National Research University Higher School of Economics

Advisory Board on Scientific Research

Meeting on the16th November 2019

International Laboratory for Population and Health

Vladimir M. Shkolnikov

Academic Supervisor

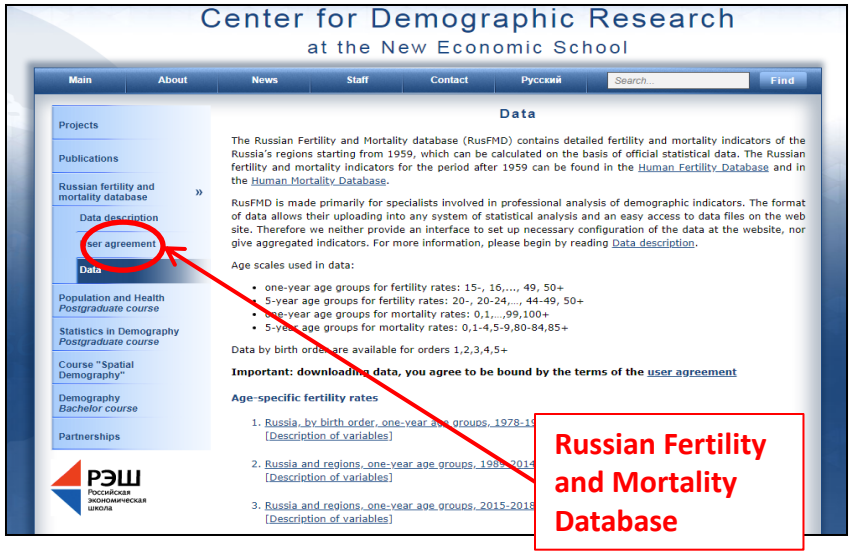
Background

Center for Demographic Research, New Economic School: 2011-2016

Grant of the Dynasty Foundation for establishing a modern demographic center in Russia (June 2011).

Motivation:

- Shortage of publications in international peer-reviewed journals. Deficit of evidence-based research going beyond descriptive analysis.
- Low share of methodological studies
- Absence of continuous and long-term for Russia and its regions.



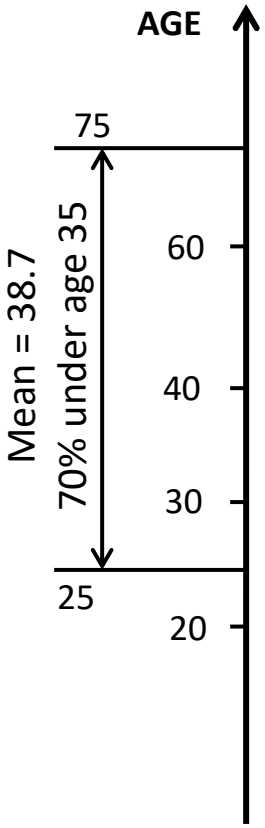
International Laboratory for Population and Health, Higher School of Economics: 2017-2019

Russian Academic Excellence Project "5–100" (November 2016).

Motivation – the same as previously PLUS:

- Greater emphasis on capacity building
- Specific quantitative requirements on outcomes such as publications, lectures, seminars etc.
- MINUS - the database priority

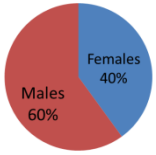
Our staff



Gents

Andreev, Evgeny M.
Laboratory Head

Shkolnikov, Vladimir
Academic Supervisor



Jdanov, Dmitry
Chief Research Fellow

Timonin, Sergey
Deputy Head

Shchur, Aleksei
Research Assistant

Tursun-zade, Rustam
Research Assistant

Ladies

	Mean	Min	Max	St.D.
Google Scholar *h-index*	**12.3**	**0.0**	**54.0**	**18.3**

Currently: 9 people (8 full-time positions):
5 researchers, 1 junior researcher, 2 trainees,
1 manager.

Churilova, Elena
Research Fellow

Danilova, Inna
Research Fellow

Sokolova, Vera
Manager

Papanova, Elena
Junior Research Fellow

Vergeles, Marina
Research Assistant

Research in numbers: 2017-19

- Papers in international peer-reviewed journals (Q1/Q2 WoS): **15** published (incl. **2** commentaries) + **4** submitted
- Chapters in international monographs: **1** published and **1** in press
- Other international papers: **1** published (Q4 WoS)
- Papers in Russian journals: **12** published
- International scientific conferences and workshops held by the laboratory at HSE: **3**
- Presentations given at scientific conferences including major demographic conferences of the International Union for Scientific Study of Population (IUSSP) and the Population Association of America (PAA): **39** abroad, **41** in Russia

Research themes and achievements

Methods of measurement and decomposition in demography

- *A new method of contour decomposition* allows one to decompose a difference in between two populations in any aggregate measure according to the impacts of initial difference and trend. Applied to data from England and Wales and 22 other high-income countries.
- *Modification of the stepwise replacement* algorithm allows one to assess components of convergence/divergence in life expectancy across regions. Applied to Russian data.
- *Models of the cancer morbidity and survival as a population process* provide estimates survival and prevalence as well as their changes across time. Applied to Russian data.

Objective measurement of people's health

- Assessment of handgrip strength, atrial fibrillation, ventricular arrhythmia and their impacts on mortality and life expectancy gender gap. On Russian data.
- Adjustment of self-perceived health for the reporting bias and re-assessment of the health gap between men and women. On data from EU countries.

Research themes and achievements (2)

Determinants of cardiovascular and all-cause mortality in Russia

(in collaboration with the London School of Hygiene and Tropical Medicine)

- Estimates of geographical inequalities in access times for acute treatment of myocardial infarction in Russia.
- Changes in the prevalence of smoking and hypertension. Based on the unique data collection of 20 epidemiological surveys conducted in Russia.
- Changes in the association between life expectancy and fatal alcohol poisonings in Russia.

Spatial inequalities in health

- Estimates of the Russian mortality and life expectancy at a district-level; re-assessment of spatial disparity.
- Detailed investigations on low mortality in Moscow.
- Relationship between life expectancy and type of settlements, geographic region, education, and income.

Research themes and achievements (3)

Correspondence between health and income

- The gap between the observed and expected (from per capita GDP) values of life expectancy in Russia and Moscow.
- Associations between life expectancy and per-capita-GDP across regions of Russia.

Family and fertility patterns in Russia and post-soviet countries

- Association between intensions for union dissolution and union break-up among women and men in Russia
- Union dissolution patterns across female cohorts in 1945-2010 in Russia
- Partnership context of the first births in Russia

Quality of demographic statistics

- Mortality understatement at old ages in Russia and Moscow.
- Inconsistency in the cause-of-death registration among regions in Russia, USA, Germany, and France.

Selected studies

DEMOGRAPHY
Vol. 54 • No. 4 • August 2017

IF=2.5
place=2/28

Jdanov DA, Shkolnikov VM, van Raalte A, Andreev EM. 2017. Decomposing current mortality differences into initial differences and differences in trends: the contour decomposition method

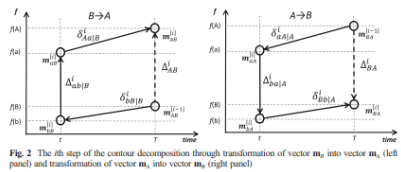
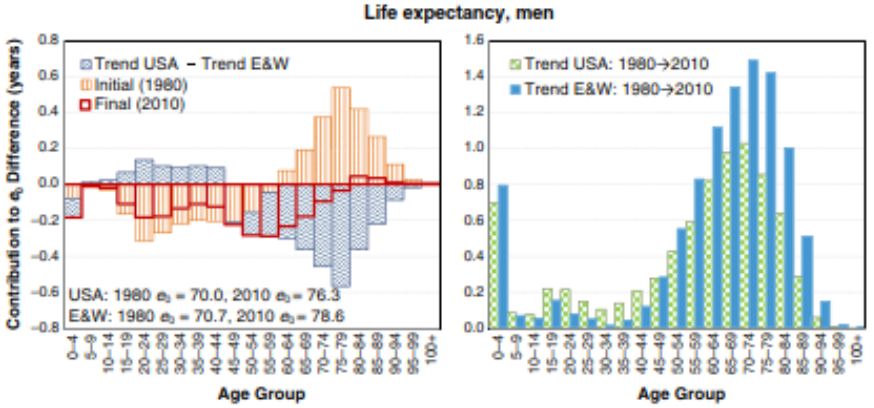


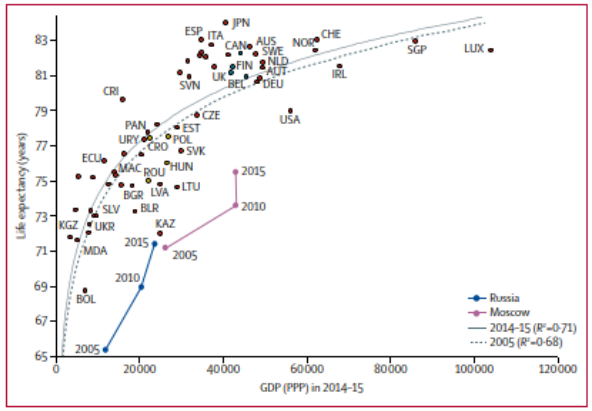
Fig. 2 The ith step of the contour decomposition through transformation of vector $\mathbf{m}_B$ into vector $\mathbf{m}_A$ (left panel) and transformation of vector $\mathbf{m}_B$ into vector $\mathbf{m}_B$ (right panel)

$$\Delta^{1}_{AB} = \left[f\left(\mathbf{m}^{[1]}_{bB}\right) - f(\mathbf{m}_B)\right] + \left[f\left(\mathbf{m}^{[1]}_{aB}\right) - f\left(\mathbf{m}^{[1]}_{bB}\right)\right] + \left[f\left(\mathbf{m}^{[1]}_{AB}\right) - f\left(\mathbf{m}^{[1]}_{aB}\right)\right] \quad (14)$$

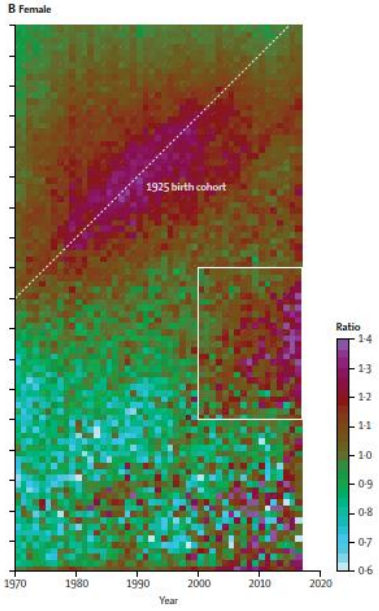


THE LANCET
Public Health

IF=11.6
place=2/167



Shkolnikov VM, Andreev EM, Tursun-zade R, Leon DA. 2019. Patterns in the relationship between life expectancy and gross domestic product in Russia in 2005-15: a cross-sectional analysis



Leon DA, Jdanov DA, Shkolnikov VM. 2019. Trends in life expectancy and age-specific mortality in England and Wales, 1970–2016, in comparison with a set of 22 high-income countries: an analysis of vital statistics data

Selected studies (2)

International Journal of Epidemiology

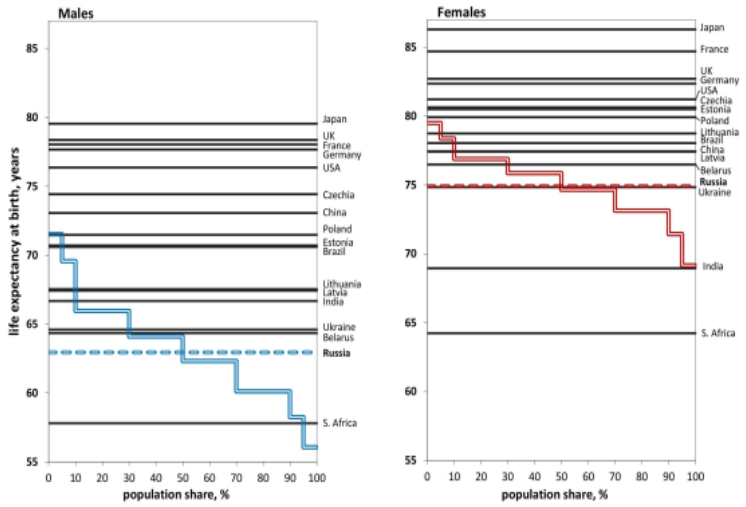
IF=7.3
place=8/167

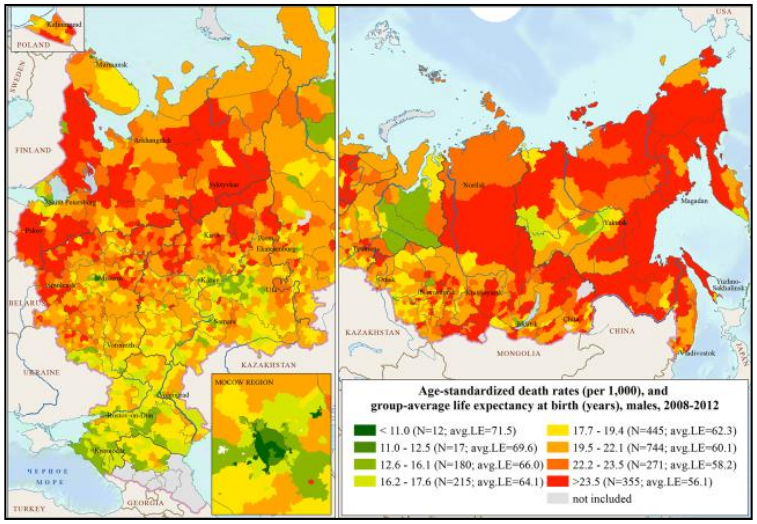
Timonin S., Kontsevaya A., McKee M., Leon D. 2018. Reducing geographic inequalities in access times for acute treatment of myocardial infarction in a large country: the example of Russia

Journal of Epidemiology & Community Health

IF=3.9
place=10/167

Timonin S., Jasilionis D., Shkolnikov V.M., Andreev E.M. 2019. New perspective on geographical mortality divide in Russia: a district-level cross-sectional analysis., 2008-12



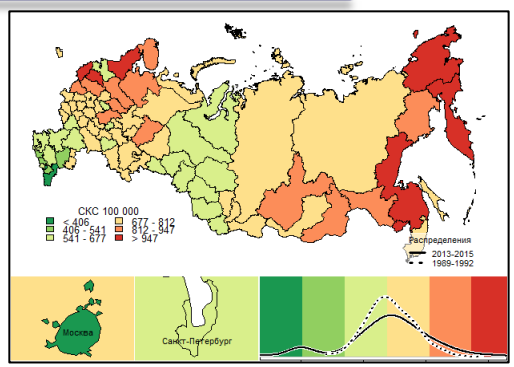


Capacity building in numbers: 2017-19

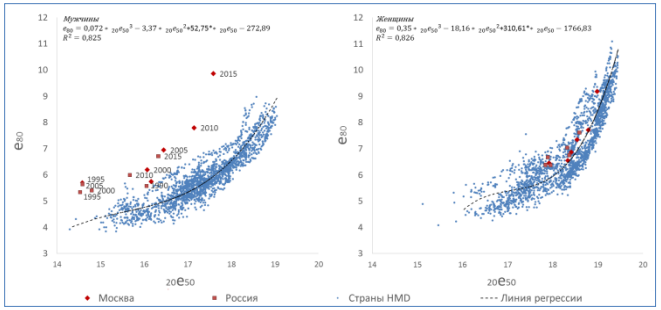
- Younger colleagues under age 35 constitute **70%** of our staff members
- HSE-Ph.D. dissertations: **1** defended**, 1** pre-defended (defense in Jan-Feb 2020), **2** theses in preparation.
- Training courses taken by younger colleagues: **10**
- Stays at leading research centers by younger colleagues : **5**
- Autumn School “Demographic Methods in Public Health Research”: **24** participants (**11** from Russia and **13** from **9** foreign countries)
- Hours of teaching: **589** in **8** master-level programs
- Scientific conferences held at HSE: **3**
- Seminar “Modern demography”: **17** lectures given by researchers from: Russia (**6**) and abroad (**11**) incl. USA, UK, Lithuania, Germany, Australia, the Netherlands.

HSE-Ph.D. studies

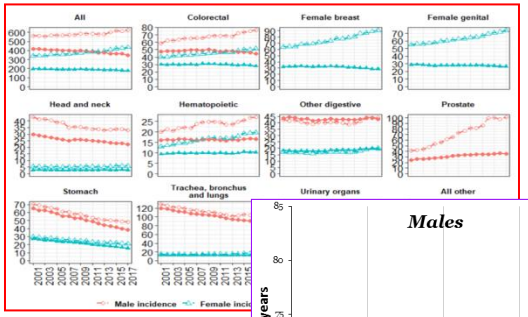
Inna Danilova **Regional analysis of mortality by causes of death in Russia**. Ph.D.-HSE defended in December 2018



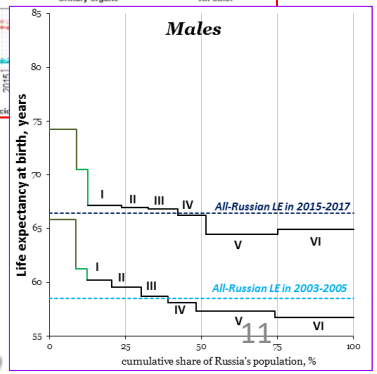
Elena Papanova **Old-age mortality in Moscow**. Ph.D.-HSE pre-defended in October 2018. Defense – Jan-Feb 2020.



Rustam Tursun-zade **Cancer morbidity and survival as a population process in Russia.** 3rd year of doctorate (currently studies at the **European Doctoral School of Demography**)



Alexey Schur **Central-peripheral differences in epidemiological models of mortality in Russia.** 2nd year of doctorate.



International Autumn school
Demographic methods in public health research

Ten one-day cycles. Every cycle is given by one (or two) **instructors** (11) from HSE University, Max Planck Institute for Demographic Research, French National Institute for Demographic Studies, London School of Hygiene and Tropical Medicine, Austrian Institute for Economic Research (WIFO).

Participants (24) from Russia, Brazil, Ceschia, Finland, Germany, Guatemala, Italy, Nigeria, UK, USA

Themes

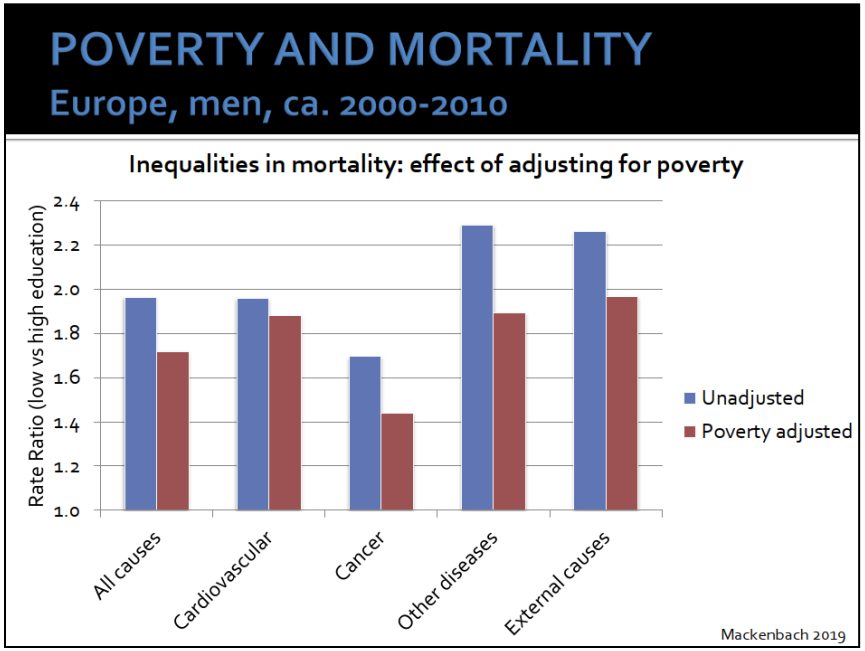
Data and Data Use °Methods for studying longevity and survival at advanced ages °Methods of decomposition °Methods for studying health inequalities °Design and methods of the Study on Cardiovascular Disease in Russia °Gender differences in mortality and survival and the „male-female health-survival paradox“ ° Geography of mortality and health °Mortality converge-divergence and gender differences °Micro-simulation models in demography °Methods for studying the Russian mortality phenomenon

Seminar series
Modern Demography

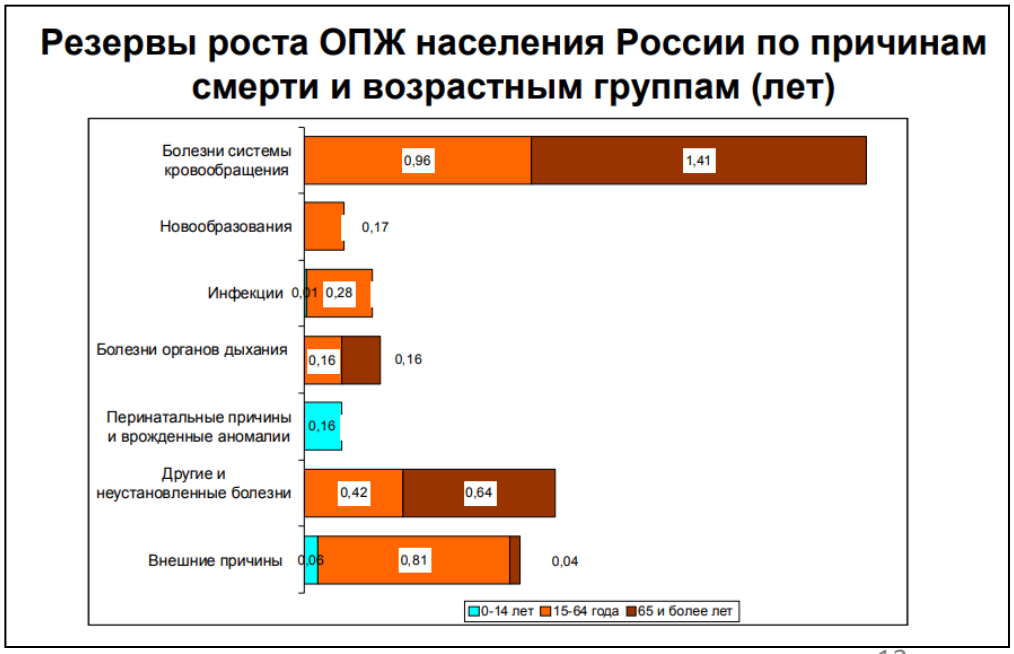
17 presentations given by the population-science researchers conducting important methodological and substantive studies:

A.Vishnevsky, E.Andreev, A.Nemtsov, R.McCaa, G.Smailite, D.Jasilionis, V.Merabishvili, D.A.Leon, I.Danilova, V.M.Shkolnikov, A.I.Yashin, M.Lerch, V.Canudas-Romo, D.A.Jdanov, J.Mackenbach, P.Grigoriev

Johan Mackenbach "Health inequalities in Europe: why so persistent?" 24.04.2019



Evgeny Andreev "Demographic indicators of the Presidential decree of May 2018". 18.02.2018



Plans for 2020-22

- **Continuing research on the same themes**

- **Improving productivity**
  - *20 (Q1/Q2) WoS articles instead of 17 in 2017-19*

- **Further strengthening of the scientific staff**
  - *Professor **David A. Leon from** the London School of Hygiene will join the Lab. One of the most prominent epidemiologists, highly creative and productive researcher with the Google Scholar **h-index=79**.*
  - *Make it sure that h-indices of **all younger staff members** increase*

- **Further capacity building**
  - *2 HSE-Ph.D. defenses*
  - *Continuation of our training/education activities, courses including methods of epidemiology. Intensive scientific exchanges with leading researchers and research organizations worldwide.*
  - *Two international conferences, seminar "Modern demography".*

Additional ideas

- **Join the Max Planck Research School Ph.D. program**
  The PHDS school equips doctoral students not only with advanced knowledge of the theory and methods of demography and epidemiology (broadly defined as 'population health'), but also with strong technical skills in statistics, mathematical modeling, and computational and data management methods

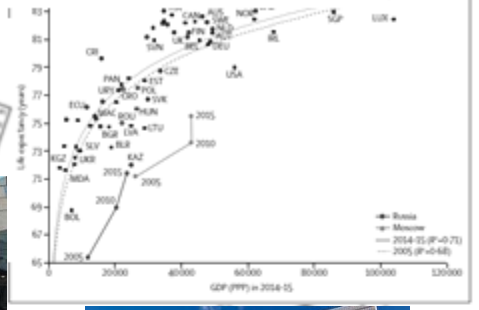
- **Host the International Database on Longevity -** the world leading data resource on extreme longevity

Our network

London School of Hygiene and Tropical Medicine Department of Epidemiology (UK)

Max Planck Institute for Demographic Research (Germany)

French National Institute for Demographic Research



United Nations Population Division

Austrian Academy of Sciences Institute of Demography

International Laboratory for Population and Health

Russian National Statistical Service. Department of Population and Health

University of California at Berkeley Department of Demography (USA)

Institute of Demography at the Higher School of Economics (Russia)