

Series 5  
No. 9



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# Vital and Health Statistics

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From the CENTERS FOR DISEASE CONTROL AND PREVENTION / National Center for Health Statistics

## Vital and Health Statistics: Russian Federation and United States, Selected Years 1980–93

June 1995



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Centers for Disease Control and Prevention  
National Center for Health Statistics



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International Vital and  
Health Statistics Reports  
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This report contains 18 tables covering population size, natural increase in population, birth rates, life expectancy, infant mortality, death rates, incidence of notifiable diseases, AIDS, levels of health personnel, hospital utilization, and ambulatory care in the Russian Federation and the United States. Also included are a glossary of terms used in this report where differences in definitions between the two countries are noted and a special appendix with selected data from the Russian Federation by urban-rural status.

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Centers for Disease Control and Prevention  
National Center for Health Statistics

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# Preface

This report is the first in what we hope will be a periodic comparison of vital and health statistics of the Russian Federation and the United States. This publication is a joint effort by the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention in the United States and the Public Health Institute MedSocEconInform of the Ministry of Health and Medical Industry, Russian Federation.

It is hoped that this publication will serve two purposes. First, it will make available in English a wide array of Russian vital and health statistics. Second, it is hoped that through this process, both NCHS and MedSocEconInform will learn and understand more about how such statistics are collected in

each country and that through this process, the systems of both countries will profit.

This first effort is a modest one. It contains 18 tables covering population size, natural increase in population, birth rates, life expectancy, infant mortality, death rates, incidence of notifiable diseases, incidence of acquired immunodeficiency syndrome (AIDS), levels of health personnel, hospital utilization, and ambulatory care. This volume includes a glossary of terms used in this report, and differences in definitions between the two countries are noted. With future editions it is hoped that the scope and size of the publication will increase. The collaborating agencies would appreciate any suggestions that readers might have for future editions.

# Foreword

We are approaching the year 2000, and before entering the next millennium, it would be useful to look back and evaluate the changes that have taken place. Among these changes is the end of nearly 50 years of opposition between Russia and the United States. And as often happens, the initial envoys of peace have been medicine, trade, and diplomacy.

In the field of medicine and health care, both of our countries have achieved valuable progress. But in spite of this, there is an obvious and widely recognized need to bring about basic reforms in these areas. In Russia this need is reflected by the gradual deterioration of public health since the end of the 1960s. Specifically, there has been:

- A reduction in average life span to 64 years in 1994 and greater differences in life span between males and females—now more than 13 years
- An increase in standardized mortality rates, mostly as a result of more violent deaths
- Relatively high levels of infant and maternal mortality, with paradoxical cause structures
- An increase in morbidity rates in infants and children
- Growth of disability rates, for example, congenital disabilities
- An increase in social disease rates (tuberculosis, syphilis, alcohol and drug abuse, etc.), as well as of some mass infectious diseases
- A reduction in birth and marriage rates, an increase in the divorce rate, and forced migrations, combined with negative natural growth of the population

By the way, even recently some data concerning public health were not allowed to be openly published.

At the same time that these changes have been occurring in Russia, government spending for general social needs, such as health protection, are still declining (in constant prices). It is therefore essential to implement the strategy recommended by the World Health Organization, “Health for All,” as well as to effect a reform of the health care system that is aimed at the areas of greatest need. These areas include the prevention of public declines in health, the need to achieve greater efficiency in resource utilization and administration, and the need to focus on primary care and disease prevention.

Although in the United States, problems related to health and health care differ from those in Russia, an exchange of experience and knowledge offers benefits to both countries. For example, the United States has considerable experience in the development of high-technology medicine, and Russia has acquired expertise in the organization and delivery of stage-by-stage medical care.

Therefore, this first joint publication on vital and health statistics in the Russian Federation and the United States will make a substantial contribution to the development of Russian-American relations in the fields of medicine and health care.

In spite of difficulties related to definitional differences, approaches to classification, methods of calculation, etc., there is nevertheless much to be gained. It is our view that publications such as this should be prepared on a regular basis (every 3–4 years). In between, it may be possible to publish brochures focusing on comparative data on specific problems, such as infant mortality, injuries, diabetes, tuberculosis, and so forth.

Clearly, this report presents a concrete implementation of mutual trust, democracy, and collaboration. Therefore, we hope that medical circles in Russia and the United States will be interested in this publication and that future issues will receive appropriate support from the governments of both our countries.

We would also like to express our sincere gratitude to personnel of the well-known National Center for Health Statistics of the Centers for Disease Control and Prevention, with whom we signed an agreement to collaborate, for their remarkable organizational and methodological activities in the preparation and publication of this report.

Prof. Yuri M. Komarov, M.D., Ph.D, D.Sc.  
Director General Public Health  
Institute MedSocEconInform (Russia)  
World Health Organization Collaborating Center  
April 12, 1995

In January 1994 the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention, of the United States and the Public Health Institute (MedSocEconInform) of the Russian Federation declared their mutual commitment to establish and support cooperation and collaboration in five areas of health statistics. The first area acknowledged our joint desire to publish a short monograph comparing vital and health statistics between our two countries.

This publication is the first report comparing trends in vital and health statistics between the Russian Federation and the United States. It is an enormous achievement and I would like to congratulate the scientists from both centers for all of their efforts. It is the beginning of our joint efforts to understand our two vital and health statistics systems and to establish comparable reporting statistics between us.

The idea for this project was first discussed by Dr. Ekaterina F. Lakhova, who was then the State Counsellor for the Russian Federation for Family, Maternity and Childhood, and Dr. Manning Feinleib, then-Director of NCHS, during a July 6, 1993, meeting in Moscow. The meeting was arranged by Prof. Yuri Komarov, Director General, MedSocEconInform, and Dr. Lakhova to discuss ways in which NCHS could assist in helping the Russian Federation restructure their vital and health statistics systems.

In addition to this effort, NCHS and MedSocEconInform are continuing to cooperate in four other areas as well. MedSocEconInform is now an active participant in the NCHS-sponsored International Collaborative Effort on Infant and Perinatal Mortality; both centers are continuing to exchange vital and health statistics data; NCHS has provided technical support; and, as financial resources permit, both centers will continue to conduct other collaborative projects and engage in scientific exchange programs.

We want to thank our colleagues at MedSocEconInform for all of their efforts. It has been a privilege and a pleasure to work with them, and we are proud to have been a part of this effort. We have learned a great deal about their vital and health statistics systems and hope to learn more about them in the future as we continue to work together. We also hope that they have learned something from us and, in a modest way, that this effort will contribute to the reform of the Russian Federation's vital and health statistics system.

John R. Anderson  
Acting Director  
National Center for Health Statistics

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## Symbols

---	Data not available
...	Category not applicable
–	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision

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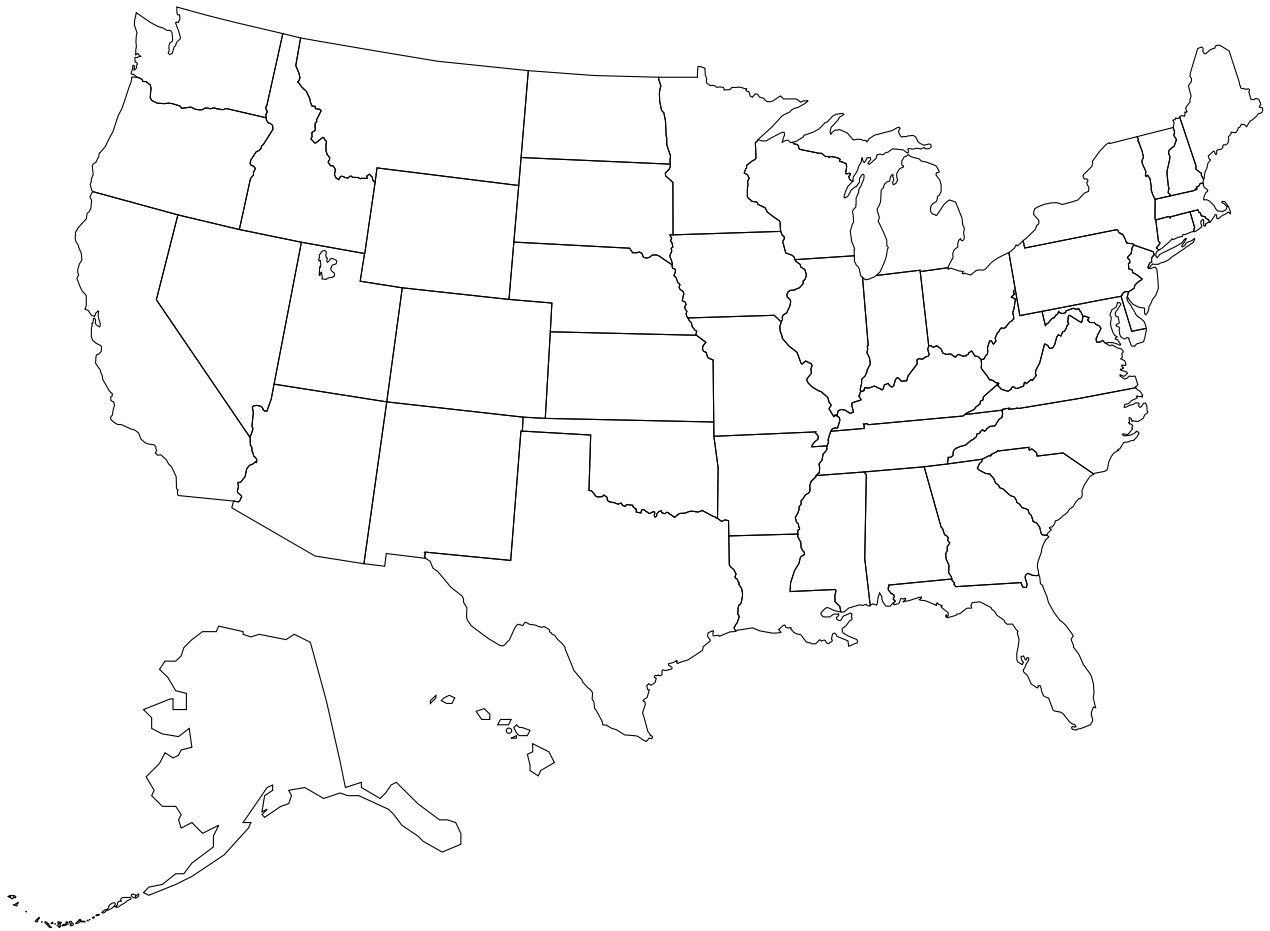


**Russian Federation**



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**United States**



# Highlights

## Russian Federation

### Population

- Between 1985 and 1993, the **population under 5** years of age experienced the greatest reduction in size, declining by 19 percent to 9.3 million. The **elderly population** (65 years and over) continued to grow, increasing by 18 percent, to 16.7 million during the same period (table 1).
- Since 1985, rising mortality rates and declining birth rates have gradually reduced the rate of **natural increase** of the population. The number of deaths exceeded the number of **live births** in 1992 and 1993, contributing to a 0.1-percent decrease in the resident population from 1992 to 1993 (table 2).

### Fertility and natality

- Since 1985, the annual number of births has dropped by 41 percent; the majority of the decline has occurred since 1990. The **fertility rate** has declined by 42 percent since 1985, to 38 per 1,000 females 15–44 years of age (tables 2 and 3).
- The estimated percent of live-born **infants weighing less than 2,500 grams** (low birthweight) has declined slightly from 1985 to 1993, to 13.8 percent of all live births. The estimated figures correct for underreporting of low-birthweight live births (table 4).
- The proportion of females beginning **prenatal care** during the first trimester of pregnancy has increased gradually since 1991, to 71.2 percent in 1993. This is only slightly below the level of 72.7 percent in 1985 (table 4).

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The contributions of the following individuals are gratefully acknowledged; by MedSocEconInform: Prof. Yuri M. Komarov, Prof. Alexandr S. Kiselev, Prof. Alexandr A. Romensky, Dr. Valery E. Tchernjavsky, Dr. Sergei P. Ermakov, Dr. Alla E. Ivanova, Dr. Vladimir A. Magnitsky, Dr. Anna V. Korotkova, Dr. Natalia A. Kravchenko, Dr. Alla A. Kalininskaya, Dr. Igor A. Volkov, Dr. Tamilla S. Liashenko, Ms. Galina N. Evdokushkina; by the National Center for Health Statistics: Dr. Manning Feinleib, Mr. Robert A. Israel, Dr. Christopher T. Sempos, Dr. Francis C. Notzon, Mr. Cuong V. Vuong, Dr. Robert B. Hartford, Mr. Richard L. Welch, Ms. Sharon Ramirez, Dr. Elena V. Sempos, Ms. Mariya Charny, Mr. Rolfe Larson, Ms. Shirley A. Gray, Ms. Dorothy C. Blodgett, Ms. Virginia A. Richards, Dr. Diane M. Makuc, Ms. Kate Prager, Ms. Zung Le.

## Mortality

- **Life expectancy** at birth declined to 65.1 years in 1993, from a peak of 69.3 years in 1985. Life expectancy at birth for males declined even more sharply, to 58.9 years in 1993, falling 3.1 years between 1992 and 1993. Life expectancy at birth for females declined to 71.9 in 1993 (table 5).
- Estimated rates of **infant mortality** show a 31-percent decrease since 1985, to 21.8 in 1993. The estimated rates correct for differences in vital event definitions and underreporting of infant deaths (table 6).
- From 1985 to 1993, **maternal mortality** decreased by a small amount, to 51.6 deaths per 100,000 live births. In 1993, more than one-quarter of all maternal deaths were the result of ectopic pregnancies or abortions other than legally induced abortions (table 7).
- The overall **age-adjusted death rate** rose by 24 percent between 1990 and 1993, reversing the downward trend of the 1970's and 1980's. The largest changes in age-specific mortality were in the age groups 25–34 years (58-percent increase) and 35–44 years (68-percent increase). Increases in mortality occurred in all age groups and for both sexes (table 8).
- Between 1990 and 1993, the age-adjusted mortality rate for **heart disease** rose by 18 percent for both sexes combined, and by 22 percent for males. The rise in heart disease deaths accounted for more than one-fifth of the increase in all-cause mortality since 1990 (table 9).
- The age-adjusted death rate for **stroke** increased 13 percent from 1990 to 1993, after a period of relatively stable rates during the 1980's. Stroke and heart disease together accounted for one-third of the rise in all-cause mortality since 1990 (table 9).
- Mortality resulting from **other external causes** rose by 93 percent between 1990 and 1993, the largest single contributor to the rise in mortality during the 1990's. Male mortality resulting from other external causes rose 90 percent, and female mortality increased by 88 percent (table 9).
- The age-adjusted mortality rate for **homicide** rose by 110 percent from 1990 to 1993, and the **suicide** rate rose by more than 40 percent. These two causes together accounted for one-tenth of the increase in all-cause mortality since 1990 (table 9).

- Mortality resulting from **pneumonia and influenza** more than doubled between 1990 and 1993, and most of the increase took place from 1992 to 1993. Growth in the death rate for males was substantially greater than that for females; by 1993, the death rate for males was four times the rate for females (table 9).
- Fourteen deaths from HIV infection, including 4 children under 15 years of age, occurred between mid-1993 and early 1994. This represented a slight decrease in mortality as a result of HIV infection from the earlier interval of late 1992 to mid-1993 (table 12).

### Communicable disease morbidity

- From 1990 to 1993, the rate of **diphtheria** cases per 100,000 population rose by almost 1,200 percent, to a rate of 10.3; the number of diphtheria cases appeared to be increasing exponentially. Over the same interval, substantial increases also occurred in the incidence of venereal diseases, including a 78-percent rise in **gonorrhea** and a fivefold increase in **syphilis** (table 11).
- The number of **hepatitis** cases per 100,000 population declined by 40 percent during the 1990's, probably because of incomplete reporting. The rate of **salmonellosis** remained relatively constant during the same interval (table 11).
- The number of new cases of **HIV infection** and **AIDS** declined from 1992 to mid-1993 but grew substantially from mid-1993 to early 1994 (table 12).

### Health care resources

- From 1990 to 1993, the number of **physicians** per 10,000 population decreased by 4 percent, to 45.0. The decline was even greater for **paramedical personnel**, with especially severe reductions of 27 percent for feldshers (physician assistants) and 17 percent for midwives (table 14). The Russian definition of a physician contains categories not included in the U.S. definition, such as inactive physicians, dentists, sanitary-epidemiological physicians, and physiotherapists.
- Since 1990, the number of **hospital beds** per 10,000 population has declined by 6 percent, to 129.7. The reduction occurred in all types of hospitals, including long-term hospitals for the treatment of tuberculosis and psychiatric disorders (tables 15 and 16).
- From 1985 to 1993, the average number of **ambulatory physician contacts** decreased by 17 percent, to 9.5 contacts per person per year. Declines were noted in both visits to physician offices and urgent and ambulance care (table 17).
- Between 1985 and 1993, the number of **hospital discharges** per 1,000 population dropped by 11 percent, and the rate of **surgical operations** per 1,000 population declined by 20 percent. During the same interval, however, the **average length of stay** in a hospital remained nearly unchanged (table 18).

## United States

### Population

- Between 1980 and 1992, the **elderly population** in the United States grew more rapidly than other age groups. The population 85 years and over grew by 45 percent to 3.3 million, and the population 75–84 years of age grew by 37 percent to 10.6 million. During this period, the total U.S. population increased by 13 percent (table 1).

### Fertility and natality

- From 1990 to 1992, the **fertility rate** declined by 3 percent to 68.9 live births per 1,000 females 15–44 years of age, reversing an upward trend since 1986 (table 3).
- Between 1985 and 1992, the overall percent of live-born **infants weighing less than 2,500 grams** (low birth-weight) increased slightly from 6.8 to 7.1 percent, after remaining at 6.8 percent during the previous 5-year period (table 4).
- In 1992, the percent of mothers who began **prenatal care** in the first trimester of pregnancy increased slightly to 78 percent, after remaining stable at about 76 percent from 1980 to 1991 (table 4).

### Mortality

- In 1992, overall **life expectancy** at birth reached a record high of 75.8 years. Life expectancy was at its highest level ever in 1992 for both females (79.1 years) and males (72.3 years) (table 5).
- In 1992 the **infant mortality** rate was 8.5 deaths per 1,000 live births, a record low, and nearly 33 percent below the 1980 rate. Reductions were recorded in both neonatal mortality (to 5.4 per 1,000 live births) and postneonatal mortality (to 3.1) (table 6).
- The overall **age-adjusted** death rate declined by 3 percent between 1990 and 1992, continuing the downward trend of the 1980's. The largest decline in age-specific death rates, 11 percent, occurred in the population under 1 year of age (table 8).
- Between 1980 and 1992, the age-adjusted death rate for **heart disease**, the leading cause of death for males and females, declined 27 percent, continuing the downward trend of the 1970's. Heart disease mortality declined 29 percent for males and 24 percent for females during the interval (table 10).
- Between 1980 and 1992, the age-adjusted death rate for **stroke**, the third leading cause of death, declined 35 percent, continuing the downward trend of the 1970's (table 10).
- Between 1990 and 1992, the age-adjusted death rate for **motor vehicle mortality** declined 14 percent, continuing the downward trend of the 1980's. The rate for males fell 15 percent during the interval (table 10).
- From 1991 to 1992, the age-adjusted death rate for **homicide** declined 4 percent, reversing the rise in homicide rates between 1985 and 1991. Both male and female

mortality resulting from homicide declined during 1992 (table 10).

### Communicable disease morbidity

- No more than five **diphtheria** cases per year have been reported since 1985, resulting in incidence rates below 0.005 per 100,000 population (table 11).
- Between 1990 and 1992, the number of **syphilis** cases per 100,000 population declined by 16 percent to 45.3, reversing a sharp rise between 1985 and 1990. The incidence rate for **gonorrhea** dropped by 55 percent between 1980 and 1992 (table 11).
- In 1993 the **AIDS** case-reporting definition was revised to incorporate a broader range of AIDS-indicator diseases and conditions. As a result, the annual number of AIDS cases reported more than doubled. For the first 9 months of 1993, almost 84,000 AIDS cases were reported; 84 percent of all cases occurred among males 13 years of age and over (table 13).

### Health care resources

- The number of non-Federal **physicians** with office-based practices per 10,000 population rose by 12 percent between 1985 and 1993. Physician specialties with the highest growth in the 1990's were internal medicine and pediat-

rics. The number of registered nurses per 10,000 population rose 15 percent between 1985 and 1992 (table 14). The U.S. definition of a physician does not contain categories included in the Russian definition, such as inactive physicians, dentists, sanitary-epidemiological physicians, and physiotherapists.

- Between 1985 and 1992, the number of **short-stay hospitals** declined by 8 percent. The number of hospitals with 500 beds or more dropped by 12 percent, the largest change for any of the hospital categories. The number of **hospital beds** per 10,000 population fell by 14 percent overall from 1985 to 1992, and by 18 percent for hospitals with 500 beds or more (table 15).
- The average number of **physician contacts** per year increased by 15 percent between 1985 and 1993, to 6.1 contacts annually. Visits to physician offices represented more than one-half the total number of physician contacts and was the major source of increase in the total measure (table 17).
- The **average length of stay** in short-stay hospitals declined by 5 percent between 1990 and 1992, continuing the downward trend of the 1980's. The rate of **hospital discharges** per 1,000 persons declined by a small amount during the same interval. Since 1990, the rate of **inpatient surgical operations** has fallen only slightly for both males and females (table 18).

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**Table 1. Resident population, by age and sex: Russian Federation and United States, selected years 1980–93**

Country, sex, and year	All residents	Age in years										
		Under 1 year	1–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75–84	85 and over
Russian Federation		Population										
All persons:												
1980	138,623,997	2,162,380	8,468,872	19,305,344	24,541,547	22,242,162	17,761,755	18,819,237	11,112,893	9,685,682	3,824,051	700,074
1985	143,444,187	2,356,758	9,147,605	20,604,916	20,993,186	25,191,767	16,204,174	19,129,215	15,599,878	8,629,684	4,800,442	786,562
1990	147,913,047	2,042,649	9,472,425	22,446,402	19,709,319	24,675,511	21,676,613	16,548,721	16,502,192	8,609,347	5,268,041	961,827
1991	148,244,835	1,870,366	9,091,489	22,766,281	19,810,056	24,058,606	22,726,686	16,043,405	16,458,415	9,217,642	5,186,105	1,015,784
1992	148,310,174	1,680,008	8,511,358	23,123,387	20,026,600	23,334,571	23,357,050	15,669,662	16,525,533	10,000,225	5,016,311	1,065,469
1993	148,145,911	1,480,467	7,819,486	23,411,771	20,348,922	22,536,113	23,941,809	15,228,511	16,658,582	10,762,688	4,855,254	1,102,308
Male:												
1980	63,857,519	1,103,890	4,301,533	9,792,665	12,545,076	11,223,540	8,602,223	8,644,917	3,817,760	2,851,540	839,099	135,276
1985	66,438,950	1,203,729	4,667,286	10,464,373	10,590,598	12,791,354	7,970,451	8,929,434	6,103,645	2,517,775	1,061,812	138,493
1990	69,266,204	1,046,981	4,829,681	11,397,039	10,059,661	12,477,908	10,747,471	7,747,552	7,012,977	2,564,501	1,223,983	158,450
1991	69,481,089	958,645	4,642,122	11,561,824	10,112,724	12,157,406	11,266,195	7,516,747	7,078,842	2,815,595	1,201,677	169,312
1992	69,562,474	861,576	4,351,791	11,747,232	10,235,144	11,773,602	11,575,696	7,357,830	7,157,643	3,161,508	1,159,884	180,568
1993	69,528,088	760,501	4,004,697	11,901,131	10,415,918	11,360,626	11,854,079	7,169,595	7,234,700	3,512,562	1,124,084	190,195
Female:												
1980	74,766,478	1,058,490	4,167,339	9,512,679	11,996,471	11,018,622	9,159,532	10,174,320	7,295,133	6,834,142	2,984,952	564,798
1985	77,005,237	1,153,029	4,480,319	10,140,543	10,402,588	12,400,413	8,233,723	10,199,781	9,496,233	6,111,909	3,738,630	648,069
1990	78,646,843	995,668	4,642,744	11,049,363	9,649,658	12,197,603	10,929,142	8,801,169	9,489,215	6,044,846	4,044,058	803,377
1991	78,763,746	911,721	4,449,367	11,204,457	9,697,332	11,901,200	11,460,491	8,526,658	9,379,573	6,402,047	3,984,428	846,472
1992	78,747,700	818,432	4,159,567	11,376,155	9,791,456	11,560,969	11,781,354	8,311,832	9,367,890	6,838,717	3,856,427	884,901
1993	78,617,823	719,966	3,814,789	11,510,640	9,933,004	11,175,487	12,087,730	8,058,916	9,423,882	7,250,126	3,731,170	912,113
United States <sup>1</sup>												
All persons:												
1980	226,545,805	3,533,692	12,814,562	34,942,085	42,486,828	37,081,839	25,634,710	22,799,787	21,702,875	15,580,605	7,728,755	2,240,067
1985	237,924,000	3,679,000	14,163,000	33,692,000	39,992,000	41,696,000	31,691,000	22,459,000	22,135,000	16,859,000	8,890,000	2,667,000
1990	248,709,873	3,945,974	14,811,673	35,095,247	37,013,289	43,160,726	37,434,767	25,056,650	21,112,652	18,045,495	10,011,975	3,021,425
1991	252,177,000	4,011,000	15,210,000	35,908,000	36,399,000	42,877,000	39,272,000	25,739,000	21,005,000	18,279,000	10,314,000	3,160,000
1992	255,077,536	4,000,022	15,512,163	36,451,497	36,146,684	42,444,828	39,906,483	27,415,388	20,925,480	18,460,224	10,559,246	3,255,521
1993	---	---	---	---	---	---	---	---	---	---	---	---
Male:												
1980	110,053,161	1,806,338	6,555,671	17,855,301	21,418,640	18,381,903	12,569,719	11,008,919	10,151,755	6,756,502	2,866,888	681,525
1985	115,730,000	1,882,000	7,245,000	17,247,000	20,276,000	20,793,000	15,594,000	10,917,000	10,384,000	7,339,000	3,292,000	761,000
1990	121,239,348	2,018,404	7,580,624	17,970,831	18,915,385	21,564,316	18,509,652	12,232,301	9,955,069	7,906,814	3,744,725	841,227
1991	122,979,000	2,052,000	7,784,000	18,388,000	18,609,000	21,427,000	19,432,000	12,563,000	9,932,000	8,022,000	3,888,000	881,000
1992	124,480,133	2,043,149	7,937,437	18,668,150	18,477,998	21,232,486	19,767,758	13,397,603	9,914,051	8,124,794	4,007,845	908,862
1993	---	---	---	---	---	---	---	---	---	---	---	---

<sup>1</sup>Populations for age groups may not sum to the total because of rounding.

Table 1. Resident population, by age and sex: Russian Federation and United States, selected years 1980–93—Con.

Country, sex, and year	All residents	Age in years										
		Under 1 year	1–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75–84	85 and over
United States <sup>1</sup> —Con.		Population										
Female:												
1980	116,492,644	1,727,354	6,258,891	17,086,784	21,068,188	18,699,936	13,064,991	11,790,868	11,551,120	8,824,103	4,861,867	1,558,542
1985	122,194,000	1,796,000	6,918,000	16,446,000	19,716,000	20,903,000	16,097,000	11,543,000	11,751,000	9,520,000	5,598,000	1,906,000
1990	127,470,525	1,927,570	7,231,049	17,124,416	18,097,904	21,596,410	18,925,115	12,824,349	11,157,583	10,138,681	6,267,250	2,180,198
1991	129,198,000	1,959,000	7,426,000	17,520,000	17,790,000	21,450,000	19,840,000	13,177,000	11,073,000	10,258,000	6,426,000	2,279,000
1992	130,597,403	1,956,873	7,574,726	17,783,347	17,668,686	21,212,342	20,138,725	14,017,785	11,011,429	10,335,430	6,551,401	2,346,659
1993	---	---	---	---	---	---	---	---	---	---	---	---

<sup>1</sup>Populations for age groups may not sum to the total because of rounding.

SOURCES: Russian Federation: Goskomstat; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics.

**Table 2. Number of live births and deaths and natural increase in population: Russian Federation and United States, selected years 1980–93**

Year	Russian Federation			United States		
	Live births	Deaths	Natural increase in population <sup>1</sup>	Live births	Deaths	Natural increase in population <sup>1</sup>
1980	2,202,799	1,525,755	677,044	3,612,258	1,989,841	1,622,417
1985	2,375,147	1,625,266	749,881	3,760,561	2,086,440	1,674,121
1990	1,988,858	1,655,993	332,865	4,158,212	2,148,463	2,009,749
1991	1,794,626	1,690,657	103,969	4,110,907	2,169,518	1,941,389
1992	1,587,644	1,807,441	-219,797	4,065,014	2,175,613	1,889,401
1993	1,398,312	2,129,339	-731,027	---	---	---

<sup>1</sup>Increase is number of births minus number of deaths.

SOURCES: Russian Federation: Goskomstat; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics.

**Table 3. Birth rates: Russian Federation and United States, selected years 1980–93**

Year	Live births per 1,000 population		Live births per 1,000 women 15–44 years of age	
	Russian Federation	United States	Russian Federation	United States
1980	15.9	15.9	---	68.4
1985	16.6	15.8	65.7	66.3
1990	13.4	16.7	60.6	70.9
1991	12.1	16.3	54.2	69.6
1992	10.8	15.9	47.9	68.9
1993	9.4	---	38.2	---

SOURCES: Russian Federation: Goskomstat; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics.



**Table 4. Percent of live births by selected characteristics: Russian Federation and United States, selected years 1980–93**

Characteristic and year	Russian Federation		United States
	Official <sup>1</sup>	Estimated <sup>2</sup>	
Percent of live births			
Low birthweight <sup>3</sup>			
1980	---	---	6.8
1985	5.6	16.3	6.8
1990	5.7	14.1	7.0
1991	5.7	14.0	7.1
1992	5.9	13.9	7.1
1993	6.1	13.8	---
Mother not married			
1980	---	---	18.4
1985	---	---	22.0
1990	14.6	---	28.0
1991	---	---	29.5
1992	17.3	---	30.1
1993	18.2	---	---
Prenatal care begun in first trimester			
1980	---	---	76.3
1985	72.7	---	76.2
1990	68.8	---	75.8
1991	68.5	---	76.2
1992	70.0	---	77.7
1993	71.2	---	---

<sup>1</sup>Official rate from Goskomstat.

<sup>2</sup>Estimated rate from MedSocEconInform (see glossary in appendix II, "Estimation of level of infant mortality").

<sup>3</sup>Less than 2,500 grams.

SOURCES: Russian Federation: Goskomstat, MedSocEconInform; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics.

**Table 5. Life expectancy at birth, by sex: Russian Federation and United States, selected years 1980–93**

Year	Russian Federation						United States		
	Total		Male		Female		Total	Male	Female
	Official <sup>1</sup>	Estimated <sup>2</sup>	Official <sup>1</sup>	Estimated <sup>2</sup>	Official <sup>1</sup>	Estimated <sup>2</sup>			
Remaining life expectancy in years									
1980 <sup>3</sup>	67.5	67.6	61.5	61.5	73.0	73.1	73.7	70.0	77.4
1985	69.3	68.2	63.8	62.7	74.0	73.3	74.7	71.1	78.2
1990	69.2	69.2	63.8	64.5	74.3	74.4	75.4	71.8	78.8
1991	69.0	69.0	63.5	63.8	74.3	74.3	75.5	72.0	78.9
1992	67.9	67.5	62.0	63.5	73.8	73.1	75.8	72.3	79.1
1993	65.1	65.0	58.9	59.0	71.9	71.5	---	---	---

<sup>1</sup>Official rate from Goskomstat.

<sup>2</sup>Estimated rate from MedSocEconInform using an alternate methodology.

<sup>3</sup>Data from Russian Federation are for 1981.

SOURCES: Russian Federation: Goskomstat; MedSocEconInform; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics.

**Table 6. Infant mortality, late fetal death, and perinatal mortality rates: Russian Federation and United States, selected years 1980–93**

Country and year	Infant mortality rate <sup>1</sup>						
	Total		Neonatal		Late fetal death rate <sup>4</sup>	Perinatal mortality rate <sup>5</sup>	Post-neonatal
	Official <sup>2</sup>	Estimated <sup>3</sup>	Under 28 days	Under 7 days			
Russian Federation			Deaths per 1,000 live births				
1980	22.1	39.2	9.2	6.8	12.9	8.9	15.8
1985	20.7	31.6	11.1	8.6	9.6	9.3	17.8
1990	17.4	23.7	11.1	9.0	6.3	8.9	17.9
1991	17.8	23.0	11.0	8.9	6.8	8.7	17.7
1992	18.0	21.9	11.5	9.0	6.5	8.3	17.2
1993	19.9	21.8	12.0	9.7	7.8	7.8	17.4
United States							
1980	12.6	---	8.5	7.1	4.1	6.2	13.2
1985	10.6	---	7.0	5.8	3.7	4.9	10.7
1990	9.2	---	5.8	4.8	3.4	4.3	9.1
1991	8.9	---	5.6	4.6	3.4	4.1	8.7
1992	8.5	---	5.4	---	3.1	---	---
1993	---	---	---	---	---	---	---

<sup>1</sup>Infant mortality rate is the number of deaths of infants under 1 year of age per 1,000 live births. Neonatal deaths occur within 28 days of birth; early neonatal deaths occur within 7 days of birth; and postneonatal deaths occur 28–365 days after birth.

<sup>2</sup>Official rate from Goskomstat.

<sup>3</sup>Estimated rate from MedSocEconInform (see glossary in appendix II, "Estimation of level of infant mortality").

<sup>4</sup>Number of fetal deaths of 28 weeks or more gestation per 1,000 live births plus late fetal deaths.

<sup>5</sup>Number of late fetal deaths plus infant deaths within 7 days of birth per 1,000 live births, plus late fetal deaths.

SOURCES: Russian Federation: Goskomstat; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics.

**Table 7. Maternal mortality rate, by cause of death: Russian Federation and United States, selected years 1980–93**

Country and cause of death <sup>1</sup>	1980	1985	1990	1991	1992	1993
Russian Federation		Number per 100,000 live births				
All causes (630–676)	---	54.0	---	52.4	50.8	51.6
Ectopic pregnancy (633)	---	3.2	---	4.4	4.7	3.8
Legally induced abortion (635)	---	1.8	---	1.1	1.4	1.7
Other abortion (630–632, 634, 636–639)	---	19.7	---	11.9	10.9	13.1
Hemorrhage of pregnancy and childbirth (640, 641.1–641.9, 666)	---	5.3	---	7.1	7.2	7.1
Toxemia of pregnancy (642.4–642.9, 643)	---	5.6	---	7.7	5.8	6.2
Sepsis (659.3, 670)	---	1.8	---	1.6	2.3	1.7
Other (642.0–642.3, 641.0, 644–648, 652–659.2, 659.4–659.9, 660–665, 667–669, 671–676)	---	16.6	---	18.7	18.5	17.5
United States						
All causes (630–676)	9.2	7.8	8.2	7.9	---	---
Ectopic pregnancy (633)	1.3	0.9	1.0	0.8	---	---
Legally induced abortion (635)	0.1	0.1	2 <sup>(*)</sup>	2 <sup>(*)</sup>	---	---
Other abortion (630–632, 634, 636–638)	0.3	0.3	0.4	0.5	---	---
Hemorrhage of pregnancy and childbirth (640, 641.1–641.9, 666)	1.2	1.1	1.1	0.9	---	---
Toxemia of pregnancy (642.4–642.9, 643)	1.7	0.9	1.5	1.6	---	---
Complications of puerperium (670–676)	2.6	2.4	2.4	2.4	---	---
Other (642.0–642.3, 644–648, 651–665, 667–669)	2.1	2.2	1.9	1.3	---	---

<sup>1</sup>Cause of death codes are from the *International Classification of Diseases, Ninth Revision*.

<sup>2</sup>Rates based on fewer than 20 events.

SOURCES: Russian Federation: Rates computed by MedSocEconInform from data supplied by Goskomstat; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Vital Statistics of the United States, volume II, Mortality, Part A, for the years shown.

**Table 8. Death rates from all causes, by age and sex: Russian Federation and United States, selected years 1980–93**

Sex and age	Russian Federation						United States					
	1981	1985	1990	1991	1992	1993	1980	1985	1990	1991	1992	1993
Deaths per 100,000 population												
Both sexes												
All ages, age-adjusted . . . . .	1,233.9	1,226.2	1,192.7	1,198.1	1,264.7	1,474.5	896.1	848.8	803.4	792.5	779.3	---
All ages, crude . . . . .	1,076.8	1,116.6	1,118.2	1,138.6	1,214.9	1,428.8	878.3	876.9	863.8	860.3	852.9	---
Under 1 year . . . . .	2,182.4	2,094.4	1,717.8	1,737.2	1,738.6	1,880.8	1,288.3	1,088.1	971.9	916.6	865.7	---
1–4 years . . . . .	151.6	135.6	98.5	100.6	99.4	108.4	63.9	51.8	46.8	47.4	43.6	---
5–14 years . . . . .	63.1	52.0	48.9	55.2	53.3	54.8	30.6	26.5	24.0	23.6	22.5	---
15–24 years . . . . .	163.7	136.8	139.7	145.3	164.2	190.7	115.4	94.9	99.2	100.1	95.6	---
25–34 years . . . . .	298.4	244.1	238.5	255.0	303.8	377.3	135.5	124.4	139.2	139.1	137.8	---
35–44 years . . . . .	555.9	440.0	418.0	443.0	530.5	703.1	227.9	207.7	223.2	224.4	228.8	---
45–54 years . . . . .	1,004.2	908.7	930.9	952.0	1,090.7	1,379.5	584.0	519.3	473.4	468.8	456.1	---
55–64 years . . . . .	1,657.3	1,736.9	1,877.0	1,897.8	2,014.0	2,393.7	1,346.3	1,294.2	1,196.9	1,181.0	1,151.7	---
65–74 years . . . . .	3,698.2	3,939.1	3,571.5	3,538.0	3,654.7	4,181.1	2,994.9	2,862.8	2,648.6	2,618.5	2,588.9	---
75–84 years . . . . .	8,573.4	8,672.8	8,664.8	8,703.0	8,834.0	9,804.3	6,692.6	6,398.7	6,007.2	5,890.0	5,775.5	---
85 years and over . . . . .	19,956.3	21,197.9	20,161.0	19,720.1	19,873.6	21,815.6	15,980.3	15,712.4	15,327.4	15,107.6	14,972.9	---
Male												
All ages, age-adjusted . . . . .	1,821.0	1,771.5	1,688.4	1,699.0	1,803.7	2,128.0	1,173.1	1,104.8	1,035.3	1,018.5	998.8	---
All ages, crude . . . . .	1,179.7	1,169.1	1,156.4	1,188.7	1,303.3	1,585.8	976.9	948.6	918.4	912.1	901.6	---
Under 1 year . . . . .	2,509.1	2,408.6	1,976.2	1,995.6	2,000.8	2,131.9	1,428.5	1,219.9	1,082.8	1,023.8	956.6	---
1–4 years . . . . .	168.7	152.8	110.9	114.1	113.5	119.4	72.6	58.5	52.4	52.0	48.0	---
5–14 years . . . . .	79.7	67.4	64.2	73.1	69.6	70.0	36.7	31.8	28.5	28.7	27.2	---
15–24 years . . . . .	258.7	215.8	209.4	217.6	246.8	289.3	172.3	138.9	147.4	148.0	141.8	---
25–34 years . . . . .	489.5	390.3	381.8	407.0	490.7	611.5	196.1	179.6	204.3	204.0	202.0	---
35–44 years . . . . .	899.4	694.8	648.3	688.1	834.4	1,116.9	299.2	278.9	310.4	311.6	318.7	---
45–54 years . . . . .	1,586.3	1,422.2	1,443.4	1,476.6	1,712.8	2,173.4	767.3	671.6	610.3	605.2	591.7	---
55–64 years . . . . .	2,791.0	2,755.6	2,887.7	2,907.8	3,094.4	3,731.1	1,815.1	1,711.4	1,553.4	1,524.7	1,481.5	---
65–74 years . . . . .	5,810.2	6,075.0	5,411.4	5,362.2	5,506.7	6,371.1	4,105.2	3,856.3	3,491.5	3,438.7	3,374.4	---
75–84 years . . . . .	11,673.5	11,747.5	11,461.5	11,535.7	11,618.6	13,013.4	8,816.7	8,501.6	7,888.6	7,689.0	7,482.7	---
85 years and over . . . . .	23,273.0	23,475.6	22,600.8	22,204.0	22,283.6	23,896.0	18,801.1	18,614.1	18,056.6	17,800.6	17,740.4	---
Female												
All ages, age-adjusted . . . . .	903.9	915.7	892.2	889.6	918.5	1,041.0	687.5	658.6	628.8	621.5	612.5	---
All ages, crude . . . . .	988.7	1,071.4	1,084.7	1,094.4	1,136.8	1,289.9	785.3	809.1	812.0	811.0	806.5	---
Under 1 year . . . . .	1,841.8	1,766.3	1,446.0	1,465.5	1,462.6	1,629.7	1,141.7	950.6	855.7	804.4	770.8	---
1–4 years . . . . .	133.8	117.5	85.6	86.5	84.6	96.8	54.7	44.8	41.0	42.7	39.0	---
5–14 years . . . . .	45.9	36.1	33.2	36.8	36.4	39.1	24.2	21.0	19.3	18.3	17.5	---
15–24 years . . . . .	64.5	56.5	67.0	69.9	77.7	87.3	57.5	49.6	49.0	50.0	47.2	---
25–34 years . . . . .	104.0	93.3	91.8	99.7	113.4	139.2	75.9	69.4	74.2	74.2	73.5	---
35–44 years . . . . .	232.8	193.3	191.5	202.0	232.0	297.2	159.3	138.7	137.9	139.0	140.5	---
45–54 years . . . . .	500.3	459.2	479.7	489.6	540.0	673.3	412.9	375.2	342.7	338.8	326.4	---
55–64 years . . . . .	1,044.2	1,082.1	1,130.0	1,135.5	1,188.6	1,367.0	934.3	925.6	878.8	872.8	854.7	---
65–74 years . . . . .	2,820.3	3,059.2	2,790.9	2,735.8	2,798.6	3,120.1	2,144.7	2,096.9	1,991.2	1,976.8	1,971.4	---
75–84 years . . . . .	7,702.0	7,799.4	7,818.3	7,848.6	7,996.4	8,837.5	5,440.1	5,162.1	4,883.1	4,801.4	4,731.1	---
85 years and over . . . . .	19,181.9	20,711.2	19,679.8	19,223.3	19,381.8	21,376.3	14,746.9	14,553.9	14,274.3	14,066.6	13,901.0	---

NOTE: Age adjusted using as standard population the European standard 100,000 population prepared by the World Health Organization (see appendix II.)

SOURCES: Russian Federation: Rates computed by MedSocEconInform from data supplied by Goskomstat; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics. Age-adjusted rates computed by Division of Health Examination Statistics from data supplied by the Division of Vital Statistics.

**Table 9. Age-adjusted death rates for selected causes of death, by sex: Russian Federation, selected years 1981–93**

<i>Sex and cause of death</i> <sup>1</sup>	1981	1985	1990	1991	1992	1993
All causes		Deaths per 100,000 population				
Total .....	1,233.9	1,226.2	1,192.7	1,198.1	1,264.7	1,474.5
Male .....	1,821.0	1,771.5	1,688.4	1,699.0	1,803.7	2,128.0
Female .....	903.9	915.7	892.2	889.6	918.5	1,041.0
Diseases of the heart (390–398, 401–429)						
Total .....	389.4	394.4	341.9	332.5	340.3	401.9
Male .....	540.3	536.0	474.2	467.4	481.5	576.2
Female .....	315.8	321.8	266.8	256.1	257.2	296.4
Cerebrovascular diseases (430–438)						
Total .....	245.9	257.0	245.6	242.2	247.4	277.6
Male .....	297.9	304.4	287.3	282.3	288.3	328.7
Female .....	222.8	235.2	224.4	221.0	225.3	248.5
Malignant neoplasms (140–208)						
Total .....	151.6	156.7	196.7	197.6	199.3	207.8
Male .....	264.3	274.8	308.1	309.5	309.4	322.4
Female .....	96.5	96.4	137.0	136.9	138.3	143.2
Malignant neoplasms of the respiratory system (160–165)						
Total .....	39.3	43.7	49.9	50.4	50.8	51.5
Male .....	95.8	104.6	116.2	116.9	116.6	117.6
Female .....	10.1	10.7	10.8	11.5	11.7	11.6
Malignant neoplasms of the breast (174)						
Female .....	14.2	15.7	19.2	19.8	21.0	21.4
Pneumonia and influenza (480–483, 485–487)						
Total .....	13.4	12.1	7.6	7.2	9.0	15.4
Male .....	21.6	20.2	12.6	11.8	15.8	27.1
Female .....	8.3	6.9	4.5	4.2	4.2	6.8
Chronic obstructive pulmonary diseases (490–496)						
Total .....	28.5	31.8	35.7	33.0	33.3	39.5
Male .....	49.4	58.6	69.8	64.7	65.2	78.6
Female .....	20.0	20.7	20.8	18.9	18.8	20.8
Chronic liver diseases and cirrhosis (571.0–571.3, 571.5, 571.6)						
Total .....	12.4	13.4	14.2	14.0	14.6	18.6
Male .....	20.3	21.3	19.9	19.6	20.4	25.8
Female .....	7.8	8.7	10.9	10.7	11.1	13.9
Motor vehicle accidents (E810–E825)						
Total .....	---	---	24.4	25.8	24.8	25.0
Male .....	---	---	40.7	42.6	40.8	40.7
Female .....	---	---	9.9	10.8	10.5	11.0
Suicide (E950–E959)						
Total .....	---	---	27.0	26.9	31.3	38.0
Male .....	---	---	47.5	47.6	55.8	68.9
Female .....	---	---	10.5	10.1	10.9	12.1
Homicide and legal intervention (E960–E978)						
Total .....	---	---	14.1	15.1	22.6	29.7
Male .....	---	---	22.4	24.1	36.4	47.5
Female .....	---	---	6.4	6.7	9.7	13.2
Other external causes (E800–E807, E826–E949, E980–E999)						
Total .....	---	---	69.1	74.8	94.1	133.0
Male .....	---	---	116.5	126.6	159.2	221.7
Female .....	---	---	28.1	29.5	36.8	52.8

<sup>1</sup>Cause of death codes are from the *International Classification of Diseases, Ninth Revision*.

NOTE: Age adjusted using as standard population the European standard 100,000 population prepared by the World Health Organization (see appendix II.)

SOURCE: Russian Federation: Rates computed by MedSocEconInform from data supplied by Goskomstat.

**Table 10. Age-adjusted death rates for selected causes of death, by sex: United States, selected years 1980–93**

<i>Sex and cause of death</i> <sup>1</sup>	1980	1985	1990	1991	1992	1993
All causes		Deaths per 100,000 population				
Total .....	896.1	848.8	803.4	792.5	779.3	---
Male .....	1,173.1	1,104.8	1,035.3	1,018.5	998.8	---
Female .....	687.5	658.6	628.8	621.5	612.5	---
Diseases of heart (390–398, 402, 404–429)						
Total .....	340.9	308.8	262.5	256.0	249.5	---
Male .....	457.7	411.8	344.7	335.1	325.7	---
Female .....	252.8	231.6	200.6	195.9	191.5	---
Cerebrovascular diseases (430–438)						
Total .....	74.5	59.3	50.7	49.1	48.1	---
Male .....	80.1	63.0	53.9	52.4	51.2	---
Female .....	70.1	56.1	48.0	46.2	45.4	---
Malignant neoplasms (140–208)						
Total .....	193.9	197.1	200.0	199.5	197.8	---
Male .....	247.8	250.2	253.5	251.7	248.9	---
Female .....	156.8	161.3	164.2	164.4	163.5	---
Malignant neoplasms of the respiratory system (160–165)						
Total .....	51.7	56.0	60.0	59.9	59.6	---
Male .....	86.5	88.9	90.4	89.2	87.1	---
Female .....	25.5	31.7	37.6	38.1	39.1	---
Malignant neoplasms of the breast (174)						
Female .....	31.1	32.1	32.1	31.6	30.6	---
Pneumonia and influenza (480–487)						
Total .....	24.0	25.9	27.4	26.0	24.7	---
Male .....	32.2	35.2	35.7	34.0	32.4	---
Female .....	18.8	20.3	22.4	21.3	20.0	---
Chronic obstructive pulmonary diseases (490–496)						
Total .....	25.0	29.9	31.8	32.5	32.3	---
Male .....	42.4	33.0	45.7	45.5	44.6	---
Female .....	13.6	19.4	23.3	24.6	24.7	---
Chronic liver diseases and cirrhosis (571)						
Total .....	15.5	12.5	11.2	10.8	10.5	---
Male .....	21.9	17.7	16.0	15.3	15.1	---
Female .....	10.1	8.0	7.0	6.9	6.4	---
Motor vehicle accidents (E810–E825)						
Total .....	22.1	18.3	18.2	16.7	15.6	---
Male .....	33.1	26.6	25.9	23.8	22.1	---
Female .....	11.7	10.5	10.9	10.1	9.6	---
Suicide (E950–E959)						
Total .....	12.1	12.4	12.3	12.1	11.8	---
Male .....	19.4	20.5	20.7	20.5	19.9	---
Female .....	5.7	5.2	4.8	4.7	4.6	---
Homicide and legal intervention (E960–E978)						
Total .....	10.4	8.0	9.5	10.0	9.6	---
Male .....	16.8	12.3	15.0	15.8	15.3	---
Female .....	4.3	3.8	4.0	4.3	4.0	---
Other external causes (E800–E807, E826–E949)						
Total .....	23.2	19.5	17.2	17.1	16.8	---
Male .....	34.4	29.1	25.5	25.1	24.9	---
Female .....	13.4	15.1	9.9	9.9	9.6	---

<sup>1</sup>Cause of death codes are from the *International Classification of Diseases, Ninth Revision*.

NOTE: Age adjusted using as standard population the European standard 100,000 population prepared by the World Health Organization (see appendix II.)

SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics; rates were computed by the Division of Examination Statistics, from data supplied by the Division of Vital Statistics.

**Table 11. Rate of selected notifiable diseases, by type of disease: Russian Federation and United States, selected years 1980–93**

<i>Country and disease</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Russian Federation						
	Cases per 100,000 population					
Diphtheria . . . . .	---	0.8	0.8	1.3	2.6	10.3
Hepatitis, all types . . . . .	---	227.0	226.7	191.7	136.2	---
Salmonellosis, excluding typhoid fever . . . . .	---	24.5	70.4	74.2	80.1	68.3
Syphilis . . . . .	---	9.8	5.3	7.2	13.4	33.8
Gonorrhoea . . . . .	---	148.1	128.0	128.6	169.6	228.1
United States						
Diphtheria . . . . .	0.0	0.0	0.0	0.0	0.0	---
Hepatitis A . . . . .	12.8	10.0	12.6	9.7	9.1	---
Hepatitis B . . . . .	8.4	11.5	8.5	7.1	6.3	---
Salmonellosis, excluding typhoid fever . . . . .	14.9	27.4	19.5	19.1	16.0	---
Syphilis <sup>1</sup> . . . . .	30.5	28.5	53.8	51.7	45.3	---
Gonorrhoea <sup>1</sup> . . . . .	445.0	384.3	276.6	249.5	201.6	---

<sup>1</sup>Numbers shown are for newly reported civilian cases before 1991; numbers shown from 1991 on include military cases.

SOURCES: Russian Federation: States Committee for Sanitary Epidemiology and Surveillance and Ministry of Health and Medical Industry. United States: Centers for Disease Control, National Center for Health Statistics: Summary of notifiable diseases, United States, 1992 MMWR 41(55). Public Health Service. Hyattsville, Md. 1992; Centers for Disease Control and Prevention, Division of Sexually Transmitted Diseases, Center for Prevention Services.

**Table 12. Number of cases and deaths from human immunodeficiency virus and acquired immunodeficiency syndrome: Russian Federation, 1992-94**

<i>Disease and age</i>	<i>Total from 1987 through September 30, 1992</i>	<i>September 30, 1992 to July 1, 1993</i>	<i>July 1, 1993 to April 1, 1994</i>
HIV infection			
	Cases	Number of cases reported during interval	
All ages . . . . .	581	44	147
Under 15 years of age . . . . .	270	15	69
AIDS			
All ages . . . . .	88	2	84
Under 15 years of age . . . . .	63	5	57
HIV infection			
	Deaths	Number of deaths reported during interval	
All ages . . . . .	70	19	15
Under 15 years of age . . . . .	47	12	4
HIV infection with AIDS			
All ages . . . . .	55	16	14
Under 15 years of age . . . . .	39	11	4

NOTES: HIV is human immunodeficiency virus. AIDS is acquired immunodeficiency syndrome.

SOURCES: States Committee for Sanitary Epidemiology and Surveillance and Ministry of Health and Medical Industry of the Russian Federation.

**Table 13. Number of persons with and deaths from acquired immunodeficiency syndrome, by sex and age: United States, selected years 1985–93**

<i>Sex and age</i>	1985	1990	1991	1992	Jan.–Sept. 1993
Number of persons, by year of report					
All persons diagnosed with AIDS . . . . .	8,189	41,558	43,574	45,603	83,814
Male, 13 years and over . . . . .	7,538	36,300	37,530	38,917	70,396
Female, 13 years and over . . . . .	522	4,540	5,375	5,942	12,789
Both sexes, under 13 years . . . . .	129	718	669	744	629
Number of deaths					
All persons diagnosed with AIDS . . . . .	6,704	29,022	32,573	34,228	16,885
Male, 13 years and over . . . . .	6,138	25,579	28,540	29,778	14,662
Female, 13 years and over . . . . .	460	3,083	3,684	4,097	2,044
Both sexes, under 13 years . . . . .	106	360	349	353	179

NOTES: The AIDS case-reporting definitions were expanded in 1985, 1987, and 1993. Data are updated periodically because of reporting delays. Data for all years have been updated through September 30, 1993. HIV is human immunodeficiency virus. AIDS is acquired immunodeficiency syndrome.

SOURCE: Centers for Disease Control and Prevention, National Center for Infectious Diseases, Division of HIV/AIDS.

**Table 14. Number of providers per 10,000 population, by specialty: Russian Federation and United States, selected years 1980–93**

<i>Country and provider type</i>	1980	1985	1990	1991	1992	1993
Russian Federation						
Personnel per 10,000 population						
All physicians <sup>1</sup> . . . . .	---	45.1	46.9	44.3	44.7	45
Family practice and internal medicine . . . . .	---	10.8	11.5	11.1	11.3	11.4
Pediatrics <sup>2</sup> . . . . .	---	22.9	24.5	23.3	23.5	22
Obstetrics and gynecology <sup>3</sup> . . . . .	---	4.8	5.2	4.9	5	4.7
Surgery . . . . .	---	4.7	5.6	5.2	5.3	5.4
Ophthalmology . . . . .	---	0.9	1	1	1	0.9
Otolaryngology . . . . .	---	0.8	0.8	0.8	0.8	0.8
Orthopedic surgery . . . . .	---	---	---	---	---	---
Neurology . . . . .	---	1.1	1.2	1.2	1.2	1.2
Psychiatry and narcology . . . . .	---	1.2	1.5	1.3	1.4	1.3
Dentists . . . . .	---	4.6	5.1	4.9	4.8	5.2
Nursing personnel, total . . . . .	---	120.6	122.6	114.1	113.6	111.7
Physician assistants (feldshers) . . . . .	---	26.5	27.9	23.8	22.5	20.3
Midwives . . . . .	---	23.5	20.3	16.6	16.3	16.8
Nurses <sup>4</sup> . . . . .	---	60.5	67.1	62.6	63.4	63.5
Laboratory assistants (feldshers-laborants) . . . . .	---	4.7	5.7	5.9	4.9	6
X-ray technicians . . . . .	---	1.5	1.9	1.7	1.7	1.5
United States						
All active physicians . . . . .	18.3	20.9	22.0	---	22.7	22.9
Non-Federal office-based physicians . . . . .	12.0	13.8	14.5	---	15.2	15.5
Family practice . . . . .	2.1	2.3	2.3	---	2.3	2.3
Internal medicine . . . . .	1.8	2.2	2.3	---	2.6	2.6
Pediatrics <sup>2</sup> . . . . .	3.4	4.3	4.9	---	5.2	5.4
Obstetrics and gynecology <sup>3</sup> . . . . .	1.7	1.9	2.0	---	2.1	2.1
General surgery . . . . .	1.0	1.0	1.0	---	1.0	0.9
Ophthalmology . . . . .	0.5	0.5	0.5	---	0.5	0.5
Otolaryngology . . . . .	0.2	0.2	0.3	---	0.3	0.3
Orthopedic surgery . . . . .	0.5	0.5	0.6	---	0.6	0.6
Neurology . . . . .	0.1	0.2	0.2	---	0.2	0.3
Psychiatry . . . . .	0.7	0.8	0.8	---	0.9	0.9
Dentists . . . . .	5.4	5.7	5.9	6.3	6.2	---
Registered nurses . . . . .	56.2	64.4	69.0	69.7	74.2	---

<sup>1</sup>Includes dentists and both active and nonactive physicians who are not retired, residents and interns, sanitary-epidemiological doctors, dentists, and physiotherapists.

<sup>2</sup>Per 10,000 children.

<sup>3</sup>Per 10,000 females.

<sup>4</sup>"Nurses" refers to all types of nurses.

NOTES: For the United States, starting in 1990, the data for physicians are as of January 1 of the given year; for earlier years, these data are as of December 31.

SOURCES: Russian Federation: Ministry of Health and Medical Industry and MedSocEconInform; United States: Bidese, C.M., and Danais, D.B.: Physician Characteristics and Distribution in the United States, Chicago. American Medical Association, 1982; Roback, G.A., Mead, D., and Randolph, LL: Physician Characteristics and Distribution in the U.S., 1986 Chicago. American Medical Association, 1986; Roback, G.A., Randolph, L L, and Seidman, B.: Physician Characteristics and Distribution in the U.S., 1990; 1992; 1993. Chicago. American Medical Association, 1990; 1992; 1993 (Copyrights 1982, 1986, 1990,1992, and 1993; Used with the permission of the American Medical Association).

**Table 15. Number of hospitals and beds per 10,000 population, by hospital type or bed size: Russian Federation and United States, selected year 1980–93**

<i>Country and hospital type or bed size</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
<b>Russian Federation</b>						
Number of hospitals						
All hospital types . . . . .	---	12,500	12,800	12,700	12,600	12,500
Central regional . . . . .	---	1,166	1,798	1,807	1,810	1,799
Regional . . . . .	---	134	324	316	312	307
District . . . . .	---	4,701	4,813	4,818	4,709	4,676
Beds per 10,000 population						
All hospital types . . . . .	---	135.0	137.5	134.8	130.9	129.7
Central regional . . . . .	---	22.6	30.4	29.9	29.1	28.5
Regional . . . . .	---	1.2	2.3	2.2	2.1	2.1
District . . . . .	---	10.8	10.5	10.3	9.9	9.6
<b>United States<sup>1</sup></b>						
Number of hospitals						
All bed sizes . . . . .	6,229	6,091	5,728	5,675	5,619	---
199 beds or fewer . . . . .	4,389	4,209	3,953	3,907	3,861	---
200–499 beds . . . . .	1,466	1,501	1,434	1,434	1,421	---
500 beds or more . . . . .	374	381	341	334	337	---
Beds per 10,000 population						
All bed sizes . . . . .	47.7	45.7	40.5	39.8	39.1	---
199 beds or fewer . . . . .	15.8	14.9	13.2	13.0	12.8	---
200–499 beds . . . . .	20.1	19.5	17.7	17.5	17.0	---
500 beds or more . . . . .	11.7	11.3	9.6	9.3	9.3	---

<sup>1</sup>Includes short-stay hospitals only.

NOTES: For the Russian Federation, the total number of hospitals includes, in addition to the categories provided, oblast (area) hospitals, city hospitals, clinic hospitals, and others. For the United States, data exclude psychiatric and tuberculosis and other respiratory disease hospitals.

SOURCES: Russian Federation: Ministry of Health and Medical Industry and MedSocEconInform; United States: American Hospital Association: Hospital Statistics, 1981, 1985–94 editions. Chicago, 1981, 1985–93. (Copyrights 1981, 1985–93: Used with the permission of the American Hospital Association.)



**Table 16. Number of tuberculosis and psychiatric hospitals and beds per 10,000 population, by type of hospital: Russian Federation and United States, selected years 1980–93**

<i>Country and type of hospital</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Russian Federation						
			Number of hospitals			
Tuberculosis . . . . .	---	---	---	148	130	130
Psychiatric . . . . .	---	---	---	288	287	287
			Beds per 10,000 population			
Tuberculosis . . . . .	---	7.3	6.6	6.5	6.2	6.0
Psychiatric . . . . .	---	13.4	13.5	13.5	13.1	13.0
United States <sup>1</sup>						
			Number of hospitals			
Tuberculosis <sup>2</sup> . . . . .	10	5	3	3	3	---
Psychiatric . . . . .	381	383	362	354	319	---
			Beds per 10,000 population			
Tuberculosis <sup>2</sup> . . . . .	0.1	0.0	0.0	0.0	0.0	---
Psychiatric . . . . .	9.6	6.8	5.3	4.8	4.3	---

<sup>1</sup>Only long-term hospitals are included.

<sup>2</sup>Includes other respiratory diseases.

SOURCES: Russian Federation: Ministry of Health and Medical Industry and MedSocEconInform; United States: American Hospital Association: Hospital Statistics, 1981, 1985–94 editions. Chicago, 1981, 1985–93. (Copyrights 1981, 1985–93: Used with the permission of the American Hospital Association.)

**Table 17. Number of outpatient care contacts per person, by year, country, and type of contact: Russian Federation and United States, selected years 1980–93**

<i>Country and type of contact</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Russian Federation						
			Contacts per person			
All types . . . . .	---	11.5	9.8	9.6	9.3	9.5
Visit to physician . . . . .	---	11.1	9.5	9.3	9.0	9.2
Urgent and ambulance care . . . . .	---	0.4	0.3	0.3	0.3	0.3
United States						
All types . . . . .	4.8	5.3	5.5	5.8	6.0	6.1
Physician office . . . . .	---	3.0	3.3	3.3	3.3	3.4
Hospital outpatient department . . . . .	---	0.8	0.7	0.8	0.9	0.8
Telephone . . . . .	---	0.7	0.7	0.7	0.7	0.7
Other . . . . .	---	0.8	0.8	0.9	1.1	1.2

NOTES: For Russia, the term "visit to physician" refers to a visit to a state physician's office; visits to private physicians are not included. For the United States, "hospital outpatient department" includes hospital outpatient clinic, emergency room, and other hospital contacts.

SOURCES: Russian Federation: Ministry of Health and Medical Industry and MedSocEconInform; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Health Interview Statistics: Data from the National Health Interview Survey.

**Table 18. Average length of stay and rate of discharges and surgical operations per 1,000 persons: Russian Federation and the United States, selected years 1980–93**

<i>Country and type of statistic</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
Russian Federation			Number of days			
Average length of stay . . . . .	---	17.0	16.6	16.7	17.0	16.8
			Rate per 1,000 persons			
Discharges . . . . .	---	236.7	222.5	213.3	205.1	211.4
Surgical operations . . . . .	---	65.1	58.1	53.8	52.7	51.8
United States <sup>1</sup>			Number of days			
Average length of stay . . . . .	7.1	6.4	6.3	6.3	6.0	---
			Rate per 1,000 persons			
Discharges . . . . .	159.1	138	113.1	113.6	111.6	---
Surgical operations:						
Male . . . . .	78.1	76.3	68.8	70.1	68.4	---
Female . . . . .	126.1	117.2	100.3	100.7	99.1	---

<sup>1</sup>Data are for non-Federal, short-stay hospitals only.

NOTES: For the United States, comparisons of data from 1988–92 with data from earlier years should be made with caution, as estimates of change may reflect improvements in the survey design rather than true changes in hospital use.

SOURCES: Russian Federation: Ministry of Health and Medical Industry and MedSocEconInform; United States: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Health Care Statistics: Data from the National Hospital Discharge Survey.

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# Appendix I

## Urban-rural data for the Russian Federation

**Table I. Life expectancy at birth, by sex and urban-rural status: Russian Federation, selected years 1981–93**

Year	Male			Female		
	Total	Urban	Rural	Total	Urban	Rural
Remaining life expectancy in years						
1981	61.5	62.4	59.2	73.1	73.2	72.3
1985	62.7	63.5	60.2	73.5	73.5	72.6
1990	64.5	64.2	61.9	73.4	73.7	73.3
1991	63.8	64.0	61.5	73.7	73.7	73.1
1992	63.5	62.4	60.5	73.1	73.2	72.6
1993	59.0	59.4	58.0	71.5	71.6	71.1

NOTE: Life expectancy figures calculated by MedSocEconInform may differ somewhat from official values reported by Goskomstat.

SOURCE: MedSocEconInform.

**Table II. Infant mortality, neonatal mortality, and fetal death rates, by and urban-rural status: Russian Federation, selected years 1980–93**

Year and status	Infant mortality rate <sup>1</sup>					
	Total	Neonatal			Late fetal death rate <sup>2</sup>	Perinatal mortality rate <sup>3</sup>
		Under 28 days	Under 7 days	Post-neonatal		
1980						
Deaths per 1,000 live births						
Total	22.1	9.2	6.8	12.9	8.9	15.8
Urban	---	11.0	8.3	10.2	10.0	20.6
Rural	---	5.0	3.4	18.8	6.5	9.8
1985						
Total	20.7	11.1	8.6	9.6	9.3	17.8
Urban	---	12.6	9.9	7.3	10.2	20.0
Rural	---	7.7	5.3	15.3	7.3	12.6
1990						
Total	17.4	11.1	9.0	6.3	8.9	17.9
Urban	---	12.0	9.9	5.0	9.6	19.5
Rural	---	8.9	6.9	9.4	7.5	14.4
1991						
Total	17.8	11.0	8.9	6.8	8.7	17.7
Urban	---	12.0	9.7	---	9.4	19.0
Rural	---	9.3	7.1	---	7.2	14.3
1992						
Total	18.0	11.5	9.0	6.5	8.3	17.2
Urban	---	12.3	9.7	---	8.8	18.4
Rural	---	9.8	7.4	---	7.4	14.6
1993						
Total	19.9	12.0	9.7	7.8	7.8	17.4
Urban	---	---	---	---	---	---
Rural	---	---	---	---	---	---

<sup>1</sup>Infant mortality rate is the number of deaths of infants under 1 year of age per 1,000 live births. Neonatal deaths occur within 28 days of birth; early neonatal deaths occur within 7 days of birth; and postneonatal deaths occur 28–365 days after birth.

<sup>2</sup>Number of fetal deaths of 28 weeks or more gestation per 1,000 live births plus late fetal deaths.

<sup>3</sup>Number of late fetal deaths plus infant deaths within 7 days of birth per 1,000 live births, plus late fetal deaths.

SOURCE: Goskomstat.

Table III. Death rates from all causes, by sex, age, and urban-rural status: Russian Federation, selected years 1981–93

Sex and age	Urban						Rural					
	1981 <sup>1</sup>	1985 <sup>1</sup>	1990	1991	1992	1993	1981 <sup>1</sup>	1985 <sup>1</sup>	1990	1991	1992	1993
Both sexes												
Deaths per 100,000 population												
All ages, age-adjusted . . . . .	1,237.7	1,235.9	1,188.4	1,194.3	1,263.1	1,478.0	1,265.7	1,252.6	1,222.8	1,228.3	1,287.3	1,483.5
All ages, crude . . . . .	977.6	1,010.4	1,045.9	1,067.4	1,153.0	1,375.1	1,314.7	1,398.1	1,326.2	1,338.8	1,399.8	1,606.0
Under 1 year . . . . .	2,054.8	2,009.2	1,667.8	1,665.3	1,676.4	1,820.2	2,478.2	2,293.2	1,835.1	1,898.7	1,869.4	2,003.4
1–4 years . . . . .	115.7	103.9	78.2	81.4	80.2	89.4	232.8	211.8	147.5	146.3	143.5	150.0
5–14 years . . . . .	56.2	46.5	44.3	49.8	48.5	50.8	76.9	64.8	60.7	69.0	65.1	64.6
15–24 years . . . . .	133.3	110.5	121.1	128.0	149.0	175.4	250.9	217.6	201.7	203.1	213.0	238.3
25–34 years . . . . .	260.7	205.3	215.6	229.7	282.8	358.7	426.5	386.2	309.2	332.1	365.8	431.2
35–44 years . . . . .	499.9	393.1	388.2	414.4	505.0	685.6	718.5	609.7	529.3	546.9	619.6	761.7
45–54 years . . . . .	959.6	845.8	885.7	905.9	1,052.0	1,345.0	1,098.7	1,066.3	1,064.7	1,095.8	1,212.3	1,493.4
55–64 years . . . . .	1,660.7	1,729.3	1,873.7	1,884.6	1,991.4	2,381.7	1,650.5	1,753.1	1,884.6	1,927.8	2,066.0	2,421.9
65–74 years . . . . .	3,878.9	4,093.6	3,644.9	3,610.2	3,712.9	4,241.9	3,392.9	3,650.1	3,405.2	3,372.7	3,522.2	4,044.7
75–84 years . . . . .	8,949.6	9,144.8	8,923.9	8,972.8	9,086.7	10,059.3	8,012.4	7,929.4	8,157.6	8,168.8	8,334.9	9,302.4
85 years and over . . . . .	20,534.5	22,400.1	20,287.1	19,969.7	20,277.7	22,326.4	19,493.3	19,637.4	19,938.9	19,276.3	19,159.2	20,912.6
Male												
All ages, age-adjusted . . . . .	1,802.4	1,764.0	1,662.9	1,675.5	1,785.5	2,123.0	1,902.5	1,845.4	1,767.7	1,774.2	1,862.7	2,152.9
All ages, crude . . . . .	1,078.4	1,066.0	1,092.8	1,124.8	1,256.3	1,560.4	1,425.1	1,446.0	1,340.8	1,366.8	1,455.1	1,707.6
Under 1 year . . . . .	2,384.4	2,316.8	1,918.6	1,905.4	1,927.0	2,060.5	2,798.9	2,623.3	2,112.1	2,199.2	2,156.5	2,276.5
1–4 years . . . . .	129.3	117.0	87.4	91.1	90.6	98.3	258.2	239.6	168.0	169.2	166.3	166.0
5–14 years . . . . .	71.1	60.6	58.1	65.5	62.7	65.1	97.1	83.3	79.8	92.4	86.7	82.0
15–24 years . . . . .	212.7	175.6	181.0	191.1	223.7	266.0	378.9	328.0	300.6	303.0	319.8	360.9
25–34 years . . . . .	429.5	327.9	346.6	368.0	459.9	585.6	682.3	613.8	483.7	518.4	576.6	682.8
35–44 years . . . . .	811.9	622.1	605.8	650.8	803.5	1,103.6	1,152.9	952.6	795.2	814.0	934.0	1,158.3
45–54 years . . . . .	1,516.0	1,327.3	1,377.3	1,409.8	1,663.2	2,135.3	1,734.0	1,654.9	1,633.8	1,678.8	1,867.9	2,294.9
55–64 years . . . . .	2,749.6	2,725.0	2,879.5	2,887.3	3,077.7	3,739.6	2,878.2	2,821.9	2,906.1	2,953.2	3,131.2	3,712.1
65–74 years . . . . .	5,909.0	6,151.8	5,422.3	5,375.2	5,505.4	6,383.2	5,625.1	5,914.2	5,385.8	5,331.0	5,509.7	6,342.7
75–84 years . . . . .	11,975.7	12,188.9	11,558.0	11,635.9	11,669.1	13,065.2	11,209.6	11,005.9	11,247.9	11,309.4	11,503.6	12,895.3
85 years and over . . . . .	24,113.9	25,096.2	22,497.6	22,312.9	22,507.4	24,417.5	22,312.0	21,445.7	22,202.5	21,299.4	21,842.1	22,872.0
Female												
All ages, age-adjusted . . . . .	922.3	938.4	901.6	899.1	928.2	1,052.1	894.7	899.1	882.8	881.5	909.3	1,028.1
All ages, crude . . . . .	890.9	962.1	1,004.8	1,016.9	1,062.2	1,212.2	1,221.5	1,357.5	1,313.2	1,313.7	1,350.3	1,514.8
Under 1 year . . . . .	1,711.1	1,687.5	1,403.9	1,412.0	1,422.2	1,580.0	2,144.5	1,949.8	1,544.7	1,584.8	1,568.2	1,730.3
1–4 years . . . . .	101.7	90.2	68.6	71.3	69.2	80.1	206.6	183.1	126.4	122.4	119.8	133.3
5–14 years . . . . .	40.8	31.9	30.0	33.6	33.8	36.0	56.2	45.7	41.1	44.9	43.0	46.7
15–24 years . . . . .	54.4	47.2	60.0	63.1	71.7	81.2	96.4	87.8	91.3	93.5	97.5	106.4
25–34 years . . . . .	93.2	81.8	86.1	93.0	108.1	134.4	142.8	136.9	111.0	121.7	130.0	154.0
35–44 years . . . . .	207.9	173.4	180.9	189.8	222.1	290.7	305.6	266.8	234.2	249.8	269.5	321.0
45–54 years . . . . .	481.3	428.8	459.0	467.4	519.8	652.1	541.2	536.6	543.0	560.6	606.9	745.3
55–64 years . . . . .	1,060.1	1,084.1	1,139.4	1,140.7	1,179.4	1,364.5	1,012.7	1,077.9	1,108.6	1,123.3	1,210.3	1,372.9
65–74 years . . . . .	2,989.1	3,198.7	2,878.3	2,820.2	2,868.0	3,185.7	2,546.8	2,809.8	2,596.1	2,545.6	2,643.8	2,975.5
75–84 years . . . . .	8,086.2	8,252.2	8,083.8	8,123.8	8,262.5	9,095.5	7,133.6	7,099.4	7,317.2	7,324.4	7,492.2	8,351.1
85 years and over . . . . .	19,728.2	21,833.7	19,831.7	19,479.6	19,811.2	21,867.7	18,795.6	19,242.4	19,417.6	18,777.0	18,656.6	20,540.1

<sup>1</sup>Crude rates were calculated without the number of deaths of unknown age, because these data were not available from Goskomstat.

NOTE: Age adjusted using as standard population the European standard 100,000 population prepared by the World Health Organization (see appendix II.)

SOURCE: Rates were computed by MedSocEconInform from data supplied by Goskomstat.

**Table IV. Urban-area age-adjusted death rates for selected causes of death, by sex and cause of death: Russian Federation, selected years 1981–93**

<i>Cause of death</i> <sup>1</sup>	1981	1985	1990	1991	1992	1993
All causes						
Total . . . . .	977.6	1,010.4	1,044.3	1,067.5	1,148.1	1,364.0
Male . . . . .	1,078.4	1,066.0	1,090.3	1,124.8	1,248.1	1,541.3
Female . . . . .	890.9	962.1	1,004.0	1,016.9	1,060.2	1,208.0
Diseases of the heart (390–398, 401–429)						
Total . . . . .	384.2	392.2	334.2	328.4	337.0	401.5
Male . . . . .	529.4	530.8	464.6	462.4	478.0	578.8
Female . . . . .	310.9	319.3	258.7	251.6	253.1	293.7
Cerebrovascular diseases (430–438)						
Total . . . . .	270.8	282.3	262.9	260.0	266.0	297.9
Male . . . . .	323.5	330.0	302.5	298.6	305.1	347.9
Female . . . . .	247.1	259.6	241.6	238.8	243.8	269.3
Malignant neoplasms (140–208)						
Total . . . . .	171.1	173.5	211.0	211.5	212.3	221.5
Male . . . . .	290.7	298.6	324.3	325.7	323.9	335.2
Female . . . . .	112.7	110.5	151.0	150.3	151.2	156.8
Malignant neoplasms of the respiratory system (160–165)						
Total . . . . .	43.3	46.7	51.0	51.4	51.5	51.5
Male . . . . .	104.2	111.5	118.6	119.3	118.2	119.1
Female . . . . .	11.9	12.0	12.6	12.3	12.5	12.3
Malignant neoplasms of the breast (174)						
Female . . . . .	17.0	18.8	21.8	22.4	23.6	24.2
Pneumonia and influenza (480–483, 485–487)						
Total . . . . .	13.2	12.0	7.8	7.4	9.4	16.8
Male . . . . .	22.2	20.5	12.8	12.0	16.6	29.9
Female . . . . .	7.8	6.8	4.6	4.4	4.4	7.2
Chronic obstructive pulmonary diseases (490–496)						
Total . . . . .	21.2	25.2	29.1	27.3	27.4	32.4
Male . . . . .	37.7	48.4	57.6	54.3	54.5	65.3
Female . . . . .	14.5	15.7	16.9	15.5	15.3	16.9
Chronic liver diseases and cirrhosis (571.0–571.3, 571.5, 571.6)						
Total . . . . .	12.8	13.3	14.3	14.2	14.9	19.3
Male . . . . .	21.1	21.1	19.8	19.6	20.6	26.5
Female . . . . .	7.8	8.6	11.1	11.0	11.4	14.6
Transport accidents (E800–E807, E810–E848)						
Total . . . . .	---	---	26.0	27.6	27.7	28.3
Male . . . . .	---	---	42.8	45.3	45.3	46.0
Female . . . . .	---	---	11.7	12.6	12.5	13.0
Suicide (E950–E959)						
Total . . . . .	---	---	24.7	25.1	29.0	34.5
Male . . . . .	---	---	43.2	44.2	51.3	62.2
Female . . . . .	---	---	10.4	10.0	10.9	11.8
Homicide and legal intervention (E960–E978)						
Total . . . . .	---	---	13.4	14.6	22.4	30.1
Male . . . . .	---	---	21.5	23.6	36.5	48.9
Female . . . . .	---	---	6.0	6.3	9.6	13.0
Other external causes (E850–E949, E980–E999)						
Total . . . . .	---	---	59.5	64.3	85.4	125.1
Male . . . . .	---	---	100.6	109.6	146.1	211.7
Female . . . . .	---	---	24.6	25.5	33.5	49.4

<sup>1</sup>Cause of death codes are from the International Classification of Diseases, Ninth Revision.

NOTE: Age adjusted using as standard population the European standard 100,000 population prepared by the World Health Organization (see appendix II.)

SOURCE: Rates computed by MedSocEconInform from data supplied by Goskomstat.

**Table V. Rural-area age-adjusted death rates for selected causes of death, by sex and cause of death: Russian Federation, selected years 1981–93**

<i>Cause of death<sup>1</sup></i>	1981	1985	1990	1991	1992	1993
All causes						
Total . . . . .	1,314.7	1,398.1	1,325.8	1,338.2	1,399.0	1,604.6
Male . . . . .	1,425.1	1,446.0	1,340.2	1,366.2	1,453.9	1,705.4
Female . . . . .	1,221.5	1,357.5	1,312.9	1,313.3	1,349.8	1,514.1
Deaths per 100,000 population						
Diseases of the heart (390–398, 401–429)						
Total . . . . .	398.0	399.7	357.5	341.8	347.9	403.8
Male . . . . .	555.5	547.0	494.9	479.3	489.9	570.9
Female . . . . .	325.0	327.3	282.6	266.1	266.5	303.2
Cerebrovascular diseases (430–438)						
Total . . . . .	212.3	221.1	213.9	209.3	213.5	239.0
Male . . . . .	262.8	266.5	256.0	248.4	252.9	288.3
Female . . . . .	190.2	201.3	194.0	189.6	193.2	212.7
Malignant neoplasms (140–208)						
Total . . . . .	120.6	128.3	167.8	169.2	173.2	180.4
Male . . . . .	221.1	233.3	273.5	274.2	278.2	289.1
Female . . . . .	70.7	72.6	108.3	109.3	111.7	115.0
Malignant neoplasms of the respiratory system (160–165)						
Total . . . . .	32.9	38.8	48.6	49.2	50.2	51.6
Male . . . . .	81.8	92.6	111.7	112.3	114.0	115.6
Female . . . . .	7.4	8.6	10.2	10.1	10.1	10.5
Malignant neoplasms of the breast (174)						
Female . . . . .	9.1	9.7	12.9	13.8	15.1	14.9
Pneumonia and influenza (480–483, 485–487)						
Total . . . . .	14.4	13.2	7.5	7.0	8.2	11.9
Male . . . . .	21.6	20.9	12.3	11.3	13.9	19.8
Female . . . . .	9.7	7.9	4.4	4.1	4.0	5.8
Chronic obstructive pulmonary diseases (490–496)						
Total . . . . .	40.0	43.4	50.1	45.8	46.6	55.6
Male . . . . .	69.1	78.3	97.9	89.3	90.6	109.8
Female . . . . .	28.3	28.8	28.8	25.9	26.0	29.0
Chronic liver diseases and cirrhosis (571.0–571.3, 571.5, 571.6)						
Total . . . . .	11.6	13.6	14.2	13.8	14.1	16.8
Male . . . . .	18.4	21.7	20.3	19.7	19.8	23.9
Female . . . . .	7.6	8.8	10.5	10.2	10.7	12.0
Transport accidents (E800–E807, E810–E848)						
Total . . . . .	---	---	39.3	40.5	37.4	36.4
Male . . . . .	---	---	66.9	68.2	62.4	60.3
Female . . . . .	---	---	12.3	13.5	12.8	12.8
Suicide (E950–E959)						
Total . . . . .	---	---	34.6	33.3	39.0	49.2
Male . . . . .	---	---	60.8	58.5	69.3	88.5
Female . . . . .	---	---	11.4	10.9	11.6	13.5
Homicide and legal intervention (E960–E978)						
Total . . . . .	---	---	16.4	16.7	23.3	28.8
Male . . . . .	---	---	25.0	25.6	36.3	43.6
Female . . . . .	---	---	7.8	7.8	10.2	14.0
Other external causes (E850–E949, E980–E999)						
Total . . . . .	---	---	80.6	87.9	100.6	136.8
Male . . . . .	---	---	132.6	144.6	164.7	218.1
Female . . . . .	---	---	31.9	34.8	39.5	56.5

<sup>1</sup>Cause of death codes are from the International Classification of Diseases, Ninth Revision.

NOTE: Age adjusted using as standard population the European standard 100,000 population prepared by the World Health Organization (see appendix II.)

SOURCE: Rates computed by MedSocEconInform from data supplied by Goskomstat.

# Appendix II

## Glossary

This glossary is an alphabetical listing of terms used in this report. It includes cross-references to related terms and synonyms, standard populations used for age adjustment, and *International Classification of Diseases* (ICD) codes for cause of death and diagnostic and procedure categories.

*Acquired immunodeficiency syndrome (AIDS)*—In the United States, all 50 States and the District of Columbia report AIDS cases to CDC using a uniform case definition and case-report form. The case-reporting definitions were expanded in 1985 (MMWR 1985; 34:373–5); 1987 (MMWR 1987; 36 (supp. no. 1S): 1S-15S); and 1993 (MMWR 1993; 41 (supp. no. RR-17)). These data are published quarterly by CDC in the HIV/AIDS Surveillance Report. In the Russian Federation, all health care establishments fill out special case-report forms for each case of AIDS. Every month a report is issued, based on confirmed diagnoses; these reports can be corrected if necessary during the year. Confirmed cases are included in the yearly statistical report. See related *Human immunodeficiency virus infection*.

*Active physician*—See *Physician*.

*Admission*—Admissions are patients, excluding newborns, accepted for inpatient services during the survey reporting period. See related *Discharge*.

*Age adjustment*—Age adjustment, using the direct method, is the application of age-specific rates in a population to a standardized age distribution, in order to eliminate the differences in observed rates that result from age differences in the population. This adjustment is usually done when comparing two or more populations at one point in time or one population at two or more points in time.

In this report the death rates are age-adjusted to the European standard 100,000 population (table VI); MedSocE-conInform performed all their calculations based on the 19 age groups shown in this table. NCHS combined the values from table VI into 11 age groups. Age-adjusted rates for the United States are customarily calculated using the U.S. population for 1940 as the standard. As a result, the age-adjusted rates shown in tables 8 and 10 for the United States will differ from previously published ones.

*Age standardization*—See *Age adjustment*.

*Average length of stay*—The average length of stay is computed by dividing the total number of days of care (counting the date of admission but not the date of discharge) by the number of patients admitted (Russian Federation) or discharged (United States). See related *Admission* and *Discharge*.

*Bed*—Any bed that is set up and staffed for use by inpatients is counted as a bed in a facility. For the American Hospital Association, the count is of the average number of beds, cribs, and pediatric bassinets during an entire reporting period. The World Health Organization, as well as the Russian Federation, defines a hospital bed as one regularly maintained and staffed for the accommodation and full-time care of a succession of inpatients and situated in a part of the hospital where continuous medical care for inpatients is provided. In Russia the bed is the unit for determining State financial support. See related *Hospital*.

*Birth rate*—See *Rate: Birth and related rates*.

*Birthweight*—The first weight of a newborn obtained after birth. Low birthweight is defined as less than 2,500 grams or 5 pounds 8 ounces.

*Cause of death*—For the purpose of national mortality statistics, every death is attributed to one underlying condition, based on the information reported on the death certificate and using international rules for selecting the underlying cause of death from the reported conditions (see tables VII and VIII). Since 1979 the *International Classification of Diseases, Ninth Revision* (ICD–9) has been used for coding cause of death.

*Crude birth rate; crude death rate*—See *Rate: Birth and related rates; Death and related rates*.

**Table VI. European standard 100,000 population used to adjust death rates**

Age	Standard 100,000
All ages . . . . .	100,000
Under 1 year . . . . .	1,600
1–4 years . . . . .	6,400
5–9 years . . . . .	7,000
10–14 years . . . . .	7,000
15–19 years . . . . .	7,000
20–24 years . . . . .	7,000
25–29 years . . . . .	7,000
30–34 years . . . . .	7,000
35–39 years . . . . .	7,000
40–44 years . . . . .	7,000
45–49 years . . . . .	7,000
50–54 years . . . . .	7,000
55–59 years . . . . .	6,000
60–64 years . . . . .	5,000
65–69 years . . . . .	4,000
70–74 years . . . . .	3,000
75–79 years . . . . .	2,000
80–84 years . . . . .	1,000
85 years and over . . . . .	1,000



*Death rate*—See *Rate: Death rates*.

*Discharge*—The formal release of an inpatient (excluding newborn infants) by a hospital, that is, the termination of a period of hospitalization (including stays of 0 nights) by death or by disposition to a place of residence, nursing home (United States only), or another hospital. See related *Admission*; *Average length of stay*.

*Early neonatal mortality rate*—See *Rate: Death and related rates*.

*Fertility rate* —See *Rate: Birth and related rates*.

*Fetal death*—In the World Health Organization's definition, which has also been adopted by the United Nations, the United States, and the Russian Federation, a fetal death is death before 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 heartbeat, umbilical cord pulsation, or definite movement of voluntary muscles. For statistical purposes, fetal deaths are classified according to gestational age. In this report tabulations are shown for fetal deaths with stated or presumed gestation of 28 weeks or more, also known as late fetal deaths or stillbirths. See related *Live birth*; *Rate: Death and related rates*.

*Goskomstat*—State Statistical Committee of the Russian Federation. Goskomstat is responsible for collecting and publishing population estimates, vital statistics, and other data from other ministries and Federal agencies.

*HIV*—See *Human immunodeficiency virus infection*.

*Hospital*—Hospitals are licensed institutions with at least 6 beds in the United States and normally 15 beds or more in Russia. The primary function of a hospital is to provide diagnostic and therapeutic patient services for medical conditions by an organized physician staff and to have continuous nursing services under the supervision of registered nurses. See related *Average length of stay*; *Bed*.

*Short-stay hospitals* in the United States are those in which the average length of stay is less than 30 days. In Russia there are only general hospitals, which have both long- and short-stay patients.

*Specialty hospitals*, such as psychiatric, tuberculosis, chronic disease, rehabilitation, maternity, and alcoholic or narcotic, provide a particular type of service to the majority of their patients.

*Human immunodeficiency virus (HIV) infection*—(For mortality coding) Beginning with data for 1987, NCHS introduced category numbers \*042.\*044 for classifying and coding HIV infection as a cause of death. The asterisk before the category numbers indicates that these codes are not part of the *International Classification of Diseases, Ninth Revision (ICD-9)*. Beginning with 1987, death statistics for HIV infection are not strictly comparable with data for earlier years. (For morbidity coding) Diagnosis data are coded using the *International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)*. During 1984 and 1985, only data for AIDS (ICD-9-CM 279.19) were included. Beginning with data for

1986, discharges with a diagnosis of HIV infection (ICD-9-CM 042-044, 279.19, and 795.8) were included. See related *Acquired immunodeficiency syndrome*; *Cause of death*; *International Classification of Diseases, Ninth Revision*; *International Classification of Diseases, Ninth Revision, Clinical Modification*.

*ICD*; *ICD codes*—See *Cause of death*; *International Classification of Diseases, Ninth Revision*.

*Incidence*—Incidence is the number of cases of disease having their onset during a prescribed period of time. It is often expressed as a rate (for example, the incidence of measles per 1,000 children 5-15 years of age during a specified year). Incidence is a measure of morbidity or other events that occur within a specified period of time. See related *Prevalence*.

*Infant death*—An infant death is the death of a live-born child before his or her first birthday. Deaths in the first year of life may be further classified according to age as neonatal and postneonatal. *Neonatal deaths* are those that occur during the first 27 days of life; *postneonatal deaths* are those that occur between 28 days and 1 year of age. See *Live birth*; *Rate: Death and related rates*.

*International Classification of Diseases, Ninth Revision (ICD-9)*—The *International Classification of Diseases (ICD)* classifies mortality information for statistical purposes. The ICD was first used in 1900 and has been revised about every 10 years since then. The ICD-9, published in 1977, is used to code U.S. mortality data beginning with data year 1979 (see tables VII and VIII). See related *Cause of death*; *International Classification of Diseases, Ninth Revision, Clinical Modification*.

*International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)*—The ICD-9-CM is based on and is completely compatible with the *International Classification of Diseases, Ninth Revision*. The ICD-9-CM is used to code morbidity data, and the ICD-9 is used to code mortality data.

ICD-9 and ICD-9-CM are arranged in 17 main chapters. Most of the diseases are arranged according to their principal anatomical site, with special chapters for infective and parasitic diseases; neoplasms; endocrine, metabolic, and nutritional diseases; mental diseases; complications of pregnancy and childbirth; certain diseases peculiar to the perinatal period; and ill-defined conditions. In addition, two supplemental classifications are provided: the classification of factors influencing health status and contact with health service and the classification of external causes of injury and poisoning. See related *International Classification of Diseases, Ninth Revision*.

*Late fetal death rate*—See *Rate: Death and related rates*.

*Life expectancy*—Life expectancy is the average number of years of life remaining to a person at a particular age and is based on a given set of age-specific death rates, generally the mortality conditions existing in the period mentioned. Life expectancy may be determined by race, sex, or other characteristics using age-specific death rates for the population with that characteristic. See related *Rate: Death and related rates*.

*Live birth*—In 1967 the World Health Organization defined a live birth as the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration

**Table VII. Cause of death codes, according to the *International Classification of Diseases, Ninth Revision***

<i>Cause of death</i>	<i>Russian Federation</i>	<i>United States</i>
Diseases of the heart . . . . .	390–398, 401–429	390–398, 402, 404–429
Cerebrovascular diseases . . . . .	430–438	430–438
Malignant neoplasms . . . . .	140–208	140–208
Malignant neoplasms of respiratory system . . . . .	160–165	160–165
Malignant neoplasms of the breast . . . . .	174	174
Pneumonia and influenza . . . . .	480–483, 485–487	480–487
Chronic obstructive pulmonary diseases . . . . .	490–496	490–496
Chronic liver diseases and cirrhosis . . . . .	571.0–571.3, 571.5, 571.6	571
Motor vehicle accidents . . . . .	E810–E825 <sup>1</sup>	E810–E825
Suicide . . . . .	E950–E959	E950–E959
Homicide and legal intervention . . . . .	E960–E978	E960–E978
Other external causes . . . . .	E800–E807, E826–E949, E980–E999 <sup>2</sup>	E800–E807, E826–E949

<sup>1</sup>In appendix tables IV and V, codes E800–E807 and E810–E825 were used to define “transport accidents.”

<sup>2</sup>In appendix tables IV and V, codes E850–E949, E980–E999 were used to define “other external causes.”

NOTE: Codes shown were used in tables 9 and 10.

**Table VIII. Maternal mortality (complications of pregnancy, childbirth, and the puerperum) codes from the *International Classification of Diseases, Ninth Revision***

<i>Cause of death</i>	<i>Russian Federation</i>	<i>United States</i>
Total . . . . .	630–676	630–676
Ectopic pregnancy . . . . .	633	633
Legally induced abortion . . . . .	635	635
Other abortion . . . . .	630–632, 634, 636–639	630–632, 634, 636–638 <sup>1</sup>
Hemorrhage of pregnancy and childbirth . . . . .	640, 641.1–641.9, 666	640–641, 666
Toxemia of pregnancy . . . . .	642.4–642.9, 643	642.4–642.9, 643
Sepsis (Russian Federation) or complications of puerperum (United States) . . . . .	659.3, 670	670–676
Other . . . . .	642.0–642.3, 641.0, 644–648, 652–659.2, 659.4–659.9, 660–665, 667–669, 671–676	642.0–642.3, 644–648, 651–665, 667–669

<sup>1</sup>International Classification of Diseases code 639 classifiable to 630–638.

of the pregnancy, which, after such separation, breathes or shows any other evidence of life such as heartbeat, umbilical cord pulsation, or definite movement of voluntary muscles, whether the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered live born. The United Nations and NCHS also adopted this definition at that time. The Russian Federation adopted the definition in 1992.

From 1937 to 1992, in the former Union of Soviet Socialist Republics (U.S.S.R.), a live birth was defined in terms of the viability of the fetus. In 1937, a viable fetus was defined as a fetus of 28 weeks gestation or more, height at birth of 35 centimeters (1 foot 2 inches) or greater, and a birthweight of 1,000 grams (2.2 pounds) or greater. A live birth was defined as the appearance of pulmonary respiration. In 1976, these three criteria were used to define the beginning of the perinatal period. At the same time, it was also recommended that an autopsy be performed on any fetus or newborn who died during the perinatal period of development. See related *Rate: Birth and related rates; Death and related rates.*

*Low birthweight*—See *Birthweight*.

*Marital status*—Marital status is classified into the categories of married and unmarried. The term “married” encompasses all married people including those separated from their

spouses. Unmarried includes those who are single (never married), divorced, or widowed.

*Maternal mortality rate*—See *Rate: Death and related rates*.

*MedSocEconInform*—State institution in the Russian Federation that is responsible for investigation of the health of the population, scientific support of health reform and medical statistics, and training of health service and public health managers for the Russian Federation. Also known as the Public Health Institute.

*Ministry of Health and Medical Industry*—In the Russian Federation, it is the governmental body responsible for strengthening health, management of health services, and production of pharmaceuticals and medical equipment.

*Narcology*—Physician specialty in the Russian Federation focusing on alcohol, drug abuse, and other substance abuse. See *Physician; Physician Specialty*.

*National Center for Health Statistics (NCHS)*—The principal vital and health statistics agency of the U.S. Federal Government. NCHS is part of the Centers for Disease Control and Prevention (CDC) within the Public Health Service (PHS), U.S. Department of Health and Human Services.

*Neonatal mortality rate*—See *Rate: Death and related rates*.

*Notifiable disease*—A notifiable disease is one that, when diagnosed, health providers are required, usually by law, to report to State or local public health officials. Notifiable diseases are those of public interest by reason of their contagiousness, severity, or frequency.

*Office*—This refers to the office of any physician in private practice not located in a hospital. In the National Ambulatory Medical Care Survey, an office is any location for a physician's ambulatory practice other than a hospital, nursing home, other extended care facility, patient's home, industrial clinic, college clinic, or family planning clinic. However, private offices in hospitals are included. See related *Office visit*; *Outpatient visit*; *Physician*; *Physician contact*.

*Office visit*—An office visit is any direct personal exchange between an ambulatory patient and a physician or members of his or her staff for the purposes of seeking care and rendering health services. See related *Outpatient visit*; *Physician contact*.

*Outpatient visit*—Outpatient visits are defined as visits for receipt of medical, dental, or other services by patients who are not lodged in the hospital. Each appearance by an outpatient to each unit of the hospital is counted individually as an outpatient visit. See related *Office visit*; *Physician contact*.

*Patient*—A patient is a person who is formally admitted to the inpatient service of a hospital for observation, care, diagnosis, or treatment. See related *Admission*; *Average length of stay*; *Discharge*.

*Perinatal mortality rate, ratio*—See *Rate: Death and related rates*.

*Physician*—In the United States, physicians are licensed doctors of medicine or osteopathy, as follows:

*Active (or professionally active) physicians are currently practicing medicine, regardless of the number of hours worked per week.*

*Federal physicians are employed by the Federal Government; non-Federal or civilian physicians are not.*

*Office-based physicians spend the plurality of their time working in practices based in private offices.*

*Hospital-based physicians spend the plurality of their time as salaried physicians in hospitals.*

In the Russian Federation, a physician is a person who received a high medical education from a medical institute or from the medical faculty of a university and who has the legal right to practice medicine. The term "physician" also includes sanitary-epidemiological, dental, and physiotherapeutic practitioners. Data from the Russian Federation on numbers of physicians do not distinguish between active and nonactive physicians or interns and residents in training.

*Physician contact*—In the U.S. National Health Interview Survey, a physician contact is defined as a consultation with a physician in person or by telephone, for examination, diagnosis, treatment, or advice. The service may be provided by the physician or by another person working under the physician's supervision. Contacts involving services provided on a mass basis (for example, blood pressure screenings) and contacts for hospital inpatients are not included.

Places of contact include offices, hospital outpatient clinics, emergency rooms, telephone (advice given by a physician in a telephone call), home (any place in which a person was staying at the time a physician was called there), clinics, health maintenance organizations, and other places located outside a hospital.

In the National Health Interview Survey, physician contacts are based on a 2-week recall period and are adjusted to produce average annual number of visits. The interval since the last physician contact is the length of time before the week of interview in which the physician was last consulted. See related *Office*; *Office visit*.

*Physician specialty*—A physician specialty is any specific branch of medicine in which a physician may concentrate. Data from the United States are based on physician self-reports of their primary area of specialty. Physician data are broadly categorized into two general areas of practice: generalists and specialists. See related *Narcology*; *Physician*.

*Population*—Census bureaus collect and publish data on populations in the Russian Federation and the United States according to several different definitions. Various statistical systems then use the appropriate population for calculating rates.

*Resident population* is the population living in a country. It includes members of the military and their families living in that country. It excludes international military, naval, and diplomatic personnel and their families located in that country and residing in embassies or similar quarters. Also excluded are international workers and international students living in the country and citizens living abroad. The resident population is usually the denominator when calculating birth and death rates and incidence of disease.

*Postneonatal mortality rate*—See *Rate: Death and related rates*.

*Prevalence*—Prevalence is the number of cases of a disease, infected persons, or persons with some other attribute present during a particular interval of time. It is often expressed as a rate (for example, the prevalence of diabetes per 1,000 persons during a year). See related *Incidence*.

*Procedure*—A procedure is defined as a surgical or nonsurgical operation, diagnostic procedure, or special treatment assigned by a physician and recorded on the medical record of a patient discharged from the inpatient service of a short-stay hospital. Procedures are classified as diagnostic and other nonsurgical procedures or as surgical operations.

*Rate*—A rate is a measure of some event, disease, or condition in relation to a unit of population, along with some specification of time. See related *Age adjustment*; *Population*.

#### *Birth and related rates*

*Birth rate* is calculated by dividing the number of live births in a population in a given year by the midyear resident population. It is expressed as the number of live births per 1,000 population. The rate may be restricted to births to females of specific age, race, marital status, or

geographic location (specific rate), or it may be related to the entire population (crude rate). See related *Live birth*.

*Fertility rate* is the number of live births per 1,000 females of reproductive age, that is, 15–44 years.

#### *Death and related rates*

*Death rate* is calculated by dividing the number of deaths in a population in a year by the midyear resident population. (For census years in the United States, rates are based on populations as of April 1.) Death rates are expressed as the number of deaths per 1,000 or per 100,000 population. The rate may be restricted to deaths in specific age, race, sex, or geographic groups or from specific causes of death (specific rate) or it may be related to the entire population (crude rate).

*Fetal death rate* is the number of fetal deaths with stated or presumed gestation of 20 weeks or more divided by the sum of live births plus fetal deaths, stated per 1,000 live births plus fetal deaths. *Late fetal death rate* or *Stillbirth* is the number of fetal deaths with stated or presumed gestation of 28 weeks or more divided by the sum of live births plus late fetal deaths, stated per 1,000 live births plus late fetal deaths. See related *Fetal death*.

*Infant mortality rate* is calculated by dividing the number of infant deaths during a year by the number of live births reported in the same year. It is expressed as the number of infant deaths per 1,000 live births. *Neonatal mortality rate* is the number of deaths of children under 28 days of age, per 1,000 live births. *Postneonatal mortality rate* is the number of deaths of children that occur 28–365 days after birth, per 1,000 live births. See related *Infant death*.

*Estimation of level of infant mortality*—MedSocEconInform uses a procedure to estimate the level of infant mortality in the Russian Federation. The Interactive Infant Mortality Analysis System for the reliability of the registered data was developed under the supervision of Professor Komarov (Komarov, Albicki, Korotkova, Rozenshtein. Estimation Reliability Indicators of Infant Mortality. *Pediatric* (3):57–61, 1990) by researchers A. Korotkova (Korotkova. *Monitoring of Infant Mortality in Russia Based on Interactive Computer System*. Dissertation. Moscow, 1991) and E. Rozenshtein in 1990.

It is known that the criteria used for registration of live births in the U.S.S.R. were different from World Health Organization recommendations and, in addition, that the political nature of infant mortality forced lower numbers of live births to be registered. Therefore, in order to provide better health care, it was necessary to calculate a more accurate estimate of the true rates.

A model for estimating infant mortality rates was developed, based on a correlation determined by reviewing data on infant mortality in countries with reliable statistical data and on methods developed by B.A. Anderson and B.D. Silver (Anderson, Silver. *Infant Mortality in the Soviet Union: Regional Differences and Measurement Issues*. *Popul. and Develop. Rev.* 12(4):705–738, 1986)

and G. Dellaportas (Correlation-based Estimation of Early Infant Mortality. *Health Services Reports* 57(3):27–34, 1972).

To determine the final rates, the following calculated correlations were used: (a) for countries with different health systems and living standards, the probability of births of various birthweight categories was calculated; (b) for groups of infants of various birthweights, the probability of death in the neonatal period was calculated; (c) for different levels of infant mortality, the following regression models were found ( $Y = a + bX$ ) where  $Y$  is neonatal and  $X$  postneonatal death:

For an infant mortality rate of less than 18 per 1,000 live births:

$$Y = 0.04 + 1.90X$$

For an infant mortality rate equal to or greater than 18 per 1,000 live births:

$$Y = 13.36 + 1.61X$$

The calculations were done using the following algorithm: (a) based on the official registered number of live births, three variants of the probable numbers of live births in different weight groups were calculated; (b) the probable numbers of deaths in the neonatal period for each weight group were calculated; (c) the probable postneonatal mortality rates were calculated; and (d) the final infant mortality rate was calculated as the sum of the estimated neonatal mortality rate and the official or the estimated postneonatal mortality rate, whichever was larger (see table IX).

*Perinatal* relates to the period surrounding the birth event. Rates and ratios are based on events reported in a calendar year. *Perinatal mortality rate* is the sum of late fetal deaths plus infant deaths within 7 days of birth, divided by the sum of live births plus late fetal deaths, stated per 1,000 live births plus late fetal deaths. *Perinatal mortality ratio* is the sum of late fetal deaths plus infant deaths within 7 days of birth, divided by the number of live births, stated per 1,000 live births. See related *Fetal death*; *Infant death*; *Live birth*.

*Maternal death* is one for which the certifying physician has designated a maternal condition as the underlying cause of death. Maternal conditions are those assigned to complications of pregnancy, childbirth, and the puerperium (see related table VIII). The *maternal mortality rate*, which indicates the likelihood that a pregnant female will die from maternal causes, is the number of maternal deaths per 1,000 live births. The number of live births used in the denominator is an approximation of the population of pregnant females who are at risk of a maternal death.

*Registered nurse*—In the United States only, a registered nurse is an individual who has completed one of the following nurse training programs: baccalaureate education, which requires at least 4 years of college or university; associate degree programs, which are based in community colleges and are

**Table IX. Variants, percentage of weight groups, and neonatal mortality in group as calculated using MedSocEcolnform estimation of level of infant mortality**

<i>Birthweight</i>	<i>Variant</i>	<i>Percentage of weight group</i>	<i>Neonatal mortality in group</i>
500–999 grams . . . . .	Minimum	0.23 (0.01)	730 (22.3)
	Median	0.37 (0.01)	800 (19.7)
	Maximum	0.55 (0.22)	870 (24.7)
1,000–1,499 grams . . . . .	Minimum	0.83 (0.02)	510 (18.1)
	Median	0.80 (0.01)	570 (21.4)
	Maximum	1.27 (0.01)	630 (23.7)
1,500–1,999 grams . . . . .	Minimum	1.45 (0.02)	100 (1.2)
	Median	1.67 (0.01)	140.1 (5.3)
	Maximum	2.84 (0.03)	180 (6.2)
2,000–2,499 grams . . . . .	Minimum	5.67 (0.10)	25 (1.0)
	Median	6.91 (0.09)	40 (1.5)
	Maximum	9.75 (0.01)	55 (1.6)
2,500–3,999 grams . . . . .	Minimum	87.90 (0.35)	6 (0.2)
	Median	84.42 (0.18)	7 (0.2)
	Maximum	77.86 (0.27)	8 (0.2)
4,000 grams or higher . . . . .	Minimum	4.73 (0.48)	4 (0.2)
	Median	5.83 (0.28)	6 (0.2)
	Maximum	7.73 (0.15)	13 (0.7)

NOTE: Standard errors in parentheses.

usually 2 years long; and diploma programs, which are based in hospitals and are usually 3 years.

*Resident population*—See *Population*.

*States Committee for Sanitary Epidemiology and Surveillance (SES)*—In the Russian Federation, this is the governmental body responsible for epidemiological health and organization of public hygiene.

*Stillbirth*— See *Rate: Death and related rates*.

*Surgical operation*—See *Procedure*.

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