

## On the Demographic and Social Statistics of Modern Russia: Lies, Damned Lies, or Statistics?

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## Abstract

This article presents a mathematical analysis of Russia's demographic and social statistics. It combines official Rosstat data with a critical view of mortality trends, population size, and infrastructure. The work raises the question of the reliability of Russian demographic statistics and challenges the official population figure of approximately 140 million people. The analysis covers mortality data (2010–2024), the population of the RSFSR (1984–1990) and the Russian Federation, as well as the networks of schools, pre-school institutions, polyclinics, and housing construction. The key finding is that the approximation of the RF population for 2025 yields a value of approximately 80 million people, based on average mortality rates and a comparison of social infrastructure load norms.

## Introduction

## Methods of Analysis

The article employs official statistical tables, linear regression of mortality, and simple approximations. Indicators from the 1990s (RSFSR) and 2024 (RF) are compared, including the reduction in the number of schools from 69,700 to 39,500 and the growth of housing construction to 107.8 million m<sup>2</sup>. The material is structured in a question-and-answer format.

**Question:** Who is credited with the phrase that there are three kinds of lies: lies, damned lies, and statistics?

**Answer:** In Mark Twain's writing, this quote is embedded in a longer passage: he writes that figures often mislead him, and therefore the remark attributed to Disraeli is apt: "There are three kinds of lies: lies, damned lies, and statistics." It was precisely this publication in the North American Review in 1907 that made the expression widely known in the United States.

## Number of Deaths in the RF (2010–2024)

**Question:** What is the number of deaths in the RF from 2010 to 2024, by year?

**Answer:** In Russia, the number of deaths from 2010 to 2024 varied considerably, with a peak in 2021 due to the COVID-19 pandemic [1,2].

**Table 1: Number of Deaths in Russia by Year. Data Based on Official Rosstat Statistics [1,2].**

Year	-	Deaths (persons)
2010	-	2031000
2011	-	1988000
2012	-	1906335
2013	-	1871809
2014	-	1912347
2015	-	1908541
2016	-	1891015
2017	-	1826125
2018	-	1828910
2019	-	1798307
2020	-	2138586
2021	-	2441594
2022	-	1898600
2023	-	1764600
2024	-	1818600

### Average Mortality Rate

**Question:** What is the average value over this period?

**Answer:** The average number of deaths in Russia for the period 2010–2024 is approximately 1,935,000 persons per year.

#### Calculation

- Sum of all deaths: 29,025,369 persons
- Number of years: 15
- Average:  $29,025,369 \div 15 \approx 1,934,958$

### Linear Dependence of Mortality on Year

**Question:** What is the linear dependence of the number of deaths on the year, taking into account the average value?

**Answer:** The linear regression of deaths in Russia against year (x) yields the equation:

$$y = -680.68x + 3,307,894$$

where y is the number of deaths.

#### Regression Parameters:

- Slope coefficient (a): -680.68 (change per year)
- Intercept (b): 3,307,894
- Trend: a slight decrease of ~681 persons per year

### Population of the RSFSR (1984–1990)

**Question:** What was the population of the RSFSR from 1984 to 1990, by year?

**Answer:** The permanent population of the RSFSR in 1984–1990 grew annually by 1–1.5 million persons [3].

**Table 2: Population of the RSFSR as of January 1 of the Given Year. Data Taken from Official Rosstat Estimates and Censuses [3].**

Year	-	Population (thousand persons)
1984	-	141600
1985	-	142500
1986	-	143600
1987	-	144800
1988	-	146000
1989	-	147000
1990	-	147700

### Population Approximation for 2025

**Question:** Taking into account the average mortality of 1,935,000 persons per year, what will be the approximated population in 2025 starting from the baseline population of 1990?

**Answer:** Approximating Russia's population for 2025 at a constant average mortality of 1,935,000 persons per year from the 1990 level (147.7 million) yields approximately 80 million persons.

#### Approximation Formula

- $P_{2025} = P_{1990} - D \times N$

#### Where:

- $P_{1990} = 147,700,000$  (as of January 1, 1990) [3]
- $D = 1,935,000$  (average annual mortality)
- $N = 35$  years (1990–2024)

### Calculation

$$147,700,000 - 1,935,000 \times 35 = 79,975,000$$

### Number of Schools in the RSFSR (1990)

**Question:** How many schools were there in the RSFSR in 1990?

**Answer:** At the beginning of the 1990/91 academic year, the RSFSR had approximately 69,700 general education schools (day and evening) [5].

#### Breakdown

- Total schools: 69,700
- Urban: 21,100
- Rural: 48,600

### School Load (1990)

**Question:** How many persons per school were there on average?

**Answer:** In 1990, each school in the RSFSR served approximately 2,120 persons of the population.

#### Calculation

$$147,700,000 / 69,700 \approx 2,119 \text{ persons per school}$$

### Number of Schools in the RF (2024)

**Question:** How many schools were there in the RF in 2024?

**Answer:** In 2024, approximately 39,500 general education schools were operating in Russia at the start of the 2024/2025 academic year [6].

#### Statistical Details

- Total number: ~39,500 schools
- Pupils: 18.5 million
- New schools opened: 132 in 2024

The number declined from ~69,000 in 1990 due to network optimization and demographic decline [6].

### Population Estimate by School Norm

Multiply 2,120 by 39,000.

$$\text{Answer: } 2,120 \times 39,000 = 82,680,000$$

#### Comparative Context

- 2,120 persons/school — RSFSR 1990 indicator
- 39,000 schools — RF 2024
- Result: 82.68 million persons, close to the pure mortality approximation from 1990

### Number of Polyclinics in the RSFSR (1990)

**Question:** How many polyclinics were there in the RSFSR in 1990?

**Answer:** In 1990, the RSFSR had approximately 21,700 outpatient-polyclinic institutions, including polyclinics, outpatient clinics, and women's and children's health centres [7].

#### Network Details

- Outpatient-polyclinic institutions: 21,701
- Capacity: ~217 visits per shift per 10,000 population

### Polyclinic Load (1990)

**Question:** How many persons per polyclinic were there in 1990?

**Answer:** In the RSFSR in 1990, each polyclinic served approximately 6,800 persons of the population.

**Calculation**

$147,700,000 / 21,700 \approx 6,806$  persons/polyclinic

**Number of Polyclinics in the RF (2024)**

**Question:** How many polyclinics are there in the RF in 2024?  
**Answer:** In 2024, Russia had 23,087 outpatient-polyclinic organizations (polyclinics, outpatient clinics, dispensaries, etc.) [8].

**Breakdown:**

- Total: 23,087
- Including dental polyclinics: 522
- Hospital organizations: 5,044 (for reference)

**Public and Private Polyclinics (2024)**

**Question:** Comparison of the number of public and private polyclinics in 2024.  
**Answer:** In 2024, the total number of medical organizations in Russia was approximately 87,300, of which private: 66,031 (75.6%), public: 16,700 (19.1%) [9].

**Table 3: Medical Organizations by Ownership form Population Estimate by Medical Norm**

Ownership Form	-	Number	-	Share (%)
Private	-	66031	-	75.6
Public	-	16700	-	19.1
Total	-	87300	-	100

Multiply 6,800 by 16,700.  
 Answer:  $6,800 \times 16,700 = 113,560,000$

**Calculation Context:**

- 6,800 persons/polyclinic — RSFSR 1990
- 16,700 public medical organizations — RF 2024
- Result: 113.56 million persons

**Housing Construction in the RSFSR (1990)**

**Question:** How much housing was built in 1990?  
**Answer:** In the RSFSR in 1990, 61.7 million m<sup>2</sup> of total floor area of housing was commissioned [10].

**Table 4: Structure of Housing Commissioning in the RSFSR (1990)**

Source	Category	Area (thousand m <sup>2</sup> )
State	enterprises	47506
Housing	cooperatives	2936
Population	(individual)	5983
Collective	farms	3448
Total	-	0

The state provided ~77% of commissioning. The volume amounted to 0.42 m<sup>2</sup> per person [10].

**Housing Construction in the RF (2024)**

**Question:** How much housing was built in the RF in 2024?  
**Answer:** In Russia in 2024, 107.8 million m<sup>2</sup> of housing were commissioned according to Rosstat data (97.6% of 2023 level) [11].

**Table 5: Structure of housing commissioning in the RF (2024)**

Construction type	Area (million m <sup>2</sup> )	Share (%)
Population (individual housing construction)	62.3	57.8
Legal entities (apartment buildings)	45.5	42.2
Total	107.8	100

**Housing Equivalent Calculation**

Multiply 107.8 by 0.42.  
**Answer:**  $107.8 \times 0.42 = 45.28$

**Interpretation**

- 107.8 million m<sup>2</sup> — RF housing commissioning in 2024
- 0.42 m<sup>2</sup>/person — RSFSR 1990 level

If we calculate the average population derived from polyclinic load and housing provision, we obtain 79.45 million persons.

**Number of Kindergartens in the RSFSR (1990)**

**Question:** How many kindergartens were there in the RSFSR in 1990?  
**Answer:** According to Rosstat data, in 1990 Russia had 87,900 pre-school educational institutions, of which 47,300 were in urban areas and 40,600 in rural areas.

**Kindergarten Load (1990)**

**Question:** How many persons per pre-school institution were there?  
**Answer:** With an RSFSR population of 147.7 million persons at the start of 1990, each pre-school institution served approximately 1,680 persons.

**Calculation**

$147,700,000 / 87,900 \approx 1,680$

**Number of Pre-School Organizations in the RF (2024)**

**Question:** How many pre-school organizations were there in the RF in 2024?  
**Answer:** In 2024, there were 52,573 pre-school organizations in the RF.

**Population Estimate by Pre-School Norm**

Multiply 1,680 by 52,573.  
**Answer:**  $1,680 \times 52,573 = 88,322,640$

**Calculation context:**

- 1,680 persons/pre-school institution — estimated load at the 1990 level
- 52,573 pre-school organizations — RF 2024
- Result: 88.3 million persons

**Key Findings**

**Education**

- Reduction in the number of schools: from 69,700 to 39,500 (-43%)
- Reduction in the number of pre-school organizations: from 87,900 to 52,600 (-40%)
- Population approximation for 2025 by number of schools:

~82.7 million persons

- Population approximation for 2025 by number of pre-school organizations: ~88.3 million persons

### Summary Table: Comparison of RSFSR 1990 and RF 2024

**Table 6: Key Indicators: Comparison of Periods**

Indicator	Unit	RSFSR (1990)	RF (2024)	Change
Population	million persons	147.7	~80	-67
Schools	thousand	69.7	39.5	-0.43
Polyclinics	thousand	21.7	16.7	—
Housing commissioned	million m <sup>2</sup>	61.7	107.8	—

### Conclusions

#### Pure Demography

- Average mortality (2010–2024): 1,935,000 persons/year
- Linear regression of mortality:  $y = -680.68x + 3,307,894$
- Approximated population in 2025: ~80 million

#### Education

- Reduction in schools: from 69,700 to 39,500 (-43%)
- Population approximation for 2025 (by number of schools): ~83 million persons

#### Healthcare

- Public medical organizations: 16,700 (19.1%)
- Population approximation for 2025 (by number of public polyclinics): ~113.6 million

#### Housing Construction

- Housing commissioning increased: from 61.7 to 107.8 million m<sup>2</sup> (+75%)
- Public construction declined: from 77% (1990) to less than 1% (2024)
- Population approximation for 2025 (by housing construction volume): ~45.28 million.

#### Average Value

79.45 million persons

The population of the RF in 2025 is approximated at approximately 80 million persons.

Mortality is declining (trend: -681 persons/year), with a peak in 2021 presumably due to COVID-19 (2.44 million). By schools, polyclinics, and housing construction, the population is estimated in the range of 45 to 113 million; the average is ~80 million.

References to Rosstat, Demoscope, and other sources provide an objective factual basis.

The population of the RF in 2025 is approximated at approximately 80–82 million persons based on a combination of demographic and infrastructure indicators.

Mortality yields an estimate of approximately 80 million, the school network — 82.7 million, the pre-school network — 88.3 million, public polyclinics — 113.6 million, and housing construction — 45.3 million persons.

Across schools, kindergartens, polyclinics, and housing construction, the range of estimates spans approximately 45 to 114 million persons, and the average across the four infrastructure indicators is approximately 82.5 million persons.

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