



**No.** CCLS-13-04 (replaces CCLS-13-01)

**Title:** Data pre-processing for the preterm prediction study  
MFMU dataset

**Authors:** Ilia Vovsha, Ansaf Salleb-Aouissi, Axinia Radeva,  
Anita Raja, , Ronald Wapner, Hatim Diab, Ashish Tomar,  
Ashwath Rajan

## Contents

Summary .....	2
Bibliography .....	3
Dictionary and Notation .....	4
Timeline .....	5
Group Template.....	6
Group Synopsis .....	7
Group Tables .....	8-20
CLASS .....	8
DATES, GA.....	9
DMG, JOB, OBST.....	10
PPH, PPHD .....	11
SAD, SAD3.....	12
INFEC, INFEC3, MEDT, MEDT3.....	13
CPH, CPH3 .....	14
CPM, SPEC, CRVM, SYMP .....	15
CPM3, SPEC3, CRVM3, SYMP3.....	16
FFN, FFN2, FFN3, FFN4, VISIT2, VISIT4 .....	17
BUA, BUA3, PSYCH.....	18
OUTM, OUTN, OUTS, IPRE.....	19
CHORS, PDELM, PDELC.....	20
Fill-In Steps .....	21
Processing Steps .....	22

## 1. Summary

The United States spends over 26 billion dollars per annum on the delivery and care of the 12-13% of infants who are born preterm (Behrman and Butler, 2007). As preterm birth is a major public health problem with profound implications on society, there would be extreme value in being able to identify women at risk of preterm birth during the course of their pregnancy. Previous research has largely focused on individual risk factors correlated with preterm birth (e.g. prior preterm birth, race, and infection) and less on combining these factors in a way to understand the complex etiologies of preterm birth. Today, there is no widely tested prediction system that combines well-known factors (Davey et al., 2011) with a good prediction technique to provide actionable decisions within a clinical environment (Mercer et al., 1996).

We attempt to address this gap by conducting a deeper analysis of the preterm prediction study data collected by the NICHD Maternal Fetal Medicine Units (MFMU) Network, a high-quality data for over 3,000 singleton pregnancies having detailed study visits and biospecimen collection at 24, 26, 28 and 30 weeks gestation. Reports from this dataset used relatively straightforward biostatistical methodologies such as relative risk assessments to measure associations between risk factors and PTB (Maternal Fetal Medicine Units Network. Biostatistical Coordinating Center NICHD Networks, 1995). These methods include descriptive statistics, Pearson correlation, Fisher’s exact tests and linear/logistic regression where risk factors are studied independent of each other. In order to perform detailed experiments on this data using non-linear Support Vector Machines and other machine learning (ML) methodologies, it is necessary to complete several pre-processing steps.

### 1.1 Data Pre-Processing

The MFMU dataset was compiled from a set of tests and a detailed questionnaire administered to mothers (patients) over the entire duration of the pregnancy. As a result, multiple processing steps are required to harness this very rich and highly structured data. We face three specific challenges,

1. *Missing Data:* A substantial number of features is missing, both randomly (a particular question was not completed) and structurally (dependency between questions).
2. *Varying Sample Size:* The number of examples changes over time as patients give birth, withdraw, or miss a visit.
3. *Skewed Class Distributions:* By the nature of the preterm birth problem, class sizes are significantly uneven. This fact is relevant to subsets of the data as well (e.g. when we consider nulliparous mothers only).

We handle the complexity of the data by organizing features into groups (according to the original questionnaire and the definition). In addition, we keep track of the number and type of missing values, and the processing steps taken to complete or delete features. Our main objective is to retain as many features and examples as possible, while converting the data into a standard format suitable for off-the-shelf ML algorithms. We believe that the MFMU data (if properly processed) is an exciting application from a machine learning perspective.

## 1.2 Notes

- The blood and urine analysis tables are incomplete.

## References

R.E. Behrman and A.S. Butler, editors. *Preterm Birth: Causes, Consequences, and Prevention*. The National Academies Press, 2007. Committee on Understanding Premature Birth and Assuring Healthy Outcomes.

M. Davey, L. Watson, J.A. Rayner, and S. Rowlands. Risk scoring systems for predicting preterm birth with the aim of reducing associated adverse outcomes. *Cochrane Database Syst Rev*, 11, 2011.

Maternal Fetal Medicine Units Network. Biostatistical Coordinating Center NICHD Networks. Final Report Screening for Risk Factors for Spontaneous Preterm Delivery. Singleton Study. Technical report, 09 1995.

B.M. Mercer, R.L. Goldenberg, A. Das, A.H. Moawad, J.D. Iams, P.J. Meis, R.L. Copper, F. Johnson, E. Thom, D. McNellis, M. Miodovnik, M.K. Menard, S.N. Caritis, G.R. Thurnau, S.F. Bottoms, and J. Roberts. The preterm prediction study: A clinical risk assessment system. *American Journal of Obstetrics and Gynecology*, 174(6):1885 – 1895, 1996.

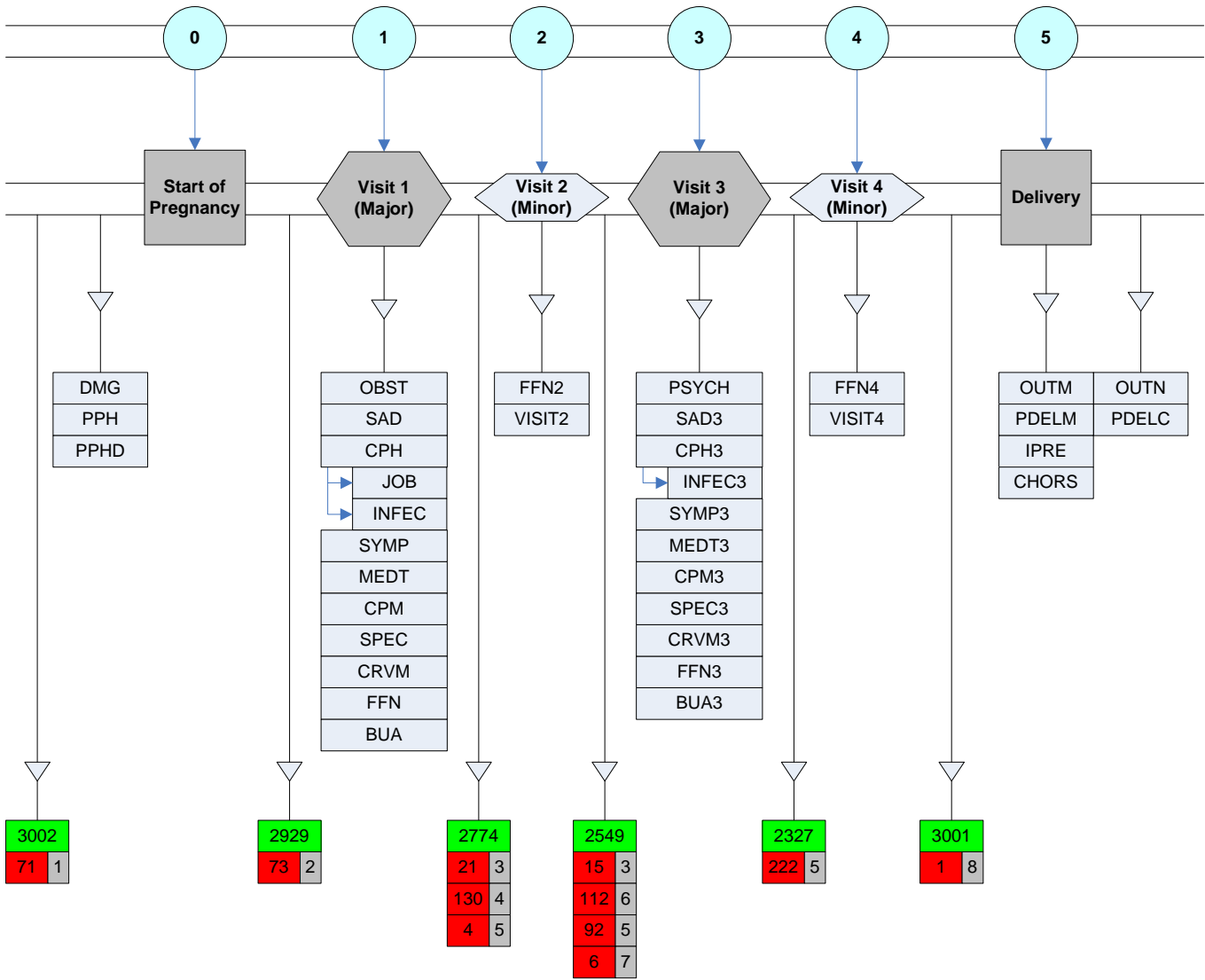
### **Acronym Dictionary**

<b>GA:</b>	Gestational Age
<b>DMG:</b>	Demographics and Home Life
<b>PPH:</b>	Previous Pregnancy History
<b>PPHD:</b>	Previous Pregnancy History Detail
<b>OBST:</b>	Obstetrical & Medical Complications
<b>SAD:</b>	Substance Use V1
<b>SAD3:</b>	Substance Use V3
<b>CPH:</b>	Current Pregnancy History V1
<b>CPH3:</b>	Current Pregnancy History V3
<b>JOB:</b>	Current or Last Job
<b>INFEC:</b>	Infections During This Pregnancy V1
<b>INFEC3:</b>	Infections During This Pregnancy V3
<b>MEDT:</b>	Medications and Treatments V1
<b>MEDT3:</b>	Medications and Treatments V3
<b>SYMP:</b>	Symptoms During Previous Week V1
<b>SYMP3:</b>	Symptoms During Previous Week V3
<b>CPM:</b>	Current Pregnancy Measurements V1
<b>CPM3:</b>	Current Pregnancy Measurements V3
<b>SPEC:</b>	Specimen Collection V1
<b>SPEC3:</b>	Specimen Collection V3
<b>CRVM:</b>	Cervical Measurements V1
<b>CRVM:</b>	Cervical Measurements V3
<b>FFN:</b>	Fetal Fibronectin Analysis V1
<b>FFN2:</b>	Fetal Fibronectin Analysis V2
<b>FFN3:</b>	Fetal Fibronectin Analysis V3
<b>FFN4:</b>	Fetal Fibronectin Analysis V4
<b>BUA:</b>	Blood & Urine Analysis V1
<b>BUA3:</b>	Blood & Urine Analysis V3
<b>PSYCH:</b>	Psychological Questionnaire
<b>VISIT2:</b>	Yeast & Intercourse Variables V2
<b>VISIT4:</b>	Yeast & Intercourse Variables V4
<b>OUTM:</b>	Pregnancy Outcome, Maternal Data
<b>OUTN:</b>	Pregnancy Outcome, Neonatal Data
<b>OUTS:</b>	Pregnancy Outcome Status
<b>IPRE:</b>	Indicated Preterm Birth Reasons
<b>CHORS:</b>	Chorioamnionitis Suspected
<b>PDELM:</b>	Preterm Delivery, Maternal Data
<b>PDELC:</b>	Preterm Delivery, Clinical Data

### **Notation**

<b>INT</b>	Integer variable
<b>BIN</b>	Binary variable
<b>CAT</b>	Categorical variable
<b>GRP</b>	Group
d.	During
Prev.	Previous
hr / wk / yr	hour / week / year
Spont.	Spontaneous
Pre.	Preterm
Preg.	Pregnancy

Timeline



**Reasons for removing examples:**

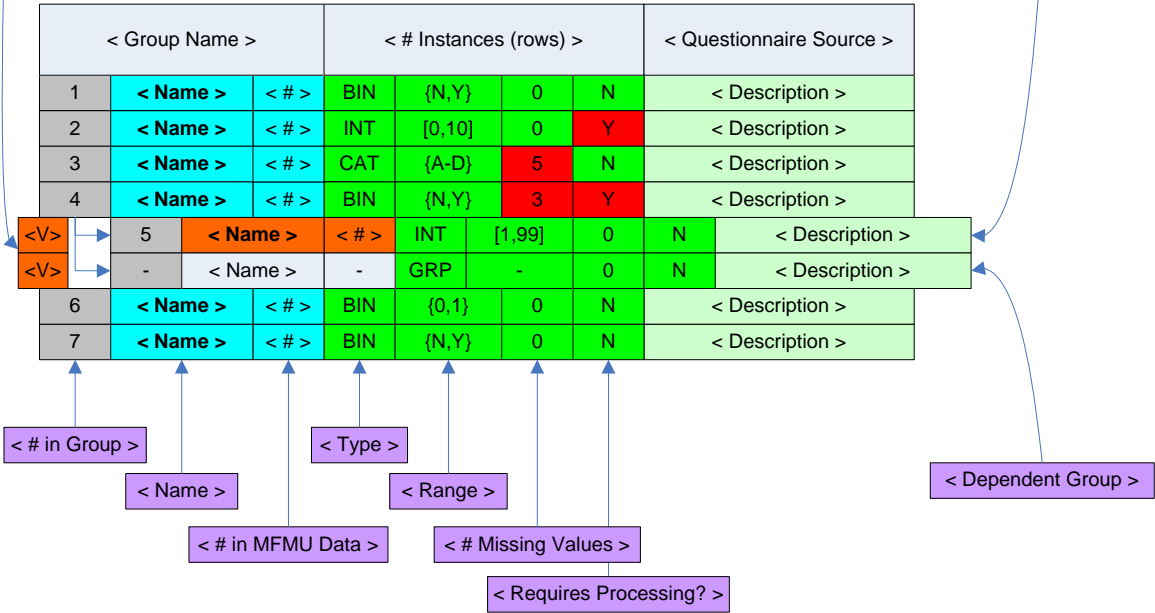
- 1) Lost to follow-up (no outcome data).
- 2) Visit 1 outside of GA window [154,174] allowed by protocol.
- 3) Patient delivered.
- 4) Patient withdrew.
- 5) No more visit data (skipped / withdrew / delivered).
- 6) Visit 3 outside of GA window [182, 209] allowed by protocol.
- 7) Skipped major visit (visit 3).
- 8) No preterm delivery information

Group Template

**Colors:**  
 Red: variable requires fill-in or processing steps.  
 Orange: dependency.  
 Light Gray: group.

< Value Dependency >

< Dependent Variable >



Name	T	#	Miss	Dep	MFMU Features	Source
CLASS	-	3002	-	-	1,6, 255, 265, 284, 291-293, 295, 306-314, 359	-
DATES	-	3002	-	-	2-5, 40-41, 108-111, 174-176, 220-221, 248-253, 256, 266, 282, 304, 349, 352	-
GA	-	3002	-	-	7-8, 354-368	-
DMG	0	3002	-	-	23-24,42-45,48-51,416-418	(MP02A.1) Q.2-8,13-17
PPH	0	3002	-	-	6, 52-59, 71-76, 434	(MP02A.2) Q.35-43
PPHD	0	551	-	-	77-89, 415	(MP02B)
OBST	1	2929	-	-	29-39, 432-433	(MP02A.2) Q.22-34
SAD	1	2929	-	-	25-28, 60-70, 419-422, 424-428	(MP02A.2) Q.18-21
CPH	1	2929	-	-	9,10, 90-106, 120-129, 143-144, 154-155, 440	(MP02C.1) Q.8-15
JOB	1	1346	-	10	11-22, 46-47, 361	(MP02A.1) Q.10-12
INFEC	1	1068	-	95	145-153, 335	(MP02C.1) Q.12
MEDT	1	2929	-	-	96-102, 154	(MP02C.1) Q.13
SYMP	1	2929	-	-	123-128	(MP02C.1) Q.10
CPM	1	2929	-	-	112-119, 156, 437, 439	(MP02C.1) Q.1-7, 16-17
SPEC	1	2929	2	-	130-132, 279, 319	(MP02C.2) Q.21-24
CRVM	1	2929	2	-	107, 133-142	(MP02C.2) Q.25-34
FFN	1	2929	3	-	323-324, 331, 336-337, 344	(MP02C.2) Q.20

VISIT2	2	2774	247	-	348, 350	(MP03) Q.3,5
FFN2	2	2774	259	-	325-326, 332, 338-339, 345	(MP03) Q.4
PSYCH	3	2549	33	-	267-278	(MP08)
SAD3	3	2549	-	-	157-159, 206-208, 423, 429-430	(MP04.1) Q.3-5
CPH3	3	2549	-	-	160-165, 177-180, 187, 441	(MP04.1) Q.2-11
INFEC3	3	321	-	164	209-216, 431	(MP04.1) Q.10
MEDT3	3	2549	-	-	166-172, 217	(MP04.1) Q.12
SYMP3	3	2549	-	-	181-186	(MP04.1) Q.8
CPM3	3	2549	-	-	188-192, 438	(MP04) Q.13-16
SPEC3	3	2549	5	-	193-195, 280, 320	(MP04.2) Q.20-23
CRVM3	3	2549	7	-	173, 196-205	(MP04.2) Q.24-33
FFN3	3	2549	5	-	327-328, 333, 340-341, 346	(MP04.2) Q.19

VISIT4	4	2327	3	-	351, 353	(MP03) Q.3,5
FFN4	4	2327	10	-	329-330, 334, 342-343, 347	(MP03) Q.4

OUTM	5	3001	3	-	218-219, 222-228, 436	(MP05) Q.A
PDELM	5	433	-	307	229-234, 241-247, 254, 257, 315	(MP06) Q.A
IPRE	5	124	-	307, 314	258-264	(MP06) Q.A7
CHORS	5	33	-	234	235-240	(MP06) Q.A8
OUTN	5	3001	1	-	281, 283-290, 321-322	(MP05) Q.B
PDELC	5	420	?	-	296-303, 305, 316-318	(MP06) Q.B

BUA	1	?	?	-	369, 371, 373-379, 387-388, 391, 393-394, 397, 399, 401-406, 413	(MP02C.2) Q.18-19
BUA3	3	?	?	-	370, 372, 380-386, 389-390, 392, 395-396, 398, 400, 407-412, 414	(MP04.2) Q.17-18



CLASS			3002				-
1	PRE34	306	BIN	{0,1}	0	N	Spont. Pre. birth d. wks 23-34
2	PRE36	307	BIN	{0,1}	1	N	Spont. Pre. birth d. wks 23-36
3	PRE27	308	BIN	{0,1}	0	N	Spont. Pre. birth d. wks 23-27
4	PRE30	309	BIN	{0,1}	0	N	Spont. Pre. birth d. wks 23-29
5	PRE32	310	BIN	{0,1}	0	N	Spont. Pre. birth d. wks 23-31
6	PRE28_34	311	BIN	{0,1}	0	N	Spont. Pre. birth d. wks 28-34
7	PRE35_36	312	BIN	{0,1}	1	N	Spont. Pre. birth d. wks 35-36
8	SPRE34	313	BIN	{0,1}	0	N	Spont. & Ind. Pre. birth d. wks 23-34
9	SPRE36	314	BIN	{0,1}	0	N	Spont. & Ind. Pre. birth d. wks 23-36
10	GADEL_D	359	INT	[163,314]	0	N	GA at delivery in days
11	EPSTATUS	291	CAT	{1-5}	7	N	Infant status at <= 30 days
12	STLBRN	292	BIN	{0,1}	0	N	Stillbirth
13	INFDTH	293	BIN	{0,1}	0	N	Infant death
14	FPCLASS	255	CAT	{1-5}	1	N	Preterm delivery classification
15	FPIUFD	295	BIN	{N,Y}	-	N	Stillbirth among pre. deaths
16	APPARITY	6	BIN	{1,2}	0	N	Parity
17	EPSEX	284	BIN	{1,2}	2	N	Gender of infant
18	APLMPSUR	1	BIN	{N,Y}	-	N	LMP date sure
19	GPLOST	265	BIN	{N,Y}	-	N	Lost to follow-up

DATES			-				-
1	BRVISDT	40	DATE	-	-	N	Visit 1 date
2	VIS2DT	349	DATE	-	-	N	Visit 2 date
3	DRVISDT	174	DATE	-	-	N	Visit 3 date
4	VIS4DT	352	DATE	-	-	N	Visit 4 date
5	ARUSDATE	2	DATE	-	-	N	Date of 1 <sup>st</sup> dating U/S
6	ARLMPDT	3	DATE	-	-	N	LMP date
7	ARPROEDC	4	DATE	-	-	N	Project EDC
8	ARENUSDT	5	DATE	-	-	N	Date of enrollment U/S
9	BRSTOPDT	41	DATE	-	-	N	Date patient stopped working
10	BRPRENAT	108	DATE	-	-	N	Date of 1 <sup>st</sup> prenatal visit
11	BRBLPRDT	109	DATE	-	-	N	Most recent BP reading V1
12	BRHEMAT	110	DATE	-	-	N	1 <sup>st</sup> Hematocrit / Hemoglobin
13	BRALPHDT	111	DATE	-	-	N	Date of serum alpha-fetoprotein
14	DRBLPRDT	175	DATE	-	-	N	Most recent BP reading V3
15	DRHEMAT	176	DATE	-	-	N	Last Hematocrit / Hemoglobin
16	HRDATE	266	DATE	-	-	N	Psychological survey date
17	ER1STVIS	220	DATE	-	-	N	Date of 1 <sup>st</sup> L&D / hospital visit
18	ERTOCODT	221	DATE	-	-	N	Date of 1 <sup>st</sup> IV tocolysis
19	FRADMDT	248	DATE	-	-	N	PTD admission date
20	FPRUPTDT	249	DATE	-	-	N	Date membranes ruptured
21	FPRUPTM	252	TIME	-	-	N	Time membranes ruptured
22	FPCHORDT	250	DATE	-	-	N	Date chorio was confirmed
23	FPCHORTM	253	TIME	-	-	N	Time chorio was confirmed
24	FRDISCDT	251	DATE	-	-	N	Maternal discharge date
25	ERBRDT	282	DATE	-	-	N	Date of birth
26	ERBRMTM	256	TIME	-	-	N	Time of birth
27	FRDTHDT	304	DATE	-	-	N	Date of death

GA			-				-
1	VISGA1_D	354	INT	[146,196]	-	N	GA in days at visit 1
2	VISGA2_D	355	INT	[161,208]	-	N	GA in days at visit 2
3	VISGA3_D	356	INT	[175,231]	-	N	GA in days at visit 3
4	VISGA4_D	357	INT	[189,237]	-	N	GA in days at visit 4
5	VISGAD24	365	INT	[146,174]	-	N	GA in days at fFN (wk 23-24)
6	VISGAD26	366	INT	[175,188]	-	N	GA in days at fFN (wk 25-26)
7	VISGAD28	367	INT	[189,202]	-	N	GA in days at fFN (wk 27-28)
8	VISGAD30	368	INT	[203,223]	-	N	GA in days at fFN (wk 29-30)
9	APUSWKS	7	INT	[4,32]	-	N	GA in weeks by first U/S
10	APUSDAYS	8	INT	[0,6]	-	N	GA in days by first U/S
11	GAPREN_D	358	INT	[0,192]	-	N	GA in days at 1 <sup>st</sup> prenatal visit
12	GASTOP_D	361	INT	[4,171]	-	N	GA in days at stop-work date
13	GATOCO_D	362	INT	[141,257]	-	N	GA in days at 1 <sup>st</sup> tocolysis
14	GAALPH_D	363	INT	[50,172]	-	N	GA in days at 1 <sup>st</sup> serum AFP
15	GARUP_D	360	INT	[163,258]	-	N	GA in days at membrane rupture
16	GAADM_D	364	INT	[162,258]	-	N	GA in days at admission for PTD
17	GADEL_D	359	INT	[163,314]	-	N	GA at delivery in days

DMG			3002				(MP02A.1) Q.2-8,13-17
1	BPPHONE	23	BIN	{N,Y}	0	N	Has home phone
2	BPCAR	24	BIN	{N,Y}	0	N	Use of car
3	BPMARITL	42	CAT	{1-4}	0	N	Marital status
4	BPINSUR	43	CAT	{1-3}	0	N	Source of medical care payment
5	BPINCOME	44	INT	[1-4]	1	Y	Family unit total income
6	BPDEPEND	45	INT	[1,14]	0	N	# People supported by income
7	BPKIDS	48	INT	[0,6]	0	N	# Preschool children at home
8	BPLASTYR	49	INT	[0,20]	1	N	# Times changed address last yr
9	BPLST5YR	50	INT	[0,40]	2	N	# Times changed addr. last 5 yrs
10	BPCOND	51	INT	[1,4]	0	N	Patient description of residence
11	AGEMOM	416	INT	[17,40]	0	Y	Age of mother in yrs
12	RACE	417	CAT	{1-3}	0	N	Predominant race
13	SCHOOLYR	418	INT	[8,17]	0	Y	Total yrs of schooling

JOB			1346				(MP02A.1) Q.10-12		
1	BPWORK	11	BIN	{N,Y}	0	N	Currently working at paying job		
N	↳	2	GASTOP_D	361	INT	[4,171]	0	N	GA at stop date (days)
3	BPLOAD	12	BIN	{N,Y}	0	N	Carry more than 20lb		
4	BPSTREN	13	BIN	{N,Y}	0	N	Do strenuous activity		
5	BPCLIMB	14	BIN	{N,Y}	0	N	Climb stairs		
Y	↳	6	BPSTRNUM	47	INT	[1,99]	0	N	# Stairs climbed at work
7	BPSTAND	15	BIN	{N,Y}	0	N	Stand more than 3 hours		
8	BPBREAK	16	BIN	{N,Y}	0	N	Breaks when tired		
9	BPASSEMB	17	BIN	{N,Y}	0	N	Works on assembly line		
10	BPVIBES	18	BIN	{N,Y}	0	N	Use vibrating machine		
11	BPTASKS	19	BIN	{N,Y}	0	N	Do repetitive tasks		
12	BPCOLD	20	BIN	{N,Y}	0	N	Works in cold/wet area		
13	BPNOISE	21	BIN	{N,Y}	0	N	Encounter much noise		
14	BPBORING	22	BIN	{N,Y}	0	N	Finds work boring		
15	BPHRS	46	INT	[1,105]	0	N	Ave. # hrs worked per week		

OBST			2929				(MP02A.2) Q.22-34		
1	BPFIBR	29	BIN	{N,Y}	0	N	Uterine Fibroids		
2	BPDIAB	30	BIN	{N,Y}	0	N	Diabetes		
Y	↳	3	DIABCLS	432	CAT	{1-4}	0	N	Class of diabetes
4	BPHYPER	31	BIN	{N,Y}	0	N	Chronic hypertension		
Y	↳	5	BPMEDIC	32	BIN	{N,Y}	0	N	Medication required for hyp.
6	BPCARD	33	BIN	{N,Y}	0	N	Cardiac disease w/limited activity		
7	BPENDO	34	BIN	{N,Y}	0	N	Endocrine disorder req. meds		
8	BPHEMO	35	BIN	{N,Y}	0	N	Hemoglobinopathy		
9	BPPULMO	36	BIN	{N,Y}	0	N	Acute pulmonary disorder req. m.		
10	BPLUNG	37	BIN	{N,Y}	0	N	Chronic lung disease		
11	BPRENAL	38	BIN	{N,Y}	0	N	Acute or chronic renal disease		
12	BPELVIC	39	BIN	{N,Y}	0	N	Pelvic inflammatory disease		
13	OBRISK	433	BIN	{0,1}	0	N	Obstetrical complications		

PPH			3002				(MP02A.2) Q.35-43
1	<b>APPARITY</b>	6	BIN	{1,2}	0	N	Parity
2	<b>BPTOTAL</b>	52	INT	[1,12]	0	N	Total Pregnancies
3	<b>BPTERM</b>	53	INT	[0,7]	0	N	# Prev. term deliveries
4	<b>BPPRETERM</b>	54	INT	[0,5]	0	N	# Prev. preterm deliveries
5	<b>BP13TO19</b>	55	INT	[0,2]	0	N	# Prev. spon. deliveries 13-19 wks
6	<b>BPINDUCE</b>	56	INT	[0,6]	0	N	# Prev. induced abortions
7	<b>BPSTILL</b>	57	INT	[0,3]	0	N	# Prev. stillbirths over 20 wks
8	<b>BPDEATHS</b>	58	INT	[0,2]	0	N	# Prev. neonatal deaths
9	<b>BPCHILDREN</b>	59	INT	[0,8]	0	N	# Prev. children still living
10	<b>TERM</b>	71	BIN	{0,1}	0	N	Any prev. term delivery
11	<b>PRETERM</b>	72	BIN	{0,1}	0	N	Any prev. preterm delivery
12	<b>SPON</b>	73	BIN	{0,1}	0	N	Any prev. spon. deliv. 13-19 wks
13	<b>FRST</b>	74	BIN	{0,1}	0	N	Any prev. spon. miscarriage
14	<b>INDUCE</b>	75	BIN	{0,1}	0	N	Any prev. induced abortions
15	<b>STILL</b>	76	BIN	{0,1}	0	N	Any prev. stillbirths over 20 wks.
16	<b>MISC1ST</b>	434	INT	[0,4]	0	Y	# Prev. 1 <sup>st</sup> trimester miscarriages

PPHD			551				(MP02B)
1	<b>PCLASS1</b>	77	INT	[0,2]	0	N	# Prev. spon. PTL W/deliv. 13-19 wks
2	<b>PCLASS2</b>	78	INT	[0,2]	0	N	# Prev. PROM W/spon. PTD 13-19 wks
3	<b>PCLASS3</b>	79	INT	[0,1]	0	N	# Prev. PROM W/induced. PTD 13-19 wks
4	<b>PCLASS4</b>	80	INT	[0]	0	N	# Prev. Indicated PTD-Fetal 13-19 wks
5	<b>PCLASS5</b>	81	INT	[0]	0	N	# Prev. Indicated PTD-Mat. 13-19 wks
6	<b>PCLASS6</b>	82	INT	[0,2]	0	N	# Prev. elective abortions 13-19 wks
7	<b>PCLASSA1</b>	83	INT	[0,4]	0	N	# Prev. spon. PTL W/deliv. 20-36 wks
8	<b>PCLASSA2</b>	84	INT	[0,3]	0	N	# Prev. PROM W/spon. PTD 20-36 wks
9	<b>PCLASSA3</b>	85	INT	[0,1]	0	N	# Prev. PROM W/induced. PTD 20-36 wks
10	<b>PCLASSA4</b>	86	INT	[0,2]	0	N	# Prev. Indicated PTD-Fetal 20-36 wks
11	<b>PCLASSA5</b>	87	INT	[0,3]	0	N	# Prev. Indicated PTD-Mat. 20-36 wks
12	<b>PCLASSA6</b>	88	INT	[0,1]	0	N	# Prev. elective abortions 20-36 wks
13	<b>SECAB</b>	89	INT	[0,2]	0	N	# Prev. 2 <sup>nd</sup> trimester abortions
14	<b>LASTPREG</b>	415	INT	[0,23]	0	N	Calendar yrs since last (13-36 wks) preg.

SAD			2929				(MP02A.2) Q.18-21	
1	<b>BPSMOKE</b>	25	BIN	{N,Y}	0	N	Ever smoked cigarettes	
Y	2	<b>CIGSPRE</b>	419	INT	[0,40]	1	Y	# CIG / day pre-pregnancy
Y	3	<b>CIG12</b>	420	INT	[0,30]	1	Y	# CIG / day <= 12 wks preg.
Y	4	<b>CIG24</b>	421	INT	[0,25]	0	Y	# CIG / day 13-24 wks preg.
Y	5	<b>CIGSNOW</b>	422	INT	[0,25]	0	Y	# CIG / day last week
6	<b>SMOKPREG</b>	60	BIN	{0,1}	0	N	Smoked during pregnancy	
7	<b>BPALCHOL</b>	26	BIN	{N,Y}	0	N	Ever drunk alcoholic beverages	
Y	8	<b>DRINKPRE</b>	424	INT	[0,6]	6	Y	# Drinks / wk pre-pregnancy
Y	9	<b>DRK12</b>	425	INT	[0,4]	4	Y	# Drinks / wk <= 12 wks preg.
Y	10	<b>DRK24</b>	426	INT	[0,2]	4	Y	# Drinks / wk 13-24 wks preg.
Y	11	<b>BPALCNOW</b>	27	BIN	{N,Y}	2	N	Drink alcoholic beverages now
Y	12	<b>TOTALC</b>	61	INT	[0,29]	0	N	Total drinks during pregnancy
Y	13	<b>DRNKMOST</b>	427	INT	[0,4]	0	Y	Most drinks in 1 day last month
Y	14	<b>DRKLSTDY</b>	428	INT	[0,2]	0	Y	# Drinks in last 24 hrs
15	<b>BPDRUGS</b>	28	BIN	{N,Y}	0	N	Ever used street drugs	
Y	16	<b>BHEROIN</b>	62	BIN	{N,Y}	3	N	Heroin pre-preg.
Y	17	<b>BCOCAINE</b>	63	BIN	{N,Y}	3	N	Cocaine pre-preg.
Y	18	<b>BMARI</b>	64	BIN	{N,Y}	3	N	Marijuana pre-preg.
Y	19	<b>BLSD</b>	65	BIN	{N,Y}	3	N	LSD pre-preg.
Y	20	<b>BSPEED</b>	66	BIN	{N,Y}	3	N	Speed pre-preg.
Y	21	<b>BOTHER</b>	67	BIN	{N,Y}	3	N	Other drugs pre-preg.
Y	22	<b>DCOCAINE</b>	68	BIN	{N,Y}	510	N	Cocaine during preg.
Y	23	<b>DMARI</b>	69	BIN	{N,Y}	510	N	Marijuana during preg.
Y	24	<b>DOTHER</b>	70	BIN	{N,Y}	510	N	Other drugs during preg.

SAD3			2549				(MP04.1) Q.3-5	
1	<b>DPSMOKED</b>	157	BIN	{N,Y}	0	N	Cigarettes smoked since visit 1	
Y	2	<b>VCIGDAY</b>	423	INT	[0,25]	1	Y	# CIG / day since visit 1
3	<b>DPALCHOL</b>	158	BIN	{N,Y}	0	N	Alcohol since visit 1	
Y	4	<b>VALCDY</b>	429	INT	[1,4]	0	Y	Max # Drinks / day since visit 1
Y	5	<b>VALCWK</b>	430	INT	[0,3]	3	Y	# Drinks / wk since visit 1
6	<b>DPDRUGS</b>	159	BIN	{N,Y}	0	N	Street drugs since visit 1	
Y	7	<b>VCOCAINE</b>	206	BIN	{N,Y}	0	N	Cocaine since visit 1
Y	8	<b>VMARI</b>	207	BIN	{N,Y}	0	N	Marijuana since visit 1
Y	9	<b>VOTHER</b>	208	BIN	{N,Y}	0	N	Other drugs since visit 1

INFECC			1068				(MP02C.1) Q.12
1	<b>CHLAM</b>	145	BIN	{N,Y}	0	N	Chlamydia
2	<b>GONORR</b>	146	BIN	{N,Y}	0	N	Gonorrhea
3	<b>SYPH</b>	147	BIN	{N,Y}	0	N	Syphilis
4	<b>TRICH</b>	148	BIN	{N,Y}	0	N	Trichomonas
5	<b>BV</b>	149	BIN	{N,Y}	0	N	Bacterial vaginosis
6	<b>HERPES</b>	150	BIN	{N,Y}	0	N	Herpes
7	<b>BACTER</b>	151	BIN	{N,Y}	0	N	Asymptomatic bacteriuria
8	<b>CYS</b>	152	BIN	{N,Y}	0	N	Cystitis
9	<b>GBS</b>	153	BIN	{N,Y}	0	N	Group B strep
10	<b>PYELO</b>	335	BIN	{N,Y}	0	N	Pyelonephritis

INFECC3			321				(MP04.1) Q.10
1	<b>VCHLAM</b>	209	BIN	{N,Y}	0	N	Chlamydia
2	<b>VTRICH</b>	210	BIN	{N,Y}	0	N	Trichomonas
3	<b>VBV</b>	211	BIN	{N,Y}	0	N	Bacterial vaginosis
4	<b>VHERPES</b>	212	BIN	{N,Y}	0	N	Herpes
5	<b>VBACTER</b>	213	BIN	{N,Y}	0	N	Asymptomatic bacteriuria
6	<b>VCYS</b>	214	BIN	{N,Y}	0	N	Cystitis
7	<b>VPYELO</b>	215	BIN	{N,Y}	0	N	Pyelonephritis
8	<b>VGBS</b>	216	BIN	{N,Y}	0	N	Group B strep
9	<b>VSYPHON</b>	431	BIN	{N,Y}	0	N	Gonorrhea or Syphilis

MEDT			2929				(MP02C.1) Q.13
1	<b>BPIRON</b>	96	BIN	{N,Y}	0	N	Iron taken
2	<b>BPVITA</b>	97	BIN	{N,Y}	0	N	Vitamins taken
3	<b>BPASPIRIN</b>	98	BIN	{N,Y}	0	N	Aspirin taken
4	<b>BPANTIB</b>	99	BIN	{N,Y}	0	N	Antibiotics
5	<b>BPTOCOL</b>	100	BIN	{N,Y}	1	N	Tocolytics
6	<b>BPBRONCH</b>	101	BIN	{N,Y}	0	N	Bronchodilators
7	<b>BPACTIV</b>	102	BIN	{N,Y}	0	N	Activity restriction
8	<b>MEDTRT</b>	154	BIN	{0,1}	0	N	Any meds/treatments

MEDT3			2549				(MP04.1) Q.12
1	<b>DPIRON</b>	166	BIN	{N,Y}	0	N	Iron taken
2	<b>DPVITA</b>	167	BIN	{N,Y}	0	N	Vitamins taken
3	<b>DPASPIRIN</b>	168	BIN	{N,Y}	0	N	Aspirin taken
4	<b>DPANTIB</b>	169	BIN	{N,Y}	0	N	Antibiotics
5	<b>DPTOCOL</b>	170	BIN	{N,Y}	0	N	Tocolytics
6	<b>DPBRONCH</b>	171	BIN	{N,Y}	0	N	Bronchodilators
7	<b>DPACTIV</b>	172	BIN	{N,Y}	0	N	Activity restriction
8	<b>VMEDTRT</b>	217	BIN	{0,1}	0	N	Any meds/treatments

CPH			2929				(MP02C.1) Q.?	
1	APPLACEN	9	CAT	{1-7}	12	N	Placental location at enroll. U/S	
2	BPJOB	10	BIN	{N,Y}	0	N	Worked at paying job d. preg.	
Y	-	JOB	-	GRP	-	0	N	Job details
3	BPVAG1ST	90	BIN	{N,Y}	0	N	Vaginal bleeding/spot 1 <sup>st</sup> trimester	
4	BPVAG2ND	91	BIN	{N,Y}	0	N	Vaginal bleeding/spot 2 <sup>nd</sup> trimester	
5	VAGBLD	143	BIN	{0,1}	0	N	Vaginal bleeding, 1 <sup>st</sup> or 2 <sup>nd</sup> trim.	
6	PERBLD	144	BIN	{0,1}	0	N	Persistent vaginal bleeding	
7	BPCONTRA	92	BIN	{N,Y}	0	N	Uterine contractions in last 2 wks	
Y	8	BPCONHR	120	INT	[0,30]	1	N	Max. uterine contractions / hr
Y	9	BPCONDAY	121	INT	[0,168]	2	N	Max. uterine contractions / day
Y	10	BPCONWK	122	INT	[0,504]	2	N	Max. uterine contractions / wk
11	BPINTER	93	BIN	{N,Y}	0	N	Intercourse w/in last 24 hrs	
12	BPLIMIT	94	BIN	{N,Y}	5	N	Advised to limit intercourse	
13	BPINTNUM	129	INT	[0,30]	29	N	# Times had Intercourse per wk	
14	BPINFEC	95	BIN	{N,Y}	0	N	Infections occurred d. preg.	
Y	-	INFEC	-	GRP	-	0	N	Infections d. preg.
15	BPCVS	103	BIN	{N,Y}	0	N	Performed CVS	
16	BPAMNIO	104	BIN	{N,Y}	0	N	Performed Amniocentesis	
17	BPABD	105	BIN	{N,Y}	0	N	Performed ABD surgery	
18	PROCED	155	BIN	{0,1}	0	N	Performed any procedures	
19	BPHOSPIT	106	BIN	{N,Y}	0	N	Hospitalized for any reason	
Y	20	HOSPTRAS	440	CAT	{A-J}	0	N	Primary reason for hospitalization

CPH3			2549				(MP04.1) Q.?	
1	DPWORK	177	INT	[1,4]	0	N	Work status	
2	DPBLEED	160	BIN	{N,Y}	0	N	Vaginal bleeding/spot since V1	
3	DPCONTRA	161	BIN	{N,Y}	0	N	Uterine contractions since V1	
Y	4	DPCONHR	178	INT	[0,30]	8	N	Max. uterine contractions / hr
Y	5	DPCONDAY	179	INT	[0,144]	10	N	Max. uterine contractions / day
Y	6	DPCONWK	180	INT	[0,672]	9	N	Max. uterine contractions / wk
7	DPINTER	162	BIN	{N,Y}	0	N	Intercourse w/in last 24 hrs	
8	DPLIMIT	163	BIN	{N,Y}	13	N	Advised to limit intercourse	
9	DPINTNUM	187	INT	[0,30]	74	N	# Times had Intercourse per wk	
10	DPINFEC	164	BIN	{N,Y}	0	N	Infections occurred since visit 1	
Y	-	INFEC3	-	GRP	-	0	N	Infections since visit 1
11	DPCOMPL	165	BIN	{N,Y}	0	N	Obst. / surg. / med. complications	
Y	12	COMPLIC3	441	CAT	{A-J}	0	N	Major complications since V1

CPM			2929				(MP02C.1) Q.1-7, 16-17
1	BP1STSYS	112	INT	[70,180]	29	N	Systolic BP at 1 <sup>st</sup> prenatal
2	BP1STDIA	113	INT	[10,110]	29	N	Diastolic BP at 1 <sup>st</sup> prenatal
3	BPLSTSYS	114	INT	[72,168]	4	N	Systolic BP at last reading
4	BPLSTDIA	115	INT	[30,100]	5	N	Diastolic BP at last reading
5	BPHEMVAL	116	REAL	[18.5,47]	578	N	Most recent hematocrit value
6	BPGLOVAL	117	REAL	[5.8,17]	393	N	Most recent hemoglobin value
7	BPALPVAL	118	REAL	[0.1,7]	923	N	Alpha-fetoprotein value (mom)
8	BPURINE	119	INT	[0,4]	6	N	Highest urine protein by dip
9	HEIGHT	156	REAL	[48,78]	5	N	Maternal height in inches
10	WEIGHTV1	437	REAL	[40,191]	5	N	Weight in kgs, visit 1
11	WGTPRE	439	REAL	[36,170]	87	N	Weight in kgs, pre-preg.

SPEC			2929				(MP02C.2) Q.21-24
1	BPVAGPH	130	REAL	[2.4,8.4]	12	N	Vaginal pH
2	BPTRICHO	131	BIN	{1,2}	2	N	Wet prep trichomonas results
3	BPYEAST	132	BIN	{1,2}	2	N	KOH yeast results
4	GSTOT1	279	INT	[0,10]	19	N	Gram stain result
5	BV1	319	BIN	{0,1}	29	N	Bacterial vaginosis

CRVM			2929				(MP02C.2) Q.25-34		
1	BPCERLNG	133	REAL	[0.5,5.5]	13	N	Cervical length in cm (digital)		
2	BPEXTDIL	134	REAL	[0,3]	13	N	External OS dilation (cm)		
10	3	BPINTDIL	135	REAL	[0,3]	0	N	Internal OS dilation (cm)	
	10	4	BPMEMB	136	INT	[1,4]	0	N	Membranes palpated (digital)
5	BPSTAT	137	INT	[-3,3]	6	N	Fetal station		
6	BPPOS	138	INT	[1,3]	5	N	Cervical position		
7	BPCONS	139	INT	[1,3]	6	N	Cervical consistency		
8	BPLOWER	140	BIN	{1,2}	5	N	Lower uterine segment		
9	BPCRVLT	141	INT	[0,70]	14	N	Cervical length by U/S (mm)		
10	BPMEMPRO	107	BIN	{N,Y}	14	N	Membranes protruding into cervix		
Y	11	BPMAXPEN	142	INT	[3,52]	1	N	Max membrane penetration (mm)	

SYMP			2929				(MP02C.1) Q.10
1	BPCPELV	123	INT	[0,3]	0	N	Level of pelvic pressure last wk
2	BPCRAMP	124	INT	[0,3]	0	N	Level of abdominal cramp. last wk
3	BPDISCH	125	INT	[0,3]	0	N	Level of vaginal discharge last wk
4	BPDIAR	126	INT	[0,3]	0	N	Level of diarrhea last wk
5	BPBKPAIN	127	INT	[0,3]	0	N	Level of low back pain last wk
6	BPSPOT	128	INT	[0,3]	0	N	Level of bleed/spot last wk



CPM3			2549				(MP04) Q.13-16
1	DPLSTSYS	188	INT	[60,160]	2	N	Systolic BP at last reading
2	DPLSTDIA	189	INT	[0,120]	2	N	Diastolic BP at last reading
3	DPHEMVAL	190	REAL	[21.3,46.9]	164	N	Most recent hematocrit value
4	DPGLOVAL	191	REAL	[7.1,17]	796	N	Most recent hemoglobin value
5	DPURINE	192	INT	[0,4]	4	N	Highest urine protein by dip
6	WEIGHTV3	438	REAL	[43,194.4]	4	N	Weight in kgs, visit 3

SPEC3			2549				(MP04.2) Q.20-23
1	DPVAGPH	193	REAL	[2.3,10.5]	20	N	Vaginal pH
2	DPTRICHO	194	BIN	{1,2}	8	N	Wet prep trichomonas results
3	DPYEAST	195	BIN	{1,2}	7	N	KOH yeast results
4	GSTOT3	280	INT	[0,10]	25	N	Gram stain result
5	BV3	320	BIN	{0,1}	38	N	Bacterial vaginosis

CRVM3			2549				(MP04.2) Q.24-33		
1	DPCERLNG	196	REAL	[0,4.5]	11	N	Cervical length in cm (digital)		
2	DPEXTDIL	197	REAL	[0,4]	11	N	External OS dilation (cm)		
10	3	DPINTDIL	198	REAL	[0,3]	2	N	Internal OS dilation (cm)	
	10	4	DPMEMB	199	INT	[1,4]	0	N	Membranes palpated (digital)
5	DPSTAT	200	INT	[-3,3]	9	N	Fetal station		
6	DPOPOS	201	INT	[1,3]	10	N	Cervical position		
7	DPCONS	202	INT	[1,3]	9	N	Cervical consistency		
8	DPLOWER	203	BIN	{1,2}	9	N	Lower uterine segment		
9	DPCVLTH	204	INT	[0,68]	18	N	Cervical length by U/S (mm)		
10	DPMEMPRO	173	BIN	{N,Y}	18	N	Membranes protruding into cervix		
Y	11	DPMAXPEN	205	INT	[2,48]	3	N	Max membrane penetration (mm)	

SYMP3			2549				(MP04.1) Q.8
1	DPCPELV	181	INT	[0,3]	0	N	Level of pelvic pressure last wk
2	DPCRAMP	182	INT	[0,3]	0	N	Level of abdominal cramp. last wk
3	DPDISCH	183	INT	[0,3]	0	N	Level of vaginal discharge last wk
4	DPDIAR	184	INT	[0,3]	0	N	Level of diarrhea last wk
5	DPBKPAIN	185	INT	[0,3]	0	N	Level of low back pain last wk
6	DPSPOT	186	INT	[0,3]	0	N	Level of bleed/spot last wk

FFN			2926				(MP02C.2) Q.20
1	<b>FFNC1</b>	323	REAL	[0,2418]	13	N	Cervical FFN value (wk 23-24)
2	<b>FFNV1</b>	324	REAL	[0,1835]	5	N	Vaginal FFN value (wk 23-24)
3	<b>FFCEA24</b>	336	BIN	{0,1}	11	N	Cervical FFN +/- (wk 23-24)
4	<b>FFVAA24</b>	337	BIN	{0,1}	4	N	Vaginal FFN +/- (wk 23-24)
5	<b>FF1</b>	331	BIN	{0,1}	14	N	Visit 1 FFN (wk 23-24)
6	<b>FFA24</b>	344	BIN	{0,1}	0	N	Summary FFN (wk 23-24)

FFN2			2515				(MP03) Q.4
1	<b>FFNC2</b>	325	REAL	[0,2079]	22	N	Cervical FFN value (wk 25-26)
2	<b>FFNV2</b>	326	REAL	[0,1937]	13	N	Vaginal FFN value (wk 25-26)
3	<b>FFCEA26</b>	338	BIN	{0,1}	85	N	Cervical FFN +/- (wk 25-26)
4	<b>FFVAA26</b>	339	BIN	{0,1}	79	N	Vaginal FFN +/- (wk 25-26)
5	<b>FF2</b>	332	BIN	{0,1}	21	N	Visit 2 FFN (wk 25-26)
6	<b>FFA26</b>	345	BIN	{0,1}	73	N	Summary FFN (wk 25-26)

FFN3			2544				(MP04.2) Q.19
1	<b>FFNC3</b>	327	REAL	[0,2363]	17	N	Cervical FFN value (wk 27-28)
2	<b>FFNV3</b>	328	REAL	[0,2593]	12	N	Vaginal FFN value (wk 27-28)
3	<b>FFCEA28</b>	340	BIN	{0,1}	247	N	Cervical FFN +/- (wk 27-28)
4	<b>FFVAA28</b>	341	BIN	{0,1}	243	N	Vaginal FFN +/- (wk 27-28)
5	<b>FF3</b>	333	BIN	{0,1}	17	N	Visit 3 FFN (wk 27-28)
6	<b>FFA28</b>	346	BIN	{0,1}	237	N	Summary FFN (wk 27-28)

FFN4			2317				(MP03) Q.4
1	<b>FFNC4</b>	329	REAL	[0,2758]	15	N	Cervical FFN value (wk 29-30)
2	<b>FFNV4</b>	330	REAL	[0,2226]	12	N	Vaginal FFN value (wk 29-30)
3	<b>FFCEA30</b>	342	BIN	{0,1}	63	N	Cervical FFN +/- (wk 29-30)
4	<b>FFVAA30</b>	343	BIN	{0,1}	62	N	Vaginal FFN +/- (wk 29-30)
5	<b>FF4</b>	334	BIN	{0,1}	14	N	Visit 4 FFN (wk 29-30)
6	<b>FFA30</b>	347	BIN	{0,1}	56	N	Summary FFN (wk 29-30)

VISIT2			2527				(MP03) Q.3,5
1	<b>INTER2</b>	348	BIN	{N,Y}	2	N	Intercourse w/in last 24 hours
2	<b>YEAST2</b>	350	BIN	{1,2}	12	N	Yeast results from KOH prep

VISIT4			2324				(MP03) Q.3,5
1	<b>INTER4</b>	351	BIN	{N,Y}	2	N	Intercourse w/in last 24 hours
2	<b>YEAST4</b>	353	BIN	{1,2}	6	N	Yeast results from KOH prep

Blood & Urine Analysis			V1				(MP02C.2) Q.18-19
1	<b>LCR1</b>	369	?	?	?	?	Chlamydia
2	<b>CRF1</b>	371	?	?	?	?	Cortico releasing factor
3	<b>AFP1</b>	373	?	?	?	?	Alpha feto protein
4	<b>ALP1</b>	374	?	?	?	?	Alkaline phosphatase
5	<b>B2M1</b>	375	?	?	?	?	Beta2 Microglobulin
6	<b>FER1</b>	376	?	?	?	?	Ferritin
7	<b>ICAM1A</b>	377	?	?	?	?	ICAM
8	<b>IL6A</b>	378	?	?	?	?	IL6
9	<b>LCRP1</b>	379	?	?	?	?	C reactive protein
10	<b>LACTO1</b>	387	?	?	?	?	Lactoferrin
11	<b>DEFEN1</b>	388	?	?	?	?	Defensin
12	<b>REL1</b>	391	?	?	?	?	Relaxin
1	<b>IL101</b>	393	?	?	?	?	IL10
2	<b>GCSF1</b>	394	?	?	?	?	GCSF
3	<b>CORT1</b>	397	?	?	?	?	Cortisol
4	<b>ACT1</b>	399	?	?	?	?	Activin
5	<b>SELECT1</b>	401	?	?	?	?	Beta2 Microglobulin
6	<b>PLGF1</b>	402	?	?	?	?	Placental growth factor
7	<b>TNF_RA1</b>	403	?	?	?	?	TNF receptor type 1
8	<b>TNF_RB1</b>	404	?	?	?	?	TNF receptor type 2
9	<b>IL_2SRA1</b>	405	?	?	?	?	IL2 receptor alpha
10	<b>ANGIO1</b>	406	?	?	?	?	Angiogenin
11	<b>TAT1</b>	413	?	?	?	?	Thrombin anti-thrombin

Blood & Urine Analysis			V3				(MP04.2) Q.17-18
1	<b>LCR3</b>	370	?	?	?	?	
2	<b>CRF3</b>	372	?	?	?	?	
3	<b>AFP3</b>	380	?	?	?	?	
4	<b>ALP3</b>	381	?	?	?	?	
5	<b>B2M3</b>	382	?	?	?	?	
6	<b>FER3</b>	383	?	?	?	?	
7	<b>ICAM1B</b>	384	?	?	?	?	
8	<b>IL6B</b>	385	?	?	?	?	
9	<b>LCRP3</b>	386	?	?	?	?	
10	<b>LACTO3</b>	389	?	?	?	?	
11	<b>DEFEN3</b>	390	?	?	?	?	
12	<b>REL3</b>	392	?	?	?	?	
1	<b>IL103</b>	395	?	?	?	?	
2	<b>GCSF3</b>	396	?	?	?	?	
3	<b>CORT3</b>	398	?	?	?	?	
4	<b>ACT3</b>	400	?	?	?	?	
5	<b>SELECT3</b>	407	?	?	?	?	
6	<b>PLGF3</b>	408	?	?	?	?	
7	<b>TNF_RA3</b>	409	?	?	?	?	
8	<b>TNF_RB3</b>	410	?	?	?	?	
9	<b>IL_2SRA3</b>	411	?	?	?	?	
10	<b>ANGIO3</b>	412	?	?	?	?	
11	<b>TAT3</b>	414	?	?	?	?	

PSYCH			2516				(MP08)
1	<b>TOTLQUES</b>	267	INT	[26,28]	0	N	Total questions answered
2	<b>PSYSCORE</b>	268	INT	[1,140]	0	N	Total psychological score
3	<b>ANXIETY</b>	269	INT	[1,40]	0	N	Anxiety subscale
4	<b>TOTANX</b>	270	INT	[7,8]	0	N	Total q. ans. anxiety
5	<b>ESTEEM</b>	271	INT	[1,30]	0	N	Self esteem subscale
6	<b>TOTEST</b>	272	INT	[5,6]	0	N	Total q. ans. self esteem
7	<b>MASTERY</b>	273	INT	[4,20]	0	N	Mastery subscale
8	<b>TOTMAS</b>	274	INT	[3,4]	0	N	Total q. ans. mastery
9	<b>DEPRESS</b>	275	INT	[1,40]	0	N	Depression subscale
10	<b>TOTDEP</b>	276	INT	[6,8]	0	N	Total q. ans. depression
11	<b>STRESS</b>	277	INT	[2,10]	0	N	Stress subscale
12	<b>TOTSTR</b>	278	INT	[2]	0	N	Total q. ans. stress

OUTM			3001				(MP05) Q.A	
1	EPLABOR	222	CAT	{1-4}	4	N	How labor started	
2	EPADMIT	218	BIN	{N,Y}	3	N	Admitted or L+D for PTL	
Y	3	EPINTVEN	219	BIN	{N,Y}	0	N	Other interventions
Y	4	ORALTOC	226	BIN	{N,Y}	0	N	Received oral tocolysis
Y	5	SUBQTOC	227	BIN	{N,Y}	0	N	Received Sub Q tocolysis
Y	6	HYDRA	228	BIN	{N,Y}	0	N	Hydration during admission
Y	7	EPDILVS	223	REAL	[0,4]	13	Y	Internal OS dilation at 1 <sup>st</sup> visit
Y	8	IVTOC	225	BIN	{0,1}	0	N	IV tocolysis administered
1	9	EPDILTOC	224	REAL	[0,5]	5	N	Internal OS dilation at IV tocolysis
Y	10	CONTRNUM	436	INT	[1,5]	0	Y	# Visits with observed contractions

OUTN			3001				(MP05) Q.B	
1	EPCongen	281	BIN	{N,Y}	6	N	Congenital Malformations	
2	EPDELIV	283	CAT	{1-4}	4	N	Type of delivery	
3	EPSEX	284	BIN	{1,2}	2	N	Gender of infant	
4	EPAPGAR1	285	INT	[0,10]	30	N	1-minute APGAR	
5	EPAPGAR5	286	INT	[0,10]	29	N	5-minute APGAR	
6	EPLNGTH	287	REAL	[21,61]	99	N	Length	
7	EPWEIGHT	288	INT	[195,6390]	5	N	Birth weight	
8	LBW	321	BIN	{0,1}	5	N	Low birth weight < 2500 gms	
9	FGR	322	BIN	{0,1}	5	N	Fetal growth retardation (brenner)	
10	EPHC	289	REAL	[18,55]	145	N	Head circumference	
11	EPABDOM	290	REAL	[19,50]	2583	N	Abdominal circumference	

OUTS			3001				(MP05) Q.B11	
1	EPSTATUS	291	CAT	{1-5}	7	N	Infant status at <= 30 days	
2	STLBRN	292	BIN	{0,1}	0	N	Stillbirth	
3	INFDTN	293	BIN	{0,1}	0	N	Infant death	
1	4	DEATHDAYS	444	INT	[0,6]	0	Y	Neonate age at death in days
5	HOSPDAYS	294	INT	[0,230]	8	N	Infant days in hospital	
6	DISAGE	435	INT	[0,16]	8	Y	Neonatal age at discharge	

IPRE			124				(MP06) Q.A7	
1	CLAMNION	258	BIN	{N,Y}	1	N	Clinical amnionitis	
2	ABRUPT	259	BIN	{N,Y}	0	N	Abruptio placenta	
3	DISTRESS	260	BIN	{N,Y}	0	N	Fetal distress	
4	IUGR	261	BIN	{N,Y}	0	N	Intra-uterine growth restriction	
5	FDEATH	262	BIN	{N,Y}	0	N	Fetal death	
6	PREEC	263	BIN	{N,Y}	0	N	Preeclampsia	
7	FOTHR	264	BIN	{N,Y}	0	N	Other reason	
8	OLIGO	442	BIN	{N,Y}	0	N	Oligohydramnios	
9	PREV_CS	443	BIN	{N,Y}	0	N	Previous C-section	

CHORS			33				(MP06) Q.A8
1	<b>FPTEMP</b>	235	BIN	{N,Y}	0	N	Temp > 100.4 F or 38.0 C
2	<b>FPTENDER</b>	236	BIN	{N,Y}	0	N	Unexpl. UT tenderness at hosp adm.
3	<b>FPFOUL</b>	237	BIN	{N,Y}	0	N	Foul vaginal discharge
4	<b>FPWBC</b>	238	BIN	{N,Y}	0	N	WBC > 20,000
5	<b>FPTACHY</b>	239	BIN	{N,Y}	0	N	Maternal tachycardia (HR > 100)
6	<b>FPFETACH</b>	240	BIN	{N,Y}	0	N	Fetal tachycardia (HR > 160)

PDELM			433				(MP06) Q.A	
1	<b>FPCONTRA</b>	229	BIN	{N,Y}	1	N	Recurrent contractions at hosp. adm.	
2	<b>FPHYDRA</b>	230	BIN	{N,Y}	0	N	Hydration during adm.	
3	<b>FPTOCOL</b>	231	BIN	{N,Y}	0	N	Tocolysis during adm.	
4	<b>FPANTIB</b>	232	BIN	{N,Y}	1	N	Antibiotics during adm.	
5	<b>FPOTHER</b>	233	BIN	{N,Y}	1	N	Other treatments during adm.	
6	<b>TRTADM</b>	257	BIN	{0,1}	0	N	Any treatment during PTD adm.	
7	<b>FPCHORIO</b>	234	BIN	{N,Y}	0	N	Chorioamnionitis suspected	
Y	-	CHORS	-	GRP	-	0	N	Reasons for suspected chorio
8	<b>FPDIAG</b>	241	BIN	{N,Y}	407	N	Diagnosis of chorio made before PROM	
9	<b>FPENDO</b>	242	BIN	{N,Y}	0	N	Endometritis	
10	<b>FPCSECT</b>	243	BIN	{N,Y}	0	N	C-section wound infection at hosp. adm.	
11	<b>FPTHROMB</b>	244	BIN	{N,Y}	0	N	Spetic pelvic thrombophlebitis	
12	<b>FPEPISIO</b>	245	BIN	{N,Y}	0	N	Episiotomy wound infection	
13	<b>FPUTI</b>	246	BIN	{N,Y}	0	N	UTI diagnosed post-partum	
14	<b>FPPYELON</b>	247	BIN	{N,Y}	0	N	Pyelonephritis	
15	<b>FPDILADM</b>	254	REAL	[0,10]	19	N	Dilation on adm.	
16	<b>TIMEADDG</b>	315	INT	[1,39]	1	N	Time from admission to discharge	

PDELC			420				(MP06) Q.B	
1	<b>FPNICADM</b>	296	BIN	{N,Y}	0	N	Admitted to the NICU	
2	<b>FPRDS</b>	297	BIN	{N,Y}	5	N	Respiratory distress syndrome	
3	<b>FPNEC</b>	298	BIN	{N,Y}	5	N	Necrotizing enterocolitis	
4	<b>FPVENT</b>	299	BIN	{N,Y}	9	N	Mechanical ventilation	
5	<b>FPSEPSIS</b>	300	BIN	{N,Y}	5	N	Newborn sepsis suspected	
Y	6	<b>SEPSIS</b>	316	INT	[0,10]	0	N	Neonate age at suspected sepsis
7	<b>FPCULTUR</b>	301	BIN	{N,Y}	5	N	Newborn sepsis confirmed by culture	
Y	8	<b>CULT</b>	317	INT	[0,41]	0	N	Neonate age at confirmed sepsis
9	<b>FPNEUMO</b>	302	BIN	{N,Y}	5	N	Pneumonia confirmed by X-ray or cult.	
Y	10	<b>NEUMO</b>	318	INT	[0,6]	0	N	Neonate age at confirmed pneumonia
11	<b>FPCSF</b>	303	BIN	{N,Y}	5	N	Meningitis confirmed by culture	
12	<b>FPIVH</b>	305	?	{0-4,9}	30	N	IVH grade	

Fill-in Steps (Structurally Absent Variables)

GRP	#	Fill-in Rule
PPHD	1...13	{? → 0}
PPHD	14	{? → AGEMOM}
JOB	1, 3..5	{? → N}
JOB	7, 9...14	{? → N}
JOB	8	{? → Y}
JOB	6,15	{? → 0}
INFEC	1...10	{? → N}
OBST	3	{? → 0}
OBST	5	{? → N}
SAD	2...5	{? → 0}
SAD	8...10	{? → 0}
SAD	12...14	{? → 0}
SAD	11, 16...24	{? → N}
CPH	8...10	{? → 0}
CPH	20	{? → K}
CRVM	3,4,11	{? → 0}
PSYCH	1...12	{? → mean(variable)}
VISIT2	1	{? → U}
VISIT2	2	{? → 0}
VISIT4	1	{? → U}
VISIT4	2	{? → 0}
INFEC3	1...9	{? → N}
SAD3	2, 4, 5	{? → 0}
SAD3	7...9	{? → N}
CPH3	4...6	{? → 0}
CPH3	12	{? → K}
CRVM3	3,4,11	{? → 0}
IPRE	1...9	{? → N}
CHORS	1...6	{? → N}

Fill-in Steps (Randomly Missing Variables)

GRP	#	Fill-in Rule
DMG	5	{? → 4}
SAD	2,3	{? → CIG24}
SAD	11	{? → N}
SAD	16,19,20	{? → N}
SAD	17	{? → DCOCAINE}
SAD	18	{? → DMARI}
SAD	21	{? → DOTHER}
SAD	22...24	{? → N}
MEDT	5	{? → N}
CPH	1	{? → 0}
CPH	12	{? → N}
SPEC	2,3	{? → 0}
CRVM	2,6,7,11	{? → mean}
CRVM	5	{? → -3}
CRVM	8	{? → 0}
CRVM	10	{? → U}
CPM	1...4	{? → mean(variable)}
CPM	8	{? → 0}
VISIT2	1	{? → U}
VISIT2	2	{? → 0}
VISIT4	1	{? → U}
VISIT4	2	{? → 0}
SAD3	2	{? → CIGSNOW}
CPH3	8	{? → N}
SPEC3	2,3	{? → 0}
CRVM3	2,6,7,11	{? → mean}
CRVM3	5	{? → -3}
CRVM3	8	{? → 0}
CRVM3	10	{? → U}
CPM3	1,2	{? → mean(variable)}
CPM3	5	{? → 0}
IPRE	1	{? → N}

Simple Processing Steps

GRP	#	Name	#	Processing Rule
DMG	11	AGEMOM	416	{'<=17' → 17, '>=40' → 40}
DMG	13	SCHOOLYR	418	{'<9' → 8, '>16' → 17}
PPH	16	MISC1ST	434	{'>3' → 4}
SAD	2	CIGSPRE	419	{'>=40' → 40}
SAD	3	CIG12	420	{'20-29' → 25, '>=30' → 30}
SAD	4	CIG24	421	{'>20' → 25}
SAD	5	CIGSNOW	422	{'>20' → 25}
SAD	8	DRINKPRE	424	{'>=6' → 6, '4-5' → 4.5}
SAD	9	DRK12	425	{'>=4' → 4, '2-3' → 2.5}
SAD	10	DRK24	426	{'>=2' → 2}
SAD	13	DRNKMOST	427	{'>=4' → 4}
SAD	14	DRKLSTDY	428	{'>1' → 2}
SAD3	2	VCIGDAY	423	{'>20' → 25}
SAD3	4	VALCDY	429	{'>3' → 4}
SAD3	5	VALCWK	430	{'>2' → 3}

OUTS	4	DEATHDAYS	444	{'>=6' → 6}
------	---	-----------	-----	-------------

Nontrivial Processing Steps:

Group: CRVM

Case: 10.BPMEMPRO = Y & 11.BPMAXPEN = ?  
Rule: Set F11 to {16.00}.

Case: 1.BPCERLNG = ? & 9.BPCRVLT = ?  
Rule: Set F1,F9 to {2.71,35.24}.

Group: CRVM3

Case: 10.DPMEMPRO = Y & 11.DPMAXPEN = ?  
Rule: Set F11 to {14.04}.

Case: 1.DPCERLNG = ? & 9.DPCVLTH = ?  
Rule: Set F1,F9 to {2.55,33.64}.

Group: CPM

Case: Too many missing values  
Rule: Remove 5.BPHEMVAL, 6.BPGLOVAL, 7.BPALPVAL

Case: 11.WGTPRE = ?  
Rule: Set F11 to {F10 - mean(F10 - F11)}.

Case: 10.WEIGHTV1 = ?  
Rule: Set F10 to {F11 + mean(F10 - F11)}.

Case: 9.HEIGHT = ?  
Rule: Set F9 to {mean(F9 s.t. F11 is within a range of one)}.

Group: CPM3

Case: Too many missing values  
Rule: Remove 3.DPHEMVAL, 4.DPGLOVAL

Case: 6.WEIGHTV3 = ?  
Rule: Set F6 to {WEIGHTV1 + mean(F6 - WEIGHTV1)}.

Nontrivial Processing Steps:

Group: DMG

Case: 8.BPLASTYR & 9.BPLST5YR = ?  
Rule: Set F8,F9 to {1,2}

Case: 9.BPLST5YR = ?  
Rule: Set F9 to {8}

Case: 5.BPINCOME = 4  
Rule: Set F5 to the average F5 value of all examples with identical F4 (BPINSUR) value.

Group: JOB

Case: 2.GASTOP\_D = ? & 1.BPWORK = ?  
Rule: Set F2 to {0}.

Case: 2.GASTOP\_D = ? & 1.BPWORK = Y  
Rule: Set F2 to {VISGA1\_D}.

Group: FFN / FFN2 / FFN3 / FFN4

Case: All features are missing  
Rule: Set F1...F6 to {mean(F1),mean(F2),0,0,0,0}

Case: 1.FFNC# & 2.FFNV# = ?  
Rule.a: If 3.FFCEA = 0, Set F1 to {mean(F1)}.  
Rule.b: If 3.FFCEA = 1, Set F1 to {mean(F1 s.t. F3 = 1)}.  
Rule.c: If 4.FFVAA = 0, Set F2 to {mean(F2)}.  
Rule.d: If 4.FFVAA = 1, Set F2 to {mean(F2 s.t. F4 = 1)}.

Case: 1.FFNC# <OR> 2.FFNV# = ?  
Rule: If F1 = ?, Set F1 to {F2}. If F2 = ?, Set F2 to {F1}.

Case: 3.FFNCEA = ?  
Rule: If F1 < 50, Set F3 to {0}, else, Set F3 to {1}.

Case: 4.FFNVA = ?  
Rule: If F2 < 50, Set F4 to {0}, else, Set F4 to {1}.

Case: 5.FF# = ?  
Rule: If F3 == 0 & F4 == 0, Set F5 to {0}, else, Set F5 to {1}.

Case: 6.FFA = ?  
Rule: If F3 == 0 & F4 == 0, Set F6 to {0}, else, Set F6 to {1}.

Group: SAD

Case: 7.BPALCHOL = Y  
Rule: Set F8...F10 to {mean(F8...F10 s.t. F7 = Y)}.

Group: SAD3

Case: 3.DPALCHOL = Y & 5.VALCWK = ?  
Rule.a: If F4 = 1, Set F5 to {mean(F5 s.t. F4 = 1)}.  
Rule.b: If F4 = 2, Set F5 to {mean(F5 s.t. F4 = 2)}.

Group: CPH

Case: 7.BPCONTRA = Y & F8...F10 = (?, ?, ?)  
Rule: Set F8...F10 to {2,4,12}.

Case: 7.BPCONTRA = Y & F9...F10 = (?, ?)  
Rule.a: Set F9 to {F8 + median(F9 - F8)}.  
Rule.b: Set F10 to {F8 + median(F10 - F8)}.

Case: 13.BPINTNUM = ?  
Rule.a: If F11 = Y, Set F13 to {median(F13 s.t. F11 = Y)}.  
Rule.b: If F11 = N, Set F13 to {median(F13 s.t. F11 = N)}.

Group: CPH3

Case: 3.DPCONTRA = Y & F4...F6 = (?, ?, ?)  
Rule: Set F4...F6 to {2,6,17.5}.

Case: 3.BPCONTRA = Y & 4.BPCONHR = ?  
Rule: Set F4 to {F5}.

Case: 3.BPCONTRA = Y & 5.BPCONDAY = ?  
Rule: Set F5 to {F4 + median(F5 - F4)}.

Case: 3.BPCONTRA = Y & 6.BPCONWK = ?  
Rule: Set F6 to {F5 + median(F6 - F5)}.

Case: 9.DPINTNUM = ?  
Rule.a: If F7,F8 = (N,N), Set F9 to {median(F9 s.t. F7,F8 = N,N)}.  
Rule.b: If F7,F8 = (N,Y), Set F9 to {median(F9 s.t. F7,F8 = N,Y)}.  
Rule.c: If F7,F8 = (Y,N), Set F9 to {median(F9 s.t. F7,F8 = Y,N)}.

Group: SPEC / SPEC3

Case: 1.VAGPH = ? & 4. GSTOT = ?  
Rule: Set F1,F4 to {4.5,3}.

Case: 1.VAGPH = ?  
Rule.a: If F4 < 7, Set F1 to {4.5}.  
Rule.b: If F4 >= 7, Set F1 to {mean(F1 s.t. F4 >= 7)}.

Case: 4.GSTOT = ?  
Rule.a: If F1 > 4.5, Set F4 to {mean(F4 s.t. F1 > 4.5)}.  
Rule.b: If F1 <= 4.5, Set F4 to {mean(F4 s.t. F1 <= 4.5)}.

Case: 5.BV = ?  
Rule: If F1 > 4.5 & F4 >= 7 Set F5 to {1}, else, Set F5 to {0}.

Group: CRVM / CRVM3

Case: 1.CERLNG = ?  
Rule: Set F1 to {F9 / mean(F9 / F1)}.

Case: 9.CRVLT = ?  
Rule: Set F9 to {F1 \* mean(F9 / F1)}.