and Evaluation
100 Capitola Dr. Suite 301
Durham, NC 27713-4411

(919) 544-3717
Fax (919) 544-0830

How can I help?

1. Read the enclosed literature. The information provided describes the background and goals of the study in detail.

2. Sign the enclosed INFORMATION Sheet and MEDICAL RECORD RELEASE forms.

3. Send the INFORMATION SHEET and MEDICAL RECORD RELEASE forms by fax to Mr. Stephen Wilkins (919) 544-0830; or use the enclosed self-addressed envelope provided. Faxing is preferred.

Then what?

When we receive your forms, we will contact you to schedule a telephone interview at your convenience. The interview will be your only time commitment.

We will also collect work history and pregnancy data from your military records. We will only need information about your pregnancy, and we will not need to contact you for this information.

All information obtained about you will be considered privileged and held in strict confidence.

"An Investigation of Reproductive Health and Potential Risk Factors Among ADAF Women"

WHAT IS THIS STUDY ALL ABOUT?

You are among 4000 randomly selected former and current active duty Air Force women selected for participation in a study investigating women's reproductive health. We will be evaluating factors related to the occurrence of four different pregnancy experiences: **normal birth without complications, high blood pressure during pregnancy, miscarriage, and early or pre-term delivery.** This DoD sponsored study is headed by researchers from the Battelle Center for Public Health Research and Evaluation, the University of Texas School of Public Health, and the US Air Force.

This study is designed to discover whether work environments influence pregnancy outcomes. We hope to uncover areas where intervention and improved heath care planning for pregnant women can make a difference.

WHAT DOES THIS INVOLVE?

We need to compare the lifestyles, occupational histories, and workplace environments of many different women— both those experiencing problems with their pregnancy, and those with an uncomplicated pregnancy—to detect clues to what may influence these events.

A-153

Should you decide to participate, a telephone interview that may last up to one hour will be scheduled to obtain information about your lifestyle and work history. In addition, we will need your permission to access your birth related medical records. We will also review Air Force workplace case files that may exist for jobs you had when you were pregnant.

WHY AIR FORCE WOMEN?

As an Air Force woman, you are part of a unique population because of your occupation and access to excellent health care.

In fact, the Air Force has long supported women in the military, having the highest percentage of women on active duty of any service, the most career fields available to women, and the strongest programs to protect pregnant women and their offspring.

These factors have led us to conclude that studies of Air Force women and their pregnancies will provide answers to medical questions which are available nowhere else.

WHAT HAS BEEN LEARNED SO FAR?

In the first phase of this study we reviewed twenty years of hospitalization records for active duty Air Force women to determine baseline levels of births and adverse pregnancy-related outcomes.

Overall, we found that birth rates were higher among active duty Air Force women than their civilian counterparts. Miscarriages and high blood pressure during pregnancy decreased over time. However, early deliveries have been increasing— reflecting similar patterns in civilian populations.

CONFIDENTIALITY

We will take extreme measures to protect your privacy and confidentiality.

- Your name and social security numbers will not appear in our files.

- Your records will be identified by codes known only to us.

- Your information will be stored in a secure area with access limited only to us.

- Your name will never appear in any reports.

- Results will be presented in such a way that individual participants cannot be identified.

- After 5 years, all information collected for the study will be destroyed.

Air Force Women Focus of Pregnancy Study

The largest pregnancy study of military women to date has been launched by a joint effort between the US Air Force, Battelle's Centers for Public Health Research and Evaluation, and the University of Texas Health Science Center. The US Congress is funding "An Investigation of Reproductive Outcomes of Air Force Women" as part of the Defense Women's Health Initiative. Approximately 8,000 former and current active duty Air Force women will soon be receiving information packets by mail inviting them to participate in this important study.

Air Force investigator Lt. Col. (Dr.) Kevin Grayson indicates that the study has been carefully designed to provide accurate information about whether Air Force workplaces influence pregnancy outcomes. The goal, he notes, "is to ensure Air Force personnel have the safest possible places in which to work and raise a family."

Air Force women are an excellent study population for working women's reproductive health. The Air Force has the highest percentage of women on active duty and has more career fields open to women than any other service. Air Force practice has also been to evaluate each active duty women's workplace when she becomes pregnant and to take steps to protect her unborn child if needed.

The information gained could benefit women everywhere. Review of historical records indicates that Air Force women have a much higher birth rate than their employed civilian counterparts. The rates for most pregnancy complications among active duty women have also decreased over the years.

Each participant selected for the study will receive an enrollment packet containing an invitation from the Air Force Surgeon General's Office along with detailed information about the study. A consent form and medical record release will also be included. Once the investigators receive the signed consent form and records release, the volunteer will be contacted to schedule a one-hour interview to be conducted by phone at a convenient time and place. At a later date, researchers will review each woman's workplace and medical records surrounding a one-year study period. "The women will not need to be present for the records review, so all we are asking for is a one hour investment for the phone interview," stated Dr. Echeverria, Principal Investigator from Battelle.

Protecting the privacy of participants is a major consideration. Battelle, a civilian research firm, is conducting the study. In addition, independent oversight committees supervise all activities to protect participant's rights. This includes separating all identifying information—such as name and social security number—from the research findings and ensuring results never identify individuals.

Results from the study are expected in December 2000. The findings could help the Air Force provide even healthier workplaces and should benefit all women everywhere.

An Investigation of Reproductive Health and
Potential Risk Factors among Active Duty Air Force Women

Follow-Up
Telephone Script

Purpose: This script is for the follow-up phone call to potential subjects who have not returned the signed informed consent or medical record release forms. This call should be made approximately two to three weeks after the study mailing. The purpose of the phone call is for the Subject Coordinator to

1. ask the potential participant if they received the study mailing,
2. answer any questions about the study that the subject may have,
3. verify mailing and phone information
4. receive supplemental job information

In the event the package has not been received, the subject coordinator will verify the subjects mailing address and have Durham mail a second package to the subject. If the subject has the forms but has not returned them, the subject coordinator will facilitate their immediate return by fax or mail. In the event the forms have been returned either by fax or mail and are either incomplete or there are questions posed by the subjects, the interviewer will clarify any questions or, if necessary, have new forms sent by Durham/faxed directly by the subject coordinator. If the person does not want to participate, the subject coordinator will ask them to give their reason for refusal and try to obtain basic job information from them. They will not be contacted again.

*Mailing package consists of
- Letter from AFMOA/CC
- Brochure
- Informed Consent Document (4 triplicate pages with subject ID label on each page)
- Medical Record Release Form (1 page with subject ID label)
- Postage Paid Returned Envelope
- Fax cover sheet
- Que sheet

INTRODUCTION

Hello. My name is <**Interviewer's Name**>. May I speak with <**First and Last Name of Mother**> regarding her participation in an Air Force sponsored research study?

IF <**First and Last Name of Mother**> ISN'T HOME

When would be a good time of day for us to call back?

IF THEY KNOW

Time: _____

Can she be reached at this same telephone number?

[Verify telephone number.]

Phone number (if different) _____

Thank you, I will call her back at (time). Good bye.
[END CALL]

IF THEY DON'T KNOW

*Can you please give her this toll free number (877) 810-9530 extension 509 so she can leave us a message arranging a time for us to call her back?

*Steve-can we get access to these messages?

Thank you. Good bye.

[END CALL]

LEAVING MESSAGE ON AN ANSWERING MACHINE ███████████████████
████████

Hello, this is **<Interviewer's Name>**. I am calling **<First and Last Name of Mother>** concerning an Air Force sponsored research study. Would you please have **<First Name of Mother>** call us toll free at 1 877-810-9530 extension 509 and leave us a message arranging a time for us to call her back. Thank you. Good bye.

[END CALL]

WHEN PARTICIPANT IS ON THE PHONE:

Hello, My name is **<Interviewer's Name>** and I am calling regarding the Air Force study entitled "An Investigation of Reproductive Health and Potential Risk Factors among Active Duty Air Force Women" examining pregnancies among current and former active duty Air Force women.

1. Did you receive the information we mailed to you describing this study?

IF YES: proceed with question 2

IF NO:
We would like to mail or fax this package to you. Can we fax this package to you? The only problem with faxing is that we wouldn't send the self addressed stamped envelope-

> *IF YES:* What's your fax number?
> [Get fax number]
>
> Fax number _____ Would the study coordinator fax this or would Durham?

IF NO:

I would like to verify your address so we can mail the information to you.
[Verify address]

POTENTIAL SUBJECT ADDRESS

FIRST NAME: _____ LAST NAME: _____

STREET: _____

CITY, STATE: _____ ZIP: _____

Can you be reached at this telephone number?

[Verify best telephone number.]

Phone Number _____

I will get this sent out to you right away. I will call you back next week at (PHONE NUMBER) to verify that you have received the package and to answer any questions you may have about this important study.

When would be a time of day to call?
Time:_____

Thank you. Good bye.
[END CALL]

2. OK. First, I would like to verify your name and mailing address:

<div style="border:1px solid black; padding:10px;">

POTENTIAL SUBJECT ADDRESS

FIRST NAME:_____   LAST NAME: _____

STREET:_____

CITY, STATE:_____   ZIP: _____

</div>

And the telephone number where you can be reached?

[Verify telephone number.]

Phone Number _____

Do you have any questions about this study that you would like to ask me?
We would really like you to participate.

> **IF NO:** Go to question 3
>
> **IF YES:** Answer any questions. *Continue with question 3.*

3. Are you willing to participate in the study?

IF YES to question 3:
> Great! Before we can continue with the study we need you to sign the "Informed Consent Document" and a "Medical Record Release Form" and return them to us either by mail or fax. Have you sent them to us?
>
> **IF YES:**, go to question 4

IF NO:
        Can you fax these forms to us now?

        IF YES (to faxing): *Fax to 919 544-0830*

        IF NO (to faxing now): *Have them fax later if possible. If no access to fax, make sure they have mailing envelope (if not, give them or mailing information).*

4. When would be a convenient time of day (in early March/within the next two weeks) for my colleague to contact you for the interview? Remember, we can't conduct the interview until we receive your completed consent forms.

[RECORD DATE AND TIME.]

Time of day: _____
[VERIFY TELEPHONE NUMBER.]

Can you be reached at this same telephone number?

[RECORD PHONE NUMBER.]

Phone _____

And finally, to aid us in the collection of your medical records and work-place case files surrounding the dates (-   ) , do you recall where your medical records from this time period are located?
[RECORD MEDICAL RECORD LOCATION.]

Medical Record Location _____

What was your main job title just prior to the end of your pregnancy?
[RECORD JOB TITLE]

Job Title_____
At what base was this located?
[RECORD BASE.]

Base _____
Where on the base did you work?
[RECORD LOCATION.]

Location _____
What was your organization, office symbol, and shop name or duty section name?
[RECORD ORGANIZATION.]

Organization _____
[RECORD OFFICE SYMBOL.]

Office symbol _____
[RECORD SHOP NAME OR DUTY SECTION NAME.]

Shop name or duty section name _____

Please briefly describe your immediate workplace?

Was it inside or outside? Clean or dirty? Was it an office setting?

Thank you. One of my associates will call you back at (PHONE NUMBER) (in early March/within the next two weeks) for the telephone interview. Good bye.

[End Call]

IF NO to question 3:

To help us improve the study, it would be useful to the project to know the reason why you decided not to participate. This information will not be shared with persons outside of the study team. It will be used only to help us understand the total group of women that was selected and contacted about the study.

[Record reasons.]

Can you please answer the following general questions about work workplace just prior to the end of your pregnancy?

IF NO: *Go to end*
IF YES:

What was your main job title just prior to the end of your pregnancy?

[RECORD JOB TITLE]

Job Title_____

At what base was this located?

[RECORD BASE.]

Base _____

Where on the base did you work?

[RECORD LOCATION.]

Location _____

What was your organization, office symbol, and shop name or duty section name?

[RECORD ORGANIZATION.]

Organization _____

[RECORD OFFICE SYMBOL.]

Office symbol _____

[RECORD SHOP NAME OR DUTY SECTION NAME.]

Shop name or duty section name _____

Please briefly describe your immediate workplace?

Was it inside or outside? Clean or dirty? Was it an office setting?

Thank you for your time. Good Bye.
(End Call)

An Investigation of Reproductive Health and
Potential Risk Factors among Active Duty Air Force Women

Schedule Phone Interview
Telephone Script

Purpose: This script is written for use by telephone interviewers to schedule the CATI interview. Prior to calling the study participant to schedule the interview, the subject coordinator must have already received a signed Informed Consent and Medical Records Release form from the study participant. If the participant is willing to do the interview at the time of this call, the scheduler will proceed to the CATI questionnaire.

TELEPHONE SCRIPT

INTRODUCTION

Hello. My name is <**Interviewer's Name**>. May I speak with <**First and Last Name of Mother**> regarding her participation in an Air Force sponsored research study?

IF <First and Last Name of Mother> ISN'T HOME

When would be a good time for us to call back?

IF THEY KNOW

Date:_____ Time: _____

Can she be reached at this same telephone number?

[Verify telephone number.]

Phone number (if different) _____

Thank you, I will call her back on (date) at (time). Good bye.

[End Call]

IF THEY DON'T KNOW

Can you please give her this toll free number (read number) so she can leave us a message to arrange a time to call her back?

Thank you. Good bye.

[End Call]

LEAVING MESSAGE ON AN ANSWERING MACHINE

Hello, this is <**Interviewer's Name**>. I am calling <**First and Last Name of Mother**> concerning an Air Force sponsored research study. Would you please have <**First Name of Mother**> call us collect at (PHONE NUMBER) and leave us a message arranging a time for us to call her back. Thank you. Good bye.

[End Call]

WHEN PARTICIPANT IS ON THE PHONE:

Hello. My name is <**Interviewer's Name**> and I am calling regarding the Air Force Reproductive Health study. We have received the signed informed consent and the medical release forms you returned to us.

First of all I would like to thank you for agreeing to participate in this important Air Force study. I am calling today to schedule a time to conduct the telephone interview which may last up to one hour. Is this a good time for us to conduct the interview?

IF YES

Proceed to QUESTIONNAIRE.

IF NO

We would like to schedule the interview within the next two weeks. When would be a good day and time for you?

[RECORD DATE AND TIME.]

Date: _____ Time: _____

[VERIFY TELEPHONE NUMBER.]

Can you be reached at this same telephone number?

[RECORD PHONE NUMBER.]

Phone _____

Thank you. Either I or one of my associates will call you back at (PHONE NUMBER) on (DATE) at (TIME). Good bye.

[END CALL]

An Investigation of Reproductive Health and
Potential Risk Factors among Active Duty Air Force Women

Mailing Address Confirmation
Telephone Script

Purpose: This script is to be used by the intermediate and advanced tracers to confirm the mailing address for potential subjects whose contact information is either inaccurate or incomplete following the initial tracing procedures. Once the address is confirmed, the information package* will be sent.

*Information package consists of:
- Letter from AFMOA/CC
- Brochure
- Informed Consent Document
- Medical Record Release Form
- Returned Receipt Addressed Envelope
- Fax cover sheet
- Cue sheet

TELEPHONE SCRIPT

INTRODUCTION

Hello. My name is **<Interviewer's Name>**. May I speak with **<First and Last Name of Mother>** regarding her participation in an Air Force sponsored research study?

IF <First and Last Name of Mother> ISN'T HOME

When would be a good time for us to call back?

IF THEY KNOW

Date:_____ Time: _____

Can she be reached at this same telephone number?

[Verify telephone number.]

Phone number (if different) _____

Thank you, I will call her back on (date) at (time). Good bye.
[END CALL]

IF THEY DON'T KNOW

Can you please give her this toll free number (read number) so she can leave us a message arranging a time for us to call her back?

Thank you. Good bye.
[END CALL]

LEAVING MESSAGE ON AN ANSWERING MACHINE

Hello, this is **<Interviewer's Name>**. I am calling **<First and Last Name of Mother>** concerning an Air Force sponsored research study. Would you please have **<First Name of Mother>** call us collect at (PHONE NUMBER) and leave us a message arranging a time for us to call her back. Thank you. Good bye.

[END CALL]

WHEN PARTICIPANT IS ON THE PHONE:

Hello, My name is **<Interviewer's Name>** and I am calling regarding the Air Force study entitled "An Investigation of Reproductive Health and Potential Risk Factors among Active Duty Air Force Women".

I would like to mail an information packet to you regarding this study. May I confirm your mailing address?

POTENTIAL SUBJECT ADDRESS	
FIRST NAME:_____	LAST NAME: _____
STREET:_____	
CITY, STATE: _____	ZIP: _____

Thank you. Either me or one of my colleagues will be calling to confirm that you received the packet and to answer any questions you may have. Is this the best telephone number and time of day where you can be reached? Verify Telephone Number

Phone Number _____

Documentation

```
CaseID        "Case ID"
String[5]

Category      "Sample Category"
1             "LIVE BIRTH"
2             "SPONTANEOUS ABORTION"

IntvID        "Interviewer ID"
String[3]

IntvDate      "Date of interview"
Date type

O_Intro       "Intro script"
1             "ENTER 1 TO CONTINUE"

R_DOB         "R's DOB"
Date type

VeriSSN       "Last 4 SSN match?"
1             "YES"
2             "NO"

RMatch        "R's information matches sample info?"
1             "YES"
2             "NO"

DOB_DOPT      "DOIB or DOPT"
Date type

DOBFlag       "Is the date an actual or estiamte"
1             "ACTUAL"
2             "ESTIMATE"

EDD           "Expected due date"
Date type

EDDFlag       "Is the date an actual or estimate"
1             "ACTUAL"
2             "ESTIMATE"

KNOWDOC       "R knew EDOC?"
1             "YES"
2             "NO"

EDOC          "Estimated date of conception"
Date type

EDOCFlag      "Flag the date as actual or estimate"
1             "ACTUAL"
2             "ESTIMATE"

KNOWLMC       "R knew date of last mestrual cycle?"
1             "YES"
2             "NO"

DLMC          "Date of last menstrual cycle"
Date type

DLMCFlag      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"

WKOP          "# weeks pregnant at the time of D/T"
0 .. 44

NOIB          "Baby's first name"
String[15]

BegStudy      "Beginning date of study period"
Date type

EndStudy      "Ending date of study period"
```

Date type

SecCLose   "Closing paragraph for live birth"
1   "ENTER 1 TO CONTINUE"

A_Intro   "Section A intro"
1   "ENTER 1 TO CONTINUE"

A1_VERF   "@O>A1<@O Our work history records show t
             worked at ^A1_Base as a ^A1_Titl which i
             Force Specialty Code, ^A1_AFSC between ^
             and ^EndDate until you took ^Text. @/@/I
             correct (JOB/DUTY #^i)?"
1   "YES"
2   "NO"

A1_BASE   "Base"
String[50]

A1_AFSC   "AFSC code"
String[6]

A1_TITL   "Job title"
String[100]

A1_BEGD   "Date begin"
Date type

A1BegFlg   "Is the date an actual or an estimate"
1   "ACTUAL"
2   "ESTIMATE"

A1_ENDD   "Date ended"
Date type

A1EndFlg   "Is the date an actual or an estimate"
1   "ACTUAL"
2   "ESTIMATE"

A1_VERF2   "@O>A1<@O Our work history records show t
             worked at ^A1_Base as a ^A1_Titl which i
             Force Specialty Code, ^A1_AFSC between ^
             and ^EndDate until you took ^Text. @/@/I
             correct (JOB/DUTY #^i)?"
1   "YES"
2   "NO"

A1_BASE2   "Base"
String[50]

A1_AFSC2   "AFSC code"
String[6]

A1_TITL2   "Job title"
String[100]

A1_BEGD2   "Date begin"
Date type

A1BegFl2   "Is the date an actual or an estimate"
1   "ACTUAL"
2   "ESTIMATE"

A1_ENDD2   "Date ended"
Date type

A1EndFl2   "Is the date an actual or an estimate"
1   "ACTUAL"
2   "ESTIMATE"

A1_VERF3   "@O>A1<@O Our work history records show t
             worked at ^A1_Base as a ^A1_Titl which i
             Force Specialty Code, ^A1_AFSC between ^
             and ^EndDate until you took ^Text. @/@/I
             correct (JOB/DUTY #^i)?"
1   "YES"
2   "NO"

```
A1_BASE3      "Base"
String[50]

A1_AFSC3      "AFSC code"
String[6]

A1_TITL3      "Job title"
String[100]

A1_BEGD3      "Date begin"
Date type

A1BegFl3      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"

A1_ENDD3      "Date ended"
Date type

A1EndFl3      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"

A1_LEAVE      "Maternity leave"
Date type

A1LvFlag      "Flag the date as actual or estimate"
1             "ACTUAL"
2             "ESTIMATE"

A2_ADJOB      "Other duties?"
1             "YES"
2             "NO"

A3_BASE       "Base"
String[50]

A4_TITL       "Job title"
String[100]

A5_BEGD       "Date begin"
Date type

A5BegFlg      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"

A5_ENDD       "Date ended"
Date type

A5EndFlg      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"

A6_POSC       "The position changed?"
1             "YES"
2             "NO"

A3_BASE2      "Base"
String[50]

A4_TITL2      "Job title"
String[100]

A5_BEGD2      "Date begin"
Date type

A5BegFl2      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"

A5_ENDD2      "Date ended"
Date type

A5EndFl2      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"
```

```
A6_POSC2        "The position changed?"
1               "YES"
2               "NO"


A3_BASE3        "Base"
String[50]


A4_TITL3        "Job title"
String[100]


A5_BEGD3        "Date begin"
Date type


A5BegFl3        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"


A5_ENDD3        "Date ended"
Date type


A5EndFl3        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"


A6_POSC3        "The position changed?"
1               "YES"
2               "NO"


A3_BASE4        "Base"
String[50]


A4_TITL4        "Job title"
String[100]


A5_BEGD4        "Date begin"
Date type


A5BegFl4        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"


A5_ENDD4        "Date ended"
Date type


A5EndFl4        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"


A6_POSC4        "The position changed?"
1               "YES"
2               "NO"


A3_BASE5        "Base"
String[50]


A4_TITL5        "Job title"
String[100]


A5_BEGD5        "Date begin"
Date type


A5BegFl5        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"


A5_ENDD5        "Date ended"
Date type


A5EndFl5        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"


A6_POSC5        "The position changed?"
1               "YES"
2               "NO"


A3_BASE6        "Base"
String[50]
```

A-167

```
A4_TITL6        "Job title"
String[100]

A5_BEGD6        "Date begin"
Date type

A5BegF16        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

A5_ENDD6        "Date ended"
Date type

A5EndF16        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

A6_POSC6        "The position changed?"
1               "YES"
2               "NO"

A3_BASE7        "Base"
String[50]

A4_TITL7        "Job title"
String[100]

A5_BEGD7        "Date begin"
Date type

A5BegF17        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

A5_ENDD7        "Date ended"
Date type

A5EndF17        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

A6_POSC7        "The position changed?"
1               "YES"
2               "NO"

A3_BASE8        "Base"
String[50]

A4_TITL8        "Job title"
String[100]

A5_BEGD8        "Date begin"
Date type

A5BegF18        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

A5_ENDD8        "Date ended"
Date type

A5EndF18        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

A6_POSC8        "The position changed?"
1               "YES"
2               "NO"

A3_BASE9        "Base"
String[50]

A4_TITL9        "Job title"
String[100]

A5_BEGD9        "Date begin"
Date type
```

A-168

```
A5BegFl9      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"

A5_ENDD9      "Date ended"
Date type

A5EndFl9      "Is the date an actual or an estimate"
1             "ACTUAL"
2             "ESTIMATE"

A6_POSC9      "The position changed?"
1             "YES"
2             "NO"

ListAll       "Listed all jobs or duty positions?"
1             "YES"
2             "NO"

A7_ORG        "Organization"
String[50]

A8_OFFS       "Office Symbol"
String[20]

A9_SHOP       "Shop Name or Duty Section Name"
String[50]

A10_LN1       "Brief description of the workplace"
String[128]

A10_LN2       "Brief description of the workplace"
String[128]

A11_LN1       "Main job activities "
String[128]

A11_LN2       "Main job activities "
String[128]

A11_LN3       "Main job activities "
String[128]

A11_LN4       "Main job activities "
String[128]

A11_LN5       "Main job activities "
String[128]

A11_LN6       "Main job activities "
String[128]

A11_LN7       "Main job activities "
String[128]

A11_LN8       "Main job activities "
String[128]

A12_LN1       "Types of materials worked with"
String[128]

A12_LN2       "Types of materials worked with"
String[128]

A12_LN3       "Types of materials worked with"
String[128]

A12_LN4       "Types of materials worked with"
String[128]

A13_LN1       "Types of equipment worked with"
String[128]

A13_LN2       "Types of equipment worked with"
String[128]

A13_LN3       "Types of equipment worked with"
```

```
String[128]

A13_LN4        "Types of equipment worked with"
String[128]

D4_SHIF        "@O>D4<@O Did you work rotating shifts?"
1              " "
2              " "

D5_HOUR        "@O>D5<@O Did you work more than 45 hours
                 "
1              " "
2              " "

A7_ORG2        "Organization"
String[50]

A8_OFFS2       "Office Symbol"
String[20]

A9_SHOP2       "Shop Name or Duty Section Name"
String[50]

A10_LN3        "Brief description of the workplace"
String[128]

A10_LN4        "Brief description of the workplace"
String[128]

A11_LN9        "Main job activities "
String[128]

A11_LN10       "Main job activities "
String[128]

A11_LN11       "Main job activities "
String[128]

A11_LN12       "Main job activities "
String[128]

A11_LN13       "Main job activities "
String[128]

A11_LN14       "Main job activities "
String[128]

A11_LN15       "Main job activities "
String[128]

A11_LN16       "Main job activities "
String[128]

A12_LN5        "Types of materials worked with"
String[128]

A12_LN6        "Types of materials worked with"
String[128]

A12_LN7        "Types of materials worked with"
String[128]

A12_LN8        "Types of materials worked with"
String[128]

A13_LN5        "Types of equipment worked with"
String[128]

A13_LN6        "Types of equipment worked with"
String[128]

A13_LN7        "Types of equipment worked with"
String[128]

A13_LN8        "Types of equipment worked with"
String[128]

D4_SHIF2       "@O>D4<@O Did you work rotating shifts?"
```

```
1                " "
2                " "

D5_HOUR2         "@O>D5<@O Did you work more than 45 hours
                  "
1                " "
2                " "

A7_ORG3          "Organization"
String[50]

A8_OFFS3         "Office Symbol"
String[20]

A9_SHOP3         "Shop Name or Duty Section Name"
String[50]

A10_LN5          "Brief description of the workplace"
String[128]

A10_LN6          "Brief description of the workplace"
String[128]

A11_LN17         "Main job activities "
String[128]

A11_LN18         "Main job activities "
String[128]

A11_LN19         "Main job activities "
String[128]

A11_LN20         "Main job activities "
String[128]

A11_LN21         "Main job activities "
String[128]

A11_LN22         "Main job activities "
String[128]

A11_LN23         "Main job activities "
String[128]

A11_LN24         "Main job activities "
String[128]

A12_LN9          "Types of materials worked with"
String[128]

A12_LN10         "Types of materials worked with"
String[128]

A12_LN11         "Types of materials worked with"
String[128]

A12_LN12         "Types of materials worked with"
String[128]

A13_LN9          "Types of equipment worked with"
String[128]

A13_LN10         "Types of equipment worked with"
String[128]

A13_LN11         "Types of equipment worked with"
String[128]

A13_LN12         "Types of equipment worked with"
String[128]

D4_SHIF3         "@O>D4<@O Did you work rotating shifts?"
1                " "
2                " "

D5_HOUR3         "@O>D5<@O Did you work more than 45 hours
                  "
1                " "
```

```
2                 " "

A7_ORG4          "Organization"
String[50]

A8_OFFS4         "Office Symbol"
String[20]

A9_SHOP4         "Shop Name or Duty Section Name"
String[50]

A10_LN7          "Brief description of the workplace"
String[128]

A10_LN8          "Brief description of the workplace"
String[128]

A11_LN25         "Main job activities "
String[128]

A11_LN26         "Main job activities "
String[128]

A11_LN27         "Main job activities "
String[128]

A11_LN28         "Main job activities "
String[128]

A11_LN29         "Main job activities "
String[128]

A11_LN30         "Main job activities "
String[128]

A11_LN31         "Main job activities "
String[128]

A11_LN32         "Main job activities "
String[128]

A12_LN13         "Types of materials worked with"
String[128]

A12_LN14         "Types of materials worked with"
String[128]

A12_LN15         "Types of materials worked with"
String[128]

A12_LN16         "Types of materials worked with"
String[128]

A13_LN13         "Types of equipment worked with"
String[128]

A13_LN14         "Types of equipment worked with"
String[128]

A13_LN15         "Types of equipment worked with"
String[128]

A13_LN16         "Types of equipment worked with"
String[128]

D4_SHIF4         "@O>D4<@O Did you work rotating shifts?"
1                " "
2                " "

D5_HOUR4         "@O>D5<@O Did you work more than 45 hours
                  "
1                " "
2                " "

A7_ORG5          "Organization"
String[50]

A8_OFFS5         "Office Symbol"
```

```
String[20]

A9_SHOP5      "Shop Name or Duty Section Name"
String[50]

A10_LN9       "Brief description of the workplace"
String[128]

A10_LN10      "Brief description of the workplace"
String[128]

A11_LN33      "Main job activities "
String[128]

A11_LN34      "Main job activities "
String[128]

A11_LN35      "Main job activities "
String[128]

A11_LN36      "Main job activities "
String[128]

A11_LN37      "Main job activities "
String[128]

A11_LN38      "Main job activities "
String[128]

A11_LN39      "Main job activities "
String[128]

A11_LN40      "Main job activities "
String[128]

A12_LN17      "Types of materials worked with"
String[128]

A12_LN18      "Types of materials worked with"
String[128]

A12_LN19      "Types of materials worked with"
String[128]

A12_LN20      "Types of materials worked with"
String[128]

A13_LN17      "Types of equipment worked with"
String[128]

A13_LN18      "Types of equipment worked with"
String[128]

A13_LN19      "Types of equipment worked with"
String[128]

A13_LN20      "Types of equipment worked with"
String[128]

D4_SHIF5      "@O>D4<@O Did you work rotating shifts?"
1             " "
2             " "

D5_HOUR5      "@O>D5<@O Did you work more than 45 hours
               "
1             " "
2             " "

A7_ORG6       "Organization"
String[50]

A8_OFFS6      "Office Symbol"
String[20]

A9_SHOP6      "Shop Name or Duty Section Name"
String[50]

A10_LN11      "Brief description of the workplace"
```

```
String[128]

A10_LN12        "Brief description of the workplace"
String[128]

A11_LN41        "Main job activities "
String[128]

A11_LN42        "Main job activities "
String[128]

A11_LN43        "Main job activities "
String[128]

A11_LN44        "Main job activities "
String[128]

A11_LN45        "Main job activities "
String[128]

A11_LN46        "Main job activities "
String[128]

A11_LN47        "Main job activities "
String[128]

A11_LN48        "Main job activities "
String[128]

A12_LN21        "Types of materials worked with"
String[128]

A12_LN22        "Types of materials worked with"
String[128]

A12_LN23        "Types of materials worked with"
String[128]

A12_LN24        "Types of materials worked with"
String[128]

A13_LN21        "Types of equipment worked with"
String[128]

A13_LN22        "Types of equipment worked with"
String[128]

A13_LN23        "Types of equipment worked with"
String[128]

A13_LN24        "Types of equipment worked with"
String[128]

D4_SHIF6        "@O>D4<@O Did you work rotating shifts?"
1               " "
2               " "

D5_HOUR6        "@O>D5<@O Did you work more than 45 hours
                 "
1               " "
2               " "

A7_ORG7         "Organization"
String[50]

A8_OFFS7        "Office Symbol"
String[20]

A9_SHOP7        "Shop Name or Duty Section Name"
String[50]

A10_LN13        "Brief description of the workplace"
String[128]

A10_LN14        "Brief description of the workplace"
String[128]

A11_LN49        "Main job activities "
```

A-174

```
String[128]

A11_LN50        "Main job activities "
String[128]

A11_LN51        "Main job activities "
String[128]

A11_LN52        "Main job activities "
String[128]

A11_LN53        "Main job activities "
String[128]

A11_LN54        "Main job activities "
String[128]

A11_LN55        "Main job activities "
String[128]

A11_LN56        "Main job activities "
String[128]

A12_LN25        "Types of materials worked with"
String[128]

A12_LN26        "Types of materials worked with"
String[128]

A12_LN27        "Types of materials worked with"
String[128]

A12_LN28        "Types of materials worked with"
String[128]

A13_LN25        "Types of equipment worked with"
String[128]

A13_LN26        "Types of equipment worked with"
String[128]

A13_LN27        "Types of equipment worked with"
String[128]

A13_LN28        "Types of equipment worked with"
String[128]

D4_SHIF7        "@O>D4<@O Did you work rotating shifts?"
1               " "
2               " "

D5_HOUR7        "@O>D5<@O Did you work more than 45 hours
                 "
1               " "
2               " "

A7_ORG8         "Organization"
String[50]

A8_OFFS8        "Office Symbol"
String[20]

A9_SHOP8        "Shop Name or Duty Section Name"
String[50]

A10_LN15        "Brief description of the workplace"
String[128]

A10_LN16        "Brief description of the workplace"
String[128]

A11_LN57        "Main job activities "
String[128]

A11_LN58        "Main job activities "
String[128]

A11_LN59        "Main job activities "
```

A-175

```
String[128]

A11_LN60      "Main job activities "
String[128]

A11_LN61      "Main job activities "
String[128]

A11_LN62      "Main job activities "
String[128]

A11_LN63      "Main job activities "
String[128]

A11_LN64      "Main job activities "
String[128]

A12_LN29      "Types of materials worked with"
String[128]

A12_LN30      "Types of materials worked with"
String[128]

A12_LN31      "Types of materials worked with"
String[128]

A12_LN32      "Types of materials worked with"
String[128]

A13_LN29      "Types of equipment worked with"
String[128]

A13_LN30      "Types of equipment worked with"
String[128]

A13_LN31      "Types of equipment worked with"
String[128]

A13_LN32      "Types of equipment worked with"
String[128]

D4_SHIF8      "@O>D4<@O Did you work rotating shifts?"
1             " "
2             " "

D5_HOUR8      "@O>D5<@O Did you work more than 45 hours
                "
1             " "
2             " "

A7_ORG9       "Organization"
String[50]

A8_OFFS9      "Office Symbol"
String[20]

A9_SHOP9      "Shop Name or Duty Section Name"
String[50]

A10_LN17      "Brief description of the workplace"
String[128]

A10_LN18      "Brief description of the workplace"
String[128]

A11_LN65      "Main job activities "
String[128]

A11_LN66      "Main job activities "
String[128]

A11_LN67      "Main job activities "
String[128]

A11_LN68      "Main job activities "
String[128]

A11_LN69      "Main job activities "
```

```
String[128]

A11_LN70      "Main job activities "
String[128]

A11_LN71      "Main job activities "
String[128]

A11_LN72      "Main job activities "
String[128]

A12_LN33      "Types of materials worked with"
String[128]

A12_LN34      "Types of materials worked with"
String[128]

A12_LN35      "Types of materials worked with"
String[128]

A12_LN36      "Types of materials worked with"
String[128]

A13_LN33      "Types of equipment worked with"
String[128]

A13_LN34      "Types of equipment worked with"
String[128]

A13_LN35      "Types of equipment worked with"
String[128]

A13_LN36      "Types of equipment worked with"
String[128]

D4_SHIF9      "@O>D4<@O Did you work rotating shifts?"
1             " "
2             " "

D5_HOUR9      "@O>D5<@O Did you work more than 45 hours
                "
1             " "
2             " "

Positio1      "Positions in chronological order"
String[100]

Positio2      "Positions in chronological order"
String[100]

Positio3      "Positions in chronological order"
String[100]

Positio4      "Positions in chronological order"
String[100]

Positio5      "Positions in chronological order"
String[100]

Positio6      "Positions in chronological order"
String[100]

Positio7      "Positions in chronological order"
String[100]

Positio8      "Positions in chronological order"
String[100]

Positio9      "Positions in chronological order"
String[100]

B1_TEST       "Involved in any physical testing?"
1             "YES"
2             "NO"

B2_POS1       "Positions indicated"
1 .. 9
```

```
B2_POS2        "Positions indicated"
1 .. 9

B2_POS3        "Positions indicated"
1 .. 9

B2_POS4        "Positions indicated"
1 .. 9

B2_POS5        "Positions indicated"
1 .. 9

B2_POS6        "Positions indicated"
1 .. 9

B2_POS7        "Positions indicated"
1 .. 9

B2_POS8        "Positions indicated"
1 .. 9

B2_POS9        "Positions indicated"
1 .. 9

B3_TEST        "Involved in any physiological testing?"
1              "YES"
2              "NO"

B4_POS1        "Positions indicated"
1 .. 9

B4_POS2        "Positions indicated"
1 .. 9

B4_POS3        "Positions indicated"
1 .. 9

B4_POS4        "Positions indicated"
1 .. 9

B4_POS5        "Positions indicated"
1 .. 9

B4_POS6        "Positions indicated"
1 .. 9

B4_POS7        "Positions indicated"
1 .. 9

B4_POS8        "Positions indicated"
1 .. 9

B4_POS9        "Positions indicated"
1 .. 9

B5_QUAL        "Involved in any training qualifications?
1              "YES"
2              "NO"

B6_SMALL       "Small arms?"
1              "YES"
2              "NO"

B6_GASCH       "gas chamber (tear gas)"
1              "YES"
2              "NO"

B6_MOPP        "MOPP gear"
1              "YES"
2              "NO"

B6_RESP        "Respirator"
1              "YES"
2              "NO"

B6_HAZW        "HAZWOPER"
1              "YES"
2              "NO"
```

A-178

```
B7_POS1        "Positions indicated"
1 .. 9

B7_POS2        "Positions indicated"
1 .. 9

B7_POS3        "Positions indicated"
1 .. 9

B7_POS4        "Positions indicated"
1 .. 9

B7_POS5        "Positions indicated"
1 .. 9

B7_POS6        "Positions indicated"
1 .. 9

B7_POS7        "Positions indicated"
1 .. 9

B7_POS8        "Positions indicated"
1 .. 9

B7_POS9        "Positions indicated"
1 .. 9

B7_POS10       "Positions indicated"
1 .. 9

B7_POS11       "Positions indicated"
1 .. 9

B7_POS12       "Positions indicated"
1 .. 9

B7_POS13       "Positions indicated"
1 .. 9

B7_POS14       "Positions indicated"
1 .. 9

B7_POS15       "Positions indicated"
1 .. 9

B7_POS16       "Positions indicated"
1 .. 9

B7_POS17       "Positions indicated"
1 .. 9

B7_POS18       "Positions indicated"
1 .. 9

B7_POS19       "Positions indicated"
1 .. 9

B7_POS20       "Positions indicated"
1 .. 9

B7_POS21       "Positions indicated"
1 .. 9

B7_POS22       "Positions indicated"
1 .. 9

B7_POS23       "Positions indicated"
1 .. 9

B7_POS24       "Positions indicated"
1 .. 9

B7_POS25       "Positions indicated"
1 .. 9

B7_POS26       "Positions indicated"
1 .. 9
```

```
B7_POS27        "Positions indicated"
1 .. 9

B7_POS28        "Positions indicated"
1 .. 9

B7_POS29        "Positions indicated"
1 .. 9

B7_POS30        "Positions indicated"
1 .. 9

B7_POS31        "Positions indicated"
1 .. 9

B7_POS32        "Positions indicated"
1 .. 9

B7_POS33        "Positions indicated"
1 .. 9

B7_POS34        "Positions indicated"
1 .. 9

B7_POS35        "Positions indicated"
1 .. 9

B7_POS36        "Positions indicated"
1 .. 9

B7_POS37        "Positions indicated"
1 .. 9

B7_POS38        "Positions indicated"
1 .. 9

B7_POS39        "Positions indicated"
1 .. 9

B7_POS40        "Positions indicated"
1 .. 9

B7_POS41        "Positions indicated"
1 .. 9

B7_POS42        "Positions indicated"
1 .. 9

B7_POS43        "Positions indicated"
1 .. 9

B7_POS44        "Positions indicated"
1 .. 9

B7_POS45        "Positions indicated"
1 .. 9

B8_FIELD        "Involved in any field exercises?"
1               "YES"
2               "NO"

B9_POS1         "Positions indicated"
1 .. 9

B9_POS2         "Positions indicated"
1 .. 9

B9_POS3         "Positions indicated"
1 .. 9

B9_POS4         "Positions indicated"                    1 .. 9

B9_POS5         "Positions indicated"                    1 .. 9

B9_POS6         "Positions indicated"                    1 .. 9

B9_POS7         "Positions indicated"                    1 .. 9
```

A-180

```
B9_POS8         "Positions indicated"                      1 .. 9

B9_POS9         "Positions indicated"                      1 .. 9

B10_COMB        "Deployed to any combat aeras?"
1               "YES"
2               "NO"

B11_POS1        "Positions indicated"
1 .. 9

B11_POS2        "Positions indicated"
1 .. 9

B11_POS3        "Positions indicated"
1 .. 9

B11_POS4        "Positions indicated"
1 .. 9

B11_POS5        "Positions indicated"
1 .. 9

B11_POS6        "Positions indicated"
1 .. 9

B11_POS7        "Positions indicated"
1 .. 9

B11_POS8        "Positions indicated"
1 .. 9

B11_POS9        "Positions indicated"
1 .. 9

B12_INOC        "Received any inoculation, immunization,?
1               "YES"
2               "NO"

B13_VACC        "Vaccines?"
1               "YES"
2               "NO"

B13_ANTH        "Anthrax?"
1               "YES"
2               "NO"

B13_PYRI        "Pyridostigmine?"
1               "YES"
2               "NO"

B13_SCOP        "Scopolamine?"
1               "YES"
2               "NO"

B14_POS1        "Positions indicated"
1 .. 9

B14_POS2        "Positions indicated"
1 .. 9

B14_POS3        "Positions indicated"
1 .. 9

B14_POS4        "Positions indicated"
1 .. 9

B14_POS5        "Positions indicated"
1 .. 9

B14_POS6        "Positions indicated"
1 .. 9

B14_POS7        "Positions indicated"
1 .. 9

B14_POS8        "Positions indicated"
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A-181

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1 .. 9

B14_POS9      "Positions indicated"
1 .. 9

B14_PO10      "Positions indicated"
1 .. 9

B14_PO11      "Positions indicated"
1 .. 9

B14_PO12      "Positions indicated"
1 .. 9

B14_PO13      "Positions indicated"
1 .. 9

B14_PO14      "Positions indicated"
1 .. 9

B14_PO15      "Positions indicated"
1 .. 9

B14_PO16      "Positions indicated"
1 .. 9

B14_PO17      "Positions indicated"
1 .. 9

B14_PO18      "Positions indicated"
1 .. 9

B14_PO19      "Positions indicated"
1 .. 9

B14_PO20      "Positions indicated"
1 .. 9

B14_PO21      "Positions indicated"
1 .. 9

B14_PO22      "Positions indicated"
1 .. 9

B14_PO23      "Positions indicated"
1 .. 9

B14_PO24      "Positions indicated"
1 .. 9

B14_PO25      "Positions indicated"
1 .. 9

B14_PO26      "Positions indicated"
1 .. 9

B14_PO27      "Positions indicated"
1 .. 9

B14_PO28      "Positions indicated"
1 .. 9

B14_PO29      "Positions indicated"
1 .. 9

B14_PO30      "Positions indicated"
1 .. 9

B14_PO31      "Positions indicated"
1 .. 9

B14_PO32      "Positions indicated"
1 .. 9

B14_PO33      "Positions indicated"
1 .. 9

B14_PO34      "Positions indicated"
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1 .. 9

B14_PO35      "Positions indicated"
1 .. 9

B14_PO36      "Positions indicated"
1 .. 9

B15_ACT       "On active flying status?"
1             "YES"
2             "NO"

B16_HELI      "Helicopter?"
1             "YES"
2             "NO"

B16_TURB      "Turbo Prop?"
1             "YES"
2             "NO"

B16_JET       "Jet?"
1             "YES"
2             "NO"

B16_GLID      "Glider?"
1             "YES"
2             "NO"

B17_POS1      "Positions indicated"
1 .. 9

B17_POS2      "Positions indicated"
1 .. 9

B17_POS3      "Positions indicated"
1 .. 9

B17_POS4      "Positions indicated"
1 .. 9

B17_POS5      "Positions indicated"
1 .. 9

B17_POS6      "Positions indicated"
1 .. 9

B17_POS7      "Positions indicated"
1 .. 9

B17_POS8      "Positions indicated"
1 .. 9

B17_POS9      "Positions indicated"
1 .. 9

B17_PO10      "Positions indicated"
1 .. 9

B17_PO11      "Positions indicated"
1 .. 9

B17_PO12      "Positions indicated"
1 .. 9

B17_PO13      "Positions indicated"
1 .. 9

B17_PO14      "Positions indicated"
1 .. 9

B17_PO15      "Positions indicated"
1 .. 9

B17_PO16      "Positions indicated"
1 .. 9

B17_PO17      "Positions indicated"
1 .. 9
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B17_PO18        "Positions indicated"
1 .. 9

B17_PO19        "Positions indicated"
1 .. 9

B17_PO20        "Positions indicated"
1 .. 9

B17_PO21        "Positions indicated"
1 .. 9

B17_PO22        "Positions indicated"
1 .. 9

B17_PO23        "Positions indicated"
1 .. 9

B17_PO24        "Positions indicated"
1 .. 9

B17_PO25        "Positions indicated"
1 .. 9

B17_PO26        "Positions indicated"
1 .. 9

B17_PO27        "Positions indicated"
1 .. 9

B17_PO28        "Positions indicated"
1 .. 9

B17_PO29        "Positions indicated"
1 .. 9

B17_PO30        "Positions indicated"
1 .. 9

B17_PO31        "Positions indicated"
1 .. 9

B17_PO32        "Positions indicated"
1 .. 9

B17_PO33        "Positions indicated"
1 .. 9

B17_PO34        "Positions indicated"
1 .. 9

B17_PO35        "Positions indicated"
1 .. 9

B17_PO36        "Positions indicated"
1 .. 9

B18_FIRE        "Participated in fire fighting training?"
1               "YES"
2               "NO"

B19_POS1        "Positions indicated"
1 .. 9

B19_POS2        "Positions indicated"
1 .. 9

B19_POS3        "Positions indicated"
1 .. 9

B19_POS4        "Positions indicated"
1 .. 9

B19_POS5        "Positions indicated"
1 .. 9

B19_POS6        "Positions indicated"
```

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1 .. 9

B19_POS7        "Positions indicated"
1 .. 9

B19_POS8        "Positions indicated"
1 .. 9

B19_POS9        "Positions indicated"
1 .. 9

C_Intro         "Introduction of Section C"
1               "ENTER 1 TO CONTINUE"

C1_HOT          "Experienced excessively hot, humid, etc.
1               "YES"
2               "NO"

C2_HRS          "Number of hours"
1 .. 2160

C2_PER          "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C1_HOT2         "Experienced excessively hot, humid, etc.
1               "YES"
2               "NO"

C2_HRS2         "Number of hours"
1 .. 2160

C2_PER2         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C1_HOT3         "Experienced excessively hot, humid, etc.
1               "YES"
2               "NO"

C2_HRS3         "Number of hours"
1 .. 2160

C2_PER3         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C1_HOT4         "Experienced excessively hot, humid, etc.
1               "YES"
2               "NO"

C2_HRS4         "Number of hours"
1 .. 2160

C2_PER4         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C1_HOT5         "Experienced excessively hot, humid, etc.
1               "YES"
2               "NO"

C2_HRS5         "Number of hours"
1 .. 2160

C2_PER5         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
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4                "YEAR"

C1_HOT6          "Experienced excessively hot, humid, etc.
1                "YES"
2                "NO"

C2_HRS6          "Number of hours"
1 .. 2160

C2_PER6          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C1_HOT7          "Experienced excessively hot, humid, etc.
1                "YES"
2                "NO"

C2_HRS7          "Number of hours"
1 .. 2160

C2_PER7          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C1_HOT8          "Experienced excessively hot, humid, etc.
1                "YES"
2                "NO"

C2_HRS8          "Number of hours"
1 .. 2160

C2_PER8          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C1_HOT9          "Experienced excessively hot, humid, etc.
1                "YES"
2                "NO"

C2_HRS9          "Number of hours"
1 .. 2160

C2_PER9          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C3_COLD          "Experienced cold temperature"
1                "YES"
2                "NO"

C4_HRS           "Number of hours"
1 .. 2160

C4_PER           "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C3_COLD2         "Experienced cold temperature"
1                "YES"
2                "NO"

C4_HRS2          "Number of hours"
1 .. 2160

C4_PER2          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
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A-186

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4               "YEAR"

C3_COLD3        "Experienced cold temperature"
1               "YES"
2               "NO"

C4_HRS3         "Number of hours"
1 .. 2160

C4_PER3         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C3_COLD4        "Experienced cold temperature"
1               "YES"
2               "NO"

C4_HRS4         "Number of hours"
1 .. 2160

C4_PER4         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C3_COLD5        "Experienced cold temperature"
1               "YES"
2               "NO"

C4_HRS5         "Number of hours"
1 .. 2160

C4_PER5         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C3_COLD6        "Experienced cold temperature"
1               "YES"
2               "NO"

C4_HRS6         "Number of hours"
1 .. 2160

C4_PER6         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C3_COLD7        "Experienced cold temperature"
1               "YES"
2               "NO"

C4_HRS7         "Number of hours"
1 .. 2160

C4_PER7         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C3_COLD8        "Experienced cold temperature"
1               "YES"
2               "NO"

C4_HRS8         "Number of hours"
1 .. 2160

C4_PER8         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
```

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4                "YEAR"

C3_COLD9         "Experienced cold temperature"
1                "YES"
2                "NO"

C4_HRS9          "Number of hours"
1 .. 2160

C4_PER9          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C5_ION           "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS           "Number of hours"
1 .. 2160

C6_PER           "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C5_ION2          "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS2          "Number of hours"
1 .. 2160

C6_PER2          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C5_ION3          "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS3          "Number of hours"
1 .. 2160

C6_PER3          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C5_ION4          "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS4          "Number of hours"
1 .. 2160

C6_PER4          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C5_ION5          "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS5          "Number of hours"
1 .. 2160

C6_PER5          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
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4                "YEAR"

C5_ION6          "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS6          "Number of hours"
1 .. 2160

C6_PER6          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C5_ION7          "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS7          "Number of hours"
1 .. 2160

C6_PER7          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C5_ION8          "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS8          "Number of hours"
1 .. 2160

C6_PER8          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C5_ION9          "Worked with sources of ionizing radiatio
1                "YES"
2                "NO"

C6_HRS9          "Number of hours"
1 .. 2160

C6_PER9          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C7_ENRL          "Enrolled in Radiation Dosimetry Program?
1                "YES"
2                "NO"

C8_EMIS          "Worked with active emissions."
1                "YES"
2                "NO"

C9_HRS           "Number of hours"
1 .. 2160

C9_PER           "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

C8_EMIS2         "Worked with active emissions."
1                "YES"
2                "NO"

C9_HRS2          "Number of hours"
1 .. 2160
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C9_PER2         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C8_EMIS3        "Worked with active emissions."
1               "YES"
2               "NO"

C9_HRS3         "Number of hours"
1 .. 2160

C9_PER3         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C8_EMIS4        "Worked with active emissions."
1               "YES"
2               "NO"

C9_HRS4         "Number of hours"
1 .. 2160

C9_PER4         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C8_EMIS5        "Worked with active emissions."
1               "YES"
2               "NO"

C9_HRS5         "Number of hours"
1 .. 2160

C9_PER5         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C8_EMIS6        "Worked with active emissions."
1               "YES"
2               "NO"

C9_HRS6         "Number of hours"
1 .. 2160

C9_PER6         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C8_EMIS7        "Worked with active emissions."
1               "YES"
2               "NO"

C9_HRS7         "Number of hours"
1 .. 2160

C9_PER7         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C8_EMIS8        "Worked with active emissions."
1               "YES"
2               "NO"

C9_HRS8         "Number of hours"
1 .. 2160
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C9_PER8       "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

C8_EMIS9      "Worked with active emissions."
1             "YES"
2             "NO"

C9_HRS9       "Number of hours"
1 .. 2160

C9_PER9       "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

C10_NOI       "Exposed to excessively loud noise?"
1             "YES"
2             "NO"

C11_HRS       "Number of hours"
1 .. 2160

C11_PER       "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

C10_NOI2      "Exposed to excessively loud noise?"
1             "YES"
2             "NO"

C11_HRS2      "Number of hours"
1 .. 2160

C11_PER2      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

C10_NOI3      "Exposed to excessively loud noise?"
1             "YES"
2             "NO"

C11_HRS3      "Number of hours"
1 .. 2160

C11_PER3      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

C10_NOI4      "Exposed to excessively loud noise?"
1             "YES"
2             "NO"

C11_HRS4      "Number of hours"
1 .. 2160

C11_PER4      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

C10_NOI5      "Exposed to excessively loud noise?"
1             "YES"
2             "NO"

C11_HRS5      "Number of hours"
1 .. 2160
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A-191

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C11_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


C10_NOI6        "Exposed to excessively loud noise?"
1               "YES"
2               "NO"


C11_HRS6        "Number of hours"
1 .. 2160


C11_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


C10_NOI7        "Exposed to excessively loud noise?"
1               "YES"
2               "NO"


C11_HRS7        "Number of hours"
1 .. 2160


C11_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


C10_NOI8        "Exposed to excessively loud noise?"
1               "YES"
2               "NO"


C11_HRS8        "Number of hours"
1 .. 2160


C11_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


C10_NOI9        "Exposed to excessively loud noise?"
1               "YES"
2               "NO"


C11_HRS9        "Number of hours"
1 .. 2160


C11_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C12a_HR1        "Hours per week spent riding in cars.."
0 .. 168


C12a_HR2        "Hours per week spent riding in cars.."
0 .. 168


C12a_HR3        "Hours per week spent riding in cars.."
0 .. 168


C12a_HR4        "Hours per week spent riding in cars.."
0 .. 168


C12a_HR5        "Hours per week spent riding in cars.."
0 .. 168


C12a_HR6        "Hours per week spent riding in cars.."
0 .. 168


C12a_HR7        "Hours per week spent riding in cars.."
0 .. 168
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C12a_HR8        "Hours per week spent riding in cars.."
0 .. 168

C12a_HR9        "Hours per week spent riding in cars.."
0 .. 168

C12b_HR1        "Hours per week spent riding in trucks..."
0 .. 168

C12b_HR2        "Hours per week spent riding in trucks..."
0 .. 168

C12b_HR3        "Hours per week spent riding in trucks..."
0 .. 168

C12b_HR4        "Hours per week spent riding in trucks..."
0 .. 168

C12b_HR5        "Hours per week spent riding in trucks..."
0 .. 168

C12b_HR6        "Hours per week spent riding in trucks..."
0 .. 168

C12b_HR7        "Hours per week spent riding in trucks..."
0 .. 168

C12b_HR8        "Hours per week spent riding in trucks..."
0 .. 168

C12b_HR9        "Hours per week spent riding in trucks..."
0 .. 168

C13_HRS1        "Hours per week commuted to work"
0 .. 168

C13_HRS2        "Hours per week commuted to work"
0 .. 168

C13_HRS3        "Hours per week commuted to work"
0 .. 168

C13_HRS4        "Hours per week commuted to work"
0 .. 168

C13_HRS5        "Hours per week commuted to work"
0 .. 168

C13_HRS6        "Hours per week commuted to work"
0 .. 168

C13_HRS7        "Hours per week commuted to work"
0 .. 168

C13_HRS8        "Hours per week commuted to work"
0 .. 168

C13_HRS9        "Hours per week commuted to work"
0 .. 168

C14_HRS1        "Hours/week spent outside of work"
0 .. 168

C14_HRS2        "Hours/week spent outside of work"
0 .. 168

C14_HRS3        "Hours/week spent outside of work"
0 .. 168

C14_HRS4        "Hours/week spent outside of work"
0 .. 168

C14_HRS5        "Hours/week spent outside of work"
0 .. 168

C14_HRS6        "Hours/week spent outside of work"
0 .. 168
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C14_HRS7        "Hours/week spent outside of work"
0 .. 168

C14_HRS8        "Hours/week spent outside of work"
0 .. 168

C14_HRS9        "Hours/week spent outside of work"
0 .. 168

C15_ELE         "Worked on elevated platforms?"
1               "YES"
2               "NO"

C16_HRS         "Number of hours"
1 .. 2160

C16_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C15_ELE2        "Worked on elevated platforms?"
1               "YES"
2               "NO"

C16_HRS2        "Number of hours"
1 .. 2160

C16_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C15_ELE3        "Worked on elevated platforms?"
1               "YES"
2               "NO"

C16_HRS3        "Number of hours"
1 .. 2160

C16_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C15_ELE4        "Worked on elevated platforms?"
1               "YES"
2               "NO"

C16_HRS4        "Number of hours"
1 .. 2160

C16_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C15_ELE5        "Worked on elevated platforms?"
1               "YES"
2               "NO"

C16_HRS5        "Number of hours"
1 .. 2160

C16_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C15_ELE6        "Worked on elevated platforms?"
1               "YES"
2               "NO"
```

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C16_HRS6        "Number of hours"
1 .. 2160

C16_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C15_ELE7        "Worked on elevated platforms?"
1               "YES"
2               "NO"

C16_HRS7        "Number of hours"
1 .. 2160

C16_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C15_ELE8        "Worked on elevated platforms?"
1               "YES"
2               "NO"

C16_HRS8        "Number of hours"
1 .. 2160

C16_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C15_ELE9        "Worked on elevated platforms?"
1               "YES"
2               "NO"

C16_HRS9        "Number of hours"
1 .. 2160

C16_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS         "Posture constrained?"
1               "YES"
2               "NO"

C18_HRS         "Number of hours"
1 .. 2160

C18_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS2        "Posture constrained?"
1               "YES"
2               "NO"

C18_HRS2        "Number of hours"
1 .. 2160

C18_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS3        "Posture constrained?"
1               "YES"
2               "NO"
```

```
C18_HRS3        "Number of hours"
1 .. 2160

C18_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS4        "Posture constrained?"
1               "YES"
2               "NO"

C18_HRS4        "Number of hours"
1 .. 2160

C18_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS5        "Posture constrained?"
1               "YES"
2               "NO"

C18_HRS5        "Number of hours"
1 .. 2160

C18_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS6        "Posture constrained?"
1               "YES"
2               "NO"

C18_HRS6        "Number of hours"
1 .. 2160

C18_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS7        "Posture constrained?"
1               "YES"
2               "NO"

C18_HRS7        "Number of hours"
1 .. 2160

C18_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS8        "Posture constrained?"
1               "YES"
2               "NO"

C18_HRS8        "Number of hours"
1 .. 2160

C18_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C17_POS9        "Posture constrained?"
1               "YES"
2               "NO"
```

```
C18_HRS9          "Number of hours"
1 .. 2160

C18_PER9          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

C19_HEA           "Used heavy or paced machinery?"
1                 "YES"
2                 "NO"

C20_HRS           "Number of hours"
1 .. 2160

C20_PER           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

C19_HEA2          "Used heavy or paced machinery?"
1                 "YES"
2                 "NO"

C20_HRS2          "Number of hours"
1 .. 2160

C20_PER2          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

C19_HEA3          "Used heavy or paced machinery?"
1                 "YES"
2                 "NO"

C20_HRS3          "Number of hours"
1 .. 2160

C20_PER3          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

C19_HEA4          "Used heavy or paced machinery?"
1                 "YES"
2                 "NO"

C20_HRS4          "Number of hours"
1 .. 2160

C20_PER4          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

C19_HEA5          "Used heavy or paced machinery?"
1                 "YES"
2                 "NO"

C20_HRS5          "Number of hours"
1 .. 2160

C20_PER5          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

C19_HEA6          "Used heavy or paced machinery?"
1                 "YES"
2                 "NO"
```

A-197

```
C20_HRS6        "Number of hours"
1 .. 2160

C20_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C19_HEA7        "Used heavy or paced machinery?"
1               "YES"
2               "NO"

C20_HRS7        "Number of hours"
1 .. 2160

C20_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C19_HEA8        "Used heavy or paced machinery?"
1               "YES"
2               "NO"

C20_HRS8        "Number of hours"
1 .. 2160

C20_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

C19_HEA9        "Used heavy or paced machinery?"
1               "YES"
2               "NO"

C20_HRS9        "Number of hours"
1 .. 2160

C20_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

D_Intro         "Introduction of Section D"
1               "ENTER 1 TO CONTINUE"

D1_PHYS1        "R's job required a lot of physical effor
1               "YES"
2               "NO"

D1_PHYS2        "R's job required a lot of physical effor
1               "YES"
2               "NO"

D1_PHYS3        "R's job required a lot of physical effor
1               "YES"
2               "NO"

D1_PHYS4        "R's job required a lot of physical effor
1               "YES"
2               "NO"

D1_PHYS5        "R's job required a lot of physical effor
1               "YES"
2               "NO"

D1_PHYS6        "R's job required a lot of physical effor
1               "YES"
2               "NO"

D1_PHYS7        "R's job required a lot of physical effor
1               "YES"
```

A-198

```
2               "NO"

D1_PHYS8        "R's job required a lot of physical effor
1               "YES"
2               "NO"

D1_PHYS9        "R's job required a lot of physical effor
1               "YES"
2               "NO"

D2_Intro        "Introduction before D2"
1               "ENTER 1 TO CONTINUE"

D2_SED          "Percent of activity was Sitting"
0 .. 100

D2_STD          "Percent of activity was standing"
0 .. 100

D2_WALK         "Percent of activity involved walking"
0 .. 100

D2_ACTV         "Percent of activity was Active Work"
0 .. 100

D2_SED2         "Percent of activity was Sitting"
0 .. 100

D2_STD2         "Percent of activity was standing"
0 .. 100

D2_WALK2        "Percent of activity involved walking"
0 .. 100

D2_ACTV2        "Percent of activity was Active Work"
0 .. 100

D2_SED3         "Percent of activity was Sitting"
0 .. 100

D2_STD3         "Percent of activity was standing"
0 .. 100

D2_WALK3        "Percent of activity involved walking"
0 .. 100

D2_ACTV3        "Percent of activity was Active Work"
0 .. 100

D2_SED4         "Percent of activity was Sitting"
0 .. 100

D2_STD4         "Percent of activity was standing"
0 .. 100

D2_WALK4        "Percent of activity involved walking"
0 .. 100

D2_ACTV4        "Percent of activity was Active Work"
0 .. 100

D2_SED5         "Percent of activity was Sitting"
0 .. 100

D2_STD5         "Percent of activity was standing"
0 .. 100

D2_WALK5        "Percent of activity involved walking"
0 .. 100

D2_ACTV5        "Percent of activity was Active Work"
0 .. 100

D2_SED6         "Percent of activity was Sitting"
0 .. 100

D2_STD6         "Percent of activity was standing"
0 .. 100
```

A-199

```
D2_WALK6        "Percent of activity involved walking"
0 .. 100

D2_ACTV6        "Percent of activity was Active Work"
0 .. 100

D2_SED7         "Percent of activity was Sitting"
0 .. 100

D2_STD7         "Percent of activity was standing"
0 .. 100

D2_WALK7        "Percent of activity involved walking"
0 .. 100

D2_ACTV7        "Percent of activity was Active Work"
0 .. 100

D2_SED8         "Percent of activity was Sitting"
0 .. 100

D2_STD8         "Percent of activity was standing"
0 .. 100

D2_WALK8        "Percent of activity involved walking"
0 .. 100

D2_ACTV8        "Percent of activity was Active Work"
0 .. 100

D2_SED9         "Percent of activity was Sitting"
0 .. 100

D2_STD9         "Percent of activity was standing"
0 .. 100

D2_WALK9        "Percent of activity involved walking"
0 .. 100

D2_ACTV9        "Percent of activity was Active Work"
0 .. 100

D3_OVR1         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"

D3_OVR2         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"

D3_OVR3         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"

D3_OVR4         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"

D3_OVR5         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"
```

```
D3_OVR6         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"

D3_OVR7         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"

D3_OVR8         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"

D3_OVR9         "Overall physical effort requirement"
1               "Negligible"
2               "Light"
3               "Moderate"
4               "Heavy"
5               "Maximum"

D6_LHW1         "Light housework did (-3,T1,T2,T3)"
1               "None"
2               "Equally shared"
3               "Most"
4               "All"

D6_LHW2         "Light housework did (-3,T1,T2,T3)"
1               "None"
2               "Equally shared"
3               "Most"
4               "All"

D6_LHW3         "Light housework did (-3,T1,T2,T3)"
1               "None"
2               "Equally shared"
3               "Most"
4               "All"

D6_LHW4         "Light housework did (-3,T1,T2,T3)"
1               "None"
2               "Equally shared"
3               "Most"
4               "All"

D7_HHW1         "Heavy housework did (-3,T1,T2,T3)"
1               "None"
2               "Equally shared"
3               "Most"
4               "All"

D7_HHW2         "Heavy housework did (-3,T1,T2,T3)"
1               "None"
2               "Equally shared"
3               "Most"
4               "All"

D7_HHW3         "Heavy housework did (-3,T1,T2,T3)"
1               "None"
2               "Equally shared"
3               "Most"
4               "All"

D7_HHW4         "Heavy housework did (-3,T1,T2,T3)"
1               "None"
2               "Equally shared"
3               "Most"
4               "All"

D8_CHLD1        "# of children/adults with R (-3,T1,T2,T3
0 .. 15
```

A-201

```
D8_CHLD2        "# of children/adults with R (-3,T1,T2,T3
0 .. 15

D8_CHLD3        "# of children/adults with R (-3,T1,T2,T3
0 .. 15

D8_CHLD4        "# of children/adults with R (-3,T1,T2,T3
0 .. 15

D9_CLIM1        "Routinely climbed stairs (-3,T1,T2,T3)"
1               "YES"
2               "NO"

D9_CLIM2        "Routinely climbed stairs (-3,T1,T2,T3)"
1               "YES"
2               "NO"

D9_CLIM3        "Routinely climbed stairs (-3,T1,T2,T3)"
1               "YES"
2               "NO"

D9_CLIM4        "Routinely climbed stairs (-3,T1,T2,T3)"
1               "YES"
2               "NO"

D10_DTH         "Stress Due to Death in Family"
1               "YES"
2               "NO"

D10_DEP         "Stress Due to Deployment or Reassignment
1               "YES"
2               "NO"

D10_DVCE        "Stress Due to Divorce"
1               "YES"
2               "NO"

D10_ILL         "Stress Due to Family Illness"
1               "YES"
2               "NO"

D10_NOHP        "Stress Due to No Help at Home"
1               "YES"
2               "NO"

D10_MOVE        "Stress Due to Change in Residence"
1               "YES"
2               "NO"

D10_DTH2        "Stress Due to Death in Family"
1               "YES"
2               "NO"

D10_DEP2        "Stress Due to Deployment or Reassignment
1               "YES"
2               "NO"

D10_DVC2        "Stress Due to Divorce"
1               "YES"
2               "NO"

D10_ILL2        "Stress Due to Family Illness"
1               "YES"
2               "NO"

D10_NOH2        "Stress Due to No Help at Home"
1               "YES"
2               "NO"

D10_MOV2        "Stress Due to Change in Residence"
1               "YES"
2               "NO"

D10_DTH3        "Stress Due to Death in Family"
1               "YES"
2               "NO"
```

A-202

```
D10_DEP3       "Stress Due to Deployment or Reassignment
1              "YES"
2              "NO"

D10_DVC3       "Stress Due to Divorce"
1              "YES"
2              "NO"

D10_ILL3       "Stress Due to Family Illness"
1              "YES"
2              "NO"

D10_NOH3       "Stress Due to No Help at Home"
1              "YES"
2              "NO"

D10_MOV3       "Stress Due to Change in Residence"
1              "YES"
2              "NO"

D10_DTH4       "Stress Due to Death in Family"
1              "YES"
2              "NO"

D10_DEP4       "Stress Due to Deployment or Reassignment
1              "YES"
2              "NO"

D10_DVC4       "Stress Due to Divorce"
1              "YES"
2              "NO"

D10_ILL4       "Stress Due to Family Illness"
1              "YES"
2              "NO"

D10_NOH4       "Stress Due to No Help at Home"
1              "YES"
2              "NO"

D10_MOV4       "Stress Due to Change in Residence"
1              "YES"
2              "NO"

D11_FALL       "Physical Trauma due to Slips Trips Falls
1              "YES"
2              "NO"

D11_ACC        "Physical Trauma due to Major Accidents"
1              "YES"
2              "NO"

D11_SPOR       "Physical Trauma due to Sports Injury"
1              "YES"
2              "NO"

D11_ABUS       "Physical Trauma due to Physical Abuse"
1              "YES"
2              "NO"

D11_OTH        "Physical Trauma due to Other Reason"
1              "YES"
2              "NO"

D11_SPEC       "Physical Trauma due to Other Reason Spec
String[100]

D11_FAL2       "Physical Trauma due to Slips Trips Falls
1              "YES"
2              "NO"

D11_ACC2       "Physical Trauma due to Major Accidents"
1              "YES"
2              "NO"

D11_SPO2       "Physical Trauma due to Sports Injury"
1              "YES"
2              "NO"
```

```
D11_ABU2        "Physical Trauma due to Physical Abuse"
1               "YES"
2               "NO"

D11_OTH2        "Physical Trauma due to Other Reason"
1               "YES"
2               "NO"

D11_SPE2        "Physical Trauma due to Other Reason Spec
String[100]

D11_FAL3        "Physical Trauma due to Slips Trips Falls
1               "YES"
2               "NO"

D11_ACC3        "Physical Trauma due to Major Accidents"
1               "YES"
2               "NO"

D11_SPO3        "Physical Trauma due to Sports Injury"
1               "YES"
2               "NO"

D11_ABU3        "Physical Trauma due to Physical Abuse"
1               "YES"
2               "NO"

D11_OTH3        "Physical Trauma due to Other Reason"
1               "YES"
2               "NO"

D11_SPE3        "Physical Trauma due to Other Reason Spec
String[100]

D11_FAL4        "Physical Trauma due to Slips Trips Falls
1               "YES"
2               "NO"

D11_ACC4        "Physical Trauma due to Major Accidents"
1               "YES"
2               "NO"

D11_SPO4        "Physical Trauma due to Sports Injury"
1               "YES"
2               "NO"

D11_ABU4        "Physical Trauma due to Physical Abuse"
1               "YES"
2               "NO"

D11_OTH4        "Physical Trauma due to Other Reason"
1               "YES"
2               "NO"

D11_SPE4        "Physical Trauma due to Other Reason Spec
String[100]

D12_MARR        "Married at Time of Conception"
1               "YES"
2               "NO"

D13_MARR        "Married at End of Pregnancy"
1               "YES"
2               "NO"

E1_SAT1         "Satisfied with the job"
1               "YES"
2               "NO"

E1_SAT2         "Satisfied with the job"
1               "YES"
2               "NO"

E1_SAT3         "Satisfied with the job"
1               "YES"
2               "NO"
```

A-204

```
E1_SAT4         "Satisfied with the job"
1               "YES"
2               "NO"


E1_SAT5         "Satisfied with the job"
1               "YES"
2               "NO"


E1_SAT6         "Satisfied with the job"
1               "YES"
2               "NO"


E1_SAT7         "Satisfied with the job"
1               "YES"
2               "NO"


E1_SAT8         "Satisfied with the job"
1               "YES"
2               "NO"


E1_SAT9         "Satisfied with the job"
1               "YES"
2               "NO"


E2_JWAS1        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E2_JWAS2        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E2_JWAS3        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E2_JWAS4        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E2_JWAS5        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E2_JWAS6        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E2_JWAS7        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E2_JWAS8        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E2_JWAS9        "In general, was the job..."
1               "Boring"
2               "Interesting"
3               "Just OK"


E3_SET1         "Set own work rate?"
1               "YES"
2               "NO"


E3_SET2         "Set own work rate?"
1               "YES"
2               "NO"


E3_SET3         "Set own work rate?"
```

```
1                "YES"
2                "NO"

E3_SET4          "Set own work rate?"
1                "YES"
2                "NO"

E3_SET5          "Set own work rate?"
1                "YES"
2                "NO"

E3_SET6          "Set own work rate?"
1                "YES"
2                "NO"

E3_SET7          "Set own work rate?"
1                "YES"
2                "NO"

E3_SET8          "Set own work rate?"
1                "YES"
2                "NO"

E3_SET9          "Set own work rate?"
1                "YES"
2                "NO"

E4_RATE1         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E4_RATE2         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E4_RATE3         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E4_RATE4         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E4_RATE5         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E4_RATE6         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E4_RATE7         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E4_RATE8         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E4_RATE9         "Rate was too slow/fast or about right"
1                "Too slow"
2                "Too fast"
3                "About right"

E5_DDLN1         "Deadlines was too short/long or right"
1                "Too short"
2                "Too long"
3                "About right"

E5_DDLN2         "Deadlines was too short/long or right"
```

```
1                  "Too short"
2                  "Too long"
3                  "About right"

E5_DDLN3           "Deadlines was too short/long or right"
1                  "Too short"
2                  "Too long"
3                  "About right"

E5_DDLN4           "Deadlines was too short/long or right"
1                  "Too short"
2                  "Too long"
3                  "About right"

E5_DDLN5           "Deadlines was too short/long or right"
1                  "Too short"
2                  "Too long"
3                  "About right"

E5_DDLN6           "Deadlines was too short/long or right"
1                  "Too short"
2                  "Too long"
3                  "About right"

E5_DDLN7           "Deadlines was too short/long or right"
1                  "Too short"
2                  "Too long"
3                  "About right"

E5_DDLN8           "Deadlines was too short/long or right"
1                  "Too short"
2                  "Too long"
3                  "About right"

E5_DDLN9           "Deadlines was too short/long or right"
1                  "Too short"
2                  "Too long"
3                  "About right"

E6_RELC1           "Relationships with co-workers"
1                  "Good"
2                  "Average"
3                  "Poor"
4                  "Really bad"

E6_RELC2           "Relationships with co-workers"
1                  "Good"
2                  "Average"
3                  "Poor"
4                  "Really bad"

E6_RELC3           "Relationships with co-workers"
1                  "Good"
2                  "Average"
3                  "Poor"
4                  "Really bad"

E6_RELC4           "Relationships with co-workers"
1                  "Good"
2                  "Average"
3                  "Poor"
4                  "Really bad"

E6_RELC5           "Relationships with co-workers"
1                  "Good"
2                  "Average"
3                  "Poor"
4                  "Really bad"

E6_RELC6           "Relationships with co-workers"
1                  "Good"
2                  "Average"
3                  "Poor"
4                  "Really bad"

E6_RELC7           "Relationships with co-workers"
1                  "Good"
2                  "Average"
```

```
3               "Poor"
4               "Really bad"

E6_RELC8        "Relationships with co-workers"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E6_RELC9        "Relationships with co-workers"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS1        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS2        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS3        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS4        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS5        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS6        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS7        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS8        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E7_RELS9        "Relationship with supervisor"
1               "Good"
2               "Average"
3               "Poor"
4               "Really bad"

E8_CONF1        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"

E8_CONF2        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"
```

```
E8_CONF3        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"

E8_CONF4        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"

E8_CONF5        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"

E8_CONF6        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"

E8_CONF7        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"

E8_CONF8        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"

E8_CONF9        "General level of conflict was..."
1               "High"
2               "Low"
3               "About what you would expect"

E9_REC1         "The recognition received was..."
1               "More than expected"
2               "Less than expected"
3               "About what expected"

E9_REC2         "The recognition received was..."
1               "More than expected"
2               "Less than expected"
3               "About what expected"

E9_REC3         "The recognition received was..."
1               "More than expected"
2               "Less than expected"
3               "About what expected"

E9_REC4         "The recognition received was..."
1               "More than expected"
2               "Less than expected"
3               "About what expected"

E9_REC5         "The recognition received was..."
1               "More than expected"
2               "Less than expected"
3               "About what expected"

E9_REC6         "The recognition received was..."
1               "More than expected"
2               "Less than expected"
3               "About what expected"

E9_REC7         "The recognition received was..."
1               "More than expected"
2               "Less than expected"
3               "About what expected"

E9_REC8         "The recognition received was..."
1               "More than expected"
2               "Less than expected"
3               "About what expected"

E9_REC9         "The recognition received was..."
1               "More than expected"
```

A-209

```
2                    "Less than expected"
3                    "About what expected"

E10_PRE1             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E10_PRE2             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E10_PRE3             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E10_PRE4             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E10_PRE5             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E10_PRE6             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E10_PRE7             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E10_PRE8             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E10_PRE9             "The pressure to perform was..."
1                    "Extremely low"
2                    "Somewhat low"
3                    "About right"
4                    "Somewhat excessive"
5                    "Substantially excessive"

E11a_BCK             "Did Back Pain Increase Stress"
1                    "YES"
2                    "NO"

E11a_LEG             "Did swelling in Legs arms fingers increa
1                    "YES"
2                    "NO"

E11a_NER             "Did Nerve Pain increase Stress"
1                    "YES"
2                    "NO"
```

```
E11b_CND      "Affect Performance on Job"
1             "YES"
2             "NO"

E11a_BC2      "Did Back Pain Increase Stress"
1             "YES"
2             "NO"

E11a_LE2      "Did swelling in Legs arms fingers increa
1             "YES"
2             "NO"

E11a_NE2      "Did Nerve Pain increase Stress"
1             "YES"
2             "NO"

E11b_CN2      "Affect Performance on Job"
1             "YES"
2             "NO"

E11a_BC3      "Did Back Pain Increase Stress"
1             "YES"
2             "NO"

E11a_LE3      "Did swelling in Legs arms fingers increa
1             "YES"
2             "NO"

E11a_NE3      "Did Nerve Pain increase Stress"
1             "YES"
2             "NO"

E11b_CN3      "Affect Performance on Job"
1             "YES"
2             "NO"

E11a_BC4      "Did Back Pain Increase Stress"
1             "YES"
2             "NO"

E11a_LE4      "Did swelling in Legs arms fingers increa
1             "YES"
2             "NO"

E11a_NE4      "Did Nerve Pain increase Stress"
1             "YES"
2             "NO"

E11b_CN4      "Affect Performance on Job"
1             "YES"
2             "NO"

E11a_BC5      "Did Back Pain Increase Stress"
1             "YES"
2             "NO"

E11a_LE5      "Did swelling in Legs arms fingers increa
1             "YES"
2             "NO"

E11a_NE5      "Did Nerve Pain increase Stress"
1             "YES"
2             "NO"

E11b_CN5      "Affect Performance on Job"
1             "YES"
2             "NO"

E11a_BC6      "Did Back Pain Increase Stress"
1             "YES"
2             "NO"

E11a_LE6      "Did swelling in Legs arms fingers increa
1             "YES"
2             "NO"

E11a_NE6      "Did Nerve Pain increase Stress"
1             "YES"
```

```
2                "NO"

E11b_CN6         "Affect Performance on Job"
1                "YES"
2                "NO"

E11a_BC7         "Did Back Pain Increase Stress"
1                "YES"
2                "NO"

E11a_LE7         "Did swelling in Legs arms fingers increa
1                "YES"
2                "NO"

E11a_NE7         "Did Nerve Pain increase Stress"
1                "YES"
2                "NO"

E11b_CN7         "Affect Performance on Job"
1                "YES"
2                "NO"

E11a_BC8         "Did Back Pain Increase Stress"
1                "YES"
2                "NO"

E11a_LE8         "Did swelling in Legs arms fingers increa
1                "YES"
2                "NO"

E11a_NE8         "Did Nerve Pain increase Stress"
1                "YES"
2                "NO"

E11b_CN8         "Affect Performance on Job"
1                "YES"
2                "NO"

E11a_BC9         "Did Back Pain Increase Stress"
1                "YES"
2                "NO"

E11a_LE9         "Did swelling in Legs arms fingers increa
1                "YES"
2                "NO"

E11a_NE9         "Did Nerve Pain increase Stress"
1                "YES"
2                "NO"

E11b_CN9         "Affect Performance on Job"
1                "YES"
2                "NO"

F1_EXPO          "Worked around any chemicals?"
1                "YES"
2                "NO"

F2_DUST          "Worked with dust and detergents?"
1                "YES"
2                "NO"

F2_SOAP          "Worked with common detergents and soaps?
1                "YES"
2                "NO"

F2_GAS           "Worked with anesthetic, gases,... ?"
1                "YES"
2                "NO"

F2_OTHR          "Worked with other drugs and medications?
1                "YES"
2                "NO"

F2_FUEL          "Worked with fuels/hydraulic fuels/exhaus
                  antifreeze?"
1                "YES"
2                "NO"
```

```
F2_SOLV        "Worked with solvents and paints?"
1              "YES"
2              "NO"

F2_METAL       "Worked with metals, welding fumes, or le
1              "YES"
2              "NO"

F2_PCBS        "Worked with Pesticides, PCBs, etc.?"
1              "YES"
2              "NO"

F3_CONS        "Around Construction dirt or soil dusts?"
1              "YES"
2              "NO"

F3_FIBR        "Around fibrous dust?"
1              "YES"
2              "NO"

F3_CHEM        "Around chemical dust?"
1              "YES"
2              "NO"

F3_CADM        "Around cadmium dust?"
1              "YES"
2              "NO"

F3_LEAD        "Around lead dusts?"
1              "YES"
2              "NO"

F3_OTHR        "Around other metal dusts?"
1              "YES"
2              "NO"

F3_ORGA        "Around organic dusts?"
1              "YES"
2              "NO"

F4_COHR        "Hours - Construction dust"
1 .. 2160

F4_PER1        "Hours Per - Construction dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F4_FIHR        "Hours - Fibrous dust"
1 .. 2160

F4_PER2        "Hours Per - Fibrous dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F4_CHHR        "Hours - Chemical dust"
1 .. 2160

F4_PER3        "Hours Per - Chemical dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F4_CAHR        "Hours - Cadminum dust"
1 .. 2160

F4_PER4        "Hours Per - Cadminum dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F4_LEHR        "Hours - Lead dusts"
```

A-213

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1 .. 2160

F4_PER5          "Hours Per - Lead dusts"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F4_OTHR          "Hours - Other metal dusts"
1 .. 2160

F4_PER6          "Hours Per - Other metal dusts"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F4_ORHR          "Hours - Organic dusts"
1 .. 2160

F4_PER7          "Hours Per - Organic dusts"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F3_CONS2         "Around Construction dirt or soil dusts?"
1                "YES"
2                "NO"

F3_FIBR2         "Around fibrous dust?"
1                "YES"
2                "NO"

F3_CHEM2         "Around chemical dust?"
1                "YES"
2                "NO"

F3_CADM2         "Around cadmium dust?"
1                "YES"
2                "NO"

F3_LEAD2         "Around lead dusts?"
1                "YES"
2                "NO"

F3_OTHR2         "Around other metal dusts?"
1                "YES"
2                "NO"

F3_ORGA2         "Around organic dusts?"
1                "YES"
2                "NO"

F4_COHR2         "Hours - Construction dust"
1 .. 2160

F4_PER8          "Hours Per - Construction dust"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F4_FIHR2         "Hours - Fibrous dust"
1 .. 2160

F4_PER9          "Hours Per - Fibrous dust"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F4_CHHR2         "Hours - Chemical dust"
1 .. 2160

F4_PER10         "Hours Per - Chemical dust"
1                "WEEK"
2                "MONTH"
```

A-214

```
3                 "QUARTER"
4                 "YEAR"


F4_CAHR2          "Hours - Cadminum dust"
1 .. 2160


F4_PER11          "Hours Per - Cadminum dust"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F4_LEHR2          "Hours - Lead dusts"
1 .. 2160


F4_PER12          "Hours Per - Lead dusts"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F4_OTHR2          "Hours - Other metal dusts"
1 .. 2160


F4_PER13          "Hours Per - Other metal dusts"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F4_ORHR2          "Hours - Organic dusts"
1 .. 2160


F4_PER14          "Hours Per - Organic dusts"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F3_CONS3          "Around Construction dirt or soil dusts?"
1                 "YES"
2                 "NO"


F3_FIBR3          "Around fibrous dust?"
1                 "YES"
2                 "NO"


F3_CHEM3          "Around chemical dust?"
1                 "YES"
2                 "NO"


F3_CADM3          "Around cadmium dust?"
1                 "YES"
2                 "NO"


F3_LEAD3          "Around lead dusts?"
1                 "YES"
2                 "NO"


F3_OTHR3          "Around other metal dusts?"
1                 "YES"
2                 "NO"


F3_ORGA3          "Around organic dusts?"
1                 "YES"
2                 "NO"


F4_COHR3          "Hours - Construction dust"
1 .. 2160


F4_PER15          "Hours Per - Construction dust"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F4_FIHR3          "Hours - Fibrous dust"
1 .. 2160
```

A-215

```
F4_PER16       "Hours Per - Fibrous dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_CHHR3       "Hours - Chemical dust"
1 .. 2160


F4_PER17       "Hours Per - Chemical dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_CAHR3       "Hours - Cadminum dust"
1 .. 2160


F4_PER18       "Hours Per - Cadminum dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_LEHR3       "Hours - Lead dusts"
1 .. 2160


F4_PER19       "Hours Per - Lead dusts"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_OTHR3       "Hours - Other metal dusts"
1 .. 2160


F4_PER20       "Hours Per - Other metal dusts"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_ORHR3       "Hours - Organic dusts"
1 .. 2160


F4_PER21       "Hours Per - Organic dusts"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F3_CONS4       "Around Construction dirt or soil dusts?"
1              "YES"
2              "NO"


F3_FIBR4       "Around fibrous dust?"
1              "YES"
2              "NO"


F3_CHEM4       "Around chemical dust?"
1              "YES"
2              "NO"


F3_CADM4       "Around cadmium dust?"
1              "YES"
2              "NO"


F3_LEAD4       "Around lead dusts?"
1              "YES"
2              "NO"


F3_OTHR4       "Around other metal dusts?"
1              "YES"
2              "NO"


F3_ORGA4       "Around organic dusts?"
1              "YES"
```

```
2                "NO"

F4_COHR4         "Hours - Construction dust"
1 .. 2160


F4_PER22         "Hours Per - Construction dust"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR".


F4_FIHR4         "Hours - Fibrous dust"
1 .. 2160


F4_PER23         "Hours Per - Fibrous dust"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F4_CHHR4         "Hours - Chemical dust"
1 .. 2160


F4_PER24         "Hours Per - Chemical dust"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F4_CAHR4         "Hours - Cadminum dust"
1 .. 2160


F4_PER25         "Hours Per - Cadminum dust"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F4_LEHR4         "Hours - Lead dusts"
1 .. 2160


F4_PER26         "Hours Per - Lead dusts"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F4_OTHR4         "Hours - Other metal dusts"
1 .. 2160


F4_PER27         "Hours Per - Other metal dusts"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F4_ORHR4         "Hours - Organic dusts"
1 .. 2160


F4_PER28         "Hours Per - Organic dusts"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F3_CONS5         "Around Construction dirt or soil dusts?"
1                "YES"
2                "NO"


F3_FIBR5         "Around fibrous dust?"
1                "YES"
2                "NO"


F3_CHEM5         "Around chemical dust?"
1                "YES"
2                "NO"


F3_CADM5         "Around cadmium dust?"
```

A-217

```
1                    "YES"
2                    "NO"

F3_LEAD5             "Around lead dusts?"
1                    "YES"
2                    "NO"

F3_OTHR5             "Around other metal dusts?"
1                    "YES"
2                    "NO"

F3_ORGA5             "Around organic dusts?"
1                    "YES"
2                    "NO"

F4_COHR5             "Hours - Construction dust"
1 .. 2160

F4_PER29             "Hours Per - Construction dust"
1                    "WEEK"
2                    "MONTH"
3                    "QUARTER"
4                    "YEAR"

F4_FIHR5             "Hours - Fibrous dust"
1 .. 2160

F4_PER30             "Hours Per - Fibrous dust"
1                    "WEEK"
2                    "MONTH"
3                    "QUARTER"
4                    "YEAR"

F4_CHHR5             "Hours - Chemical dust"
1 .. 2160

F4_PER31             "Hours Per - Chemical dust"
1                    "WEEK"
2                    "MONTH"
3                    "QUARTER"
4                    "YEAR"

F4_CAHR5             "Hours - Cadminum dust"
1 .. 2160

F4_PER32             "Hours Per - Cadminum dust"
1                    "WEEK"
2                    "MONTH"
3                    "QUARTER"
4                    "YEAR"

F4_LEHR5             "Hours - Lead dusts"
1 .. 2160

F4_PER33             "Hours Per - Lead dusts"
1                    "WEEK"
2                    "MONTH"
3                    "QUARTER"
4                    "YEAR"

F4_OTHR5             "Hours - Other metal dusts"
1 .. 2160

F4_PER34             "Hours Per - Other metal dusts"
1                    "WEEK"
2                    "MONTH"
3                    "QUARTER"
4                    "YEAR"

F4_ORHR5             "Hours - Organic dusts"
1 .. 2160

F4_PER35             "Hours Per - Organic dusts"
1                    "WEEK"
2                    "MONTH"
3                    "QUARTER"
4                    "YEAR"
```

```
F3_CONS6        "Around Construction dirt or soil dusts?"
1               "YES"
2               "NO"


F3_FIBR6        "Around fibrous dust?"
1               "YES"
2               "NO"


F3_CHEM6        "Around chemical dust?"
1               "YES"
2               "NO"


F3_CADM6        "Around cadmium dust?"
1               "YES"
2               "NO"


F3_LEAD6        "Around lead dusts?"
1               "YES"
2               "NO"


F3_OTHR6        "Around other metal dusts?"
1               "YES"
2               "NO"


F3_ORGA6        "Around organic dusts?"
1               "YES"
2               "NO"


F4_COHR6        "Hours - Construction dust"
1 .. 2160


F4_PER36        "Hours Per - Construction dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_FIHR6        "Hours - Fibrous dust"
1 .. 2160


F4_PER37        "Hours Per - Fibrous dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_CHHR6        "Hours - Chemical dust"
1 .. 2160


F4_PER38        "Hours Per - Chemical dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_CAHR6        "Hours - Cadminum dust"
1 .. 2160


F4_PER39        "Hours Per - Cadminum dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_LEHR6        "Hours - Lead dusts"
1 .. 2160


F4_PER40        "Hours Per - Lead dusts"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_OTHR6        "Hours - Other metal dusts"
1 .. 2160


F4_PER41        "Hours Per - Other metal dusts"
1               "WEEK"
```

```
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_ORHR6       "Hours - Organic dusts"
1 .. 2160


F4_PER42       "Hours Per - Organic dusts"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F3_CONS7       "Around Construction dirt or soil dusts?"
1              "YES"
2              "NO"


F3_FIBR7       "Around fibrous dust?"
1              "YES"
2              "NO"


F3_CHEM7       "Around chemical dust?"
1              "YES"
2              "NO"


F3_CADM7       "Around cadmium dust?"
1              "YES"
2              "NO"


F3_LEAD7       "Around lead dusts?"
1              "YES"
2              "NO"


F3_OTHR7       "Around other metal dusts?"
1              "YES"
2              "NO"


F3_ORGA7       "Around organic dusts?"
1              "YES"
2              "NO"


F4_COHR7       "Hours - Construction dust"
1 .. 2160


F4_PER43       "Hours Per - Construction dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_FIHR7       "Hours - Fibrous dust"
1 .. 2160


F4_PER44       "Hours Per - Fibrous dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_CHHR7       "Hours - Chemical dust"
1 .. 2160


F4_PER45       "Hours Per - Chemical dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_CAHR7       "Hours - Cadminum dust"
1 .. 2160


F4_PER46       "Hours Per - Cadminum dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_LEHR7       "Hours - Lead dusts"
```

A-220

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1 .. 2160

F4_PER47        "Hours Per - Lead dusts"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F4_OTHR7        "Hours - Other metal dusts"
1 .. 2160

F4_PER48        "Hours Per - Other metal dusts"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F4_ORHR7        "Hours - Organic dusts"
1 .. 2160

F4_PER49        "Hours Per - Organic dusts"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F3_CONS8        "Around Construction dirt or soil dusts?"
1               "YES"
2               "NO"

F3_FIBR8        "Around fibrous dust?"
1               "YES"
2               "NO"

F3_CHEM8        "Around chemical dust?"
1               "YES"
2               "NO"

F3_CADM8        "Around cadmium dust?"
1               "YES"
2               "NO"

F3_LEAD8        "Around lead dusts?"
1               "YES"
2               "NO"

F3_OTHR8        "Around other metal dusts?"
1               "YES"
2               "NO"

F3_ORGA8        "Around organic dusts?"
1               "YES"
2               "NO"

F4_COHR8        "Hours - Construction dust"
1 .. 2160

F4_PER50        "Hours Per - Construction dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F4_FIHR8        "Hours - Fibrous dust"
1 .. 2160

F4_PER51        "Hours Per - Fibrous dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F4_CHHR8        "Hours - Chemical dust"
1 .. 2160

F4_PER52        "Hours Per - Chemical dust"
1               "WEEK"
2               "MONTH"
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3              "QUARTER"
4              "YEAR"


F4_CAHR8       "Hours - Cadminum dust"
1 .. 2160


F4_PER53       "Hours Per - Cadminum dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_LEHR8       "Hours - Lead dusts"
1 .. 2160


F4_PER54       "Hours Per - Lead dusts"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_OTHR8       "Hours - Other metal dusts"
1 .. 2160


F4_PER55       "Hours Per - Other metal dusts"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_ORHR8       "Hours - Organic dusts"
1 .. 2160


F4_PER56       "Hours Per - Organic dusts"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F3_CONS9       "Around Construction dirt or soil dusts?"
1              "YES"
2              "NO"


F3_FIBR9       "Around fibrous dust?"
1              "YES"
2              "NO"


F3_CHEM9       "Around chemical dust?"
1              "YES"
2              "NO"


F3_CADM9       "Around cadmium dust?"
1              "YES"
2              "NO"


F3_LEAD9       "Around lead dusts?"
1              "YES"
2              "NO"


F3_OTHR9       "Around other metal dusts?"
1              "YES"
2              "NO"


F3_ORGA9       "Around organic dusts?"
1              "YES"
2              "NO"


F4_COHR9       "Hours - Construction dust"
1 .. 2160


F4_PER57       "Hours Per - Construction dust"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"


F4_FIHR9       "Hours - Fibrous dust"
1 .. 2160
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A-222

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F4_PER58        "Hours Per - Fibrous dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_CHHR9        "Hours - Chemical dust"
1 .. 2160


F4_PER59        "Hours Per - Chemical dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_CAHR9        "Hours - Cadminum dust"
1 .. 2160


F4_PER60        "Hours Per - Cadminum dust"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_LEHR9        "Hours - Lead dusts"
1 .. 2160


F4_PER61        "Hours Per - Lead dusts"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_OTHR9        "Hours - Other metal dusts"
1 .. 2160


F4_PER62        "Hours Per - Other metal dusts"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F4_ORHR9        "Hours - Organic dusts"
1 .. 2160


F4_PER63        "Hours Per - Organic dusts"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F6_HRS          "Number of hours"
0 .. 2160


F6_PER          "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F6_HRS2         "Number of hours"
0 .. 2160


F6_PER2         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F6_HRS3         "Number of hours"
0 .. 2160


F6_PER3         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"
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```
F6_HRS4          "Number of hours"
0 .. 2160


F6_PER4          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F6_HRS5          "Number of hours"
0 .. 2160


F6_PER5          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F6_HRS6          "Number of hours"
0 .. 2160


F6_PER6          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F6_HRS7          "Number of hours"
0 .. 2160


F6_PER7          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F6_HRS8          "Number of hours"
0 .. 2160


F6_PER8          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F6_HRS9          "Number of hours"
0 .. 2160


F6_PER9          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F7_GAS           "Used anesthetic gases?"
1                "YES"
2                "NO"


F8_HRS           "Number of hours"
1 .. 2160


F8_PER           "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"


F7_GAS2          "Used anesthetic gases?"
1                "YES"
2                "NO"


F8_HRS2          "Number of hours"
1 .. 2160


F8_PER2          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
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A-224

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3                 "QUARTER"
4                 "YEAR"

F7_GAS3           "Used anesthetic gases?"
1                 "YES"
2                 "NO"

F8_HRS3           "Number of hours"
1 .. 2160

F8_PER3           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F7_GAS4           "Used anesthetic gases?"
1                 "YES"
2                 "NO"

F8_HRS4           "Number of hours"
1 .. 2160

F8_PER4           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F7_GAS5           "Used anesthetic gases?"
1                 "YES"
2                 "NO"

F8_HRS5           "Number of hours"
1 .. 2160

F8_PER5           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F7_GAS6           "Used anesthetic gases?"
1                 "YES"
2                 "NO"

F8_HRS6           "Number of hours"
1 .. 2160

F8_PER6           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F7_GAS7           "Used anesthetic gases?"
1                 "YES"
2                 "NO"

F8_HRS7           "Number of hours"
1 .. 2160

F8_PER7           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F7_GAS8           "Used anesthetic gases?"
1                 "YES"
2                 "NO"

F8_HRS8           "Number of hours"
1 .. 2160

F8_PER8           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
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A-225

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3                "QUARTER"
4                "YEAR"

F7_GAS9          "Used anesthetic gases?"
1                "YES"
2                "NO"

F8_HRS9          "Number of hours"
1 .. 2160

F8_PER9          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F9_STER          "Used sterilants?"
1                "YES"
2                "NO"

F10_HRS          "Number of hours"
1 .. 2160

F10_PER          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F9_STER2         "Used sterilants?"
1                "YES"
2                "NO"

F10_HRS2         "Number of hours"
1 .. 2160

F10_PER2         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F9_STER3         "Used sterilants?"
1                "YES"
2                "NO"

F10_HRS3         "Number of hours"
1 .. 2160

F10_PER3         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F9_STER4         "Used sterilants?"
1                "YES"
2                "NO"

F10_HRS4         "Number of hours"
1 .. 2160

F10_PER4         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F9_STER5         "Used sterilants?"
1                "YES"
2                "NO"

F10_HRS5         "Number of hours"
1 .. 2160

F10_PER5         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
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3                 "QUARTER"
4                 "YEAR"

F9_STER6          "Used sterilants?"
1                 "YES"
2                 "NO"

F10_HRS6          "Number of hours"
1 .. 2160

F10_PER6          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F9_STER7          "Used sterilants?"
1                 "YES"
2                 "NO"

F10_HRS7          "Number of hours"
1 .. 2160

F10_PER7          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F9_STER8          "Used sterilants?"
1                 "YES"
2                 "NO"

F10_HRS8          "Number of hours"
1 .. 2160

F10_PER8          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F9_STER9          "Used sterilants?"
1                 "YES"
2                 "NO"

F10_HRS9          "Number of hours"
1 .. 2160

F10_PER9          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F11_DRG           "Used anti-neoplastic drugs?"
1                 "YES"
2                 "NO"

F12_HRS           "Number of hours"
1 .. 2160

F12_PER           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"

F11_DRG2          "Used anti-neoplastic drugs?"
1                 "YES"
2                 "NO"

F12_HRS2          "Number of hours"
1 .. 2160

F12_PER2          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
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3                "QUARTER"
4                "YEAR"

F11_DRG3         "Used anti-neoplastic drugs?"
1                "YES"
2                "NO"

F12_HRS3         "Number of hours"
1 .. 2160

F12_PER3         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F11_DRG4         "Used anti-neoplastic drugs?"
1                "YES"
2                "NO"

F12_HRS4         "Number of hours"
1 .. 2160

F12_PER4         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F11_DRG5         "Used anti-neoplastic drugs?"
1                "YES"
2                "NO"

F12_HRS5         "Number of hours"
1 .. 2160

F12_PER5         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F11_DRG6         "Used anti-neoplastic drugs?"
1                "YES"
2                "NO"

F12_HRS6         "Number of hours"
1 .. 2160

F12_PER6         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F11_DRG7         "Used anti-neoplastic drugs?"
1                "YES"
2                "NO"

F12_HRS7         "Number of hours"
1 .. 2160

F12_PER7         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F11_DRG8         "Used anti-neoplastic drugs?"
1                "YES"
2                "NO"

F12_HRS8         "Number of hours"
1 .. 2160

F12_PER8         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
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A-228

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3                   "QUARTER"
4                   "YEAR"

F11_DRG9            "Used anti-neoplastic drugs?"
1                   "YES"
2                   "NO"

F12_HRS9            "Number of hours"
1 .. 2160

F12_PER9            "Hours per/week/month/quarter/year"
1                   "WEEK"
2                   "MONTH"
3                   "QUARTER"
4                   "YEAR"

F14_HRS             "Number of hours"
0 .. 2160

F14_PER             "Hours per/week/month/quarter/year"
1                   "WEEK"
2                   "MONTH"
3                   "QUARTER"
4                   "YEAR"

F14_HRS2            "Number of hours"
0 .. 2160

F14_PER2            "Hours per/week/month/quarter/year"
1                   "WEEK"
2                   "MONTH"
3                   "QUARTER"
4                   "YEAR"

F14_HRS3            "Number of hours"
0 .. 2160

F14_PER3            "Hours per/week/month/quarter/year"
1                   "WEEK"
2                   "MONTH"
3                   "QUARTER"
4                   "YEAR"

F14_HRS4            "Number of hours"
0 .. 2160

F14_PER4            "Hours per/week/month/quarter/year"
1                   "WEEK"
2                   "MONTH"
3                   "QUARTER"
4                   "YEAR"

F14_HRS5            "Number of hours"
0 .. 2160

F14_PER5            "Hours per/week/month/quarter/year"
1                   "WEEK"
2                   "MONTH"
3                   "QUARTER"
4                   "YEAR"

F14_HRS6            "Number of hours"
0 .. 2160

F14_PER6            "Hours per/week/month/quarter/year"
1                   "WEEK"
2                   "MONTH"
3                   "QUARTER"
4                   "YEAR"

F14_HRS7            "Number of hours"
0 .. 2160

F14_PER7            "Hours per/week/month/quarter/year"
1                   "WEEK"
2                   "MONTH"
3                   "QUARTER"
4                   "YEAR"
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F14_HRS8        "Number of hours"
0 .. 2160

F14_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F14_HRS9        "Number of hours"
0 .. 2160

F14_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F15_CAR         "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"

F16_HRS         "Number of hours"
1 .. 2160

F16_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F15_CAR2        "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"

F16_HRS2        "Number of hours"
1 .. 2160

F16_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F15_CAR3        "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"

F16_HRS3        "Number of hours"
1 .. 2160

F16_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F15_CAR4        "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"

F16_HRS4        "Number of hours"
1 .. 2160

F16_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F15_CAR5        "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"

F16_HRS5        "Number of hours"
1 .. 2160
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A-230

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F16_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F15_CAR6        "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"


F16_HRS6        "Number of hours"
1 .. 2160


F16_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F15_CAR7        "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"


F16_HRS7        "Number of hours"
1 .. 2160


F16_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F15_CAR8        "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"


F16_HRS8        "Number of hours"
1 .. 2160


F16_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F15_CAR9        "Worked around car/trucks/exhaust emissio
1               "YES"
2               "NO"


F16_HRS9        "Number of hours"
1 .. 2160


F16_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM         "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS         "Number of hours"
1 .. 2160


F18_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM2        "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS2        "Number of hours"
1 .. 2160
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F18_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM3        "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS3        "Number of hours"
1 .. 2160


F18_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM4        "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS4        "Number of hours"
1 .. 2160


F18_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM5        "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS5        "Number of hours"
1 .. 2160


F18_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM6        "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS6        "Number of hours"
1 .. 2160


F18_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM7        "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS7        "Number of hours"
1 .. 2160


F18_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM8        "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS8        "Number of hours"
1 .. 2160
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F18_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F17_ARM9        "Worked around armament, missile,...?"
1               "YES"
2               "NO"


F18_HRS9        "Number of hours"
1 .. 2160


F18_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F19_FUE         "Worked around any fuels?"
1               "YES"
2               "NO"


F20_HRS         "Number of hours"
1 .. 2160


F20_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F19_FUE2        "Worked around any fuels?"
1               "YES"
2               "NO"


F20_HRS2        "Number of hours"
1 .. 2160


F20_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F19_FUE3        "Worked around any fuels?"
1               "YES"
2               "NO"


F20_HRS3        "Number of hours"
1 .. 2160


F20_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F19_FUE4        "Worked around any fuels?"
1               "YES"
2               "NO"


F20_HRS4        "Number of hours"
1 .. 2160


F20_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F19_FUE5        "Worked around any fuels?"
1               "YES"
2               "NO"


F20_HRS5        "Number of hours"
1 .. 2160
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F20_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F19_FUE6        "Worked around any fuels?"
1               "YES"
2               "NO"

F20_HRS6        "Number of hours"
1 .. 2160

F20_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F19_FUE7        "Worked around any fuels?"
1               "YES"
2               "NO"

F20_HRS7        "Number of hours"
1 .. 2160

F20_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F19_FUE8        "Worked around any fuels?"
1               "YES"
2               "NO"

F20_HRS8        "Number of hours"
1 .. 2160

F20_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F19_FUE9        "Worked around any fuels?"
1               "YES"
2               "NO"

F20_HRS9        "Number of hours"
1 .. 2160

F20_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F21_TAR         "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"

F22_HRS         "Number of hours"
1 .. 2160

F22_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F21_TAR2        "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"

F22_HRS2        "Number of hours"
1 .. 2160
```

```
F22_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F21_TAR3        "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"

F22_HRS3        "Number of hours"
1 .. 2160

F22_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F21_TAR4        "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"

F22_HRS4        "Number of hours"
1 .. 2160

F22_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F21_TAR5        "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"

F22_HRS5        "Number of hours"
1 .. 2160

F22_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F21_TAR6        "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"

F22_HRS6        "Number of hours"
1 .. 2160

F22_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F21_TAR7        "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"

F22_HRS7        "Number of hours"
1 .. 2160

F22_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F21_TAR8        "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"

F22_HRS8        "Number of hours"
1 .. 2160
```

```
F22_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F21_TAR9        "Worked around charcoal, tar,...?"
1               "YES"
2               "NO"


F22_HRS9        "Number of hours"
1 .. 2160


F22_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F23_ANT         "Worked around antifreeze, deicers...?"
1               "YES"
2               "NO"


F24_HRS         "Number of hours"
1 .. 2160


F24_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F23_ANT2        "Worked around antifreeze, deicers...?"
1               "YES"
2               "NO"


F24_HRS2        "Number of hours"
1 .. 2160


F24_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F23_ANT3        "Worked around antifreeze, deicers...?"
1               "YES"
2               "NO"


F24_HRS3        "Number of hours"
1 .. 2160


F24_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F23_ANT4        "Worked around antifreeze, deicers...?"
1               "YES"
2               "NO"


F24_HRS4        "Number of hours"
1 .. 2160


F24_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F23_ANT5        "Worked around antifreeze, deicers...?"
1               "YES"
2               "NO"


F24_HRS5        "Number of hours"
1 .. 2160
```

```
F24_PER5      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F23_ANT6      "Worked around antifreeze, deicers...?"
1             "YES"
2             "NO"


F24_HRS6      "Number of hours"
1 .. 2160


F24_PER6      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F23_ANT7      "Worked around antifreeze, deicers...?"
1             "YES"
2             "NO"


F24_HRS7      "Number of hours"
1 .. 2160


F24_PER7      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F23_ANT8      "Worked around antifreeze, deicers...?"
1             "YES"
2             "NO"


F24_HRS8      "Number of hours"
1 .. 2160


F24_PER8      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F23_ANT9      "Worked around antifreeze, deicers...?"
1             "YES"
2             "NO"


F24_HRS9      "Number of hours"
1 .. 2160


F24_PER9      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F25_SOL       "Worked around industrial solvents?"
1             "YES"
2             "NO"


F26_HRS       "Number of hours"
1 .. 2160


F26_PER       "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F25_SOL2      "Worked around industrial solvents?"
1             "YES"
2             "NO"


F26_HRS2      "Number of hours"
1 .. 2160
```

A-237

```
F26_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F25_SOL3        "Worked around industrial solvents?"
1               "YES"
2               "NO"


F26_HRS3        "Number of hours"
1 .. 2160


F26_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F25_SOL4        "Worked around industrial solvents?"
1               "YES"
2               "NO"


F26_HRS4        "Number of hours"
1 .. 2160


F26_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F25_SOL5        "Worked around industrial solvents?"
1               "YES"
2               "NO"


F26_HRS5        "Number of hours"
1 .. 2160


F26_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F25_SOL6        "Worked around industrial solvents?"
1               "YES"
2               "NO"


F26_HRS6        "Number of hours"
1 .. 2160


F26_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F25_SOL7        "Worked around industrial solvents?"
1               "YES"
2               "NO"


F26_HRS7        "Number of hours"
1 .. 2160


F26_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F25_SOL8        "Worked around industrial solvents?"
1               "YES"
2               "NO"


F26_HRS8        "Number of hours"
1 .. 2160
```

A-238

```
F26_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F25_SOL9        "Worked around industrial solvents?"
1               "YES"
2               "NO"

F26_HRS9        "Number of hours"
1 .. 2160

F26_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F27_SOL         "Worked around solvents contained alcohol
1               "YES"
2               "NO"

F28_HRS         "Number of hours"
1 .. 2160

F28_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F27_SOL2        "Worked around solvents contained alcohol
1               "YES"
2               "NO"

F28_HRS2        "Number of hours"
1 .. 2160

F28_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F27_SOL3        "Worked around solvents contained alcohol
1               "YES"
2               "NO"

F28_HRS3        "Number of hours"
1 .. 2160

F28_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F27_SOL4        "Worked around solvents contained alcohol
1               "YES"
2               "NO"

F28_HRS4        "Number of hours"
1 .. 2160

F28_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F27_SOL5        "Worked around solvents contained alcohol
1               "YES"
2               "NO"

F28_HRS5        "Number of hours"
1 .. 2160
```

A-239

```
F28_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F27_SOL6        "Worked around solvents contained alcohol
1               "YES"
2               "NO"


F28_HRS6        "Number of hours"
1 .. 2160


F28_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F27_SOL7        "Worked around solvents contained alcohol
1               "YES"
2               "NO"


F28_HRS7        "Number of hours"
1 .. 2160


F28_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F27_SOL8        "Worked around solvents contained alcohol
1               "YES"
2               "NO"


F28_HRS8        "Number of hours"
1 .. 2160


F28_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F27_SOL9        "Worked around solvents contained alcohol
1               "YES"
2               "NO"


F28_HRS9        "Number of hours"
1 .. 2160


F28_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F29_SOL         "Worked around chlorinated solvents?"
1               "YES"
2               "NO"


F30_HRS         "Number of hours"
1 .. 2160


F30_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F29_SOL2        "Worked around chlorinated solvents?"
1               "YES"
2               "NO"


F30_HRS2        "Number of hours"
1 .. 2160
```

```
F30_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F29_SOL3        "Worked around chlorinated solvents?"
1               "YES"
2               "NO"

F30_HRS3        "Number of hours"
1 .. 2160

F30_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F29_SOL4        "Worked around chlorinated solvents?"
1               "YES"
2               "NO"

F30_HRS4        "Number of hours"
1 .. 2160

F30_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F29_SOL5        "Worked around chlorinated solvents?"
1               "YES"
2               "NO"

F30_HRS5        "Number of hours"
1 .. 2160

F30_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F29_SOL6        "Worked around chlorinated solvents?"
1               "YES"
2               "NO"

F30_HRS6        "Number of hours"
1 .. 2160

F30_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F29_SOL7        "Worked around chlorinated solvents?"
1               "YES"
2               "NO"

F30_HRS7        "Number of hours"
1 .. 2160

F30_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F29_SOL8        "Worked around chlorinated solvents?"
1               "YES"
2               "NO"

F30_HRS8        "Number of hours"
1 .. 2160
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F30_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F29_SOL9        "Worked around chlorinated solvents?"
1               "YES"
2               "NO"

F30_HRS9        "Number of hours"
1 .. 2160

F30_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F31_ALD         "Worked around formaldehyde?"
1               "YES"
2               "NO"

F32_HRS         "Number of hours"
1 .. 2160

F32_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F31_ALD2        "Worked around formaldehyde?"
1               "YES"
2               "NO"

F32_HRS2        "Number of hours"
1 .. 2160

F32_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F31_ALD3        "Worked around formaldehyde?"
1               "YES"
2               "NO"

F32_HRS3        "Number of hours"
1 .. 2160

F32_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F31_ALD4        "Worked around formaldehyde?"
1               "YES"
2               "NO"

F32_HRS4        "Number of hours"
1 .. 2160

F32_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F31_ALD5        "Worked around formaldehyde?"
1               "YES"
2               "NO"

F32_HRS5        "Number of hours"
1 .. 2160
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F32_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F31_ALD6        "Worked around formaldehyde?"
1               "YES"
2               "NO"


F32_HRS6        "Number of hours"
1 .. 2160


F32_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F31_ALD7        "Worked around formaldehyde?"
1               "YES"
2               "NO"


F32_HRS7        "Number of hours"
1 .. 2160


F32_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F31_ALD8        "Worked around formaldehyde?"
1               "YES"
2               "NO"


F32_HRS8        "Number of hours"
1 .. 2160


F32_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F31_ALD9        "Worked around formaldehyde?"
1               "YES"
2               "NO"


F32_HRS9        "Number of hours"
1 .. 2160


F32_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F33_CAR         "Worked around carbon disulfide?"
1               "YES"
2               "NO"


F34_HRS         "Number of hours"
1 .. 2160


F34_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F33_CAR2        "Worked around carbon disulfide?"
1               "YES"
2               "NO"


F34_HRS2        "Number of hours"
1 .. 2160
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A-243

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F34_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F33_CAR3        "Worked around carbon disulfide?"
1               "YES"
2               "NO"


F34_HRS3        "Number of hours"
1 .. 2160


F34_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F33_CAR4        "Worked around carbon disulfide?"
1               "YES"
2               "NO"


F34_HRS4        "Number of hours"
1 .. 2160


F34_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F33_CAR5        "Worked around carbon disulfide?"
1               "YES"
2               "NO"


F34_HRS5        "Number of hours"
1 .. 2160


F34_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F33_CAR6        "Worked around carbon disulfide?"
1               "YES"
2               "NO"


F34_HRS6        "Number of hours"
1 .. 2160


F34_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F33_CAR7        "Worked around carbon disulfide?"
1               "YES"
2               "NO"


F34_HRS7        "Number of hours"
1 .. 2160


F34_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F33_CAR8        "Worked around carbon disulfide?"
1               "YES"
2               "NO"


F34_HRS8        "Number of hours"
1 .. 2160
```

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F34_PER8          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F33_CAR9          "Worked around carbon disulfide?"
1                 "YES"
2                 "NO"


F34_HRS9          "Number of hours"
1 .. 2160


F34_PER9          "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F35_WAT           "Used water-based latex paint?"
1                 "YES"
2                 "NO"


F35_OIL           "Used oil-based enamels?"
1                 "YES"
2                 "NO"


F35_EPO           "User epoxy or polyurethane paints?"
1                 "YES"
2                 "NO"


F36_WHR           "Number of hours - Water-based"
1 .. 2160


F36_PE1           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F36_OHR           "Number of hours - Oil-based"
1 .. 2160


F36_PE2           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F36_EHR           "Number of hours - Epoxy"
1 .. 2160


F36_PE3           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"


F35_WAT2          "Used water-based latex paint?"
1                 "YES"
2                 "NO"


F35_OIL2          "Used oil-based enamels?"
1                 "YES"
2                 "NO"


F35_EPO2          "User epoxy or polyurethane paints?"
1                 "YES"
2                 "NO"


F36_WHR2          "Number of hours - Water-based"
1 .. 2160


F36_PE4           "Hours per/week/month/quarter/year"
1                 "WEEK"
2                 "MONTH"
3                 "QUARTER"
4                 "YEAR"
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F36_OHR2        "Number of hours - Oil-based"
1 .. 2160

F36_PE5         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_EHR2        "Number of hours - Epoxy"
1 .. 2160

F36_PE6         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F35_WAT3        "Used water-based latex paint?"
1               "YES"
2               "NO"

F35_OIL3        "Used oil-based enamels?"
1               "YES"
2               "NO"

F35_EPO3        "User epoxy or polyurethane paints?"
1               "YES"
2               "NO"

F36_WHR3        "Number of hours - Water-based"
1 .. 2160

F36_PE7         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_OHR3        "Number of hours - Oil-based"
1 .. 2160

F36_PE8         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_EHR3        "Number of hours - Epoxy"
1 .. 2160

F36_PE9         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F35_WAT4        "Used water-based latex paint?"
1               "YES"
2               "NO"

F35_OIL4        "Used oil-based enamels?"
1               "YES"
2               "NO"

F35_EPO4        "User epoxy or polyurethane paints?"
1               "YES"
2               "NO"

F36_WHR4        "Number of hours - Water-based"
1 .. 2160

F36_PE10        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"
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F36_OHR4        "Number of hours - Oil-based"
1 .. 2160

F36_PE11        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_EHR4        "Number of hours - Epoxy"
1 .. 2160

F36_PE12        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F35_WAT5        "Used water-based latex paint?"
1               "YES"
2               "NO"

F35_OIL5        "Used oil-based enamels?"
1               "YES"
2               "NO"

F35_EPO5        "User epoxy or polyurethane paints?"
1               "YES"
2               "NO"

F36_WHR5        "Number of hours - Water-based"
1 .. 2160

F36_PE13        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_OHR5        "Number of hours - Oil-based"
1 .. 2160

F36_PE14        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_EHR5        "Number of hours - Epoxy"
1 .. 2160

F36_PE15        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F35_WAT6        "Used water-based latex paint?"
1               "YES"
2               "NO"

F35_OIL6        "Used oil-based enamels?"
1               "YES"
2               "NO"

F35_EPO6        "User epoxy or polyurethane paints?"
1               "YES"
2               "NO"

F36_WHR6        "Number of hours - Water-based"
1 .. 2160

F36_PE16        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"
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A-247

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F36_OHR6        "Number of hours - Oil-based"
1 .. 2160

F36_PE17        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_EHR6        "Number of hours - Epoxy"
1 .. 2160

F36_PE18        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F35_WAT7        "Used water-based latex paint?"
1               "YES"
2               "NO"

F35_OIL7        "Used oil-based enamels?"
1               "YES"
2               "NO"

F35_EPO7        "User epoxy or polyurethane paints?"
1               "YES"
2               "NO"

F36_WHR7        "Number of hours - Water-based"
1 .. 2160

F36_PE19        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_OHR7        "Number of hours - Oil-based"
1 .. 2160

F36_PE20        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_EHR7        "Number of hours - Epoxy"
1 .. 2160

F36_PE21        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F35_WAT8        "Used water-based latex paint?"
1               "YES"
2               "NO"

F35_OIL8        "Used oil-based enamels?"
1               "YES"
2               "NO"

F35_EPO8        "User epoxy or polyurethane paints?"
1               "YES"
2               "NO"

F36_WHR8        "Number of hours - Water-based"
1 .. 2160

F36_PE22        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"
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A-248

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F36_OHR8        "Number of hours - Oil-based"
1 .. 2160

F36_PE23        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_EHR8        "Number of hours - Epoxy"
1 .. 2160

F36_PE24        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F35_WAT9        "Used water-based latex paint?"
1               "YES"
2               "NO"

F35_OIL9        "Used oil-based enamels?"
1               "YES"
2               "NO"

F35_EPO9        "User epoxy or polyurethane paints?"
1               "YES"
2               "NO"

F36_WHR9        "Number of hours - Water-based"
1 .. 2160

F36_PE25        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_OHR9        "Number of hours - Oil-based"
1 .. 2160

F36_PE26        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F36_EHR9        "Number of hours - Epoxy"
1 .. 2160

F36_PE27        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F37_EPO         "Worked around epoxy glues?"
1               "YES"
2               "NO"

F38_HRS         "Number of hours"
1 .. 2160

F38_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F37_EPO2        "Worked around epoxy glues?"
1               "YES"
2               "NO"

F38_HRS2        "Number of hours"
1 .. 2160
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F38_PER2      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F37_EPO3      "Worked around epoxy glues?"
1             "YES"
2             "NO"


F38_HRS3      "Number of hours"
1 .. 2160


F38_PER3      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F37_EPO4      "Worked around epoxy glues?"
1             "YES"
2             "NO"


F38_HRS4      "Number of hours"
1 .. 2160


F38_PER4      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F37_EPO5      "Worked around epoxy glues?"
1             "YES"
2             "NO"


F38_HRS5      "Number of hours"
1 .. 2160


F38_PER5      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F37_EPO6      "Worked around epoxy glues?"
1             "YES"
2             "NO"


F38_HRS6      "Number of hours"
1 .. 2160


F38_PER6      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F37_EPO7      "Worked around epoxy glues?"
1             "YES"
2             "NO"


F38_HRS7      "Number of hours"
1 .. 2160


F38_PER7      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"


F37_EPO8      "Worked around epoxy glues?"
1             "YES"
2             "NO"


F38_HRS8      "Number of hours"
1 .. 2160
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F38_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F37_EPO9        "Worked around epoxy glues?"
1               "YES"
2               "NO"


F38_HRS9        "Number of hours"
1 .. 2160


F38_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F39_WEL         "Worked around welding fumes?"
1               "YES"
2               "NO"


F40_HRS         "Number of hours"
1 .. 2160


F40_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F39_WEL2        "Worked around welding fumes?"
1               "YES"
2               "NO"


F40_HRS2        "Number of hours"
1 .. 2160


F40_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F39_WEL3        "Worked around welding fumes?"
1               "YES"
2               "NO"


F40_HRS3        "Number of hours"
1 .. 2160


F40_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F39_WEL4        "Worked around welding fumes?"
1               "YES"
2               "NO"


F40_HRS4        "Number of hours"
1 .. 2160


F40_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F39_WEL5        "Worked around welding fumes?"
1               "YES"
2               "NO"


F40_HRS5        "Number of hours"
1 .. 2160
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F40_PER5         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F39_WEL6         "Worked around welding fumes?"
1                "YES"
2                "NO"

F40_HRS6         "Number of hours"
1 .. 2160

F40_PER6         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F39_WEL7         "Worked around welding fumes?"
1                "YES"
2                "NO"

F40_HRS7         "Number of hours"
1 .. 2160

F40_PER7         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F39_WEL8         "Worked around welding fumes?"
1                "YES"
2                "NO"

F40_HRS8         "Number of hours"
1 .. 2160

F40_PER8         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F39_WEL9         "Worked around welding fumes?"
1                "YES"
2                "NO"

F40_HRS9         "Number of hours"
1 .. 2160

F40_PER9         "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F41_LMT          "Worked with light metals?"
1                "YES"
2                "NO"

F42_HRS          "Number of hours"
1 .. 2160

F42_PER          "Hours per/week/month/quarter/year"
1                "WEEK"
2                "MONTH"
3                "QUARTER"
4                "YEAR"

F41_LMT2         "Worked with light metals?"
1                "YES"
2                "NO"

F42_HRS2         "Number of hours"
1 .. 2160
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F42_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F41_LMT3        "Worked with light metals?"
1               "YES"
2               "NO"

F42_HRS3        "Number of hours"
1 .. 2160

F42_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F41_LMT4        "Worked with light metals?"
1               "YES"
2               "NO"

F42_HRS4        "Number of hours"
1 .. 2160

F42_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F41_LMT5        "Worked with light metals?"
1               "YES"
2               "NO"

F42_HRS5        "Number of hours"
1 .. 2160

F42_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F41_LMT6        "Worked with light metals?"
1               "YES"
2               "NO"

F42_HRS6        "Number of hours"
1 .. 2160

F42_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F41_LMT7        "Worked with light metals?"
1               "YES"
2               "NO"

F42_HRS7        "Number of hours"
1 .. 2160

F42_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F41_LMT8        "Worked with light metals?"
1               "YES"
2               "NO"

F42_HRS8        "Number of hours"
1 .. 2160
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A-253

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F42_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F41_LMT9        "Worked with light metals?"
1               "YES"
2               "NO"


F42_HRS9        "Number of hours"
1 .. 2160


F42_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT         "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS         "Number of hours"
1 .. 2160


F44_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT2        "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS2        "Number of hours"
1 .. 2160


F44_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT3        "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS3        "Number of hours"
1 .. 2160


F44_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT4        "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS4        "Number of hours"
1 .. 2160


F44_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT5        "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS5        "Number of hours"
1 .. 2160
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F44_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT6        "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS6        "Number of hours"
1 .. 2160


F44_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT7        "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS7        "Number of hours"
1 .. 2160


F44_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT8        "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS8        "Number of hours"
1 .. 2160


F44_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F43_HMT9        "Worked with heavy metals?"
1               "YES"
2               "NO"


F44_HRS9        "Number of hours"
1 .. 2160


F44_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F45_PES         "Worked around pesticides, herbicides,..?
1               "YES"
2               "NO"


F46_HRS         "Number of hours"
1 .. 2160


F46_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"


F45_PES2        "Worked around pesticides, herbicides,..?
1               "YES"
2               "NO"


F46_HRS2        "Number of hours"
1 .. 2160
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F46_PER2       "Hours per/week/month/quarter/year"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F45_PES3       "Worked around pesticides, herbicides,..?
1              "YES"
2              "NO"

F46_HRS3       "Number of hours"
1 .. 2160

F46_PER3       "Hours per/week/month/quarter/year"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F45_PES4       "Worked around pesticides, herbicides,..?
1              "YES"
2              "NO"

F46_HRS4       "Number of hours"
1 .. 2160

F46_PER4       "Hours per/week/month/quarter/year"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F45_PES5       "Worked around pesticides, herbicides,..?
1              "YES"
2              "NO"

F46_HRS5       "Number of hours"
1 .. 2160

F46_PER5       "Hours per/week/month/quarter/year"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F45_PES6       "Worked around pesticides, herbicides,..?
1              "YES"
2              "NO"

F46_HRS6       "Number of hours"
1 .. 2160

F46_PER6       "Hours per/week/month/quarter/year"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F45_PES7       "Worked around pesticides, herbicides,..?
1              "YES"
2              "NO"

F46_HRS7       "Number of hours"
1 .. 2160

F46_PER7       "Hours per/week/month/quarter/year"
1              "WEEK"
2              "MONTH"
3              "QUARTER"
4              "YEAR"

F45_PES8       "Worked around pesticides, herbicides,..?
1              "YES"
2              "NO"

F46_HRS8       "Number of hours"
1 .. 2160
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F46_PER8      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

F45_PES9      "Worked around pesticides, herbicides,..?
1             "YES"
2             "NO"

F46_HRS9      "Number of hours"
1 .. 2160

F46_PER9      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

F47_POL       "Worked around polychlorinated biphenyls?
1             "YES"
2             "NO"

F48_HRS       "Number of hours"
1 .. 2160

F48_PER       "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

F47_POL2      "Worked around polychlorinated biphenyls?
1             "YES"
2             "NO"

F48_HRS2      "Number of hours"
1 .. 2160

F48_PER2      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

F47_POL3      "Worked around polychlorinated biphenyls?
1             "YES"
2             "NO"

F48_HRS3      "Number of hours"
1 .. 2160

F48_PER3      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

F47_POL4      "Worked around polychlorinated biphenyls?
1             "YES"
2             "NO"

F48_HRS4      "Number of hours"
1 .. 2160

F48_PER4      "Hours per/week/month/quarter/year"
1             "WEEK"
2             "MONTH"
3             "QUARTER"
4             "YEAR"

F47_POL5      "Worked around polychlorinated biphenyls?
1             "YES"
2             "NO"

F48_HRS5      "Number of hours"
1 .. 2160
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F48_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F47_POL6        "Worked around polychlorinated biphenyls?
1               "YES"
2               "NO"

F48_HRS6        "Number of hours"
1 .. 2160

F48_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F47_POL7        "Worked around polychlorinated biphenyls?
1               "YES"
2               "NO"

F48_HRS7        "Number of hours"
1 .. 2160

F48_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F47_POL8        "Worked around polychlorinated biphenyls?
1               "YES"
2               "NO"

F48_HRS8        "Number of hours"
1 .. 2160

F48_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F47_POL9        "Worked around polychlorinated biphenyls?
1               "YES"
2               "NO"

F48_HRS9        "Number of hours"
1 .. 2160

F48_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE         "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS         "Number of hours"
1 .. 2160

F50_PER         "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE2        "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS2        "Number of hours"
1 .. 2160
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F50_PER2        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE3        "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS3        "Number of hours"
1 .. 2160

F50_PER3        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE4        "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS4        "Number of hours"
1 .. 2160

F50_PER4        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE5        "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS5        "Number of hours"
1 .. 2160

F50_PER5        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE6        "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS6        "Number of hours"
1 .. 2160

F50_PER6        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE7        "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS7        "Number of hours"
1 .. 2160

F50_PER7        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE8        "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS8        "Number of hours"
1 .. 2160
```

```
F50_PER8        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F49_CHE9        "Worked around fire fighting chemicals?"
1               "YES"
2               "NO"

F50_HRS9        "Number of hours"
1 .. 2160

F50_PER9        "Hours per/week/month/quarter/year"
1               "WEEK"
2               "MONTH"
3               "QUARTER"
4               "YEAR"

F51_NUC         "Worked around numclear or chemical agent
1               "YES"
2               "NO"

F52_COU         "Country exposed to the agents"
String[50]

F51_NUC2        "Worked around numclear or chemical agent
1               "YES"
2               "NO"

F52_COU2        "Country exposed to the agents"
String[50]

F51_NUC3        "Worked around numclear or chemical agent
1               "YES"
2               "NO"

F52_COU3        "Country exposed to the agents"
String[50]

F51_NUC4        "Worked around numclear or chemical agent
1               "YES"
2               "NO"

F52_COU4        "Country exposed to the agents"
String[50]

F51_NUC5        "Worked around numclear or chemical agent
1               "YES"
2               "NO"

F52_COU5        "Country exposed to the agents"
String[50]

F51_NUC6        "Worked around numclear or chemical agent
1               "YES"
2               "NO"

F52_COU6        "Country exposed to the agents"
String[50]

F51_NUC7        "Worked around numclear or chemical agent
1               "YES"
2               "NO"

F52_COU7        "Country exposed to the agents"
String[50]

F51_NUC8        "Worked around numclear or chemical agent
1               "YES"
2               "NO"

F52_COU8        "Country exposed to the agents"
String[50]

F51_NUC9        "Worked around numclear or chemical agent
1               "YES"
2               "NO"
```

```
F52_COU9        "Country exposed to the agents"
String[50]

F53_OTHR        "Other Chemicals"
1               "YES"
2               "NO"

F54_LN1         "List of Other Chemicals"
String[128]

F54_LN2         "List of Other Chemicals"
String[128]

F54_LN3         "List of Other Chemicals"
String[128]

F54_LN4         "List of Other Chemicals"
String[128]

G1_BUSA         "Born in the USA?"
1               "YES"
2               "NO"

G2_WHERE        "Country R was born"
String[50]

G2_CODE         "Code for the country R was born"
String[3]

G3_RACE         "Race or ethnic group"
1               "WHITE"
2               "BLACK"
3               "HISPANIC OR SPANISH"
4               "ASIAN/PACIFIC ISLANDER"
5               "NATIVE AMERICAN"
6               "OTHER"

G3_OTHER        "Other race not listed"
String[50]

G3_CODE         "Code for other specify"
String[2]

G4_BUSA         "Baby's father born in the USA?"
1               "YES"
2               "NO"

G5_WHERE        "Country baby's father born"
String[50]

G5_CODE         "Code for the country the father was born
String[3]

G6_RACE         "The father's race or ethnic group"
1               "WHITE"
2               "BLACK"
3               "HISPANIC OR SPANISH"
4               "ASIAN/PACIFIC ISLANDER"
5               "NATIVE AMERICAN"
6               "OTHER"

G6_OTHER        "Other race not listed"
String[50]

G6_CODE         "Code for other specify"
String[2]

G7_FDOB         "The father's date of birth"
Date type

G7_FLG          "Is G7 an actual date or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

G8_FACTC        "Father on Active duty at time of concept
1               "YES"
2               "NO"
```

A-261

```
G8_FACTP        "Father on Active duty at time the pregna
1               "YES"
2               "NO"

G9_FOCC         "Father's occupation"
String[128]

H1_NUMP         "Number of pregnancies"
1 .. 20

H2_OUT01        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
3               "INDUCED ABORTION"
4               "MISCARRIAGE"
5               "TUBAL PREGNANCY"
6               "MOLAR PREGNANCY"

H2_OUT02        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
3               "INDUCED ABORTION"
4               "MISCARRIAGE"
5               "TUBAL PREGNANCY"
6               "MOLAR PREGNANCY"

H2_OUT03        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
3               "INDUCED ABORTION"
4               "MISCARRIAGE"
5               "TUBAL PREGNANCY"
6               "MOLAR PREGNANCY"

H2_OUT04        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
3               "INDUCED ABORTION"
4               "MISCARRIAGE"
5               "TUBAL PREGNANCY"
6               "MOLAR PREGNANCY"

H2_OUT05        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
3               "INDUCED ABORTION"
4               "MISCARRIAGE"
5               "TUBAL PREGNANCY"
6               "MOLAR PREGNANCY"

H2_OUT06        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
3               "INDUCED ABORTION"
4               "MISCARRIAGE"
5               "TUBAL PREGNANCY"
6               "MOLAR PREGNANCY"

H2_OUT07        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
3               "INDUCED ABORTION"
4               "MISCARRIAGE"
5               "TUBAL PREGNANCY"
6               "MOLAR PREGNANCY"

H2_OUT08        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
3               "INDUCED ABORTION"
4               "MISCARRIAGE"
5               "TUBAL PREGNANCY"
6               "MOLAR PREGNANCY"

H2_OUT09        "Outcome of each pregnancy"
1               "LIVE BIRTH"
2               "STILLBIRTH"
```

```
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT10             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT11             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT12             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT13             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT14             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT15             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT16             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT17             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT18             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT19             "Outcome of each pregnancy"
```

```
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2_OUT20             "Outcome of each pregnancy"
1                    "LIVE BIRTH"
2                    "STILLBIRTH"
3                    "INDUCED ABORTION"
4                    "MISCARRIAGE"
5                    "TUBAL PREGNANCY"
6                    "MOLAR PREGNANCY"

H2a_TY01             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY02             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY03             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY04             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY05             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY06             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY07             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY08             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY09             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY10             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY11             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY12             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY13             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY14             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY15             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"

H2a_TY16             "Was pregnancy premature birth?"
1                    "YES"
2                    "NO"
```

```
H2a_TY17      "Was pregnancy premature birth?"
1             "YES"
2             "NO"


H2a_TY18      "Was pregnancy premature birth?"
1             "YES"
2             "NO"


H2a_TY19      "Was pregnancy premature birth?"
1             "YES"
2             "NO"


H2a_TY20      "Was pregnancy premature birth?"
1             "YES"
2             "NO"


H2b_WK01      "What week was the delivery"
-9 .. 99


H2b_WK02      "What week was the delivery"
-9 .. 99


H2b_WK03      "What week was the delivery"
-9 .. 99


H2b_WK04      "What week was the delivery"
-9 .. 99


H2b_WK05      "What week was the delivery"
-9 .. 99


H2b_WK06      "What week was the delivery"
-9 .. 99


H2b_WK07      "What week was the delivery"
-9 .. 99


H2b_WK08      "What week was the delivery"
-9 .. 99


H2b_WK09      "What week was the delivery"
-9 .. 99


H2b_WK10      "What week was the delivery"
-9 .. 99


H2b_WK11      "What week was the delivery"
-9 .. 99


H2b_WK12      "What week was the delivery"
-9 .. 99


H2b_WK13      "What week was the delivery"
-9 .. 99


H2b_WK14      "What week was the delivery"
-9 .. 99


H2b_WK15      "What week was the delivery"
-9 .. 99


H2b_WK16      "What week was the delivery"
-9 .. 99


H2b_WK17      "What week was the delivery"
-9 .. 99


H2b_WK18      "What week was the delivery"
-9 .. 99


H2b_WK19      "What week was the delivery"
-9 .. 99


H2b_WK20      "What week was the delivery"
-9 .. 99


H2c_WG01      "Did the baby have low birthweight?"
```

```
1               "YES"
2               "NO"

H2c_WG02        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG03        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG04        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG05        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG06        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG07        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG08        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG09        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG10        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG11        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG12        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG13        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG14        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG15        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG16        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG17        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG18        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG19        "Did the baby have low birthweight?"
1               "YES"
2               "NO"

H2c_WG20        "Did the baby have low birthweight?"
1               "YES"
2               "NO"
```

```
H3_INT01        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT02        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT03        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT04        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT05        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT06        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT07        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT08        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT09        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT10        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT11        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT12        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT13        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT14        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT15        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT16        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT17        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT18        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT19        "Intended to get pregnant?"
1               "YES"
2               "NO"

H3_INT20        "Intended to get pregnant?"
```

```
1              "YES"
2              "NO"

H4_END01       "Date each pregnancy ended"
Date type

H4_END02       "Date each pregnancy ended"
Date type

H4_END03       "Date each pregnancy ended"
Date type

H4_END04       "Date each pregnancy ended"
Date type

H4_END05       "Date each pregnancy ended"
Date type

H4_END06       "Date each pregnancy ended"
Date type

H4_END07       "Date each pregnancy ended"
Date type

H4_END08       "Date each pregnancy ended"
Date type

H4_END09       "Date each pregnancy ended"
Date type

H4_END10       "Date each pregnancy ended"
Date type

H4_END11       "Date each pregnancy ended"
Date type

H4_END12       "Date each pregnancy ended"
Date type

H4_END13       "Date each pregnancy ended"
Date type

H4_END14       "Date each pregnancy ended"
Date type

H4_END15       "Date each pregnancy ended"
Date type

H4_END16       "Date each pregnancy ended"
Date type

H4_END17       "Date each pregnancy ended"
Date type

H4_END18       "Date each pregnancy ended"
Date type

H4_END19       "Date each pregnancy ended"
Date type

H4_END20       "Date each pregnancy ended"
Date type

H4_fla01       "Is the date an actual or estimate"
1              "ACTUAL"
2              "ESTIMATE"

H4_fla02       "Is the date an actual or estimate"
1              "ACTUAL"
2              "ESTIMATE"

H4_fla03       "Is the date an actual or estimate"
1              "ACTUAL"
2              "ESTIMATE"

H4_fla04       "Is the date an actual or estimate"
1              "ACTUAL"
2              "ESTIMATE"
```

A-268

```
H4_fla05        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla06        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla07        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla08        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla09        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla10        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla11        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla12        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla13        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla14        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla15        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla16        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla17        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla18        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla19        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H4_fla20        "Is the date an actual or estimate"
1               "ACTUAL"
2               "ESTIMATE"


H5_NPOS         "Position of the study pregnancy"
1 .. 20


H6_LBS          "Weight before pregnancy"
90 .. 300


H7_WCHG         "Lost or gained weight"
1               "LOST"
2               "GAINED"
3               "STAYED THE SAME"


H8_LOST         "# Pounds lost"
1 .. 30
```

```
H9_GAIN          "# Pounds gained"
1 .. 100

H10_FEET         "Height - Feet"
4 .. 7

H10_INCH         "Height - Inches"
0 .. 11

H11_WKS          "# Weeks when found out pregnant"
1 .. 42

H12_BC           "Actively using method of contraception?"
1                "YES"
2                "NO"

H13_LMON         "Last month/year used contraception"
String[7]

H14_STAT         "The statement applied"
1                "You stopped using contraception to get p
2                "You got pregnant during an interruption
                  contraception"
3                "You got pregnant while consistently usin
                  contraception"

H15_PILL         "Used 'morning after pill'"
1                "YES"
2                "NO"

H16_LMON         "Last month/year used morning after pills
String[7]

H17_MED          "Used medications to get pregnant?"
1                "YES"
2                "NO"

H18_GENE         "Are there any hereditary factors in outc
                  pregnancy?"
1                "YES"
2                "NO"

H18_SPE1         "@O>H18<@O Please explain @/@/@WLINE ^Lin
                  ENTER RESPONSE HERE OR LEAVE BLANK TO GO
                  NEXT QUESTION"
String[128]

H18_SPE2         "@O>H18<@O Please explain @/@/@WLINE ^Lin
                  ENTER RESPONSE HERE OR LEAVE BLANK TO GO
                  NEXT QUESTION"
String[128]

H18_SPE3         "@O>H18<@O Please explain @/@/@WLINE ^Lin
                  ENTER RESPONSE HERE OR LEAVE BLANK TO GO
                  NEXT QUESTION"
String[128]

H18_SPE4         "@O>H18<@O Please explain @/@/@WLINE ^Lin
                  ENTER RESPONSE HERE OR LEAVE BLANK TO GO
                  NEXT QUESTION"
String[128]

H19_PREE         "Did Respondent have Pre-Eclampsia?"
1                "YES"
2                "NO"

H19_ECLA         "Did Respondent have Eclampsia?"
1                "YES"
2                "NO"

H19_TOX          "Did Respondent have Toxemia?"
1                "YES"
2                "NO"

H19_OTH          "Did Respondent have Other?"
1                "YES"
2                "NO"
```

A-270

```
H19_SPEC          "Specification of other diagnoses?"
String[128]

I1_PCARE          "Had prenatal care?"
1                 "YES"
2                 "NO"

I1a_CARE          "Where was primary prenatal care?"
1                 "Air Force military treatment facility"
2                 "Non-Air Force military treatment facilit
3                 "Civilian HMO"
4                 "Private physician or clinic"
5                 "Other"

I1b_CAR1          "Where was primary prenatal care?"
1                 "Air Force military treatment facility"
2                 "Non-Air Force military treatment facilit
3                 "Civilian HMO"
4                 "Private physician or clinic"
5                 "Other"

I1b_CAR2
See previous question

I1b_CAR3
.See previous question

I1b_CAR4
See previous question

I1b_CAR5
See previous question

I2_DATE           "Date of the first prenatal care"
Date type

I2DtFlg           "Is the date an actual or an estimate"
1                 "ACTUAL"
2                 "ESTIMATE"

I2_WEEK           "Week pregnancy of the first prenatal car
1 .. 44

I3_ULTEX          "Found any abnormality with the fetus?"
1                 "YES"
2                 "NO"

I4_ABNO           "Abnormality"
String[50]

I4_CODE           "Code for abnormality"
String[3]

I4_ABNO2          "Abnormality"
String[50]

I4_CODE2          "Code for abnormality"
String[3]

I4_ABNO3          "Abnormality"
String[50]

I4_CODE3          "Code for abnormality"
String[3]

I4_ABNO4          "Abnormality"
String[50]

I4_CODE4          "Code for abnormality"
String[3]

I4_ABNO5          "Abnormality"
String[50]

I4_CODE5          "Code for abnormality"
String[3]
```

A-271

```
I5_DATE          "Date when the abnormality was discovered
Date type

I5DtFlg          "Is the date an actual or an estimate"
1                "ACTUAL"
2                "ESTIMATE"

I5_WEEK          "Week when the abnormality was discovered
1 .. 44

I5_DATE2         "Date when the abnormality was discovered
Date type

I5DtFlg2         "Is the date an actual or an estimate"
1                "ACTUAL"
2                "ESTIMATE"

I5_WEEK2         "Week when the abnormality was discovered
1 .. 44

I5_DATE3         "Date when the abnormality was discovered
Date type

I5DtFlg3         "Is the date an actual or an estimate"
1                "ACTUAL"
2                "ESTIMATE"

I5_WEEK3         "Week when the abnormality was discovered
1 .. 44

I5_DATE4         "Date when the abnormality was discovered
Date type

I5DtFlg4         "Is the date an actual or an estimate"
1                "ACTUAL"
2                "ESTIMATE"

I5_WEEK4         "Week when the abnormality was discovered
1 .. 44

I5_DATE5         "Date when the abnormality was discovered
Date type

I5DtFlg5         "Is the date an actual or an estimate"
1                "ACTUAL"
2                "ESTIMATE"

I5_WEEK5         "Week when the abnormality was discovered
1 .. 44

I6_OULEX         "Found a different abnormality"
1                "YES"
2                "NO"

I7_ABNO          "Abnormality"
String[50]

I7_CODE          "Code for abnormality"
String[3]

I7_ABNO2         "Abnormality"
String[50]

I7_CODE2         "Code for abnormality"
String[3]

I7_ABNO3         "Abnormality"
String[50]

I7_CODE3         "Code for abnormality"
String[3]

I7_ABNO4         "Abnormality"
String[50]

I7_CODE4         "Code for abnormality"
String[3]
```

A-272

```
I7_ABNO5        "Abnormality"
String[50]

I7_CODE5        "Code for abnormality"
String[3]

I8_DATE         "Date when the abnormality was discovered
Date type

I8DtFlg         "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

I8_WEEK         "Week when the abnormality was discovered
1 .. 44

I8_DATE2        "Date when the abnormality was discovered
Date type

I8DtFlg2        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

I8_WEEK2        "Week when the abnormality was discovered
1 .. 44

I8_DATE3        "Date when the abnormality was discovered
Date type

I8DtFlg3        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

I8_WEEK3        "Week when the abnormality was discovered
1 .. 44

I8_DATE4        "Date when the abnormality was discovered
Date type

I8DtFlg4        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

I8_WEEK4        "Week when the abnormality was discovered
1 .. 44

I8_DATE5        "Date when the abnormality was discovered
Date type

I8DtFlg5        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

I8_WEEK5        "Week when the abnormality was discovered
1 .. 44

I9_AMNIO        "Had Amniocentesis?"
1               "YES"
2               "NO"

I10_DATE        "Date when aminocentesis was done"
Date type

I10DtFlg        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

I10_WEEK        "Week when aminocentesis was done"
1 .. 42

I11_SHOW        "The amniocentesis show any abnormality?"
1               "YES"
2               "NO"

I12_ABN         "Abnormality"
String[50]

I12_COD         "Code for abnormality"
```

A-273

```
String[3]

I12_ABN2        "Abnormality"
String[50]

I12_COD2        "Code for abnormality"
String[3]

I12_ABN3        "Abnormality"
String[50]

I12_COD3        "Code for abnormality"
String[3]

I12_ABN4        "Abnormality"
String[50]

I12_COD4        "Code for abnormality"
String[3]

I12_ABN5        "Abnormality"
String[50]

I12_COD5        "Code for abnormality"
String[3]

I13_DYE         "Was dye injected as part of the amnio?"
1               "YES"
2               "NO"

I14_CVS         "Had CVS?"
1               "YES"
2               "NO"

I15_DATE        "Date when CVS was done"
Date type

I15DtFlg        "Is the date an actual or an estimate"
1               "ACTUAL"
2               "ESTIMATE"

I15_WEEK        "Week when CVS was done"
1 .. 42

I16_SHOW        "CVS showed any abnormality?"
1               "YES"
2               "NO"

I17_ABN         "Abnormality"
String[50]

I17_COD         "Code for abnormality"
String[3]

I17_ABN2        "Abnormality"
String[50]

I17_COD2        "Code for abnormality"
String[3]

I17_ABN3        "Abnormality"
String[50]

I17_COD3        "Code for abnormality"
String[3]

I17_ABN4        "Abnormality"
String[50]

I17_COD4        "Code for abnormality"
String[3]

I17_ABN5        "Abnormality"
String[50]

I17_COD5        "Code for abnormality"
String[3]
```

A-274

```
I18_ABD        "CVS - a needle inserted into abdomen?"
1              "YES"
2              "NO"

I18_VAG        "CVS - a needle inserted into vagina?"
1              "YES"
2              "NO"

I19_OPDT       "Had any other prenatal diagnostic test?"
1              "YES"
2              "NO"

I20_TES        "The name of the test"
String[50]

I20_COD        "Code for the test"
String[3]

I20_TES2       "The name of the test"
String[50]

I20_COD2       "Code for the test"
String[3]

I20_TES3       "The name of the test"
String[50]

I20_COD3       "Code for the test"
String[3]

I20_TES4       "The name of the test"
String[50]

I20_COD4       "Code for the test"
String[3]

I20_TES5       "The name of the test"
String[50]

I20_COD5       "Code for the test"
String[3]

I21_COMP       "Had any complications after the test?"
1              "YES"
2              "NO"

I22_PRC        "The name of the procedure"
String[50]

I22_COD        "Code for the test"
String[3]

I22_PRC2       "The name of the procedure"
String[50]

I22_COD2       "Code for the test"
String[3]

I22_PRC3       "The name of the procedure"
String[50]

I22_COD3       "Code for the test"
String[3]

I22_PRC4       "The name of the procedure"
String[50]

I22_COD4       "Code for the test"
String[3]

I22_PRC5       "The name of the procedure"
String[50]

I22_COD5       "Code for the test"
String[3]

I23_BLD        "Had bleeding after the procedure?"
1              "YES"
```

A-275

```
2                  "NO"

I23_PAI            "Had pain/cramps after the procedure?"
1                  "YES"
2                  "NO"

I23_INF            "Had infection after the procedure?"
1                  "YES"
2                  "NO"

I23_OTH            "Had other after the procedure?"
1                  "YES"
2                  "NO"

I23_TXT            "Other specify"
String[70]

I23_COD            "Code for other specify"
String[3]

I24_HOS            "Hospitalized?"
1                  "YES"
2                  "NO"

I25_MED            "Took medicines before/after/both"
1                  "BEFORE"
2                  "AFTER"
3                  "BOTH"
4                  "NONE"

I23_BLD2           "Had bleeding after the procedure?"
1                  "YES"
2                  "NO"

I23_PAI2           "Had pain/cramps after the procedure?"
1                  "YES"
2                  "NO"

I23_INF2           "Had infection after the procedure?"
1                  "YES"
2                  "NO"

I23_OTH2           "Had other after the procedure?"
1                  "YES"
2                  "NO"

I23_TXT2           "Other specify"
String[70]

I23_COD2           "Code for other specify"
String[3]

I24_HOS2           "Hospitalized?"
1                  "YES"
2                  "NO"

I25_MED2           "Took medicines before/after/both"
1                  "BEFORE"
2                  "AFTER"
3                  "BOTH"
4                  "NONE"

I23_BLD3           "Had bleeding after the procedure?"
1                  "YES"
2                  "NO"

I23_PAI3           "Had pain/cramps after the procedure?"
1                  "YES"
2                  "NO"

I23_INF3           "Had infection after the procedure?"
1                  "YES"
2                  "NO"

I23_OTH3           "Had other after the procedure?"
1                  "YES"
2                  "NO"
```

A-276

```
I23_TXT3        "Other specify"
String[70]

I23_COD3        "Code for other specify"
String[3]

I24_HOS3        "Hospitalized?"
1               "YES"
2               "NO"

I25_MED3        "Took medicines before/after/both"
1               "BEFORE"
2               "AFTER"
3               "BOTH"
4               "NONE"

I23_BLD4        "Had bleeding after the procedure?"
1               "YES"
2               "NO"

I23_PAI4        "Had pain/cramps after the procedure?"
1               "YES"
2               "NO"

I23_INF4        "Had infection after the procedure?"
1               "YES"
2               "NO"

I23_OTH4        "Had other after the procedure?"
1               "YES"
2               "NO"

I23_TXT4        "Other specify"
String[70]

I23_COD4        "Code for other specify"
String[3]

I24_HOS4        "Hospitalized?"
1               "YES"
2               "NO"

I25_MED4        "Took medicines before/after/both"
1               "BEFORE"
2               "AFTER"
3               "BOTH"
4               "NONE"

I23_BLD5        "Had bleeding after the procedure?"
1               "YES"
2               "NO"

I23_PAI5        "Had pain/cramps after the procedure?"
1               "YES"
2               "NO"

I23_INF5        "Had infection after the procedure?"
1               "YES"
2               "NO"

I23_OTH5        "Had other after the procedure?"
1               "YES"
2               "NO"

I23_TXT5        "Other specify"
String[70]

I23_COD5        "Code for other specify"
String[3]

I24_HOS5        "Hospitalized?"
1               "YES"
2               "NO"

I25_MED5        "Took medicines before/after/both"
1               "BEFORE"
2               "AFTER"
3               "BOTH"
```

A-277

```
4                "NONE"

J1_DIABE         "Had diabetes during the study period?"
1                "YES"
2                "NO"

J2_MED           "Took medication to control the diabetes?
1                "YES"
2                "NO"

J3_ANTI          "Took anti-depressant medications?"
1                "YES"
2                "NO"

J3_LST1          "List of anti-depressant medications"
String[128]

J3_LST2          "List of anti-depressant medications"
String[128]

J4_HBP           "Diagnosed with High blood Pressure"
1                "YES"
2                "NO"

J4_DIAB          "Diagnosed with Diabetes"
1                "YES"
2                "NO"

J4_THYR          "Diagnosed with Thyroid disease?"
1                "YES"
2                "NO"

J4_ASTH          "Diagnosed with Asthma?"
1                "YES"
2                "NO"

J4_SEIZ          "Diagnosed with Seizures?"
1                "YES"
2                "NO"

J4_CANC          "Diagnosed with Cancer?"
1                "YES"
2                "NO"

J4_KIDN          "Diagnosed with Kidney disease?"
1                "YES"
2                "NO"

J4_STD           "Diagnosed with Sexually transmitted dise
1                "YES"
2                "NO"

J4_OTH           "Diagnosed with Other?"
1                "YES"
2                "NO"

J4_SPEC          "Diagnosed with Other Specify"
String[128]

J5_XRAY          "Had Dental X-rays during the study perio
1                "YES"
2                "NO"

J5_OXRY          "Had Other X-rays during the study period
1                "YES"
2                "NO"

J5_CAT           "Had CT/CAT during the study period?"
1                "YES"
2                "NO"

J5_MRI           "Had MRI during the study period?"
1                "YES"
2                "NO"

J5_RAD           "Radionuclide during the study period?"
1                "YES"
2                "NO"
```

```
J5_OTH          "Other?"
1               "YES"
2               "NO"

J5_TEXT         "Other specify"
String[70]

J5_CODE         "Code for other specify"
String[3]

J6_BODY         "The part of body was examined"
1               "UPPER/LOWER EXTREMMITIES"
2               "PELVIC"
3               "ABDOMEN/THORACIC"
4               "HEAD"

J7_MOY01        "Month and year the test was done"
String[7]

J7_MOY02        "Month and year the test was done"
String[7]

J7_MOY03        "Month and year the test was done"
String[7]

J7_MOY04        "Month and year the test was done"
String[7]

J7_MOY05        "Month and year the test was done"
String[7]

J7_MOY06        "Month and year the test was done"
String[7]

J7_MOY07        "Month and year the test was done"
String[7]

J7_MOY08        "Month and year the test was done"
String[7]

J7_MOY09        "Month and year the test was done"
String[7]

J7_MOY10        "Month and year the test was done"
String[7]

J7_MOY11        "Month and year the test was done"
String[7]

J7_MOY12        "Month and year the test was done"
String[7]

J7_MOY13        "Month and year the test was done"
String[7]

J7_MOY14        "Month and year the test was done"
String[7]

J8_TES01        "# tests done in {Month}"
1 .. 15

J8_TES02        "# tests done in {Month}"
1 .. 15

J8_TES03        "# tests done in {Month}"
1 .. 15

J8_TES04        "# tests done in {Month}"
1 .. 15

J8_TES05        "# tests done in {Month}"
1 .. 15

J8_TES06        "# tests done in {Month}"
1 .. 15

J8_TES07        "# tests done in {Month}"
```

A-279

```
1 .. 15

J8_TES08      "# tests done in {Month}"
1 .. 15

J8_TES09      "# tests done in {Month}"
1 .. 15

J8_TES10      "# tests done in {Month}"
1 .. 15

J8_TES11      "# tests done in {Month}"
1 .. 15

J8_TES12      "# tests done in {Month}"
1 .. 15

J8_TES13      "# tests done in {Month}"
1 .. 15

J8_TES14      "# tests done in {Month}"
1 .. 15

J9_PELV       "The pelvis shielded with a lead apron?"
1             "YES"
2             "NO"

J6_BODY2      "The part of body was examined"
1             "UPPER/LOWER EXTREMMITIES"
2             "PELVIC"
3             "ABDOMEN/THORACIC"
4             "HEAD"

J7_MOY15      "Month and year the test was done"
String[7]

J7_MOY16      "Month and year the test was done"
String[7]

J7_MOY17      "Month and year the test was done"
String[7]

J7_MOY18      "Month and year the test was done"
String[7]

J7_MOY19      "Month and year the test was done"
String[7]

J7_MOY20      "Month and year the test was done"
String[7]

J7_MOY21      "Month and year the test was done"
String[7]

J7_MOY22      "Month and year the test was done"
String[7]

J7_MOY23      "Month and year the test was done"
String[7]

J7_MOY24      "Month and year the test was done"
String[7]

J7_MOY25      "Month and year the test was done"
String[7]

J7_MOY26      "Month and year the test was done"
String[7]

J7_MOY27      "Month and year the test was done"
String[7]

J7_MOY28      "Month and year the test was done"
String[7]

J8_TES15      "# tests done in {Month}"
1 .. 15
```

```
J8_TES16      "# tests done in {Month}"
1 .. 15

J8_TES17      "# tests done in {Month}"
1 .. 15

J8_TES18      "# tests done in {Month}"
1 .. 15

J8_TES19      "# tests done in {Month}"
1 .. 15

J8_TES20      "# tests done in {Month}"
1 .. 15

J8_TES21      "# tests done in {Month}"
1 .. 15

J8_TES22      "# tests done in {Month}"
1 .. 15

J8_TES23      "# tests done in {Month}"
1 .. 15

J8_TES24      "# tests done in {Month}"
1 .. 15

J8_TES25      "# tests done in {Month}"
1 .. 15

J8_TES26      "# tests done in {Month}"
1 .. 15

J8_TES27      "# tests done in {Month}"
1 .. 15

J8_TES28      "# tests done in {Month}"
1 .. 15

J9_PELV2      "The pelvis shielded with a lead apron?"
1             "YES"
2             "NO"

J6_BODY3      "The part of body was examined"
1             "UPPER/LOWER EXTREMMITIES"
2             "PELVIC"
3             "ABDOMEN/THORACIC"
4             "HEAD"

J7_MOY29      "Month and year the test was done"
String[7]

J7_MOY30      "Month and year the test was done"
String[7]

J7_MOY31      "Month and year the test was done"
String[7]

J7_MOY32      "Month and year the test was done"
String[7]

J7_MOY33      "Month and year the test was done"
String[7]

J7_MOY34      "Month and year the test was done"
String[7]

J7_MOY35      "Month and year the test was done"
String[7]

J7_MOY36      "Month and year the test was done"
String[7]

J7_MOY37      "Month and year the test was done"
String[7]

J7_MOY38      "Month and year the test was done"
String[7]
```

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J7_MOY39        "Month and year the test was done"
String[7]

J7_MOY40        "Month and year the test was done"
String[7]

J7_MOY41        "Month and year the test was done"
String[7]

J7_MOY42        "Month and year the test was done"
String[7]

J8_TES29        "# tests done in {Month}"
1 .. 15

J8_TES30        "# tests done in {Month}"
1 .. 15

J8_TES31        "# tests done in {Month}"
1 .. 15

J8_TES32        "# tests done in {Month}"
1 .. 15

J8_TES33        "# tests done in {Month}"
1 .. 15

J8_TES34        "# tests done in {Month}"
1 .. 15

J8_TES35        "# tests done in {Month}"
1 .. 15

J8_TES36        "# tests done in {Month}"
1 .. 15

J8_TES37        "# tests done in {Month}"
1 .. 15

J8_TES38        "# tests done in {Month}"
1 .. 15

J8_TES39        "# tests done in {Month}"
1 .. 15

J8_TES40        "# tests done in {Month}"
1 .. 15

J8_TES41        "# tests done in {Month}"
1 .. 15

J8_TES42        "# tests done in {Month}"
1 .. 15

J9_PELV3        "The pelvis shielded with a lead apron?"
1               "YES"
2               "NO"

J6_BODY4        "The part of body was examined"
1               "UPPER/LOWER EXTREMMITIES"
2               "PELVIC"
3               "ABDOMEN/THORACIC"
4               "HEAD"

J7_MOY43        "Month and year the test was done"
String[7]

J7_MOY44        "Month and year the test was done"
String[7]

J7_MOY45        "Month and year the test was done"
String[7]

J7_MOY46        "Month and year the test was done"
String[7]

J7_MOY47        "Month and year the test was done"
```

```
String[7]

J7_MOY48      "Month and year the test was done"
String[7]

J7_MOY49      "Month and year the test was done"
String[7]

J7_MOY50      "Month and year the test was done"
String[7]

J7_MOY51      "Month and year the test was done"
String[7]

J7_MOY52      "Month and year the test was done"
String[7]

J7_MOY53      "Month and year the test was done"
String[7]

J7_MOY54      "Month and year the test was done"
String[7]

J7_MOY55      "Month and year the test was done"
String[7]

J7_MOY56      "Month and year the test was done"
String[7]

J8_TES43      "# tests done in {Month}"
1 .. 15

J8_TES44      "# tests done in {Month}"
1 .. 15

J8_TES45      "# tests done in {Month}"
1 .. 15

J8_TES46      "# tests done in {Month}"
1 .. 15

J8_TES47      "# tests done in {Month}"
1 .. 15

J8_TES48      "# tests done in {Month}"
1 .. 15

J8_TES49      "# tests done in {Month}"
1 .. 15

J8_TES50      "# tests done in {Month}"
1 .. 15

J8_TES51      "# tests done in {Month}"
1 .. 15

J8_TES52      "# tests done in {Month}"
1 .. 15

J8_TES53      "# tests done in {Month}"
1 .. 15

J8_TES54      "# tests done in {Month}"
1 .. 15

J8_TES55      "# tests done in {Month}"
1 .. 15

J8_TES56      "# tests done in {Month}"
1 .. 15

J9_PELV4      "The pelvis shielded with a lead apron?"
1             "YES"
2             "NO"

J6_BODY5      "The part of body was examined"
1             "UPPER/LOWER EXTREMMITIES"
2             "PELVIC"
```

```
3                "ABDOMEN/THORACIC"
4                "HEAD"

J7_MOY57         "Month and year the test was done"
String[7]

J7_MOY58         "Month and year the test was done"
String[7]

J7_MOY59         "Month and year the test was done"
String[7]

J7_MOY60         "Month and year the test was done"
String[7]

J7_MOY61         "Month and year the test was done"
String[7]

J7_MOY62         "Month and year the test was done"
String[7]

J7_MOY63         "Month and year the test was done"
String[7]

J7_MOY64         "Month and year the test was done"
String[7]

J7_MOY65         "Month and year the test was done"
String[7]

J7_MOY66         "Month and year the test was done"
String[7]

J7_MOY67         "Month and year the test was done"
String[7]

J7_MOY68         "Month and year the test was done"
String[7]

J7_MOY69         "Month and year the test was done"
String[7]

J7_MOY70         "Month and year the test was done"
String[7]

J8_TES57         "# tests done in {Month}"
1 .. 15

J8_TES58         "# tests done in {Month}"
1 .. 15

J8_TES59         "# tests done in {Month}"
1 .. 15

J8_TES60         "# tests done in {Month}"
1 .. 15

J8_TES61         "# tests done in {Month}"
1 .. 15

J8_TES62         "# tests done in {Month}"
1 .. 15

J8_TES63         "# tests done in {Month}"
1 .. 15

J8_TES64         "# tests done in {Month}"
1 .. 15

J8_TES65         "# tests done in {Month}"
1 .. 15

J8_TES66         "# tests done in {Month}"
1 .. 15

J8_TES67         "# tests done in {Month}"
1 .. 15
```

```
J8_TES68      "# tests done in {Month}"
1 .. 15

J8_TES69      "# tests done in {Month}"
1 .. 15

J8_TES70      "# tests done in {Month}"
1 .. 15

J9_PELV5      "The pelvis shielded with a lead apron?"
1             "YES"
2             "NO"

J6_BODY6      "The part of body was examined"
1             "UPPER/LOWER EXTREMMITIES"
2             "PELVIC"
3             "ABDOMEN/THORACIC"
4             "HEAD"

J7_MOY71      "Month and year the test was done"
String[7]

J7_MOY72      "Month and year the test was done"
String[7]

J7_MOY73      "Month and year the test was done"
String[7]

J7_MOY74      "Month and year the test was done"
String[7]

J7_MOY75      "Month and year the test was done"
String[7]

J7_MOY76      "Month and year the test was done"
String[7]

J7_MOY77      "Month and year the test was done"
String[7]

J7_MOY78      "Month and year the test was done"
String[7]

J7_MOY79      "Month and year the test was done"
String[7]

J7_MOY80      "Month and year the test was done"
String[7]

J7_MOY81      "Month and year the test was done"
String[7]

J7_MOY82      "Month and year the test was done"
String[7]

J7_MOY83      "Month and year the test was done"
String[7]

J7_MOY84      "Month and year the test was done"
String[7]

J8_TES71      "# tests done in {Month}"
1 .. 15

J8_TES72      "# tests done in {Month}"
1 .. 15

J8_TES73      "# tests done in {Month}"
1 .. 15

J8_TES74      "# tests done in {Month}"
1 .. 15

J8_TES75      "# tests done in {Month}"
1 .. 15

J8_TES76      "# tests done in {Month}"
1 .. 15
```

```
J8_TES77        "# tests done in {Month}"
1 .. 15

J8_TES78        "# tests done in {Month}"
1 .. 15

J8_TES79        "# tests done in {Month}"
1 .. 15

J8_TES80        "# tests done in {Month}"
1 .. 15

J8_TES81        "# tests done in {Month}"
1 .. 15

J8_TES82        "# tests done in {Month}"
1 .. 15

J8_TES83        "# tests done in {Month}"
1 .. 15

J8_TES84        "# tests done in {Month}"
1 .. 15

J9_PELV6        "The pelvis shielded with a lead apron?"
1               "YES"
2               "NO"

K1_CIGA         "Smoked cigarettes during study period?"
1               "YES"
2               "NO"

K1_PIPE         "Smoked cigars/pipes during study period?
1               "YES"
2               "NO"

K1_TOBA         "Chew smokeless tobacco during study peri
1               "YES"
2               "NO"

K2_AMT          "Avg. amount initially smoked cigarettes"
1               "<1 PER DAY/OR NONE"
2               "1 PER DAY"
3               "2-4 PER DAY"
4               "1/2 PK PER DAY"
5               "1 PK PER DAY"
6               "1.5 PKS PER DAY"
7               "2 PKS PER DAY"
8               ">2 PKS PER DAY"

K3_AMTCH        "Amt smoked changed during study period?"
1               "YES"
2               "NO"

K4_MOCHG        "The month R changed the amt of smoking"
1               "JANUARY"
2               "FEBRUARY"
3               "MARCH"
4               "APRIL"
5               "MAY"
6               "JUNE"
7               "JULY"
8               "AUGUST"
9               "SEPTEMBER"
10              "OCTOBER"
11              "NOVEMBER"
12              "DECEMBER"

K5_NWAMT        "New amount smoked per day"
1               "<1 PER DAY/OR NONE"
2               "1 PER DAY"
3               "2-4 PER DAY"
4               "1/2 PK PER DAY"
5               "1 PK PER DAY"
6               "1.5 PKS PER DAY"
7               "2 PKS PER DAY"
8               ">2 PKS PER DAY"
```

A-286

```
K6_AMT        "Amount smoked cigars"
1             "<1 PER DAY OR NONE"
2             "1 PER DAY"
3             "2-4 PER DAY"
4             "5 OR MORE PER DAY"

K7_AMTCH      "Amt smoked changed during study period?"
1             "YES"
2             "NO"

K8_MOCHG      "The month R changed the amt of smoking"
1             "JANUARY"
2             "FEBRUARY"
3             "MARCH"
4             "APRIL"
5             "MAY"
6             "JUNE"
7             "JULY"
8             "AUGUST"
9             "SEPTEMBER"
10            "OCTOBER"
11            "NOVEMBER"
12            "DECEMBER"

K9_NWAMT      "New amount smoked per day"
1             "<1 PER DAY OR NONE"
2             "1 PER DAY"
3             "2-4 PER DAY"
4             "5 OR MORE PER DAY"

K10_HRS       "# hours chew smokeless tobacco"
1             "<1 HOUR PER DAY OR NONE"
2             "1-3 HOURS PER DAY"
3             "MORE 3 HOURS PER DAY"

K11_AMTC      "Amount chew changed during study period?
1             "YES"
2             "NO"

K12_MOCH      "The month chewing habit changed"
1             "JANUARY"
2             "FEBRUARY"
3             "MARCH"
4             "APRIL"
5             "MAY"
6             "JUNE"
7             "JULY"
8             "AUGUST"
9             "SEPTEMBER"
10            "OCTOBER"
11            "NOVEMBER"
12            "DECEMBER"

K13_NAMT      "Amount chew after the change"
1             "<1 HOUR PER DAY OR NONE"
2             "1-3 HOURS PER DAY"
3             "MORE 3 HOURS PER DAY"

K14_EXPO      "Routinely exposed to second hand smoke?"
1             "YES"
2             "NO"

L1_DRNK       "Drank alcohol beverages?"
1             "YES"
2             "NO"

L2_DAYS       "Days/month drank alcohol"
1 .. 31

L3_AMT        "# drinks per day"
1 .. 20

L4_MAX        "Max # of drinks"                           ...333333
1 .. 20

L5_BEER       "Usually drank beer?"
1             "YES"
```

```
2                "NO"

L5_WINE          "Usually drank wine?"
1                "YES"
2                "NO"

L5_MIXD          "Usually drank mixed drinks?"
1                "YES"
2                "NO"

L5_LIQ           "Usually drank shot of liquor?"
1                "YES"
2                "NO"

L5_OTHR          "Usually drank other alcohol?"
1                "YES"
2                "NO"

L5_TEXT          "Other alcohol not listed"
String[50]

L5_CODE          "Code for other specify"
String[3]

L6_CHANG         "The amount/frequency changed?"
1                "YES"
2                "NO"

L7_MOCHG         "The month the amount changed"
1                "JANUARY"
2                "FEBRUARY"
3                "MARCH"
4                "APRIL"
5                "MAY"
6                "JUNE"
7                "JULY"
8                "AUGUST"
9                "SEPTEMBER"
10               "OCTOBER"
11               "NOVEMBER"
12               "DECEMBER"

L8_DAYS          "Days/month drank after the change"
0 .. 31

L9_AMT           "Average drinks per day"
1 .. 20

L10_MAX          "Max # of drinks after the change"
1 .. 20

L11_BEER         "Usually drank beer?"
1                "YES"
2                "NO"

L11_WINE         "Usually drank wine?"
1                "YES"
2                "NO"

L11_MIXD         "Usually drank mixed drinks?"
1                "YES"
2                "NO"

L11_LIQ          "Usually drank shot of liquor?"
1                "YES"
2                "NO"

L11_OTHR         "Usually drank other alcohol?"
1                "YES"
2                "NO"

L11_TEXT         "Other alcohol not listed"
String[50]

L11_CODE         "Code for other specify"
String[3]

L12_FREQ         "Frequency of consuming meat and fish"
```

```
1                "NEVER"
2                "<ONCE A MONTH"
3                "MONTHLY"
4                "WEEKLY"
5                "DAILY"

L13_CHG          "The frequency changed?"
1                "YES"
2                "NO"

L14_FREQ         "Frequency of consuming meat and fish"
1                "NEVER"
2                "<ONCE A MONTH"
3                "MONTHLY"
4                "WEEKLY"
5                "DAILY"

M1_GETCO         "Contact was given?"
1                "YES"
2                "NO"

CoFname          "Contact's first name"
String[20]

CoLname          "Contact's last name"
String[30]

CoAddr1          "Contact's street address line 1"
String[50]

CoAddr2          "Contact's street address line 2"
String[50]

CoCity           "City"
String[30]

CoState          "STATE"
String[2]

CoZip            "Zip code"
String[5]

CoHPhone         "Home phone number"
String[12]

CoWPhone         "Work phone number"
String[12]

CoRelat          "Relationship to the respondent"
String[50]

N1_OVRQL         "Overall quality of the interview"
1                "HIGH QUALITY"
2                "GENERALLY RELIABLE"
3                "QUESTIONABLE"
4                "UNSATISFACTORY"

N2_FATHR         "The father contribute to the    ?"
1                "YES"
2                "NO"

N3_OTHER         "Other person contribute to the    ?"
1                "YES"
2                "NO"

N3_WHO           "Who was it"
String[70]

CallNote         "CALL NOTE 1:"
String[60]

CallNot2         "CALL NOTE 2:"
String[60]

CallNot3         "CALL NOTE 3:"
String[60]

CallNot4         "CALL NOTE 4:"
```

A-289

```
String[60]

NonRCode        "Nonresponse result code"
10              "NOT IN SERVICE"
11              "TROUBLE ON LINE"
12              "FAX/COMPUTER LINE"
13              "WRONG NUMBER (R NEVER LIVED HTERE, NOT A
                 RESIDENCE,ECT.)"
14              "REFUSED (BY PERSON OTHER THAN R)"
15              "REFUSED TO PARTICIPATE"
16              "OTHER PROBLEM-SUPERVISOR REVIEW"

FName           "Respondent's first name"
String[20]

MName           "Respondent's middle initial"
String[1]

LName           "Respondent's last name"
String[30]

RDob            "Respondent's DOB"
Date type

SSN             "R's social security number"
String[9]

AdmDate         "Date of admission"
Date type

PhoneNum        "Phone number to reach the respondent"
String[12]

TimeZone        "Time zone"
String[2]

ApptSche        "An appointment was scheduled with R?"
1               "YES"
2               "NO"

TraceFlg        "Tracing flag"
1               "FLAG FOR TRACING"
2               "MOVE OUT OF TRACING"

Consent         "Consent form received"
1               "YES"
2               "NO"

CaseStat        "Final interview disposition code"
1               "COMPLETE"
9               "PARTIAL COMPLETE"
10              "NEVER LOCATED"
11              "UNABLE TO PARTICIPATE"
12              "UNAVAILABLE (EXCEEDED MAX MCALLS)"
13              "REFUSAL"
80              "OTHER"

DateStat        "Date disposition code assigned"
Date type

AppointT        "When can we call you back ?"
1               "no preference"
2               "appointment for date and time"
3               "preference for a period"
4               "preference for days of the week"

DateStar        "start date "
Date type

TimeStar        "start time "
TimeType

DateEnd         "end date "
Date type

TimeEnd         "end time "
TimeType
```

```
WeekDay1        "selected weekdays"
1               " "
2               " "
3               " "
4               " "
5               " "
6               " "
7               " "


WeekDay2
See previous question

WeekDay3
See previous question

WeekDay4
See previous question

WeekDay5
See previous question

WeekDay6
See previous question

WeekDay7
See previous question

WhoMade         "who made appoint "
String[10]

NrOfCall        "number of calls "
1 .. 99

FirstDay        "date first call "
Date type

WhoMade2        "who made last dial in call "
String[10]

DayNumbe        "daynumber relative to FirstDay "
1 .. 999

DialTime        "time of last dial in call "
TimeType

NrOfDial        "number of dials in call "
0 .. 9

DialResu        "result of last dial in call "
1               "Questionnaire/Response"
2               "No answer"
3               "busy"
4               "Appointment"
5               "Non-Response"
6               "Answering service"
7               "Disconnected"
8               "No contact (rest)"

WhoMade3        "who made last dial in call "
String[10]

DayNumb2        "daynumber relative to FirstDay "
1 .. 999

DialTim2        "time of last dial in call "
TimeType

NrOfDia2        "number of dials in call "
0 .. 9

DialRes2        "result of last dial in call "
1               "Questionnaire/Response"
2               "No answer"
3               "busy"
4               "Appointment"
5               "Non-Response"
6               "Answering service"
7               "Disconnected"
```

A-291

```
8                  "No contact (rest)"

WhoMade4           "who made last dial in call "
String[10]

DayNumb3           "daynumber relative to FirstDay "
1 .. 999

DialTim3           "time of last dial in call "
TimeType

NrOfDia3           "number of dials in call "
0 .. 9

DialRes3           "result of last dial in call "
1                  "Questionnaire/Response"
2                  "No answer"
3                  "busy"
4                  "Appointment"
5                  "Non-Response"
6                  "Answering service"
7                  "Disconnected"
8                  "No contact (rest)"

WhoMade5           "who made last dial in call "
String[10]

DayNumb4           "daynumber relative to FirstDay "
1 .. 999

DialTim4           "time of last dial in call "
TimeType

NrOfDia4           "number of dials in call "
0 .. 9

DialRes4           "result of last dial in call "
1                  "Questionnaire/Response"
2                  "No answer"
3                  "busy"
4                  "Appointment"
5                  "Non-Response"
6                  "Answering service"
7                  "Disconnected"
8                  "No contact (rest)"

WhoMade6           "who made last dial in call "
String[10]

DayNumb5           "daynumber relative to FirstDay "
1 .. 999

DialTim5           "time of last dial in call "
TimeType

NrOfDia5           "number of dials in call "
0 .. 9

DialRes5           "result of last dial in call "
1                  "Questionnaire/Response"
2                  "No answer"
3                  "busy"
4                  "Appointment"
5                  "Non-Response"
6                  "Answering service"
7                  "Disconnected"
8                  "No contact (rest)"
```

APPENDIX B

Air Force Women Reproductive Outcomes Study
Data Dictionary
Version 6
(as of 02/09/2000)

Coding

DATASOURCES

0	Unknown
1	SIDR
2	CRDB
3	DMDC
4	TransUnion
5	NCOA
6	Worldwide Locator
7	Pentagon
8	Tele-I-Match
9	Subject
10	Postal Service

ICD9-CM CODES

642	Pregnancy Induced Hypertension
634	Spontaneous Abortion
644	Pre-Term Delivery
650	Normal Delivery

STUDY STATUS

0	Dropped
1	Tracing
2	Mailing
3	Consents
4	Interviewing
5	Recordkeeping
6	Complete

DUTY STATUS

1	Active Service
2	Overseas
4	Separated
5	Retired
6	Deceased
7	Can Not Identify
8	Protected Airmen
9	Other Branch of Service
10	Deserted
11	Unknown
12	No Record

ADDRESS STATUS

1	Valid Primary (Verified)
2	Valid Secondary (Verified)
3	Active
4	No Action Taken
5	Rejected

ADDRESS CODES

0	No Action Taken
1	Work
2	Home
3	Other Address
4	Incomplete
5	Invalid

PHONE STATUS

1	Contacted
2	Active
3	No Action Taking
4	Invalid

PHONE CODES

0	No Action Taken
1	Valid
2	Active – No Answer
3	Active – Left Person Message
4	Active – Left Machine Message
5	Active – Other
6	Invalid - Fax/Computer Line
7	Invalid - Trouble on Line
8	Invalid - Not in Service
9	Invalid – Timed Out
10	Invalid - Other

FOLLOW-UP CODES

0	No Action Taken
1	Actively Calling
2	Contacted - Incomplete
3	Contacted – Accepted
4	Contacted – Maybe
5	Contacted – Soft Refusal
6	Contacted – Hard Refusal
7	Timed Out

Data Structure

Database: AFTracking.mdb

Table Name: tbl_Address

Name	Type	Size	Comments
SubjectID	Text	7	
SourceDATE	Text	4	
AddPriority	Number (Integer)	2	
Address1	Text	150	
Address2	Text	150	
Address3	Text	150	
CITY	Text	50	
STATE	Text	10	
ZipCode	Text	10	
AddRecNum	Text	255	
AddCode	Number (Integer)	2	
AddStatus	Number (Integer)	2	

Table Name: tbl_FollowUp

Name	Type	Size	Comments
SubjectID	Text	7	
Last4SSN	Text	9	
Reached	Yes/No	1	
CallBack	Yes/No	1	
FollowUpCode	Number (Integer)	2	
ConsentCode	Number (Integer)	2	
MedRecCode	Number (Integer)	2	
InStudyCode	Number (Integer)	2	
LastCall	Date/Time	8	
DateContact	Date/Time	8	
BestCallTime	Date/Time	8	
FolComments	Memo	-	

Table Name: tbl_Phone

Name	Type	Size	Comments
SubjectID	Text	7	
CITY	Text	30	
STATE	Text	2	
AreaCode	Text	3	
LocalPhone	Text	8	
PhoStatus	Number (Integer)	2	
PhoCode	Number (Integer)	2	
PhoPriority	Number (Integer)	2	
SourceDATE	Text	4	
PhoneRecNum	Text	7	

Table Name: tbl_Subjects

Name	Type	Size	Comments
SubjectID	Text	7	
SSN	Text	9	
StudyStatus	Number (Integer)	2	
DutyStatus	Number (Integer)	2	
DropStatus	Number (Integer)	2	
TraceStatus	Number (Integer)	2	
MailStatus	Number (Integer)	2	
BatchNum	Number (Integer)	2	
DocStatus	Number (Integer)	2	
InterviewStatus	Number (Integer)	2	
Rank	Text	5	
FName	Text	30	
MName	Text	30	
LName	Text	30	
AKA	Text	30	
SubjectDOB	Date/Time	8	
Address1	Text	255	
Address2	Text	255	
Address3	Text	255	
CITY	Text	100	
STATE	Text	10	
ZipCode	Text	10	
CurDutyBase	Text	50	
PhoWork	Text	12	

Table Name: tbl_Subjects (con't)

Name	Type	Size	Comments
PhoHome	Text	12	
Fax	Text	12	
MailDate	Date/Time	8	
FollowUpDate	Date/Time	8	
Consent	Yes/No	1	
MedRelease	Yes/No	1	
MedRecords	Yes/No	1	
TransmitDate	Date/Time	8	
InterviewDate	Date/Time	8	
CompleteDate	Date/Time	8	
PhoRecNum	Text	7	
AddRecNum	Text	7	
AdmDate	Date/Time	8	
TARGDXShort	Text	3	
EventDutyBase	Text	50	
EventDutyZip	Text	5	
AdmYYMM	Text	4	
AFSC1Short	Text	7	
AFSC_Title	Text	255	
AFSC1	Text	7	
AFSC2	Text	7	
AFSC3	Text	7	
eMail	Text	35	
Loaded	Yes/No	1	

B-7

Data Sources

Military Databases

natality.crdbdxprtran1.sd2
natality.crdbdxprtran2.sd2
natality.sidr.sd2
natality.xport.dt.sd2
dmdc_contact.xls
dmdc_demo.xls
wwl1222TableA.DOC
wwl1222TableB.DOC

Civilian Databases

transunion.dbf
ncoa_rtrns.dbf

AFWomen Databases

AFWomen.mdb
AFTracking.mdb

Battelle Databases

HRRD BATV1
SIDR BATV1

Air Force Women Focus of Pregnancy Study...

Here's your chance to make a contribution toward improving pregnancy outcomes for all women

UNITED STATES AIR FORCE

THE UNIVERSITY OF TEXAS - HOUSTON
HEALTH SCIENCE CENTER

Battelle
... Putting Technology To Work

Battelle Centers for Public Health Research and Evaluation
100 Capitola Dr. Suite 301
Durham, NC 27713-4411

(919) 544-3717
Fax (919) 544-0830

How can I help?

1. Please **read** the enclosed literature that describes, in detail, the background and goals of the study.

2. **Sign** the enclosed **Information Sheet Signature Page and Medical Record Release** form.

3. **Send** one copy of the **Information Sheet Signature Page** and one copy of **Medical Record Release** form by fax to Mr. Stephen Wilkins (919) 544-0830; or use the enclosed self-addressed envelope provided. Faxing is preferred. Keep one copy of each form for your records.

Then what?

When we receive your forms, we will contact you to schedule a telephone interview at your convenience. The interview will be your only time commitment.

We will also collect work history and pregnancy data from your military records. We will only need information about your pregnancy, and we will not need to contact you for this information.

All information obtained about you will be considered privileged and held in strict confidence.

"An Investigation of Reproductive Health and Potential Risk Factors among ADAF Women"

WHAT IS THIS STUDY ALL ABOUT?

You are among 4000 former and current active duty Air Force women randomly selected for participation in a study investigating women's reproductive health. We will be evaluating factors related to the occurrence of four different pregnancy experiences:

- **normal birth without complications,**
- **high blood pressure during pregnancy,**
- **miscarriage, and**
- **early or pre-term delivery.**

This DoD sponsored study is carried out by researchers from the Battelle Centers for Public Health Research and Evaluation, the University of Texas-Houston Health Science Centers School of Public Health, and the US Air Force.

This study is designed to discover whether work environments influence pregnancy outcomes. In addition, it should identify if there are areas where intervention and improved heath care planning for pregnant women can make a difference.

What does this involve?

We need to compare the occupational histories, workplace environments and lifestyles of many different women — both

those who experienced problems with their pregnancy, and those with an uncomplicated pregnancy — to learn what may influence these events.

If you are willing to participate, a telephone interview will be scheduled to obtain information about factors such as lifestyle and work history. The interview may last up to one hour. In addition, we will need your permission to access your birth related medical records. We will also review available Air Force workplace case files for jobs you had during pregnancy.

Why Air Force Women?

As a woman in the Air Force you are part of a unique population. This is due to your occupation and access to excellent health care.

In fact, the Air Force has long supported women in the military. It has the highest percentage of women on active duty of any service, the most career fields available to women, and the strongest programs to protect pregnant women and their offspring.

These factors have led us to conclude that studies of Air Force women and their pregnancies could provide answers to medical questions which are available nowhere else.

What has been learned so far?

In the first phase of this study we reviewed twenty years of hospitalization records for

active duty Air Force women. These records were reviewed to determine baseline levels of births and adverse pregnancy-related outcomes.

Overall, we found that birth rates were higher among active duty Air Force women than their civilian counterparts. Miscarriages and high blood pressure during pregnancy decreased over time. However, early deliveries have been increasing— reflecting similar patterns in civilian populations.

Confidentiality

We will take extreme measures to protect your privacy and confidentiality.

- Your name and Social Security Number will not appear in any files that contain information about your exposures, work history or lifestyle.

- Your records will be identified by codes known only to the researchers.

- Your information will be stored in a secure area with access limited only to research team members.

- Your name will never appear in any reports.

- Results will be presented in such a way that individual participants cannot be identified.

- After 5 years, all identifying information collected will be destroyed.

APPENDIX C

JAN 2 9 1999

MEMORANDUM FOR IERA/RSRH (LT COL GIBSON)

FROM: AFMOA/CC
110 Luke Avenue, Room 405
Bolling AFB, DC 20332-7050

SUBJECT: The Air Force Women's Natality Study

   I deeply appreciate your coordination of the January 12th planning meeting on this important Defense Advisory Committee on Women in the Services (DACOWITS) study and the attendance of the MAJCOM SG staffs. As you are aware, the general news concerning the reproductive health pregnancy outcomes among Air Force is good. Fertility rates are generally higher than national averages, with rates of pregnancy loss, pregnancy induced hypertension and Caesarian section decreasing. Rates of early onset of delivery and hospitalizations, however, are rising, particularly among black women and women in health care occupational fields. Similarly, ectopic pregnancy rates were higher between 1985-1989, although no clear trends were identified relative to occupation.

   In order to further explore factors related to the reproductive health of Air Force women, request you proceed with Phase II of this study which will examine occupational factors in more depth to determine whether such factors can be reasonably modified in order to further ensure the reproductive health of our female Service members. Request you obtain appropriate Institutional Review Board (IRB) approval prior to this phase and inform MAJCOM POCs identified in the January 12th meeting of your progress. Finally, I request you develop a working plan with each MAJCOM POC to ensure a smooth completion of this project.

   In closing, I am certain the Air Force will benefit from this report on the reproductive health of Air Force women and I look forward to receipt of the study's conclusions and recommendations. My POC for this matter is Colonel Sanford Zelnick who may be reached at the address above or by phone at DSN 297-4318, email: sandy.zelnick@usafsg.bolling.af.mil.

EARL W. MABRY II, Major General, USAF, MC
Commander
Air Force Medical Operations Agency
Office of the Surgeon General

C-1

DEPARTMENT OF THE AIR FORCE

HEADQUARTERS UNITED STATES AIR FORCE

WASHINGTON DC

MEMORANDUM FOR SEE DISTRIBUTION

FROM: AFMOA/CC
110 Luke Avenue, Room 405
Bolling AFB, DC 20332-7050

SUBJECT: An Investigation of Reproductive Health and Potential Risk Factors Among Active Duty Air Force Women - Phase II

This Defense Advisory Committee on Women in the Services (DACOWITS) study reviews pregnancy outcomes among active duty Air Force women. Phase I of the study is complete and technical summaries are at Attachment 1. Overall, the news is good. Birth rates among active duty Air Force women are higher and adverse reproductive rates are generally lower than among civilian women.

Phase II of this study is now ready to begin. In this phase, women will be telephonically interviewed at a time and place of their choosing regarding their occupational exposures, pregnancy outcomes, and lifestyle. Results from the interviews will be coupled with medical records and industrial hygiene case file reviews. This investigation has been extensively reviewed and approved by the US Army Medical Research and Development Command, the AFMOA clinical research division (HQ AFMOA/SGOT), the Institutional Review Board (IRB) at Travis AFB, CA and various other academic and research IRBs. Bases which have been selected for the study are at Attachment 2.

I request your cooperation with Dr. Diana Echeverria and her research staff from the Battelle Centers for Public Health Research and Evaluation (CPHRE) and the University of Texas Houston Health Science Center in completing this important study. They will need access to your medical records and industrial hygiene case files The impact on your operations should be minimal; the Battelle researchers will perform all data abstraction and copying chores associated with these record reviews. Medical records will only be sought for those participants who provide a signed medical records release or an informed consent. The Battelle researchers will contact you well in advance of any visits to arrange base access and schedule the records reviews.

My POC for this matter is Lt Colonel Tom Neal. He can be reached at AFMOA/SGOE at the address above or by phone at DSN 297-4318. Thank you for your assistance in this matter.

PAUL K. CARLTON, JR.
Major General USAF, MC, CFS
Commander
Air Force Medical Operations Agency
Office of the Surgeon General

Attachments:
1. Bases Selected For Study
2. Phase I Technical Summaries

cc:
IERA/RSRH (Lt Col Gibson)
Office Of The Lead Agent, HSR 10
   (Lt Col Grayson)
Battelle Human Affairs Research Center
   (Dr. Echeverria)

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AFBCA/EV (Mr. John Smith)

TALKING PAPER

ON

AIR FORCE WOMEN PREGNANCY STUDY

**REQUEST FOR PERMISSION TO OBTAIN
MILITARY RECORDS FROM BASE ORGANIZATIONS**

REQUEST FOR PERMISSION
Researchers from the US Air Force, Battelle Centers for Public Health
Research and Evaluation, and the University of Texas - Houston Health
Science Center School of Public Health are requesting your permission to
gain access to base military records as part of the second phase of a 1.8
million dollar study funded by the Defense Women's Health Research
Program and approved by the Air Force Medical Operations Agency
Commander Major General Paul K. Carlton. The Air Force Co-Investigator
is Lt. Col. Kevin Grayson, Chief, Clinical Preventive Services, Office of the
Lead Agent, Travis AFB.

STUDY BACKGROUND
"An Investigation of Reproductive Health and Potential Risk Factors
Among ADAF Women" is a two phase study designed to discover whether
work environments influence pregnancy outcomes and to uncover areas
where intervention and improved health care planning for pregnant women
are needed.

The first phase reviewed hospitalization records for ADAF women
between 1975-1994. It found that fertility rates are higher for AF women
than the national average and the rates of pregnancy loss or adverse
outcomes are lower and generally decreasing. However, rates for
premature deliveries are increasing both in the AF and civilian
populations.

The second phase is a two-year study focused on comparing lifestyles,
occupational histories, and workplace environments of women
experiencing both negative and normal pregnancy outcomes. In addition
to telephone interviews of 7500 ADAF women, supplemental information
is needed to confirm information gathered from the women. The
researchers are requesting your permission to gain access to records
stored at various stateside. Those records include Bioenvironmental
Engineering Workplace Casefiles, Public Health Tab F, wing flight records,
and inpatient and outpatient medical records. Without this supplemental
information obtained from the military records, the data is subject to error
from recall bias and missing information.

REQUIREMENTS TO COMPLETE THE PROJECT

Researchers have received the "Statement of Commitment" for the project and data collection efforts. Prior to visiting the bases, the researchers will need to obtain letters from each Installation Commander and Medical Treatment Facility Commander granting permission to access the necessary records. In addition, letters of introduction for Battelle staff are needed to use to document this permission. Once that is complete, the data collection process will begin.

FIGURES 1 AND 2

Figure 1 shows the general fertility rates by race in live births per 1,000 women for Civilian and USAF Women between 1980 – 1983. During this period, fertility rates for US blacks are generally higher than US whites and ADAF women. USAF blacks and whites show very similar fertility rates. When comparing USAF women's fertility rates to civilian populations, Air Force women generally have higher fertility rates. Figure 2 shows the impact of employment on the general fertility rate between civilian and USAF active duty women. US employed women have consistently lower fertility rates than US women and ADAF women. Although there is a slight drop after ~ 1993, overall ADAF have the highest fertility rates among all US women and thus their active duty status does not appear to influence this fertility rate.

MEDICAL AND INDUSTRIAL HYGIENE DATA NEEDED FROM THE AF BASES

Each proposed base visit will last approximately 1-3 days. The information needed to verify pregnancy diagnosis can be abstracted from the subject's medical records, with written consent for medical record release previously granted by subject. Occupational exposure data can be abstracted from BEE and PH case files. In some cases, more complex information may need to be copied.

Data collected will be coded so that individual information will be protected with extreme measures taken to ensure privacy and confidentiality. Only summary data will be reported, and after 5 years, information collected for the study will be destroyed.

SOURCES OF RECORDS FOR ~7500 WOMEN

Study cases and controls will be selected from the Standard Inpatient Data Record maintained at Fort Detrick, MD. Medical record sources include the National Records Depository in St. Louis, MO and the medical treatment facilities. Work History records will be gathered from the Human Resources Central Research Database maintained at Brooks AFB, TX. Contact information will be obtained from the Defense Manpower Data Center in Monterey, CA. Radiation exposure records will be obtained from the Air Force Center for Radiation Dosimetry at Brooks AFB.

REQUESTING PERMISSION FROM ALL CONUS BASES

Researchers are requesting permission to gain access to military records at all CONUS bases. Not all bases will be visited, only those bases with higher number of cases and controls. However, researchers are requesting access to medical records and permission to interview the women at those bases

BENEFITS TO THE AF

The information gathered in this study will be a great benefit to the AF. Not only will the study ensure that certain jobs don't endanger pregnancies, it could help to improve the health of pregnant women on Active Duty by identifying any areas needing health care intervention.

In addition, it will provide a baseline for the future impact of AF military deployment on reproductive health.

NO COST to Air Force Major Commands or Wings

Battelle CPHRE covers all monetary costs so there is no cost to the individual wings. A minimal amount time may be necessary from base military personnel in order to obtain the files. The researcher abstracting the data from the files has over 13 years of Air Force experience in BEE. This expertise will minimize unnecessary time demands from military personnel.

PERMISSION TO GAIN ACCESS

We hope that you agree to grant the project staff permission to abstract information from Air Force workplace case files and subject medical records. The information gained in this study will help to assure that the jobs held by ADAF women do not endanger their pregnancies. In addition, it will help to enhance AF health care systems by uncovering areas where intervention and improved health care planning for pregnant women are needed.

Request for permission to obtain access to military records

A Reproductive Health Assessment of Active Duty Women in the Air Force

Diana Echeverria, Ph.D – Battelle CPHRE, Seattle
Lowell Sever, Ph.D – Battelle CPHRE, Seattle
Alvah Bittner, Ph.D – Battelle CPHRE, Seattle
Nicholas Heyer, Ph.D. – Battelle CPHRE, Seattle
John Herbold, Ph.D – University of Texas, Houston
Lieutenant Colonel Kevin Greyson, Ph.D – US Air Force
Lieutenant Colonel Roger Gibson, Ph.D – US Air Force
Anne Vielmetti, MS – Battelle CPHRE, Seattle
Stephen Wilkins – Battelle CPHRE, Durham

Battelle

Study Background

A Two Phase study

- First Phase is complete

- Second Phase requires 2 years

  Requests access to records stored at all CONUS AF Bases to confirm information from women from 1990 - 1998

  - AF BEE, PH, flight hours, & medical records

  - Will conduct telephone interviews (n=7,000)

Requirements to Complete the Project

|	
Complete	"Statement of Commitment" for the project and data collection efforts
Need to Do	Letters for each AF Base Commander and Medical Treatment Facility Commander mailed prior to visit
Need to Do	Letters of introduction for Battelle staff for use at flight operation and medical offices
	Data collection

Fig. 1 General Fertility Rates for Civilian and USAF Women by Race, 1980-1993
Live Births/1,000 Women
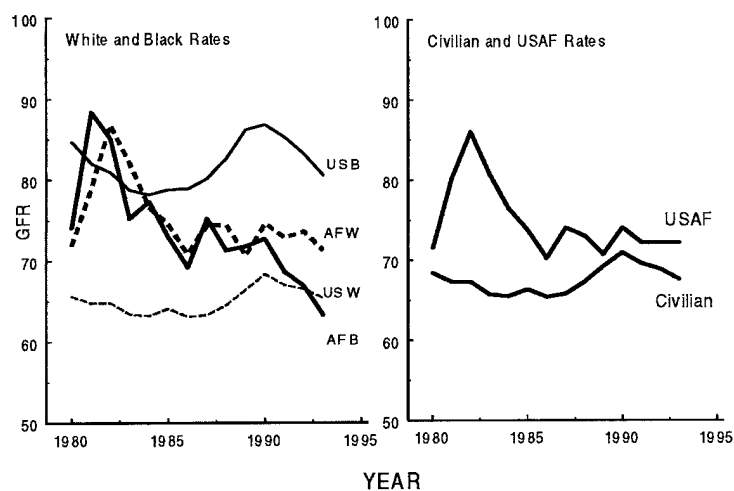
Fig. 2 The Impact of Employment on the General Fertility Rate Civilian vs USAF Active Duty Women
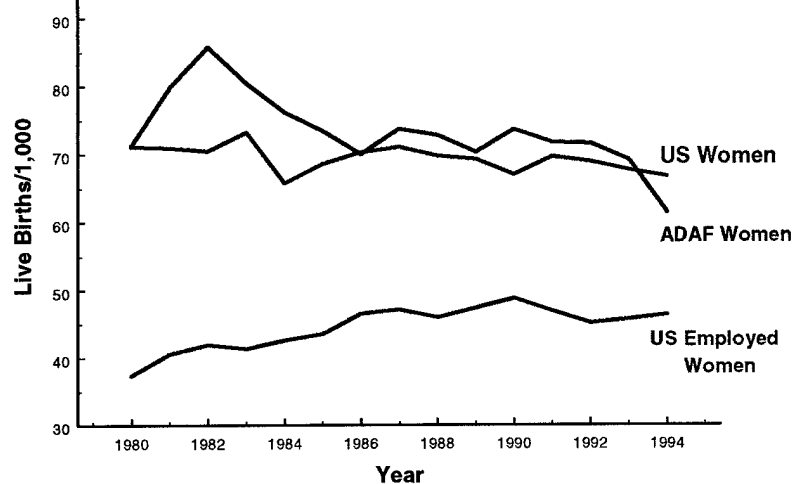
Medical and Industrial Hygiene Data

Medical Record Abstraction   Diagnosis for index pregnancy

Industrial Hygiene Data   BEE & PH Case-files, AF Forms 422 & 2755, SF 513, Potential use of Command Core, ASIMS, or other industrial hygiene databases

Battelle's Industrial Hygienist proposes to visit AF bases. He will be at each base for 1-3 days and will abstract most information from BEE & PH records and medical record, but in some cases he may need to copy more complex information.

Sources of Records

Medical Records
❏ AF Medical Support Agency Standard Inpatient Record

❏ National Records Archive, St. Louis, MO

❏ Military Treatment Facilities provided medical record release is granted by the subject

❏ The subject will inform us where the medical record is located

Work History Records
❏ Defense Manpower Data Center, Monterey, CA

❏ Human Resources Central Research Database, Brooks AFB

Benefits to the AF

• Ensure jobs don't endanger pregnancies

• Improve the health of pregnant women on Active Duty

• Identify interventions in health care (if needed)

• Provide a baseline for future impact of military deployment on reproductive health

No Cost to the AF Major Commands or Wings

- Study costs covered by Battelle ($1.8 million)

- Minimal demand in time from military personnel

  - Data file collection only

  - Researchers have 13+ years of Air Force industrial hygiene experience

November 16, 1999

Mr. Stephen Wilkins
100 Capitola Drive, Suite 301
Durham, NC 27713

Dear Mr. Wilkins:

As chair of the Battelle Institutional Review Board (IRB) I have reviewed the annual review submission for the study entitled "An Investigation of Reproductive Health and Potential Risk Factors Among Active Duty Air Force Women" (FG003126) and grant expedited approval to continue with this study.

As with all Battelle studies, this study will be subject to an annual IRB review at the end of next year. We will send you the necessary form for annual review at the appropriate time. In the meantime, should any changes occur in your protocol or questionnaire, please inform the IRB. Similarly, the IRB needs to be notified in case of any injury or unexpected outcome arising from this study.

Sincerely,

Margaret Pennybacker

Margaret R. Pennybacker, Ph.D.
IRB Chair

cc: Brigette Brevard
        Anita Dietrich
        Jenny Greenway

Battelle/Survey Operations
100 Capitola Drive, Suite 301
Durham, NC 27713
Multiple Project Assurance No. M-1221

INSTITUTIONAL REVIEW BOARD NOTICE OF APPROVAL

PROJECT DIRECTOR: Diana Echeverria/Stephen Wilkins

TITLE: An Investigation of Reproductive Health Potential Risk Factors Among Air Force Women-Phase II

CLIENT: Department of Defense   PROTOCOL DATE: 11/10/99

BATTELLE PROJECT CODE: FG003126-01   or PROPOSAL NUMBER: _ *(if preaward)*

NATURE OF REVIEW: *(check one)*

	FULL MEETING DATE: _____
X	EXPEDITED *(specify reason)*: minimal risk; confidentiality; recent full-board approval of request for modifications
	EXEMPT *(specify reason)*: _____

TYPE OF APPROVAL: *(check one)*

	PRELIMINARY. SCHEDULE NEXT REVIEW PRIOR TO INVOLVEMENT OF HUMAN SUBJECTS.
	PRETEST/PILOT TEST. SCHEDULE NEXT REVIEW PRIOR TO FULL IMPLEMENTATION.
	FULL IMPLEMENTATION.
X	RENEWAL.
	AMENDMENT DATED / /

Please note the following requirements:

PROBLEMS OR ADVERSE REACTIONS: If any problems in treatment of human subjects or unexpected adverse reactions occur as a result of this study, you must notify the IRB Chairperson immediately.

CHANGES IN PROTOCOL: If there are significant changes in procedures or study protocol, you must notify the IRB Chairperson before they are implemented.

RENEWAL: You are required to apply for renewal of approval at least annually for as long as the study is active. Your next review date should be on or before **11/15 /00** .

_____   _11/ 17/99_
IRB Chairperson   Date

Margaret R. Pennybacker, Ph.D.
Print or Type Name

____ Copy of approved Informed Consent attached.

cc: Project Director
    IRB Administrator

30 March 1999

MEMORANDUM FOR HQ AFMOA/SGOT
          110 Luke Ave, Room 405
          Bolling AFB, DC 20332-7050
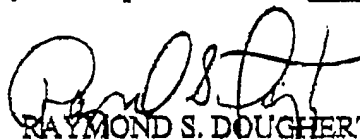
FROM: 60th Medical Group/SGSEM
      101 Bodin Circle
      Travis AFB, CA 94535-1800

SUBJECT: Institutional Review Board Actions

On 8 March 99, the Institutional Review Board unanimously approved the protocols and Informed Consent Document (when it pertain to an protocol) by a vote of 7-0, with no minority opinions expressed, for an approval period of one calendar year.

1. *FDG19990013H, E2197, "Phase III Study of Adriamycin/Taxotere vs. Adriamycin/Cytoxan for the Adjuvant Treatment of Node Positive or High Risk Node Negative Breast Cancer."* PI: Lt. Col. Deborah G. Tracy. *Greater than minimal risk*

2. *FDG19990015H, "Attitudes and Perceptions of Follow-Up Care in Patients with Newly Diagnosed Prostate Cancer."* PI: Maj. Daniel Keleti. *Minimal risk*

3. *FDG19990016H, "A Phase II Investigation of Reproductive Health and Potential Risk Factors among Active Duty Air Force Women."* PI: Lt. Col. Kevin Grayson. *Minimal risk*

4. *FDG19990017H, "Randomized Phase II Trial of Carboplatin/Gemcitabine Followed by Paclitaxel or Cisplatin/Vinorelbine Followed by Docetaxel in Advanced Non-Small Cell Lung Cancer."* SWOG 9806. PI: Lt. Col. Tracy. *Greater than minimal risk*

3. FDG19990018H, "The 2nd SYMPHONY Trial. A Phase III, Multicenter, International, Randomized, Double-Blind, Aspirin-Controlled Trial To Evaluate The Efficacy And Safety Of Two Regimens With Xubix□ (Sibrafiban; Ro 48-3657), An Oral Platelet Glycoprotein IIb/IIIa Receptor Antagonist, As Therapy For The Long Term Prevention Of Secondary Vascular Events In Patients After An Acute Coronary Syndrome. (BC 15457). PI: Maj Glenn Harris. _Greater than minimal risk_

RAYMOND S. DOUGHERTY, Lt Col, USAF, MC
Chairman, Institutional Review Board

Approved/Disapproved

THOMAS L. LOFTUS, Colonel, USAF, MC, CFS
Commander

Attachments:
Protocol Proposal Package(s)
cc:
(SGO)

April 8, 1999

Battelle
. . . Putting Technology To Work

**Centers for Public Health
Research and Evaluation**
100 Capitola Drive, Suite 301
Durham, North Carolina 27713-4411
Telephone (919) 544-3717
Fax (919) 544-0830

Diana Echeverria, Ph.D.
Battelle/CPHRE
4000 N.E. 41st. Street
Seattle, WA 98105

Dear Dr. Echeverria;

As chair of the Battelle Institutional Review Board (IRB) I have reviewed the protocol revision for the study entitled "An Investigation of Reproductive Health Potential Risk Factors Among Air Force Women-Phase II" (FG003126-01) and have approved this modification.

As with all Battelle studies, this study, once funded, will be subject to an annual IRB review at the end of next year. We will send you the necessary form for annual review at the appropriate time. In the meantime, should any changes occur in your protocol or questionnaire, please inform the IRB. Similarly, the IRB needs to be notified in case of any injury or unexpected outcome arising from this study.

I wish you the best in your study.

Sincerely,

Margaret Pennybacker

Margaret R. Pennybacker, Ph.D.
IRB Chair

cc: Steve Wilkins
       Jenny Greenway
       Anita Dietrich
       Charlotte H. Coley

C-17

Battelle Health & Human Services IRB

100 Capitola Drive, Suite 301
Durham, NC 27713
Multiple Project Assurance No. M-1221

INSTITUTIONAL REVIEW BOARD NOTICE OF APPROVAL

PROJECT DIRECTOR: **Diana Echeverria, Ph.D.**

TITLE: **An Investigation of Reproductive Health Potential Risk Factors Among Air Force Women – Phase II**

CLIENT: **U.S. Army**   PROTOCOL DATE: **4/8/99**

BATTELLE PROJECT CODE: __FG003126-01_____ or PROPOSAL NUMBER: _ *(if preaward)*

NATURE OF REVIEW: *(check one)*

[ ]	FULL → MEETING DATE: __/ /99__
[X]	EXPEDITED *(specify reason)*: __Minor modifications, minimal risk.__
[ ]	EXEMPT *(specify reason)*: _____

TYPE OF APPROVAL: *(check one)*

[ ]	PRELIMINARY. SCHEDULE NEXT REVIEW PRIOR TO INVOLVEMENT OF HUMAN SUBJECTS.
[ ]	PRETEST/PILOT TEST. SCHEDULE NEXT REVIEW PRIOR TO FULL IMPLEMENTATION.
[ ]	FULL IMPLEMENTATION.
[ ]	RENEWAL.
[X]	AMENDMENT DATED _4 /8 /99_

Please note the following requirements:

PROBLEMS OR ADVERSE REACTIONS: If any problems in treatment of human subjects or unexpected adverse reactions occur as a result of this study, you must notify the IRB Chairperson immediately.

CHANGES IN PROTOCOL: If there are significant changes in procedures or study protocol, you must notify the IRB Chairperson before they are implemented.

RENEWAL: You are required to apply for renewal of approval at least annually for as long as the study is active. Your next review date should be on or before __/ / 00__.

M. R. Pennybacker   _4 / 8 /99_
IRB Chairperson   Date

Margaret R. Pennybacker, Ph.D.
Print or Type Name

__X__ Copy of approved Informed Consent attached.

cc: Project Director
    IRB Administrator

DEPARTMENT OF THE ARMY
US ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY
820 CHANDLER STREET
FORT DETRICK, MARYLAND 21702-5014

2 3 JUN 1999

REPLY TO
ATTENTION OF:

Research Contracts Branch A

Patti Olson
Contracting Officer
Battelle Memorial Institute
4000 N.E. 41st Street
Seattle, Washington 98105-5428

Dear Ms. Olson:

Please reference Contract DAMD17-96-C-6103 under the direction of Diana Echeverria, Ph.D.

You are hereby notified that the study entitled "An Investigation of Reproductive Health and Potential Outcomes Among Active Duty Air Force Women, Phase II" will not require OMB approval. Per review by the OMB analyst at Washington Headquarter Service, this study is exempt under the provisions of 5 CFR, 1320.3 (h)(5) relating to "Information from individuals under treatment or clinical examination in connection with research…"

Should you have additional questions concerning this, you may contact me at 301-619-7349 or Ms. Kim Frazier, OASD Health Affairs, 703-681-4263, extension 3027.

Sincerely,

Sacelia L. Heller
Contract Specialist

Copy Furnished:

Stephen Wilkins
Research Scientist
Battelle Memorial Institute
100 Capitola Drive, Suite 301
Durham, North Carolina 27713-4411

Diana Echeverria, Ph.D.
Principal Investigator
Battelle Memorial Institute
100 Capitola Drive, Suite 301
Durham, North Carolina 27713-4411

DEPARTMENT OF THE ARMY
US ARMY MEDICAL RESEARCH ACQUISITION ACTIVITY
820 CHANDLER STREET
FORT DETRICK, MARYLAND 21702-5014

REPLY TO
ATTENTION OF:

15 APR 1999

Research Contracts Branch A

Patti Olson
Contracting Officer
Battelle Memorial Institute
4000 N.E. 41st Street
Seattle, Washington 98105-5428

Dear Ms. Olson,

Please reference Contract DAMD17-96-C-6103 under the direction of Diana Echeverria, Ph.D.
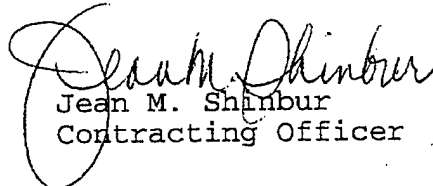
Approval is hereby given to conduct research using humans and human anatomical substances for the following protocol:

"Phase II: An Investigation of Reproductive Health and Potential Risk Factors Among ADAF Women," PI: Diana Echeverria, Ph.D., HSP Log No. A-9077

The USAMRDC Form 60-R, Volunteer Registry Data Sheet is not required for this study.

Should you have further questions regarding the administration of this contract, please contact Sacelia L. Heller at 301-619-7349.

Sincerely,

Jean M. Shinbur
Contracting Officer

Copy Furnished:

Diana Echeverria, Ph.D.
Principal Investigator

MCMR-RCQ-HR/Ms. Catherine Smith

THE UNIVERSITY OF TEXAS
HOUSTON
HEALTH SCIENCE CENTER
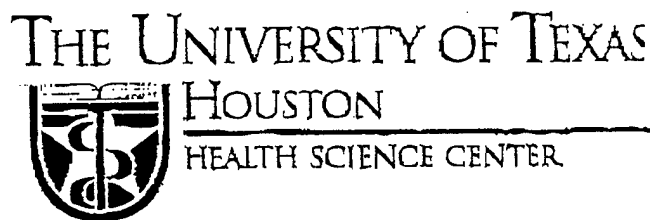
NOTICE OF APPROVAL TO BEGIN RESEARCH   February 19, 1999

HSC-SPH-99-011 - "An Investigation of Reproductive Health Potential Risk Factors Among Air Force Women - Phase II"
PI: John R. Herbold, DVM, MPH, PhD; Drs. Bradshaw & Bell

PROVISIONS: Unless otherwise noted, this approval relates to the research to be conducted under the above referenced title and/or to any associated materials considered at this meeting, e.g. study documents, informed consents, etc.

APPROVED: At a Convened Meeting

APPROVAL DATE: February 19, 1999   **EXPIRATION DATE:**   January 31, 2000

CHAIRPERSON: Anne Dougherty, MD

Subject to any provisions noted above, you may now begin this research.

CHANGES - The P.I. must receive approval from the CPHS before initiating any changes, including those required by the sponsor, which would affect human subjects, e.g. changes in methods or procedures, numbers or kinds of human subjects, or revisions to the informed consent document or procedures. The addition of co-investigators must also receive approval from the CPHS. ALL PROTOCOL REVISIONS MUST BE SUBMITTED TO THE SPONSOR OF THE RESEARCH.

INFORMED CONSENT - Informed consent must be obtained by the P.I. or designee using the format and procedures approved by the CPHS. The P.I. must instruct the designee in the methods approved by the CPHS for the consent process. The individual obtaining informed consent must also sign the consent document.

UNANTICIPATED RISK OR HARM, OR ADVERSE DRUG REACTIONS - The P.I. will immediately inform the CPHS of any unanticipated problems involving risks to subjects or others, of any serious harm to subjects, and of any adverse drug reactions.

RECORDS - The P.I. will maintain adequate records, including signed consent documents if required, in a manner which ensures confidentiality.

UT-Houston • G.700 John Freeman Building • P.O. Box 20036 • Houston, Texas 77225 • (713) 500-5827 FAX (713) 500-5830
shoane@oac.hsc.uth.tmc.edu
Located In the Texas Medical Center

C-21

INFORMED CONSENT DOCUMENT

60TH MEDICAL GROUP
David Grant Medical Center
101 Bodin Circle
Travis AFB, CA 94535-1800

TITLE OF STUDY

"An Investigation of Reproductive Health and Potential Risk Factors among Active Duty Air Force Women"

INVESTIGATORS' NAMES, DEPARTMENTS, PHONE NUMBERS

Principal Investigator	Diana Echeverria, Ph.D.	206-528-3131	Battelle, Seattle, WA
Co-Investigator	John Herbold, Ph.D.	210-567-5930	University of Texas, Houston
Co-Investigator	Lt.Col. Kevin Grayson	707-424-6535	U.S. Air Force, Travis AFB
Co-Investigator	Lowell Sever Ph.D.	206-528-3348	Battelle, Seattle, WA
Project Contact	Nicholas Heyer, Ph.D.	206-528-3224	Consultant, Seattle, WA
Human Subject Comm.	Margaret Pennybacker,PhD	919-544-6587	Battelle, Durham, NC

INTRODUCTION

It is important that I read and understand several general principles that apply to all who take part in research studies: (a) taking part in the study is entirely voluntary; (b) personal benefit may not result from taking part in the study, but knowledge may be gained that will benefit others; (c) I may withdraw from the study at any time without penalty or loss of any benefits to which I am otherwise entitled.

PURPOSE OF STUDY
(This section will explain the nature, purpose(s), approximate number of subjects, and the duration of participants' involvement.)

I, _____ (SSN: ___ - ___ - _____), understand that I am being asked to participate in the only study of pregnancy, miscarriage, and births currently being conducted among former and current active duty Air Force women. The Air Force has an excellent track record of supporting active duty women who become pregnant. Since 1975 it has allowed women who become pregnant to remain on active duty. This may partly explain why the Air Force has the highest reenlistment rate among active duty women in all branches of the US military. Earlier studies have shown that birth rates among active duty Air Force women generally exceed those of the US working population. Air Force women also have better pregnancy outcomes, reflecting their good health, excellent health benefits, and the safety of Air Force workplaces. Nevertheless, it is possible that Air Force work environments may have influenced unsatisfactory pregnancy outcomes on active duty women. I understand that this study intends to investigate these connections with the hope of preventing unsatisfactory pregnancy outcomes among active duty Air Force women in the future.

INFORMED CONSENT DOCUMENT FOR TRAVIS AFB PROTOCOL # <u>FDG19990016H</u>
Page 1 of 4
14 September 1999

(Volunteer's Initials)

(Research Team Copy. Please Mail or Fax to Battelle CPHRE)

I understand that this study will evaluate possible associations between three pregnancy outcomes; high blood pressure during pregnancy, miscarriage, early delivery, and a broad range of personal and work-related factors previously suspected of being associated with these outcomes. I have been randomly selected for this study because my hospital records indicate my experience with one of these outcomes, or I had a completely normal delivery between 1990 and 1998. If I decide to participate, I understand that a collection of information will be requested from my work history and military records data, and also, a telephone interview will be required.

PROCEDURES

(This section will explain all procedures and the purpose of the procedures to be undergone as part of this study. Any experimental procedures will be explained as such.)

The study will be conducted over a two-year period and will include approximately 1,900 pregnancies with one of the three outcomes being studied, and an additional 1,900 pregnancies without any complication for comparison. If I decide to participate, the following is required:

1) written permission to use my pregnancy-related Air Force inpatient and outpatient medical records, and

2) written permission to schedule me for a telephone interview to be conducted at my convenience.

The telephone interview, which will take an hour or less, will collect information on:

- my work history over a period starting three months prior to conception and continuing until the end of that pregnancy
- a review of chemicals (including solvents, metals, pesticides, etc.) and other factors (including level of physical activity, stress, noise, vibration, etc.) I may have encountered in my workplace during my pregnancy
- a brief medical history with associated medications
- a reproductive history including voluntary abortions
- personal habits including smoking and alcohol consumption for each pregnancy

BENEFITS

I understand that no benefit can be guaranteed. I understand I will not receive payment for participating in this study, and I may not directly benefit from its findings. It is hoped that this study will establish a better understanding of the relationships between personal characteristics, Air Force workplaces, and pregnancy among active duty Air Force women.

ALTERNATIVES

(This section will explain your alternative treatment possibilities)

The alternative is not to participate in this study.

RISKS/INCONVENIENCES

(Any discomfort, risks, and inconveniences caused from procedures or drugs used that may be expected from participation in this study.)

I understand that the only risk from my participation in this study is the possible loss of privacy and confidentiality. While it is possible that my personal and medical information could be unintentionally released, the investigator for this study will be taking stringent precautions to avoid this. First, the investigators will remove my name and Social Security Number from all of my files and store them separately. Codes, known only to the research team, will be used to identify my records. Second, all the data will be stored in a secured area with access limited to the investigators. My name will never appear on any reports and only summary information will be published. The information collected for this study will be kept secure and maintained for five years from the completion of the study. At that time, it will be destroyed.

INFORMED CONSENT DOCUMENT FOR TRAVIS AFB PROTOCOL # FDG19990016H
Page 2 of 4
14 September 1999

_____
(Volunteer's Initials)

(Research Team Copy. Please Mail or Fax to Battelle CPHRE)

The decision to participate in this study is completely voluntary on my part. No one has coerced or intimidated me into participating in this program. I am participating because I want to. The study investigator(s) has adequately answered any and all questions I have about this study, my participation, and the procedures involved. I understand that the investigators will be available to answer any questions concerning procedures throughout this study. I understand that if significant new findings develop during the course of this study that may relate to my decision to continue participation, I will be informed. I further understand that I may withdraw this consent at any time and discontinue further participation in this study without prejudice to my entitlement to care. I will be provided with a copy of this consent form.

I understand that I may refuse to participate in all or any part of this study, or refuse to answer any specific question without penalty. All information obtained about me, as an individual will be considered privileged and held in strict confidence. My identity will remain private. I will not be identified in any presentation of the results. No individual data about me will be released; only summary data will be published.

If I decide to participate, I will read and sign the signature page of this informed consent document, as well as the attached medical records release form.

1. I have read this informed consent document and understand the purpose and benefits, procedures, and risks associated with my participation in the study.

2. I agree to participate in the study. I understand that my participation is voluntary and that I may decide not to participate in any or all portions of this study at any time without penalty; and that I may decide not to answer any particular question or part of a question.

3. I give permission to allow the study researchers to schedule a one-hour interview at my convenience.

   If I decide to participate I will be contacted in the next few weeks to schedule a convenient time for the telephone interview. Otherwise, if I decide not to participate, I will not be contacted again.

4. I may also give written permission to use my pregnancy related USAF inpatient and outpatient medical records using the attached "Medical Record Release Form". I understand that the information obtained from my medical records will be limited to my pregnancy and these and my telephone interview will remain strictly confidential.

5. I understand that my name will never appear on any reports; and that only summary data from the study will be published.

6. I understand that this study is in compliance with standards for treatment of human subjects by our various research institutions and the US Air Force.

7. I understand this investigation is a Defense Advisory Committee on Women in the Services (DACOWITS) study. It should be noted that representatives of the U.S. Army Medical Research and Materiel Command are eligible to review research records as part of their responsibility to protect human subjects in research.

INFORMED CONSENT DOCUMENT FOR TRAVIS AFB PROTOCOL # FDG19990016H
Page 3 of 4
14 September 1999

_____
(Volunteer's Initials)

(Research Team Copy. Please Mail or Fax to Battelle CPHRE)

8. I understand copies of an Executive Summary of this study can be obtained by requesting a copy from the following address:

       Air Force Women's Health Study
       Battelle CPHRE, 100 Capitola Drive, Suite 301
       Durham, NC 27713-4411

       or by calling (919) 544-3717 and asking for the Air Force Women's Health Study representative.

My signature below indicates my willingness to participate in this research study.

(Subject's Printed Name)	(Subject's SSN)

(Subject's Signature)	(Best commercial phone number to reach you)	(Date)

INSTRUCTIONS

Informed consent document (4 pages)

- Fill in name and social security number in Purpose of Study section of page 1;
- Initial each page at the bottom right corner;
- Compete the section above, including your signature indicating your willingness to participate in the study.

Medical records release form (1 page) *attached*

- Complete form including location of Medical treatment facility where treated or delivered and the location of your medical records.

The signed forms (5 pages total) should be either mailed in the enclosed envelope or faxed with the enclosed fax cover sheet to Mr. Stephen Wilkins at (919) 544-0830. An additional copy of each form is provided for your records.

And finally, to aid us in the collection of the workplace Industrial Hygiene casefiles, please complete the following information about your workplace during the study period defined on the Que Sheet:

Job Title _____ AFSC _____ Base Assigned _____

Organization _____ Office symbol _____ Duty section _____

Briefly describe your immediate workplace:

INFORMED CONSENT DOCUMENT FOR TRAVIS AFB PROTOCOL # FDG19990016H
Page 4 of 4
14 September 1999

_____
(Volunteer's Initials)

(Research Team Copy. Please Mail or Fax to Battelle CPHRE)

MEDICAL RECORD RELEASE FORM

I give my consent for the _____

(Name of Medical Treatment Facility where you were treated or delivered)

and the _____

(Name of Medical Treatment Facility where your outpatient medical records are currently located)

to provide my pregnancy related USAF inpatient and outpatient medical records to members

of the *Investigation of Reproductive Health and Potential Risk Factors Among Active Duty*

Air Force Women research staff. The medical information that is collected will only be used

for research purposes by the research staff and that the information obtained will remain

confidential.

Signature: _____

Printed name: _____

Social security number: _____

Date: ___/___/___

This consent is effective upon signing and shall remain valid until September 30, 2000 or
until the end of the study, whichever occurs first.

Air Force Women Focus of Pregnancy Study...

Here's your chance to make a contribution toward improving pregnancy outcomes for all women

UNITED STATES AIR FORCE

THE UNIVERSITY OF TEXAS - HOUSTON
HEALTH SCIENCE CENTER

Battelle
... Putting Technology To Work

Battelle Centers for Public Health Research and Evaluation
100 Capitola Dr. Suite 301
Durham, NC 27713-4411

(919) 544-3717
Fax (919) 544-0830

How can I help?

1. Please **read** the enclosed literature that describes, in detail, the background and goals of the study.

2. **Sign** the enclosed **Information Sheet Signature Page** and **Medical Record Release** form.

3. **Send** one copy of the **Information Sheet Signature Page** and one copy of **Medical Record Release** form by fax to Mr. Stephen Wilkins (919) 544-0830; or use the enclosed self-addressed envelope provided. Faxing is preferred. Keep one copy of each form for your records.

Then what?

When we receive your forms, we will contact you to schedule a telephone interview at your convenience. The interview will be your only time commitment.

We will also collect work history and pregnancy data from your military records. We will only need information about your pregnancy, and we will not need to contact you for this information.

All information obtained about you will be considered privileged and held in strict confidence.

WHAT IS THIS STUDY ALL ABOUT?

You are among 4000 former and current active duty Air Force women randomly selected for participation in a study investigating women's reproductive health. We will be evaluating factors related to the occurrence of four different pregnancy experiences:

- **normal birth without complications,**
- **high blood pressure during pregnancy,**
- **miscarriage, and**
- **early or pre-term delivery.**

This DoD sponsored study is carried out by researchers from the Battelle Centers for Public Health Research and Evaluation, the University of Texas-Houston Health Science Centers School of Public Health, and the US Air Force.

This study is designed to discover whether work environments influence pregnancy outcomes. In addition, it should identify if there are areas where intervention and improved heath care planning for pregnant women can make a difference.

What does this involve?

We need to compare the occupational histories, workplace environments and lifestyles of many different women — both

those who experienced problems with their pregnancy, and those with an uncomplicated pregnancy — to learn what may influence these events.

If you are willing to participate, a telephone interview will be scheduled to obtain information about factors such as lifestyle and work history. The interview may last up to one hour. In addition, we will need your permission to access your birth related medical records. We will also review available Air Force workplace case files for jobs you had during pregnancy.

Why Air Force Women?

As a woman in the Air Force you are part of a unique population. This is due to your occupation and access to excellent health care.

In fact, the Air Force has long supported women in the military. It has the highest percentage of women on active duty of any service, the most career fields available to women, and the strongest programs to protect pregnant women and their offspring.

These factors have led us to conclude that studies of Air Force women and their pregnancies could provide answers to medical questions which are available nowhere else.

active duty Air Force women. These records were reviewed to determine baseline levels of births and adverse pregnancy-related outcomes.

Overall, we found that birth rates were higher among active duty Air Force women than their civilian counterparts. Miscarriages and high blood pressure during pregnancy decreased over time. However, early deliveries have been increasing — reflecting similar patterns in civilian populations.

Confidentiality

We will take extreme measures to protect your privacy and confidentiality.

- Your name and Social Security Number will not appear in any files that contain information about your exposures, work history or lifestyle.
- Your records will be identified by codes known only to the researchers.
- Your information will be stored in a secure area with access limited only to research team members.
- Your name will never appear in any reports.
- Results will be presented in such a way that individual participants cannot be identified.
- After 5 years, all identifying information collected will be destroyed.

What has been learned so far?

In the first phase of this study we reviewed twenty years of hospitalization records for

APPENDIX D

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

AFMOA/CC
110 Luke Avenue, Room 405
Bolling AFB, DC 20332-7050

Dear Study Participant,

I would like to personally invite you to participate in the second phase of the largest study of pregnancy among active duty military women. The first part of this investigation produced good news (Atch 1). Researchers reviewed twenty years of active duty Air Force women's birth records and found that birth rates are higher in active duty Air Force women than their civilian counterparts. Miscarriages, high blood pressure during pregnancy, and other poor birth-related outcomes have decreased among Air Force women over time, although premature deliveries have been increasing, reflecting similar patterns in civilian populations.

We need to look deeper at the causes of poor pregnancy outcomes in order to ensure the safety of our Air Force workplaces. Your participation in this study will help us evaluate how the work environments or lifestyle choices of active duty Air Force women impact their pregnancies.

Should you decide to participate, your commitments to this study will be limited. Researchers will schedule a telephone interview at your convenience. You will be asked questions about your work, pregnancy, and lifestyle. The entire interview should take no more than an hour. Access to your medical records will also be required, and the researchers will only review those portions directly related to your pregnancy.

You can only be a participant in this important study if you sign and return the enclosed consent form and medical records release (forms included). You can fax these forms to (919) 544-0830, or use the postage paid return envelope provided.

Your participation in this study is completely voluntary. You may refuse to participate in all or any parts, or refuse to answer any specific question during the interview, all without penalty. All information obtained about you will be held in strictest confidence. In fact, once all of the facts are collected, your name will be removed from the study files and will never appear in any reports.

As Commander of the Air Force Medical Operations Agency, I strongly support this study. We need to assure every woman in the Air Force and her unborn children have the safest possible environment in which to live and work. The results of this investigation will be meaningful only with your full participation. I hope you will indicate your willingness to participate by returning the enclosed consent form and medical records release.

INFORMED CONSENT DOCUMENT

60TH MEDICAL GROUP
David Grant Medical Center
101 Bodin Circle
Travis AFB, CA 94535-1800

Privacy Act of 1974 applies. DD Form 2005 filed in Clinical/ Medical Records.

PRIVACY ISSUES: *Records of my participation in this study may only be disclosed in accordance with federal law, including the Federal Privacy Act, 5 USC 552a, and its implementing regulations. DD Form 2005 contains the Privacy Act Statement for the records. I understand that the U.S. Food and Drug Administration (FDA), the sponsoring agency and/or their designee may inspect records of this study, if applicable.*

TITLE OF STUDY

"An Investigation of Reproductive Health and Potential Risk Factors among Active Duty Air Force Women"

INVESTIGATORS' NAMES, DEPARTMENTS, PHONE NUMBERS

Principal Investigator	Diana Echeverria, Ph.D.	206-528-3131	Battelle, Seattle, WA
Co-Investigator	John Herbold, Ph.D.	210-567-5930	University of Texas, Houston
Co-Investigator	Lt.Col. Kevin Grayson	707-424-6535	U.S. Air Force, Travis AFB
Co-Investigator	Lowell Sever Ph.D.	206-528-3348	Battelle, Seattle, WA
Project Contact	Nicholas Heyer, Ph.D.	206-528-3224	Consultant, Seattle, WA
Human Subject Comm.	Margaret Pennybacker,PhD	919-544-6587	Battelle, Durham, NC

INTRODUCTION

It is important that I read and understand several general principles that apply to all who take part in research studies: (a) taking part in the study is entirely voluntary; (b) personal benefit may not result from taking part in the study, but knowledge may be gained that will benefit others; (c) I may withdraw from the study at any time without penalty or loss of any benefits to which I am otherwise entitled.

PURPOSE OF STUDY
(This section will explain the nature, purpose(s), approximate number of subjects, and the duration of participants' involvement.)

I, _____ (SSN: ____ - ____ - _____), understand that I am being asked to participate in the only study of pregnancy, miscarriage, and births currently being conducted among former and current active duty Air Force women. The Air Force has an excellent track record of supporting active duty women who become pregnant. Since 1975 it has allowed women who become pregnant to remain on active duty. This may partly explain why the Air Force has the highest reenlistment rate among active duty women in all branches of the US military. Earlier studies have shown that birth rates among active duty Air Force women generally exceed those of the US working population. Air Force women also have better pregnancy outcomes, reflecting their good health, excellent health benefits, and the safety of Air Force workplaces. Nevertheless, it is possible that Air Force work environments may have influenced unsatisfactory pregnancy outcomes on active duty women. I understand that this study intends to investigate these connections with the hope of preventing unsatisfactory pregnancy outcomes among active duty Air Force women in the future.

INFORMED CONSENT DOCUMENT FOR TRAVIS AFB PROTOCOL # FDG19990016H
Page 1 of 4
14 September 1999

_____
(Volunteer's Initials)

(Research Team Copy. Please Mail or Fax to Battelle CPHRE)

I understand that this study will evaluate possible associations between three pregnancy outcomes; high blood pressure during pregnancy, miscarriage, early delivery, and a broad range of personal and work-related factors previously suspected of being associated with these outcomes. I have been randomly selected for this study because my hospital records indicate my experience with one of these outcomes, or I had a completely normal delivery between 1990 and 1998. If I decide to participate, I understand that a collection of information will be requested from my work history and military records data, and also, a telephone interview will be required.

PROCEDURES

(This section will explain all procedures and the purpose of the procedures to be undergone as part of this study. Any experimental procedures will be explained as such.)

The study will be conducted over a two-year period and will include approximately 1,900 pregnancies with one of the three outcomes being studied, and an additional 1,900 pregnancies without any complication for comparison. If I decide to participate, the following is required:

1) written permission to use my pregnancy-related Air Force inpatient and outpatient medical records, and

2) written permission to schedule me for a telephone interview to be conducted at my convenience.

The telephone interview, which will take an hour or less, will collect information on:

- my work history over a period starting three months prior to conception and continuing until the end of that pregnancy

- a review of chemicals (including solvents, metals, pesticides, etc.) and other factors (including level of physical activity, stress, noise, vibration, etc.) I may have encountered in my workplace during my pregnancy

- a brief medical history with associated medications

- a reproductive history including voluntary abortions

- personal habits including smoking and alcohol consumption for each pregnancy

BENEFITS

I understand that no benefit can be guaranteed. I understand I will not receive payment for participating in this study, and I may not directly benefit from its findings. It is hoped that this study will establish a better understanding of the relationships between personal characteristics, Air Force workplaces, and pregnancy among active duty Air Force women.

ALTERNATIVES

(This section will explain your alternative treatment possibilities)

The alternative is not to participate in this study.

RISKS/INCONVENIENCES

(Any discomfort, risks, and inconveniences caused from procedures or drugs used that may be expected from participation in this study.)

I understand that the only risk from my participation in this study is the possible loss of privacy and confidentiality. While it is possible that my personal and medical information could be unintentionally released, the investigator for this study will be taking stringent precautions to avoid this. First, the investigators will remove my name and Social Security Number from all of my files and store them separately. Codes, known only to the research team, will be used to identify my records. Second, all the data will be stored in a secured area with access limited to the investigators. My name will never appear on any reports and only summary information will be published. The information collected for this study will be kept secure and maintained for five years from the completion of the study. At that time, it will be destroyed.

INFORMED CONSENT DOCUMENT FOR TRAVIS AFB PROTOCOL # FDG19990016H
Page 2 of 4
14 September 1999

_____
(Volunteer's Initials)

(Research Team Copy. Please Mail or Fax to Battelle CPHRE)

The decision to participate in this study is completely voluntary on my part. No one has coerced or intimidated me into participating in this program. I am participating because I want to. The study investigator(s) has adequately answered any and all questions I have about this study, my participation, and the procedures involved. I understand that the investigators will be available to answer any questions concerning procedures throughout this study. I understand that if significant new findings develop during the course of this study that may relate to my decision to continue participation, I will be informed. I further understand that I may withdraw this consent at any time and discontinue further participation in this study without prejudice to my entitlement to care. I will be provided with a copy of this consent form.

I understand that I may refuse to participate in all or any part of this study, or refuse to answer any specific question without penalty. All information obtained about me, as an individual will be considered privileged and held in strict confidence. My identity will remain private. I will not be identified in any presentation of the results. No individual data about me will be released; only summary data will be published.

If I decide to participate, I will read and sign the signature page of this informed consent document, as well as the attached medical records release form.

1. I have read this informed consent document and understand the purpose and benefits, procedures, and risks associated with my participation in the study.

2. I agree to participate in the study. I understand that my participation is voluntary and that I may decide not to participate in any or all portions of this study at any time without penalty; and that I may decide not to answer any particular question or part of a question.

3. I give permission to allow the study researchers to schedule a one-hour interview at my convenience.

   If I decide to participate I will be contacted in the next few weeks to schedule a convenient time for the telephone interview. Otherwise, if I decide not to participate, I will not be contacted again.

4. I may also give written permission to use my pregnancy related USAF inpatient and outpatient medical records using the attached "Medical Record Release Form". I understand that the information obtained from my medical records will be limited to my pregnancy and these and my telephone interview will remain strictly confidential.

5. I understand that my name will never appear on any reports; and that only summary data from the study will be published.

6. I understand that this study is in compliance with standards for treatment of human subjects by our various research institutions and the US Air Force.

7. I understand this investigation is a Defense Advisory Committee on Women in the Services (DACOWITS) study. It should be noted that representatives of the U.S. Army Medical Research and Materiel Command are eligible to review research records as part of their responsibility to protect human subjects in research.

INFORMED CONSENT DOCUMENT FOR TRAVIS AFB PROTOCOL # <u>FDG19990016H</u>
Page 3 of 4
14 September 1999

_____
(Volunteer's Initials)

(Research Team Copy. Please Mail or Fax to Battelle CPHRE)

8. I understand copies of an Executive Summary of this study can be obtained by requesting a copy from the following address:

    Air Force Women's Health Study
    Battelle CPHRE, 100 Capitola Drive, Suite 301
    Durham, NC 27713-4411

    or by calling (919) 544-3717 and asking for the Air Force Women's Health Study representative.

My signature below indicates my willingness to participate in this research study.

(Subject's Printed Name)	(Subject's SSN)

(Subject's Signature)	(Best commercial phone number to reach you)	(Date)

INSTRUCTIONS

Informed consent document (4 pages)

- Fill in name and social security number in Purpose of Study section of page 1;
- Initial each page at the bottom right corner;
- Compete the section above, including your signature indicating your willingness to participate in the study.

Medical records release form (1 page) *attached*

- Complete form including location of Medical treatment facility where treated or delivered and the location of your medical records.

The signed forms (5 pages total) should be either mailed in the enclosed envelope or faxed with the enclosed fax cover sheet to Mr. Stephen Wilkins at (919) 544-0830. An additional copy of each form is provided for your records.

And finally, to aid us in the collection of the workplace Industrial Hygiene casefiles, please complete the following information about your workplace during the study period defined on the Que Sheet:

Job Title _____ AFSC _____ Base Assigned _____

Organization _____ Office symbol _____ Duty section _____

Briefly describe your immediate workplace:

(Research Team Copy. Please Mail or Fax to Battelle CPHRE)

MEDICAL RECORD RELEASE FORM

I give my consent for the _____
<div style="font-size:small">(Name of Medical Treatment Facility where you were treated or delivered)</div>

and the _____
<div style="font-size:small">(Name of Medical Treatment Facility where your outpatient medical records are currently located)</div>

to provide my pregnancy related USAF inpatient and outpatient medical records to members

of the *Investigation of Reproductive Health and Potential Risk Factors Among Active Duty*

Air Force Women research staff. The medical information that is collected will only be used

for research purposes by the research staff and that the information obtained will remain

confidential.

Signature: _____

Printed name: _____

Social security number: _____

Date: ___ / ___ / ___

This consent is effective upon signing and shall remain valid until September 30, 2000 or
until the end of the study, whichever occurs first.

TELEPHONE INTERVIEW

After you return your consent forms, a member of our research team will be calling to schedule the telephone interview. We will mainly be asking you questions about your work and home activities. We encourage you to review this prior to your interview to help you recall events in the one year study period. This sheet is for your own reference and you will not be asked to return it to us.

INTERVIEW APPOINTMENT

Date: _____ Time: _____

Phone number where interviewer will call me:

_____

ESTABLISHING REFERENCE DATES

For the pregnancy in February 1996, we will need the following pieces of information:

- Due date
- Date of conception
- Week the pregnancy ended.

WORK HISTORY DURING THE PREGNANCY:

We will be asking you for jobs or duty positions held during the year prior to the hospitalization date, including your normal duty AFSC as a Postal Specialist, any restricted duty within your normal duty AFSC, or training courses lasting longer than 2 weeks. For each job held during this period, we will be asking:

- Base/Dates of duty assignment at time of pregnancy
- Job title
- Organization/Office Symbol
- Duty section name
- Exposure to physical conditions (heat, noise, etc.) and chemicals on the job

OTHER USEFUL REFERENCE ITEMS:

- Immunization record
- Permanent address for someone who should always know how to contact you

In order to maintain confidentiality we will use identification number ▮▮▮▮▮ on all of your records. Please verify that ▮▮▮▮▮ is at the top of all documentation prior to returning it to us. If they are not the same please contact the research team **toll free** at (877) 810-9530 ext. 509. Thank you.

	Base	AFSC	Job Title	Begin Date[1]	End Date[1]	Organization	Duty Section	Exposures
Job 1								
Job 2								
Job 3								
Job 4								
Job 5								
Restricted Duties								
Restricted Duties, Training								
Restricted Duties, Training								
Restricted Duties, Training								
Restricted Duties, Training								

[1]We will only be asking you about jobs or restricted duties/training lasting longer than 2 weeks and occurring during the study period.

Date:

Fax

To: Stephen Wilkins

Fax No: (919) 544-0830

Phone No: (919) 544-3717

Company: Battelle CPHRE

From:

Fax No:

Phone No:

Total Pages: 6 (Including Lead Sheet)

Air Force Women Reproductive Health and Potential Risk Factors Study

Have you included the White Copy of all 4 pages of the Informed Consent Document and the White Copy of the Medical Records Release Form?