

# ***CONTRIBUTION OF COVID-19 DEATHS TO INCREASING DEPOPULATION IN RUSSIA***

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The COVID-19 pandemic has resulted in higher rates of excessive mortality. Negative mortality trends are observed all over the world and this is enough to substantially affect survival rates. Russia is not an exception, since the second quarter of 2020 the mortality rates have been demonstrating growth.

Big cities and countries' capitals are undoubtedly better equipped to combat COVID-19 compared to the rest of their countries due to more developed and well-equipped medical facilities. At the same time big cities are densely populated areas. That's why inhabitants of big cities and countries' capitals are at higher infectious risk due to intensive migration flows, close contacts and difficulties in provision of "social" or, more correctly, "physical" distancing.

**Purpose** – to estimate impact of the pandemic on components of demographic dynamics.

**Materials** - Rosstat's short-term data on monthly dynamics in births and deaths including deaths from COVID-19 and other causes for January-December, 2019-2020 and January-August, 2021 for Russia as a whole and Moscow.

## CONTRIBUTION OF COVID-19 DEATHS TO INCREASING DEPOPULATION IN RUSSIA

The year 2020 compared to 2019 showed an increase in the absolute number of deaths in almost all classes of diseases, with the exception of neoplasms and infectious and parasitic diseases (deaths from covid-19 were allocated to a separate category).

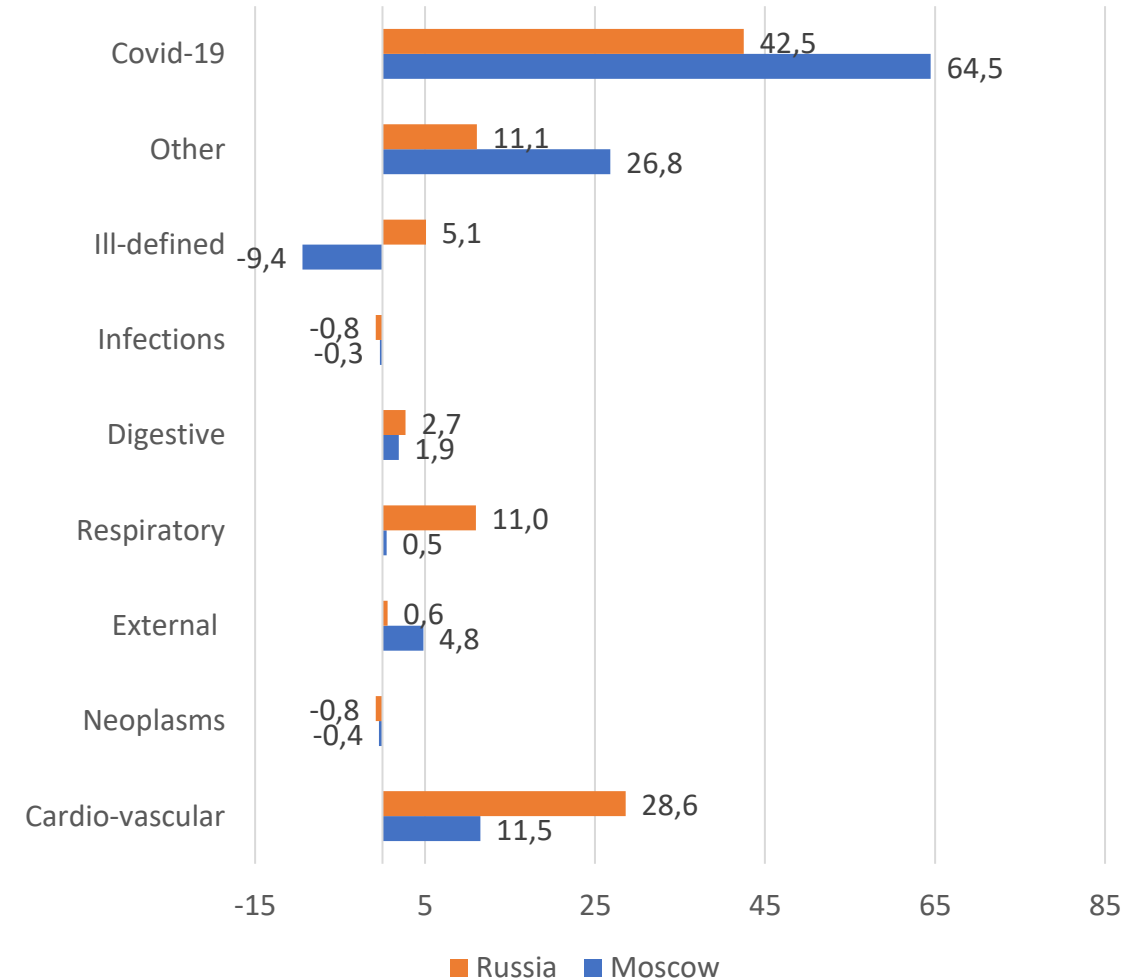
The highest contribution to the increase in mortality belongs to COVID-19. This cause accounts for 42.5% of additional deaths in Russia and 64.5% in Moscow.

The total number of deaths due to cardiovascular diseases increased by 4.0% in Russia and by 5.5% in Moscow. Also, the number of deaths from the main causes in this class of diseases increased in Russia: by 15.0% from ischaemic heart disease, by 6.9% from cerebrovascular diseases, and by 4.5% from acute cerebrovascular accidents. In Moscow the highest increase in the number of deaths was registered from ischaemic heart disease (by 13.6%) including from myocardial infarction (by 19.0%).

A substantial increase in the number of deaths is observed in the class of respiratory diseases (by 63.1% or by 37351 additional deaths). The number of deaths from pneumonia more than doubled – by 2.43 times. We could also see the increased number of deaths from digestive diseases, ill-defined causes and other causes.

A negligible reduction is observed only in the class of neoplasms. According to experts, the decrease in cancer mortality is due to the beginning of the implementation of the National Healthcare Project, within which new standards of treatment provided with modern drugs have been introduced.

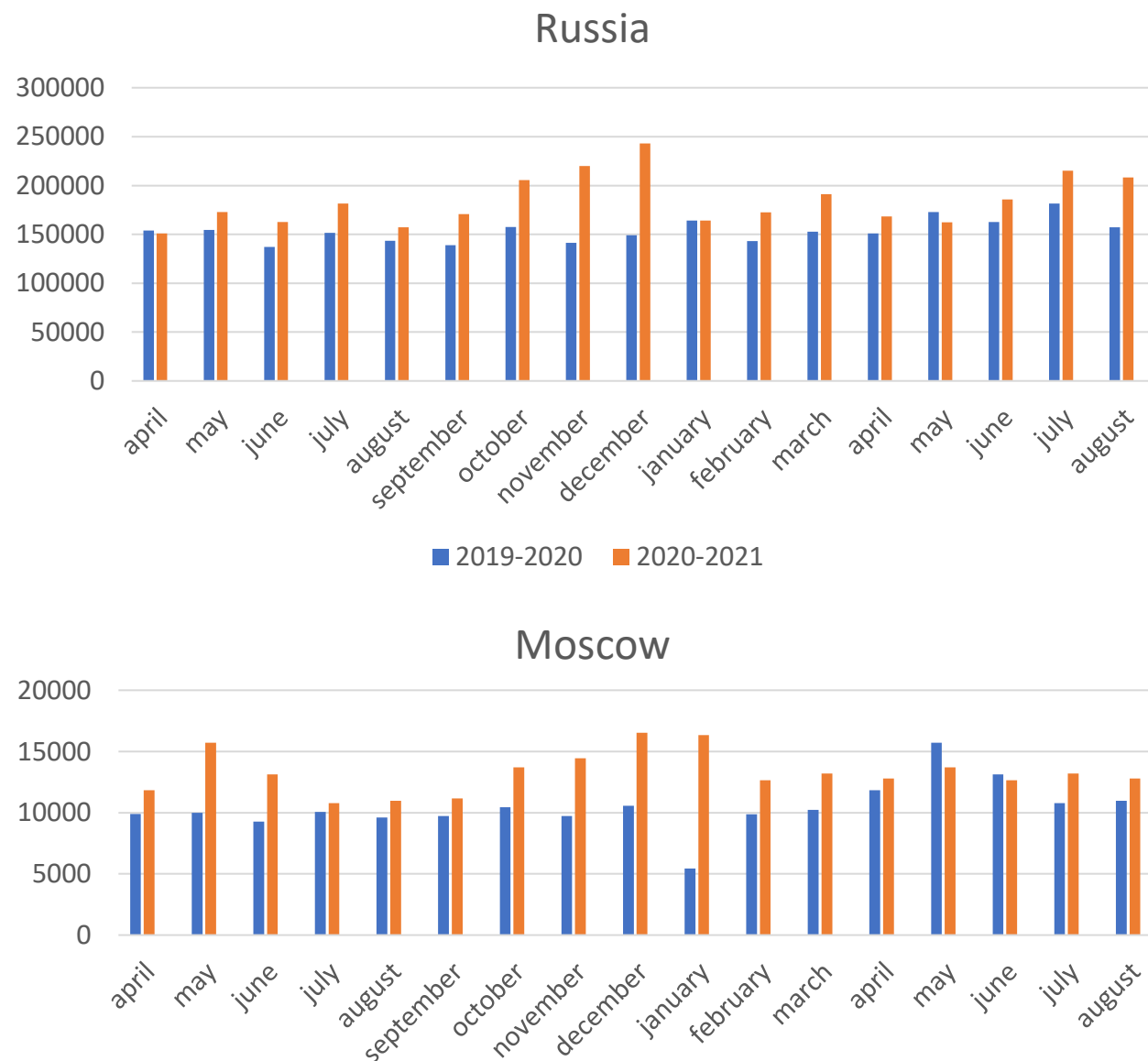
Input of leading causes of death into excess population loss in 2020 compared to 2019 (%)



## Monthly excess of the number of deaths compared to the level of the previous year

Due to high population density, congestion of the public transport system and other features and problems associated with the capital's status, it was Moscow that took the brunt of the pandemic in Russia. So, if the share of coronavirus infection in the structure of mortality in the country as a whole ranged from 1.4% to 18.2% in different months till June 2021, then in July-August there was the sharp increase when coronavirus share in deaths' number reached 21.2% and 35.7% respectively. During the whole study period in the Russia's capital these indicators were more serious – from 7.9% to 36.6%.

When comparing the monthly number of deaths from COVID-19 with the number of excess deaths compared to the same periods of the previous year, it turns out that in Moscow the share of coronavirus infection in additional deaths ranged from 62% to 98% in different months, while in Russia as a whole – from 22% to 65%.



# Monthly dynamics in the absolute numbers of births, deaths and natural population increase/decline in Russia and Moscow from April, 2019 to March, 2021

During the whole study period depopulation of different intensity was observed in Russia as a whole. During the same period in May-November, 2019 and July-August, 2020 there was a natural population increase in Moscow. The most substantial levels of natural population decline both in Russia and in Moscow were primarily conditioned by peak numbers of death and, to less extent, by reduced numbers of births.

The increase in excess mortality during the pandemic has negatively affected the positive dynamics in the natural population growth achieved in 2019, which was replaced by its decline.

In 2020, Moscow for the first time ever in the past years registered a population decline, in Russia as a whole the population loss substantially increased. Judging by the first quarter of 2021, the problem will rather worsen than only persist. The source of population decline was, first of all, increase in the number of deaths, and, to a lesser extent, reduction in the number of births. Along with those who died from COVID-19 as the underlying (primary) cause, mortality from almost all causes (except for neoplasms) increased, including due to those cases when COVID-19 was an accompanying disease. Since health care in the pandemic conditions was constrained for people with other diseases, it can be expected that the consequences of this will affect the scale and nature of mortality in the future.

