PN. ABL-583

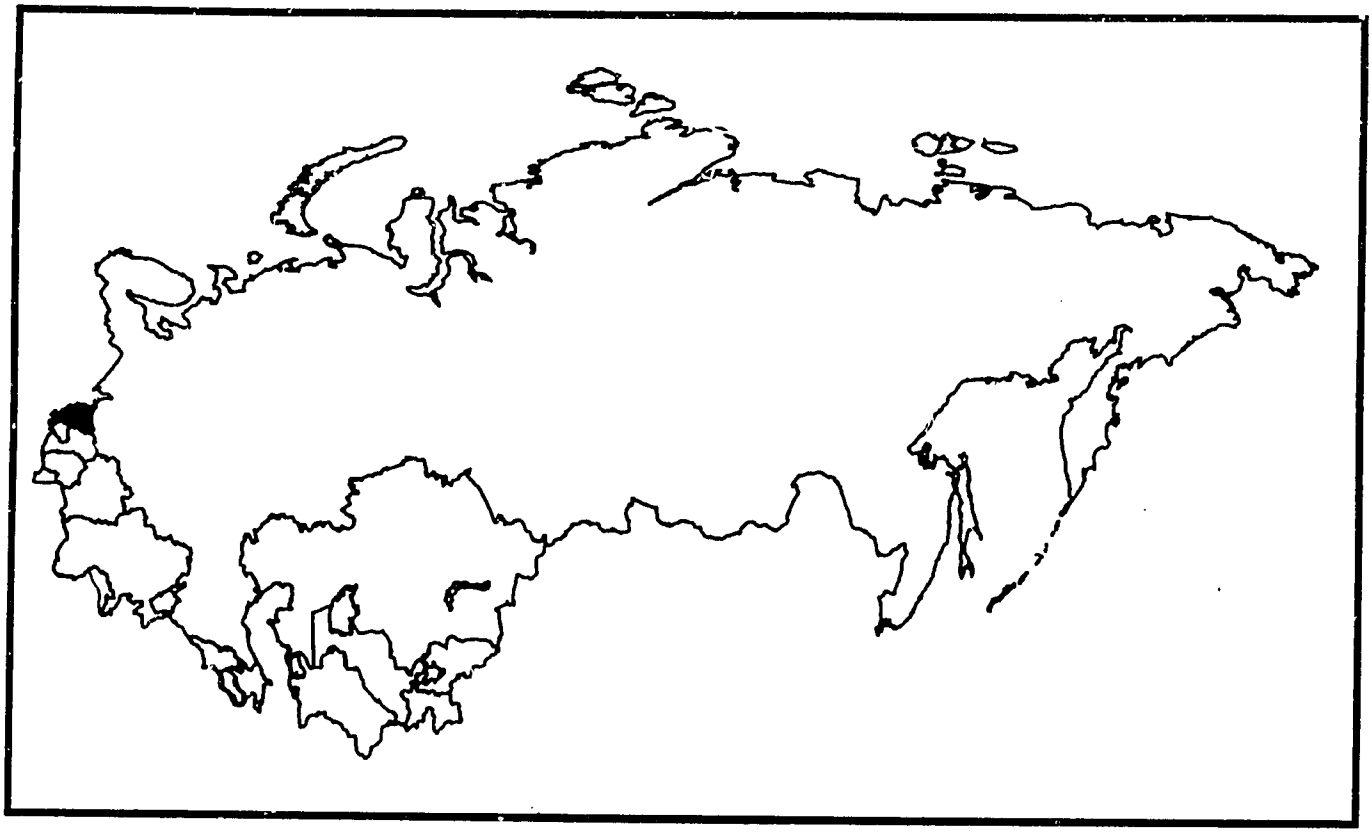
FINAL DRAFT

Estonia

USAID Health Profile

(Selected Data)

June 19, 1992



Center for International Health Information/ISTI
USAID Health Information System
1601 N. Kent Street
Suite 1001
Arlington, Virginia 22209
(703) 524-5225

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The Center for International Health Information
Roy I. Miller, Ph.D.
1601 N. Kent Street, Suite 1001
Arlington, VA 22209
(703) 524-5225
FAX (703) 243-4669

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This is one of a series of country profiles produced by the Center for International Health Information (CIHI), a USAID resource managed by the International Science and Technology Institute (ISTI). The U.S. Bureau of the Census (BUCEN) made available its extensive demographic data files. Each profile includes summary descriptions, tables and graphs about the demographic and health conditions in each country. The series of profiles is intended to provide current and trend data in a concise format for project design teams, evaluation teams, technical consultants, and other interested individuals and organizations. As summary documents, they do not provide comprehensive descriptions of either the demographic profile or health sector of the countries.

As part of the profile series, CIHI has produced 15 country profiles describing the most current situation in the C.I.S., Georgia, and Baltic republics. The incipient nature of the newly independent republics necessitates the reporting of information from the era of the former U.S.S.R. While dated in some instances, policy changes in the U.S.S.R. made in the latter part of the 1980's, including the introduction of new forms of health insurance and arrangements to encourage private health providers, may well provide the foundation for the shape of the health sector in the coming decade.

The first edition of these 15 profiles was compiled rapidly with readily available data. Occasionally, where the background documentation of the source material was sketchy and time prevented further verification, the data was included anyway in hopes that the mere inclusion of the data would stimulate further clarification by the various users of the profiles. On behalf of USAID, CIHI is planning to update the profiles as rapidly as new data becomes available and in response to commentary on the data in the current profiles. Accordingly, the authors of the profiles request that any more recent or more accurate data be forwarded to CIHI at the address below or to CIHI care of the USAID, Bureau of Research & Development, Office of Health, SA-18, Room 1200, Washington, D.C. 20523-1817.

Requests for additional information regarding CIHI's health and population profiles for selected countries and other reports prepared by CIHI should be transmitted directly to CIHI or through USAID as described above.

CENTER FOR INTERNATIONAL HEALTH INFORMATION/ISTI
USAID Health Information System
1601 North Kent Street, Suite 1001
Arlington, Virginia 22209
Phone: (703) 524-5225

Estonia
USAID Health Profile

CONTENTS

ESTONIA
Capital: Tallinn

Chairman of the Supreme Council: Arnold Rüütel **Prime Minister: Tiit Vähi**
(Estonia currently does not have a president)

TERRITORY

Size[1]: 45,000 sq. km.
Percent of the former USSR: 0.2%

Estonia is bordered by Russia to the east and Latvia to the south. Estonia's other borders are bodies of water, with the Gulf of Finland to the north and the Baltic Sea to the west.

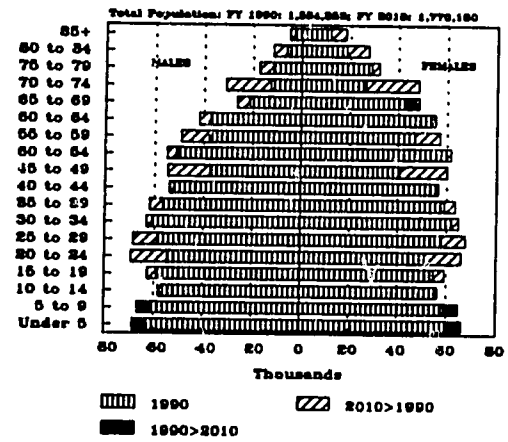
Estonia's movement toward independence was led by the Popular Front, which formed in April 1988. On September 6, 1991, the former USSR recognized Estonia's independence, as well as that of Latvia and Lithuania.

POPULATION

Total[1]: Approximately 1.6 million
Percent of the former USSR: 0.6%

Of the approximately 1.6 million people in Estonia in 1989, the total number of males was 737,000 and the number of females was 838,000. There were approximately 877 males per thousand females.[2]

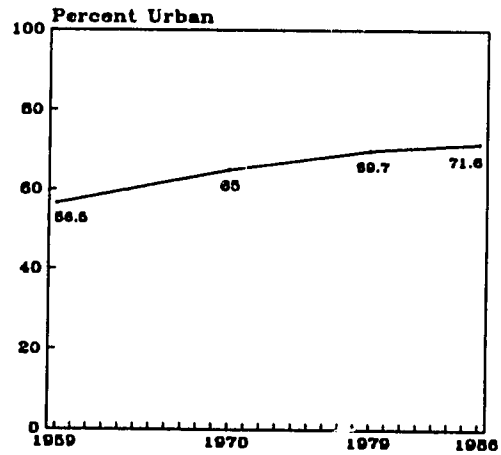
Figure 1:
Current and Projected Population by Age and Gender in Estonia: 1990–2010



Level of urbanization

The level of urbanization increased by approximately 15 percent in the 30-year period between 1959 and 1989. About 56.5 percent of Estonia's population lived in urban areas in 1959; that percent rose to 65.0 percent by 1970 and to 69.7 by 1979.[2] By 1986 the percent had reached 71.6, the same level reported in 1989, when a total of 1,126,000 people lived in urban areas and 447,000 lived in rural areas.[3]

Figure 2:
Urbanization in Estonia



Currently, Estonia's population is the most urbanized of the Baltic countries, although only by a small percentage. The percentage of people in urban areas is 71 percent in Latvia and 68 percent in Lithuania.[1]

Population by nationalities

Ethnic Estonians comprise about 62 percent of the republic's population, while the remainder is primarily ethnic Russians. Ukrainians and Byelarusians make up the next largest portion of Estonia's population.[1]

Population growth among Estonians is considerably lower than that among nationalities in the republic, and the result is a declining percentage of ethnic Estonians in Estonia.[4]

Nationalities in Estonia[2]	
Total	1,566,000
Republic Nationalities	
Estonian	963,000
Russian	475,000
Ukrainian	48,000
Byelarusian	28,000
Lithuanian	3,000
Latvian	3,000
Armenia	2,000
Georgian	1,000
Azerbaijan	1,000
Moldovan	1,000
Uzbek	1,000
Kazakh	0
Kyrgyz	0
Tajik	0
Turkmen	0
Other*	36,000
Autonomous Republic Nationalities	
Tartar	4,000

* includes Jews, Germans, Poles and others

Language fluency

Ethnic Estonians, almost two-thirds of the population, speak a language of Finnic derivation. In a recent effort by the government to develop a national Estonian identity, this language is being more fully incorporated into the republic's society. Ethnic Russians will be able to continue studying in Russian, but higher education will be taught in Estonian. Estonian language courses taught in Russian language schools will be improved.[1]

ECONOMIC OVERVIEW

A lack of hard currency and the breakdown of trade are two of Estonia's primary economic concerns since the dissolution of the former USSR. Since Estonia's currency, the ruble, is unconvertible, the republic lacks a convertible foreign exchange with which to purchase necessary imports. Most of Estonia's trade was with republics in the former USSR, but intra-republic trading has disintegrated and former trading partners are demanding that payments for goods be in hard currency.[1]

Consequently, Estonia faces food, fuel and medicine shortages. The republic has been totally dependent on supplies received from nordic countries since early 1992; buildings are reportedly very cold and sometimes ambulance service is unavailable due to fuel shortages.[1]

While the World Bank has recommended that Estonia center its efforts on stabilizing trade relationship with Russia and other C.I.S. republics, some Estonians believe the current economic situation there is too unstable and instead prefer to establish new ties with Western nations.[1]

As in many of the former USSR republics, incomes in Estonia have not kept pace with prices and the cost of living. For example, in February 1992, the average monthly income was between 400 and 500 rubles; senior doctors in Tallinn's children's hospital made about 2,000 rubles per month. But at that time, one kilo of sugar cost 90 rubles, a kilo of flour was 40, and the same amount of apples was 120.[1]

Estonia is also faced with the challenge of developing several critical social services within the government which were previously centered in Moscow, staffed by Russian nationals or did not exist. Rising unemployment and increased poverty resulting from the economic transition have created the need for expanded or new safety nets. Approximately half of the republic's population constitutes a dependent population: of Estonia's 1.6 million people, 380,000 are elderly pensioners and 340,000 are children.[1]

The Estonian government is in the process of developing a new structure of welfare legislation which will incorporate these expanding needs. In addition, the Parliament was scheduled to enact emergency assistance measures on April 1, 1992 which would provide a guaranteed minimum amount for those in need. However, given the limited budget resources, it is uncertain to what extent the government will be able to respond to people needing assistance. Likewise, while the government has attempted to establish a minimum allotment for people needing emergency food benefits, the rise in the cost of foodstuffs has been so rapid that government statisticians have been unable to make timely adjustments of the data and establish a standard level of assistance.[1]

ESTONIA: USAID Health Profile (continued)

Estonia is the only Baltic nation with significant mineral resources; it has developed oil-shale deposits in the north.[1] Industries include shipbuilding, paper, textiles and mining equipment.[5]

INCOME OVERVIEW

In 1990, approximately 37 percent of Estonia's population earned an average monthly per capita income between 75 and 200 rubles. About two percent earned 75 rubles or less, and a little over 41 percent early more than 200 rubles.[1]

EMPLOYMENT OVERVIEW

Approximately 673,000 people were employed in Estonia in 1989. This total is distributed as follows[6]:

Employment by Branch (1989)	
Industry	222,000
Agriculture*	59,000
Transportation	61,000
Communications	9,000
Construction	67,000
Public services**	101,000
Social security***	42,000
Education	56,000
Culture & art	13.000
Science & services	15,000
Credit & state insurance	4,000
Administration	12,000
Other	13,000

* includes employment on state farms and in forestry

** includes employment in trade, public dining, material technical supply and procurement, housing and municipal economy

*** includes employment in health, physical, cultural and social security

HEALTH OVERVIEW

Total population[1]	1.6 million	1990
Crude birth rate[7]	15.7 per 1,000 population	1990
Crude death rate[7]	11.9 per 1,000 population	1990
Infant mortality rate[8]	16.1 per 1,000 live births	1987
Maternal mortality ratio[1]	41.2 per 1,000 live births	1990

The health system of the former USSR was chronically under-funded, and the individual republics have inherited this legacy and its problems.

Since health facilities in Estonia relied on trade and distribution systems within the former USSR, dissolution of the Union and the breakdown of intra-republic trading has caused shortages in medical supplies and equipment in Estonia. For example, vaccine stocks are rapidly decreasing, equipment is old and replacement parts are no longer available.[1]

A lack of reliable health information is one of the most immediate challenges facing Estonia's health care system. Health statistics used in the former USSR were not entirely thorough.[1] No all-inclusive analysis has been made of region-by-region morbidity rates or the incidence of the major diseases. Necessary information about environmental pollution and food contamination is scarce and incomplete.[4]

A shortage of funds for health care is also a major concern. Approximately two to three percent of the total national budget is allocated for health care in Estonia. In 1988, the annual health care budget was about 120 million rubles (about 80 rubles per person), but the actual need was two to three times higher.[4] Estonia is currently moving from the provision of state subsidies for health care to insured health; since this transition began, hospitals and clinics have lost revenues and many people cannot afford to pay for health care.[1]

In the former USSR, the health of the population was the responsibility of several governmental

departments, including social security, education, exercise and sports. However, there was no real collaboration and coordination among them. For example, when children were cared for at home, they received treatment from public health services, but if they were enrolled in a day nursery (as many are since a high percentage of Estonia's mothers work), they became the responsibility of the education system. In 1988, the Estonian Minister of Health proposed that a single department be formed to address all public health issues and provide a unified policy for protecting and improving public health.[4]

In the former USSR, the Ministry of Health has focused primarily on curative care but given little emphasis to preventative care. In addition, while the former system provided little care for people with disabilities, the current ministry has given this issue high priority.[4]

Given the delicate health situation and the current economic hardship, one of the Ministry of Health's primary goals is to prevent the health status of the population from deteriorating.[1]

Life expectancy

Life expectancy at birth in Estonia in 1989 was 65.8 years for males and 75.0 years for females, compared to 71.5 and 78.4 years for males and females, respectively, in the United States in 1987.[9]

Figure 3:
1989 Life Expectancy at Birth:
Estonia Compared to U.S.A.*

*U.S.A. Data is for 1987

Mortality rate

Since the early 1970s, trends in mortality rates for republics in the former USSR have generally followed trends for the average level of the Union. Mortality rates gradually worsened for more than a decade before steady improvement began in 1985-86, but by the late 1980s, the three Baltic nations, Ukraine, Georgia and Armenia were the only republics which remained approximately at the 1970 level.[10]

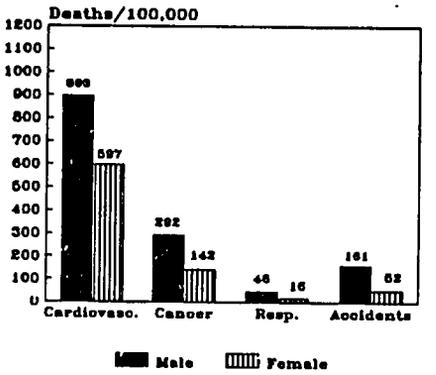
The death rate in Estonia by 1970-71 was 12.4 and 7.3 deaths per 1,000 population for males and females, respectively. By 1980-81, this rate was 13.7 and 7.6 years and by 1986-87 it was 12.6 and 7.4 years.[10] The crude death rate in 1990 was 11.93 deaths per 1,000 population.[7]

The mortality rate among Estonia's rural population is 30 percent higher than among the urban population.[4]

Causes of death

The main causes of death in Estonia are cardiovascular conditions, cancer, accidents and respiratory conditions.[9] Since at least the late 80s, a general and acute shortage of cardiac drugs has contributed to deaths caused by cardiovascular diseases.[4]

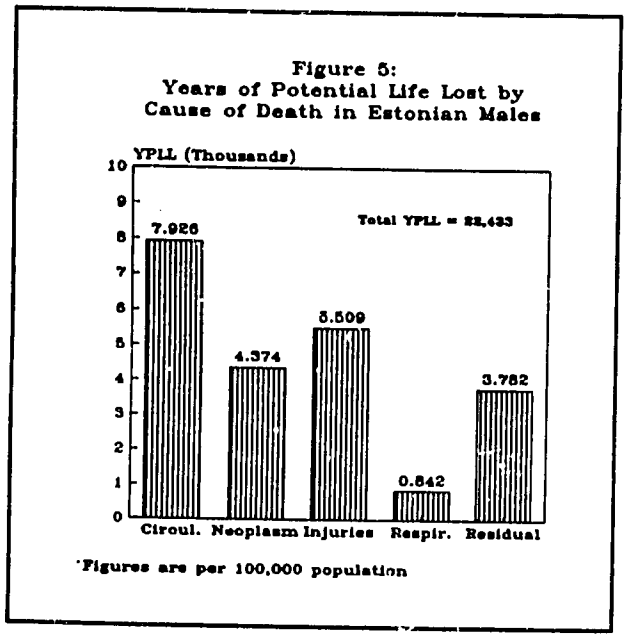
Figure 4:
Mortality Rates by Cause
of Death in Estonia



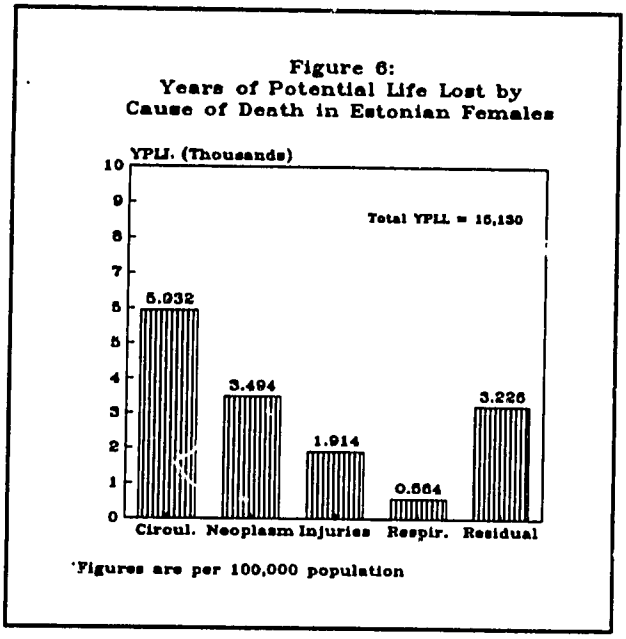
Years of potential life lost (YPLL)

Each year in Estonia, males lose a total of 22,433 years of potential life per 100,000 population due to various causes of death. Circulatory conditions are the most common, causing 7,926 YPLL. Deaths caused by injuries total 5,509 YPLL, neoplasms total 4,374 YPLL, respiratory conditions total 842

YPLL and other causes (residual) total 3,782 YPLL.[11]

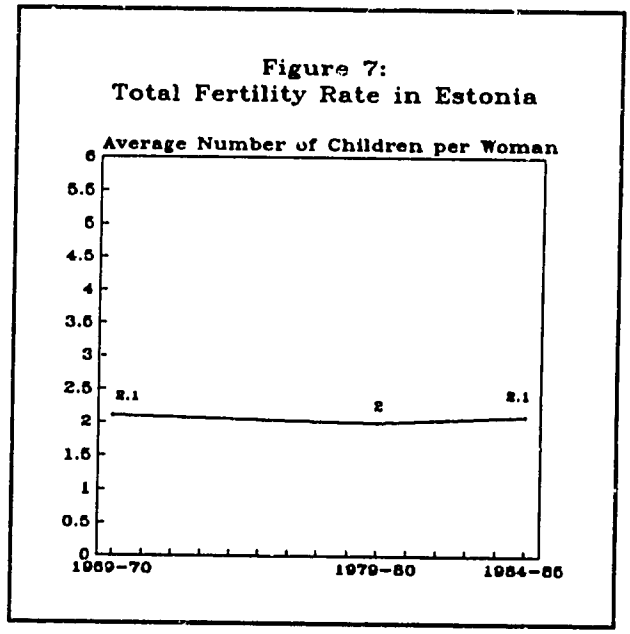


Females in Estonia annually lose a total of 15,130 years of potential life per 100,000 population due to various causes of death. As with males, circulatory conditions are the most common, totalling 5,932 YPLL. Deaths caused by neoplasms total 3,494 YPLL, injuries total 1,914 YPLL, respiratory conditions total 564 YPLL and other causes (residual) total 3,226 YPLL.[11]



Fertility rate

The fertility rate in Estonia changed little between 1969 and 1985. The average number of children per woman in 1969-70 was 2.14. While that number fell slightly to 2.01 by 1979-80, it rose again to 2.11 by 1984-85.[3]



To account for under-registration of births, the U.S. Bureau of the Census (BUCEN) adjusted the total fertility rate (TFR) for 1990 to be 2.25 children per woman. The projected TFR in 2010 is 1.78 children.[7]

Maternal mortality

The maternal mortality ratio in 1990 was 41.2 deaths per 100,000 live births. The proportion of deaths due to peri-natal complications is 60.3 deaths per 10,000 live births.[1]

The number of officially reported abortions in 1989 was 26,000. Approximately 67 abortions per 1,000 births were performed for women between the ages of 15 and 49.[1]

Women's health in Estonia is greatly affected by working conditions. In 1988, more than 30,000 women worked under conditions which were harmful to health, such as noise, vibration, dust and chemicals. Working under such conditions contributes to premature childbirth (birth weight

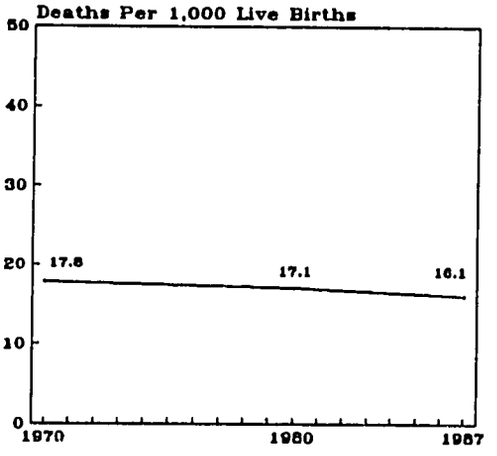
less than 2.5 kg), the birth of children with congenital defects, and stillbirth. These conditions can also have a harmful effect on a woman's ova. In 1988, the Minister of Health called for protection of women of fertile age against harmful working conditions, whether they are pregnant or not.[4]

However, finding a remedy for this situation is complicated. One solution is to radically change working conditions, an option which would require large sums of currently unavailable money, as well as many years of implementation of new production and maintenance technology. Another possibility is to transfer the approximately 30,000 women working in deleterious conditions to different jobs. However, since transferring jobs usually results in a decrease in wages, the majority of women in Estonia decide to continue working under harmful conditions, even when pregnant.[4]

Infant mortality

The infant mortality rate in Estonia has declined from 17.8 deaths per 1,000 live births in 1970 to 17.1 deaths in 1980 and 16.1 deaths in 1987.[8] In 1989, this rate was 14.7 deaths per 1,000 live births, according to Ministry of Health statistics. While these rates are lower than those in several republics in the former USSR, they are higher than rates in northern European and Scandinavian countries.[1]

Figure 8:
Infant Mortality Rate in Estonia

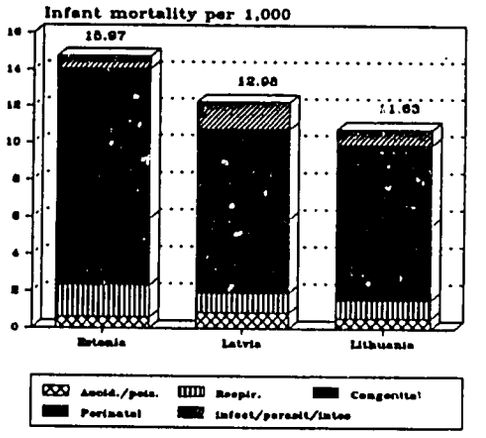


Infant Mortality Rates (per one thousand live births)[10] According to Place of Residence (1975-86) Estonia vs. Former USSR						
	1975		1980		1986	
	Eston.	USSR	Eston.	USSR	Eston.	USSR
Urban	16.4	25.8	15.9	23.5	15.1	21.1
Rural	21.9	37.0	19.9	32.5	18.1	31.4

Infant mortality within the first seven days of life is particularly high in Estonia due primarily to premature births, congenital organ defects and diseases acquired in utero. These causes reflect mortality due to the poor health status of the mother rather than infant disease.[4]

Of the 15.97 infant deaths (per 1,000 live births) reported in Estonia in 1986, 8.15 were due to perinatal diseases, 3.58 were due to congenital anomalies, 1.75 were caused by respiratory diseases, 0.67 were caused by infectious, parasitic or intestinal diseases, and 0.58 were due to accidents and poisonings.[10]

Figure 9:
Infant Mortality Rates (1986) by Cause
In Estonia, Latvia and Lithuania



The official Soviet statistics for infant mortality rates understate the actual level by approximately 50 percent, according to BUCEN estimates. The definition of infant mortality in the former USSR varied significantly from the standard international definition from WHO. BUCEN estimates infant mortality for 1990 to be 25.03 deaths per 1,000 live births and for 2010 to be 12.05 deaths.[7]

Child health

Cardiovascular and respiratory diseases are the most common health problems faced by children in Estonia. The cool, damp climate and pollution from the oil-shale industry in northern Estonia contribute to respiratory problems, including an estimated 600 cases of asthma among the half million people in Tallinn. The oil-shale pollution is also linked to cases of childhood cancer.[1]

The lack of fluoride in Estonia's water system contributes to the high incidence of tooth decay in children.[1]

Food and nutrition

Fresh vegetables and citrus fruits are in scarce supply, and even when these foods are available, they remain unaffordable to most of Estonia's population due to the rapid rise in prices. They were previously imported from other republics in the former USSR, but the breakdown in intra-republic trading and the demand for payment in hard currency have further reduced fruit and vegetable supplies.[1]

Milk supplies were also scarce in recent months, although the shortage may have eased in March 1992. Tallinn has only one milk supplier, so many people get their milk from farmers. However, milk in Estonia is said to be contaminated and diluted.[1]

Breastfeeding is insufficient, with only about 30 percent of mothers breastfeeding up to three months. Infant formula is not produced in Estonia and possible production of specialized infant foods is hampered by a lack of funds to buy fruits and vegetables and no available supply of small glass containers for bottling the food.[1]

Vaccine coverage

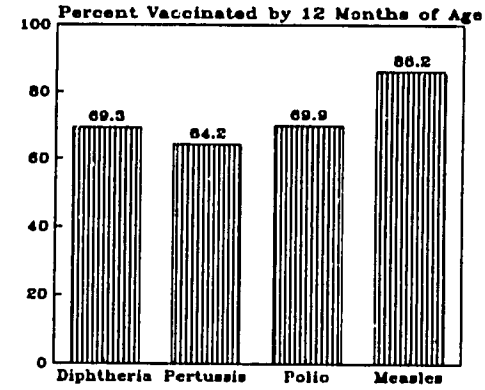
In 1989, vaccination coverage in infants up to 12 months of age had reached the following levels: 69.9 percent were vaccinated against polio, 69.3 percent against diphtheria and 64.2 percent against pertussis. Vaccination coverage against measles in children by 24 months of age was 86.2 percent.[12]

Estonia faces a serious shortage of vaccine supplies. In the past, most supplies were from other republics in the former USSR, but vaccine quality had fallen in recent years as quality control lapsed. Currently, the breakdown of intra-republic trade, the lack of hard currency and the decreased production by vaccine manufacturers have all contributed to diminishing supplies in Estonia.[1]

Vaccine coverage was also disrupted in 1980 when the former USSR government officially stopped measles vaccination when children showed various reactions to the vaccine. Since that time, the incidence of measles in Estonia has peaked in five-year cycles.[1]

The Ministry of Health has set vaccination against rubella as a high priority in order to lessen the relatively high incidence of congenital birth abnormalities. Diphtheria has been reported in some areas of Estonia which were not covered by vaccination programs.[1]

Figure 10:
1989 Vaccination Coverage
in Estonian Infants



*Children up to 2 yr for measles vaccine

Status of health care personnel and facilities

The number of medical personnel in Estonia is high. In 1987, a total of 6,396 physicians were employed in Estonia's health care system, or approximately 40.7 physicians per 10,000 population.[4] Other estimates for 1987 show this rate to be 48.0 physicians.[8] While this rate in Western nations ranges from 20 to 25 physicians, the health of the population of Estonia is by no means twice as good as other nations.[4]

This situation is due in part to the low number of mid-level personnel. The disproportion between physicians and mid-level personnel was the result of rigid Union-wide regulations and health care wage leveling in the former USSR.[4]

The state of health care facilities has evolved somewhat unevenly. While the number of modern hospitals in large districts has increased in the past decade, the number of much needed small hospitals in smaller districts has decreased drastically. These latter hospitals were often located in converted buildings in post-war years, but since the 70s, the buildings have deteriorated and many have been shut down. The result is a marked shortage of beds and a lack of modern hospitals on the district level. Approximately half of existing hospitals need new, rather than renovated, buildings in order to provide the best level of care possible. In 1987, a little more than one-fifth of the population was hospitalized and the average stay for each patient was 17 days.[4]

The Estonian health care system also faces a shortage of equipment. Production of modern medical equipment and supplies is virtually non-existent in the republic. The Minister of Health reported in 1988 that Estonia was unable to provide physicians, nurses or hospital attendants with basic supplies, and worker morale and quality of work have been adversely affected.[4]

Since Estonia's independence and the dissolution of the former USSR, the use of health services has decreased. Under the former USSR system, hospitals would be paid based on the number of patients and the length of their stay; under the current system, hospital occupancy has decreased from nearly 100 percent to about 60 percent. While doctors at the Children's Hospital in Tallinn used to see about 4,000 children each year, they now see about 2,800 children. But this decrease is also the result of the current economic hardships: a lack of transportation and fuel are the main reasons for the drop in doctor visits, particularly for referrals from rural areas and towns.[1]

Environmental factors in health

Environmental pollution and its effects on health are two issues facing the Estonian government and its people. In 1988, the Minister of Health reported that cleaning up Estonia's environment has for the most part been ignored and that relentless efforts must be made to improve the situation.[4]

While air pollution caused by phosphorous mines and the construction of new electric power plants was already common knowledge in 1988, the Minister of Health said both the public and the government are unaware of other current factors detrimental to the environment and health. While the international community has identified about 1,500 compounds in the environment which affect human health, the former USSR did not adhere to such a guide and considered only about 300 compounds to be important, of which 17 are measured in the environment. In addition, there is a lack of equipment to make accurate measurements and perform analysis, and the secret classification of data has further limited knowledge about the environment and contamination.[4]

In the past, the health service and medical professions have not been allowed to play a role in remedying this situation, and health service could impose only small fines in attempts to make contributors to environmental pollution comply with standards set for the entire former USSR. The power of health services to make rigid sanctions against those polluting the environment has existed only on paper.[4]

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Data Notes
Indicator Definitions

DEMOGRAPHIC INDICATORS

TOTAL POPULATION: Mid-year estimate of the total number of individuals in a country.

YEARS OF POTENTIAL LIFE LOST: The weighted difference between the number of years of life expectancy in absence of all preventable mortality and the number of years lost due to preventable mortality. Since deaths of children result in a greater loss of life span than deaths of adults, the differences in loss of potential life are taken into account by using a type of measure which heavily weights the importance of child death.

LIFE EXPECTANCY AT BIRTH: An estimate of the average number of years a newborn can expect to live. Life expectancy is computed from age-specific death rates for a given year. It should be noted that low life expectancies in developing countries are, in large part, due to high infant mortality.

MORTALITY RATE: Basic cause-specific death rates are usually expressed in deaths per 100,000 because for most causes of deaths the rates of occurrence are so low.

CHILDREN UNDER 1: Mid-year estimate of the total number of children under age one.

INFANT MORTALITY RATE (IMR): The estimated number of deaths in infants (children under age one) in a given year per 1,000 live births in that same year. An IMR may be calculated by direct methods (counting births and deaths) or by indirect methods (applying well-established demographic models).

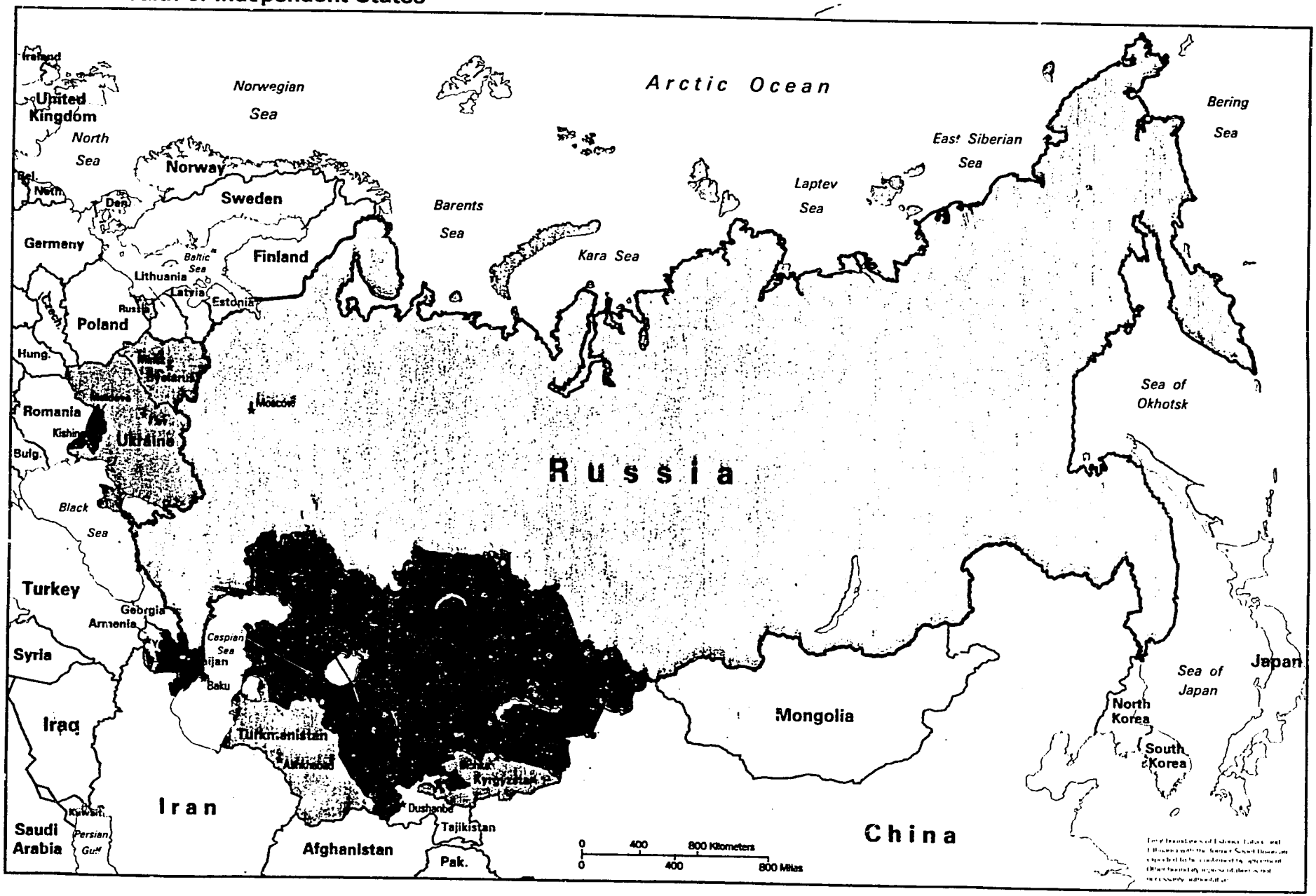
MATERNAL MORTALITY RATIO: The estimated number of maternal deaths per 100,000 live births where a maternal death is one which occurs when a woman is pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management. Although sometimes referred to as a rate, this measure is a ratio because the unit of the numerator (maternal deaths) is different than that of the denominator (live births). Extremely difficult to measure, maternal mortality can be derived from vital registration systems (usually underestimated), community studies and surveys (requires very large sample sizes) or hospital registration (usually overestimated).

TOTAL FERTILITY RATE: An estimate of the average number of children a woman would bear during her lifetime given current age-specific fertility rates.

VACCINATION COVERAGE RATES

VACCINATION COVERAGE IN CHILDREN: An estimate of the proportion of living children between the ages of 12 and 23 months who have been vaccinated before their first birthday -- three times in the cases of polio and DPT and once for both measles and BCG. Vaccination coverage rates are calculated using administrative estimates based on reports of the number of vaccines administered divided by an estimate of the pool of children eligible for vaccination.

Commonwealth of Independent States



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