Exploring maternal and child health data sources and qualitative data in large datasets



Gene Declercq, PhD Boston University School of Public Health AMCHP Graduate Student Epidemiology Program June 9, 2023

SOME OF THE DATASETS AVAILABLE IN PERINATAL EPIDEMIOLOGY

10 questions to ask yourself in choosing any data source for your study....

(Prior to choosing a data source, make sure your question is clear.)

10 questions to ask yourself in choosing any data source for your study....

Is there even an existing source of data for my study? If so.....

- **1. Who** is included in the data set (who is represented/not)
- 2. When were data collected (actual year? in relation to occurrence of events? Note difference between publication date & date of collection)
- **3. What exposures** does it capture/not?
- 4. What outcomes does it capture/not? (What I need or close?)
- 5. Were exposures and outcomes **collected simultaneously**?
- 6. Exposure/outcome temporal ordering established?

10 questions to ask yourself in choosing any data source for your study (cont'd)

- 7. At what point(s) in the **life course** does it capture data?
- 8. Does it capture data at more than one point in time for the same people (longitudinal analysis possible)?
- 9. Have the **data been "validated"** from this source? (meaning, have they been compared to some kind of "gold standard") (e.g."Was baby conceived with ART?" (Data recorded on BC vs. data from fertility clinic)

10.Is there **an identifier I can use to link** this data from this source to other data?

The basics of population perinatal epi data sources

- Vital statistics & Census Data
- Administrative (hospital/insurance claims)
- Surveys
- Putting it all together: Linked data sets

Why Population Data?

• Data on (most) everyone

•Less concern about selection bias, etc.

- **Standardized** (hopefully) data collection format
 - You can compare measures across the whole population
- Large databases!
 - Research rare exposures & outcomes

TYPES OF POPULATION DATA

Vital Statistics

 In our case of greatest value are birth and death statistics

• Birth Certificate work sheets

-	
ATE	
ive born infant in the delivery. cy reportable under State	Mother's Medical Record # FOR HOSPITAL USE ONLY
Final 1/28/04	Mother's Name
Mother's Worksheet for G	Child's Birth Certificate
The information you provide below will be used to create document that will be used for legal purposes to prove yo document will be used by your child throughout his/her li unauthorized release of identifying information from the b parents and their child. It is very important that you provide complete and accura information used for legal purposes, other information fro researchers to study and improve the health of mothers a education, race, and smoking will be used for studies but issued to you or your child. PLEASE PRINT CLEARLY 1. What is your current legal name?	your child's birth certificate. The birth certificate is a bur child's age, citizenship and parentage. This ife. State laws provide protection against the birth certificates to ensure the confidentiality of the te information to all of the questions. In addition to bom the birth certificate is used by health and medical and newborn infants. Items such as parent's t will not appear on copies of the birth certificate
	ATE ve born infant in the delivery: yr reportable under State Final 1/28/04 Final 1/28/04 The information you provide below will be used to create document that will be used for legal purposes to prove ye document that will be used for legal purposes to prove ye document will be used for legal purposes to prove ye document will be used for legal purposes to prove ye document will be used for legal purposes to prove ye document will be used for legal purposes to prove ye document will be used for legal purposes to prove ye document will be used for legal purposes, other information from the l parents and their child. It is very important that you provide complete and accura information used for legal purposes, other information from the l parents and their child. PLEASE PRINT CLEARLY 1. What is your current legal name?

2. What will be your baby's legal name (as it should appear on the birth certificate)?

First	Middle	Last

Suffix (Jr., III, etc.)

Name not yet chosen

ī

- What are vital statistics?
 - Record "life" events
 - Birth
 - Death
 - Marriage & Divorce

• History

STA	TE OF HAWAII	CERTIFICA	ATE OF LIVE	BIRTH	DEPA	61. 1	0641
In (Child's First Name (Type or pri	nt) 1b.	Middle Name	and a second	le Last !	Name	A DEPENDENCE
	BARACK		HUSSEIN	Line	OBA	MA, II	
2 5	Sex 3. This Dirth Male Single I Twin	Triplet 1st 2nd	d Born Birth	August	0ay 4 .	Year 1961	5b. Hour /
64 1	Place of Birth: City, Town or Ru	Honolulu			6b. Island	Oah	
6e. N	Name of Hospital or Institution (I Kapiolani Maternit	f not in hospital or institution & Gynecologica	n, give street address) 1 Hospital	6d. Is Place	e judicial dist	City or Ton	rn Limits?
72.	Usual Residence of Mother: City, T	own or Rural Location	7b. Island	1 100	7e. County	and State or l	Foreign Country
	Honol	ulu	Oahu		Hor	nolulu,	Hawaii
7d. 5	Street Address 6085 Kalau	nianaole Highway	11篇11篇11	7e. Is Resider If no, giv Yes A	e Judicial distr	or Town Li fiel	mits?
76, 1	Mother's Mailing Address			Unum.	7g. Is Resid	dence on a F	arm or Plantatio
8. 1	Full Name of Father			Canada Canada	9. Race of	Father	[
	BARACK	HUSSEIN	OBAN	A	A	frican	1. The second second
10. /	Age of Father 11. Birthplace (1 25 Kenya, Eas	uland, Scare or Foreign Country) 12 t Africa 7	a. Usual Occupation Student	0	12b. Kind Univ	of Business oversity	or Industry
13. 1	Full Malden Name of Mother		I Contract Contract I I for	and a second in the	14. Race of	Mother	
	STANLEY	ANN	DUNHAN	4	(Caucasi	an (
15. /	Age of Mother 16. Birthplace (18 Wichit	Island, State or Foreign Country) 1	7a. Type of Occupation	n Outside Home None	During Pregn	aney 17b.	Date Last Work

- 1639: General Court of the Massachusetts Bay Colony requires gov't to record births, deaths, marriages – births not systematically until late 1800s
- U.S. National vital statistics system evolved over 20th century.
 - By 1933, all states registering live births/deaths.
 - Currently: State-based data, compiled by CDC/NCHS

Vital Stats circa early 20th century

Le vingt un Septembre mil neuf cent quatorze, quatre heures du Soir Nº 122 est né Cyxille Eugence albert du sexe masculin de Eugène Dicare Declarce vingt-treis ans, tisserand, né à Avelghem (Belgique) Declerco et de Augusta Helene Dehullu, vingt-trois and menagere, son épouse, Cyrille Eugene albert domiciliés à Roncy, Sentier des marts, Nº12. Eufant legitime Dressé par Nous, le vingt-deut Septembre mil neuf cent quatorze à onle heures du matin sur présentation de l'enfant et déclaration faite par Cyrille Declercq, quarante Sept and tisserand, demeurant à koubaix, ayant assiste à l'accouchement En présence de François Dchully chauffeur demeurant à Moncoj et de Saul Cherry fentreur Sept. 22, 1914 demeurant à Roulinis qui, lecture faite, ont signé avec le déclarant et Nous de Sire? Veurent Signers Jaw Cherry Dehulte I Teurent

"How well does existing data match the needs of your question?"

- Birth certificate
 - •What's behind the certificate you bring home?

• Domains of information....

- •
- Name, sex, date/time of birth
- Birth weight
- Gestational age
- Apgar
- Facility transfer
- Congenital anomalies
- Abnormal conditions of the newborn
- Breastfeeding (at hospital)

• <u>Parent</u> demographics

- age,
- education,
- race, nativity
- missing info?

<u>Maternal health</u> conditions

- Risk factors, infections, behaviors
- Reproductive assistance
- Labor/delivery characteristics, complications, procedures
- Prior-birth history
- Birth attendant info
- **Birth location** (Home, birth center, hospital, hospital level...)
- **<u>Prenatal</u> care** (including payer)

- Who reports the information?
 - Birth certificate & Fetal death report
 - Parent/Patient worksheet
 - Demographic/behavioral information
 - Facility worksheet
 - Medical history, L&D, newborn characteristics

Death certificate

- Funeral director
- Medical certifier

								MOTHER	29a. DATE OF FIRST PRENATAL CA	ARE VISIT No Prenatal Care	29b. DATE OF LAST PREN	ATAL CARE VISIT 30. TO	TAL NUMBER OF PRENATAL VISITS FOR THIS PREGNANCY
LOCAL FIL	E NO.	U	S. STANDARD CERTIFICATE	OF LIVE BIR H	H	BIRTH NUMBI	ER:		MM DD YYYY		MM DD	YYYY _	(If none, enter A0".)
СН	ILD	D 1. CHILD'S NAME (First, Middle, Last, Suffix) 2. TIME OF BIRTH 3. SEX 4. DATE OF BIRTH (Mo/Day/Yr) (24 hr)							31. MOTHER'S HEIGHT (feet/inches)	32. MOTHER'S PR	EPREGNANCY WEIGHT 33. ounds)	MOTHER'S WEIGHT AT D	ELIVERY 34. DID MOTHER GET WIC FOOD FOR HERSELF DURING THIS PREGNANCY? Yes No
		5. FACILITY NAME (if not institution, give street and number) 6. CITY, TOWN, OR I			LOCATION OF BIRTH	7. COUNTY OF E	NRTH		35. NUMBER OF PREVIOUS LIVE BIRTHS (Do not include this child)	38. NUMBER OF O PREGNANCY ((spontaneous o	THER 37. CIGARET OUTCOMES For each rinduced number of	TE SMOKING BEFORE AN time period, enter either the of packs of cigarettes smoked	D DURING PREGNANCY 38. PRINCIPAL SOURCE OF number of cigarettes or the PAYMENT FOR THIS J. IF NONE, ENTER A0". DELIVERY
мо	THER	8a. MOTHER'S CURRENT LEGAL NAME (F	irst, Middle, Last, Suffix)	8b	DATE OF BIRTH (Mo/Day/Yr)				35a. Now Living 35b. Now Dead	losses or ectopi 38a. Other Outcom	ic pregnancies) es Average nu	mber of cigarettes or packs of # of	of oigarettes smoked per day. Private Insurance cigarettes # of packs Medicaid
		8c. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last, Suffix) 8d. E		d. BIRTHPLACE (State, Ter	rritory, or Foreign Cou	ntry)	-	Number Number	Number	Three Mon First Three Second Th Third Trime	ths Before Pregnancy Months of Pregnancy ree Months of Pregnancy	OR OR Other OR Other OR (Specify)	
		9a. RESIDENCE OF MOTHER-STATE	96. COUNTY		9c. CITY, TOWN, OR LOC.	ATION		-			TOTUER 20 DATE I		
										PREGNANCY		/ 	EGAN 40. MOTHER'S MEDICAL RECORD NUMBER
		9d. STREET AND NUMBER		9e. APT. N	NO. 9f. ZIP CODE		9g. INSIDE CITY LIMITS?		41 RISK FACTORS IN THIS PREGN		A OBSTETRIC PROCED	URES (Check all that apply)	48 METHOD OF DELIVERY
							□ Yes □ No		(Check all that apply) Diabetes		Cervical cerclage	ence (encer al intracoppy)	A. Was delivery with forceps attempted but
FA	THER	10a. FATHER'S CURRENT LEGAL NAME (F	irst, Middle, Last, Suffix) 1	05. DATE OF BIRT	(H (Mo/Day/Yr) 10c. Bir	RTHPLACE (State, Ter	ritory, or Foreign Country)	HEALTH	 Prepregnancy (Diagnosis prior Gestational (Diagnosis in thi 	to this pregnancy) is pregnancy)	 Tocolysis External cephalic version: 		unsuocessful?
CEF	TIFIER	11. CERTIFIER'S NAME:		12. DATE	CERTIFIED	13. DATE FILED B	BY REGISTRAR	INFORMATION	Hypertension Prepregnancy (Chronic)		 Successful Failed 		B. Was delivery with vacuum extraction attempted but unsuccessful?
		OTHER (Specify)		MM	// DD YYYYY	MM DD	 YYYY		 Gestational (PIH, preeclampsia Eclampsia 	a)	None of the above		C. Fetal presentation at birth
		14 MOTHER'S MAILING ADDRESS: 9.5	INFORMATION FOR ADMINISTE	RATIVE USE	City Town or Locati	on:		-	 Previous preterm birth 		44. ONSET OF LABOR (CI	heck all that apply)	Cephalic Breech
MO	THER	Street & Number:	The as residence, or. Usare.		Apartment No.:		Zip Code:		 Other previous poor pregnancy out perinatal death, small-for-gestation growth restricted birth) 	come (Includes al age/intrauterine	Premature Rupture of th Precipitous Labor (<3 hr	e Membranes (prolonged, 3	12 hrs.) Dther D. Final route and method of delivery (Check one)
		 MOTHER MARRIED? (At birth, conception IF NO, HAS PATERNITY ACKNOWLEDG 	, or any time between) EMENT BEEN SIGNED IN THE HOSPITAL	□Yes □No ? □Yes □No	16. SOCIAL SECURITY NO FOR CHILD?	JMBER REQUESTED Yes □ No	17. FACILITY ID. (NPI)		 Pregnancy resulted from infertility 	Pregnancy resulted from infertility treatment-If yes. Prolonge		irs.)	 Vaginal/Spontaneous Vaginal/Forceps
		18. MOTHER'S SOCIAL SECURITY NUMBER	R:	19. FATH	ER'S SOCIAL SECURITY N	S SOCIAL SECURITY NUMBER:			 Check all that apply: Fertility-enhancing drugs, Artificity to incomination 	all that apply: tility-enhancing drugs, Artificial insemination or None of None of			Vaginal/Vacuum Cesarean for account was a trial of labor attempted?
		INI 20. MOTHER'S EDUCATION (Check the	FORMATION FOR MEDICAL AND HEALT	H PURPOSES ONL	Y 22 MOTHER'S BA	CE (Check and or mar	n ragar to indicato	-	 Assisted reproductive technological 	gy (e.g., in vitro	45. CHARACTERISTICS OF	LABOR AND DELIVERY	 Yes
мо	THER	box that best describes the highest degree or level of school completed at	the box that best describes wi mother is Spanish/Hispanic/La	hether the atina. Check the	what the mother	considers herself to	be)		transfer (GIFT))	allopian	(Check all th	at apply)	No 47. MATERNAL MORBIDITY (Check all that apply)
		the time of delivery)	"No" box if mother is not Spar	nish/Hispanic/Latina	a) 🗆 Black or African	n American			 Mother had a previous cesarean d 	lelivery	 Induction of labor Augmentation of labor 		(Complications associated with labor and delivery)
		 8th grade or less 	 No, not Spanish/Hispanic/Lat 	lina	 American India (Name of the er 	n or Alaska Native nrolled or principal trib	e)		If yes, now many		 Non-vertex presentation Starpids (alugeocrationids)) for fatal lung maturation	Maternal transfusion Third or fourth degree peripeel laceration
		9th - 12th grade, no diploma	 Yes, Mexican, Mexican Amer 	rican, Chicana	Asian Indian Chinese			 None of the above 42. INFECTIONS PRESENT AND/OI 	R TREATED	received by the mother	prior to delivery	 Ruptured uterus 	
		High school graduate or GED completed	 Yes, Puerto Rican 		Filipino				DURING THIS PREGNANCY (C	heck all that apply)	 Antibiotics received by th Clinical chorioamnionitis 	he mother during labor diagnosed during labor or	Unplanned hysterectomy Admission to intensive care unit
		Some college gradit but as degree	 Yes, Cuban 		Japanese Korean				Gonorrhea Sushiis		maternal temperature	≥38°C (100.4°F) um staining of the ampiotic fi	Unplanned operating room procedure
		Associate degree (e.g. AA AS)	 Yes, other Spanish/Hispanic/ 	Latina	Vietnamese				Chlamydia		 Fetal intolerance of labor 	r such that one or more of th	e Dinowing delivery
		Bachelor's degree (e.g. BA AB BS)	(Specify)		 Other Asian (Sp Native Hawaiian 	ecify)			Hepatitis B Hepatitis C		measures, further fetal	aken: in-utero resuscitative assessment, or operative de	livery
		 Master's degree (e.g., MA, MS, 			Guamanian or C	Chamorro			None of the above		 Epidural or spinal anesth None of the above 	nesia during labor	
		MEng, MEd, MSW, MBA)			 Other Pacific Isl 	ander (Specify)							
		 Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD) 			Other (Specify)_								
FA	THER	 FATHER'S EDUCATION (Check the box that best describes the highest 	 FATHER OF HISPANIC ORIG the box that best describes will 	BIN? (Check hether the	25. FATHER'S RAC what the father	E (Check one or more considers himself to b	e races to indicate e)						
		degree or level of school completed at the time of delivery)	father is Spanish/Hispanio/Lat "No" box if father is not Spani	tino. Check the ish/Hispanic/Latino)	White						NEWBORN INFORMATI	ON	
	1	 8th grade or less 	 No, not Spanish/Hispanic/Lat 	tino	 Black or African American Indian 	n American n or Alaska Nativo		NEWBORN	48. NEWBORN MEDICAL RECORD N	IUMBER 54.	ABNORMAL CONDITIONS O (Check all that ap	F THE NEWBORN	 CONGENITAL ANOMALIES OF THE NEWBORN (Check all that apply)
	_	 9th - 12th grade, no diploma 	 Yes, Mexican, Mexican Amer 	rican, Chicano	(Name of the er	nrolled or principal trib	e)		49. BIRTHWEIGHT (grams preferred,	specify unit)	Assisted ventilation required in	mmediately	Anencephaly Maninggroup locale/Spins hiftel
	ord	 High school graduate or GED 	 Yes, Puerto Rican 		Asian Indian			-	9 grams 9 lb/oz	_	following delivery	,	Cyanotic congenital heart disease
	Sec	completed	 Yes, Cuban 		Filipino Jananese					D	Assisted ventilation required for	or more than	Congenital diaphragmatic hemia Omphalocele
	alF	Associate degree (e.g. AA AS)	 Yes, other Spanish/Hispanic/ 	Latino	Korean				50. OBSTETRIC ESTIMATE OF GEST	TATION:	six hours		Gastroschisis Limb reduction defect (evolution concentral
me	dic	Bachelor's degree (e.g., BA, AB, BS)	(Specify)		 Vietnamese Other Asian (Sp 	ecify)			(completed w	reeks)	NICU admission		amputation and dwarfing syndromes)
Nai	Me	 Master's degree (e.g., MA, MS, 			Native Hawaiian	1			F4 ADCAD COOPE		Newborn given surfactant repl therapy	acement	Cleft Lip with or without Cleft Palate Cleft Palate alone
r's	s,	MEng, MEd, MSW, MBA)			 Guamanian or C Samoan 	shamorro		1	Score at 5 minutes:		Antibiotics received by the new	whorn for	Down Syndrome
the	the l	 Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, 			Other Pacific Isl Other (Count)	ander (Specify)		2	If 5 minute score is less than 6,	2	suspected neonatal sepsis		 Karyotype pending
Mol	No	DVM, LLB, JD)			 Other (Specify)_ 			l 0	Score at 10 minutes:		Seizure or serious neurologic	dysfunction	Suspected chromosomal disorder Karyotype confirmed
		26. PLACE WHERE BIRTH OCCURRED (Ch	eck one) 27. ATTENDANT'S NAME	, TITLE, AND NPI	28. MOTH	HER TRANSFERRED	FOR MATERNAL	- <u> <u>w</u> </u>	52. PLURALITY - Single, Twin, Triplet,	etc.	Significant birth injury (skeleta	l fracture(s), peripheral	Karyotype pending Hypospadias
		Hospital	NAME:	NPI:	MEDI	CAL OR FETAL INDI	CATIONS FOR	ical e	(Specify)		nerve injury, and/or soft tissu which requires intervention)	e/solid organ hemorrhage	 None of the anomalies listed above
		 Freestanding birthing center Home Birth: Planned to deliver at know? 0 	Vec 9 No		IF YE	S, ENTER NAME OF	FACILITY MOTHER	led am	53. IF NOT SINGLE BIRTH - Born Fin	st, Second,			
		 Clinic/Doctor's office 	OTHER (Specify)	NM/CM D OTHER	R MIDWIFE TRAN	SFERRED FROM:			Third, etc. (Specify)	91	None of the above		
		Other (Specify)			.			er er				57 ICINEANT IN/NO AT	TIME OF REPORT?
REV. 11/2	003							lot lot	IF YES, NAME OF FACILITY INFA	NT TRANSFERRED	- DELIVERY? 9 Yes 9 No	□ Yes □ No □ Infant tr	ansferred, status unknown BREASTFED AT DISCHARGE?
								2 24				1	□ Yes □ No

http://www.cdc.gov/nchs/data/dvs/birth11-03final-ACC.pdf

What can this not tell you?

Report of fetal death (stillbirth) http://www.cdc.gov/nchs/datg/dvs/FDFATH11-03finglACC.pdf

LOCAL FLE NO.	US STANDARD	REPORT OF	ETAL DEATH	STATE FILE HANDER							
MOTHER	 Howe of Period (spicola-a the decision of the parents) 		(34h)	(period) . Ovie of boov exit (ecoeyin)							
	54. GTY, TOWN, OR LOCATION OF DELIVERY 17. PC	ACE WHERE DELVER	V OCCURRED (Check ane)	 FACILITY INFINE (Fraid Institution, give street and manded) 							
	RA 20P CODE OF DELVERY	epter extending billing come	.								
	E. COUNTY OF DELVERY	E COUNTY OF DELVERY									
	D Claubisturis after										
	D OR 104. MOTHER'S CURRENT LESAL NAME (FIN: MIDIN LAW	w (Specify)		TOS. DATE OF BRITS MUDWING							
	NR. MOTHER'S NAME PRICE TO PURST WARRAGE (INC.	Inter Last Suffic		136 BIRTHINAGE (Bala, Tanton, or Fanige County							
				AND THE OF COMPANY							
	The residence of women-strike			CONT, FORM, OF LOOKING							
	TT4. STREET AND NUMBER		1% APT. NO. 111	ZP CODE IN INDE OTYLMTS							
FATHER	124. FATHER'S CURRENT LEGAL NAME (FIR, MOR, LM.	5uffici 125	DATE OF BRITH MUCHYTO	121. BHTHPLACE (date, Tentory, or Porego Country)							
DISDOSITION	13. WETHOD OF DEPOSITION										
ATTENDANT	C Burlal C Consultor C Hospital Deposition	C Denates C Rat	or PERSON DIS DATE N	HINT COMPLETED BY: DATE RECEIVED BY							
AND	MAE	COMPLETING RE	PORT	RECEPTION							
REGISTRATION		Name		00 YYYY WW 00 YYYY							
INFORMATION	TITLE ONO DO OCHINON ODTHER MONIFE	Title									
	18. CAUSE/COM	DITIONS CON	NTRIBUTING TO FE	TAL DEATH							
CAUSE	Na. INTATING-CAUSECONDITION		HE OTHER SOMPCANT	SALISES OF CONDITIONS							
OF	UKELY BEGAN THE SEQUENCE OF EVENTS RESULTING THE PETUR:	IN THE DEATH OF	IN THE SHOP ALL	OTHER CONDITIONS CONTRIBUTING TO ODATH							
FETAL	Valenal Contitional Cleases (Specify)		Maternal Conditions/Discosed	(Bpec#y)							
	Complications of Placente, Cost, or Membranes		Complications of Placenta, Co	nt, or Manifestera							
1 1	 Physicie of membranes prior to orset of labor 		o Papers of m	entraines prior to creat of labor							
	·· Abruptic placente		e Abruptio place	and a							
	o Protected cent		o Pessent co								
	o Chorbernsonths		o Choloanvior	dia .							
é	n Other Specify)		e Oter Specify	·							
2 2	Other Obstitical or Pregnancy Complications (Specify)		Other Obstatical or Pregnant	y Compileations (Epecity)							
Rec	Patal Anomaly (Specify)		Petal Avamely (Specify)								
a de	Palatingury (Rpecify)		Peter Inputy (Specific)								
2 5	Fetal Infection (Specify)		Fedal Infection (Specify)								
C C	Other Febri Conditiona/Disorders (Specify)		Other Retail Conditional Depart	ien (Specity)							
9 9 9	o Uningen	The Difference	a laterant								
	o game obte	o Deed at time of t	int assessment, no labor organg	IN Yes offic of Parcel The WAS A HISTOLOGICAL PLACENTAL							
		 Dead at time of time Dead strategister 	ist assessment, labor organity , after first assessment	a Yes a No o Person							
	Cast Effect BETRATE OF GESTAL OW AT DELIVER (completed works)	e Unizove line of	Not deals PLACENTAL EXAMINATION RESULTS IN DETERMINING THE CAUSE OF FE								
				Contrar a real a real							

MOTHER	Hoffreight Bits (children (children) Bits grant of barrier in the signate the grant of barrier in the signate Bits grant of barre	BOTHER OF HERRAGE OF CARACTER (1993) BOTHER (1994) (1994) Bother is not previously include the memory of the second	KOTHERS AGC (Clock one or more name in bricks whet the matter extentions branch to be) When Bank or African American Anaptican Indian or African American Anaptican Indian or African American Anaptican Anaptican Anaptican Approx Appro			
	12 BOTHER BURNELD Altoburg modelin, or anythes belower) n Tes in He 35. BOTHER'S HEIGHT DE BOTHER'S 	BATE OF PRINT RESULTS, CARE VIEIT Bis. Date OF CARE V Do Do OF DETERMINENT THE PRINT PRESULTS: CARE V DO OF DITERMINENT THE PRINT PRESULTS: DO OF DITERMINENT	LAST PREMACE, SALE TOTAL SUBJECT OF PREMACE VERT POLY THE PREMACE VERT OF THE PR			
	Number Hanker Ha None Rote C 36. GATE OF LAST Live BATTH 33	Inter (Do not include the fetua)	Ber or packe of digatelles encland per des genco for digatelles ef di packo genco forgenc			
	B. BOTHER TRANSPERSED FOR MATT		(Specify)(Specify)			
MEDICAL AND HEALTH INFORMATION	Kills FACTORE is the PREDuced? Design Propagarecy (Departs prior to the Ossibilities (Departs in the prip Propagarecy (Departs) o (Propagarecy (Departs) o (Departs) Ossibilities (Departs) Ossibilities (Departs) Ossibilities (Departs) Propagarecy (Departs) Ossibilities Propagarecy Propagarecy Propagarecy Propagarecy Ossibilities Propagarecy	(Chean all find apply) annig) (Includes perinded doot), small-for gestelaned agentituderine wris-Fyrs, check all that spiply: annihilition of p, in this factification (INF), genete interfactures sounder (CHFT)) y	SPECTORE Research Astronom mecone outless THE PRECENTER (Check at That appr) THE PRECENTER (Check at That appr) Guesting Guesting Guesting Guesting Chemistic Chemistic outless Comparison Thospermate None of the atom Chemistic outless Chemistic outless			
	K. WETHOLOF DELVERY A. Was acknown with straight adamy with recease adamyted but on Year and the straight adamyted but on Year on Net Was definery with receases adamyted by a Capital and adamyted by a Capital and adamyted and adamyted adams (Check on Year) and a set of a definition (Check on Year) and a set of a definition (Check on Year) and a set of a definition (Check on Year) and a set of a definition (Check on Year) and a set of a definition (Check on Year) and a set of a definition (Check on Year) and the Year) and Year) and the Year) an	16. BATERIAL BOTOLOGY (Class of the spor Completions and table with size and density Completions and table with size and density Byterior Section and Third or Kurth degree period locandum Systemat Systemation Graphaned lystemationy Advances to intervice are set Compared genetics now procedue following definery None of the above pterP	4) CONCENTLA ANOMALIES OF THE PETUS CONTROL THE PETUS CONTROL THE PETUS CONTROL THE PETUS Amacagenetic terms Control terms Con			
many success	o Yes o No					

NOTE: This rep

mended standard felal death report is the result of an extensive evaluation process. process and resulting recommendations as well as plans for future activities is available on the internet at http://www.coc.gov/nchs/vfai_cents_rev.htm

• Report of fetal death

- Similar information to birth certificate
- Includes "Cause/conditions contributing to fetal death"

	18. CAUSE/COND	ITIONS CON	TRIBUTING TO FET	AL DEATH			
CAUSE OF	18a. INITIATING CAUSE/CONDITION (AMONG THE CHOICES BELOW, PLEASE SELECT THE <u>ONE</u> LIKELY BEGAN THE SEQUENCE OF EVENTS RESULTING IN THE FETUS)	WHICH MOST THE DEATH OF	18b. OTHER SIGNIFICANT CAUSES OR CONDITIONS (SELECT OR SPECIFY ALL OTHER CONDITIONS CONTRIBUTING TO DEATH IN ITEM 18b)				
DEATH	Maternal Conditions/Diseases (Specify)		Maternal Conditions/Diseases (Specify)				
	Complications of Placenta, Cord, or Membranes Rupture of membranes prior to onset of labor		Complications of Placenta, Cord, □ Rupture of memb	or Membranes ranes prior to onset of labor			
	Abruptio placenta Placental insufficiency Prolacead cord	cause	 Abruptio placenta Placental insuffic Prolacesed cord 	Secondary cause			
	Chorioamnionitis Other Specify)		Prolapsed cord Chorioamnionitis Other Specify)				
ord No	Other Obstetrical or Pregnancy Complications (Specify)		Other Obstetrical or Pregnancy Complications (Specify)				
al Rec	Fetal Anomaly (Specify)		Fetal Anomaly (Specify)				
Aedic	Fetal Injury (Specify)		Fetal Injury (Specify)				
other's A	Fetal Infection (Specify)		Fetal Infection (Specify) Other Fetal Conditions/Disorders (Specify)				
ž	 Unknown 18c. WEIGHT OF FETUS (grams preferred, specify unit) 	18e. ESTIMATED TI	D Unknown ME OF FETAL DEATH	18f. WAS AN AUTOPSY PERFORMED?			
	o grams o ib/oz	 Dead at time of fire Dead at time of fire 	at assessment, no labor ongoing at assessment, labor ongoing	18g. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED?			
·	18d. OBSTETRIC ESTIMATE OF GESTATION AT DELIVERY (completed weeks)	 Died during labor, Unknown time of for 	after first assessment stal death	PYes □ No □ Planned I8h. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH? □ Yes □ No			

LOC	CAL FILE NO.				0.0.017			AIL	OF DEATH		ST/	ATE FILE NO.			
	1. DECEDENT'S LEGA	L NAME (Inclu	de AKA's if	f any) (First, I	Middle, Last)		2	SEX	3. SOCI	IAL SECUR	ITY NUMBER			
	4a. AGE-Last Birthday	4b. UNDER 1	YEAR	4c. UNDEF	R 1 DAY	15. DATE	E OF BIRTH (N	Mo/Dav	mile. BIRTH	PLACE (C	City and Sta	te or Foreign	Country)		
	(Years)	Months [Days	Hours	Minutes	-		,	,		.,		,,,		
	7a. RESIDENCE-STAT		-	7b. COUN	TY			7c.	CITY OR TOW	/N					
	7d. STREET AND NUM	BER			7e. APT	. NO.	7f. ZIP COE	DE			7g.	INSIDE CITY	LIMITS	? 🗆 Yes	no No
	8. EVER IN US ARMED	FORCES?	MARITA Married	L STATUS A	AT TIME OF	DEATH	Vidowed	10.	SURVIVING S	POUSE'S	3 NAME (If	wife, give nan	ne prior t	o first marria	ge)
			Divorced	d 🗆 Never N	Married 🗆 U	Inknown									
ä	11. FATHER'S NAME	First, Middle, L	ast)					1	2. MOTHER'S	NAME PI	RIOR TO F	IRST MARRIA	AGE (Firs	t, Middle, La	st)
Pag 22	13a INFORMANT'S NA	ME	135 RF	ATIONSHI	P TO DECE	DENT		1	3c MAILING	ADDRESS	S (Street an	d Number, Cit	v State	Zin Code)	
CTO			100.112		10 0202	CC.			oc. materio /		o (oueer an	a Hamber, on	y. Otate,	200000	
DIRE			-	14. PLA	CE OF DEA	TH (Cheo	k only one: se	ee instr	ructions)						
ML M	IF DEATH OCCURRE	D IN A HOSPIT	AL:	Dead on Arriv		F DEATH	OCCURRED	SOM	EWHERE OTH	IER THAN	N A HOSPIT	TAL:	Othe	r (Specify):	
N B	15. FACILITY NAME (If	not institution,	give street	& number)	16. (CITY OR 1	TOWN , STAT	E, ANI	D ZIP CODE	i care laci	inty in Deck	coent s nome	17.	COUNTY	OF DEATH
P."															
	18. METHOD OF DISPO	DSITION: DI mbment D Rer	Burial 🗆 C noval from	Cremation State	19. PL	ACE OF	DISPOSITION	I (Nam	e of cemetery,	crematory	y, other plac)			
	Other (Specify): OCATION CITY 3	OWN AND ST	ATE		21 NAM	E AND CO		INRES		LEACILI	ту				
	22. SIGNATURE OF FU	NERAL SERV	ICE LICEN	SEE OR OT	HER AGEN	г							23. LIC	ENSE NUME	BER (Of Licensee)
		T. D.C. 0.01	DIFT			24.1			D DEAD (M-I	0					
	WHO PRONOUN	CES OR CE	RTIFIE	S DEATH	SON	24. 1	DATE PRONO	JUNCE	D DEAD (MOI	Uay/11)				20. TIME	-RONOONCED DEAD
	28. SIGNATURE OF PE	RSON PRON	DUNCING	DEATH (Only	y when appi	icable)		27.	LICENSE NUM	MBER			28. D	ATE SIGNE	D (Mo/Day/Yr)
															-
	(Mo/Day/Yr) (Spell	JMED DATE O Month)	FDEATH		30.	ACTUAL	. OR PRESUM	NED TI	ME OF DEATH	•		31. WAS ME CORONE	DICAL E	AMINER O	R Yes ⊡ No
			CAUS	E OF DE	ATH (Se	e instru	uctions an	d exa	amples)						Approximate
	32. PART I. Enter the arrest respiratory	chain of event	sdiseases	s, injuries, or ation without	complicatio	nsthat di	irectly caused	the de	ath. DO NOT	enter term	ninal events use on a lin	such as cardi	ac		interval: Onset to death
	lines if necessary.									,					
	IMMEDIATE CAUSE (Final a													
	resulting in death)				Due to (o	r as a cor	nsequence of):								
	Sequentially list condit if any, leading to the c	ons, b ause			Due to (c	r as a cor	nsequence of):								
	listed on line a. Enter	he													
	(disease or injury that initiated the events re-	- ····			Due to (or as a cor	nsequence of)):							
	in death) LAST	d													
	PART II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART I 33. WAS AN AUTOPSY PERFORMED?														
	_			uting to deat	Duchocres	uting in t	he underlying o	cause	given in PART	1		33. WAS A	N AUTO	PSY PERFC	RMED?
				oung to deau	Duchocres	allong in o	he underlying o	cause	given in PART	1		33. WAS A	N AUTO PYes AUTOP	PSY PERFO	S AVAILABLE TO
	35. DID TOBACCO US	E CONTRIBU	TE 36. I	F FEMALE:	Durnorres	ulong in a	he underlying o	cause	given in PART	1 37. MAN	NNER OF D	33. WAS A 34. WERE COMPLET	N AUTO Yes AUTOP		RMED? S AVAILABLE TO TH? :::: Yes :::: No
ad By: TIFIER	35. DID TOBACCO US TO DEATH?	E CONTRIBU	TE 36. 1	F FEMALE:	nt within par	st year	he underlying o	cause	given in PART	1 37. MAN □ Nat	NNER OF D	33. WAS A 34. WERE COMPLET EATH	N AUTO Yes AUTOP	PSY PERFO	RMED? S AVAILABLE TO TH? • Yes • No
npleted By: CERTIFIER	35. DID TOBACCO US TO DEATH?	E CONTRIBU	TE 36. I	F FEMALE: Not pregnar Pregnant al	nt within part	st year	he underlying o	cause	given in PART	37. MAN	NNER OF D tural □ H cident □ P	33. WAS A 34. WERE COMPLET EATH Iomicide	IN AUTO	PSY PERFC	RMED? S AVAILABLE TO TH? ::: Yes ::: No
Completed By: CAL CERTIFIER	35. DID TOBACCO US TO DEATH? Yes Probab	SE CONTRIBU Iy vn	TE 36. 1	F FEMALE: Not pregnant al	nt within par t time of dea nt, but pregi	st year st hant withir	he underlying o	cause : eath	given in PART	37. MAN	NNER OF D tural D H cident D P icide D C	33. WAS A 34. WERE COMPLET EATH lomicide lending Invest Could not be d	IN AUTO		RMED? S AVAILABLE TO TH? D Yes D No
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? PYes Probab	SE CONTRIBU ly wi	TE 36. I	F FEMALE: Not pregnar Pregnant al Not pregna	nt within par t time of dea nt, but pregr	st year ath nant withir	he underlying o n 42 days of de ays to 1 year b	eath eefore c	given in PART	37. MAN INAt Acc Sui	NNER OF D tural	33. WAS A 34. WERE COMPLET COMPLET COMPLET COMPLET COMPLET COMPLET COMPLET	IN AUTO		RMED? S AVAILABLE TO TH? D Yes D No
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? DYes D Probab	SE CONTRIBU	TE 36. I	F FEMALE: Not pregnant al Not pregnant al Not pregna Not pregna	nt within par t time of dea nt, but pregr nt, but pregr	st year st year sth nant withir nant 43 da within the p	n 42 days of de ays to 1 year be past year	eath efore d	given in PART	37. MAN	NNER OF D tural D H cident D P icide D C	33. WAS A 34. WERE COMPLET EATH lomicide lending Invest	N AUTO		RMED? S AVAILABLE TO TH? III Yes III No
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? Yes D Probab No D Unknow 38. DATE OF INJURY' (MolDayi'y) (Spell M	se contribu ly vn ponth) 39. TIM	TE 36. 1	F FEMALE: Not pregnart al Not pregna Not pregna Not pregna Unknown i RY	nt within par t time of dea nt, but pregr nt, but pregr nt, but pregr t pregnant v 40. PLACE	st year ath nant withir nant 43 da vithin the p OF INJUF	n 42 days of de ays to 1 year b past year RY (e.g., Dece	eath efore c	given in PART Jeath home; constru	37. MAN	NNER OF D tural II H cident II F icide II C ; restaurant;	33. WAS A 34. WERE COMPLET EATH lomicide 'ending Invest could not be d	igation	d	IRMED? SAVAILABLE TO TH? III Yes III No URY AT WORK? Yes II No
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? Yes Probab No Unknow 38. DATE OF INJURY (MolDaylY) (Spell M	SE CONTRIBU ly vn	TE 36. I	IF FEMALE: I Not pregnant al Not pregnant al Not pregna Unknown i RY	nt within par t time of dea nt, but pregr nt, but pregr if pregnant v 40. PLACE	at year ath nant withir nant 43 da vithin the p OF INJUP	n 42 days of de ays to 1 year b past year RY (e.g., Dece	eath efore c	given in PART jeath home; constru	37. MAN Nat Sui	VNER OF D tural I H icide I C ; restaurant;	33. WAS A 34. WERE COMPLET EATH lomicide lending Invest could not be d wooded area	igation	d	IRMED? SAVAILABLE TO TH? D Yes D No Ves D No
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? Yes Probab No Unknow MorDayYY) (Spell M 42. LOCATION OF INJURY	SE CONTRIBU ly vn onth) 39. TIM JRY: State:	TE 36. I	IF FEMALE: 1 Not pregnant al 2 Pregnant al 3 Not pregna 3 Not pregna 3 Not pregna 4 Unknown RY	nt within part t time of dea nt, but pregr nt, but pregr f pregnant v 40. PLACE	st year sth nant withir nant 43 da Vithin the p OF INJUF City or	he underlying o n 42 days of de ays to 1 year b past year RY (e.g., Dece Town:	eath efore c	given in PART seath home; constru	37. MAN	NNER OF D tural I H icide I C icide I C	33. WAS A 34. WERE COMPLET EATH Iomicide lending Invest could not be d wooded area	igation	d	RWED? 5 AVAILABLE TO TH?Yes No Yes No URY AT WORK? Yes No
To Be Completed By: MEDICAL CERTIFIER	S. DID TOBACCO US TO DEATH? Yes:::: Probab No ::: Unknov MoC3ayYY; (Speil M Speil A Number: Syret & Number: Syret & Number: Syret & Number:	SE CONTRIBUT ly vn ponth) 39. TIM JRY: State: JURY: State:	TE 38. I	IF FEMALE: 1 Not pregnant al 2 Pregnant al 3 Not pregna 3 Not pregna 3 Not pregna 3 Unknown i RY	nt within pas t time of dea nt, but preg nt, but preg if pregnant w 40. PLACE	at year ath nant within nant 43 da vithin the p OF INJUF City or	n 42 days of de ays to 1 year b past year RY (e.g., Decen Town:	eath ident's	given in PART seath home; constru Apartment	1 37. MAN Nat Acc Sui	NNER OF D tural = H cident = P icide = C	33. WAS A 34. WERE COMPLET COMPLET COMPLET COMPLET Could not be d wooded area Zip 44. IF TR	N AUTO Pres AUTOP: THE Ca igation etermine) Code: ANSPOF	d 41. INJ	RIKEP? SAVAILABLE TO TH? □ Yes □ No URY AT WORK? Yes □ No URY, SPECIFY:
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? Yes D Probab No D Unknow Mon DayYry (Spell M Steel & Number 43. DESCRIBE HOW IN	SE CONTRIBU y nnh) JON TIM JRY: State: JURY OCCUR	RED:	IF FEMALE: Not pregnant al Not pregnant al Not pregna Not pregna Unknown i RY	nt within part t time of dea nt, but pregr nt, but pregr f pregnant v 40. PLACE	st year th hant withir hant 43 da vithin the p OF INJUF City or	n 42 days of d n 42 days of d ays to 1 year b past year RY (e.g., Dece Town:	eath lefore o	given in PART seath home; constru Apartment	37. MAN Nat Sui ction site;	NNER OF D tural H icide C icide C	33. WAS A 34. WERE COMPLET	N AUTO	d 41. INJ RTATION IN.	RNED? SAVAILABLE TO TH? Yes No URY AT WORK? Yes No URY, SPECIFY:
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? □ Yes □ Probab □ No □ Unknov 38. DATE OF INJURY (MoDayi'Y) (Spell M 42. LOCATION OF INJI Streti & Number 43. DESCRIBE HOW IN	SE CONTRIBU y nnh) 39. TIM JRY: State: JURY OCCUR	RED:	IF FEMALE: Not pregnant al Not pregnant al Not pregna Not pregna Unknown RY	nt within pay t time of dea nt, but pregr nt, but pregr ff pregnant v 40. PLACE	st year ath nant within nant 43 da within the p OF INJUF City or	n 42 days of de n 42 days of de ays to 1 year br past year Y (e.g., Dece Town:	eath dent's	seath home; constru Apartment	37. MAN Nat Sui Ction site;	NNER OF D tural - H cident - P icide - C	33. WAS A 34. WERE COMPLET COMPLET COMPLET Complete	N AUTO	d 41. INJ RTATION IN.	RINED? S AVAILABLE TO S AVAILABLE TO
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO U TO DEATH Yes D Probab No D Unknow MoDay'ry (Spell M 42. LOCATION OF INJURY (MoDay'ry (Spell M 42. DESCRIBE HOW IN Seret 8. JWNber 43. DESCRIBE HOW IN 45. CERTIFIER (Check	SE CONTRIBU IV wn JRY: State: JURY OCCUR anly one);	TE 36. 1	IF FEMALE: 1 Not pregnant at 2 Not pregnant at 3 Not pregnant 2 Unknown RY	nt within pas t time of dea nt, but preg nt, but preg ff pregnant v 40. PLACE	st year ath nant within nant 43 da vithin the j OF INJUF City or	n 42 days of de ays to 1 year b past year RY (e.g., Dece Town:	eath refore c	seath home; constru Apartment	37. MAN Nat Sui	NNER OF D tural □ H ioident □ F ioide □ C	33. WAS A 34. WERE TOUMPLET TOUMPLET EATH Iomicide vending Invest could not be d wooded area Zip 44. IF TR Driverl Passes Pedest Other (IN AUTO Pese AUTOPI igation etermine code: ANSPOF Operator igrin Specify)	d 41. INJ RTATION IN.	IRNEE? SAVAILABLE TO TH? O Yes O No URY AT WORK? Yes O No JURY, SPECIFY:
To Be Completed By: MEDICAL CERTIFIER	S. DID TOBACCO UK TO DEATH? Yes ::: Probab No ::: Unknox No ::: Unknox Seet & Number (MoDayrYr) (Spell M Seet & Number Seet & Number Seet & Number Centhyne physica Pronounge (Come)	SE CONTRIBU	TE 38. I	IF FEMALE: 2 Not pregnant at 2 Not pregnant at 3 Not pregnant 3 Not pregnant 3 Not pregnant 4 Not pregnant 1 Not pregna 1 Not pregnant 1 Not pregnant	nt within pas t time of dea nt, but pregn nt, but pregn nt, but pregn nt, but pregn occurred du within past occurred du within past occurred du	t year th nant within nant 43 da vithin the p OF INJUF City or City or	n 42 days of de ays to 1 year b past year Y? (e.g., Dece Town: ause(s) and m red at the time.	ieath iefore c ident's	seath borne; constru Apartment stated, and place, and	37. MAN 37. MAN Acc Sui Ction site; No.:	NNER OF D tural - H ioide - C ; restaurant;	33. WAS A 34. WERE TOUMPLET TOUMPLET EATH Iomicide rending Invest could not be d wooded area Zip 44. IF TR Driverl Passes Pedest Other (and manner s	IN AUTO P Yes I Yes I THE G igation etermine code: ANSPOF Operator Specify) tated.	d 41. INJ RTATION IN.	RINED? SAVAILABLE TO TH? □ Yes □ No URY AT WORK? Yes □ No IURY, SPECIPY:
To Be Completed By: MEDICAL CERTIFIER	25. DID TOBACCO UR TO DEATH? Yes D Probab No C Unknow No C Unknow MorDayrYn (Speil M LOCATION OF INUI Steet & Number: 43. DESCRIBE HOW IN Centifying physicia D Pronounding & C Medical Examiner	SE CONTRIBU y nnh) y nnh) y TIM y nnh) y State: JUURY OCCUR solution solut	TE 38. I	IF FEMALE: 1 Not pregnant al 2 Not pregnant al 2 Not pregna 2 Not pregna 2 Unknown RY ledge, death est of my known xamination, a	nt within part t time of dea nt, but pregn nt, but pregn nt, but pregn 40. PLACE	st year th nant within thant 43 da vithin the ye City or City or e to the cc	n 42 days of de n 42 days of de ays to 1 year b past year RY (e.g., Dece Town: Town: ausse(s) and m arese (s) and m arese (s) and m	eath leath lefore c ident's	seath Apartment stated, and place, and courred at the	37. MAN	NNER OF D tural D icident D restaurant; restaurant; e, and place	33. WAS A 34. WERE COMPLET CATH CATH Connicide rending Invest could not be d wooded area wooded area vooded	IN AUTOP: P Yes AUTOP: Inter G igation etermine Code: ANSPOF ANSPOF perator iger rian Specify) tated. he cause	d (s) and manu	RINED? S AVAILABLE TO S AVAILABLE TO S AVAILABLE TO URY AT WORK? Ves a No URY SPECIFY:
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? Yes Probab DNo Unknow No Unknow No Unknow No Unknow Serei & Number 43. DESCRIBE HOW IN Centrijning physicia Pronouncing & C. Medical Examiner Signature of centifer	SE CONTRIBU y nn n	IE 38. I	IF FEMALE: 1 Not pregnant al 2 Pregnant al 2 Not pregna 2 Not pregna 2 Unknown I RY ledge, death est of my known, a	nt within par t time of dea nt, but pregr nt, but pregr 40. PLACE	st year th nant within nant 43 da Vithin the p OF INJUF City or e to the cc tath occur tigation, in	n 42 days of d n 42 days of d ays to 1 year b past year RY (e.g., Dece Town: ause(s) and m red at the time, my opinion, d	eath leath ident's hanner , date, ideath o	seath bome; constru Apartment stated, and place, and courred at the	37. MAN A Nat Control Account of the second	NNER OF D tural D icident D restaurant; restaurant; ne cause(s) e, and place	33. WAS A 34. WERE Comment EATH ionicide rending Invest could not be d wooded area wooded area vooded	IN AUTOP: Person autops: Code: AUTOP: AUTOP: Code: AUTOP: AUTOP: Code: AUTOP: AUTOP: Code: AUTOP: AUTOP: Code: AUTOP: AUTOP: Code: AUTOP: AUTOP: Code: AUTOP: AUTOP: Code: AUTOP: AUT	PSY PERFC No SY FINDING NUSE OF DI d 41. INJ (s) and mani	INREE? SAVAILABLE TO SAVAILABLE TO SAVAILABLE TO Ves No URY AT WORK? Yes No URY, SPECIFY:
To Be Completed By: MEDICAL CERTIFIER	S. DID TOBACCO U: TO DEATH? Yes D Probab No D Unknow St. DATE OF INJURY (MODay'Y) (Spell M 42. UCATION OF INJURY (MODay'Y) (Spell M 42. DESCRIBE HOW IN Seret 8. Nomber 43. DESCRIBE HOW IN Pronumony 8.Ce Describer HOW IN CERTIFIER (Check Describer HOW IN Signature d'ordinational Pronumony 8.Ce Indical Examiner Signature d'ordinationer Signature d'ordinationer Restrict Actionation Restrict Actionation Nome Actionation Signature d'ordinationer Signature d'ordinationer Signatu	SE CONTRIBU y wn onth) 39. TIM VRY: State: UURY OCCUR UURY OCCUR Corone-On the AND ZIP CODE	TE 38. 1. C C C C C C C C C C C C C C C C C C C C C C F My knowl C C C C C C C C C C C C C C	IF FEMALE: Not pregnant al Pregnant al Not pregna Unknown i RY ledge, death est of my known ann internet SON COMPL	nt within par t time of dea nt, but pregr nt, but pregr nt, but pregr di pregnant t 40. PLACE	st year the nant within nant 43 da Vithin the p OF INJUF City or istant occur tigation, in USE OF D	n 42 days of de ays to 1 year br past year Town: Town: ausse(s) and m red at the time, a my opinion. d	ieath iefore c ident's nanner , date, death c	seath bome; constru Apartment stated, and place, and occurred at the	37. MAN	NNER OF D tural - H icide - C restaurant; ne cause(s) e, and place	33. WAS A 34. WERE Competition EATH EATH iomicide ending Invest could not be d wooded area vooded area 200 - 200 - 20 - 2	IN AUTOP: Person autops: aut	d (s) and mane	INREE?
To Be Completed By: MEDICAL CERTIFIER	25. DID TOBACCO UK TO DEATH? Yes ::: Probab No ::: Unknox No ::: Unknox Sector P NULHY (MoDay/Y) (Spell M Z. LOCATION OF INUI Sector & Number Schleber Howning Sector B Number Pronounging Sco Producing Examined Signature of certifier_ 46. NAME: ADDRESS; To a Coccomption	SE CONTRIBU y m n n n n n n n n n n n n n n n n n n	FE 38. 11 c c c c c c c c c c c c c	IF FEMALE: Not pregnant al Pregnant al Not pregna Unknown i RY ledge, death est of my knowniation, a SON COMPL	nt within pas t time of dea nt, but pregn nt, but pregn t, but pregn t	It year it year ith nant within hant 43 da within the je OF INJUF City or City or Second Second Second Second Second Second Second Second Second Second Seco	n 42 days of de ays to 1 year br past year RY (e.g., Decer Town: ause(s) and m red at the time, a my opinion, d	eath leath ident's nanner r, date, death o 2)	seath home; constru stated, and place, and courred at the	37. MAN	International and the second s	All WAS A AL WERE AL WERE AL WERE AL AL AL AL AL AL AL AL AL	IN AUTOR Person () Yes AUTOR () () Code: ANSPO() () Code: () Code: () Code: () () () () () () () () () ()	PSY PERFC No No SY FINDING d d 41. INJ c station INJ (s) and mani-	RIVED? SAVAILABLE TO SAVAILABLE TO THP O Yes O No URY AT WORK? Yes O No URY, SPECIFY: her stated.
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACOO UR TO DEATH? Yes ::: Probab '. No ::: Unknox See 1 - Vision - Unknox (Mo/Day/Yr) (Spell M See 4 - Number (Mo/Day/Yr) (Spell M See 4 - Number See 4 - Number See 4 - O Contriving physics Contriving physics Pronoundry do entifier_ Gentrying analysis Gentrying analysis Signature of entifier_ 46. NAME, ADDRESS, 47. TITLE OF CERTIFIER	SE CONTRIBU y m nnth) 39. TIM JRY: State: JURY OCCUR Softy one): the best of coroner-On the set AND ZIP CODE SR 48. LICE	TE 38.1 1 c c c	IF FEMALE: Not pregnant al Pregnant al Not pregna Not pregna Unknown i RY Not pregna Unknown i RY Not pregna Son ComPL BER	t within part t time of dea nt, but preg nt, but preg f pregnant v 40. PLACE	It year the nant within the nant within the year of INJUF City or issee to the cu	n 42 days of d n 42 days of d ays to 1 year b part year PTY (e.g., Decer Town: ausse(s) and m red at the time, n my opinion, d EATH (Item 32 EATH (Item 32	ieath ieath iedent's ident's ident's ideath o 2)	stated. and place, and (r)	37. MAN	INNER OF D tural	33. WAS A 34. WERE COMPLET EATH COMPLET EATH Complete EATH Complete Complet	IN AUTOP: 	BY PERF DN SY FINDING SY FINDING d	RINED'S AVAILABLE TO SAVAILABLE TO SAVAILABLE TO URY AT WORK? Yes IN URY SPECIFY:
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? Yes D Probab Did Tobacco US Yos D Probab No D Unknow No D Unknow State of Number 43. DESCRIBE HOW IN Stret & Number did Describe Laminer Signature of certifier 40. NAME_ADDRESS, 47. TITLE OF CERTIFIE 10 DECEDENT'S EDU	SE CONTRIBU y wn anthi) S0. TIM anthi) JRY: State: UURY OCCUR anto the best of thying physics control the control	FE 38.1 C	IF FEMALE: > Not pregnat > Pregnant at > Not pregna >	nt within part time of dez nt, but preg regarant nt, but preg regarant 40. PLACE	st year ist year ist ist ist ist ist ist ist ist	n 42 days of de ays to 1 year b past year RY (e.g., Decer Town: ausse(s) and m my opinion, d ERTH (Item 32 ERTIFIED (Mo ORRIGIN? Cha	ieath lefore c ident's ident's 2) a/Day/t	seath home: constru Apartment stated. and place, annored at the course of the seater o	37. MAN □ Nat □ Acc □ Sui □ Sui 0 ction site; 4 due to th ime, date 53. DEC	NNER OF D D D D D D D D D D D D D D D D D D	33. WAS A 34. WERE 34. WERE COMPLET EATH loonidde lending Invest loodid not be d wooded area wooded area wooded area in Criteria Padets Passe	IN AUTOR Pese Autors intervention igation etermine igation code: ANSPOF Departor signal Specify tated. he cause TRAR O one or more any of the second tated.	BY PERF distance of the second	INREE? Yes No SAVAILABLE TO Yes No INPY AT WORK? Yes No JURY AT WORK? Yes No JURY AT WORK? Yes No
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO UL TO DEATH TO DEATH Ves No Unition No Unition Standard Control Sandard Control No Unition Sender 3. Number 42. LOCATION OF INUL Sender 3. Number 43. DESCRIBE HOW IN Centrifying physics Pronumong 3.Ce Madual Examined Signature do antifier 46. NAME. ADDRESS. 47. TITLE OF CERTIFIE Sindel discribes the Sindel completed at the	SE CONTRIBU y wn Donth) 39. TIM S9. TIM RY: State: UURY OCCUR UURY OCCUR DURY OCCUR AND ZIP CODE R 48. LICE CATION-Check ighest degree t me of death.	TE 36.1	IF FEMALE: I Not pregnant as IF regnant as Pregnant as Not pregnant Not pregnant	t time of eee t time of dea t pregnant u t of pre	It year the hant within the j City or City or ISE OF D DATE CE ISPANIC	n 42 days of d ays to 1 year b past year RY (e.g., Decer Town: EATH (Item 32 EATH (Ite	eath kefore c kdent's cate, death c 2) b/DayN	death borner construited and place, and plac	37. MAN 37. MAN 37. MAN 37. MAN 34. According to the second seco	NNER OF D D D D D D D D D D D D D D D D D D	33. WAS A 34. WERE 34. WERE 34. WERE 34. WERE 40. IF IR 10 - 00000 - 000 10 - 00000 10 - 00000 10 - 00000 10 - 00000 10 - 00000 10 - 00000 10 - 00000 10 - 00000 10 - 0000	IN AUTOR Pese Autors autors	PSY FERF	RINEE? SAVAILABLE TO SAVAILABLE TO SAVAILABLE TO URY AT WORK? Yes D NO URY SPECIFY: IURY, SPECIFY: IURY, SPECIFY: IURY, SPECIFY: IURY, SPECIFY: III D (Mo/Day/YY) III D (Mo/Day/YY)
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO UR TO DEATH? Yes ::: Probab No ::: Unknox No ::: Unknox No ::: Unknox No ::: Unknox No:: Unknox No:: Unknox No:: Unknox No:: Unknox Steed & Number No:: Unknox No:: Unknox	SE CONTRIBU y vn anth) 39. TIM anth) 39. TI	RED:	IF PEMALE: IF PEMALE: IF Pemale and the person of the pe	time of each of the second sec	st year th nant within ant 43 da OF INJUF City or City or isse OF D DATE CE ISPANIC s whether stafford	n 42 days of de n 42 days of de ays to 1 year b past year RY (e.g., Dece Town: autse(s) and m red at the time a my opinion. d EATH (Item 32 ERTIFIED (Mo ORIGING Contents) Participation (Lation)	eath kefore c ident's cause : death 2) 2) 2/DayN eok the is box if	seath borne; constru stated, and place, and courred at the (r) box	37. MAN ARE Note: According to the second s	INNER OF D cident ciden	13. WAS A 14. WAS A 15. WAS A	IN AUTOP Person igation etermine igation etermine igation Code: ANSPOC person Specify tated. he cause trace or m or or hersel two	PSY FERF	URVED* Yes No SAVAILABLE TO Yes No URY AT WORK? Yes No URY AT WORK? Yes No JURY, SPECIFY: JURY, SPECIFY: JURY, SPECIFY: FILED (MolDay/Yr) Indicate what the
To Be Completed By: MEDICAL CERTIFIER	35. DID TOBACCO UR TO DEATH? Yes ::: Probab No ::: Unknox Sector 2000 No ::: Unknox Sector 2000	SE CONTRIBU y wn anth) 30. TIM JRY: State: UURYOCCUR UURYOCCUR UURYOCCUR AND ZIP CODE R 48. LICE CATHOL Check Time of death. Isploma	TE 38.1 C C C C C C C C C C C C C	FFEMALE: FFEMALE: FFEMALE: Not pregnant at Pregnant at Not pregna Not pregna Not pregna Londown Son Complete Son C	time of each of the second sec	it year it	n 42 days of de ays to 1 year b ays year Town: ause(s) and m red at the time. Town: EATH (Item 32 EATH (It	eath leath ident's 	seath home; constru Apartment stated, and place, and courred at the fr) t box	37. MAN T Nat Acc Constant Acc Suit Suit Constant Acc Suit	INIER OF D Cident C P File C P	13. WAS 1 14. WERE Comment	IN AUTOP Person specific and a specific and a spe	STATE OF A CONTRACT OF A CONTR	RINED?
9y: To Be Completed By: OR MEDICAL CERTIFIER	35. DID TOBACCO US TO DEATH? Yes D Probab DATE OF INUEY (MoDayrY) (Spell M Control of INU Seet & Number d. DATE OF INUEY d. DESCRIBE HOW IN d. Centifying physica Denouncing & C Centifying physica Describes the same d. NAME, ADDRESS, d. TITLE OF CENTIFIE d. Invake, and bed describes the school completed at the Sthy grade or less den - 128 ty grade, no- High grade or less General Harden and Senae Harde	SE CONTRIBU y wn anth) S0. TIM JRY: State: JJURY OCCUR JURY OCCUR AND ZIP CODE R 48. LICE CATHOL Creat Stime of death. Stiploma or GED comple	TE 38.1 c c c c c c c c c c c c c	FFEMALE: FFEMALE: Pregnant at Pregnant at	time of each of the second sec	st year st	n 42 days of de ays to 1 year b past year Town: ausse(s) and m employee EATH (Item 32 ERTIFIED (Mo OFRIGHT) Ch Mindensdethe Nori ano ion ion ion	ieath ieath iedent's iedent's iedent's iedent's ieath o ieath	seath home: constru Apartment stated. and place, annored the	37. MAN □ Nation Acco Suite	NNER OF D cident a P cident a C restaurant; restaurant	13. WAS 14. 13. WAS 14. 13. WAS 14. 13. WAS 14. 13. WAS 14. 14. IF TR 10. Other (1). 14. IF TR 10. Other (1). 14. IF TR 10. Other (1). 14. IF TR 10. Other (1). 15. Other (1). 1	IN AUTOR Prese AutTOPR igation etermine igation etermine code: AMSPOT Code: AMSPOT AMSPOT Code: AMSPOT AMSPOT perator in tated. he cause TRAR O one or m or or hersel	PSY FERF The The SY FINDING SY FINDING d (s) and man (s) and	URY AT WORK? Yes No
ted By: To Be Completed By: RECTOR MEDICAL CERTIFIER	35. DID TOBACCO UR TO DEATH 19 Yes 0 Probab 19 Yes 0	SE CONTRIBU y un inth) 39. TIM IRY: State: UURY OCCUR UURY OCCUR INTY OF the best of the of degree of the of the of degree of the of t	TE 36.1	FFEMALE: FFEMALE: Pregnant al Pregnant al Not pregna Not pregna Not pregna Not pregna SON COMPL SON COMPL SON COMPL BER SON COMPL BER SON COMPL A state of the	I sui noi rei time of dea time of dea tim	It year the nant within ant within ant 43 da OF INJUF OF INJUF City or istant isgation, in USE OF D DATE CE USEANC isyneether athon.cum anisWrlisg apanioLat	n 42 days of de ays to 1 year b past year RY (e.g., Decer Town: ausse(s) and m red at the time, n my opinion, d EATH (Item 32 ERTIFIED (Mo ORIGIN? On the decedent heak the Yo? pamoLatino. ino ican, Chicano	eath lefore c ident's death o 2) a/Day/h eck the is box if	Seath Seath Apartment stated and place, and scourred at the (r) : box	37. MAN 37. MAN 37. MAN 37. MAN 37. Nata 4 Acc 37. Sui 50.	NNER OF D tural c H tural c H t	13. WAS # 14. WAS # 15. WAS # 14. WAS # 15. WAS #	IN AUTOP Prese AutTOPP igation etermine etermine code: Cod	BY PERF and the second	URY AT WORK? Yes No
mperiod By: To Be Completed By: LORECTOR MEDICAL CBRTFIER	35. DID TOBACCO UR TO DEATH? Yes D Probab No D Unknox No D Unknox Start OF NUJEY' (MoDay/Y) (Spell M Z. LOCATION OF INJ Seet & Number 43. DESCRIBE HOWIN Seet & Number Pronounging & Co Pronounging & Co Produced Examined Signature of certifier 46. NAME_ADDRESS; 47. TITLE OF CERTIFIE 51. DECEDENT'S bit School congriend at the Sing calce rises 9h - 12h grade.no Ship calcular less 9h - 12h grade.no Some college credit, Associate degree (center) Sandeloff degree for Associate degree (center)	SE CONTRIBU y wn anth) J9. TIM J9.	TE 38.1 c c c c c c c c c c c c c	FFEMALE: FFEMALE: Not pregna rende. death ind z orden rende. death rende. rend. rende. rende. rende. rende. rende. ren	time of eee nt within parameters time of dealers time of dealers nt, but pregg regenerations the pregeneration occurred du PLACE concurred du PLAC	It year It year It hant within ant within the year City or City or City or ISE OF D DATE CE USPANC Selection Classical DATE CE DATE CE DATE CE DATE CE DATE CE Selection Classical Selection Classical Se	n 42 days of de n 42 days of de ays to 1 year b past year RY (e.g., Dece Town: auss(s) and m red at the time a my opinion, d EATH (Item 32 EATH (Item 32 EAT	eath lefore c ident's , date, cate, o 2) Da/Day/P eck the is box if	seath bome; constru stated, and place, and courred at the fr) box	37. MAN	NNER OF D identical controls of the second control of the second	13 WSA 14 WERE 15 WSA 15 WS	IN AUTOP Prese AUTOPP Idealing igation igation idealing igation code: ANSPOC Diperator ANSPOC poperator ispecify) tated. tated. TRAR OI one or m resel igat tibe;	STATION IN (5) and man (5) and man	URVED* Ves No SAVAILABLE TO Ves No URY AT WORK? Ves No URY AT WORK? Ves No JURY, SPECIFY: IURY, SPECIFY: IURY, SPECIFY: indicate what the
6 Campbrod By: To 86 Completed By: RERAL DRECTOR MEDICAL CERTIFIER	35. DID TOBACOO UR TO DEATH? Ves Yes Probab No Unknox	SE CONTRIBU y wn anth) 30. TIM JRY: State: JURY OCCUR JRY: State: JURY OCCUR AND ZIP CODE Coroner-On the CATIOL Check State of death. Siploma or GED comp but no depres g. AA, AS) g. BA, AB, BS MAM. SM.	TE 30. 1 C C C C C C C C C C C C C	FFEMALE: FFEMALE: Freghat: Preghat: Not pregna Not pregna Not pregna Not pregna Not pregna Not pregna Signification	Lack not let time of dea: time	Ist year Ist ye	n 42 days of de ays to 1 year b ays to 1 year b past year RY (e.g., Dece Town: ause(s) and m red at the finne, my opinion, d EATH (Item 32 ERTIFIED (Mo ORIGIN? Ch the decedent heck the No? ison ican, Chicano Latino	ieath ieath iefore c ident's is box if	seath home: constru Apartment stated. and place, and course at the rr)	37. MAN	VNER OF D tural ::: P tural ::: P tural ::: P ticide ::: C restaurant; restau	13. WERE 13. WERE 13. WERE 13. WERE 10. Comment 10. C	IN AUTOR Prese AUTORY igation etermine etermine code: Code: ANSPO(perator ger fran Specify) tated. he cause TRAR OI one or m or hersel	ESTERED AND A CONTRACT AND A CONTRAC	INREE?
To Bo Completed By: FUNERAL DRECTOR MEDICAL CERTIFIER	35. DID TOBACCO U TO DEATH 17 VES D PICAD 17 VES D 17 VES 17 V	SE CONTRIBU y wn anth) S9. TIM anth) S9. TI	TE 38. 1 C C C C C C C C C C C C C	FFEMALE:	nt within para nt within para time of dea time of dea time of dea time of dea the para to the para the pa	t year t year th mant withir city or City or City or City or SEE OF D DATE CE USPANIC DATE CE Hispanio/Lat Hispanio/L	n 42 days of de ays to 1 year b past year Town: ausse(s) and m EATH (Item 32 ERTIFIED (Mo ORIGIN? Cha bed the Thor panio/Latino. ino iccan, Chicano Latino	ieath ieath iefore c ident's ieath c 2) a/Day/h eok the is box if	seath home; constru Apartment stated. and place, anno cocurred at the r/r) + box	37. MAN 37. M	NNER OF D hural hur	13. WAS A 14. WAS A 15. WAS 15. WAS A 15. WAS A 15. WAS A 15. WAS A	IN AUTOP: D Yes AUTOP: igation igation etermine code: ANSPOC ANSPOC TRAR O one or m or hersel igation tated. he cause pal tribe;)	SY FEREN	INREE?
To Be Completed By: FUNERAL DIRECTOR MEDICAL CERTIFIER	35. DID TOBACCO UR TO DEATH? Yes D Probab No D Unknox No D Unknox St. DATE OF INJURY' (MODayrY) (Spell M 42. LOCATION OF RNLY Seret 3. Number 43. DESCRIBE HOW IN Seret 3. Number 44. DESCRIBE HOW IN Seret 3. Number 45. CERTIFIER (Ohesk Derrighing physics Descripting branches Signature of certifier 1. DESCRIBE HOW IN Signature of certifier Signate criss Signate criss Signate criss Signate criss Signate criss Signate crist Signate criss Signate crist Signate crist	SE CONTRIBU by minitian and a second secon	TE 88.1 C C OF INJU RED: Try knowledge From knowledge Fro	FFEMALE: FFEMALE: Pregnant al Pregnant al Not pregna Not pregna Not pregna Not pregna Not pregna Not pregna SCON COMPL SCON COMPL SCON COMPL SCON COMPL SCON COMPL SCON COMPL COMPL SCON COMPL COMPL COMPL SCON COMPL	I un not est nt within page t time of dec t t t time of dec t t t t time of dec t t t t t t t t t t t t t t t t t t t	t year the mant within the mant within the year of inJUF of inJUF city or city or city or isse of p issession, in issession, issession, issessio	n 42 days of de ays to 1 year b past year RY (e.g., Decer Town: ausse(s) and m red at the time, n my opinion, d EATH (Item 32 ERTIFIED (Mo ORIGIN? On the decedent heak the Yeo' pamic Latino.	ieath ieath ieath iefore c ident's is date, 2) is/Day/h is	Seath home; constru Apartment stated and place, and occurred at the (r) : box	37. MAN	NNER OF D tural ci H tural ci H tural ci H tural ci H tural ci H tural ci H restaurant;	13. WAS # 14. WAS # 15. WAS # 14. WAS # 15. WAS #	IN AUTOP Pess AUTOPP igation etermine etermine code: Code: Code: Code: TRAR O TRAR O TRAN	BY PERF In No SY FINDING d 41. INL (6) and maniferent (6) and maniferent (6) and maniferent (6) and maniferent (7) and maniferent (7) and (7) and (IVALED Yes No IVALABLE TO Yes No IVALABLE TO Yes No
To Be Completed By: FUNERAL DIRECTOR MEDICAL CERTIFIER	35. DID TOBACCO UK TO DEATH? Yes D Probab No D Unknox No D Unknox Start OF NULHY' (MoDayrYr) (Spell M Seet & Number No D Unknox Seet & Number Seet	SE CONTRIBU y wn nnth) 30. TIM rRY: State: UUURY OCCUR n-To the best of n-To the best of coroner-On the rItying physical coroner-On the reg 48. LICE capitol degree g., AA, AS) g., BA, AB, SB, MA, MS, MEr EdD) or (e.g., BND, DDS L, MD, DDS L, OCCUPATY	TE S8. I	FFEMALE: FFEMALE: FFEMALE: Freghale: Not pregna ind z orden ind pregna ind pre	Lando Heriter The set of	t year t year th ant within ant 43 da City or City or City or City or City or DATE CE Substitution, in DATE CE Subst	n 42 days of de n 42 days of de ays to 1 year b Part year RY (e.g., Dece Town: Town: Town: Town: Town: EATH (Item 32 EATH (Item	ieath ieath iefore c ident's anner , date, date, date, date, is box if	seath home: constru stated. and place, and coursed at the (r) : box		VNER OF D tural c + tural c + c - c c + c - c - c - c - c - c - c - c -	13. WAS 1 14. WERE 15. WERE	IN AUTOR Pession second second seco	d d d (s) and man (s) and man	IVALED Yes No IVALUABLE TO Yes No

Revised (2003) U.S. Standard Certificate of Death

PART II (Other significant conditions)

•Enter all diseases or conditions contributing to death that were not reported in the chain of events in Part I and that did not result in the underlying cause of death. See attached examples.

If two or more possible sequences resulted in death, or if two conditions seem to have added together, report in Part I the one that, in your opinion, most directly caused death. Report in Part II the other conditions or diseases.

CHANGES TO CAUSE OF DEATH

Should additional medical information or autopsy findings become available that would change the cause of death originally reported, the original death certificate should be amended by the certifying physician by immediately reporting the revised cause of death to the State Vital Records Office.

ITEMS 33-34 - AUTOPSY

•33 - Enter "Yes" if either a partial or full autopsy was performed. Otherwise enter "No."

•34 - Enter "Yes" if autopsy findings were available to complete the cause of death; otherwise enter "No". Leave item blank if no autopsy was performed

ITEM 35 - DID TOBACCO USE CONTRIBUTE TO DEATH?

Check "yes" if, in your opinion, the use of tobacco contributed to death. Tobacco use may contribute to deaths due to a wide variety of diseases; for example, tobacco use contributes to many deaths due to emphysema or lung cancer and some heart disease and cancers of the head and

ITEM 36 - IF FEMALE, WAS DECEDENT PREGNANT AT TIME OF DEATH OR WITHIN PAST YEAR? This information is important in determining pregnancy-related mortality

ITEM 37 - MANNER OF DEATH

 Always check Manner of Death, which is important: 1) in determining accurate causes of death; 2) in processing insurance claims; and 3) in statistical studies of injuries and death.

 Indicate "Pending investigation" if the manner of death cannot be determined whether due to an accident, suicide, or homicide within the statutory time limit for filing the death certificate. This should be changed later to one of the other terms. Indicate "Could not be Determined" ONLY when it is impossible to determine the manner of death

Checkbox format:

IF FEMALE:

Not pregnant within past year

Pregnant at time of death

□Not pregnant, but pregnant within 42 days of death

□Not pregnant, but pregnant 43 days to 1 year before death

Unknown if pregnant within the past year

http://www.cdc.gov/nchs/fastats/births.htm

:dc.gov/nchs/fastats/default.htm

 Where can you access vital statistics data, right <u>now</u>?

FastStats (CDC) is a nice place to start for ready-made tables & such (as the name would imply...) Great for all sorts of health topics, not just perinatal epi

FastStats FastStats Homepage NCHS Home State and Territorial Data Recommend < 56 😏 Tweet < 5 Share Related Links FastStats A to Z Accessibility

The FastStats site provides guick access to statistics on topics of pu organized alphabetically. Links are provided to publications that incl sources of more data, and to related web pages.

State and Territorial Data

А Access to Health Care Accidents/Unintentional Injuries ADHD Adoption Adolescent Health AIDS/HIV Alcohol Use Alleraies Alzheimer's Disease Ambulatory Care (Doctor Visits) American Indian or Alaska Native Health Anemia Arthritis Asian or Pacific Islander Health Assault/Homicide Asthma Attention Deficit Hyperactivity Disorder

Birth Defects (Congenital Anomalies)

Births/Natality

Births-Method of Delivery

Births-Multiple Births

Immunization Infant Health Infant Mortality Infectious Disea: Infertility Influenza Injury Inpatient Surger

Κ **Kidney Disease**

Leading Causes Life Expectancy Liver Disease/Ci Lung Diseases C

Μ Mammography/I Marriage Measles Maria Indiana India

National Center for Health Statistics National Center for Health Statistics Home Births and Natality Data are for the U.S. • Number of births: 3,664,292 • Birth rate: 11.0 per 1,000 population • Fertility rate: 56.3 births per 1,000 women aged 15-44 • Percent born low birthweight: 8.52% • Percent born preterm: 10.49% • Percent unmarried: 40.0% • Mean age at first birth: 27.3 Source: Births: Final Data for 2021, tables 1, 9, 11, and 13 📕 [PDF – 1 MB]

Related FastStats

- Births method of delivery
- Births multiple births
- Births teen births
- Births unmarried childbearing
- Birthweight and gestation

More data

- Trends in Births from Health, United States
- Health, United States Topic Page: Births
- Birth data
- Vital Statistics of the United States

• Data query sites

- Produce basic tables (rates/proportions for subgroups, states, regions)
- Explore potential research ideas
- Can complete publishable studies
 - CDC WONDER (natality & Death data & more): <u>http://wonder.cdc.gov</u>
 - PERISTATS (March of Dimes) vitals & select other maternal & infant outcomes: <u>http://www.marchofdimes.com/peristats/default.aspx</u>



AIDS Public Use Data
Births
Cancer Statistics

Deaths:

All Ages:

- Underlying Cause of Death
- Multiple Cause of Death (Provisional)
- Multiple Cause of Death (Final)
- U.S. Mexico Border Area Mortality
- Compressed Mortality
- Fetal Deaths



Heat Wave Days May-September



- NNDSS Annual Summary Data Query
- NNDSS Annual Tables
- NNDSS Weekly Tables
 - Reports and References

Prevention Guidelines (Archive) Scientific Data and Documentation (Archive)

Other Query Systems

- Healthy People 2010 (Archive)
- 122 Cities Weekly Mortality (Archive)

CDC Wonder

CDC Wonder

FAQs Help Contact Us WONDER Search

Natality Information

The Natality online databases report counts of live births occurring within the United States to U.S. residents. Counts can be obtained by a variety of demographic characteristics, such as state and county of residence, mother's race, and mother's age, and health and medical items, such as tobacco use, method of delivery, and congenital anomalies. The data are derived from birth certificates. For more information, refer to Natality data description.

Select from following:

CDC WONDER

Natality for 2016 - 2021 (expanded) Natality for 2007 - 2021 Natality for 2003 - 2006 Natality for 1995 - 2002

The Natality data are offered in four separate online databases because of changes in data reporting standards beginning in 2003. The race group categories changed from 8 categories for the years 1995-2002 to 4 "bridged-race" categories for the years 2003-2006. Beginning in 2003, county-level data are available for 66 additional counties, because the 2003-2006 data reference the year 2000 census to determine suppression for counties with populations less than 100,000 persons. The 1995-2002 data reference the 1990 census to determine county-level data suppression. Beginning in 2007, data are reported from the the 2003 U.S. standard Certificate of Live Birth. With the implementation of the 2003 U.S. standard Certificate of Live Birth by the states, some data items are not comparable with the previous 1989 revision, resulting in changes to the data items available here. Beginning with year 2007, data for five new birth anomalies are available, and data for five maternal risk factors are no longer available. Beginning with year 2016, data for many additional items (mostly medical and health items) are available. "Bridged-race" categories are not available in the expanded database for 2016 and later years. "Bridged-race" categories are not available after year 2019.

Hint: Use Ctrl + Click for multiple selections, or Shift + Click for a range.

Pick between: Mother's Single Race 6 Mother's Single Race 15 O Mother's Single/Multi Race 31 O

Mother's Single Race 6	
All Races	
American Indian or Alaska Native	
Asian	
Black or African American	
Native Hawaiian or Other Pacific Islander	
White	
More than one race	
Unknown or Not Stated	

Pick between: Age of Mother 9 🔍 Age of Mother 10 🔾 Age of Mother 13 O

All Ages Under 15 years 15-19 years 20-24 years Age of Mother Year O 25-29 years 30-34 years 35-39 years

40-44 years

Age of Mother 9

Paternity Acknowledgment (if mother unmarried)

All Values	1
Yes	
No	
Unknown or Not Stated	
Not Applicable	▼

Mother's Nativity

All Values	
Born in the U.S. (50 US States)	1
Born outside the U.S. (includes possessions)	
Unknown or Not Stated	
Not Reported	

Mother's Hispanic Origin

Pick between: Mother's Hispanic Origin Mother's Expanded Hispanic Origin O

All Origins Hispanic or Latino Not Hispanic or Latino Unknown or Not Stated

Mother's Education

All Levels 8th grade or less 9th through 12th grade with no diploma High school graduate or GED complete Some college credit, but not a degree Associate degree (AA, AS)

Mother's Birth Country

*

 ∇

All Countries AFGHANISTAN (AF) ALBANIA (AL) ALGERIA (AG) AMERICAN SAMOA (AQ) ANDORRA (AN) ANGOLA (AO) ANGUILLA (AV) ANTARCTICA (AY) ANTIGUA AND BARBUDA (# ARGENTINA (AR)

Marital Status

All Values	1
Married	
Unmarried	
Unknown or Not Stated	
Not Reported	Ŧ

Mother's Birth State

The United States	
Alabama	
Alaska	
Arizona	<u></u>
Arkansas	
California	
Colorado	
Connecticut	
Delaware	
District of Columbia	•

What can you do with CDC Wonder? Distribution of birthweights, U.S. Births 1995, 2021



What can you do with CDC Wonder? Distribution of birthweights, U.S. Births, by Race, 2021





Research Letter | Public Health All-Cause Maternal Mortality in the US Before vs During the COVID-19 Pandemic

Marie E. Thoma, PhD; Eugene R. Declercq, PhD

Original Research

Changes in Pregnancy-Related Mortality Associated With the Coronavirus Disease 2019 (COVID-19) Pandemic in the **United States OBSTETRICS & GYNECOLOGY**

Marie E. Thoma, PhD, MHS, and Eugene R. Declercq, PhD

RESEARCH ARTICLE

PLOS ONE

The natural pattern of birth timing and gestational age in the U.S. compared to England, and the Netherlands

Eugene Declercq^{1*}, Anneke Wolterink², Rachel Rowe³, Ank de Jonge², Raymond De Vries⁴, Marianne Nieuwenhuijze⁵, Corine Verhoeven², Neel Shah⁶

Can you publish using CDC Wonder Data?

RESEARCH ARTICLE

PLOS ONE The relationship between obstetrical interventions and the increase in U.S. preterm births, 2014-2019

Marian F. MacDorman^{1*}, Marie Thoma², Eugene Declercg³, Elizabeth A. Howell⁴

Racial and Ethnic Disparities in Maternal Mortality in the United States Using Enhanced Vital Records, 2016–2017

Marian F. MacDorman, PhD, Marie Thoma, PhD, Eugene Declcerq, PhD, and Elizabeth A. Howell, MD, MPP

Leading Causes of Death 1900 Nu

All	causes	 	 	
All	causes	 	 	

Number Rate per 100K 343,217 1,719.1

1	Pneumonia (all forms) and influenza	107-109,33	40,362	202.2
2	Tuberculosis (all forms)	13-22	38,820	194.4
3	Diarrhea, enteritis, and ulceration of the intestines	119,120	28,491	142.7
4	Diseases of the heart	90-95	27,427	137.4
5	Intracranial lesions of vascular origin	83	21,353	106.9
6	Nephritis (all forms)	130-132	17,699	88.6
7	All accidents	169-195	14,429	72.3
8	Cancer and other malignant tumors	45-55	12,769	64.0
9	Senility	162	10,015	50.2
10	Diphtheria	2021	3,464,23	1 1,043.8
. Disec	uses of heart (100-109,111,113,120-151)		695,547	43.8
2. Maliq	gnant neoplasms (C00-C97)		605,213	182.4
B. COV	ID-19 (U07.1)		416,893	125.6
I. Accic	lents (unintentional injuries) (V01-X59,Y85-Y86)		224,935	67.8
5. Cere	brovascular diseases (160-169)		162,890	49.1
b. Chroi	nic lower respiratory diseases (J40-J47)		142,342	42.9
. Alzhe	eimer disease (G30)		119,399	36
8. Diab	etes mellitus (E10-E14)		103,294	31.1
P. Chro	nic liver disease and cirrhosis (K70,K73-K74)		56,585	17
0. Ner	phritis, nephrotic syndrome and nephrosis (N00-N07,N17-	N19,N25-N27)	54,358	16.4



~

Peristats

Learn more

COVID-19 PANDEMIC RESOURCES AND SUPPORT

Select a state

What information are you looking for? Please start your selection with either location or topic. Not all items are required. After you submit, you can narrow your results by year or health indicator or compare with another region. To get the best results, use reset button before starting a new search.





news:

Infant Mortality Update

Center for Health Statistics, final natality data. d February 18, 2021, from www.marchofdimes.org/peristats.

State Summaries Find the latest data by state. Select a State ~ Select a Report \sim go More PeriStats Calculations Overview What's new FAQs Resources Documents Archives National Retrieve

PubMed literature search

SO YOU WANT THE DATA FOR YOURSELF?

- Downloadable public use data files
 - Vital Statistics Data Available Online: <u>http://www.cdc.gov/nchs/data_access/vitalstatsonline.htm</u>
 - Individual-level data (you can <u>do actual multivariable analyses</u> with this)
 - Many more data elements than query site
 - Some variables still unavailable
 - State (unless you ask)
 - Rare events/conditions that are potentially identifying

- •You can download data files, by year (Note: ~3.8 million cases)
 - Birth
 - Linked birth/infant death (birth cohort linked & period linked)
 - Fetal death
 - Mortality
- •Data documentation & instructions: (gives variable names, coding info)

The DIY approach – analyze it yourself!

National Center for Health Statistics

National Center for Health Statistics Home

Vital Statistics Online Data Portal

User's Guide (.pdf files)

U.S. Data (.zip files)*

2021 (228 MB)
2020 (224 MB) 🚹
2019 (221 MB) 👔
2018 (223 MB) 👔
2017 (231 MB) 👔
2016 (242 MB) 👔

You can download the data from the NCHS site or better, the National Bureau of Economic Research yourself or you can use a subset of the national data

NBER | NATIONAL BUREAU 0/

Public Use Data Archive

Vital Statistics Natality Birth Data

Q

2017	.zip	<u>.dta, .do, .dct</u>	<u>sas,</u> code	.CSV	<u>.sps</u>	<u>desc</u>	<u>pdf</u>
2018	<u>.zip</u>	<u>.dta</u>	<u>sas</u>	<u>.csv</u>	NA	<u>codebook</u>	<u>pdf</u>
2019	<u>.zip</u>	<u>.dta</u>	sas	<u>.csv</u>	NA	<u>codebook</u>	<u>pdf</u>
2020	<u>.zip</u>	<u>.dta</u>	sas	<u>.csv</u>	NA	<u>codebook</u>	<u>pdf</u>
2021	.zip	<u>.dta</u>	sas	.csv	NA	<u>codebook</u>	pdf

https://www.cdc.gov/nchs/data_access/vitalstatsonline.htm

Administrative (hospital/insurance claims)

Administrative data (Hospital billing data)

• What is it?

- Hospital stay, emergency department visit, observational stay (hospital discharge records)
- Outpatient visit/treatment data (insurance records & Private databases)
 - Private insurer & brokers selling refined public data
- Who's included?
- What point in life are data collected?
- How many times data collected per person?
- What do you have to do to be included?
- What doesn't it have?

Administrative data (Hospital billing data)

- What does it have?
 - Diagnoses/Conditions (ICD codes) primary, secondary, etc
 - Procedures/treatments (CPT codes)
 - Patient Demographics (Sex, race/ethnicity, age, insurance)
 - Birthweight/age in weeks (if infant)
 - Geography (Town/State/Zip)
 - Hospital ID; Provider ID
 - Dates/Duration of stay
 - Charge\$

WHY NOT JUST USE THE MEDICAL RECORD? WHY BILLING?

Tradeoffs with Administrative Data

Advantages

- Available electronically.
- Less expensive than obtaining medical record data.
- Available for an entire population of patients and across payers.
- Fairly uniform (and improving) coding systems and practices.

Challenges

- Limited clinical information.
- Questionable accuracy for public reporting because the primary purpose is billing.
- Completeness.
- Timeliness.





healthcare cost & utilization project User Support

Home | About | News | Need Help? | Login

Search HCUP-US

DO YOUR OWN ANALYSIS

EXPLORE EXPERT RESEARCH & LIMITED DATASETS

RESEARCH TOOLS

Software Tools

HCUP software tools can be applied to HCUP and other administrative databases to systematically create new data elements from existing data, thereby enhancing a researcher's ability to conduct analyses.

Tools for ICD-10-CM/PCS

Designed for use with International Classification of Diseases, 10th Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) codes

- Clinical Classifications Software Refined (CCSR)
 - <u>CCSR for ICD-10-CM Diagnoses</u> Groups diagnosis codes into over 530 clinical categories
 - <u>CCSR for ICD-10-PCS Procedures</u> Groups procedure codes into over 320 clinical categories

Tools for CPT and HCPCS Level II

Designed for use with Healthcare Common Procedure Coding System (HCPCS) Level I (Current Procedural Terminology (CPT®)) and HCPCS Level II codes

- <u>Clinical Classifications Software (CCS) for</u> <u>Services and Procedures</u> Groups codes into over 240 clinical categories
- <u>Surgery Flags for Services and Procedures</u> Identifies codes as narrowly defined therapeutic invasive surgeries or more broadly defined surgeries that include diagnostic invasive procedures

Tools for ICD-9-CM

Designed for use with International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) codes

 <u>Clinical Classifications Software (CCS) for ICD-</u> 9-CM

Groups diagnosis and procedure codes into clinically meaningful categories

- <u>Chronic Condition Indicator (CCI) for ICD-9-CM</u> Identifies diagnoses as chronic conditions
- <u>Elixhauser Comorbidity Software for ICD-9-CM</u> Identifies secondary diagnoses as comorbidities

Survey Research

Survey data

• What IS a survey?

- What does it have?
- Who's included?
- What point in life collected?
- How many times data collected per person?
- What do you have to do to be included?
- What doesn't it have?

Why survey data?

• General survey advantages:

- Breadth of information
- Surveys collect data that others don't
- Confidentiality sometimes elicits better information

• General survey disadvantages:

- •Self-report can be unreliable (recall, social desirability)
- Response rates can be low; non-response bias
- Answer depends on respondent's interpretation of question
- •Can be expensive; time consuming (especially if you DIY)
- Response fatigue, especially selected populations

PRAMS

(Pregnancy Risk Assessment Monitoring System)

- 1987 (first states to start PRAMS survey); Currently almost all states (+NYC) have it
- N = ~2500 respond./yr (MA) ~65% response rate.
- Birth certificates randomly sampled
- Oversampling (by race/eth; BWT; other)
- Mail survey (or phone or online)
- 2-6 months post partum
- English/Spanish



PRAMS in action

Differential effects of hospital breastfeeding practices, ACES, Cesarean Sections, substance use in pregnancy, IPV, mental health differential by race

Adverse Childhood Experiences and Prescription Opioid Use During Pregnancy: An Analysis of the North and South Dakota PRAMS, 2019-2020

Life Stressors During Pregnancy in Women With Epilepsy: Results From the Pregnancy Risk Assessment Monitoring System

Morbidity and Mortality Weekly Report

Vital Signs: Postpartum Depressive Symptoms and Provider Discussions Abc Perinatal Depression — United States, 2018

Brenda L. Bauman, MSPH¹; Jean Y. Ko, PhD¹; Shanna Cox, MSPH¹; Denise V. D'Angelo, MPH¹; Lee Warner, PhD¹; Suzanne Folger, PhD¹; 9 Heather D. Tevendale, PhD¹; Kelsey C. Coy, MPH¹; Leslie Harrison, MPH¹; Wanda D. Barfield, MD¹

- Adverse Childhood Experiences and Prescription Opioid Use During Pregnancy: An Analysis of the North and South Dakota **PRAMS**, 2019-2020.
 Testa A, Jacobs B, Zhang L, Jackson D, Ganson K, Nagata J.
 Res Sq. 2023 May 9:rs.3.rs-2547252. doi: 10.21203/rs.3.rs-2547252/v1. Preprint.
 PMID: 37214797 Free PMC article.
- Associations of cesarean sections with comorbidities within the Pregnancy Risk Assessment Monitoring System. Austin J, Wirtz A, Garrett M, Ferrell SC, Stephenson E, Gajjar S, Perloff S, Hartwell M.
 J Perinat Med. 2023 May 22. doi: 10.1515/jpm-2023-0005. Online ahead of print.
 PMID: 37203560
- ³ Polysubstance use during pregnancy: The importance of screening, patient education, and integrating a harm reduction perspective.

Board A, D'Angelo DV, Salvesen von Essen B, Denny CH, Miele K, Dunkley J, Baillieu R, Kim SY. Drug Alcohol Depend. 2023 Jun 1;247:109872. doi: 10.1016/j.drugalcdep.2023.109872. Epub 2023 Apr 14. PMID: 37182339

4 The Association of Maternal Smoking and Drinking Changes During Pregnancy and Postpartum Breastfeeding Pattern and Duration.

Washio Y, Raines AL, Lv M, Pei S, Taylor SN, Zhang Z. Breastfeed Med. 2023 May 4. doi: 10.1089/bfm.2022.0130. Online ahead of print. PMID: 37155202

- Replication and validation of a statewide linkage method to estimate incidence proportion of child maltreatment. Newby-Kew A, Marshall LM, Zane S, Putz JW, Parrish JW.
 Ann Epidemiol. 2023 May 3;84:1-7. doi: 10.1016/j.annepidem.2023.04.020. Online ahead of print.
 PMID: 37146922
- ⁶ Smokers' utilization of quitting methods and vaping during pregnancy: an empirical cluster analysis of 2016-2018
 Pregnancy Risk Assessment Monitoring System (PRAMS) data in seven US states.
 Wang X, Lee NL, Burstyn I.
 BMC Pregnancy Childbirth. 2023 May 2;23(1):306. doi: 10.1186/s12884-023-05608-3.
 PMID: 37131124 Free PMC article.
- 7 Examining the Role of Interpersonal Violence in Racial Disparities in Breastfeeding in North Dakota (ND **PRAMS** 2017-2019).

Kanichy Makah M, Schmidt L, Anderson R, Njau G, Stiffarm Aaniiih A, Schmidt M, Stepanov A, Williams A. Int J Environ Res Public Health. 2023 Apr 9;20(8):5445. doi: 10.3390/ijerph20085445. PMID: 37107727 Free PMC article.

8 Predictors of WIC uptake among low-income pregnant individuals: a longitudinal nationwide analysis.
 Collin DF, Guan A, Hamad R.
 Am J Clin Nutr. 2023 Jun;117(6):1331-1341. doi: 10.1016/j.ajcnut.2023.04.023. Epub 2023 Apr 23.
 PMID: 37088228 Free article.

9 Association of Mental Health Conditions, Recent Stressful Life Events, and Adverse Childhood Experiences with Postpartum Substance Use - Seven States, 2019-2020. Stewart A, Ko J, Salvesen von Essen B, Levecke M, D'Angelo DV, Romero L, Cox S, Warner L, Barfield W.

MMWR Morb Mortal Wkly Rep. 2023 Apr 21;72(16):416-420. doi: 10.15585/mmwr.mm7216a1. PMID: 37079476 Free PMC article.

Other survey data sources you might consider....

- Many sources of survey data that have various bits and pieces of perinatal health information!
 - Some you can query on the spot. Some available for download on the spot. Others you have to ask for.
 - NHIS (National Health Interview Survey)
 - NSFG (National Survey of Family Growth)
 - NSCH (National Survey of Children's Health)
 - NHANES (National Health and Nutrition Examination Study)
 - **BRFSS** (Behavior Risk Factor Surveillance System)
 - **YRBS** (Youth Risk Behavior Survey)
 - LTM (Listening to Mothers, I, II, III, CA & IV)

Listening to Mothers (III & CA)

Listening to Mothers in California:

A POPULATION-BASED SURVEY OF WOMEN'S CHILDBEARING EXPERIENCES



FULL SURVEY REPORT

Carol Sakala Eugene R. Declercq Jessica M. Turon Maureen P. Corry

SEPTEMBER 2018

Listening to Mothers" III Pregnancy and Birth



Report of the Third National U.S. Survey of Women's Childbearing Experiences

CHILDBIRTH" CONNECTION since 1918 Eugene R. Declercq Carol Sakala Maureen P. Corry Sandra Applebaum Ariel Herrlich

Declercq ol Sakala n.P. Corry olebaum I Herrlich

Listening to Mothers" III New Mothers Speak Out





Eugene R. Declercq Carol Sakala Maureen P. Corry Sandra Applebaum Ariel Herrlich

June 2013

What you can learn from survey data that you can't from other records.

The rise of the big baby

Labor Induction

- Three in ten (29%) mothers tried to start their labor on their own.
- More than four out of ten respondents (41%) indicated that their care provider tried to induce their labor
- Three out of four of those women (74%) indicating that it did start labor, resulting in an overall rate of medically induced labor of 30%.

Inductions in Vaginal Births, U.S., 1990-2021



Source: CDC, NCHS. Downloadable annual natality datasets and CDC Wonder. (2016-2020)

BirthByTheNumbers.org

Reasons why mothers

experienced medical induction

Base: care provider tried to induce labor <i>n=991</i>	
Baby was full term/close to due date	44%
Mother wanted to get pregnancy over with	19%
Care provider was concerned that mother was "overdue"	18%
Maternal health problem that required quick delivery	18%
Care provider was concerned about the size of the baby	16%
Water had broken and there was a concern about infection	12%
Mother wanted to control timing of birth for work or other personal reasons	11%
Care provider was concerned that amniotic fluid around the baby was low	11%
Care provider was concerned that baby was not doing well	10%
Mother wanted to give birth with a specific provider	10%
Some other reason	10%
www.birthby	vthenumbers.o

Reasons for primary and repeat cesarean birth

Base: had cesarean <i>n</i> =744 (choose reason that best applies)	Primary cesarean	Repeat cesarean n=376
I had had a prior cesarean (asked of prior cesarean only)	n.a.	61%
Baby was in the wrong position	16%	3%
Fetal monitor showed the baby was having problems during labor	11%	3%
I had a health condition that called for procedure	10%	13%
Baby was having trouble fitting through	10%	2%
Maternity care provider worried the baby was too big	9%	2%
Provider tried to induce labor but it didn't work	8%	3%
Problem with the placenta	8%	2%
Labor was taking too long	7%	2%
Past my due date	3%	-
Afraid to labor and have baby vaginally	3%	-
No medical reason	4%	3%
	www.birthby	thenumbers.

Are U.S. Babies Getting Bigger?...NO! % Singleton, Full Term Babies by Birthweight, U. S., 1990-2021



Source: Centers for Disease Control and Prevention. CDC Wonder

www.BirthByTheNumbers.org

What's with these Big Babies?

Near the end of your pregnancy, did your maternity care provider tell you that your baby might be getting quite large?

31.2% YES	ALL	Yes	Νο
Actual Weight	7 lbs	7 lbs	7 lbs
	5 ounces	14 ounces	1 ounce
Baby Actually Macrosomic			
(8lb 13ounces)	9.9%	19.7%	5.5%

Source: Cheng et al. Healthcare Utilization of Mothers with Suspected Large Babies. MCH Journal. 2015. 19:2578–2586

What's the impact of being told you might have a big baby? Labor and Delivery Outcomes

	<u>Suspec</u>		
	<u>Yes</u>	<u>No</u>	
	<u>%</u>	<u>%</u>	
Tried Self Induction of Labor	43.0	24.7	***
Medical Induction of Labor	70.1	51.1	***
Cesarean Delivery	21.1	18.1	NS
Epidural Analgesia	72.7	61.7	***
Requested Cesarean	27 E	6 9	***
Delivery	52.5	0.0	

***p<.001

Source: Cheng et al. MCH Journal. 2015. 19:2578–2586

Likelihood of Labor or Delivery Outcomes Controlling for Key Variables

• Self Induced Labor – almost twice as likely

• Medical Induction – almost twice as likely

• Epidural – twice as likely

• Requesting a cesarean – 4 times as likely

BirthByTheNumbers.org

Would have never discovered this phenomenon if we didn't listen to mothers

Listening to Mothers (III & CA)

Listening to Mothers III Question Areas – Pregnancy & Birth

- PLANNING PREGNANCY AND PRENATAL
- CHOICE OF MATERNITY CARE PROVIDER & HOSPITAL
- PRENATAL CARE II (Q1805-Q1815)
- OTHER SERVICES AND SUPPORTS
- INFORMATION SOURCES & TRUSTWORTHINESS OF SOURCES
- INTRAPARTUM
- BIRTH AND CESAREAN-SPECIFIC (Q1555-Q1720)
- LABOR, BIRTH, AFTER BIRTH IN HOSPITAL, FEEDING/RACE & CULTURE
- POSTPARTUM
- BABY STATS & MOTHER MISCELLANEOUS
- DEMOGRAPHICS



WOMEN'S HEALTH ISSUE:

Mental Health

The Relationship between Social Support and Postnatal Anxiety and Depression: Results from the Listening to Mothers in California Survey

Emily Feinberg, ScD, CPNP^{a,*}, Eugene Declercq, PhD, MBA^b, Annette Lee, BS, MPH^b, Candice Belanoff, ScD, MPH^b

Are women with social support less likely to experience postpartum anxiety or depression?





Percent with Depressive Symptoms



DEMOGRAPHIC AND HEALTH SURVEYS

The Gambia



INTIMATE PARTNER VIOLENCE AMONG COUPLES IN 10 DHS COUNTRIES: PREDICTORS AND HEALTH OUTCOMES

DHS ANALYTICAL STUDIES 18



DECEMBER 2008

This publication was produced for review by the United States Agency for International Development. It was prepared by Michelle J. Hindin of Johns Hopkins University, Sunita Kishor of Macro International Inc., and Donna L.Ansara of Johns Hopkins University.

Ghana

Demographic and Health Survey

2008

Demographic and Health Survey



It's not just about quantitative analysis – need mixed methods & qualitative analysis – to truly understand results.

BACKGROUND AND PRACTICE OF MAJOR MIDWIVES*

Name	Birthplace	Years Documented Practice in Lawr.	Age when Docum. Lawr. Practice Begun	Total Record. Deliveries	Record Del. in Ave. Yr.
Louise Beck	Germany	1 896-189 9 ¹	**	1031	258
Concetta Carbonaro ²	Italy	1906-1914 ³	23	312	35
Laura Carpenito ²	Italy	1908-1914	39	476	68
Ann Curran	Ireland	1899-1901	80	80	32
Angelina DeMarco ⁵	Italy	1907-1914	50	80	68
Antonia Dyba	Austria	1910-1914 ⁴	28	814	163
Hanarata Groele ⁵	**	1911-1914	**	117	29
Hedwig Himmer	Germany	1898-1914	30	1866	109
Serafina Isabella	Italy	1901-1907	**	176	25
Louise Loppes ⁵	Portugal	1901-1914	39	192	13
Angelina Lopiano	Italy	1901-1914	38	16 01	114
Virginia Pedrazzini ^{2,5}	Italy	1907-1914	53	952	119
Minnie Riehm	Germany	1899-1914	30	3363	210
Paola Ripa ²	Italy	1910-1914	46	171	34
Christine Shaheen ⁵	Syria	1903-1905	37	62	21
Elena Stella	Italy	1907-1914	48	68	8

1914 MA Birth Certificate 1915 Local Canvass of Births Date of Birth, October 21th - mal **Birth** No 2357 CANVASSER'S RETURN OF A BIRTH Color (if other than which which Name (if nam Certific Place of birth, No. 11 Mille ALL NAMES TO BE IN FULL Name of Path ate Data 10,2.2 1914 R 100 Romania Nor **Jate of Birth** Maiden Name of Mother, Radaria - Fruto fame of Child Age of Father, 29 man Mother, 28 mg male vilute A iaz, Color and If Twiz Residence al Parente, No. 11 Muddle middle tace of Birth Occupation of Father, Mr. ull Name of Father Occupation of Mother (if any) Birthplace of Father. laiden Name of Mother Birthol w Mother, CUL soldence of Parents at 11 ma personally attend the hi Time of Birth . (Signature) coupation of Father . QX-Artician. scupation of Mether Fill out with ink. All names to be in full. lithelace of Father Two records of the same Withplace of Mathac births can provide new Attending Physician Dated insights ilgnature of person making return

Gene's Brilliant Historical Data Analysis



Linked data: The case of PELL

- Multiple data sets linked together (on individuals)
 - How? Identifiers (names, birthdates, SSN, zip codes, combinations)

• PELL Includes:

- Vitals (BC/FD)
- Hospital discharge records
 - Mom & Baby at the time of birth
- "Core" linkage of BCs to HDs (mom/baby) & FD's to mom's HD.
- Prior and Subsequent hospitalizations (mom/baby)
- Program/service data (Early intervention; WIC)
- Special other linkages
 - ART; BSAS; Geocoded, census data, environmental exposures

PELL Data System



Linked data: The case of the Pregnancy to Early Life Longitudinal Data System (a.k.a. PELL) PELL Data System

• What could you do with this thing?

<u>Combine</u> the "best of both worlds" for measures
e.g. BC good for race. HD better for L&D procedures



•Fill in the blanks

• If data missing on one, get from the other (e.g. gestational diabetes might be indicated on BC but not HD, or vice, versa.)

Linked data: The case of the Pregnancy to Early Life Longitudinal Data System (a.k.a. PELL)

• Use maternal and infant health data in the same analysis



- •e.g. Mom's prenatal hospitalizations and infant bvv
- •e.g. Mom's pre-conception health and infant outcomes (History of violence & PTB?)
- •Follow the same mom/baby over time (longitudinally linked)

- Look at birth characteristics and later use of services
 - EXAMPLE: Late preterm/early term birth and Early Intervention use? (Shapiro-Mendoza, 2013.)

Summary Points

- Be open to using multiple datasets, but master at least one of them.
- The quality of a dataset is closely linked to the question you need to answer. Beware of the tendency to define your questions from your database rather than the reverse.
- Collaborating with others who are smarter and more experienced with your question's context than you is critical – that may involve technical skills or grounded community knowledge.
- Embrace, rather than avoid mixed methods.



EMAIL: birthbynumbers@gmail.com

FACEBOOK: www.facebook.com/BirthByTheNumbers

