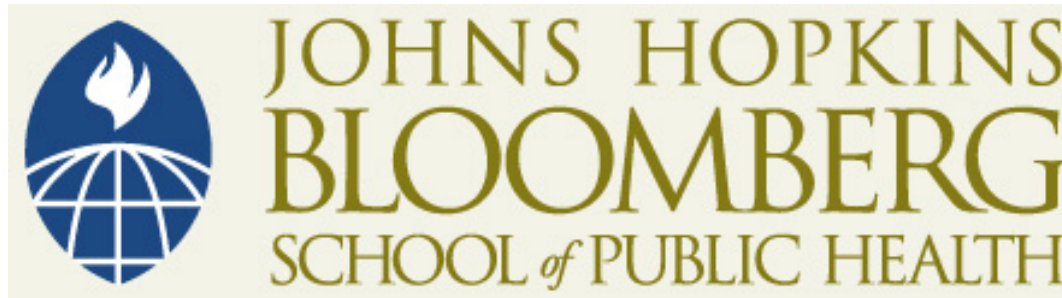


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Sources of Demographic Data

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Section A

Civil Registration

Note

- ◆ Note: Vital registration = civil registration

Demography

- ◆ *Demography*—The study of a population in its static and dynamic aspects

Demography

- ◆ Static aspects include characteristics at a point in time such as composition by:
 - Age
 - Sex
 - Race
 - Marital status
 - Economic characteristics

Demography

- ◆ Dynamic aspects are:
 - Fertility
 - Mortality
 - Nuptiality
 - Migration
 - Growth

Demographic Analysis

- ◆ *Demographic Analysis*—The study of components of variation and change in demographic variables and the relationships between them
- ◆ This is also called formal demography or demographic methods

Population Studies

- ◆ *Population Studies*—The study of the relationships between demographic variables and other variables such as social and economic variables

Civil Registration

- ◆ History
 - Relatively modern concept in its present format
 - Churches have long maintained baptism and burial registries
 - Provided insight on the demographic situation since the late Middle Ages

Civil Registration

- ◆ Purpose
 - Primarily administrative
 - To collect data on the vital events happening in a population (generally concerned with live births, deaths, marriages and divorces)
 - Help understand demographic characteristics of different populations at different points in time

Civil Registration

- ◆ Essential characteristics
 - Universality
 - Continuity
- ◆ Definitions and content
 - Live birth
 - Death
 - Marriage
 - Divorce

Live Birth

- ◆ *Live birth*—Complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation, breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live-born

Live Birth

- ◆ All live-born infants should be registered and counted as such irrespective of gestational age or whether alive or dead at time of registration, and if they die at any time following birth they should also be registered and counted as deaths

Live Birth Registration

- ◆ The United Nations recommends that the following be collected at a minimum for live birth registration:
 - Data on event
 - Date of occurrence
 - Date of registration
 - Place of occurrence
 - Type of birth/delivery
 - Attendance at birth

Live Birth Registration

- ◆ Data on infant:
 - Sex
 - Legitimacy status
 - Weight at birth

Live Birth Registration

- ◆ Data on mother:
 - Age or date of birth
 - Number of previous children born alive
 - Date of marriage or duration of marriage
 - Place of usual residence

TYPE/PRINT
IN
PERMANENT
BLACK INK
FOR
INSTRUCTIONS
SEE
HANDBOOK

U.S. STANDARD
CERTIFICATE OF LIVE BIRTH


LOCAL FILE NUMBER

BIRTH NUMBER

CHILD

1. CHILD'S NAME (First, Middle, Last)		2. DATE OF BIRTH (Month, Day, Year)	3. TIME OF BIRTH
4. SEX	5. CITY, TOWN, OR LOCATION OF BIRTH		6. COUNTY OF BIRTH
7. PLACE OF BIRTH: <input type="checkbox"/> Hospital <input type="checkbox"/> Freestanding Birthing Center <input type="checkbox"/> Clinic/Doctor's Office <input type="checkbox"/> Residence <input type="checkbox"/> Other (Specify) _____			8. FACILITY NAME (If not institution, give street and number)

CERTIFIER/
ATTENDANT

9. I certify that this child was born alive at the place and time and on the date stated. Signature 	10. DATE SIGNED (Month, Day, Year)	11. ATTENDANT'S NAME AND TITLE (If other than certifier) (Type/Print) Name _____ <input type="checkbox"/> M.D. <input type="checkbox"/> D.O. <input type="checkbox"/> C.N.M. <input type="checkbox"/> Other Midwife <input type="checkbox"/> Other (Specify) _____
12. CERTIFIER'S NAME AND TITLE (Type/Print) Name _____ <input type="checkbox"/> M.D. <input type="checkbox"/> D.O. <input type="checkbox"/> Hospital Admin. <input type="checkbox"/> C.N.M. <input type="checkbox"/> Other Midwife <input type="checkbox"/> Other (Specify) _____		13. ATTENDANT'S MAILING ADDRESS (Street and Number or Rural Route Number, City or Town, State, Zip Code)

DEATH UNDER
ONE YEAR OF
AGE
Enter State File
Number of death
certificate for
this child

14. REGISTRAR'S SIGNATURE 	15. DATE FILED BY REGISTRAR (Month, Day, Year)
--	--


MOTHER

16a. MOTHER'S NAME (First, Middle, Last)		16b. MAIDEN SURNAME	17. DATE OF BIRTH (Month, Day, Year)
18. BIRTHPLACE (State or Foreign Country)	19a. RESIDENCE—STATE	19b. COUNTY	19c. CITY, TOWN, OR LOCATION
19d. STREET AND NUMBER	19e. INSIDE CITY LIMITS? (Yes or no)	20. MOTHER'S MAILING ADDRESS (If same as residence, enter Zip Code on	

FATHER

21. FATHER'S NAME (First, Middle, Last)	22. DATE OF BIRTH (Month, Day, Year)	23. BIRTHPLACE (State or Foreign Country)
---	--------------------------------------	---

24. I certify that the personal information provided on this certificate is correct to the best of my knowledge and belief.

FATHER		21. FATHER'S NAME (First, Middle, Last)		22. DATE OF BIRTH (Month, Day, Year)	23. BIRTHPLACE (State or Foreign Country)
INFORMANT					
24. I certify that the personal information provided on this certificate is correct to the best of my knowledge and belief. Signature of Parent or Other Informant 					
INFORMATION FOR MEDICAL AND HEALTH USE ONLY					
		25. OF HISPANIC ORIGIN? (Specify No or Yes—If yes, specify Cuban, Mexican, Puerto Rican, etc.)		26. RACE—American Indian, Black, White, etc. (Specify below)	
		25a. <input type="checkbox"/> No <input type="checkbox"/> Yes Specify:		26a.	
MOTHER		25b. <input type="checkbox"/> No <input type="checkbox"/> Yes Specify:		26b.	
FATHER				27. EDUCATION (Specify only highest grade completed)	
				Elementary/Secondary (0-12)	College (1-4 or 5+)
				27a.	
				27b.	
28. PREGNANCY HISTORY (Complete each section)			29. MOTHER MARRIED? (At birth, conception, or any time between) (Yes or no)		30. DATE LAST NORMAL MENSES BEGAN (Month, Day, Year)
LIVE BIRTHS (Do not include this child)		OTHER TERMINATIONS (Spontaneous and induced at any time after conception)		31. MONTH OF PREGNANCY PRENATAL CARE BEGAN—First, Second, Third, etc. (Specify)	
28a. Now Living Number _____ <input type="checkbox"/> None		28b. Now Dead Number _____ <input type="checkbox"/> None		32. PRENATAL VISITS—Total Number (If none, so state)	
28c. DATE OF LAST LIVE BIRTH (Month, Year)		28d. DATE OF LAST OTHER TERMINATION (Month, Year)		33. BIRTH WEIGHT (Specify unit)	
				34. CLINICAL ESTIMATE OF GESTATION (Week)	
				35a. PLURALITY—Single, Twin, Triplet, etc. (Specify)	
				36b. IF NOT SINGLE BIRTH—Born First, Second, Third, etc. (Specify)	
36. APGAR SCORE			37a. MOTHER TRANSFERRED PRIOR TO DELIVERY? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, enter name of facility transferred from:		
36a. 1 Minute		36b. 5 Minutes			
			37b. INFANT TRANSFERRED? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, enter name of facility transferred to:		

MULTIPLE BIRTHS
Enter State File
Number for Mate(s)
LIVE BIRTH(S)

FETAL DEATH(S)

Figure 4-A. U.S. Standard Certificate of Live Birth: 1989 Revision.

38a. MEDICAL RISK FACTORS FOR THIS PREGNANCY <i>(Check all that apply)</i>	40. COMPLICATIONS OF LABOR AND/OR DELIVERY <i>(Check all that apply)</i>	43. CONGENITAL ANOMALIES OF CHILD <i>(Check all that apply)</i>
Anemia (Hct. < 30/Hgb. < 10) 01 <input type="checkbox"/> Cardiac disease 02 <input type="checkbox"/> Acute or chronic lung disease 03 <input type="checkbox"/> Diabetes 04 <input type="checkbox"/> Genital herpes 05 <input type="checkbox"/> Hydramnios/Oligohydramnios 06 <input type="checkbox"/> Hemoglobinopathy 07 <input type="checkbox"/> Hypertension, chronic 08 <input type="checkbox"/> Hypertension, pregnancy-associated 09 <input type="checkbox"/> Eclampsia 10 <input type="checkbox"/> Incompetent cervix 11 <input type="checkbox"/> Previous infant 4000+ grams 12 <input type="checkbox"/> Previous preterm or small-for-gestational-age infant 13 <input type="checkbox"/> Renal disease 14 <input type="checkbox"/> Rh sensitization 15 <input type="checkbox"/> Uterine bleeding 16 <input type="checkbox"/> None 00 <input type="checkbox"/> Other 17 <input type="checkbox"/> <i>(Specify)</i>	Febris (> 100°F. or 38°C.) 01 <input type="checkbox"/> Meconium, moderate/heavy 02 <input type="checkbox"/> Premature rupture of membranes (> 12 hours) 03 <input type="checkbox"/> Abruptio placentae 04 <input type="checkbox"/> Placenta previa 05 <input type="checkbox"/> Other excessive bleeding 06 <input type="checkbox"/> Seizures during labor 07 <input type="checkbox"/> Precipitous labor (< 3 hours) 08 <input type="checkbox"/> Prolonged labor (> 20 hours) 09 <input type="checkbox"/> Dysfunctional labor 10 <input type="checkbox"/> Breech/Malpresentation 11 <input type="checkbox"/> Cephalopelvic disproportion 12 <input type="checkbox"/> Cord prolapse 13 <input type="checkbox"/> Anesthetic complications 14 <input type="checkbox"/> Fetal distress 15 <input type="checkbox"/> None 00 <input type="checkbox"/> Other 16 <input type="checkbox"/> <i>(Specify)</i>	Anencephalus 01 Spina bifida/Meningocele 02 Hydrocephalus 03 Microcephalus 04 Other central nervous system anomalies <i>(Specify)</i> 05 Heart malformations 06 Other circulatory/respiratory anomalies <i>(Specify)</i> 07 Rectal atresia/stenosis 08 Tracheo-esophageal fistula/ Esophageal atresia 09 Omphalocele/ Gastroschisis 10 Other gastrointestinal anomalies <i>(Specify)</i> 11 Malformed genitalia 12 Renal agenesis 13 Other urogenital anomalies <i>(Specify)</i> 14 Cleft lip/palate 15 Polydactyly/Syndactyly/Adactyly 16 Club foot 17 Diaphragmatic hernia 18 Other musculoskeletal/integumental anomalies <i>(Specify)</i> 19 Down's syndrome 20 Other chromosomal anomalies <i>(Specify)</i> 21 None 00 Other 22 <i>(Specify)</i>
38b. OTHER RISK FACTORS FOR THIS PREGNANCY <i>(Complete all items)</i> Tobacco use during pregnancy Yes <input type="checkbox"/> No <input type="checkbox"/> Average number cigarettes per day Alcohol use during pregnancy Yes <input type="checkbox"/> No <input type="checkbox"/> Average number drinks per week Weight gained during pregnancy lbs.	41. METHOD OF DELIVERY <i>(Check all that apply)</i> Vaginal 01 <input type="checkbox"/> Vaginal birth after previous C-section 02 <input type="checkbox"/> Primary C-section 03 <input type="checkbox"/> Repeat C-section 04 <input type="checkbox"/> Forceps 05 <input type="checkbox"/> Vacuum 06 <input type="checkbox"/>	
39. OBSTETRIC PROCEDURES <i>(Check all that apply)</i> Amniocentesis 01 <input type="checkbox"/> Electronic fetal monitoring 02 <input type="checkbox"/> Induction of labor 03 <input type="checkbox"/> Stimulation of labor 04 <input type="checkbox"/> Tocolysis 05 <input type="checkbox"/> Ultrasound 06 <input type="checkbox"/> None 00 <input type="checkbox"/> Other 07 <input type="checkbox"/> <i>(Specify)</i>	42. ABNORMAL CONDITIONS OF THE NEWBORN <i>(Check all that apply)</i> Anemia (Hct. < 39/Hgb. < 13) 01 <input type="checkbox"/> Birth injury 02 <input type="checkbox"/> Fetal alcohol syndrome 03 <input type="checkbox"/> Hyaline membrane disease/RDS 04 <input type="checkbox"/> Meconium aspiration syndrome 05 <input type="checkbox"/> Assisted ventilation < 30 min 06 <input type="checkbox"/> Assisted ventilation ≥ 30 min 07 <input type="checkbox"/> Seizures 08 <input type="checkbox"/> None 09 <input type="checkbox"/> Other 09 <input type="checkbox"/> <i>(Specify)</i>	

FIG 1-002
REV. 1/89
Figure 4-A. U.S. Standard Certificate of Live Birth: 1989 Revision—Con.

Source: U.S. department of health and human services, Vital statistics of the United States 1992

Death Registration

- ◆ *Death*—Permanent disappearance of all evidence of life at any time after live birth has taken place (post-natal cessation of vital functions without capability of resuscitation)
- ◆ This definition excludes fetal deaths

Fetal Death

- ◆ *Fetal Death*—Death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy
- ◆ The death is indicated by the fact that after such separation the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles

Fetal Death Categories

- ◆ Three major categories of fetal deaths recommended by WHO:
 - Early fetal death: < 20 completed weeks of gestation
 - Intermediate fetal death: ≥ 20 but < 28 weeks
 - Late fetal death: ≥ 28 weeks

Stillbirth

- ◆ *Stillbirth*—Late fetal death
- ◆ To be used only if essential for national purposes

Death Registration

- ◆ The United Nations recommends that the following be collected at the minimum for death registration
 - Data on event:
 - Date of occurrence
 - Date of registration
 - Place of occurrence
 - Cause of death
 - Certifier

Death Registration

- ◆ Data on decedent:
 - Age or date of birth
 - Sex
 - Marital status
 - Occupation
 - Place of usual residence

Problems with Cause of Death Data

- ◆ Knowledge of certifier
- ◆ Certifier may never see deceased
- ◆ “Garbage codes”: missing, senility, etc . . .
- ◆ Heart versus brain function loss in the definition of death

Problems with Cause of Death Data

- ◆ Multiple and contributory causes of death
- ◆ Medical classification changes over time
 - François de la Croix
 - John Graunt
- ◆ WHO and the International Classification of Diseases (ICD); now at version 10

Classification of Cause of Death from John Graunt in 1662

- ◆ Bleeding
- ◆ Burnt and scalded
- ◆ Drowned
- ◆ Excessive drinking
- ◆ Frightened
- ◆ Grief
- ◆ Hanging
- ◆ Killed by several accidents
- ◆ Murdered
- ◆ Poisoned
- ◆ Smothered
- ◆ Shot
- ◆ Starved
- ◆ Vomiting

Death Registration

- ◆ Note: causes of death can be regrouped in smaller categories than in ICD
 - e.g., Preston's classification of causes of death in 12 categories

Preston's Classification of Causes of Death

- ◆ Respiratory
- ◆ Other infections and parasitic
- ◆ Neoplasms
- ◆ Cardiovascular
- ◆ Influenza, pneumonia, and bronchitis
- ◆ Diarrhea, gastritis, enteritis
- ◆ Degenerative diseases (ulcers of stomach, diabetes)
- ◆ Complications of pregnancy
- ◆ Diseases of infancy
- ◆ Motor vehicle accidents
- ◆ Other accidents and violence
- ◆ Other

Marriage Registration

- ◆ *Marriage*—Ceremony or process by which the legal relationship of husband and wife is constituted
- ◆ The legality of the union may be established by civil, religious, or other means as recognized by the laws of each country

Marriage Registration

- ◆ The United Nations recommends that the following be collected at a minimum for marriage registration:
 - Data on event
 - Date of occurrence
 - Date of registration
 - Place of occurrence
 - Type of marriage—civil, religious, customary

Marriage Registration

- ◆ Data on bride and groom
 - Age or date of birth
 - Previous marital status
 - Place of usual residence

Divorce Registration

- ◆ *Divorce*—Final legal dissolution of a marriage, that is, that separation of husband and wife which confers on the parties the right to remarriage under civil, religious and/or other provisions, according to the laws of each country

Civil Registration

- ◆ Evaluation of coverage and content
 - Matching studies
 - Aggregate demographic analysis
- ◆ Cost
 - High

Civil Registration

- ◆ Notes:
 - Adapted from UN Handbook of Vital Stats Systems and Methods—Series F No. 35
 - Data available for the 1970s

Civil Registration

- ◆ Notes:
 - Figures in parenthesis are numbers of countries or areas in each continent that have sent vital statistics to the United Nations
 - Registration is said to be virtually complete when at least 90 percent of the events occurring each year are recorded

Number of Countries with Virtually Complete Civil Registration by Vital Event and by Continent

Continent	Vital Events		
	Live Births	Deaths	Marriages
Total (165)	91	85	87
Africa (37)	7	6	4
America, North (35)	27	26	32
America, South (13)	4	4	2
Asia (23)	7	6	7
Europe-USSR (37)	36	34	36

Civil Registration

- ◆ Advantages
 - Continuous monitoring of vital rates
 - May provide both numerator and denominator for some rates (e.g., Infant Mortality Rate—IMR)
 - Small area data available
 - Base for testing the accuracy of censuses and surveys

Civil Registration

- ◆ Disadvantages
 - Uncertain coverage: Difficult to ensure registration of all the events
 - Limited background information
 - Time reference often inconsistent with denominator definition
 - Information may come from third party

Civil Registration

- ◆ Disadvantages
 - Easily disrupted by political/economic events
 - Literacy/numeracy
 - Costly

Points to Watch in Data

- ◆ Coverage (always evaluate for developing countries)
- ◆ Delayed registration
- ◆ Classification done by place of residence or place of occurrence?
- ◆ Treatment of non-response
- ◆ Other issues

Personal Identification Number (PIN)

- ◆ Method used in Israel, South Africa, Sweden, and Thailand
- ◆ Each individual is assigned a unique number used for the rest of his/her life on all pertinent documents in the national data system
- ◆ System acts as a census because it is continuously updated by births, deaths, immigrants, and emigrants

Summary

- ◆ Demography is the study of a population in its static and dynamic aspects
- ◆ Civil registration is a system developed to collect data on vital events (live births, deaths, marriages and divorces) happening to a population

Summary

- ◆ Civil registration is continuous and universal (it should give small area data)
- ◆ The cost is high, but not having the information may be more costly
- ◆ There are advantages and disadvantages to the system and its completeness varies widely between countries and continents

Summary

- ◆ The United Nations has recommended a minimum list of information to collect on each type of event
- ◆ To that list, individual countries add data that they believe is necessary for better monitoring of their specific situation

Section B

Censuses

Censuses

- ◆ *Census*—The total process of collecting, compiling, analyzing, and publishing or otherwise disseminating demographic, economic, and social data pertaining to all persons in a country or in a well-delineated part of a country at a specified time

Essential Characteristics

- ◆ Universality
- ◆ Simultaneity
- ◆ Individual enumeration

History

- ◆ Egypt 3000 B.C.
 - “Census” every other year
 - List of families and other occupants of houses for certain particular cases (e.g., soldiers)
- ◆ Greece
 - Count of males 18 years and older

History

- ◆ Rome
 - Enumeration of every family every five years for taxation purposes
- ◆ England 1066
 - Domesday book

History

- ◆ Modern census
 - Format emerged gradually around 1600s in Europe
 - Quebec 1666
 - England 1841 (first real census)
 - 1850 (first time to list individuals in U.S.)

Content and Types

- ◆ A census contains:
 - Demographic data (at least age and sex)
 - Economic data (e.g., occupation and income)
 - Social (e.g., education and housing)

Content and Types

- ◆ Example
 - 1990 census content as regard to population (adapted from U.S. Department of Commerce, Census 1990 Basics)

Content and Types

- ◆ 100-percent component
 - Household relationship
 - Sex
 - Race
 - Age
 - Marital status
 - Hispanic origin

Content and Types

- ◆ Sample component
- ◆ Social characteristics
 - Education (enrollment and attainment)
 - Place of birth, citizenship, and year of entry into the United States

Content and Types

- ◆ Social characteristics
 - Ancestry
 - Language spoken at home
 - Migration (residence in 1985)
 - Disability
 - Fertility
 - Veteran status

Content and Types

- ◆ Economic characteristics
 - Labor force
 - Occupation, industry, and class of worker
 - Place of work and journey to work
 - Work experience in 1989
 - Income in 1989
 - Year last worked

Content and Types

- ◆ A census can be conducted:
 - *De jure*: Legal or customary attachment to an area (you are registered where you usually reside)
 - *De facto*: Physical residence (you are registered where you are currently staying/residing at the time of the census)

Data Collection Procedures

- ◆ Establish administrative tree (census officers, supervisors, enumerators)
- ◆ Develop questionnaire(s)
- ◆ Cartography
- ◆ Define enumeration areas
- ◆ Pretest enumeration processes
- ◆ Design data processing system
- ◆ Enumeration (postal with follow-up, general canvas)

Evaluation

- ◆ Estimation of undercounts
 - e.g., U.S. 1940–1990
 - Post-enumeration survey
 - Demographic evaluation

Net Population Undercount (In Millions)
In The U.S. Census By Demographic Analysis, 1940-1990

Race	1940	1960	1980	1990
Total				
Population	131.7	179.3	226.6	248.7
Undercount Numbers	7.0	5.6	2.8	4.7
Non-blacks				
Population	118.8	160.5	199.9	218.2
Undercount Numbers	5.9	4.3	1.6	2.9
Blacks				
Population	12.9	18.9	26.7	30.5
Undercount Numbers	1.1	1.3	1.2	1.8

Evaluation

Notes

- ◆ Adapted from Edmonston, B., and Schultze, C., 1995, "Modernizing the U.S. Census," National Academy of Sciences Press
- ◆ Alaska and Hawaii became states in 1959
 - For 1950 and earlier, the population data and undercount estimates are for the 48 coterminous states
 - For 1960 and after, the data includes Alaska and Hawaii

Cost

- ◆ Estimates
 - \$10 per head in the U.S.
 - \$1 per head in most developing countries

Advantages

- ◆ Universal, hence small area data available
- ◆ National effort
- ◆ Provides frame for later sample surveys
- ◆ Provides population denominators

Disadvantages

- ◆ Size limits content and quality control efforts
- ◆ Cost limits frequency
- ◆ Delay between field work and results
- ◆ Sometimes politicized

Imputation Technique

- ◆ To assign values to “Unknowns”
 - Cold deck: use the frequency distribution of known cases
 - Hot deck: take values from previous case with same other characteristics

Points to Watch in Data

- ◆ Population definition
- ◆ Coverage change between censuses
- ◆ Treatment of non-response
- ◆ Imputation technique

Summary

- ◆ Censuses are universal, simultaneous and require individual enumeration
- ◆ A census can be conducted *de jure*, *de facto* or some combination
- ◆ Preparing a census is a meticulous process including many steps
- ◆ Censuses should give small area data, although coverage is not always certain

Summary

- ◆ The cost is high, but not having the information may be more costly
- ◆ Censuses should be evaluated to estimate the quality of the data; several techniques exist for that purpose
- ◆ There are advantages and disadvantages to the system

Section C

Surveys

Surveys

- ◆ Purpose
 - Obtain information from a sample representative of some population
- ◆ Content
 - Varies widely
 - e.g., fertility, child mortality, migration

Essential Characteristics

- ◆ Representative sample of some population
- ◆ Smaller size than census allows collection of more in-depth information that can then be generalized

Types of Surveys

- ◆ Single-round retrospective
 - Census-type household surveys
 - Focused, (e.g., Contraceptive Prevalence Survey (CPS))
 - Birth/Maternity history (World Fertility Survey (WFS), Demographic and Health Survey (DHS))
 - Health monitoring

Types of Surveys

- ◆ Summary of DHS
- ◆ For more details, go to:
http://www.measuredhs.com/data/search_surv_std.cfm?Action=region&CFID=32820&CFTOKEN=34788473

Types of Surveys

- ◆ Multi-round follow-up (prospective)

Sampling Methods

- ◆ Sampling frame, generally from census
- ◆ Separate strata are often defined for sampling
 - The provinces of a country could be strata or urban and rural areas
 - There may be multiple strata

Sampling Methods

- ◆ Census enumeration areas or sections of them may constitute a cluster from which households are sampled (clusters are typically sampled within strata and then households within clusters)
- ◆ Sample size may range from one to four thousand women to hundreds of thousands of people
- ◆ Sampled clusters may range from 20 to 400 or more

Cost

- ◆ In the 1990s, ranged approximately from \$10 to \$150 per capita
- ◆ Least expensive method

Advantages

- ◆ Single-round retrospective
 - Can be quick
 - Relatively inexpensive
 - Flexible
 - Can include detailed data
 - Needs little continuity effort

Advantages

- ◆ Multi-round prospective
 - Some control on coverage and content errors
 - Follow-up allows control for sampling distortion

Disadvantages

- ◆ Single-round retrospective
 - Coverage and content errors
 - Misses certain types of events
- ◆ Multi-round prospective
 - Slow
 - Needs continuity of effort over (extended) time
 - High cost

Summary

- ◆ Surveys are done to obtain information from a sample representative of some population
- ◆ Surveys are of a smaller size than a census, which allows for collection of more in-depth information that can then be generalized
- ◆ There are many types of surveys

Summary

- ◆ The sampling method used in surveys is often multistage (e.g., household within cluster, themselves taken within strata)
- ◆ Surveys are less expensive than censuses and civil registration (smaller size allows for quick collection of more in-depth information than any of the other two systems)
- ◆ They have advantages and disadvantages