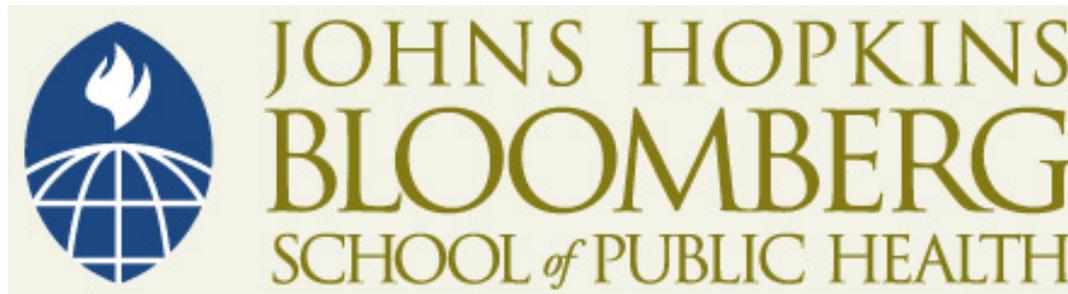


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# Sources of Demographic Data

**Stan Becker, PhD**  
**Bloomberg School of Public Health**

# 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.

<b>FATHER</b>		21. FATHER'S NAME (First, Middle, Last)		22. DATE OF BIRTH (Month, Day, Year)	23. BIRTHPLACE (State or Foreign Country)
<b>INFORMANT</b>		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.	
<b>MOTHER</b>		25b. <input type="checkbox"/> No <input type="checkbox"/> Yes Specify:		26b.	
<b>FATHER</b>				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)	
		LIVE BIRTHS (Do not include this child)		30. DATE LAST NORMAL MENSES BEGAN (Month, Day, Year)	
		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		32. PRENATAL VISITS—Total Number (If none, so state)	
		28b. Now Dead		33. BIRTH WEIGHT (Specify unit)	
		28c. DATE OF LAST LIVE BIRTH (Month, Year)		34. CLINICAL ESTIMATE OF GESTATION (Week)	
		28d.		35a. PLURALITY—Single, Twin, Triplet, etc. (Specify)	
		28e. DATE OF LAST OTHER TERMINATION (Month, Year)		35b. 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		37b. INFANT TRANSFERRED? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, enter name of facility transferred to:	
		36b. 5 Minutes			

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.

<b>38a. MEDICAL RISK FACTORS FOR THIS PREGNANCY</b> <i>(Check all that apply)</i>	<b>40. COMPLICATIONS OF LABOR AND/OR DELIVERY</b> <i>(Check all that apply)</i>	<b>43. CONGENITAL ANOMALIES OF CHILD</b> <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>	Febrile (> 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>
<b>38b. OTHER RISK FACTORS FOR THIS PREGNANCY</b> <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.	<b>41. METHOD OF DELIVERY</b> <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"/>	
<b>39. OBSTETRIC PROCEDURES</b> <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>	<b>42. ABNORMAL CONDITIONS OF THE NEWBORN</b> <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 ..... 00 <input type="checkbox"/> Other _____ 09 <input type="checkbox"/> <i>(Specify)</i>	

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:  $\geq 20$  but  $< 28$  weeks
  - Late fetal death:  $\geq 28$  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](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