

Course:

Population and Development

**Higher School of Economics
Institute of Demography**

Instructors

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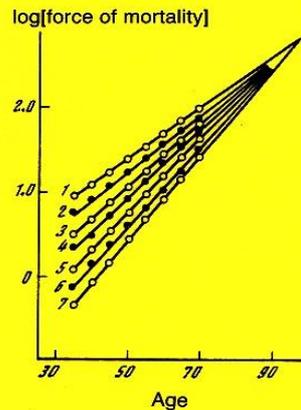
**Center on Demography and
Economics of Aging**

NORC at the University of Chicago

The Biology of Life Span: A Quantitative Approach

L. A. Gavrilov and N. S. Gavrilova

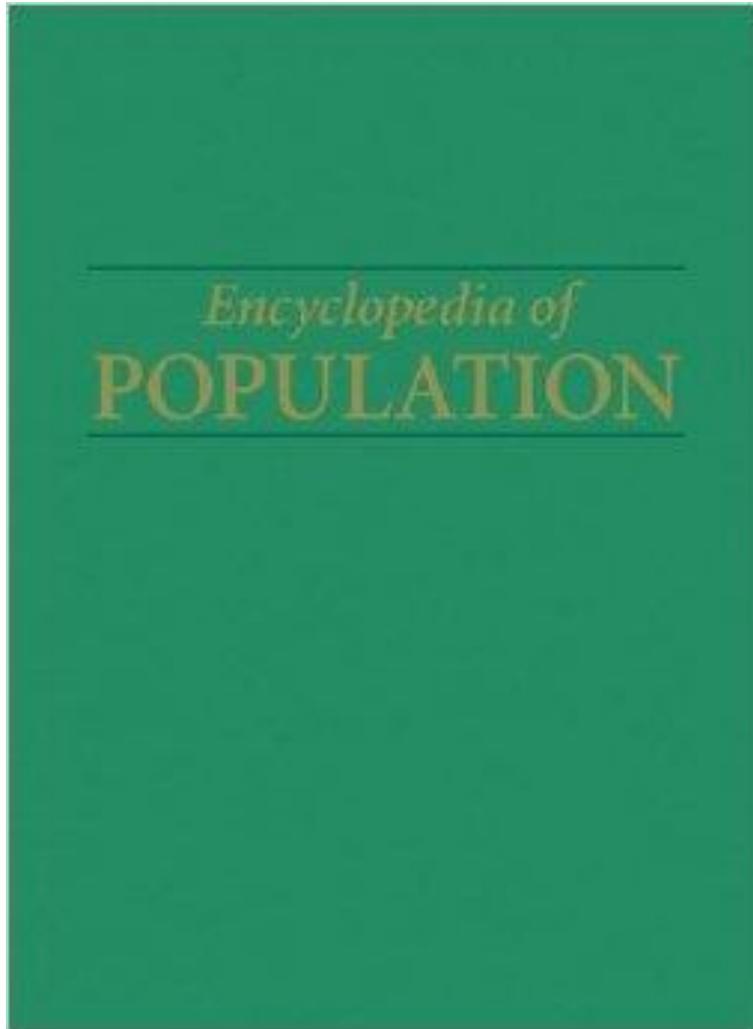
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**Our
contribution
to
demographic
studies
(some
examples)**

Published 1991



Gavrilov L.A., Heuveline P. **Aging of Population.** In: Paul Demeny and Geoffrey McNicoll (Eds.). The Encyclopedia of Population. New York, Macmillan Reference USA, 2003, vol.1, 32-37.

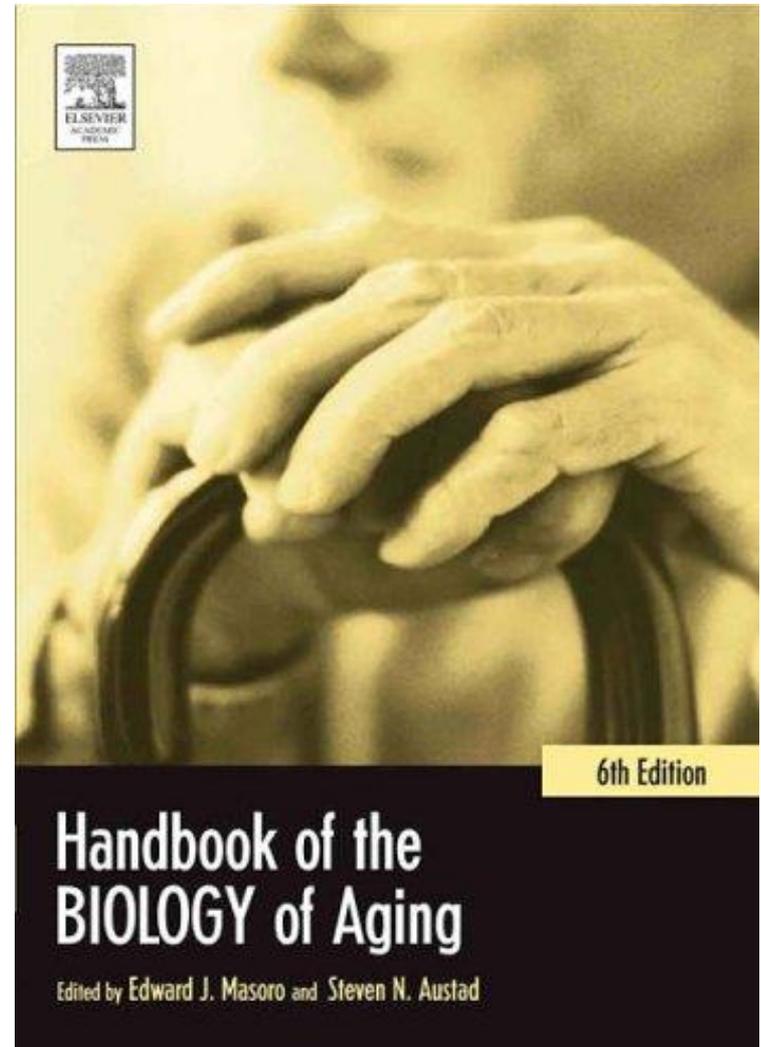
Peter Uhlenberg
Editor

International
Handbook of
Population Aging

Springer

Gavrilova N.S., Gavrilov L.A. **Aging Populations: Russia/Eastern Europe**. In: P. Uhlenberg (Editor), *International Handbook of the Demography of Aging*, New York: Springer-Verlag, 2009, pp.113-131.

Gavrilov, L., Gavrilova, N.
**Reliability theory of
aging and longevity.**
In: *Handbook of the
Biology of Aging.*
Academic Press, 6th
edition, 2006



Lecture 1

Sources of data about population

- **Important topic because you will know where to find data for your own projects**

Useful weblink on some resources:

<http://course.health-studies.org/2010/source.html>

Population

- **In modern usage the word population, means “the total number of persons inhabiting a country, town, or other area” (Oxford English Dictionary).**
- **The main demographic interest in population is as a simple magnitude: population size.**
- **The first use of word ‘population’ in a modern sense was in essay by the philosopher Francis Bacon in 1597 (Laundry, 1945)**

Types of data sources, by their origin

- Official governmental data sources collected by statistical offices (e.g., Rosstat)
- Data collected by governmental agencies (e.g., Ministry of Health or Ministry of Internal Affairs)
- Population surveys (governmental and non-governmental)
- Regional data collections

Official Data Sources

- **Population censuses**
- **Civil registration systems (vital statistics - registration of births, deaths, marriages and divorces)**
- **Population registers**
- **Population surveys**
- **Special data sources – health statistics, military records, crime statistics, migration statistics**

Population censuses

Population census

- **Population census is a count of the population of a country on a fixed day**
- **Censuses are very expensive and are conducted relatively infrequently (usually at five- or ten-year intervals)**
- **Between censuses governments estimate the size and characteristics of the population by extrapolating past trends or using other sources such as population surveys.**

Population census (cont.)

- **Population censuses are conducted by national governments to determine population sizes, growth rates, and characteristics (age, sex, marital status, ethnic background, etc.) as a whole or for particular regions.**
- **In Russia the state committee on statistics (called Rosstat) conducts population censuses. In the U.S. this job is done by the U.S. Bureau of the Census**

Brief history

- Censuses have been conducted since ancient times (e.g., Roman and Chinese censuses).
- The modern periodic census of all persons is an invention of relatively recent period in European history. One of the purposes was to monitor population of colonies and the repeated counts of the colonial American population started in the 1620s in Virginia.
- By the early 19th century census taking had begun to be a regular function of government in Western Europe and North America and in the 20th century it spread throughout the world.

Population censuses

- **Serve a variety of purposes in different countries.**
- **Modern censuses use household as a uniform and countable unit of analysis.**

Information in early U.S. censuses

Variable	Early U.S. census				
	1900	1910	1920	1930	1940
Age, sex, color/race	+	+	+	+	+
Month and year of birth	+				
Marital status	+	+	+	+	+
Marriage duration (for married)	+	+			
Age at first marriage				+	
Literacy	+	+	+	+	
School attendance (for children)	+	+	+	+	
Education (highest grade)					+
Place of birth	+	+	+	+	+
Places of birth for parents	+	+	+	+	
Parental nativity	+	+	+	+	
Mother tongue			+	+	
Home ownership	+	+	+	+	+
Farm status	+	+		+	+
Value of real and personal estate				+	+
Number of children born and surviving (for women)	+	+			
Whether deaf and/or dumb		+			
Occupation	+	+	+	+	+
Employment	+	+	+	+	+
Income					+
Citizenship	+	+	+	+	+
Year of immigration	+	+	+	+	
Veteran status		+		+	

Census images are available at [Ancestry.com](https://www.ancestry.com)

A typical image of family in 1900 census

Ross, William	Head	M	M	May 1872	28	M	10		
—, Lizzie	Wife	F	F	Nov 1876	23	M	10	5	4
—, William A.	Son	M	M	Aug 1891	8	F			
—, Daniel	Son	M	M	Jan 1894	6	F			
—, Virginia	Daughter	F	F	Dec 1897	2	F			
—, Callie	Daughter	F	F	Oct 1899	1/2	F			

Personal Characteristics in 1930 census

- **Type of person's household**
- **Availability of radio in household**
- **Person's age at first marriage**
- **Person's occupation**
- **Industry of occupation**
- **Number of children in household**
- **Veteran status, Marital status**

Example of images from 1930 census

Burke Bernard A	Head	Bookkeeper	Retail cigar
— Erica	Wife #	none	
— Raymond B	Son	none	

Coy Mace A.	Head	superintendent	oil field
— Willie J.	Wife #	none	
— M. Lucille	Daughter	none	
— Billie L.	Daughter	none	

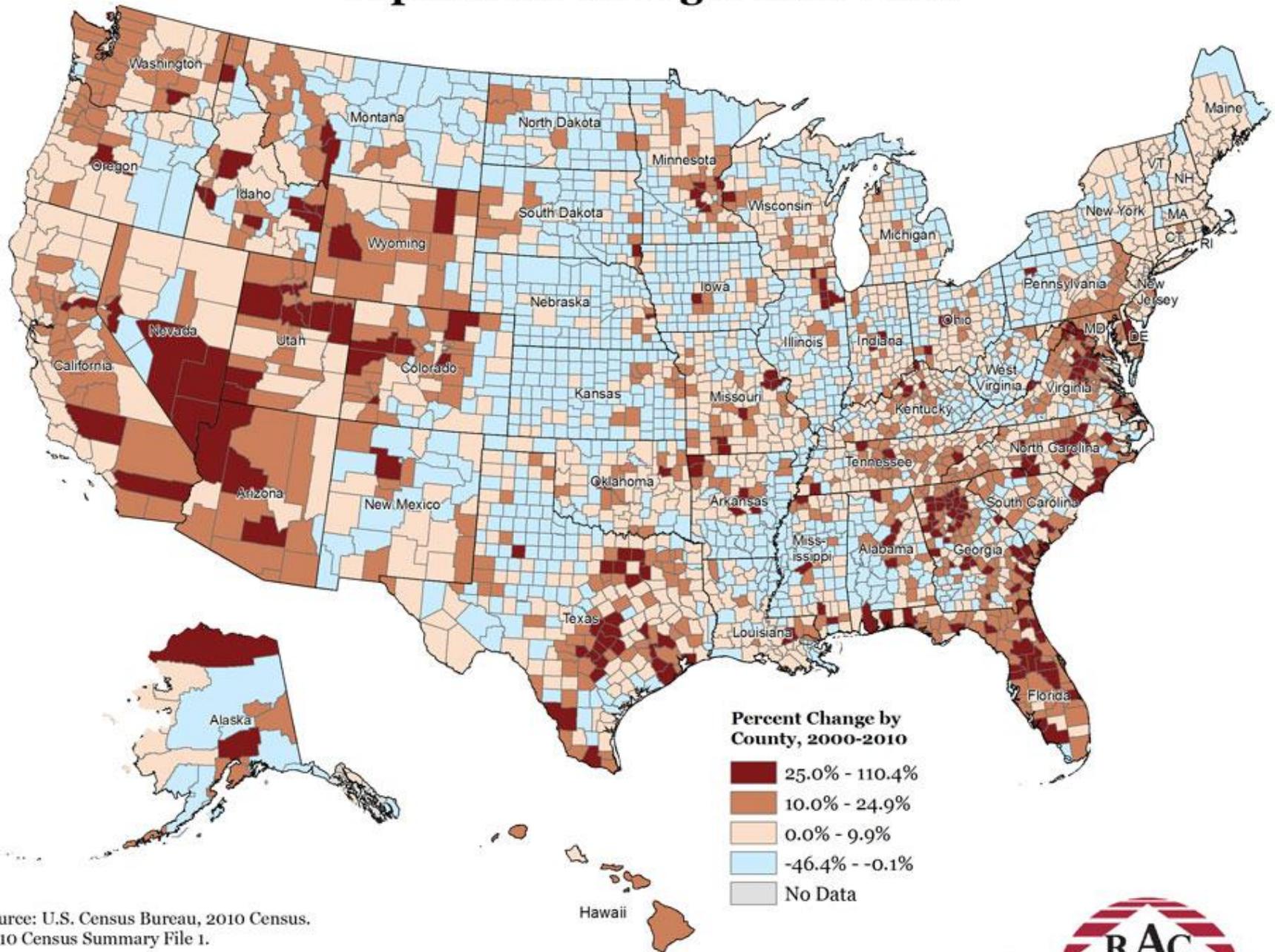
U.S. censuses, purpose

- **In the United States the census is taken during the tenth year of each decade.**
- **The resulting population count provides the data for reapportioning seats among the states in the House of Representatives and the Electoral College and for redrawing district boundaries for seats in the House, in state legislatures, and in local legislative districts.**
- **The first U.S. census has been taken in 1790. “Three-Fifths Compromise” for population of slaves.**

Contemporary U.S. censuses

- **2010 U.S. census was conducted through the U.S. mail. Respondents were asked to fill in the form and send it back in pre-paid envelope.**
- Questions included place of the residence information (whether owned or rented, telephone number) and number of people in this place.
- Personal questions included name, relationship to the 1st person, sex, date of birth, age, race and ethnicity (Hispanic origin), if person sometimes lives or stays somewhere else.
- In this questionnaire the list of races included Chinese, Koreans and even Samoans (!)

Population Change 2000-2010



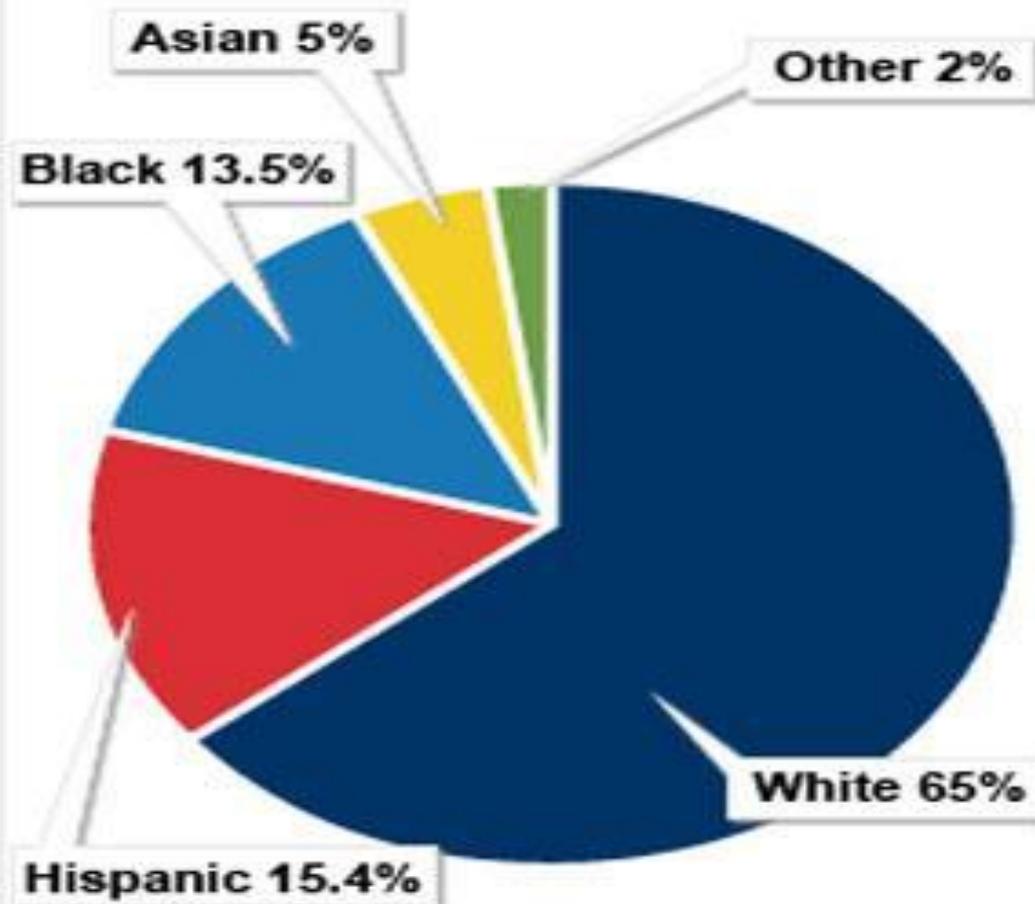
Source: U.S. Census Bureau, 2010 Census, 2010 Census Summary File 1.

Note: Alaska and Hawaii not shown to scale

2010 U.S. census. Results

Portrait of America

Minorities now account for 34% of the U.S. population.



SOURCE: CENSUS BUREAU

The First All Union Census of the Soviet Union took place in 1926



Claimed goals of the census (from the poster on the left):

- In order to plan bread supply it is important to know exact number of people to feed
- In order to organize education it is important to know exact number of children of school age
- To plan industrial production and trade operations

Censuses in the Soviet and Russian history

- **1920 Russian Census (was incomplete – took place during the Civil War and the Soviet-Polish War and was thus unable to deal with the Crimea, much of Transcaucasia, Ukraine, Belarus, Far Eastern, Siberian, and Central Asian parts of the Soviet Union as well as with its Far Northern parts)**
- **1923 Soviet Census (covered urban population)**
- **1926 First All Union Census of the Soviet Union**
- **1937 Soviet Census**
- **1939 Soviet Census**
- **1959 Soviet Census**
- **1970 Soviet Census**
- **1979 Soviet Census**
- **1989 Soviet Census**
- **2002 the first census of the Russian Federation**
- **2010 Russian Census**

1937 Soviet Census (January 6)



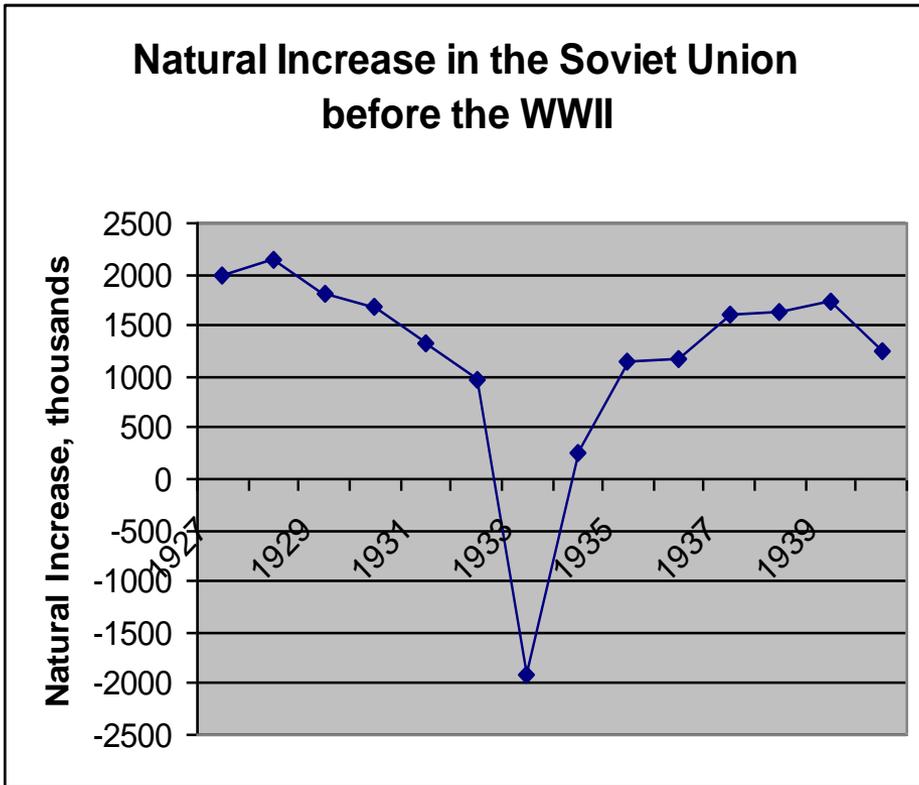
- The number of population enumerated by the 1937 census was 8 million short of the expected number
- On 25 September 1937 there was a special Sovnarkom decision proclaiming the census invalid and setting one for January 1939
- The census results were claimed to be invalid and its organizers were sent to the Gulag as saboteurs

High expectations of population growth in the 1930s



- On 26 January 1934 Joseph Stalin reported to the 17th Congress of the All-Union Communist Party as one of the main achievements "Growth of population from 160.5 millions in the end of 1930 to the 168 millions in the end of 1933".
- "Now every year we have a population growth of three million souls. It means that every year we grow as much as the whole of Finland." [Everybody laughs.] *Meeting of Kolkhozniks with the Soviet and Party leaders* (December 1935)
- At the same time, under-registration of deaths, especially for those who died during the 1930s famines and prison inmates, was common

Soviet Famine of 1932-1934



Street of Kharkiv in 1933

- **Had big impact on population growth in the Soviet Union**

Censuses in the Soviet Union



Censuses in Russia

- **1994 micro-census**
(representative survey conducted in some regions)
- **2002 census**
- **2010 census**



2010 Census in Russia

October 14-25



- **Changes adopted by Russian Duma on November 20, 2009:**
- **Regions are responsible for conducting the census**
- **New term “household” was introduced**
- **Allowed completion of census data by respondents**
- **In exceptional cases data may be collected from administrative sources**

2010 Census in Russia Results



- **Total population is 142 905 200.**
- **Population decline by 2.2 million (1.6%) compared to 2002 census.**
- **66 205 000 men and 76 700 200 women.**
- **46.3% men and 53.7% women**

2010 census in Russia. Results

ИЗМЕНЕНИЕ ЧИСЛЕННОСТИ НАСЕЛЕНИЯ В СУБЪЕКТАХ РОССИЙСКОЙ ФЕДЕРАЦИИ МЕЖДУ ПЕРЕПИСЯМИ НАСЕЛЕНИЯ 2002 г. и 2010 г.



Censuses in the countries of the Former Soviet Union (1)

- In the late 1990s and early 2000s censuses were conducted in the countries of the Former Soviet Union
- For example, the first national census of Kazakhstan was conducted in February 1999.



Censuses in the countries of the Former Soviet Union (2)

- **1995 – Turkmenistan**
- **1999 – Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan**
- **2000 – Tajikistan**
- **2001 – Armenia, Ukraine**
- **2002 – Georgia**
- **2004 – Moldova**
- **In Uzbekistan there was no census since 1989**

Issues

- **In most cases censuses provide the almost complete coverage of population.**
- **However, if people do not trust governmental agency, the accuracy and coverage of the census may suffer.**
- **Information in censuses is collected by self-report and hence may contain errors.**
- **In the United States, city dwellers, the poor, and minorities tend to be undercounted in the census relative to the rest of population.**

Where to find information about censuses?

- **United Nations Demographic yearbooks:**
<http://unstats.un.org/unsd/demographic/products/dyb/dyb2.htm>
- **IPUMS – Integrated Public Use Microdata Series. Representative samples of censuses (de-identified individual records)**
<https://www.ipums.org/>
- **Indexes and images of old U.S. and British censuses are available at the Ancestry.com**

Civil registration systems

Registration of vital events

- **In population statistics vital events generally include births, deaths, marriages, divorces, stillbirths and induced termination of pregnancy (abortions).**
- **In overwhelming majority of countries most of these events are recorded through the government's civil registration system.**

Statistics of births, deaths, marriages, and divorces

- **Vital statistics – statistics of vital events, which include births, deaths, marriages, divorces, fetal deaths (stillbirths) and abortions**
- **Vital records have two primary uses:**
 - (1) personal legal documents**
 - (2) data derived from these administrative records constitute a statistical system of population movement (or population change).**

Natural population movement – population change through births and deaths (in contrast to mechanical movement through migration).

History

- **An early form of vital statistics in Western countries were baptisms, burials, and weddings typically recorded in church registers.**
- **The first systematic parish register system was established in Sweden in 1608. Similar systems were soon established in Quebec (1610) and Finland (1628).**
- **However, consolidation of records for entire countries was not attempted until the 18th century in France and the early 19th century in the United Kingdom.**

U.S. Vital Statistics System

- **Decentralized system**
- **State vital statistics laws and regulations**
- **57 registration areas**

- **The United States Constitution, adopted in 1787, provided for a decennial census but not a vital registration system. Thus, legal authority for the registration of vital events was left to the states.**
- **Only in 1933 all states were registering live births and deaths with acceptable event coverage.**

U.S. birth certificate, Texas (an example)

CERTIFICATION OF VITAL RECORD

STATE OF TEXAS
ELLIS COUNTY

FILE NO.: 173526-1983

NAME: FARROW LAVELL LINDSEY JACKSON

DATE OF BIRTH: 08-25-1983 SEX: MALE

PLACE OF BIRTH: DALLAS COUNTY, TEXAS

FATHER: MOTHER: RENEE MARIE JACKSON

DATE FILED: 10-11-1983 I

03-13-2006

20034

I hereby certify that the abstract of birth facts has been provided to this office by the Texas Department of Health, Bureau of Vital Statistics, from a document officially in its custody.

Cindy Rolley
CINDY ROLLEY
COUNTY CLERK
ELLIS COUNTY, TEXAS

FOR REORDER CALL SCOTT SPERMINAN, INC., DALLAS, TX 75204-4467/0002

ANY ALTERATION OR ERASURE VOIDS THIS CERTIFICATE

U.S. birth certificate, California (an example)

STATE OF CALIFORNIA
CERTIFICATION OF VITAL RECORD

CITY AND COUNTY OF
SAN FRANCISCO

California State Board of Health
BUREAU OF VITAL STATISTICS
STANDARD CERTIFICATE OF BIRTH

State Index No. _____
Local Registered No. **8490**

PLACE OF BIRTH
City and County of
SAN FRANCISCO

(If birth occurred in a hospital or institution, give the NAME instead of street and number.)
No. **St. Francis Hospital**, Ward _____

FULL NAME OF CHILD **Joseph Richard Waters**

PERSONAL AND STATISTICAL PARTICULARS

SEX OF CHILD **Male** DATE OF BIRTH **December 22 1919**

FATHER: FULL NAME **Joseph John Waters** MOTHER: FULL MAIDEN NAME **Carrie Margaret Sylvia**

RESIDENCE **San Francisco, 2503 Clement St., Calif.** RESIDENCE **San Francisco, 2503 Clement St., Calif.**

ETHNIC OR RACE **White** BIRTHDAY **23** ETHNIC OR RACE **White** BIRTHDAY **23**

BIRTHPLACE **San Francisco, Calif.** BIRTHPLACE **Yreka, Siskiyou Co., Calif.**

OCCUPATION (a) **Car Conductor, United Railroads** OCCUPATION (a) **Housewife**

When a prophylactic for Sphenoidal Haemorrhage used? **Yes** Number of children born to this mother, including present birth **1**

If so, when? **Silver Nitrate 14** Number of children of this mother now living **1**

"CERTIFICATE OF ATTENDING PHYSICIAN OR MIDWIFE"

I hereby certify that I attended the birth of this child, who was born alive on the date above stated.

Signature: *W. C. Hassler* Dated: **Dec. 23 1919**

Given name of child from a supplemental report: **Oct. 13, 1920** Address: **2503 Clement St.**

Register: **WILLIAM C. HASSLER** Registrar or Deputy

Form 2. (5200 4-19 1918)

STATE OF CALIFORNIA, CITY AND COUNTY OF SAN FRANCISCO
This is to certify that the image reproduced hereon is a true copy of the record on file in the SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH as of the date above stated.

DATE ISSUED: **2006 JUN 23 AM 11:56** 2388124* Mitchell Katz, M.D.
Health Officer and Local Registrar

ANY ALTERATION OR ERASURE VOIDS THIS CERTIFICATE



Birth Registrars

U.S. death certificate, California (an example)

STATE OF CALIFORNIA CERTIFICATION OF VITAL RECORD			
STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES			
87-203570		CERTIFICATE OF DEATH	
		38719056113	
STATE FILE NUMBER		LOCAL IDENTIFICATION DISTRICT AND CERTIFICATE NUMBER	
14. NAME OF DECEDENT—FIRST 1 15. MIDDLE 11C. LAST		16A. DATE OF DEATH—MONTH, DAY, YEAR 1 16B. HOUR	
ALICE TERRY INGRAM		Dec. 22, 1987 2447	
2. SEX 4. RACE/ETHNICITY 5. SPANISH/Hispanic AND 6. DATE OF BIRTH		7. AGE	
Female White/American 0		87 YEARS	
8. BIRTHPLACE OF DECEDENT (STATE OR FOREIGN COUNTRY) 9. NAME AND BIRTHPLACE OF FATHER		10. BIRTH NAME AND BIRTHPLACE OF MOTHER	
Indiana Matthew Taaffe - Unknown		Ellen Thorne - Unknown	
11A. COUNTRY OF BIRTH (STATE OR FOREIGN COUNTRY) 11B. IF DECEDENT WAS EVER IN MILITARY SERVICE		12. SOCIAL SECURITY NUMBER 13. MARITAL STATUS	
U.S.A. 19N/A TO 19N/A		362-66-9816 Widowed	
14. PRIMARY OCCUPATION 15. NUMBER OF YEARS IN OCCUPATION		16. EMPLOYER OF SELF-EMPLOYED OR STATE	
Housewife Adult Life		Self-employed	
17A. USUAL RESIDENCE—STREET ADDRESS STREET AND NUMBER OR LOCATION 17B.		18. KIND OF INDUSTRY OR BUSINESS	
11566 Kelsey Street		Homemaking	
19D. COUNTY 19E. STATE		19C. CITY OR TOWN	
Los Angeles California		North Hollywood	
21A. PLACE OF DEATH 21B. COUNTY		20. NAME AND ADDRESS OF INFORMANT—RELATIONSHIP	
St. Joseph Medical Center Los Angeles		Robert Taaffe - Nephew	
21C. STREET ADDRESS STREET AND NUMBER OR LOCATION 21D. CITY OR TOWN		713 25th Street	
501 S. Buena Vista Street Burbank		Manhattan Beach, California 90266	
22. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR A, B, AND C) IMMEDIATE CAUSE		24. WAS DEATH REPORTED TO CORONER?	
A. <i>Myocardial infarction</i>		NO	
B. <i>Chronic obstructive pulmonary disease</i>		25. WAS DEATH INTERFERED BETWEEN ONSET AND DEATH?	
C. <i>None</i>		NO	
23. OTHER BENIGNANT CONDITIONS—CONTRIBUTIVE TO DEATH BUT NOT RELATED TO CAUSE GIVEN IN 22A.		27. THIS OPERATION PERFORMED FOR ANY CONDITION IN ITEM 25 OR 26?	
NONE		NO	
28A. I CERTIFY THAT DEATH OCCURRED AT THE HOUR, DATE AND PLACE STATED FROM (ATTACHED OCCIDENTAL SINCE 1 JAN. 1959; OTHERWISE, ALPH. CENTER AND SA. YR.)		28B. PHYSICIAN—SIGNATURE AND NUMBER OR TITLE	
1-7-75 12-22-87		Stuart King M.D.	
29. SPECIFY ACCOUNT, SOCIAL, ETC.		29C. DATE BIRTHED 29D. PHYSICIAN'S LICENSE NUMBER	
		12-23-87; A07473	
30. PLACE OF BURIAL		31. TYPE PHYSICIAN'S NAME AND ADDRESS	
		Stuart King, M.D., 4418 Vineland, North Hollywood, CA	
33. LOCATION (STREET AND NUMBER OR LOCATION AND CITY OR TOWN)		34. DESCRIBE HOW INJURY OCCURRED (EVENTS WHICH RESULTED IN INJURY)	
35A. I CERTIFY THAT DEATH OCCURRED AT THE HOUR, DATE AND PLACE STATED FROM THE CAUSE STATED, AS REQUIRED BY LAW I HAVE HELD AN INQUIRY/INVESTIGATION		35B. CORONER—SIGNATURE AND OFFICIAL TITLE	
36. DISPOSITION 37. DATE—MONTH, DAY, YEAR 38. NAME AND ADDRESS OF CEMETERY OR CREMATOR		39. BURIAL/CREMATION LICENSE NUMBER AND BIRTHPLACE	
Burial Dec. 28, 1987		North Hollywood, CA 4937	
40A. NAME OF HUSBAND (SINCE 1959; OTHERWISE, ACTIVE AS SUCH) 40B. LICENSE NO.		40C. DATE OF BURIAL/CREMATION BY	
J.T. Oswald Mortuary, N.H. 1047		11/23/87 DEC 23 1987	
STATE NUMBER/YEAR			
1 1 X 2			

This is to certify that this document is a true copy of the official record filed with the Office of Vital Records.

03 SEP 15 AM 10:26

MICHAEL L. RODRIGAN
STATE REGISTRAR OF VITAL RECORDS

DATE ISSUED

This copy not valid unless prepared on engraved border displaying seal and signature of Registrar.

ANY ALTERATION OR ERASURE VOIDS THIS CERTIFICATE

Marriage registration in the U.S.



SUPERIOR COURT OF THE DISTRICT OF COLUMBIA MARRIAGE BUREAU

Certificate of Marriage

License No. 2010 MAS 06182

To GENEVA MURPHY authorized to celebrate or witness marriage in the District of Columbia,

Grantees: You are hereby authorized to celebrate or witness the rites of marriage between

DAVID SHEILEY HEALY of 1738 A STREET SE, WASHINGTON, DC 20003 and

WILLIAM LEONARD DEAN of 1738 A STREET SE, WASHINGTON, DC 20003

and having done so, you are commanded to make return of the same to the Clerk's Office of the Superior Court of the District of Columbia within **TEN** days, under a penalty of fifty dollars for default therein.

Witness my hand and the seal of said Court this 24 April 2010

Clerk of the Court, *Denise Johnson*
Deputy Clerk, *Denise Johnson*

I, GENEVA MURPHY, who have been duly authorized to celebrate the rites of marriage in the District of Columbia, do hereby certify that, by authority of a license of corresponding number herewith authorized or witnessed the Marriage of the parties aforesaid, on the 24 day of APRIL, at 300 INDIANA AVENUE NW, WASHINGTON, DC 20001 in the District of Columbia.

Geneva Murphy
Signature of the Officiant
GENEVA MURPHY **PARTS A AND B MUST HAVE ORIGINAL SIGNATURE.**

300 INDIANA AVENUE NW, WASHINGTON, DC 20001
Address of Authorizing Officiant

Part A: This license is valid indefinitely from issuance date. The ceremony must be performed in the District of Columbia. Part A is to be given to celebrating parties.



Sources of information on vital events in the U.S.

- **In 1946 responsibility for collecting and publishing national vital statistics in the United States was transferred from Census Bureau to the Public Health Service, first in the National Office of Vital Statistics and later (1960) in the **National Center for Health Statistics (NCHS)**, which is now part of the Centers for Disease Control (CDC).**

Sources of information on vital events in the U.S.

- **National Center for Health Statistics (NCHS) – statistics of births, deaths, marriages, divorces, various health issues.**

<http://www.cdc.gov/nchs/>

- **Social Security Administration (SSA). SSA Death Master File**
- **Medicare Database**

What Is SSA's DMF ?

- **As a result of a court case under the Freedom of Information Act, SSA is required to release its death information to the public. SSA's DMF contains the complete and official SSA database extract, as well as updates to the full file of persons reported to SSA as being deceased.**
- **SSA DMF is no longer a publicly available data resource (now is available from Ancestry.com for fee)**
- **We used DMF full file obtained from the National Technical Information Service (NTIS). Last deaths occurred in September 2011.**

SSA's DMF Advantage

- **Some birth cohorts covered by DMF could be studied by the method of extinct generations**
- **Considered superior in data quality compared to vital statistics records by some researchers**

Study of the Social Security Administration Death Master File

MORTALITY MEASUREMENT AT ADVANCED AGES: A STUDY OF THE SOCIAL SECURITY ADMINISTRATION DEATH MASTER FILE

Leonid A. Gavrilov* and Natalia S. Gavrilova†

ABSTRACT

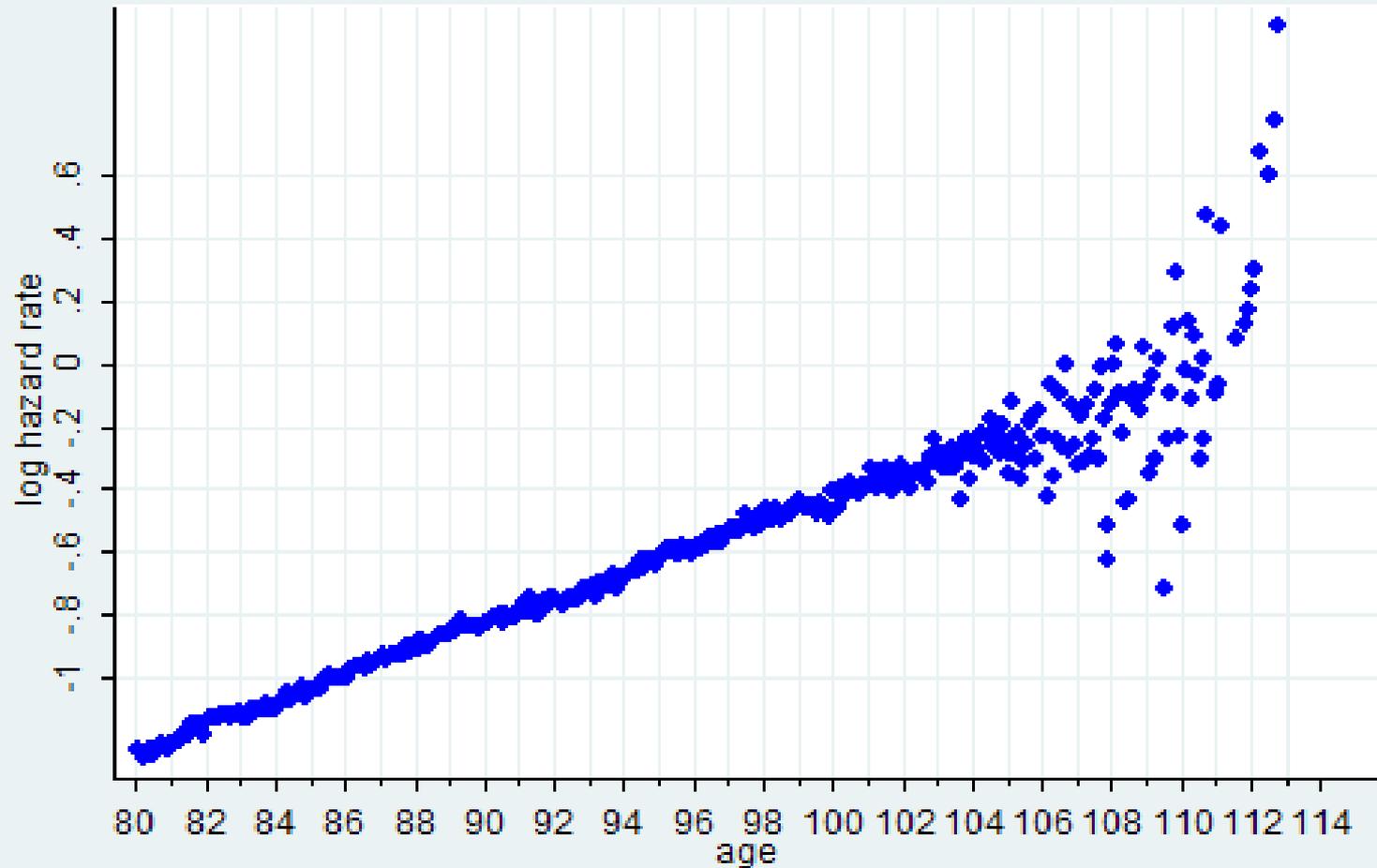
Accurate estimates of mortality at advanced ages are essential to improving forecasts of mortality and the population size of the oldest old age group. However, estimation of hazard rates at extremely old ages poses serious challenges to researchers: (1) The observed mortality deceleration

NORTH AMERICAN ACTUARIAL JOURNAL, VOLUME 15, NUMBER 3

- ***North American Actuarial Journal, 2011, 15(3):432-447***

More recent birth cohort mortality

1898 birth cohort, females



Nelson-Aalen monthly estimates of hazard rates using Stata 11

Vital Statistics System in Russia is centralized

- **In the United States each state has its own law about birth or death registration and issues its own birth and death certificates, etc.**
- **In the Soviet Union and now in Russia collection of vital statistics is unified (the same birth, death, marriage, divorce certificates, the same rule of their filling in).**

Registration of vital events

- Registration of vital events in the USSR was organized in 1926.
- State registration is conducted by regional Registries of Acts of Civil Status (Zapis' Aktov Grazhdanskogo Sostoyaniya) commonly referred as ZAGS.
- All records are made in two copies and one copy goes to the regional office of statistics.

Registration of marriages is accompanied by a special ceremony in ZAGS



Russian ZAGS



Registration of marriage in Russia



Registration of vital events in the countries of the Former Soviet Union

- **All FSU countries inherited the same system of vital statistics**
- **Now most countries use practically the same system of registration as used in Russia (including the same statistical forms).**

Registration of vital events

- **Medical certificate** of birth or death – certificate issued by medical organization. Contains very detailed information about vital event. Issued in two copies – one copy goes to the relatives; another copy goes to the organ of medical statistics.
- **ZAGS certificate** of birth or death is a legal document given to relatives in exchange for the medical certificate. Contains limited information about person born or deceased. For example, ZAGS death certificate lists one cause of death while medical certificate lists multiple causes of death.

Registration of births in the USSR



Soviet Birth Certificate

СВИДЕТЕЛЬСТВО О РОЖДЕНИИ

Гражданин(ка) Векслер
(ИМЯ)
Денис Захарович
(ИМЯ, ОТЧЕСТВО)

родился(лась) 10.10.1980 года
(ИМЯ, МЕСЯЦ, ГОД)
(десятого октября
тысяча девятисот
восемидесятого)

Место рождения Украинская ССР
(республика, край)
Винницкая область
(область, город)
город Винница

Регистрация рождения произведена
в соответствии с Законом 19 20 года
ноября месяца 25 числа

РОДИТЕЛИ:

Отец Векслер
Захар Ильевич
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(ГРЕЖАНСКОГО ИСТОЧНИКА)

Имя Денис 19 91 г.

Подпись Жеремья

№ 009081



Registration of births in Russia



Registration of deaths

- **Death is registered in ZAGS on the basis of medical death certificate**
- **In the majority of cases, state registration of death is conducted by ZAGS offices located in the decedent's last place of residence, place of body finding or location of organization that issued medical death certificate**
- **See Gavrilova et al. 2008. *Population Research and Policy Review*, 27: 551-574, for more detail.**

Types of official demographic data

- **Individual records (e.g., death records)**
- **Aggregated records – statistical forms (e.g., form C51 for age- and cause-specific deaths)**
- **Demographic indicators (e.g., life expectancy)**

Quality of Vital Statistics

- **By 1991 Soviet Union had well developed system of vital statistics with good accuracy and coverage.**
- **Almost all recommendations of the United Nations were taken into account**
- **According to the World Health Organization, Russia has almost 100% coverage of deaths.** See Mathers, Fat, Inoue, Rao, Lopez. 2005. Bulletin of the World Health Organization 83(3):171-177.

Coverage of births and deaths in 1970 in rural areas (percent not registered)

	Births	Deaths	Deaths below 1 year of age
USSR	1.8	1.8	6.5
Russia	1.3	0.9	4.2
Ukraine	0.1	0.2	3.2
Belorussia	0.2	0.7	3.2
Uzbekistan	3.2	8.5	10.9
Kazakhstan	4.6	7.4	14.4
Georgia	0.5	1.2	2.6
Azerbaidjan	0.4	0.8	1.3
Lithuania	0.1	0.1	-
Moldavia	0.3	0.3	1.5
Kirgizia	1.4	3.6	5.9
Tadjikistan	4.2	6.4	10.5
Armenia	1.4	2.6	8.5
Turkmenia	1.3	5.2	5.2

Overall pattern of current Russian statistics

- **Loss of unification (regional diversity)**
- **Loss of quality control**
- **Result: Declining coverage and quality**

Quality Issues

- **Vital records are generally considered as more accurate compared to census records.**
- **Immediate reporting of vital events excludes recall bias. In many countries documentary identification is required for registration.**
- **In some countries poor reporting of vital events to state officials may be a problem. This is particularly the case for birth and infant death registration in remote areas. Imposing fees for registration decreases reporting.**

Where to find information about birth, death and marriage statistics?

- **United Nations Demographic yearbooks:**
<http://unstats.un.org/unsd/demographic/products/dyb/dyb2.htm>
- **Human Mortality Database**
<https://www.mortality.org/>
- **Eurostat (data for European countries)**
- **World Health Organization Databases**

Population registers

Population registers

- A population register, broadly interpreted, is a list of persons who belong to a predefined group, containing information identifying the members in a unique way.
- In a more formal sense, the term population register denotes a list (register) of persons who are citizens or residents of a country or a sub-national region. This list typically includes each person's name, address, and date of birth as an external identifier, and unique **personal identification number** as an internal identifier.

History

- **Population registers in the more formal sense of the term have been known for several centuries. Example: parish registers found in many European countries.**
- **Local civil registers were established with the development of social security and similar programs at the end of the 19th century.**
- **The demand for national registers intensified in northwest Europe after World War II, with the development of the welfare state.**

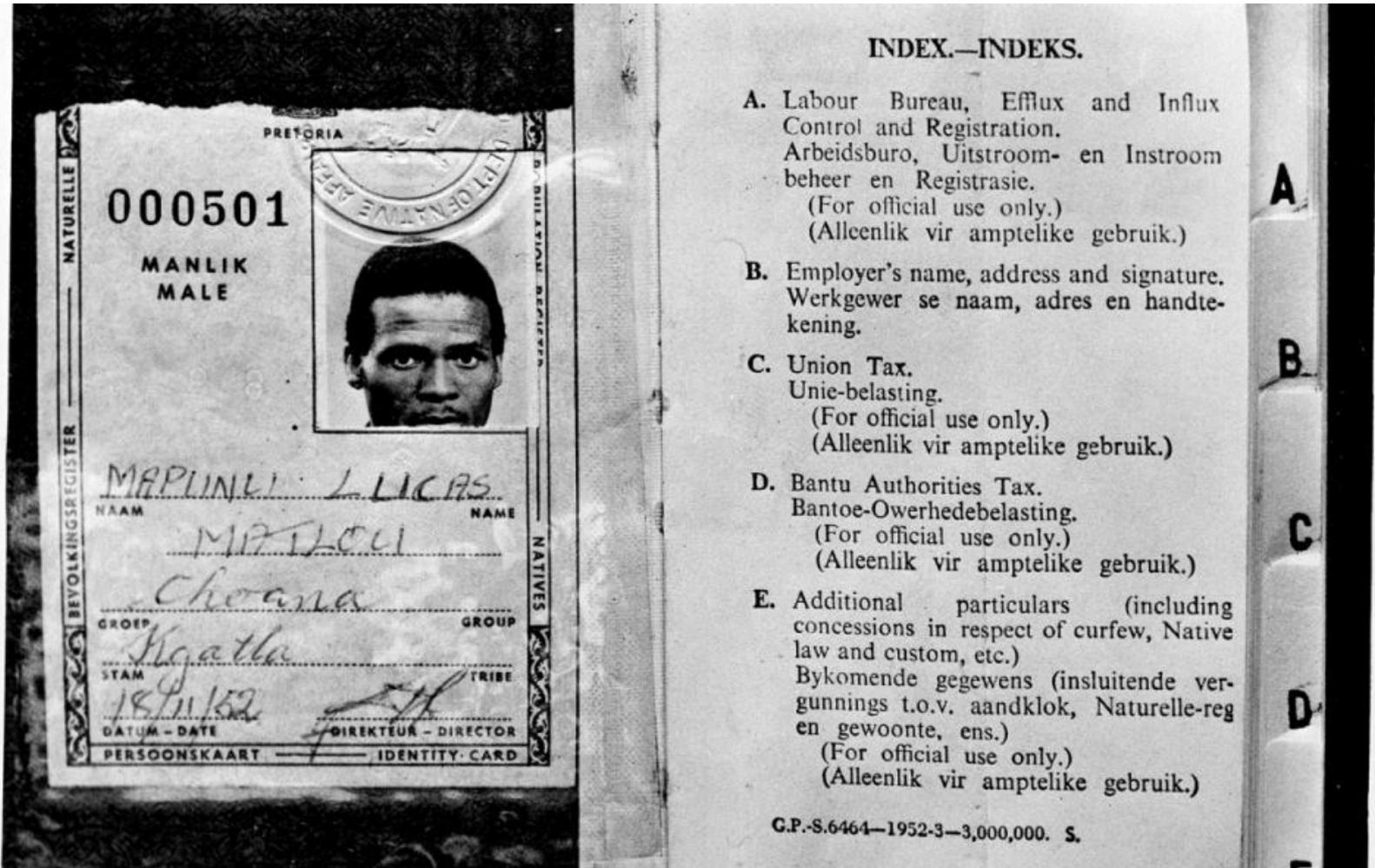
**In some countries central
population registers may
replace population censuses**

Forms of central population register used for the 2010-2011 censuses by country

Link between register and census	Countries
The census is taken entirely from administrative databases (central population register and other registers)	Austria, Denmark, Finland, Iceland, Norway, Sweden
The census is taken partly from administrative databases (central population register) and existing or ad hoc statistical surveys	Belgium, Germany, Netherlands, Slovenia
The census uses only the central population register for the population count	Czech Republic, Estonia, Italy, Latvia, Lithuania, Poland, Spain, Switzerland
No link between the central population register and the census	Bulgaria, Hungary, Luxembourg, Romania, Slovakia

Source: Poulain, Herm, Population, 2013/2 Vol. 68 | pages 215 - 247

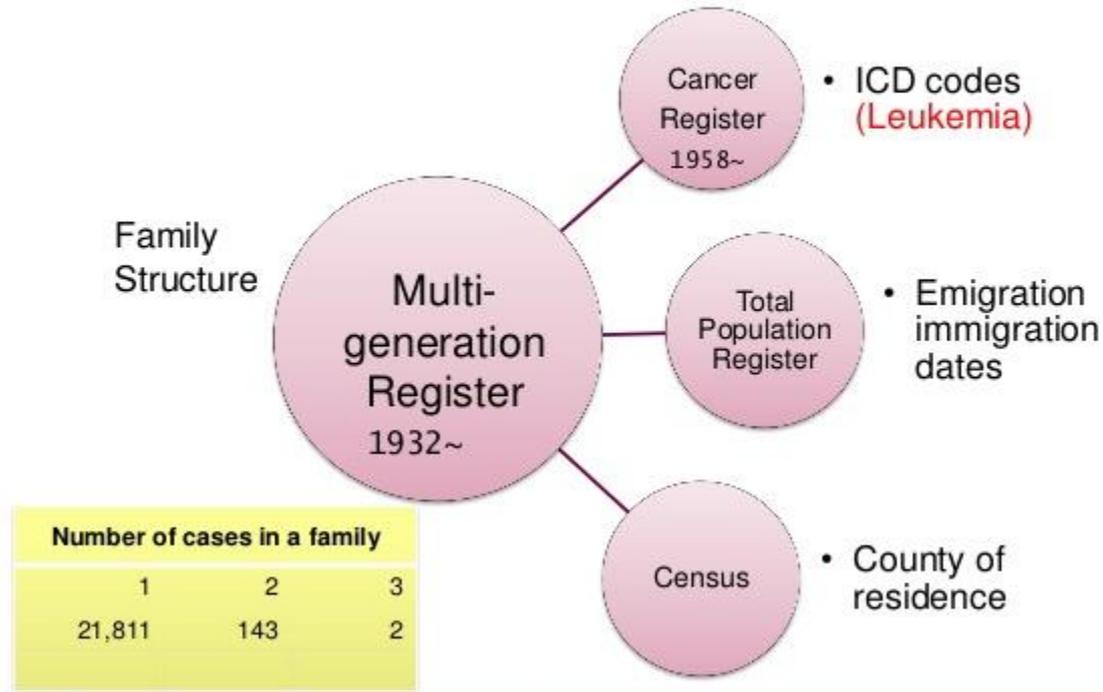
In some countries population registers were used for restrictive purposes



In South Africa the Population Registration Act of 1950 led to a creation of national register in which every person's race was registered

In Nordic countries population registers are often used for research purposes

Example: The risk of leukemia in families



Use of Swedish population registers to study the prevalence of leukemia in families

Advantages of population registers

- **A central register makes it possible to continuously monitor population movements by correlating changes in the population stock with entry and exit flows.**
- **The status of a population and its socio-demographic structure can be determined at any time and not merely after a census.**

Issues related to population registers

- **Privacy concerns.**

Quality aspects:

- **Keeping accurate information in population registers should be of interest to the registered persons who should report changes in their status or residence.**
- **Coverage problems mainly concern migration. International migration (emigration) is often not reported.**

Lecture 1, part 2

Surveys

Surveys in sociology and demography

- Surveys are research instruments intended to gather information from individuals who are part of a larger social group, organization, or society ('general population').
- There are several types of surveys: polls collect opinions, **cross-sectional (single-round) surveys** are given once to a group of people, and **longitudinal surveys** are the same survey given multiple times to a group of people over a long period of time.

Population or Demographic Surveys

- **Demographic surveys are surveys that wholly or primarily collect information on population characteristics and on the causes and consequences of population change.**
- **Surveys have emerged as alternatives to census taking with the development of statistical sampling techniques that permit interviewing only a part of the population of interest to obtain estimates that are valid for the population as a whole.**

Population surveys

- **Provide more detailed information on specific topics compared to censuses**
- **Cover relatively small proportion of population (usually several thousand)**
- **Population-based survey – random sample of the total population; represents existing groups of population**
- **Sample - a subset of a population selected for measurement, observation or questioning, to provide statistical information about the population.**

Population surveys (cont.)

- To ensure the data reflect the characteristics of a population as accurately as possible, researchers use **random sampling, representative sampling, and stratified random sampling**. Convenience samples are taken because of ease of access and thus represent volunteer bias.
- When conducting surveys, researchers must guard against potential sources of **bias**. Bias can come from many sources. One possible source of bias is participant availability.

Source: Boundless. "Surveys." Boundless Sociology. Boundless, 21 Jul. 2015. Retrieved 31 Aug. 2015 from <https://www.boundless.com/sociology/textbooks/boundless-sociology-textbook/sociological-research-2/research-models-27/surveys-172->

History

- **Early surveys were carried out in the 18th and 19th centuries, but none was based on true probability sampling methods.**
- **The first study that employed probabilistic sampling was a 1913 study by Arthur Lyon Bowley (1869-1957) on the living conditions of the working classes in five English cities.**
- **Survey research in the demographic field only came into wide usage in the mid-1900s.**

International Surveys

- **In developing countries, the main source of demographic information, aside from population censuses, are labor force and economic surveys, and surveys on population and health.**
- **The Demographic and Health Surveys (DHS) program funded by the United States Agency for International Development (USAID) has sponsored over 150 surveys since 1984 in many developing countries.**
- **Many international surveys were sponsored by the World Bank, UNICEF, CDC, USAID.**

2014 Kenya Demographic and Health Survey (2014 KDHS)

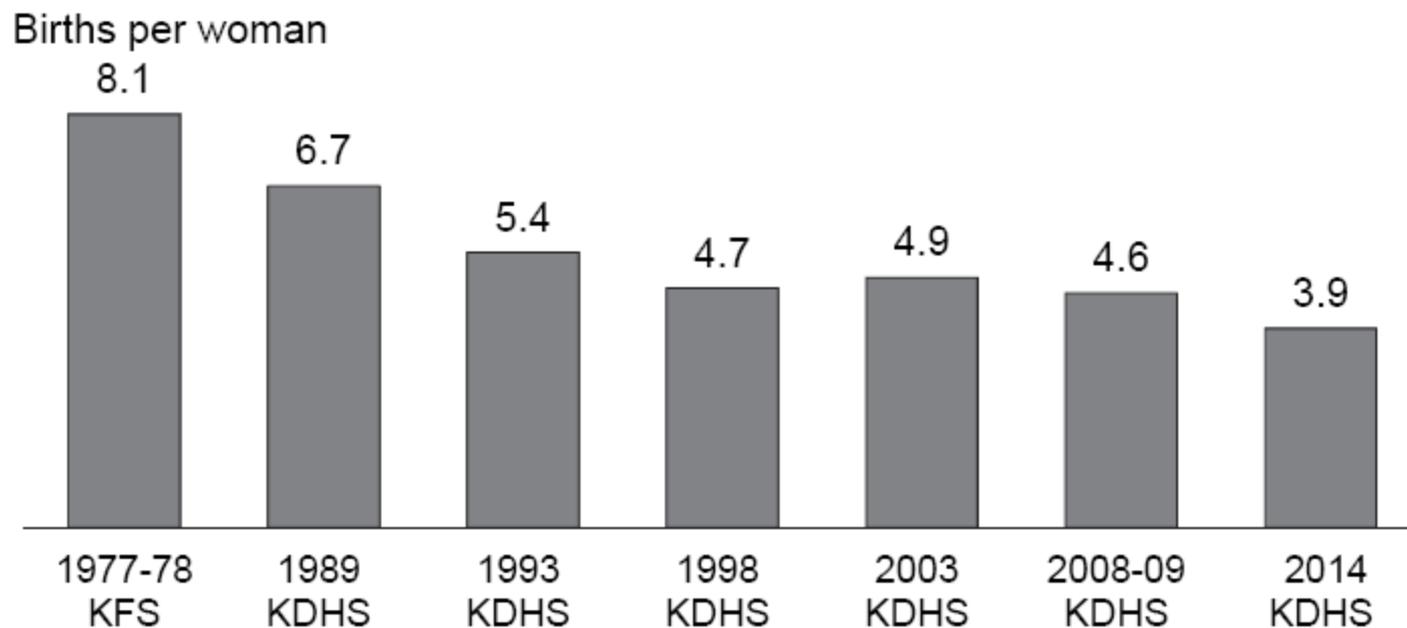
Fertility trends

Fertility data were collected in the survey by asking each woman interviewed for a history of her births. The information obtained on each of the woman's births included the month and year of the birth. These data are used to calculate two of the most widely used measures of current fertility, the total fertility rate (TFR) and its component, age-specific fertility rates.

Response rate was about 90% for men and 97% for women

2014 Kenya Demographic and Health Survey (2014 KDHS)

*Figure 3.1 Trends in total fertility rate, 1978-2014**



*Data from 2003 and later are nationally representative, while data before 2003 exclude North Eastern region and several northern districts in the Eastern and Rift Valley regions.

Response rate is about 90% for men and 97% for women

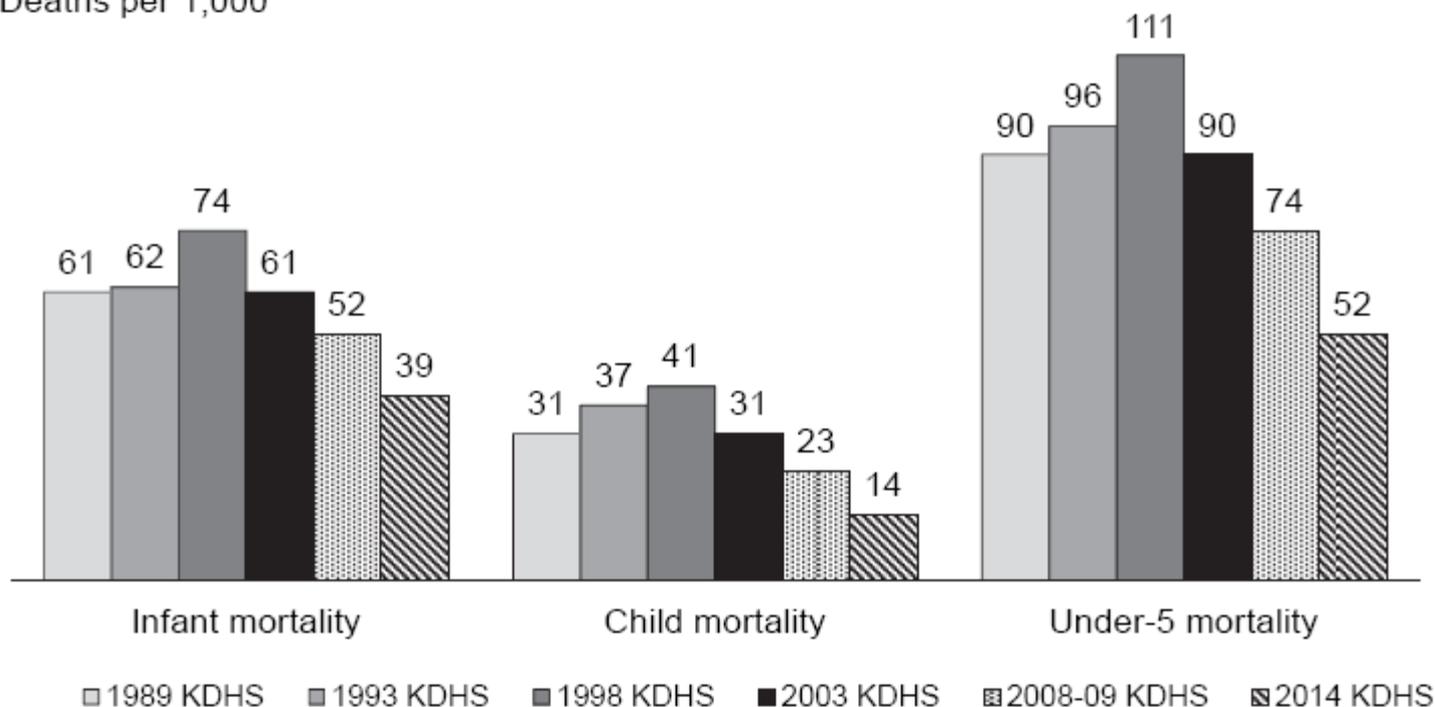
2014 Kenya Demographic and Health Survey (2014 KDHS)

Child mortality trends

2014 Kenya Demographic and Health Survey (2014 KDHS)

Figure 3.4 Trends in childhood mortality, 1984-2014*

Deaths per 1,000



*Data from 2003 and later are nationally representative, while data before 2003 exclude North Eastern region and several northern districts in the Eastern and Rift Valley regions.

International Surveys in Russia and FSU

- **Russia Longitudinal Monitoring Survey (RLMS-HSE)**

<http://www.cpc.unc.edu/rlms-hse>

- **Demographic and Health Surveys (DHS)** are nationally-representative household surveys that provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition.

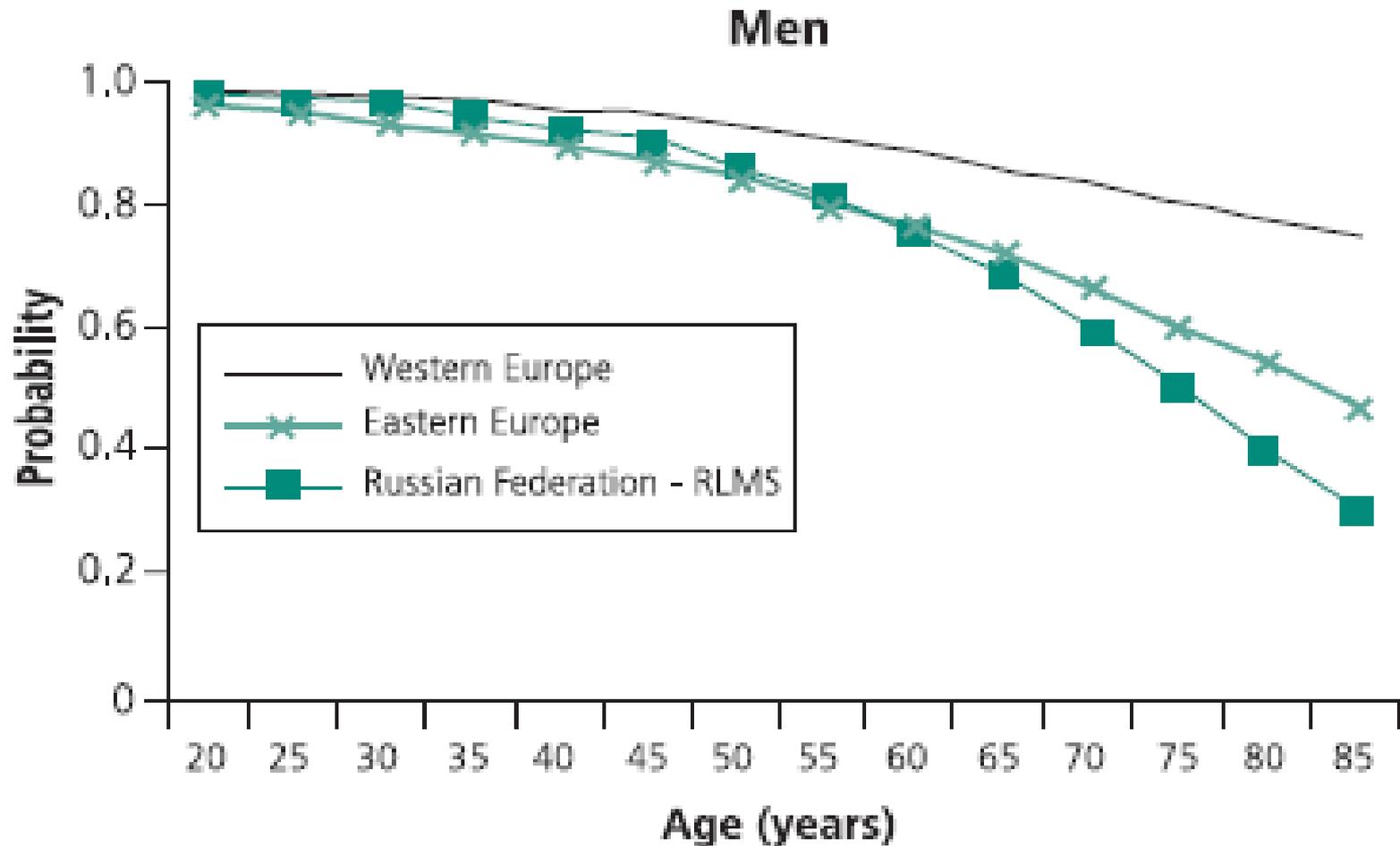
<http://www.measuredhs.com>

<http://www.cpc.unc.edu/projects/rlms>



The last wave in 2014. This survey is called now RLMS-HSE

Probability to be in a good health, by age



Some surveys in Russia conducted by Rosstat

- Periodic surveys on labor participation (to estimate the unemployment rate).
- Survey on the use of migrant labor.
- Surveys of household budgets
- Survey “Effects of behavioral factors on population health.” 2204 respondents 15+ were surveyed in 2008 in 24 regions of Russia. 37% smoked and 62.5% used alcohol in the previous 30 days. 9% ever tried drugs.

Population surveys in the United States

- **One of the first surveys was conducted by Raymond Pearl in 1939 who studied 31,000 women in American hospitals.**
- **U.S. Census Bureau conducts over 130 surveys a year. Demographic surveys are often taken in conjunction with census. It was done first in 1940 in the U.S. when items covered in census were significantly increased for 5 percent of the census population. Helps to save money.**
- **Current Population Survey (CPS) carried out monthly by the Bureau of the Census since 1940.**

Population surveys in the United States

- **Current Population Survey (CPS) is focused on employment and unemployment and economic activity.**
- **The sample size of CPS is large: 50,000 households. The data from the CPS serve to update information on the U.S. population between the decennial censuses.**
- **The NCHS undertakes a number of health surveys. The most famous is the National Health and Nutrition Examination Survey (NHANES), which has been carried out since 1960.**

New trends in demographic and health surveys

- **Harmonization of surveys at the world scale**
- **Biomeasures collection**

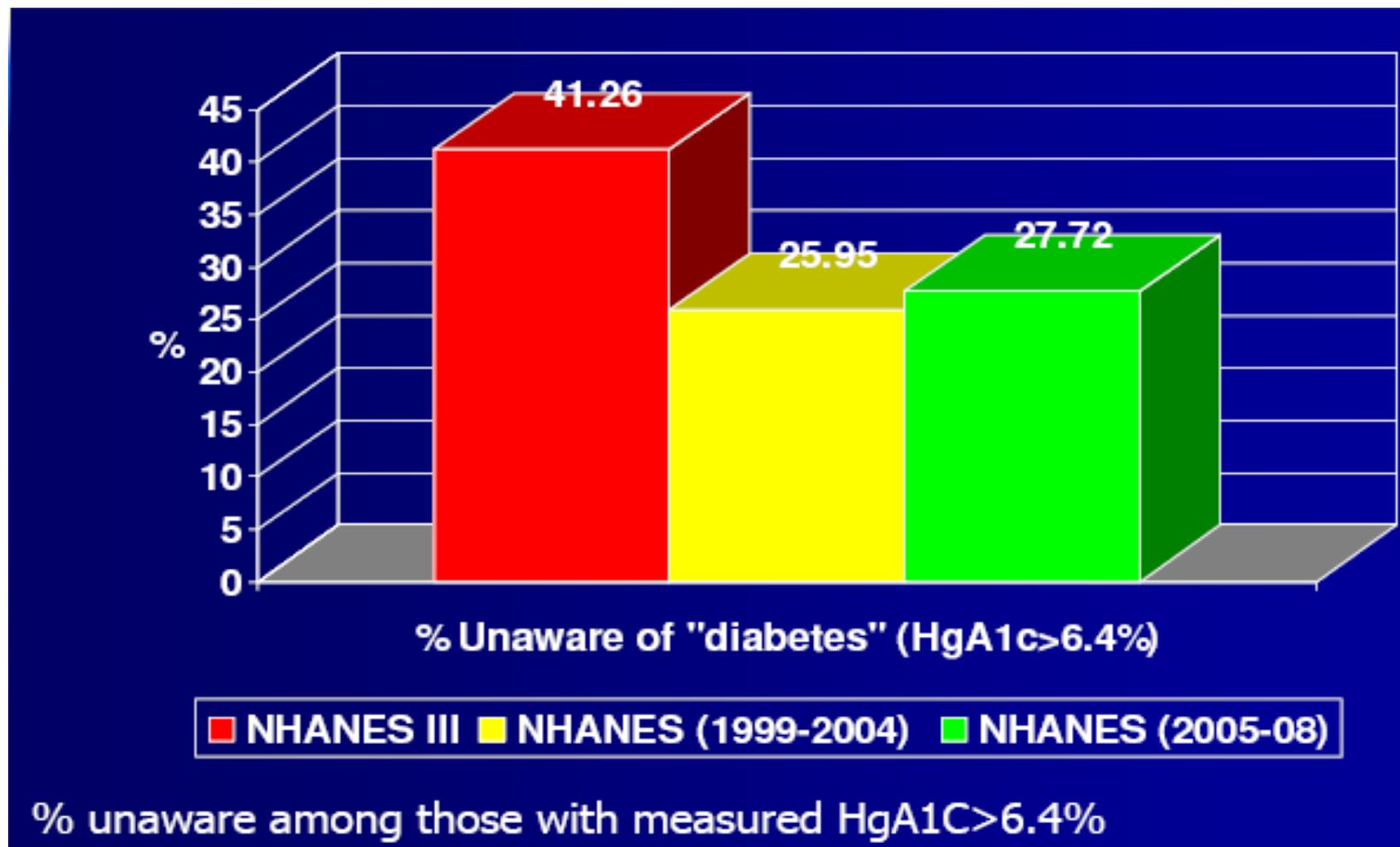


- **Large-scale study of health and retirement of older Americans**
- **Survey of more than 22,000 Americans older than 55 years every 2 years. Started in 1992**

HRS-harmonizing studies

- **UK English Longitudinal Study of Ageing (ELSA)**
- **Study on Health, Ageing and Retirement in Europe (SHARE)**
- **WHO Study on global AGEing and adult health (SAGE) including Russia**
- **HRS-harmonizing studies in Mexico, China, India, Japan, South Korea, Ireland.**

Percentage of missed cases of diabetes based on self-reports



Results of SAGE study in China

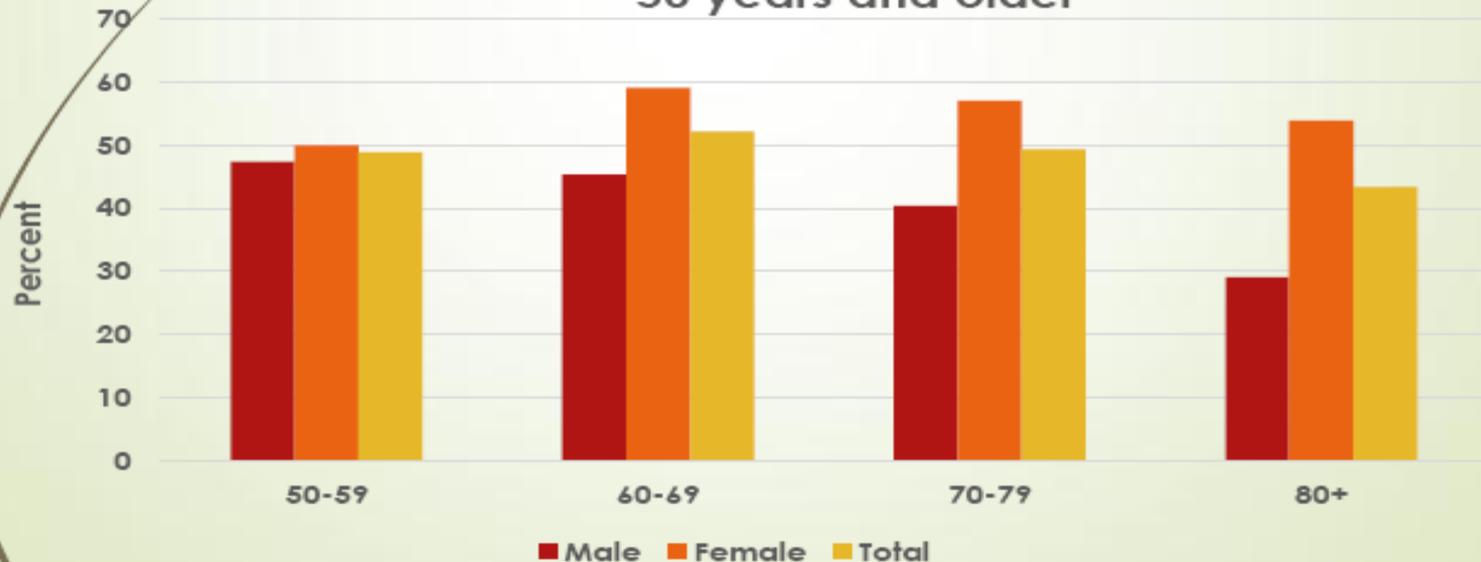
Results of Biochemical Test

CHOL and TG:

China Criteria: Hyperlipidemia ,CHOL \geq 5.72mmol/L
or(and) TG \geq 1.70mmol/L

Percent: Total : 49.5%; Male: 44.2%; Female: 54.1%.

Percent of Hyperlipidemia by age and sex among
50 years and older



Surveys

Strengths:

- Opportunity to study population characteristics not available in censuses or vital statistics
- Opportunity to measure demographic characteristics in countries with poor vital statistics

Limitations:

- Possibility of biases (non-representative bias, nonresponse bias, incorrect self-reports)
- Inability to measure rare events (example: mortality at young ages in developed countries)

Introduction to:



Public Dataset

NATIONAL
ARCHIVE OF
COMPUTERIZED
DATA ON
AGING



<http://www.icpsr.umich.edu/NACDA/>

ICPSR



National Institute on Aging

NSHAP Collaborators

- **Co-Investigators**

- Linda Waite, PI
- Ed Laumann
- Wendy Levinson
- Martha McClintock
- Stacy Tessler Lindau
 - Colm O’Muircheartaigh
 - Phil Schumm

- **NORC Team**

- Stephen Smith and many others

- **Collaborators**

- David Friedman
- Thomas Hummel
- Jeanne Jordan
- Johan Lundstrom
- Thomas McDade

- **Ethics Consultant**

- John Lantos

- **Outstanding Research Associates and Staff**

NSHAP Study Timeline

- **Wave I 2005 – 2006. Nationally representative sample of 3,005 adults born between 1920 and 1947 (aged 57 to 85 at the time of Wave 1 interview).**
- **Wave 2 2010-2011, nearly 3,400 interviews were completed for Wave 2 with these Wave 1 Respondents, Wave 1 Non-Interviewed Respondents, and their spouses or cohabiting romantic partners.**
- **In 2015 and 2016, NSHAP plans to conduct more than 4,800 interviews for Wave 3.**

NSHAP Design Overview (wave 1)

- **Interview 3,005 community-residing adults ages 57-85**
- **Population-based sample, minority over-sampling**
- **75.5% weighted response rate**
- **120-minute in-home interview**
 - Questionnaire
 - Biomarker collection
- **Leave-behind questionnaire**

Est. Pop. Distributions (%)

	Men (n=1455)	Women (n=1550)
AGE		
57-64	43.6	39.2
65-74	35.0	34.8
75-85	21.4	26.0
RACE/ETHNICITY		
White	80.6	80.3
African-American	9.2	10.7
Latino	7.0	6.7
Other	3.2	2.2
RELATIONSHIP STATUS		
Married	77.9	55.5
Other intimate relationship	7.4	5.5
No relationship	14.7	39.0
SELF-RATED HEALTH		
Poor/Fair	25.5	24.2
Good	27.5	31.5
Very good/Excellent	47.0	44.3

Domains of Inquiry

- **Demographics**

- Basic Background Information
 - Marriage
- Employment and Finances
 - Religion

- **Social**

- Networks
 - Social Support
- Activities, Engagement
 - Intimate relationships, sexual partnerships
 - Physical Contact

- **Medical**

- Physical Health
- Medications, vitamins, nutritional supplements
- Mental Health
- Caregiving
- HIV

- **Women's Health**

- Ob/gyn history, care
- Hysterectomy, oophorectomy
- Vaginitis, STDs
- Incontinence

Self-Report Measures

- **Demographic Variables:**
 - Age
 - Race/Ethnicity
 - Education
 - Insurance Status

Self-Report Measures

- **Social/Sexuality Variables:**
 - Spousal/other intimate partner status
 - Cohabitation
 - Lifetime sex partners
 - Sex partners in last 12 months
 - Frequency of sex in last 12 months
 - Frequency of vaginal intercourse
 - Condom use

Self-Report Measures

- **Health Measures:**
 - Obstetric/Gynecologic history
 - Number of pregnancies
 - Duration since last menstrual period
 - Hysterectomy
 - Physical health
 - Overall health
 - Co-morbidities
 - Health behaviors
 - Tobacco use
 - Pap smear, pelvic exam history
 - Cancer

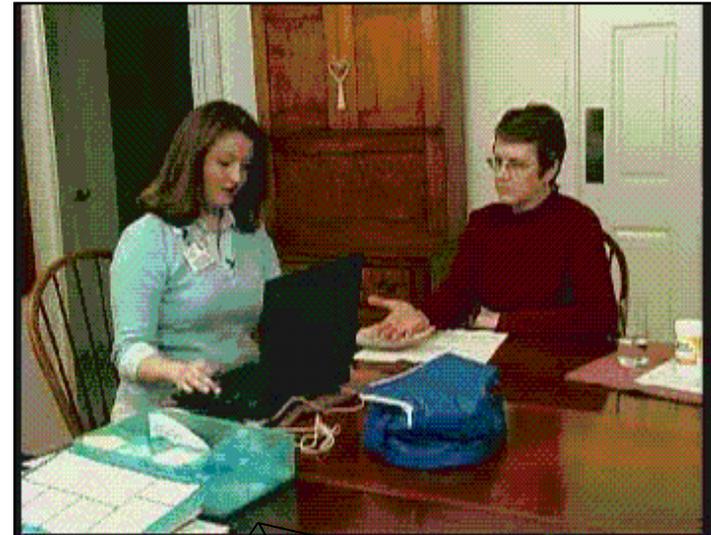
NSHAP Biomeasures

- **Blood: hgb, HgbA1c, CRP, EBV**
- **Saliva: estradiol, testosterone, progesterone, DHEA, cotinine**
- **Vaginal Swabs: BV, yeast, HPV, cytology**
- **Anthropometrics: ht, wt, waist**
- **Physiological: BP, HR and regularity**
- **Sensory: olfaction, taste, vision, touch**
- **Physical: gait, balance**

Principles of Minimal Invasiveness

- **Compelling rationale: high value to individual health, population health or scientific discovery**
- **In-home collection is feasible**
- **Cognitively simple**
- **Can be self-administered or implemented by single data collector during a single visit**
- **Affordable**
- **Low risk to participant and data collector**
- **Low physical and psychological burden**
- **Minimal interference with participant's daily routine**
- **Logistically simple process for transport from home to laboratory**
- **Validity with acceptable reliability, precision and accuracy**

NSHAP Biomeasures



“Laboratory Without Walls”

McClintock Laboratory
(Cytology)



UC Cytopathology
(Cytology)

Jordan Clinical Lab
Magee Women’s Hospital
(Bacterial, HPV Analysis)

Salimetrics
(Saliva Analysis)

McDade Lab
Northwestern
(Blood Spot Analysis)

Salivary Biomeasures

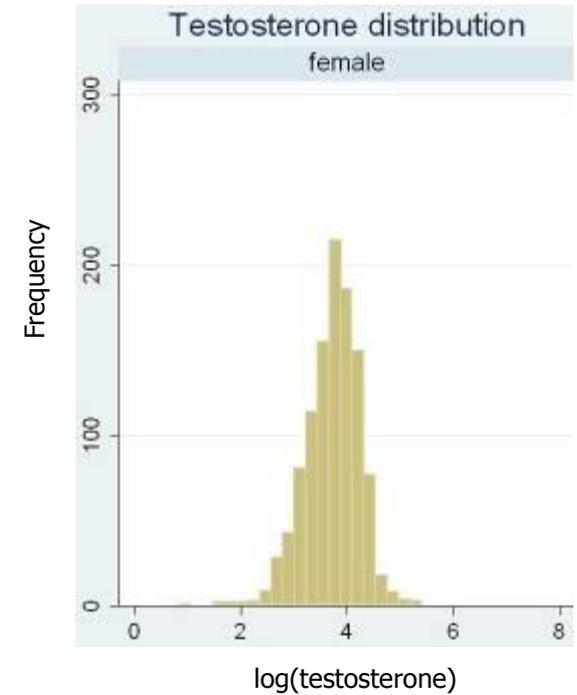
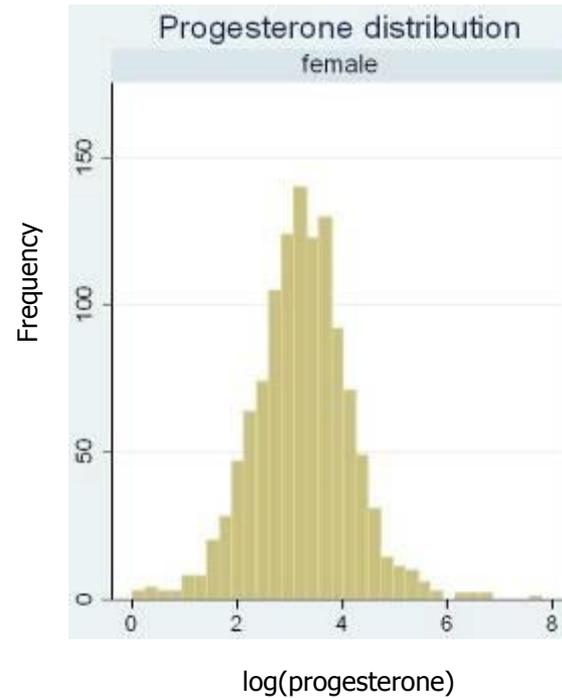
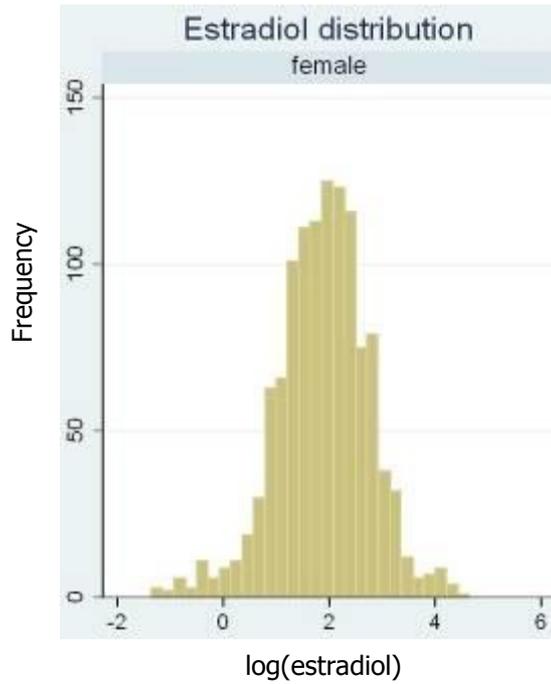
■ Sex hormone assays

- Estradiol
- Progesterone
 - DHEA
- Testosterone

● Cotinine



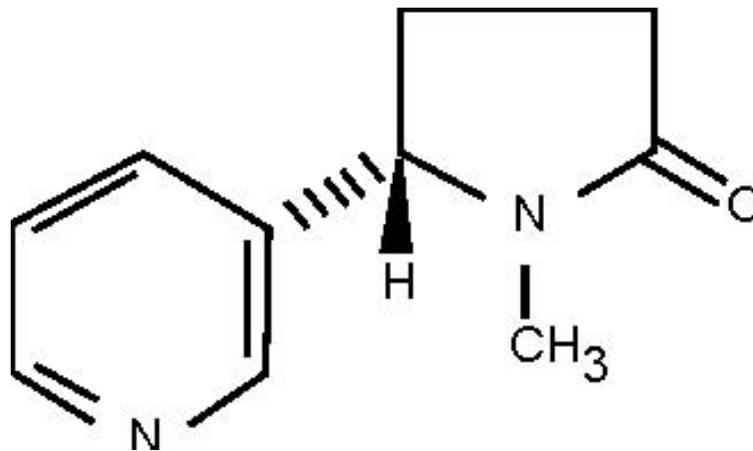
Salivary Sex Hormones



Units: pg/ml

Salivary Cotinine

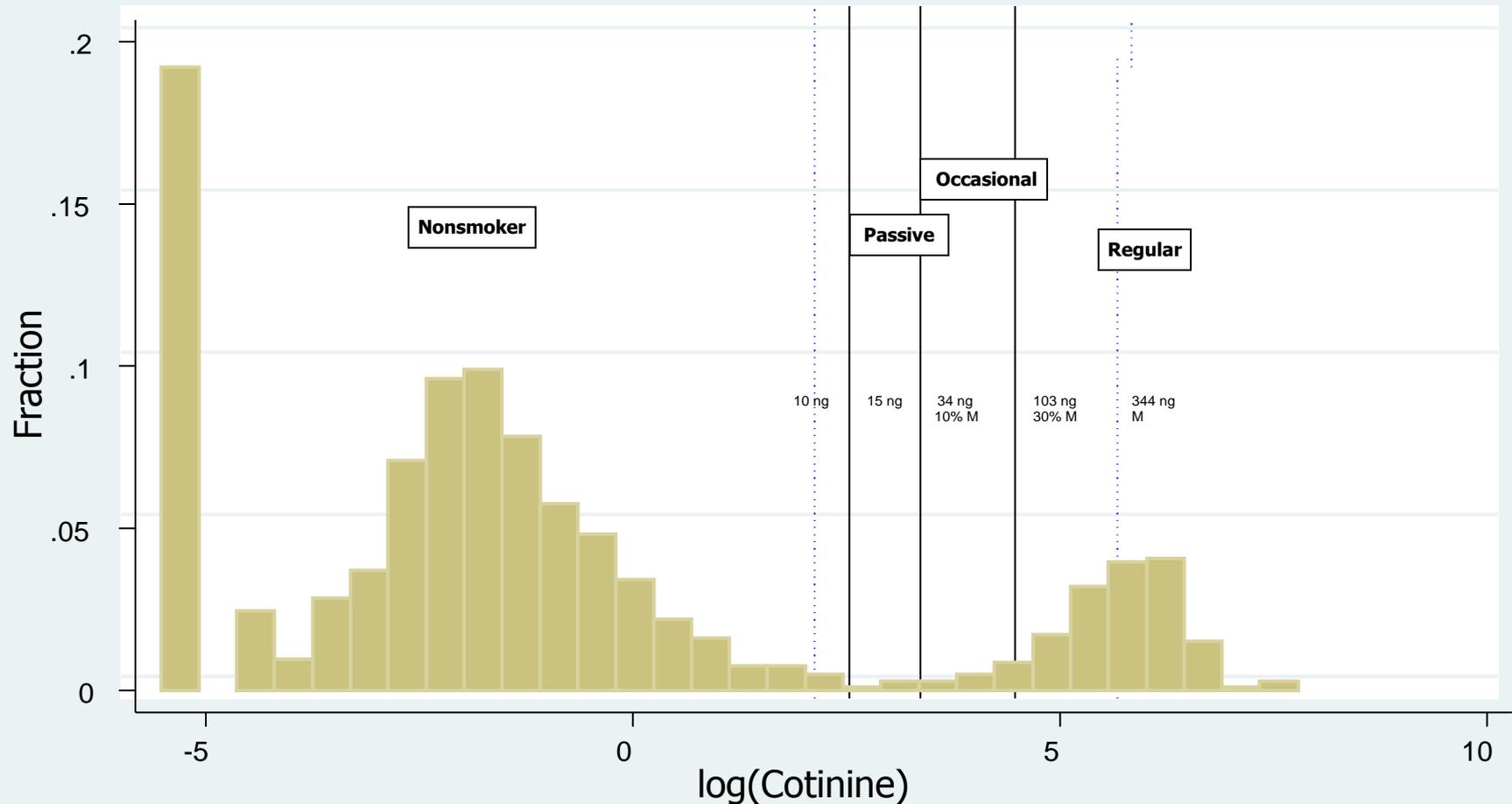
- Nicotine metabolite
- Objective marker of tobacco exposure, including second-hand
- Non-invasive collection method (vs. serum cotinine)



Distribution of Salivary Cotinine

Classification of Smoking Status by Cotinine Level in Females

Cut-points based on distribution among smokers



M = mean cotinine among female who report current smoking

Bar on left corresponds to cotinine below level of detection

NSHAP Biomeasures Cooperation

Measure	Eligible Respondents	Cooperating Respondents	Cooperation Rate*
Height	2,977	2,930	98.6%
Weight	2,977	2,927	98.4%
Blood pressure	3,004	2,950	98.4%
Touch	1,502	1,474	98.4%
Smell	3,004	2,943	98.3%
Waist circumference	3,004	2,916	97.2%
Distance vision	1,505	1,441	96.0%
Taste	3,004	2,867	95.9%
Get up and go	1,485	1,377	93.6%
Saliva	3,004	2,721	90.8%
Oral fluid for HIV test	972	865	89.2%
Blood spots	2,493	2,105	85.0%
Vaginal swabs	1,550	1,028	67.6%

* Person-level weights are adjusted for non-response by age and urbanicity.



CCBAR

Chicago Core on Biomarkers in Population-Based Aging Research
The Center on Aging at NORC and the University of Chicago

**More detailed information about
biomeasures in population-based
research is available at:**

<http://biomarkers.uchicago.edu/>

Publication on sexuality

BMJ

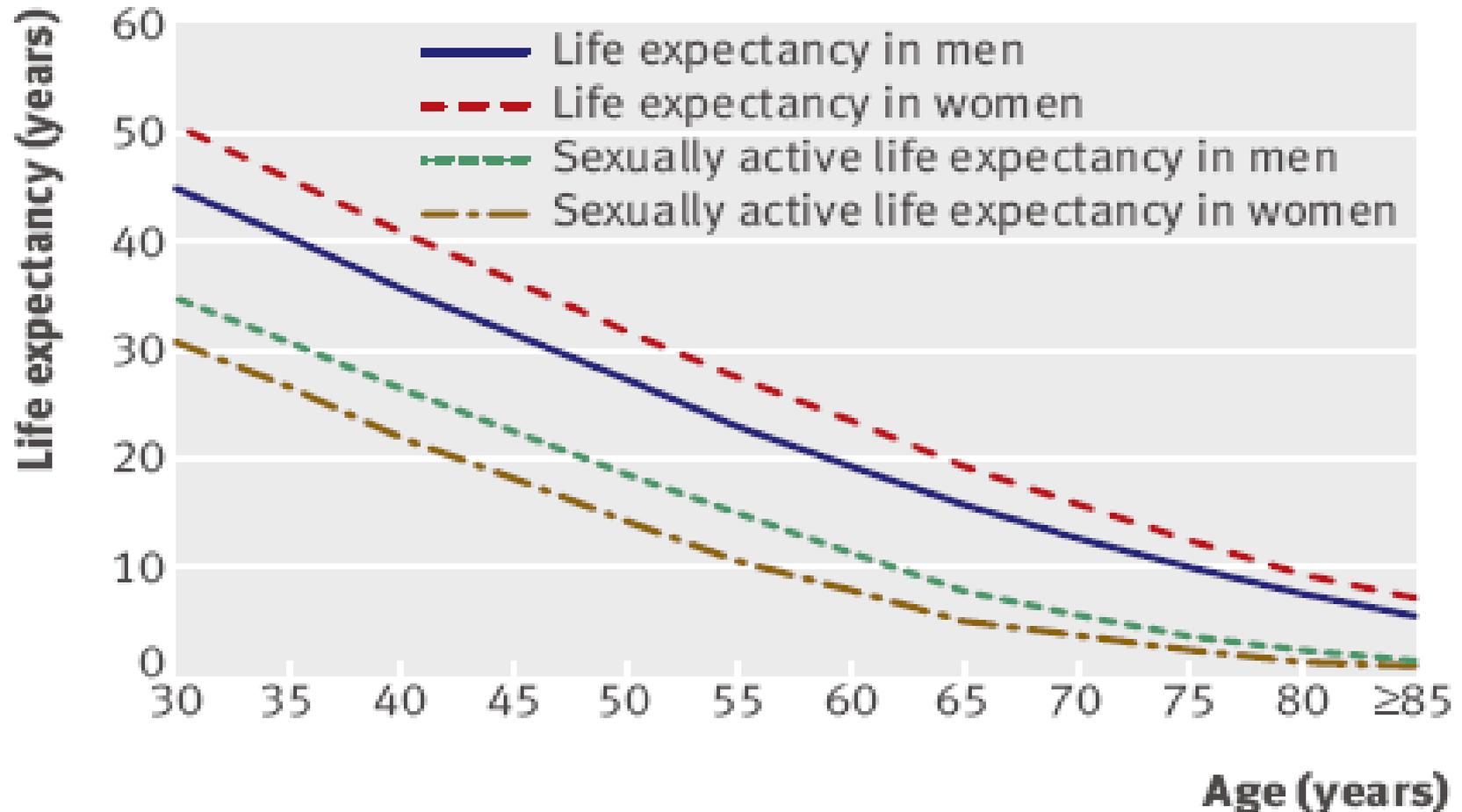
RESEARCH

Sex, health, and years of sexually active life gained due to good health: evidence from two US population based cross sectional surveys of ageing

Stacy Tessler Lindau, associate professor,^{1,2} Natalia Gavrilova, senior research associate¹

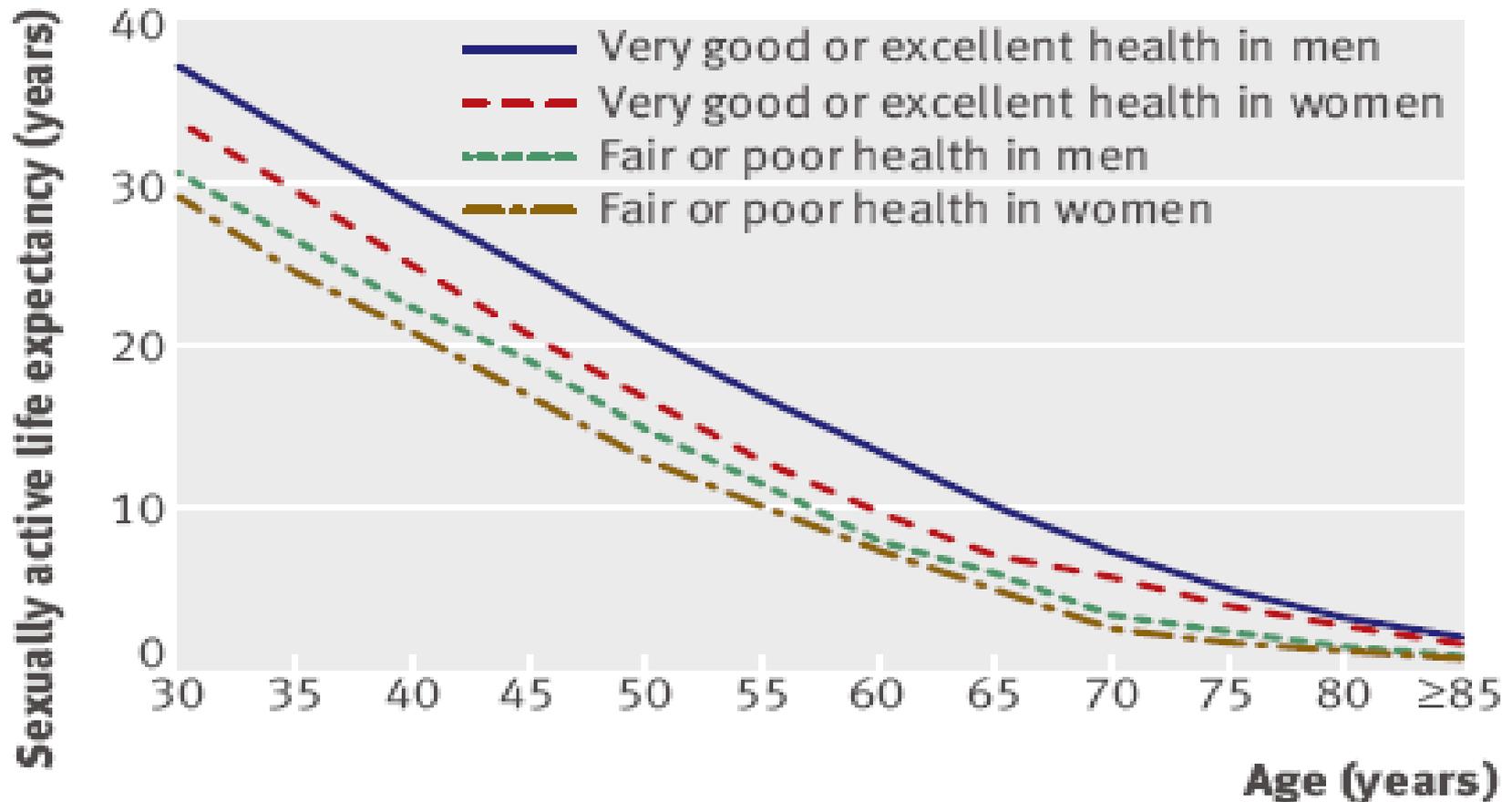
Lindau, Gavrilova, *British Medical Journal*, 2010, 340, c810

Life expectancy and sexually active life expectancy (SALE)



Based on the MIDUS study

Sexually active life expectancy and self-rated health



Based on the MIDUS study

Military records

WWI Civilian Draft Registration

In 1917 and 1918, approximately 24 million men born between 1873 and 1900 completed draft registration cards. President Wilson proposed the American draft and characterized it as necessary to make "shirkers" play their part in the war. This argument won over key swing votes in Congress.

WWI Draft Registration



Registration was done in three parts, each designed to form a pool of men for three different military draft lotteries. During each registration, church bells, horns, or other noise makers sounded to signal the 7:00 or 7:30 opening of registration, while businesses, schools, and saloons closed to accommodate the event.

Registration Day Parade



Attention!

ALL MALES between the ages of 21 and 30 years, both inclusive, must personally appear at the polling place in the Election District in which they reside, on

TUESDAY, JUNE 5th, 1917

between the hours of 7 A.M. and 9 P. M. and

Register

in accordance with the President's Proclamation.

Any male person, between these ages, who fails to register on June 5th, 1917, will be subject to imprisonment in jail or other penal institution for a term of one year.

NO EXCUSE FOR FAILURE TO REGISTER WILL BE ACCEPTED

Information Available in the Draft Registration Card

- **age, date of birth, race, citizenship**
- **permanent home address**
- **occupation, employer's name**
- **height (3 categories), build (3 categories), eye color, hair color, disability**

Draft Registration Card: An Example

REGISTRATION CARD		No. 22
1	Name <u>James Harold Duckworth</u>	Age <u>30</u>
2	Home <u>1570 So. Park Alhambra Calif</u>	
3	Born <u>May 28 1887</u>	
4	Are you (1) a natural born citizen, (2) a naturalized citizen, (3) an alien, (4) or have you declared your intention to become a citizen? I declare myself as: <u>Naturalized Citizen</u>	
5	Where born <u>Bury, Manchester, Co. England</u>	
6	If not a citizen, of what country are you a citizen or subject? <u>Citizen</u>	
7	What is your present trade, occupation or office? <u>Chief Clerk to City Phone Chief</u>	
8	Where employed? <u>So. Calif. Telephone Co.</u> Where employed? <u>Los Angeles Calif 24</u>	
9	Have you a father, mother, wife, child, wife, or a sister or brother under 21, wholly dependent on you for support (specify which)? <u>Wife</u>	
10	Married or single (specify which)? <u>Married</u> How long (specify which)? <u>Concord</u>	
11	Have military service been you had? Land <u>No</u> Air <u>No</u> Sea <u>No</u> Navy or Air <u>No</u>	
12	Do you own, control or have direct control of: <u>Yes Telephone Service</u>	

I declare that I have verified above answers and that they are true.

James Harold Duckworth

4-4-24.A

REGISTRAR'S REPORT

1	Is the name of your service card? <u>Full</u> <u>Alhambra</u>
2	Is the name of your service card? <u>light</u> <u>No</u>
3	Has your card been, by hand, lost, or both, torn, or is it otherwise damaged, specify? <u>No</u>

I certify that my answers are true, that the person registered has read his own answers, that I have witnessed his signature, and that all of his answers of which I have knowledge are true, except as follows:
No exceptions

4-4-24.A

Albert Melbarn
(Signature of Registrar)

Residence Alhambra
City or County Los Angeles Co
State Calif

June 5/17
(Date of Issuance)

Physical Characteristics at Young Age and Survival to 100



A study of height and build of centenarians when they were young using WWI civil draft registration cards

Small Dogs Live Longer



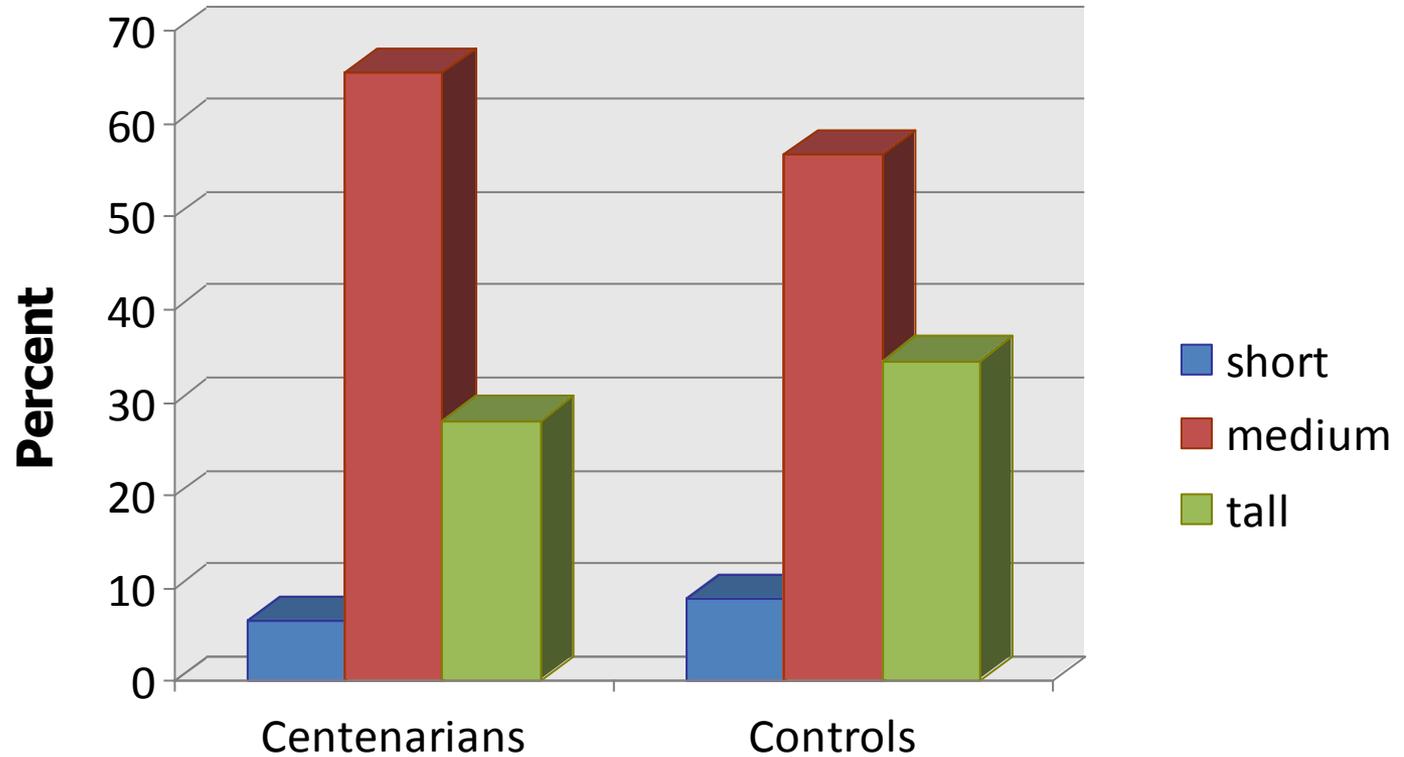
Miller RA. Kleemeier Award Lecture: Are there genes for aging? *J Gerontol Biol Sci* **54A**:B297–B307, 1999.

Study Design

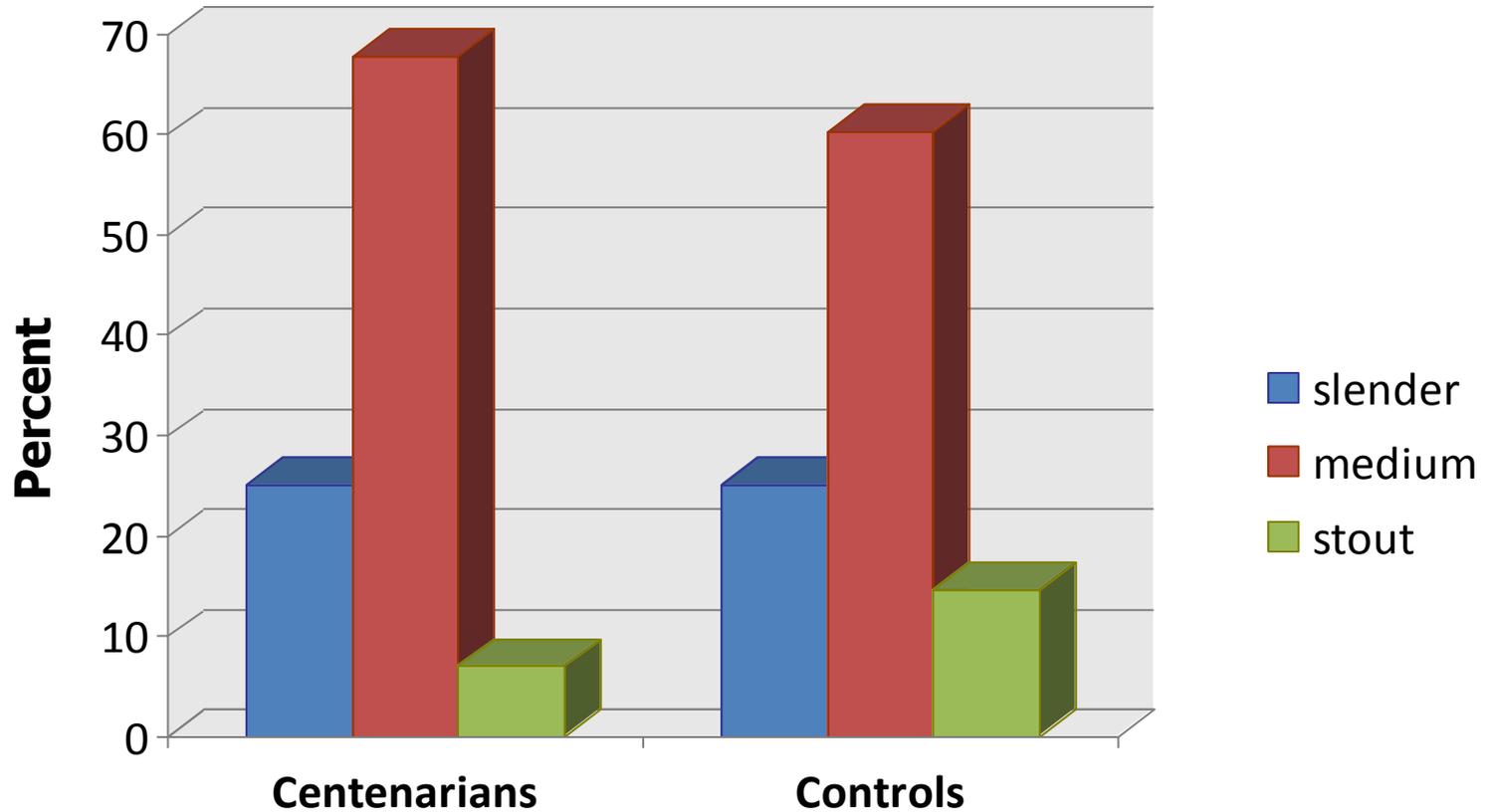
Cases: male centenarians born in **1887** (randomly selected from the SSA Death Master File) and linked to the WWI civil draft records. Out of 240 selected men, 15 were not eligible for draft. The linkage success for remaining records was 77.5% (174 records)

Controls: men matched on birth year, race and county of WWI civil draft registration

Height and survival to age 100



Body build and survival to age 100



Multivariate Analysis

- **Conditional multiple logistic regression model for matched case-control studies to investigate the relationship between an outcome of being a case (extreme longevity) and a set of prognostic factors (*height, build, occupation, marital status, number of children, immigration status*)**
- **Statistical package Stata-10, command *clogit***

Results of multivariate study

<i>Variable</i>	<i>Odds Ratio</i>	<i>P-value</i>
Medium height vs short and tall height	1.35	0.260
Slender and medium build vs stout build	2.63*	0.025
Farming	2.20*	0.016
Married vs unmarried	0.68	0.268
Native born vs foreign b.	1.13	0.682

Having children by age 30 and survival to age 100

**Conditional (fixed-effects) logistic regression
N=171. Reference level: no children**

Variable	Odds ratio	95% CI	P-value
1-3 children	1.62	0.89-2.95	0.127
4+ children	2.71	0.99-7.39	0.051

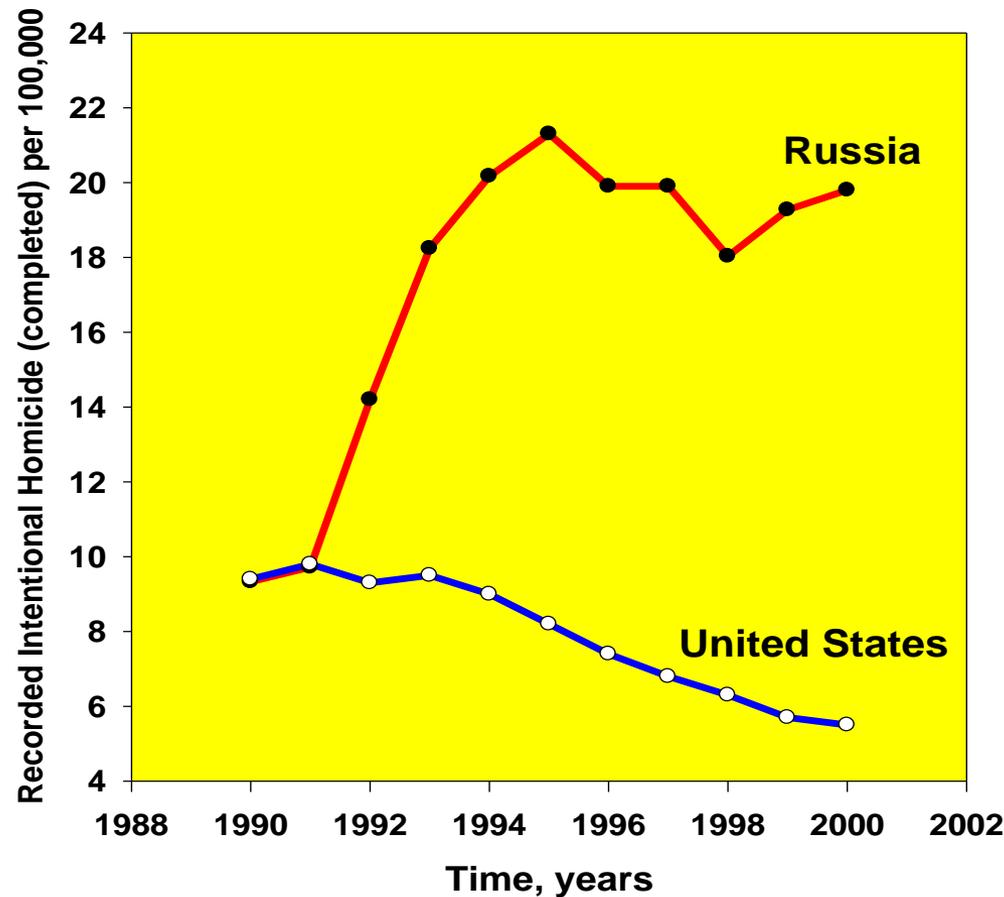
Crime Statistics

Data Resources on Violent Crime

- **Statistics of violent crimes registered by police (collected by the Russian Ministry of Internal Affairs). Also submitted to the UN World Crime Surveys.**
- **Statistics of arrestees collected by police.**
- **Statistics of homicide mortality collected by Rosstat through vital statistics. Submitted to the WHO.**
- **Surveys of prison inmates.**
- **Victimization surveys. International Crime Victimization Surveys (conducted in Moscow).**

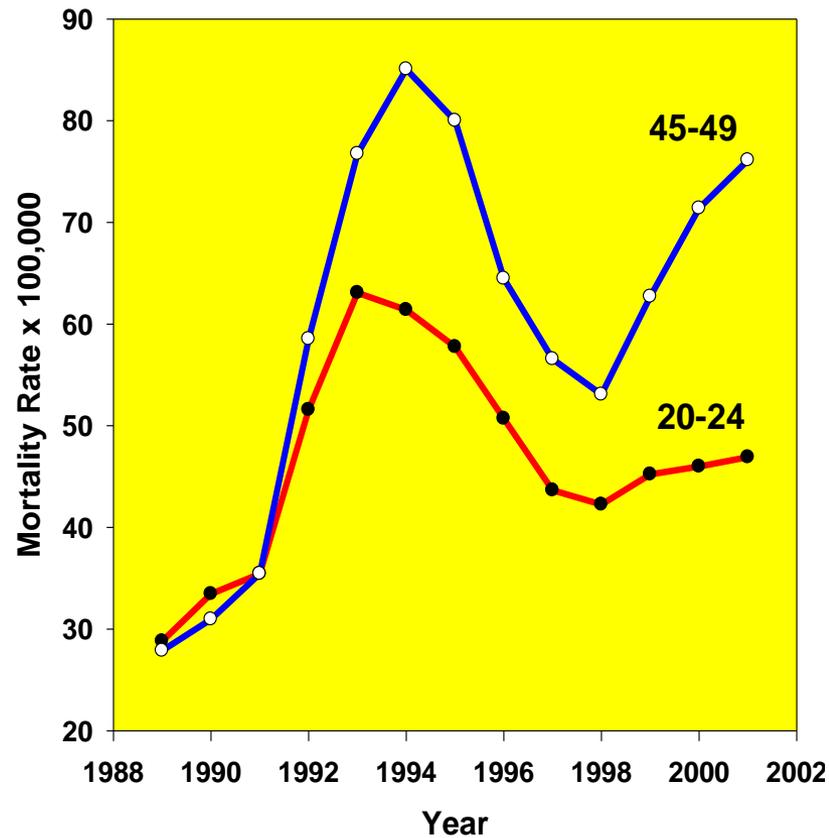
Trends of Intentional Murders in Russia and the United States

Data from the UN World Crime Surveys

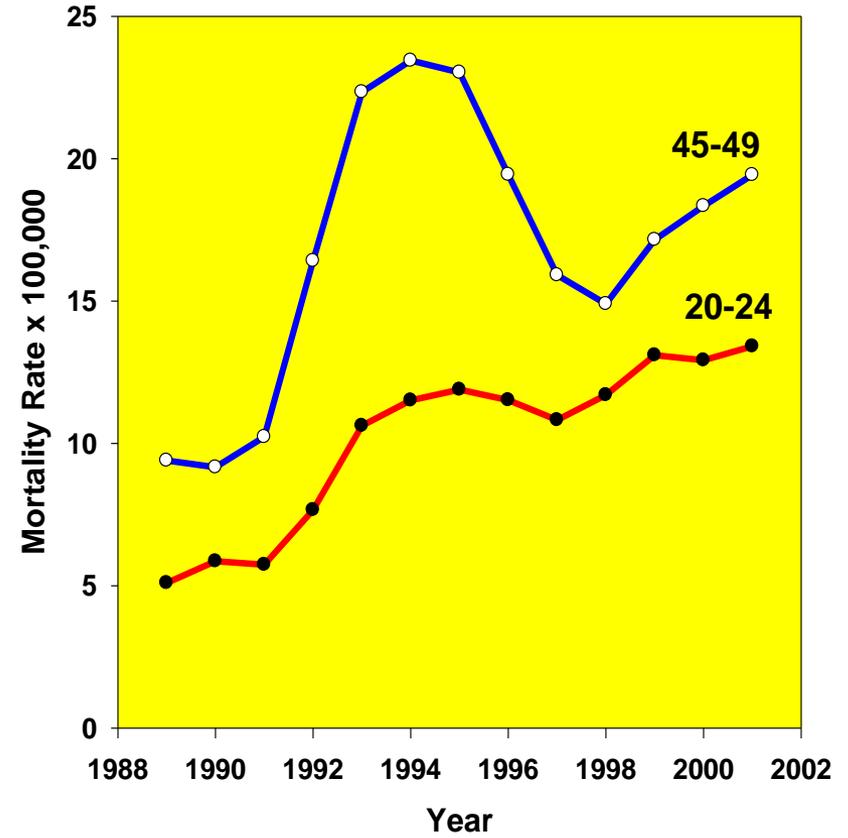


Trends in Homicide Rates for Young and Middle-Aged Adults

Data from Russian Vital Statistics

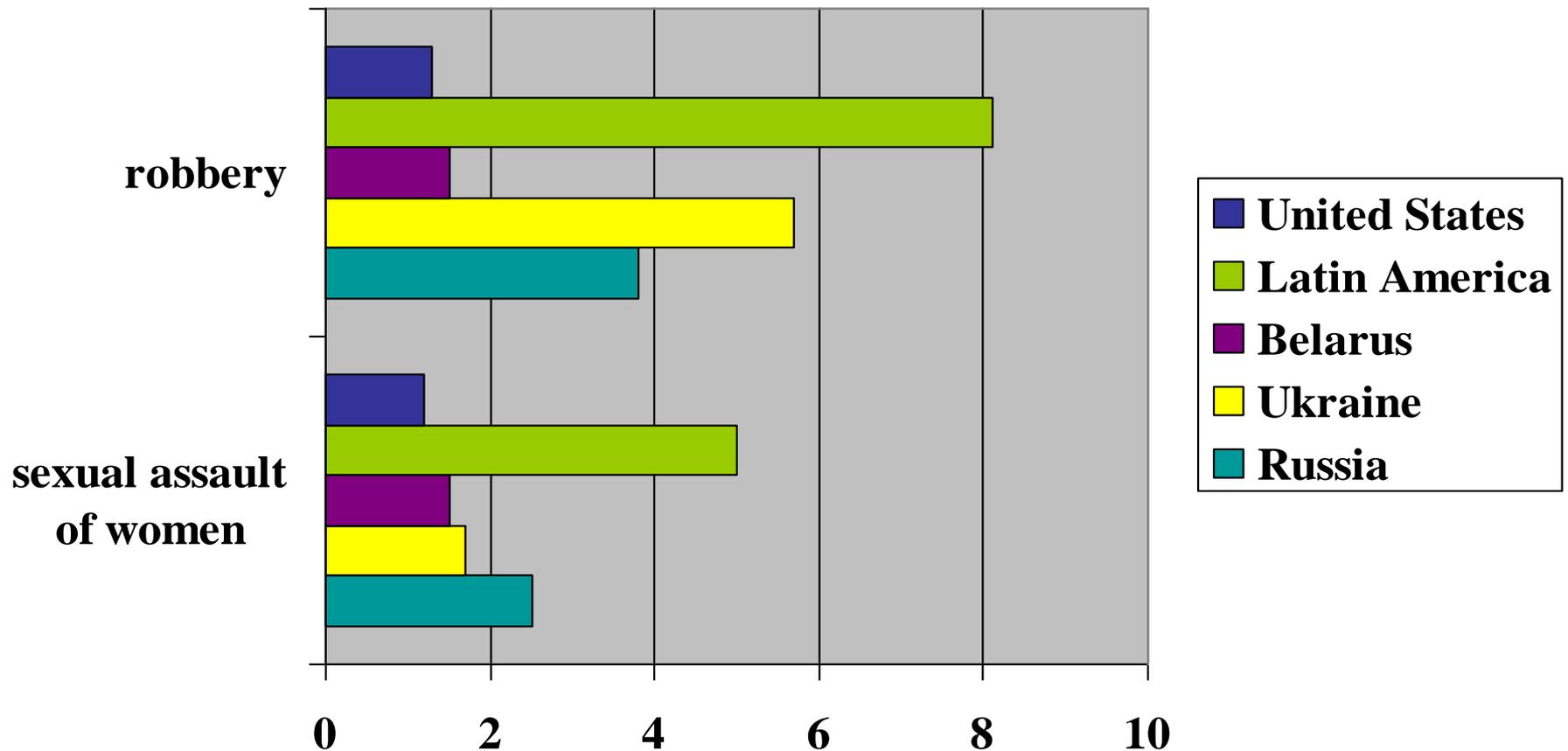


Males



Females

Annual Victimization Rates (%) in Five Countries in 1996



Migration Statistics

Migration statistics in European countries

- **European countries with central population registers have rather accurate statistics on internal migration.**
- **Statistics of international migration (emigration in particular) may be less reliable. According to some estimates, about 50% of out-migrating persons do not report this fact to state authorities.**

Migration statistics in the Soviet Union

- **Soviet Union had unique and very accurate system of migration statistics**
- **This system was closely related to the passport system and residence registration ('propiska'). Data were collected by the Ministry of Internal Affairs (MVD)**
- **Change of address was accompanied by departure registration and arrival registration**
- **The system was totalitarian (migration required permission)**

Migration statistics in Russia (1)

- **Soviet system of migration statistics was destroyed**
- **Main changes happened in 1995 when the system of registration was modified. All migrants were divided into two categories:
(1) those who change their permanent address;
(2) those who register for temporary residence.**
- **Migration statistics covers only permanent migrants.**
- **Main limitation: incomplete coverage**

Staying in Russia requires registration



In the past police could stop person to verify registration. Now Federal Migration Service verifies residence and migration status

Migration statistics in Russia (2)

- **Problems also exist in registration of external migration (migration to/from other countries).**
- **Restrictive laws about obtaining permanent residence in Russia were adopted in 2000 and then in 2003. As a result, many immigrants register as temporary migrants and are not accounted by the state statistics**

Readings

- **DaVanzo, J. and C.A. Grammich. 2001. *Dire Demographics. Population Trends in the Russian Federation*. Santa Monica, CA: RAND. Available online.**
- **Gavrilova N.S., Semyonova V.G., Dubrovina E., Evdokushkina G.N., Ivanova A.E., Gavrilov L.A. Russian Mortality Crisis and the Quality of Vital Statistics. *Population Research and Policy Review*, 2008, 27: 551-574 (see Data and Methods section for death registration in Russia).**