

Impact of COVID-19 on registered numbers of deaths: An example of excess deaths

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Introduction

Since the outset of the COVID-19 pandemic, as of 11 March 2020, the impact of the pandemic brought considerable adverse effects on a functioning of societies, economy and a long list of government services. As documented by the United Nations¹, in terms of functioning of civil registration and the production of vital statistics, there are two distinctive clusters of countries: those whose civil registration systems faced increased difficulties in delivering registration services, either as a consequence of civil registration not being identified as an essential government function that need to operate even in times of pandemic or as a consequence of the reluctance of the population and the inability of health services to inform the civil registration on the occurrence of vital events due to the fear of contagion (in the case of population) or due to the fact that health institutions were overwhelmed by the volume of incoming patients.

The second cluster would refer to countries that were able to maintain the functioning of the civil registration systems and for generating vital statistics and in those countries, there was a significant increase in the number of registered deaths. Certainly, assigning these excess deaths to COVID-19 would require additional investigation and, primarily, matching records from different sources – health institutions, civil registration, coroners, funeral services, police, to name a few – as well as in-depth analysis of time series of fertility and mortality statistics. However, what can be documented at this point of time (end of September 2020) is that there were an increased number of deaths coinciding with the outset and the duration of the pandemic.

Case in point – Serbia

The Statistical Office of the Republic of Serbia issued a statistical release *Live births and deaths, January – August 2020 – Preliminary data*² emphasizing that the number of deaths in the period January – August 2020 amounted to 70,322, compared to the total of 68,251 deaths recorded in the same period a year before, an increase of 3 per cent. In the same period of time the number of registered births in the Republic of Serbia amounted to 40,559, compared to 41,547 for the same period a year before, a decrease of 2.4 per cent.

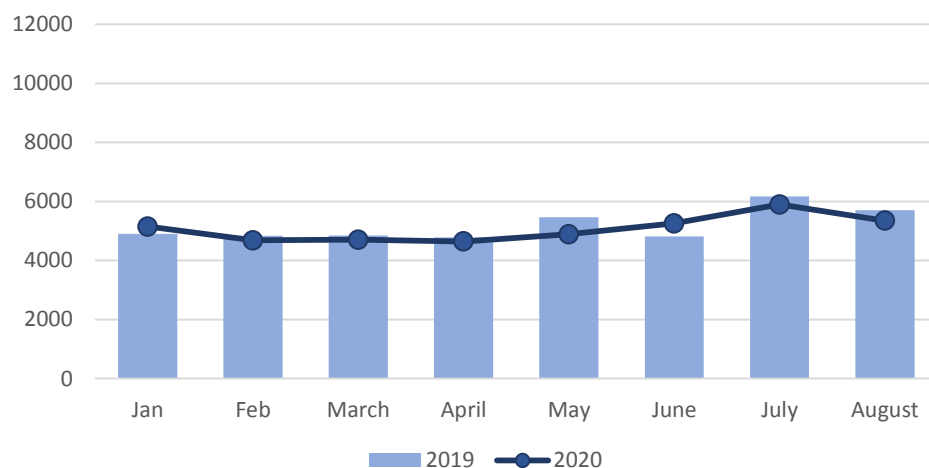
These data are identified as preliminary, as they represent the births and deaths as they were registered by the civil registration system in the country and reported to the statistical agency. These data are subject to adjustments for the births and deaths of Serbian nationals occurring outside of Serbia and for late or delayed registration of births and deaths within the country. These statistics will be adjusted by the end of the current year.

A month-by-month comparison between vital statistics in Serbia for 2019 and 2020 is presented below:

¹ See, for example, <https://unstats.un.org/legal-identity-agenda/covid-19>.

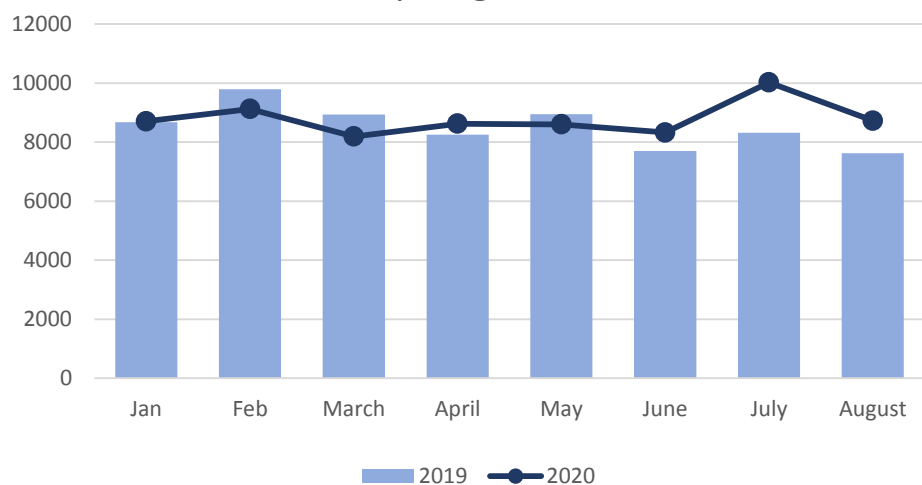
² Statistical Release, Number 261, Year LXX, Statistical Office of the Republic of Serbia, 25 September 2020, available at: <https://publikacije.stat.gov.rs/G2020/PdfE/G20201261.pdf>.

Births, January- August, 2019 and 2020



	2019	2020
Jan	4907	5152
Feb	4841	4685
March	4851	4705
April	4785	4644
May	5465	4890
June	4817	5258
July	6170	5896
August	5711	5349

Deaths, January- August, 2019 and 2020



	2019	2020
Jan	8672	8706
Feb	9793	9122
March	8933	8189
April	8256	8625
May	8950	8602
June	7705	8325
July	8322	10023
August	7620	8730

Focusing on deaths, data display that the number of deaths was almost the same in January 2020 compared to January 2019, in February and March 2020 it actually declined – the 2020/2019 index being 93 and 92 respectively – in April it went up and in May it went down. However, from then on, in June, July and August, the number of recorded deaths in Serbia went significantly up – 8 per cent, 20 per cent and 15 per cent respectively.

Altogether, compared to the first eight months in 2019, the total number of deaths registered in Serbia in the first eight months of 2020 totaled 2,071. At the same time, since the beginning of the pandemic until the end of August, the health sector of Serbia reported 713 deaths due to COVID-19³.

³ Daily reports by the Ministry of Health and the Public Health Institute of Serbia “Dr. Milan Jovanovic Batut”, available at <https://covid19.rs/>.

In an attachment with additional tabulations that further disaggregate data by geographical regions⁴, the Statistical Office of the Republic of Serbia presents vital statistics by regions of the country. In the north part of the country the total number of deaths increased by just 0.9 per cent. In the south part of the country the total number of deaths decreased, by 1.3 per cent. However, in the capital city and the central/west part of the country, the increase of registered deaths was noticeable, 5.7 per cent and 4.7 per cent, respectively. It is also important to underline that the majority of large hospital centers tasked with treating COVID-19 patients are located in these two parts of the country, which then resulted in high numbers of deceased.

Concluding remarks

When civil registration is treated as an essential government service that needs to operate even in times of pandemic, and when equipped to deliver the registration of major vital events, such as births and deaths, the increase of registered deaths in time of COVID-19 pandemic is now being documented all over the world. This number of excess deaths requires further investigation and comparison with other sources in order to harmonize the number and achieve a more comprehensive and detailed cost of the pandemic in terms of lives and years lost.

The major international standard, the *Principles and Recommendations for a Vital Statistics System, Revision 3*⁵ clearly identifies the place of the usual residence of the deceased as a core topic that needs to be collected in the process of the registration of death. Furthermore, the same volume presents a set of tabulations that are strongly recommended to be produced by Member States – and the very first in this series consists of tabulating deaths by place of usual residence and sex of the decedent⁶.

Geo-referencing of statistics in general, and population statistics, in particular, is now on the forefront of methodological and implementation debate. The very first step would be adhering to the international standards and recommendations and tabulating both births (by the usual residence of mother) and deaths by the place of usual residence. Thus, some of the distortion of data that are tabulated only by the place of occurrence of death – which would be a major hospital – would be avoided. Furthermore, tabulating by place of usual residence of the decedent would provide epidemiologist, health official, decision-makers a better understanding on the actual spread of the virus.

This short note is prepared for illustrative purposes. A much broader elaboration of the impact of COVID-19 on the functioning of civil registration and vital statistics is available on UN LIA site⁷ - UN Statistics Division is co-chairing, together with UNDP and UNICEF, the United Nations Legal Identity Agenda Task Force.

⁴ Available at: <https://www.stat.gov.rs/sr-latn/oblasti/stanovnistvo/eksel-tabele/>.

⁵ *Principles and Recommendations for a Vital Statistics System, Revision 3*, United Nations publication Sales No. E.13.XVII.10, United Nations, New York, 2014, available at: https://unstats.un.org/unsd/demographic-social/Standards-and-Methods/files/Principles_and_Recommendations/CRVS/M19Rev3-E.pdf.

⁶ Ibid, page 174.

⁷ <https://unstats.un.org/legal-identity-agenda/COVID-19/>.