SERGEY S. SOSHNIKOV, M.D., Ph.D.

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EDUCATION

Ph.D., Public Health, Central Public Health Research Institute of the Ministry of Health of Russia
Moscow, 127254, Russia, May 2008, Dissertation: *The Effects of Alcohol Consumption on Automobile Accident Related Health Losses (Deaths and Injuries) in the Russian Federation. Dissertation Chair: Vladimir Starodubov*

M.D., Clinical Medicine, Moscow Institute for Medical and Social Rehabilitation (MIMSR), Moscow, Russia, 2003

INTERNSHIP, Psychiatry and Addiction Science specialization, Moscow State Medical Stomatological University, Moscow, Russia, 2004

PROFESSIONAL EXPERIENCE: ACADEMIC RESEARCH AND TEACHING

ASSISTANT PROFESSOR
Department Information and Internet Technologies of Institute of personalized medicine. Graduate School of personalized and translational medicine. I.M. Sechenov First Moscow State Medical University.
September 2016 - present

Teaches in Russian and English languages:

- IT-technology and e-health: planning, implementation and management;
- Open Data in medicine, data sources and some methods for analysis.

CHIEF SPECIALIST
Center of Healthcare Quality Assessment and Control of Ministry of Health of Russian Federation,
August 2016 – present

- An analysis of circulation of medicines included in the State Register of medicines for medical use;
- Implementation of consultation on the development and introduction of innovative methods of drug supply;
- Conducting an early assessment of innovative medical technologies;
- Preparation of the review of data on the epidemiology of the disease;
- Preparation of systematic reviews of the effectiveness and safety of medical technology.

EXPERT CONSULTANT FOR THE WORLD HEALTH ORGANIZATION

World Health Organization, Regional Office for Europe *December 2015 – January 2016*

- Review data, methods and preliminary estimates of levels and trends of the main causes of death among children in selected countries from the European Region. Project HQMCA1409023, Task 9.1, Award 60956. Registration 2015/589892-0. EU/DIR Information, Evidence, Research and Innovation.
- Take part in developing the *WHO European Regional Bureau Collaboration Centre for Global Burden of Disease* in the Central Public Health Research Institute of the Russian Ministry of Health.

HEAD OF DEPARTMENT

Mathematical Modeling in Healthcare Department, Central Public Health Research Institute of the Ministry of Health of Russia, Moscow, Russia *November 2013 – August 2016*

Manage a scientific department. The structure of department includes three professional mathematicians, two experts on public health and medical statistics, one pharmacometrics specialist and one economist. My role in this team is to be a translator between mathematicians and health specialists.

RESEARCHER

Department of Medical and Social Problems, Central Public Health Research Institute of the Ministry of Health of Russia, Moscow, Russia *July 2008 – October 2013*

- **Public Health Research.** Collaborated with scientists from other departments at the research institute on conducting studies to meet the needs of government clients. Examples of research investigations conducted: statistical analysis for a research project titled "The prevalence of smoking, tobacco and drug use among adolescents in the regions of Russia" for *Medical and Social Problems Department*.
- **Biostatistical Research.** Conducted contractual scientific work for small and large pharmaceutical companies (Invar, BIOTEC, Pharmasoft, etc.) and for other private clients. Performed biostatistical analysis for clinical trials, phases 0-3. Research design and planning of statistical analyses.
- **Biosimulation in Biomedical Research.** Collaborated with mathematical modelers with Novartis pharmaceutical company modeling team to design new medicines.
- **Predictive Modeling.** Performed resource allocation, health care accessibility and quality analyses for the Russian Health Ministry. Predicted personnel resources and their allocation within the Russian healthcare system.
- **Consulting.** Provided consultations on biostatistics, epidemiology, mathematical statistics and modeling to support scientific investigations carried out by other departments at the research institute.
- **Data Collection & Analysis of Medical and Business Statistics.** Conducted scientific investigations to optimize healthcare quality, access and cost of services provided by government and private medical organizations.
- **Scientific Reviews.** Conducting a scientific review on mathematical models of stroke.

- **Organization of full-time and distance educational courses and conferences.** Designed and delivered a mathematical modeling educational series for the Russian Ministry of Health under the sponsorship of Novartis pharmaceutical company (the course was 1 weeks long and had 30 participants and 15 online participants). In addition, designed and conducted a 10-day biostatistics course on SPSS/PASW with Professor V. Vlasov for 25 Kazakh statisticians and medical doctors from Central Tuberculosis Health Center.
- **Lecturing for postgraduate students in the Institute.** Conducted series of lectures on epidemiological and ethical issues in Public Health studies. Providing Elective on mathematical modeling in biomedical research (Face to Face and Online).

FULBRIGHT VISITING SCHOLAR
Mathematics Department,
Central Michigan University, Mt. Pleasant, MI, USA *August 2011 – February 2012*

- Collected healthcare data from open statistical sources and compiled the into a comprehensive research database. The database contained over 100 medical and social variables from 12 sources collected in MySQL database for further analysis.
- Collaborated with Professor Carl Lee (Math. Dept. CMU) to develop three mathematical models of diseases in Russian data, which was subsequently published.
- Gave a lecture titled "Content analysis of proprietary patented treatment methods for substance abuse and dependence" for Doctor of Health Administration students enrolled in a health education travel course through the Department of Health Sciences at Central Michigan University.

ASSISTANT PROFESSOR
Department for Medical Statistics and Informatics
Russian Medical Postgraduate Academy, Moscow, Russia *February 2010 - December 2016*

Teaches a variety of courses to graduate (post-MD) students, Medical Doctors and Statisticians, and PhD students:

- *Identification and use of open statistical data sources in help of Public Health research;*
- *Using MS ACCESS in biostatistical studies;*
- *Application of SPSS/PASW to scientific research;* and
- *Research applications of the Internet cloud technologies and open-code software.*

Advises graduate (post-MD) students, Medical Doctors and Statisticians, and PhD students.

Development of questionnaires and analysis of results for program of academic assessment activities.

PROFESSIONAL EXPERIENCE: ADMINISTRATION AND CONSULTING

MONITORING EXPERT
Monitoring and Evaluation Centre, Central Public Health Research Institute,
Russian Ministry of Health, Moscow, Russia *June 2006 – September 2008*

Conducted regular monitoring visits to the regions of Russian Federation (mostly Siberian) to facilitate an effective national strategy to combat HIV/AIDS in the Russian Federation and the implementation of the principles of the strategy in ten selected regions (a project of the Global Fund to Fight AIDS, Tuberculosis and Malaria, round III).

COORDINATOR'S ASSISTANT
Department for International Health Collaboration, Central Public Health Research Institute,
Russian Ministry of Health, Moscow, Russia *May 2005 – May 2006*

- Implemented monitoring visits to the regions of Russia within the framework of the Center for Monitoring and Evaluation of Russian projects for *The Global Fund to Fight AIDS, Tuberculosis and Malaria*, which monitors and evaluates the program titled "Promotion of an effective national strategy to combat HIV/AIDS in the Russian Federation".
- Collected and analyzed information about international projects and programs in the area of health reform in Russia. Examples of international projects:
  a) Northern Dimension Partnership in Public Health and Social Well-being (NDPHS);
  b) The development of treatment strategies in the Russian Federation vulnerable to HIV/AIDS" (Global Fund to Fight AIDS, Tuberculosis and Malaria, IV Round); and
  c) Stimulating an effective national strategy to combat HIV/AIDS in the Russian Federation and the implementation of the principles of the strategy in ten selected regions" (a project of the Global Fund to Fight AIDS, Tuberculosis and Malaria, III round).
- Improved cooperation between international health project leaders and Russian regional health authorities.

PROFESSIONAL EXPERIENCE: CLINICAL WORK

PARAMEDIC
Hospital for Psychiatry, Substance Abuse and Dependence Treatment Facility #17,
Moscow, Russia *September 2000 – May 2003*

Performed clinical work for patients suffering from substance abuse. Played the role of the doctor on duty at the hospital and led to the work of nurses and staff.

INTERN
Hospital for Psychiatry, Substance Abuse, and Dependence Treatment Facility #17,
Moscow, Russia *June 2003 – July 2004*

Performed clinical work for clients suffering from substance abuse.

PUBLICATIONS

- Wang H., Soshnikov S., et al. Global, regional, national, and selected subnational levels of stillbirths, neonatal, infant, and under-5 mortality, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015 //The Lancet. – 2016. – Т. 388. – №. 10053. – С. 1725-1774.
- Lim S. S., Soshnikov S., et al. Measuring the health-related Sustainable Development Goals in 188 countries: a baseline analysis from the Global Burden of Disease Study 2015 //The Lancet. – 2016. – Т. 388. – №. 10053. – С. 1813-1850.
- Haagsma J. A., Soshnikov S., et al. The global burden of injury: incidence, mortality, disability-adjusted life years and time trends from the Global Burden of Disease study 2013 //Injury prevention. – 2016. – Т. 22. – №. 1. – С. 3-18.

- Kassebaum N. J., Soshnikov S., et al. Global, regional, and national levels of maternal mortality, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015 //The Lancet. – 2016. – Т. 388. – №. 10053. – С. 1775-1812.
- Naghavi, N., Wang, H., Lozano. R., Davis, F., Liang, X., Zhou, M., Vollset, SE., Soshnikov, S., et al. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet 385 (9963), 117-171.
- Mikhaylova, Y, Soshnikov, S, Shikina I. et. al. Analyzing impact of TB control measures on TB epidemiological indicators. Social Aspects of Population Health. 2014 3(40).
- Soshnikov, S., et al. Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. The Lancet 384 (9947), 1005-1070.
- Soshnikov, S.,Vlassov, V. The Religious people in Russia and smoking tobacco. European Journal of Public Health. 2014 Sept. 24 (suppl 2):164, 096.
- Soshnikov, S., et al. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. The Lancet. 2015 Jan 10;385(9963):117-71.
- Soshnikov, S., et al. Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. The Lancet - 2 May 2014, doi:10.1016/S0140-6736(14)60497-9.
- Soshnikov, S., et al. Global, regional, and national levels and causes of maternal mortality during 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. The Lancet - 2 May 2014, doi: 10.1016/S0140-6736(14)60696-6.
- Carl, Lee., Soshnikov, S.,Vladimirov, S. "Are Socio-Economic, Health Infrastructure, and Demographic Factors Associated with Infant Mortality in Russia?," International Journal of Software Innovation (IJSI) 1 (2013): 4, accessed (April 23, 2014), doi:10.4018/ijsi.2013100105.
- Soshnikov, S., Lee, C., Vlassov, V., Vladimirov, S. (2012) Factors Associated with Abortions in Russia: a Predictive Modeling Study. European Journal of Public Health, Vol. 22(2), 95-95.
- Soshnikov, S. Content-analysis of patented methods for treating narcologycal disorders in Russia. — Journal of Neurology. 2012, Kazan. XLIII., 4, 3-7.
- Vladimirov, S., Soshnikov, S. Statistical association frequency of drug and frequency of detection of human immunodeficiency virus in the Russian Federation in 1995-2006. 9, 32 (pp 350-361) – 2008.
- Soshnikov, S. The Effects of Alcohol Consumption on Automobile Accident Related Health Losses (Deaths and Injuries) in the Russian Federation. Dissertation thesis. 2008, Central Public Health Research Institute, Moscow.

PUBLISHED REFEREED ABSTRACTS

- Soshnikov, S., Lee, C., Vladimirov, S. (2013). A Modeling approach to identify factors associated with Infant mortality in Russia. 12th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2013), p. 185-190. June 16 -20, 2013, Toki Messe, Niigata Japan.
- Soshnikov, S., Lee, C., Vlassov, V., Gaidar, M. and Vladimirov, S. (2013). A comparison of some predictive modeling techniques for modeling abortion rates in Russia. Proceedings (Refereed), 14th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking

and Parallel/Distributed Computing (SNPD 2013), p. 115-120. July 1st – July 3rd, 2013, Honolulu, Hawaii, USA.

REFEREED PRESENTATIONS

- Evaluation, classification and the characteristics of the medical pseudoscience. Soshnikov SS. The Faculty of Journalism of Moscow State University named after MV Lomonosov. Conference "Pseudoscience in modern society: theoretical and methodological approaches and coping strategies." November 26, 2015.
- The Predictive Modeling Approach on Continuous Statistics of Alcoholism Incidence in Russia. International Symposium on Health Information Management Research (ISHIMR 2015), York, UK.
- Analysis of the official medical and social statistics on the example of the infant mortality rate. X International scientific conference "The use of multivariate statistical analysis in economics and quality assessment." (2014), Higher School of Economics in Moscow, Russia.
- A Modeling approach to identify factors associated with Infant mortality in Russia. 12th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2013), p. 185-190. June 16 - 20, 2013, Toki Messe, Niigata Japan.
- A Modeling approach to identify factors associated with Infant mortality in Russia. 12th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2013), p. 185-190. June 16 - 20, 2013, Toki Messe, Niigata Japan.

AWARDS: GRANTS, CONTRACTS, FELLOWSHIPS

- August, 2011 – February, 2012: Fulbright Program Scholarship for researchers, grant number 68435006 at Central Michigan University, USA, approx. **US$19,300.00.**
- January, 2012: Fulbright travel grant to conducted a lecture for Doctor of Health Administration students enrolled in a health education travel course to Puerto Rico through the Department of Health Sciences at Central Michigan University, USA. **US$1,000.00**
- October, 2012: DAAD travel grant to participation and performance in the conference The Second German-Russian week in Ekaterinburg, Russia. **US$770.00**
- December, 2015: Contract with World Health Organization, Regional Office for Europe. *Review data, methods and preliminary estimates of levels and trends of the main causes of death among children in selected countries from the European Region.* **US$2,900.00**
- November, 2013: Grant from Novartis company for developing and organizing *Mathematical Modeling Educational Series*. **US$3,100.00**

PROFESSIONAL SERVICE AND MEMBERSHIP

MANUSCRIPT REVIEWER

Journal reviewer, *Social Aspects of Public Health (Russian Federation)*	Jan 2014 – present
Journal review, *Substance Abuse and Rehabilitation*	March 2013 – present
Journal review, *Clinical Epidemiology*	February 2015 – present

PROFESSIONAL MEMBERSHIP

The Society of Evidence Based Medicine Specialists (Russia)

International Population Data Linkage Network (IPDLN)

Commission against Pseudoscience & Falsification of Scientific Research by the Presidium of the Russian Academy of Sciences (Russia)