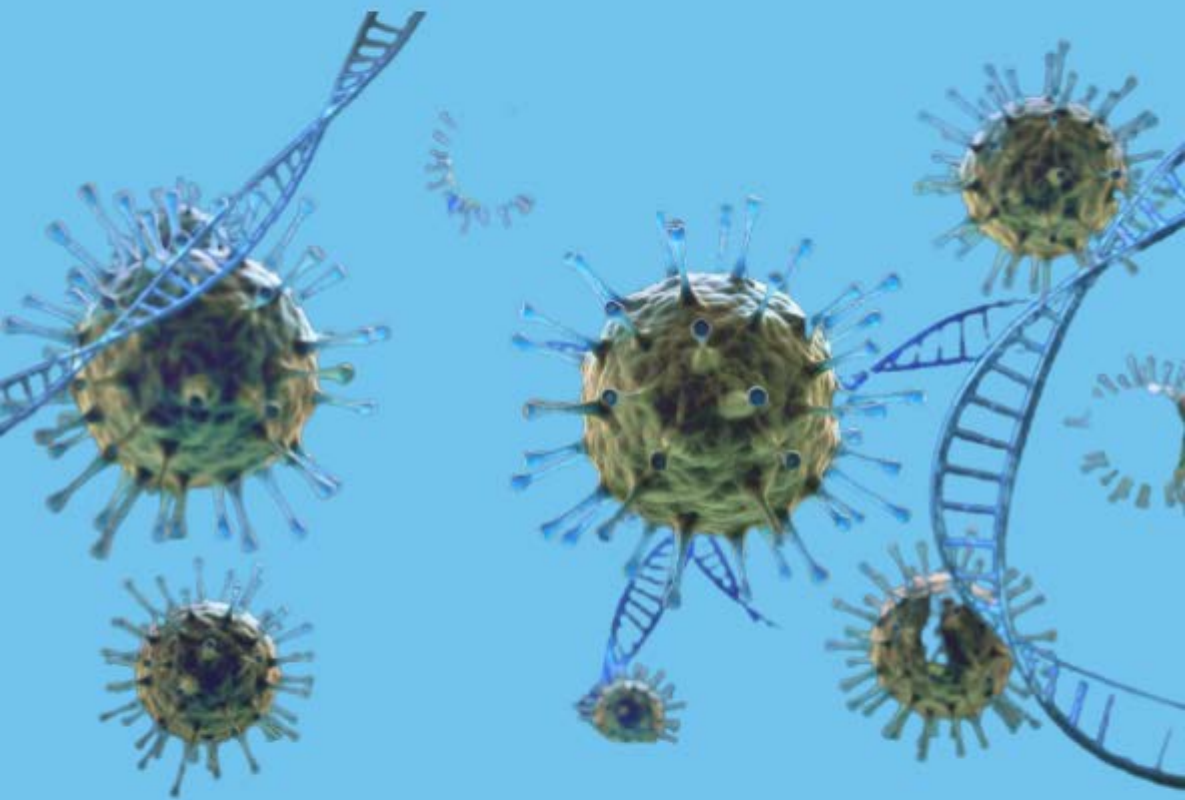


COVID-19 in Georgia



Report of the National Center for Disease Control and
Public Health

The Seventh Revision



2021



FOREWORD

This document is the seventh review of the epidemiological situation and measures taken in connection with the spread of the new coronavirus in Georgia. It covers the period from January 23, 2020 to October 1, 2021 (unless otherwise stated). The information presented in this review is based on the analysis of data obtained within the competence of the National Center for Disease Control and Public Health and is a short version of the Center's series of reports. The comprehensive report for the period 2020 - 2021 will be published in early 2022.

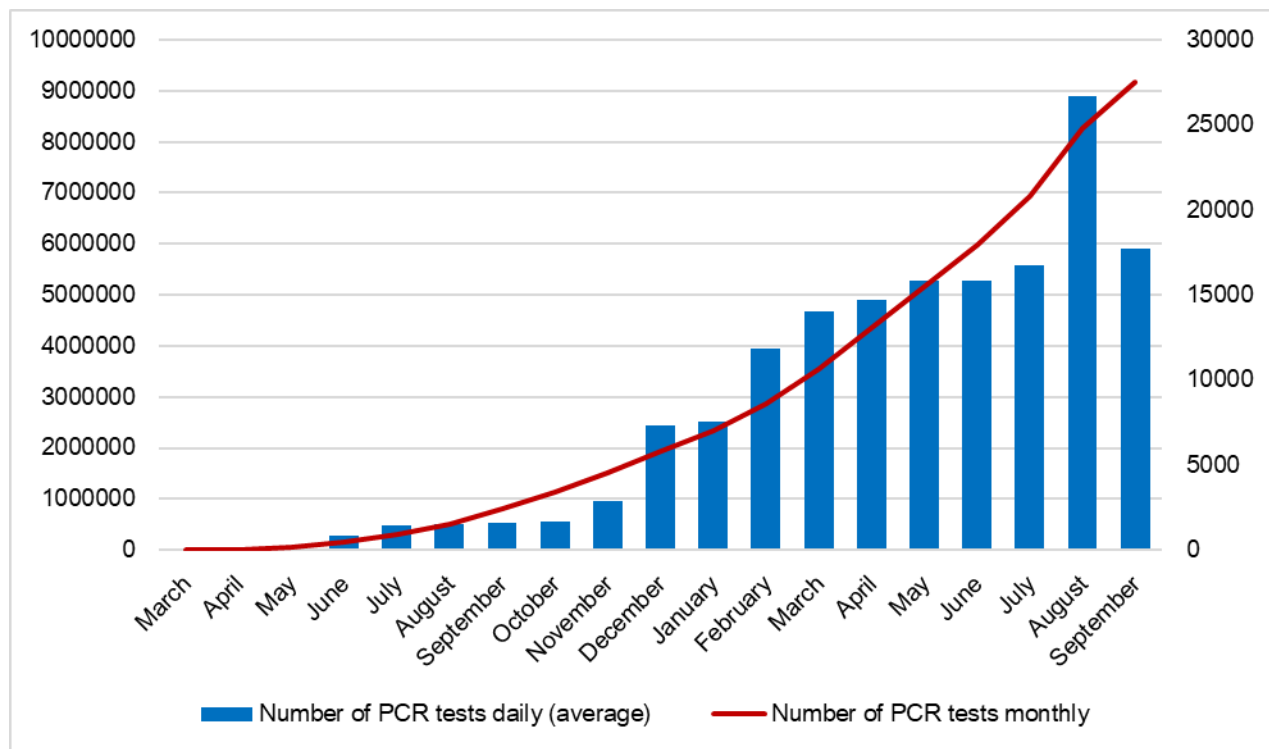
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TESTING

As of October 1, 2021, the total number of PCR and antigen tests performed in the country reached to 9,151,235 (245,434 tests per 100,000 of population), with the average daily number of 15,792.

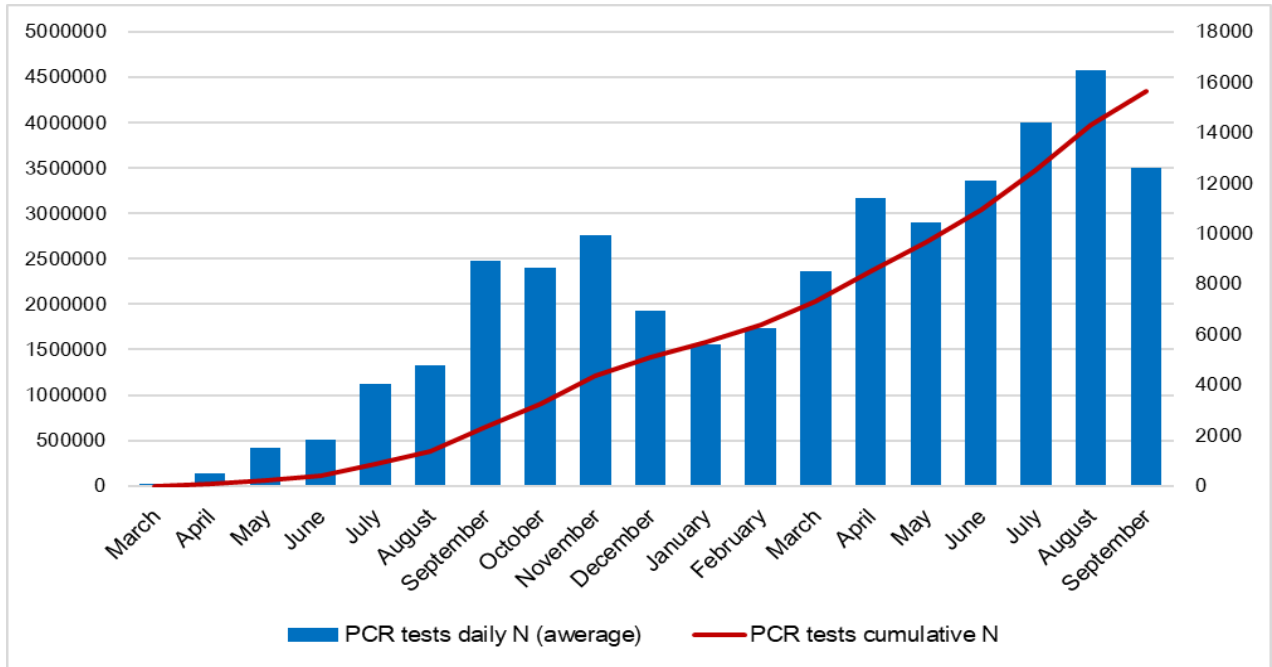
Total and daily number of tests performed on COVID - 19 (PCR and antigen - based)



PCR testing (01.03.2020 - 01.10.2021):

- Total number of tests – 4,371,783
- Average daily number of tests – 7,544

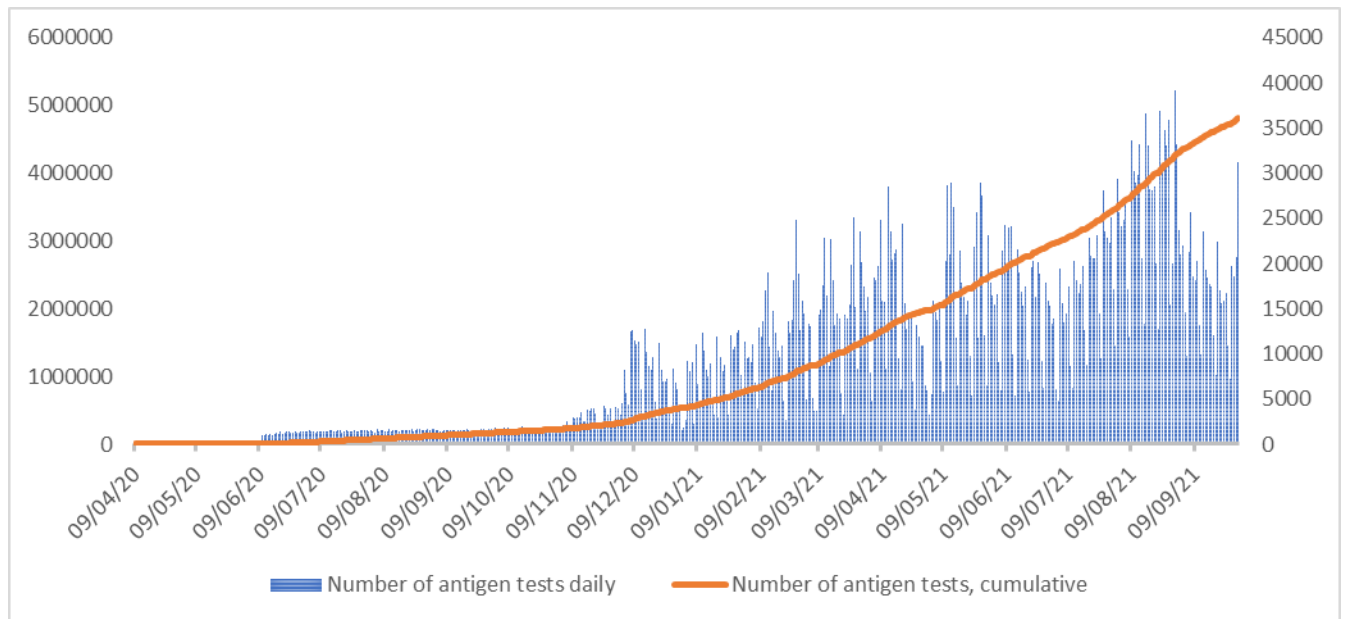
Total and daily number of PCR tests performed for COVID-19



Antigen - based testing (01.04.2020 - 01.10.2021):

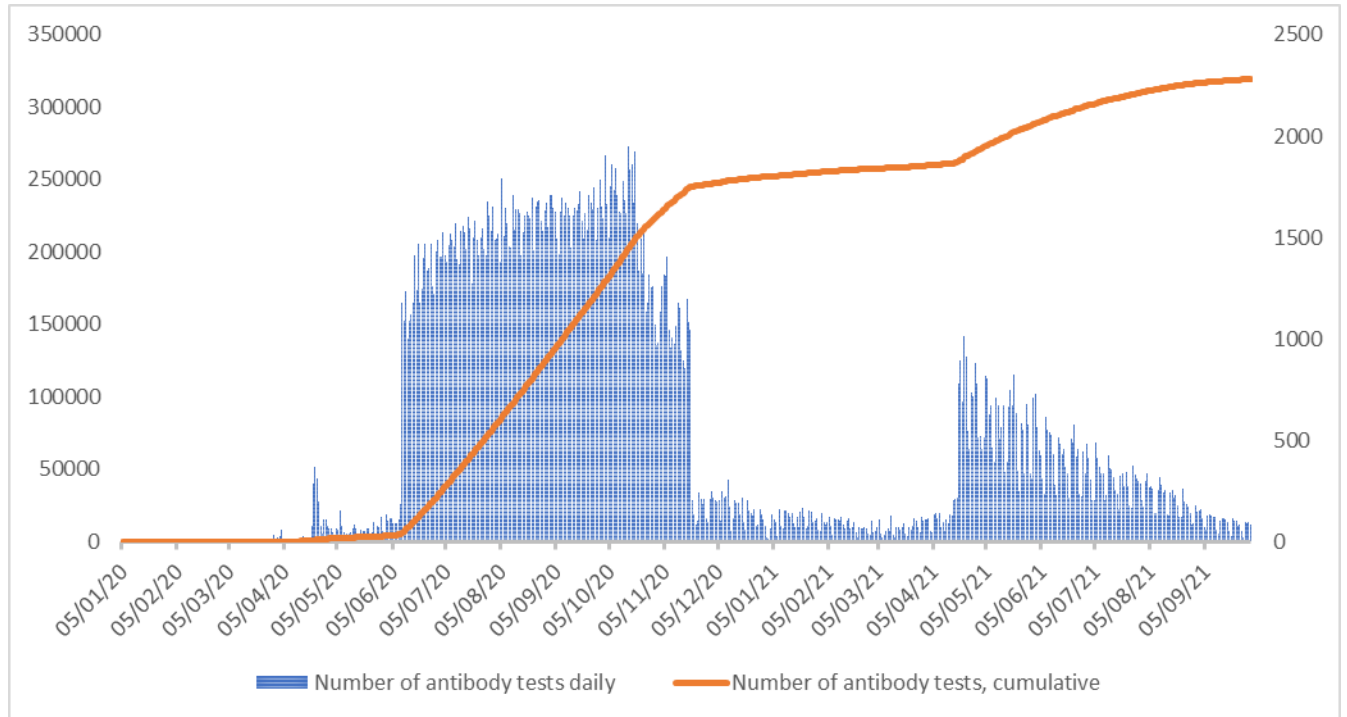
- Total number of tests - 4,779,452
- Average daily number of tests – 8,706

Total and daily number of antigen tests

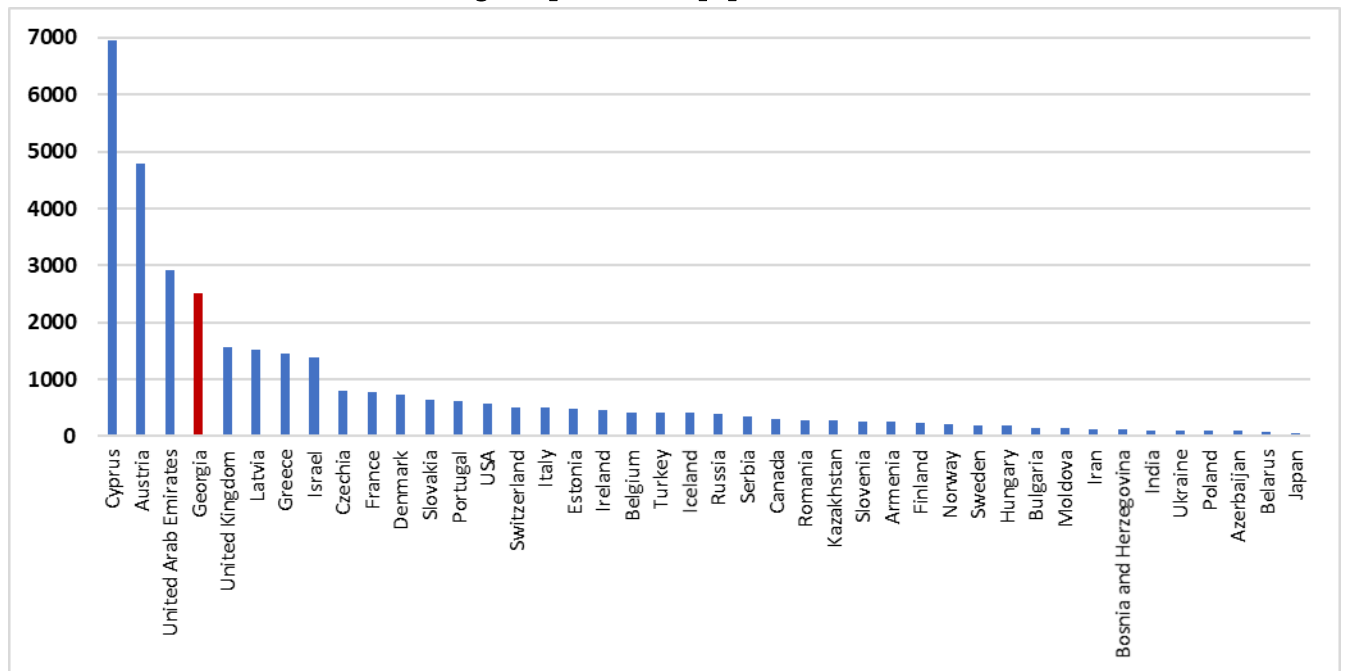


Total number of rapid antibody - based tests (05.01.2020 - 01.10.2021) – 319,368

Total and daily number of rapid antibody - based tests



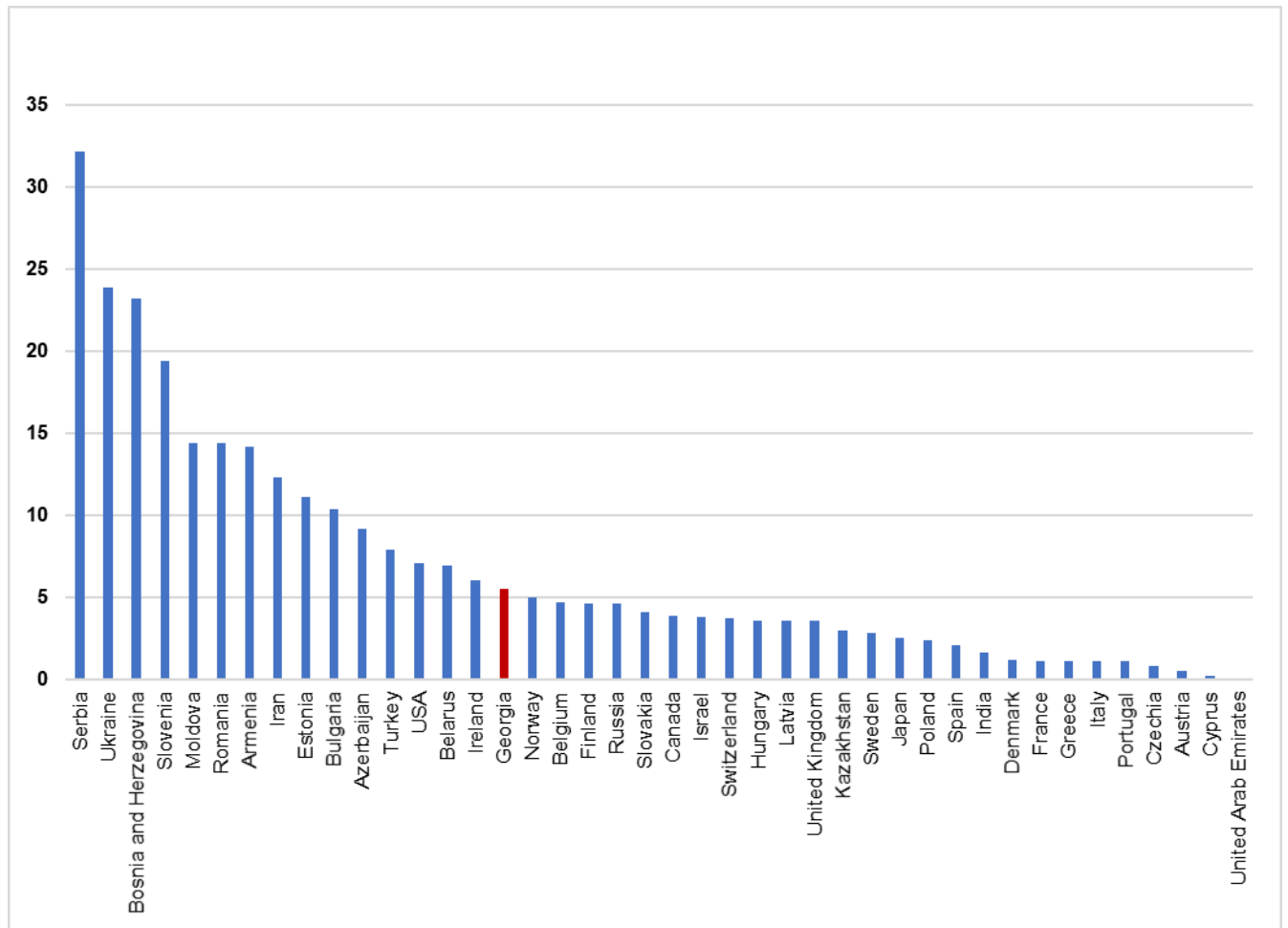
COVID - 19 testing rate per 1,000 of population in different countries



Source: <https://ourworldindata.org/coronavirus>

As of October 1, 2021, the overall testing positivity rate in Georgia was 6.7%.

COVID-19 Test Positivity Rate in Various Countries



Source: <https://ourworldindata.org/coronavirus>



As of October 1, 2021, COVID - 19 testing was being performed nationwide by 58 laboratories.



The share of PCR tests conducted by laboratories under the NCDC in the total number of performed PCR tests:

- For June 2020 - 79%
- For August 2020 - 50%
- For October 2020 - 34%
- For January 2021 - 26%
- For July 2021 - 23%
- For October 2021 - 20%

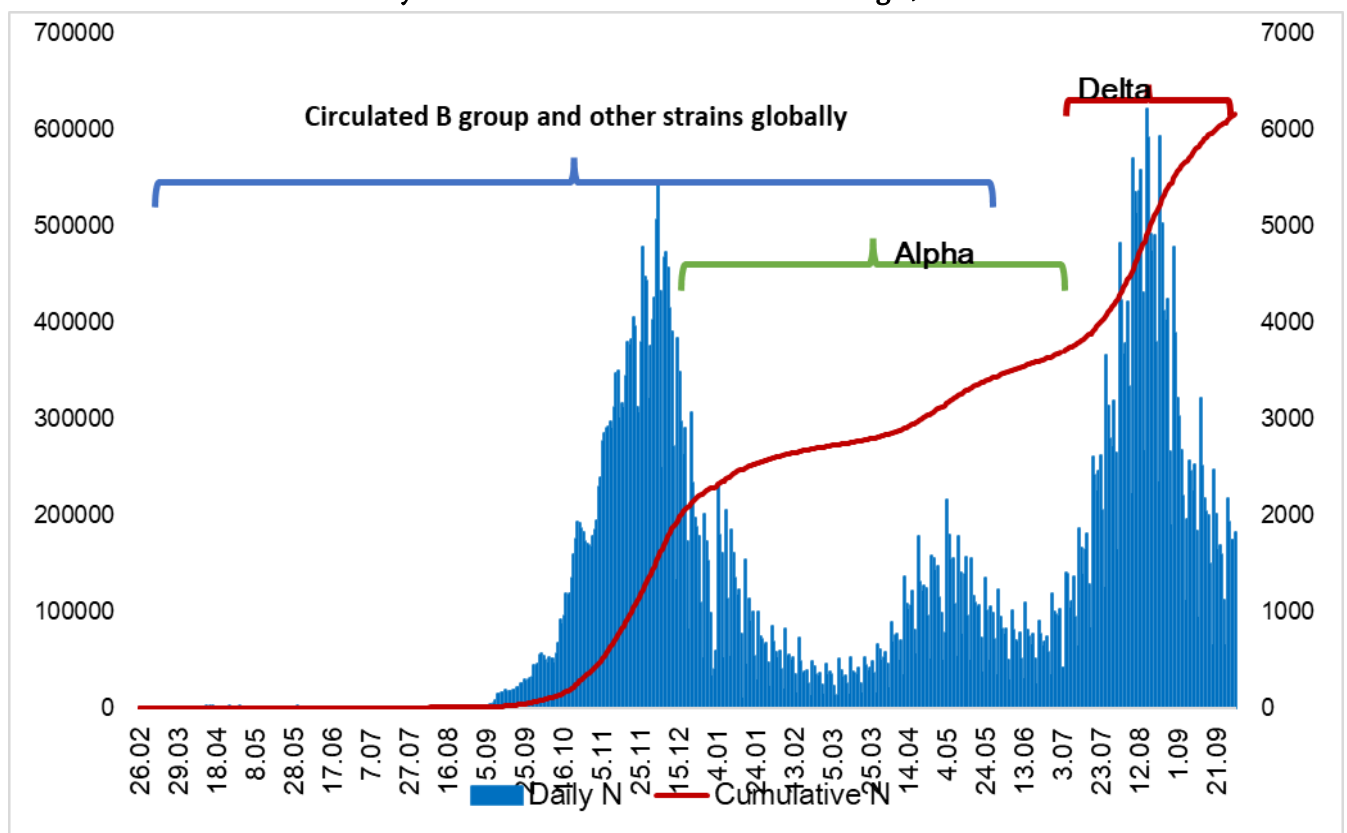
MORBIDITY CAUSED BY COVID – 19

➡ The first case of COVID - 19 in Georgia was confirmed on February 26, 2020.

➡ As of October 1, 2021:

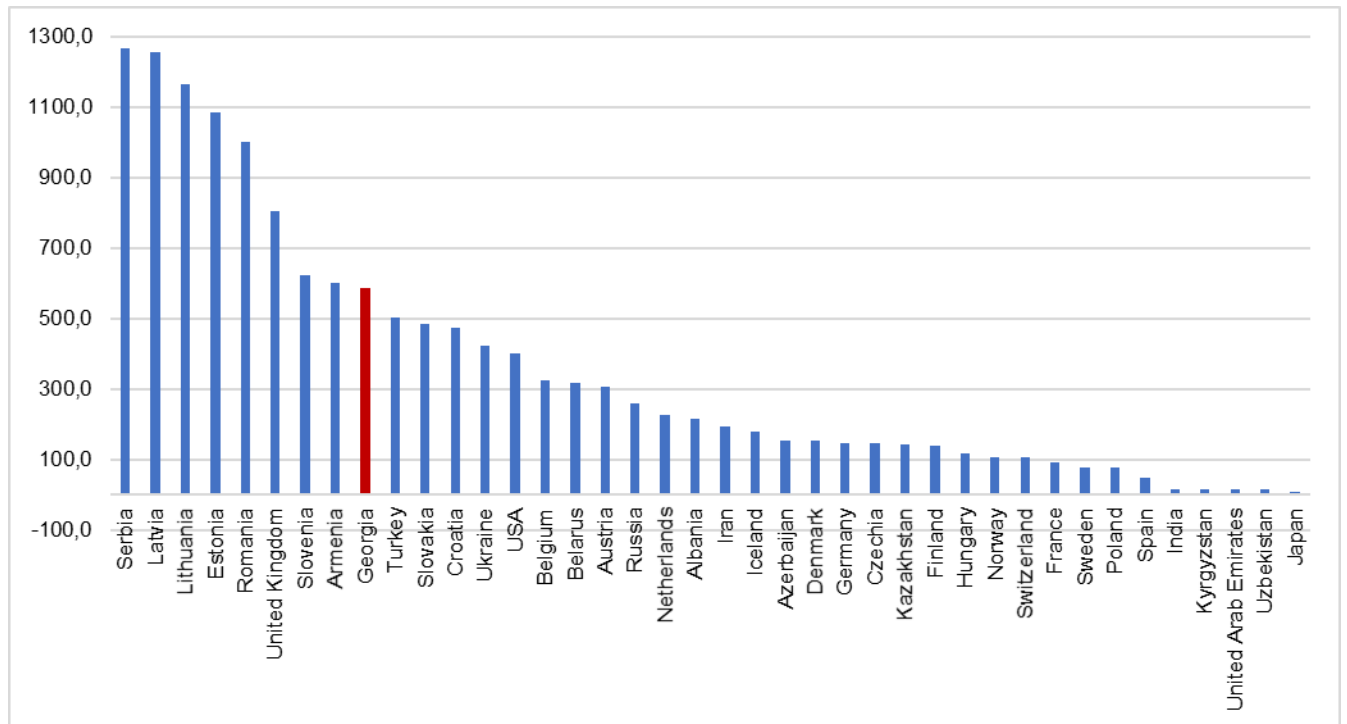
- Number of confirmed cases - 614,763
- Cumulative incidence rate per 100,000 of population - 16,487.8 (95% CI 16,450.2 – 16,525.5)

Cumulative and Daily COVID - 19 Confirmed Cases in Georgia, 26.02.2020 - 1.10.2021



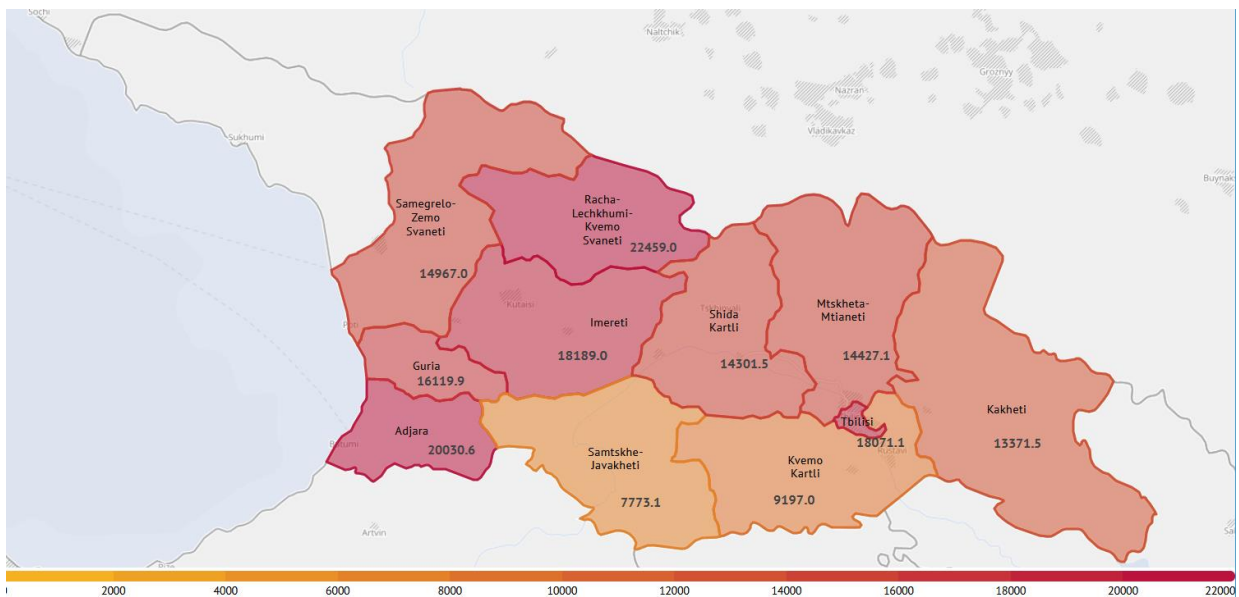
➡ As of October 1, 2021, the 14 - day cumulative incidence per 100,000 of population (95% CI 540.1 - 634.5) in Georgia was 585.5.

COVID-19 Cumulative 14-day Incidence per 100,000 of Population



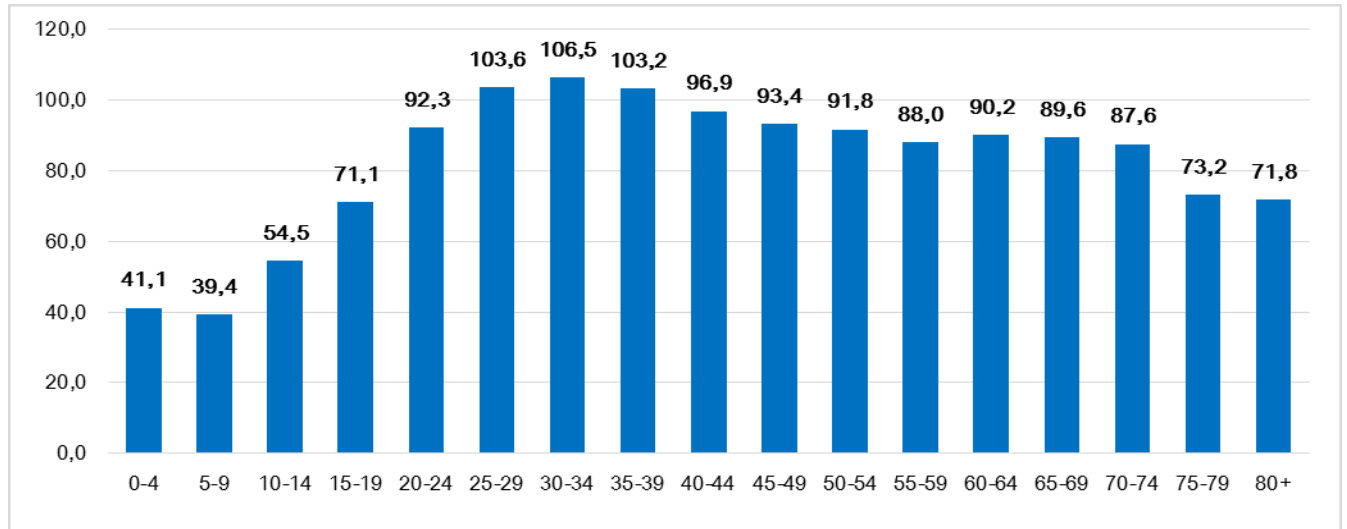
As of October 1, 2021, the cumulative incidence rate of COVID - 19 per 100,000 of residents in the regions of Georgia was the highest in the regions of Racha - Lechkhumi and Kvemo Svaneti, Tbilisi, as well as Adjara and Imereti.

COVID-19 Cumulative Incidence Rate in the Regions of Georgia

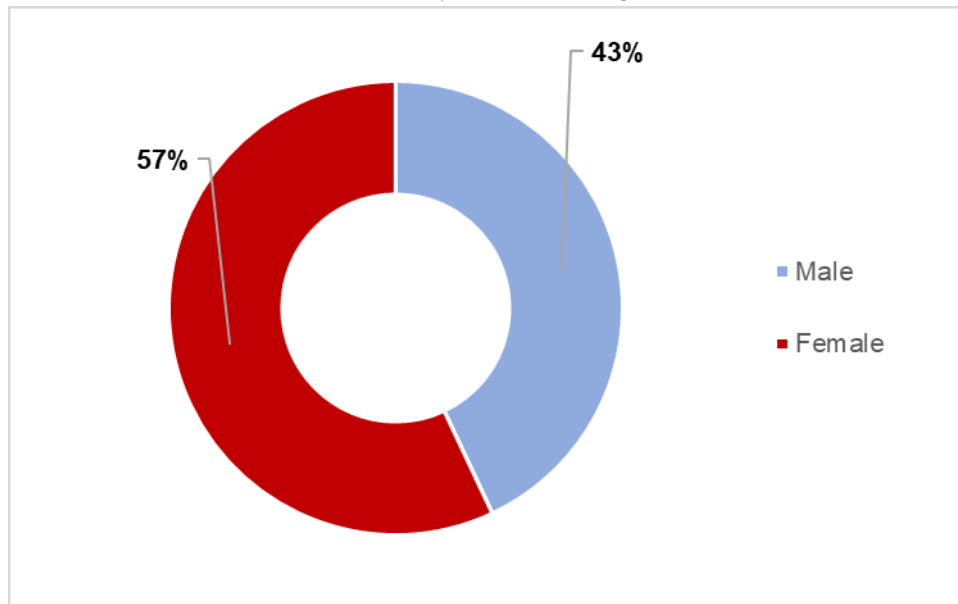


As of October 1, 2021, children aged 0 to 15 years accounted for 10%, adults and young people (15 - 24) 12%, and those aged 60 and over - 22%.

Age - specific Incidence Rate of COVID-19 by Age Groups, Georgia, 26.02.2020 - 1.10.2021

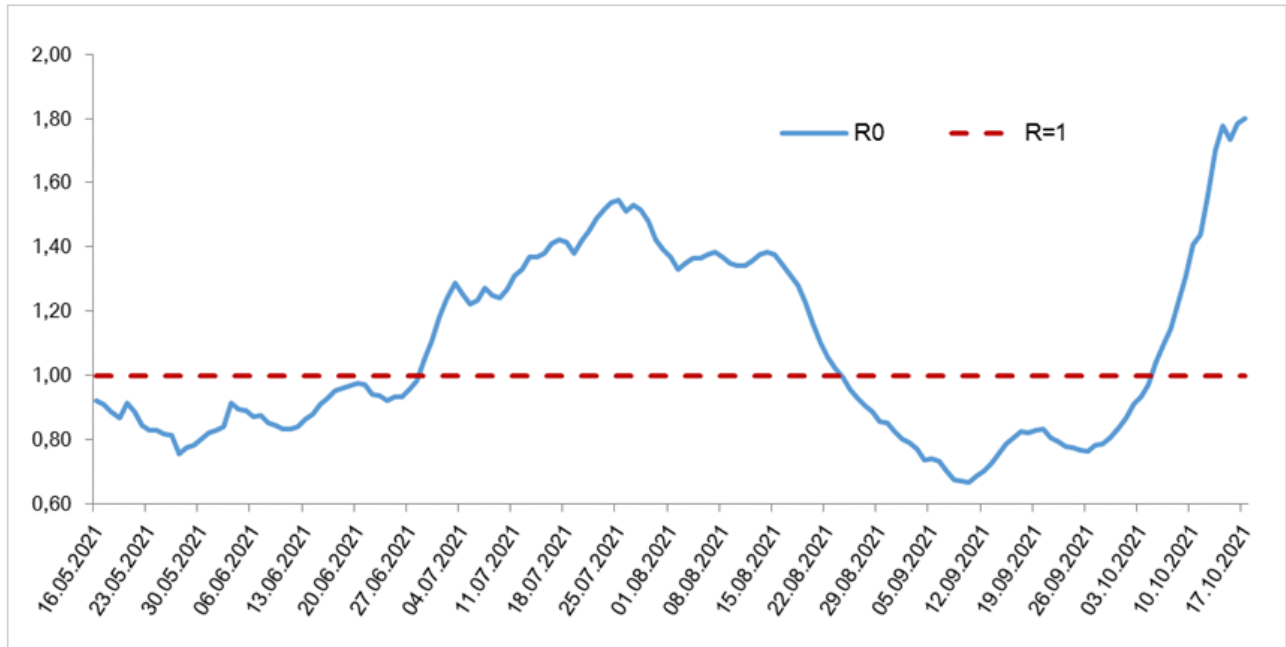


Confirmed Cases of COVID-19 by Gender Georgia, 26.02.2020 - 1.10.2021

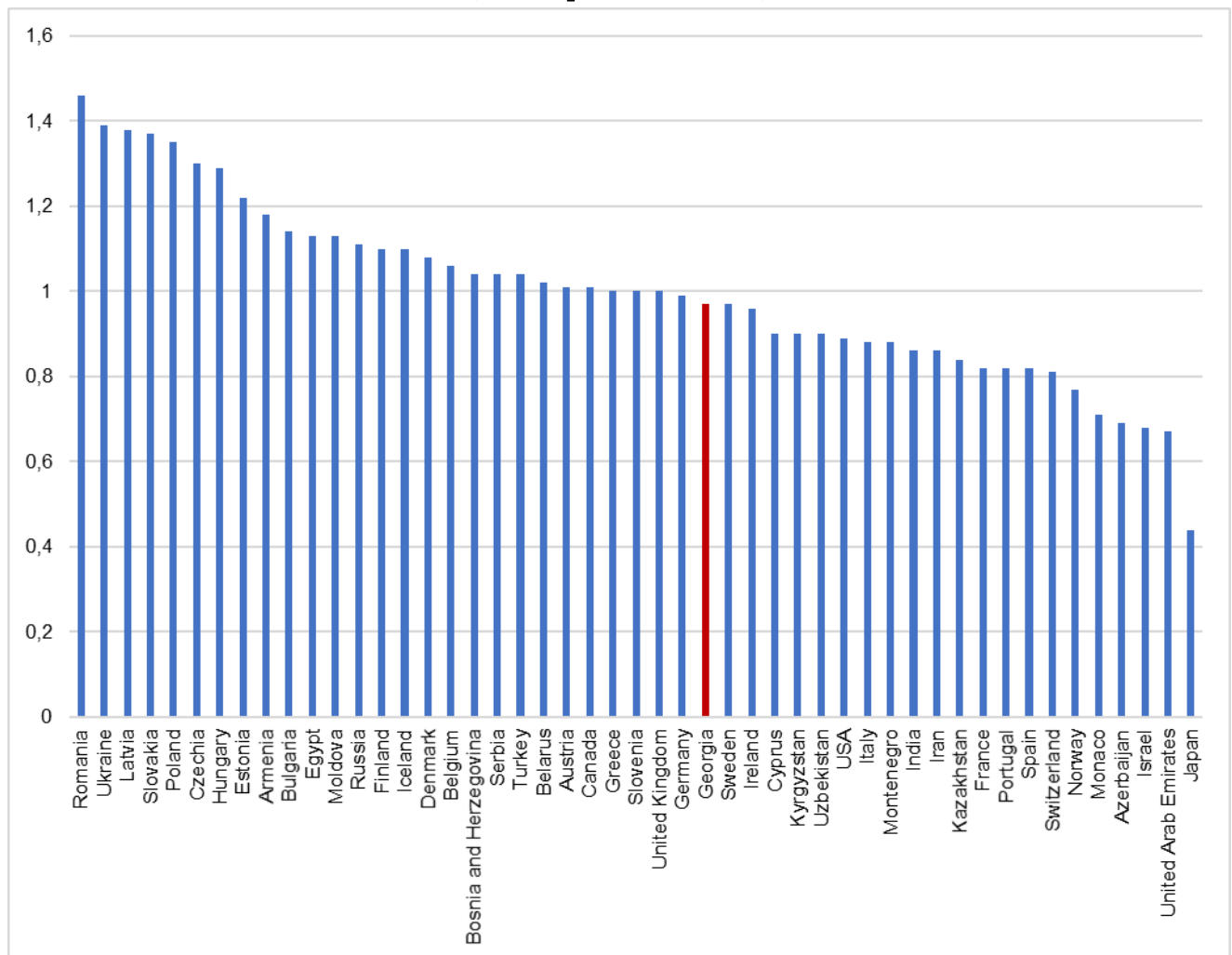


As of October 1, 2021, the effective reproduction index of COVID - 19 was 0.87 (95% CI 0.86 - 0.88).

COVID-19 Effective Reproduction Index (R_t), Georgia, May - October 2021



COVID-19 Effective Reproduction Index (R_t) in Various Countries
(As of September 30, 2021)

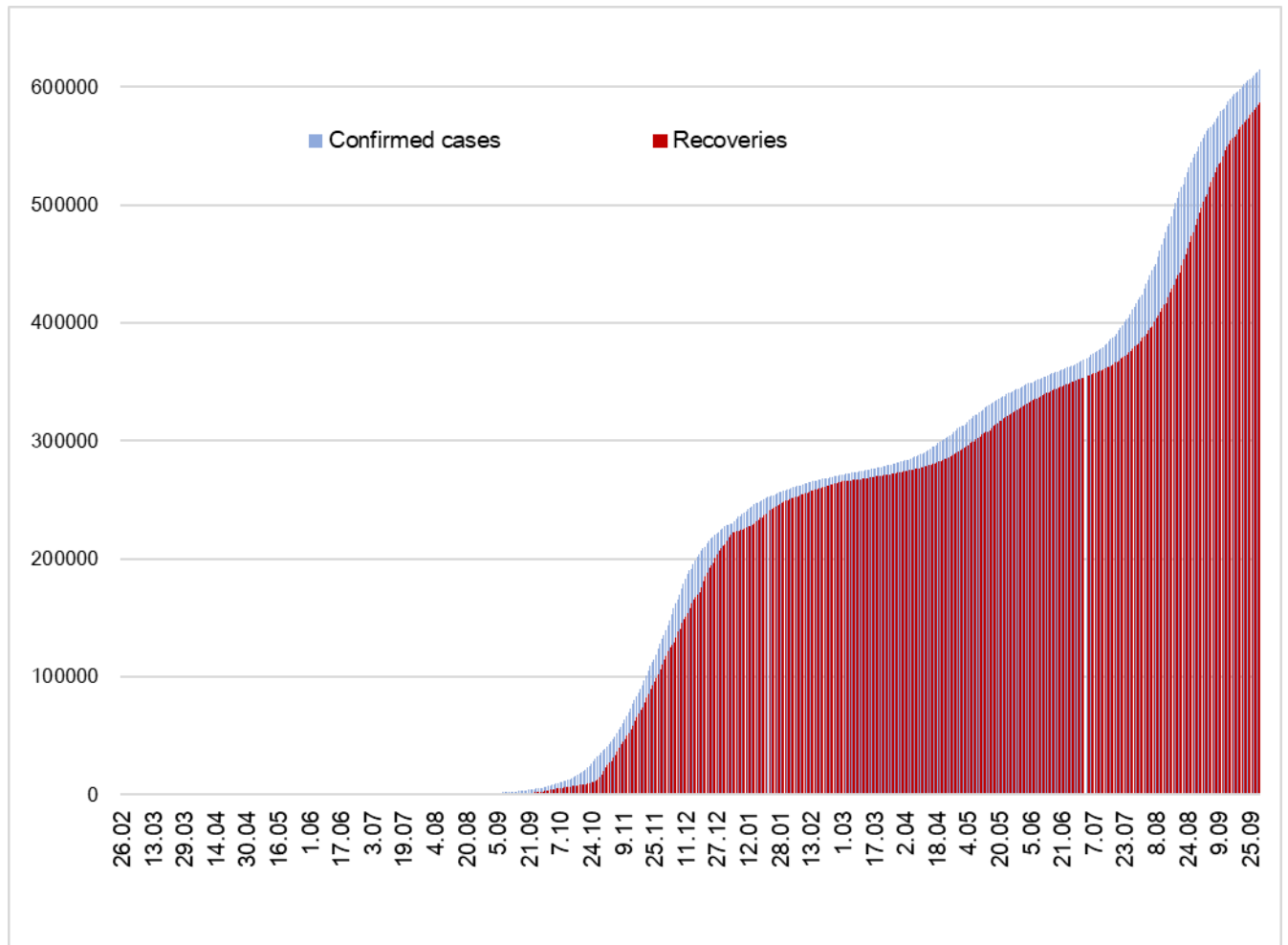


Source: <https://ourworldindata.org/coronavirus>

➡ The first COVID - 19 patient was hospitalized on February 26, 2020. The first recovered patient was discharged on March 16.

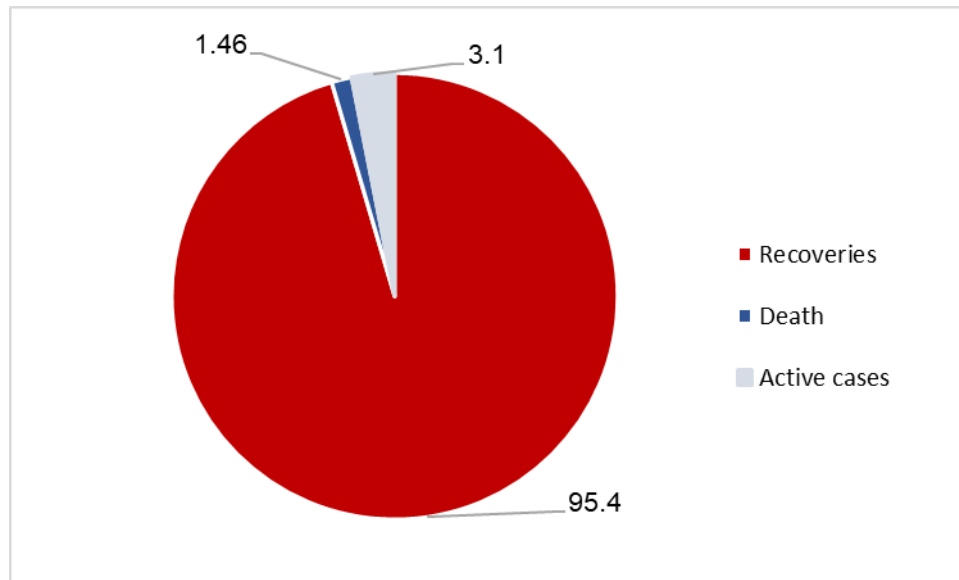
➡ Total number of recovered patients as of October 1, 2021, was 586,704 (95% of those infected).

Daily Number of COVID-19 PCR Confirmed and Recovered Cases, Georgia, 26.02.2020 - 1.10.2021



➡ COVID - 19 death toll - 8,976, lethality rate - 1.46%.

Treatment Outcome for COVID-19 Patients (%), Georgia, 26.02.2020 - 1.10.2021

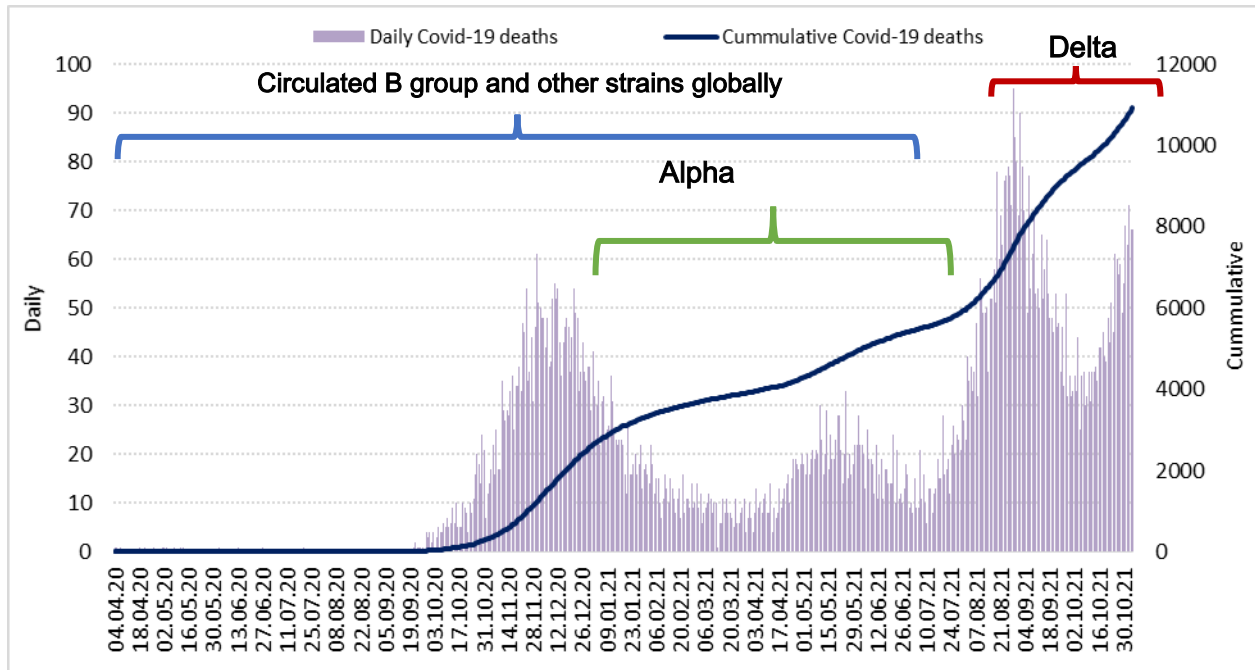


MORTALITY caused by COVID - 19 -

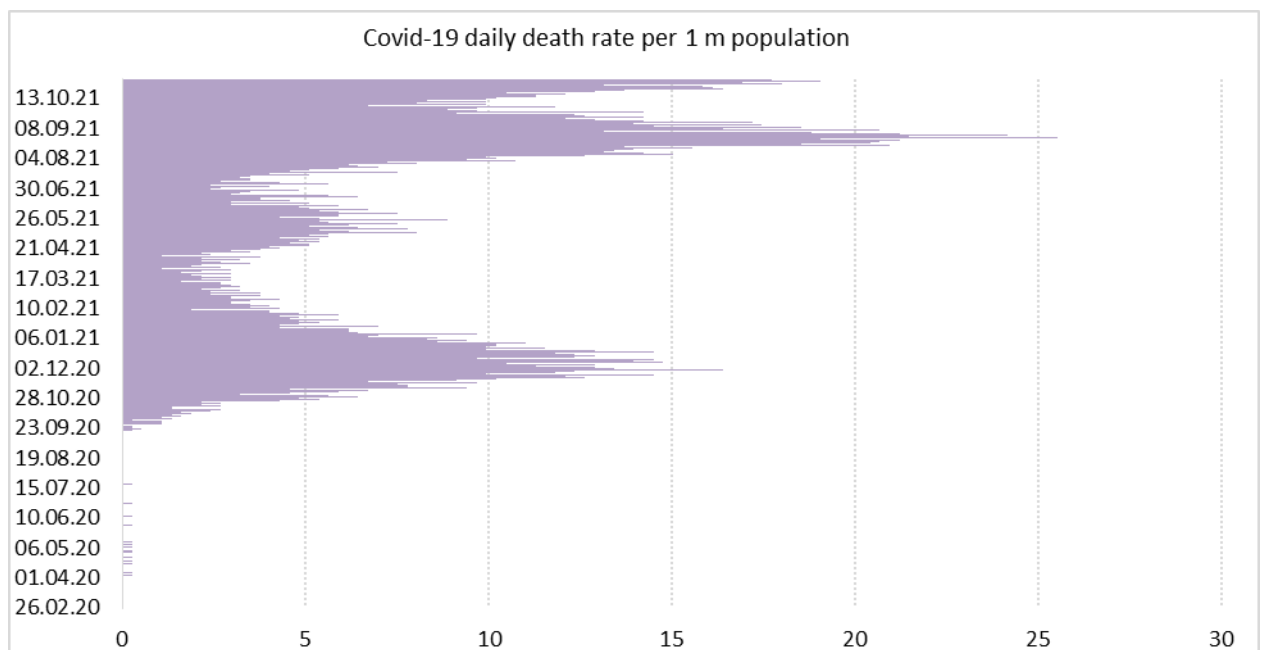
➡ The information related to COVID-19 mortality, presented in this chapter, is based on data obtained within the competence of the National Center for Disease Control and Public Health.

➡ As of October 1, 2021, the number of COVID - 19 fatalities in Georgia equaled to 8,976 (lethality rate 1.46%).

Daily and Total Lethal Cases of COVID-19, Georgia, 04.04.2020 - 1.10.2021



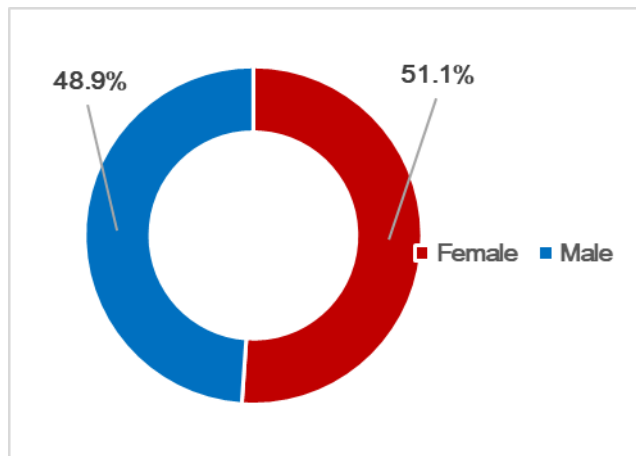
COVID-19 Daily Mortality Rate per 1 million of Population, Georgia, 30.09.2020 - 1.10.2021



➡ Maximum mortality and highest number of deaths per million of population were recorded in November - December 2020 and August - September 2021.

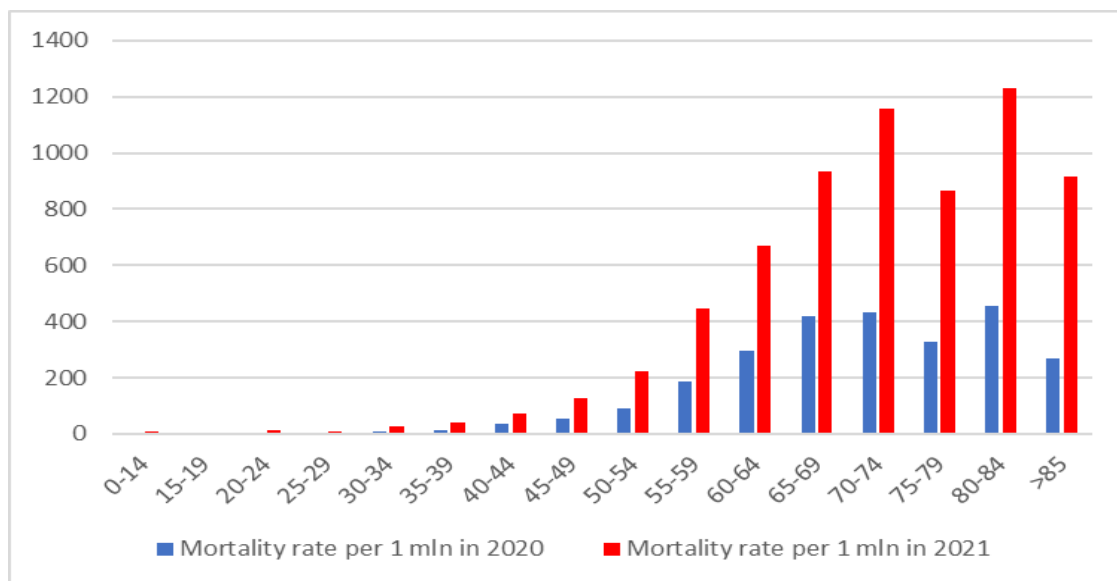
➡ As of October 1, 2021, the mortality caused by COVID - 19 constituted 2,399 per 1 million of population.

Gender - Age Distribution of COVID - 19 Deaths (%), Georgia 04.04.2020 - 1.10.2021



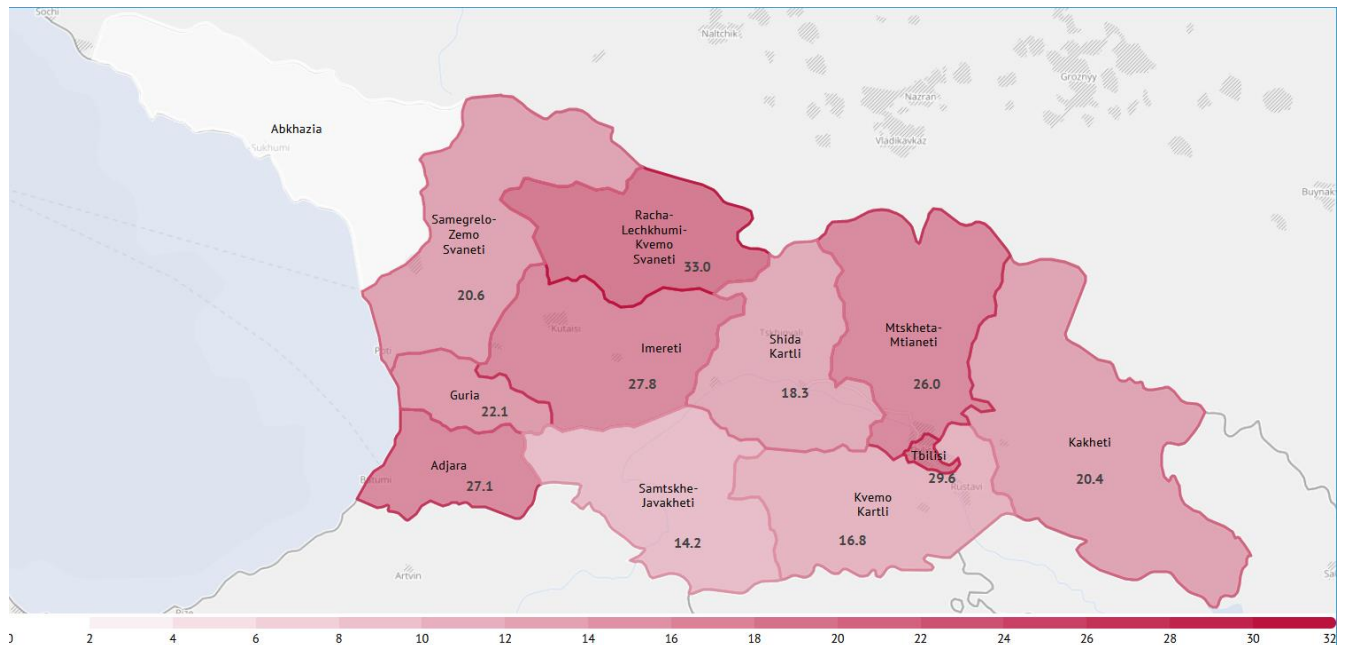
Age	%
0-14	0,09
15-19	0,06
20-24	0,16
25-29	0,11
30-34	0,35
35-39	0,59
40-44	1,14
45-49	1,91
50-54	3,33
55-59	6,78
60-64	10,37
65-69	14,50
70-74	17,04
75-79	12,83
80-84	18,05
>85	12,69

COVID-19 - Mortality Rate per 1 million of Population by Age, Georgia, 26.02.2020 - 1.10.2021



→ The COVID-19 mortality rate was remaining the highest in Tbilisi region from April 2020 through September 2021. The exception was October - November 2020, when the highest share was recorded in the Adjara region.

COVID-19 Mortality Rate per 10,000 of Population (by actual place of residence), Georgia, 04.04.2020 - 1.10.2021



→ In all lethal cases the disease progression was severe or critical. Medical reports on death in 69% of deceased patients noted presence of various co-morbid chronic diseases and complications.

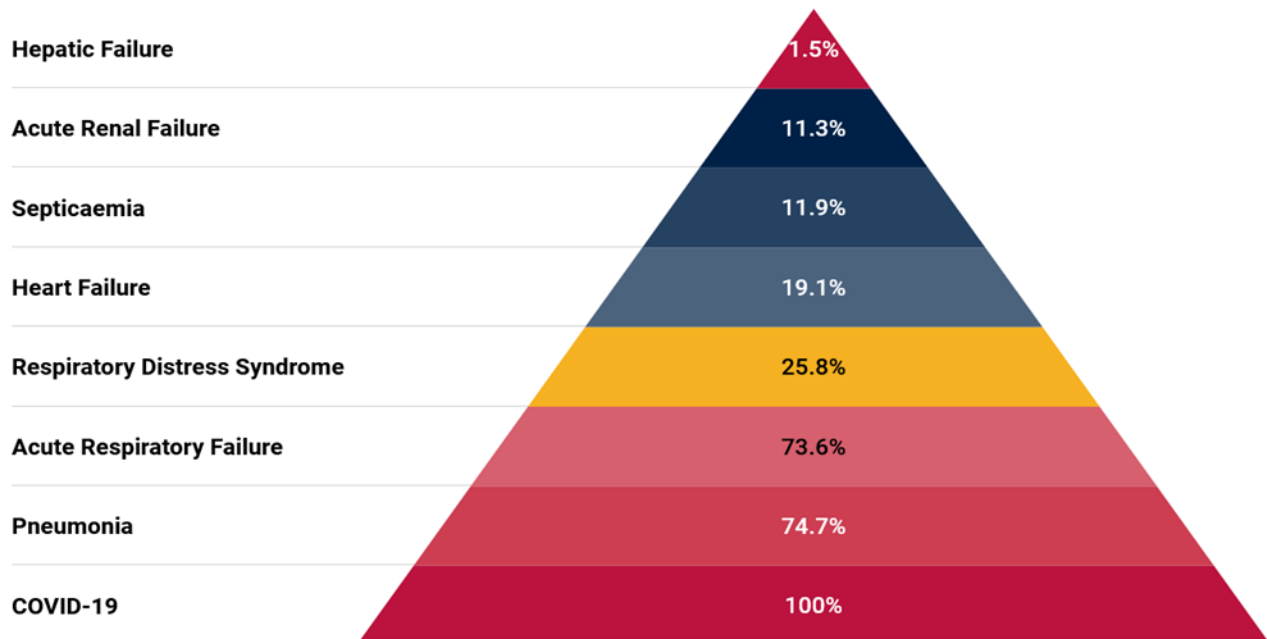
Co-morbidities included:

- Cardiovascular Diseases (excluding hypertension) - 69.1% (95% CI 67.8 - 70.4)
- Hypertension - 35.3% (95% CI 34.2 - 36.9)
- Diabetes - 25.5% (95% CI 24.3 - 26.7)
- Onco-disease - 5.8% (95% CI 5.1 - 6.4)
- Chronic Respiratory Disease - 4.4% (95% CI 3.9 - 5.0)

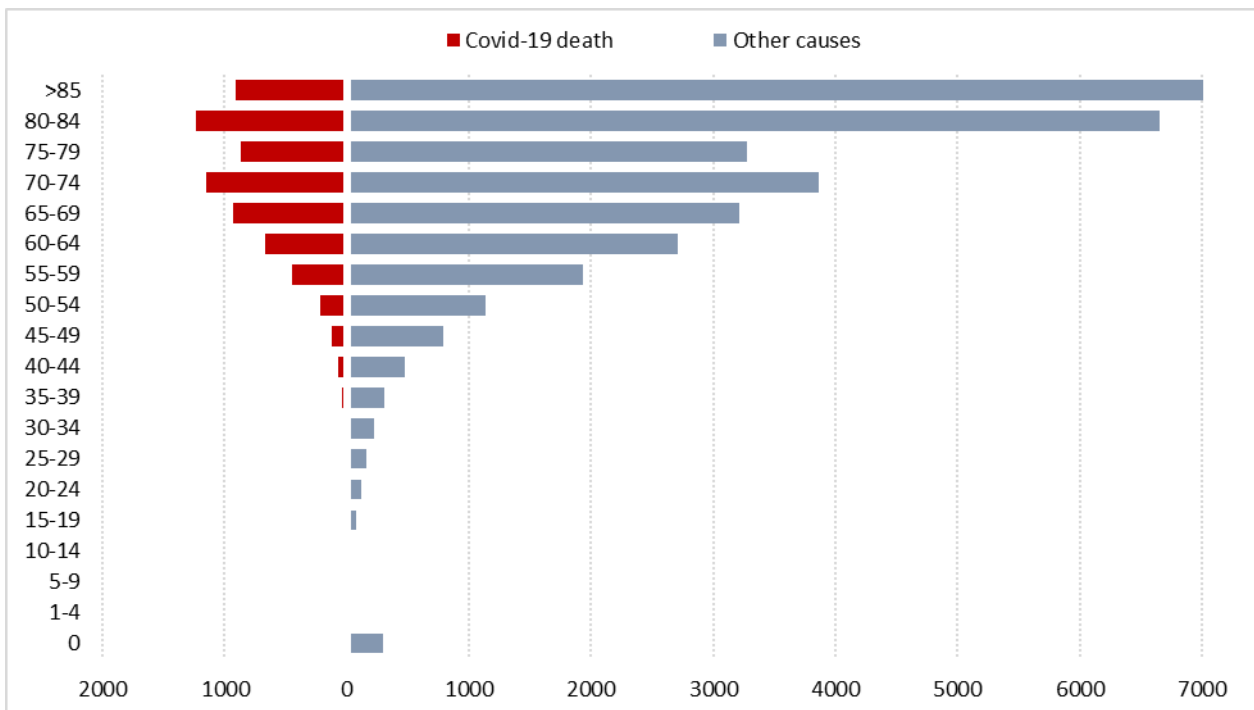
Complications included:

- Pneumonia - 74.7% (95% CI 73.8 - 75.6)
- Respiratory failure - 73.6% (95% CI 72.7 - 74.5)
- Respiratory Distress Syndrome - 25.8% (95% CI 24.9 - 26.7)
- Heart failure - 19% (95% CI 18.2 - 19.9)

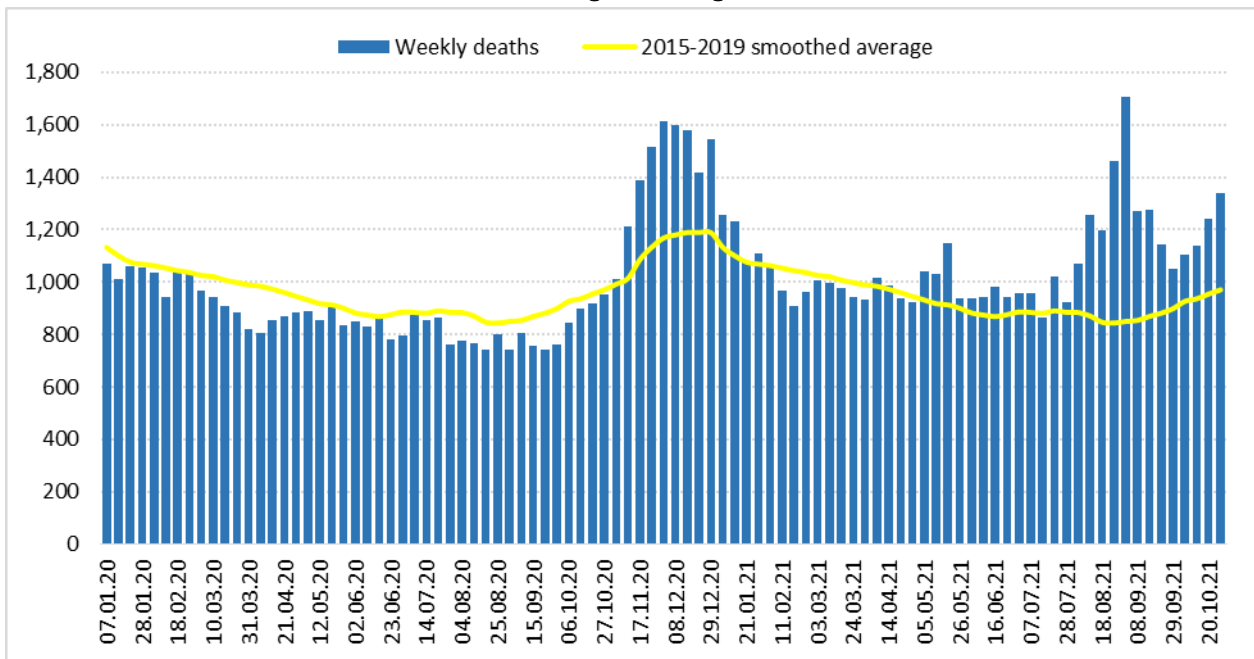
Distribution of Lethal COVID-19 Cases by Complication of the Co-morbidities



Total Number of Deaths due to COVID-19 and the Other Causes by Age Groups, both Genders, Georgia, 04.04.2020 - 1.10.2021



Comparison of the 2020 – 2021 Number of Deaths with that in 2015 – 2019 Period by Smoothed Weekly Average in Georgia



Compared to 2015 - 2019, an increase in all – because mortality was recorded in November and December 2020 and August and September 2021.

THE BURDEN OF COVID - 19 MORBIDITY IN CHILDREN AGED 0 - 18 YEARS

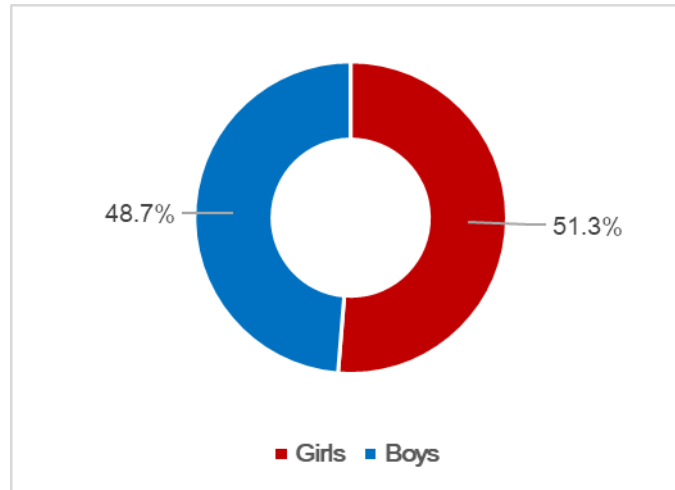
As of October 1, 2021, the number of infected people aged 0 to 18 -years was represented by 90,680 children (14.8% of the total number of infected):

- In 2020 (10 months) – 23,470 children
- In 2021 (9 months) - 67,210 children

COVID - 19 Morbidity Rates in Children under 18 Years of Age

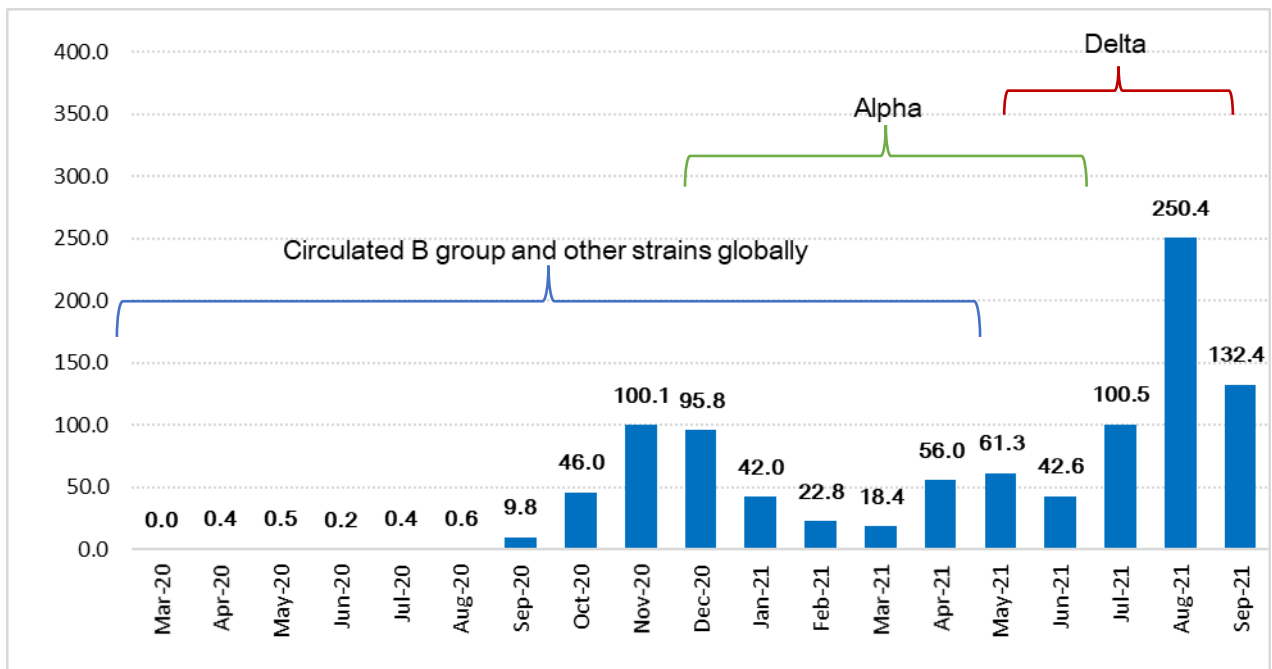
	2020			2021		
	Number of Infected Persons	Share among the total of infected persons (%)	Rate per 10,000 of children	Number of Infected Persons	Share among the total of infected persons (%)	Rate per 10,000 of children
January	0	0	0	3 887	12.8	42
February	0	0	0	2 107	16.9	22.8
March	4	5.6	0	1 704	15.0	18.4
April	40	10.8	0.4	5 180	17.8	56
May	44	14.3	0.5	5 674	16.9	61.3
June	16	7.2	0.2	3 943	18.2	42.6
July	35	11.4	0.4	9 299	16.8	100.5
August	51	12.7	0.6	23 165	17.9	250.4
September	907	14.5	9.8	12 251	20.4	132.4
October	4 256	12.3	46	0	0	0
November	9 258	9.3	100.1	0	0	0
December	8 859	10.3	95.8	0	0	0
Total	23 470	10.3	253.7	67 210	17.5	757

Distribution of COVID-19 Infected Children Aged 0 to 18 Years by Gender

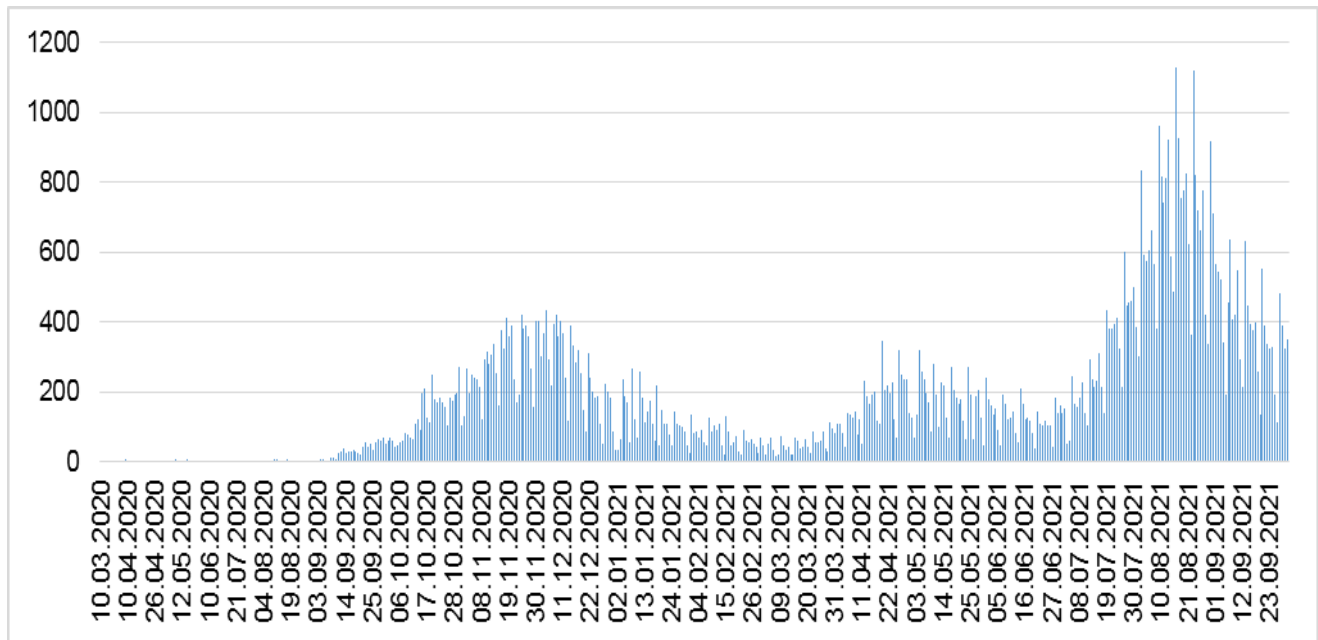


The highest rate of infection under the age of 18 were recorded in October - December 2020 and July - September 2021.

COVID-19 Incidence Rates in Children Aged 0 - 18 Years per 10,000 of Children



Daily Number of COVID-19 Confirmed Cases in 0 - 18-Year-Old Children



7,708 children received inpatient treatment (8.5% of infected children) out of the total number of the infected. Lethal outcome was reported in 8 cases (hospital fatality rate - 0.1%).

THE BURDEN OF COVID-19 MORBIDITY IN PREGNANT WOMEN

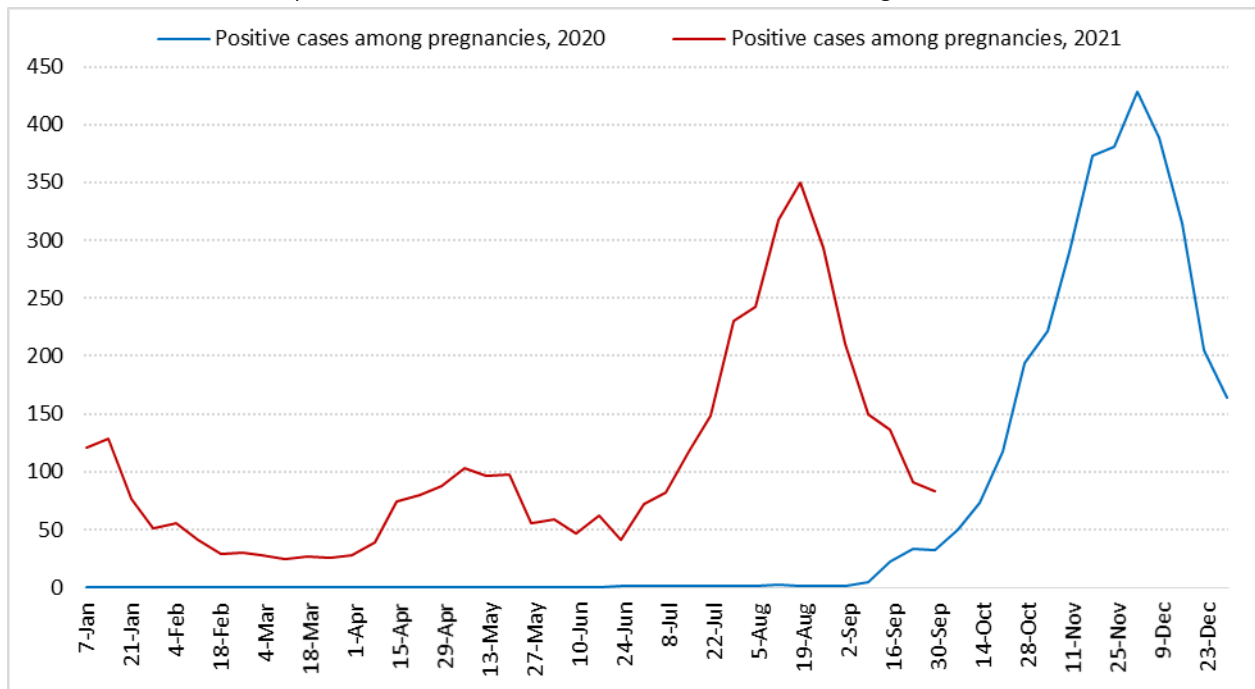
85,345 pregnant women were registered for antenatal care in Georgia from the beginning of the COVID - 19 pandemic to October 1, 2021:

- In 2020 - 45,516
- In 2021 - 39,829

Total number of COVID - 19 confirmed cases in pregnant women was 7,338 (percentage of infections in pregnant women - 8.6%):

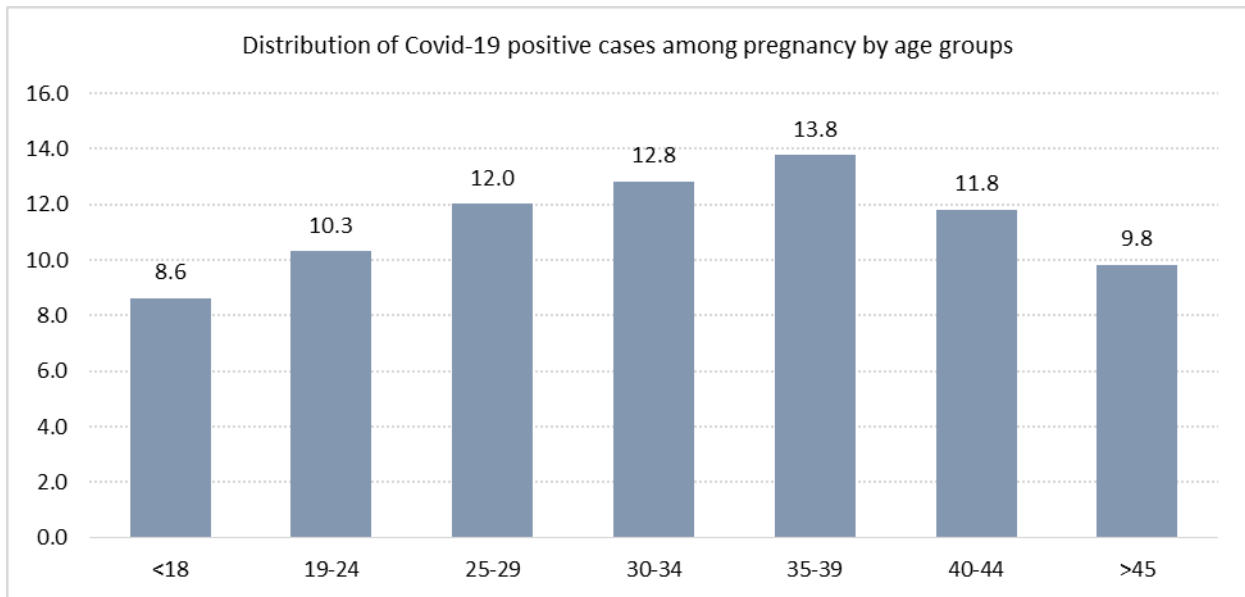
- In 2020 - 3,304 (7.3% of the pregnant women number registered in 2020)
- In 2021 - 4,034 (10.1% of the pregnant women number registered in 2021)

Weekly Number of COVID-19 Confirmed Cases in Pregnant Women



The highest proportion of confirmed cases in pregnant women falls into the 35 - 39 age group.

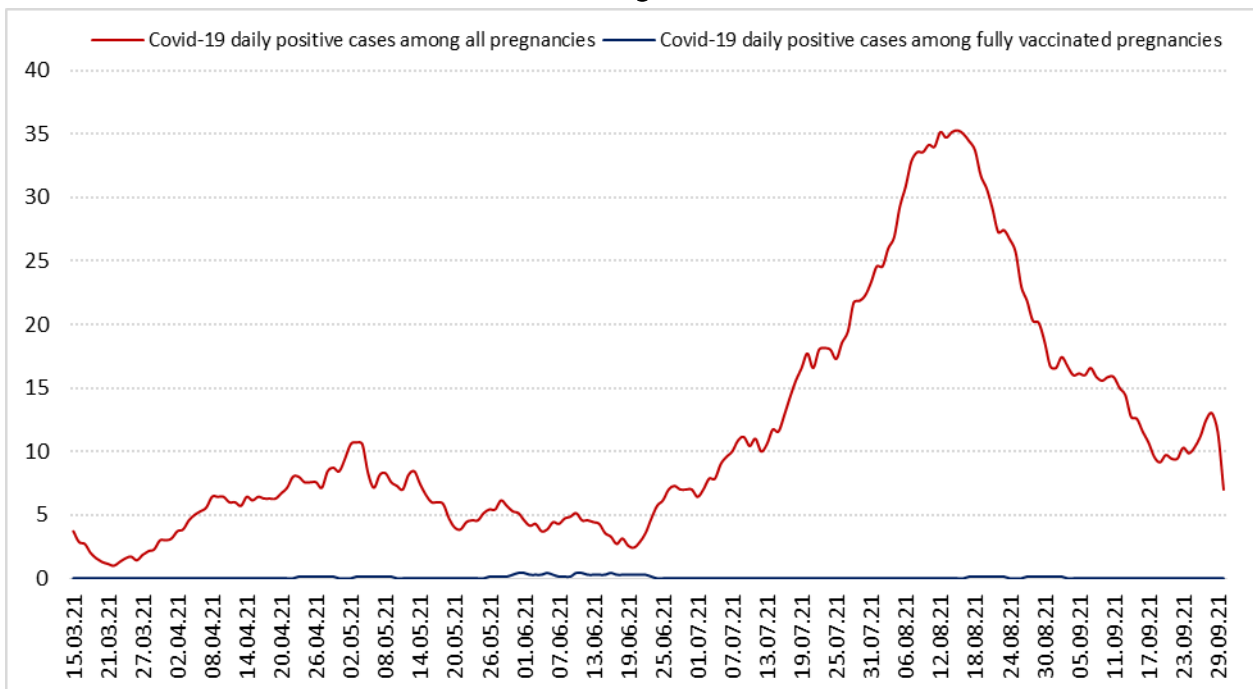
Percentage Distribution of COVID-19 Confirmed Cases in Pregnant Women by Age Groups



➡ The share of confirmed cases by the region of residence of the pregnant women is higher in Kvemo Kartli, Shida Kartli and Samtskhe - Javakheti regions.

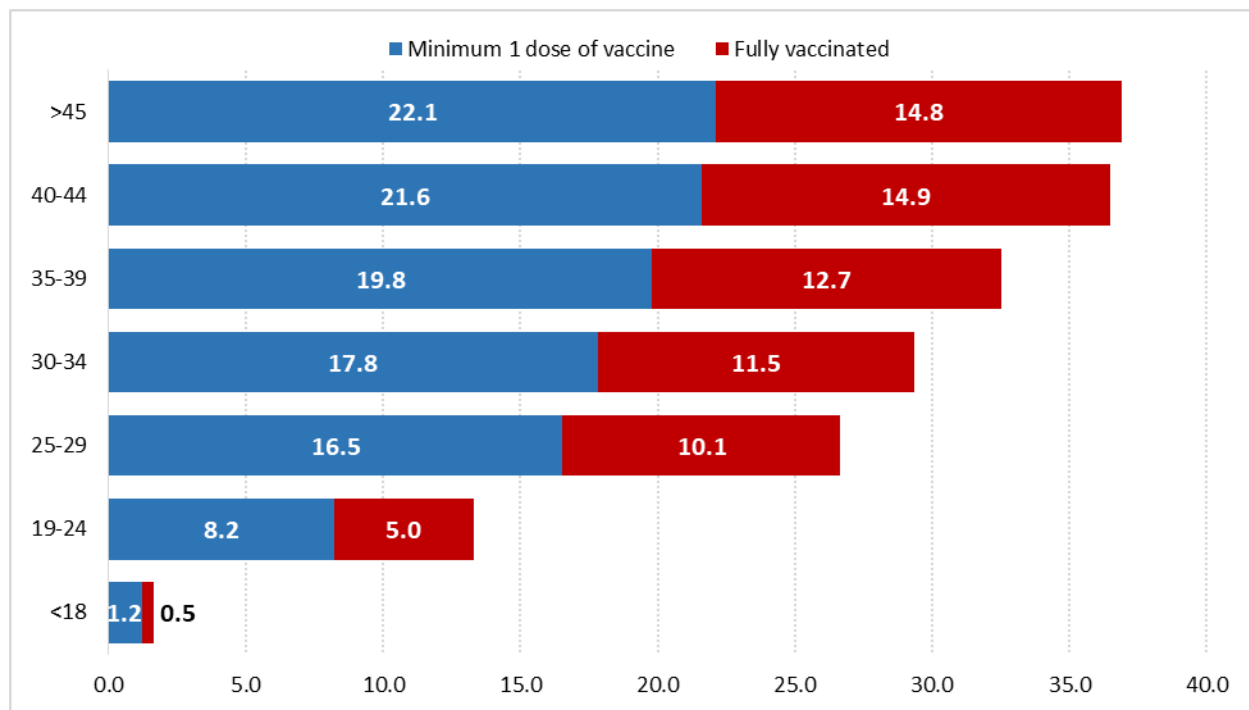
➡ COVID - 19 infection rate is very low in fully vaccinated pregnant women.

Daily Number of Confirmed COVID-19 Cases in Total Number of Pregnant Women, including Fully Vaccinated Pregnant Women

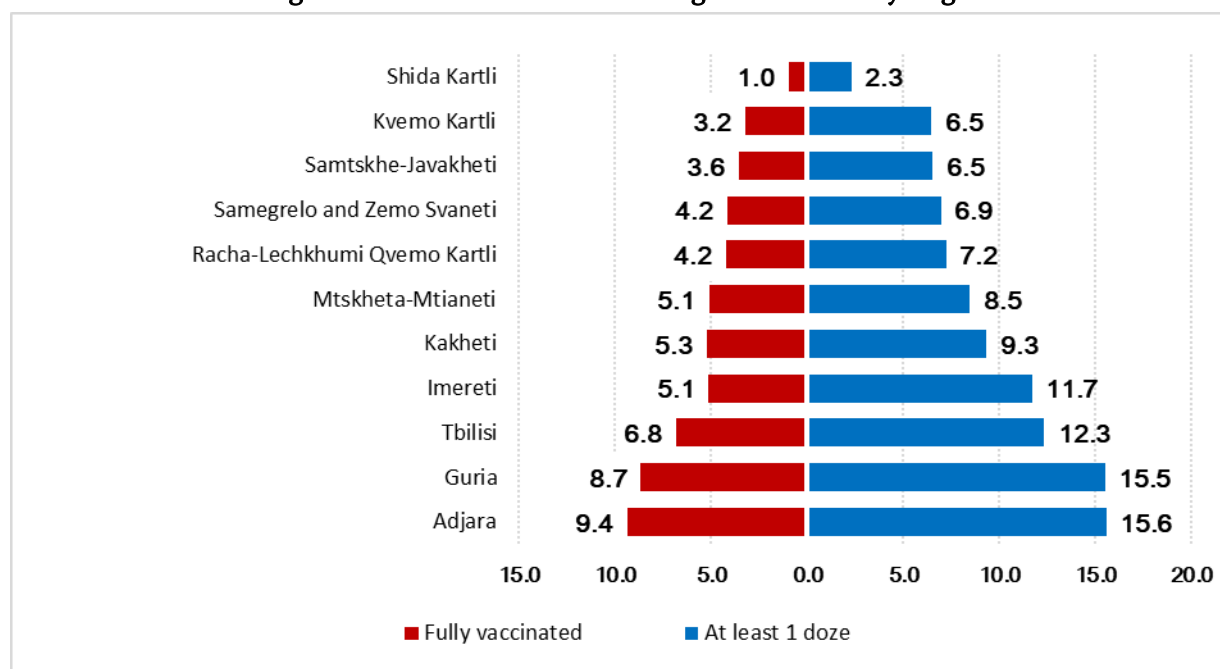


➡ With increasing age, the percentage of vaccinations grows among pregnant women, both of those who have been vaccinated with at least 1 dose and those who have been fully vaccinated.

Percentage Distribution of Vaccinated Pregnant Women in Age Groups



Percentage Distribution of Vaccinated Pregnant Women by Region of Residence



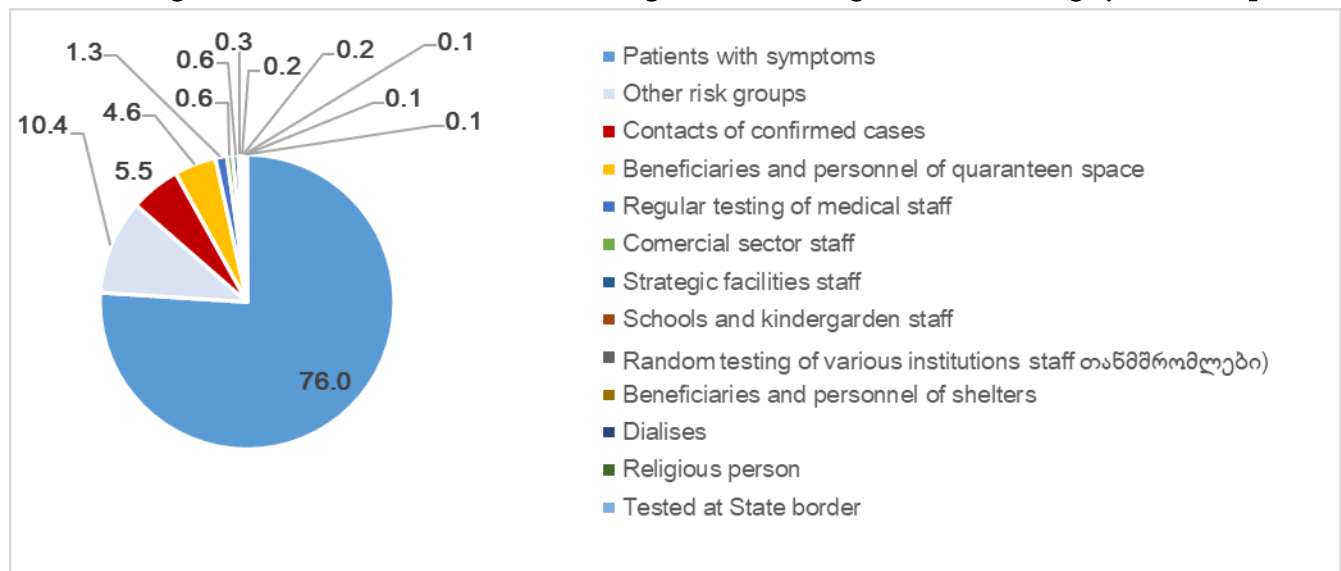
Out of the total number of COVID – 19 infected pregnant women, the lethal outcome was registered in 17 cases, none of whom were vaccinated (the fatality rate - 0.23%).

- In 2020 - 1 case, the lethality rate - 0.03%
- In 2021 - 16 cases, lethality rate - 0.4%

THE BURDEN OF COVID-19 MORBIDITY AMONG THE HEALTHCARE WORKERS OF MEDICAL FACILITIES

➔ Pursuant to the *Decree N 975 of the Government of Georgia (dated on September 14) on Approving the List of Priority Persons Subject to Mandatory Testing for Coronavirus (SARS-CoV-2) Infection (COVID-19) and Testing Procedure*, the risk groups identified by this Decree are being tested, and the healthcare workers were identified as priority subject to regular testing.

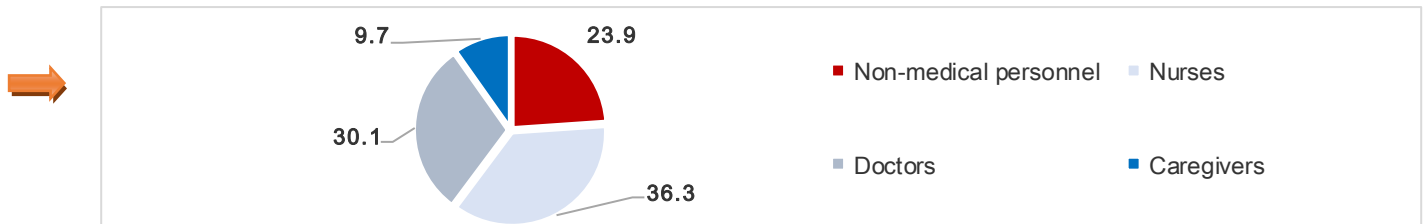
Percentage Distribution of Cases Detected through PCR and Antigen - Based Testing by Risk Groups¹



➔ As of October 1, 2021, healthcare workers accounted for **6.4%** of those infected with COVID - 19. According to risk groups, 72% of infected healthcare workers were represented by inpatient hospital staff, employees of Fever, Covid or Online Clinics, and emergency, intensive care, and resuscitation departments. The share of infected healthcare workers constituted 39.9% of the total healthcare personnel.

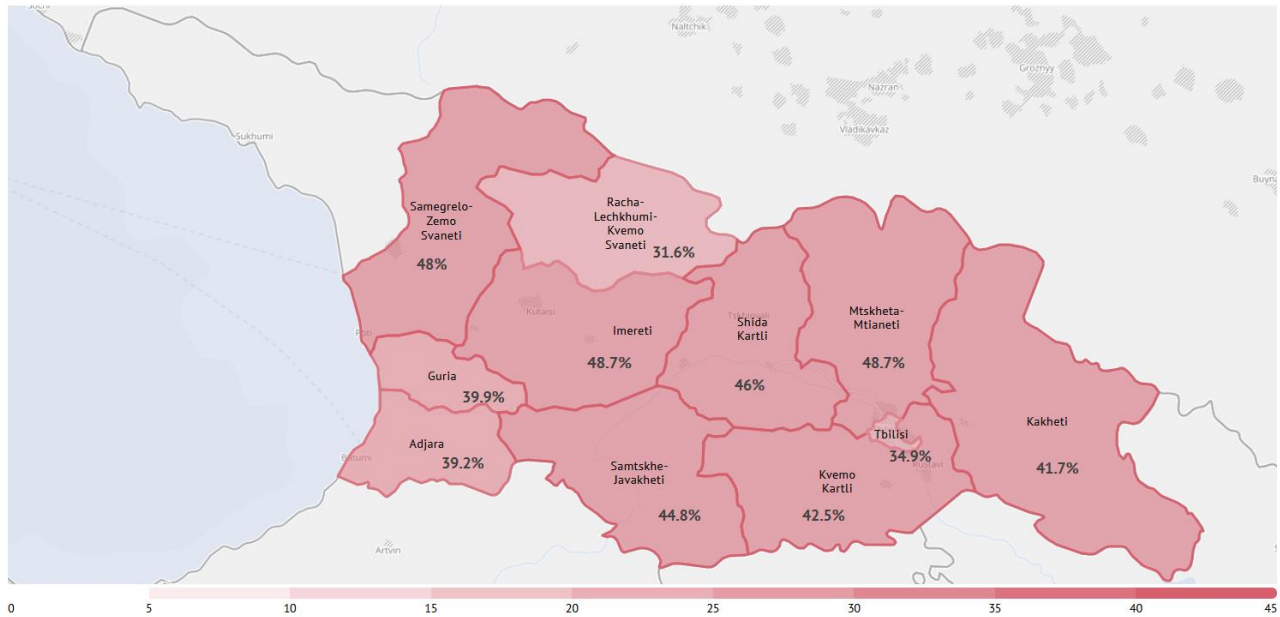
Percentage Distribution of COVID-19 Positive Cases among Health Care Workers by Subgroups of Activities

¹ Diagrammatic patients with symptoms account for 76% of reported cases and are not differentiated by occupations



82% of those infected were females and 18% were males. The highest rate of infection was observed in Tbilisi, Imereti and Adjara regions.

The Share of COVID-19 Infected Medical Staff among the Total Number of Staff, by regions



During the pandemic, the total number of deaths caused by COVID - 19 among health workers was 117, representing 0.3% of the total confirmed cases among the medical staff.

Among the deceased, 40.2% were male and 59.8% female. The age group from 30 to 70 years accounted for 68.4% of the deaths.

Regional Distribution of COVID - 19 Fatalities among Health Workers ²² (n = 117)

²² The place of residence and the place of death are identical

	Quantity	%
Tbilisi	45	38.5
Imereti	23	19.7
Adjara	18	15.4
Samtskhe - Javakheti	9	7.7
Samegrelo and Zemo Svaneti	7	6
Kvemo Kartli	6	5.1
Kakheti	5	4.3
Mtskheta - Mtianeti	3	2.6
Shida Kartli	1	0.9
Georgia	117	100



52.1% of the deceased healthcare workers were inpatient facility staff or personnel of the Fever, Covid or Online Clinic, and emergency, intensive care, and resuscitation units.

SEQUENCING AND PHYLOGENETIC ANALYSIS OF SARS-COV-2 NEW CORONAVIRUS CIRCULATING IN GEORGIA

➔ The Lugar Center of the National Center for Disease Control and Public Health is continuously decoding the entire genomes of SARS-COV-2 strains using a next generation sequencing technology on the Illumina MiSeq platform. The aim of the study is to genetically characterize the pandemic virus strains spread in different parts of Georgia, their phylogenetic analysis and monitoring of newly emerged strains. To date, the complete genomes of up to 400 SARS-COV-2 strains have been sequenced, uploaded to international databases - GISAID and BaseSpace - and compared with genetic data from worldwide strains.

Georgian SARS-COV-2 Strains Uploaded to GISAID Database

The screenshot shows the GISAID EpiCoV database interface. The search results table displays the following data:

	Virus name	Passage de	Accession ID	Collection da	Submission I	Length	Host	Location	Originating
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1619/2021	Original	EPI_ISL_5813303	2021-09-14	2021-11-01	29,830	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1618/2021	Original	EPI_ISL_5813300	2021-10-18	2021-11-01	29,812	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1616/2021	Original	EPI_ISL_5813293	2021-10-17	2021-11-01	29,822	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1615/2021	Original	EPI_ISL_5813286	2021-10-17	2021-11-01	29,823	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1612/2021	Original	EPI_ISL_5813280	2021-10-17	2021-11-01	29,828	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1610/2021	Original	EPI_ISL_5813272	2021-10-17	2021-11-01	29,846	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1608/2021	Original	EPI_ISL_5813264	2021-10-15	2021-11-01	29,845	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1607/2021	Original	EPI_ISL_5813256	2021-10-15	2021-11-01	29,817	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1606/2021	Original	EPI_ISL_5813253	2021-10-15	2021-11-01	29,833	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1605/2021	Original	EPI_ISL_5813245	2021-10-15	2021-11-01	29,840	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1604/2021	Original	EPI_ISL_5813242	2021-10-15	2021-11-01	29,859	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1603/2021	Original	EPI_ISL_5813237	2021-10-15	2021-11-01	29,846	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1602/2021	Original	EPI_ISL_5813229	2021-10-15	2021-11-01	29,813	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1601/2021	Original	EPI_ISL_5813223	2021-10-15	2021-11-01	29,810	Human	Asia / Georgia / T	Departme
<input type="checkbox"/>	hCoV-19/Georgia/Tb-SNGS1600/2021	Original	EPI_ISL_5813217	2021-10-15	2021-11-01	29,838	Human	Asia / Georgia / T	Departme

Total: 395 viruses

Important note: In the GISAID EpiFlu™ Database Access Agreement, you have accepted certain terms and conditions for viewing and using data regarding influenza viruses. To the extent the Database contains data relating to non-influenza viruses, the viewing and use of these data is subject to the same terms and conditions, and by viewing or using such data you agree to be bound by the terms of the GISAID EpiFlu™ Database Access Agreement in respect of such data in the same manner as if they were data relating to influenza viruses.

➔ Alpha / so - called British strain (B.1.1.7) was detected in Georgia for the first time in November 2020, and its started intense spreading from February 2021. This strain was characterized by a number of mutations in the S gene sequence (del69 - 70, del144, N501Y, A570D, D614G, P681H, T716I, S982A, D1118H) that contributed to its more intense proliferation. Alpha strain has almost completely replaced most of the SARS - COV - 2 strains previously circulating in the country in a short period of time.

Individual cases of the Indian strain (B.1.617.2), so - called Delta, started to appear at the end of May 2021, which had the ability to spread even faster due to mutations in the S gene sequence (L452R, D614G, P681R, ± (E484Q, Q107H, T19R, del 157/158, T478K, D950N). This strain was already fully dominant in August 2021 compared to all the other previously prevalent strains. In addition, the so - called Delta + variant appeared shortly with additional mutations (K417N, Y145H, A222V ...), permanently changing and spreading in various countries with different mutations.



The table below shows the distribution of 329 strains uploaded to the GISAID database by subgroups and the dates of their first detection in Georgia (as of 31.10.2021).

Date of appearance of the variant	Subgroup	Quantity
26.02.20	B.1.1	31
27.02.20	B	3
28.02.20	B.4	3
08.03.20	A.2	1
10.03.20	B.1	11
13.03.20	B.1.91	1
14.11.20	B.1.1.7 (Alpha)	90
21.12.20	B.1.1.10	2
21.01.21	B.1.1.141	10
21.01.21	P.2	1
17.02.21	B.1.258	1
23.02.21	B.1.1.121	2
19.03.21	B.1.1.163	2
26.04.21	Q.1	3
01.05.21	C.36	3
05.05.21	B.1.526	1
06.05.21	B.1.1.95	2
11.05.21	B.1.617.2 (Delta)	134
13.05.21	B.1.1.419	1
23.05.21	B.1.351 (Beta)	1
11.06.21	Q.4	3
05.07.21	AY.1 (Delta+)	8
07.08.21	AY.9 (Delta+)	1
31.08.21	AY.39 (Delta+)	5
31.08.21	AY.4 (Delta+)	5
21.09.21	AY.41 (Delta+)	1
28.09.21	AY.38 (Delta+)	1
15.10.21	AY.33 (Delta+)	2
Total		329



The Lugar Center continues to systematically monitor the strains prevalent in the country for the timely detection of possible new mutations and variants. More than 50 samples are sequenced weekly, and the results are added to the international database, which is a good means for COVID-19 epidemiological surveillance and monitoring the emergence of new variants both in Georgia and around the world.

COVID - 19 VACCINATION

➡ Vaccination process against **COVID-19** is carried out in accordance with the National Vaccine Deployment Plan, which describes in detail the vaccination process in the country with consideration of the relevant legislation.

➡ The target for COVID - 19 vaccination coverage, which the country shall achieve to protect the population and promote economic recovery, was set at 60%, meaning that 60% of the adult population is to be fully vaccinated.

➡ Based on international recommendations and the COVID - 19 National Vaccine Deployment Plan, all possible resources were mobilized to immunize 60% of the population in the short term:

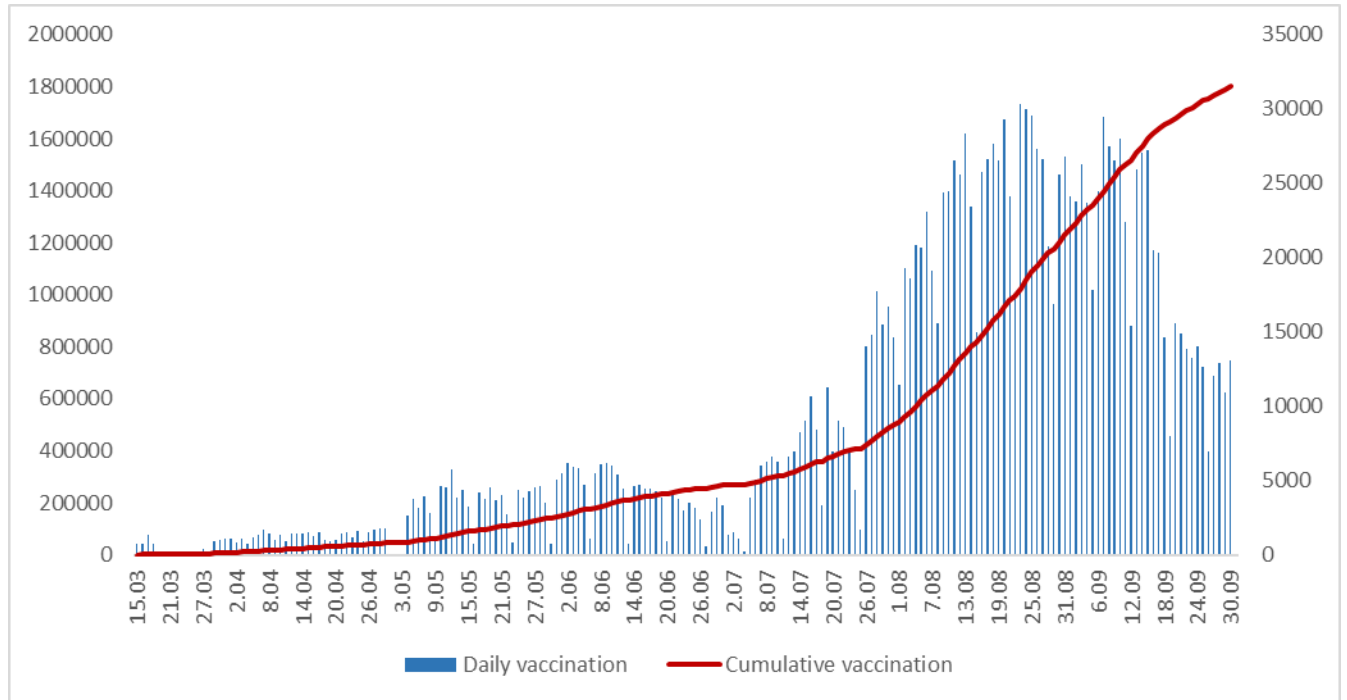
- Hospitals: to vaccinate their own medical staff and priority groups of the population.
- Existing immunization clinics: to vaccinate their own and assigned medical staff, priority groups and the rest of the population.
- Mobile brigades: to vaccinate beneficiaries and caregivers of long - stay facilities and the non - mobile home population.
- Mass vaccination centers (in big cities): for vaccination of priority and general population groups.

➡ The COVID-19 vaccination process is supervised and monitored through an electronic immunization management module. The reporting model takes into account the practice in the country and includes the recording of immunization /vaccination, vaccine administration, adverse reactions and complications following vaccination.

The National Vaccine Deployment Plan against COVID-19 is currently being revised.

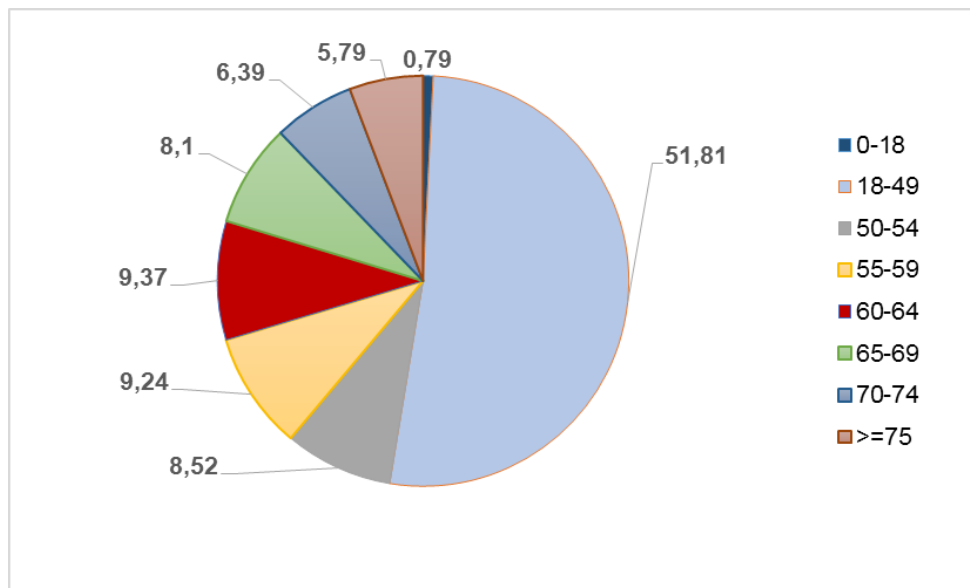
➡ COVID-19 vaccination in Georgia started on March 15, 2021. According to the October 1 data of the electronic immunization management module, a total of 1,802,566 doses of vaccine had been administered in the country and 813,437 persons were fully vaccinated (coverage rate per 21,000 of population - 21,816), representing 28.7% of the adult population. Approximately 85 doses of vaccine are given per 100,000 of population a day.

Daily and Cumulative Number of COVID-19 Vaccinations, Georgia, 15.03.2021 - 1.10.2021



Percentage Distribution of Persons Vaccinated with two doses of COVID-19 Vaccine by Age Group, Georgia,

15.03. 2021 - 1.10.2021



52% of full - dose COVID - 19 vaccines were administered in Tbilisi.

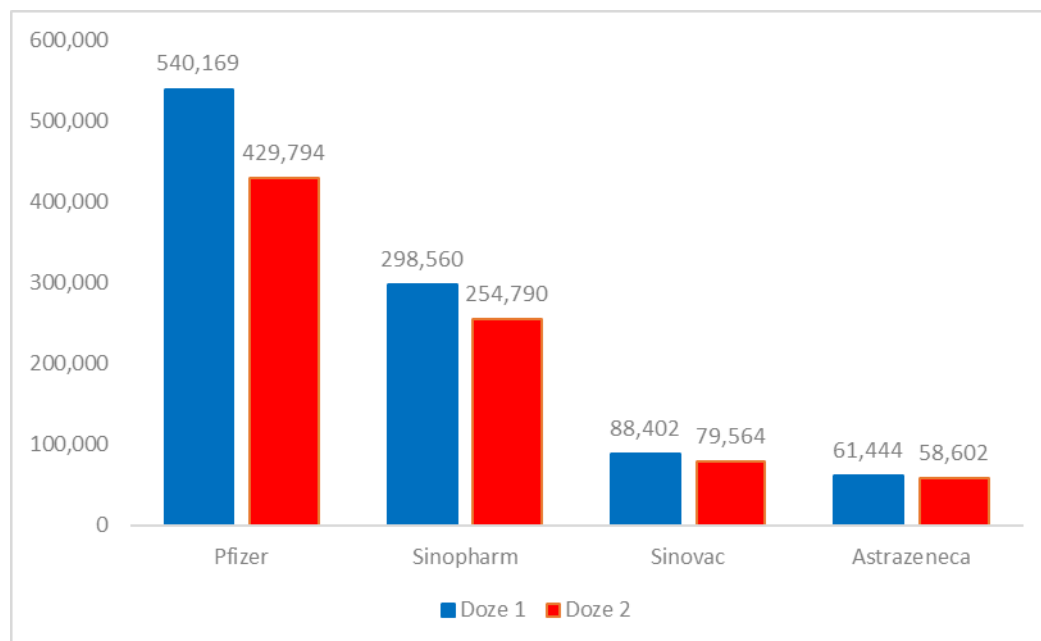
Distribution of Two Doses of COVID - 19 Vaccine by Place (Region) of Vaccination, Georgia, 15.03.2021 - 01.10.2021

Regions (by Vaccinating Facility)	Vaccinated with a full dose	%
Adjara	92 793	11,37
Guria	20 493	2,51
Tbilisi	421 786	51,66
Imereti	85 944	10,53
Kakheti	36 112	4,42
Mtskheta - Mtianeti	15 844	1,94
Racha - Lechkhumi and Kvemo Svaneti	6 716	0,82
Samegrelo and Zemo Svaneti	50 408	6,17
Samtskhe - Javakheti	14 915	1,83
Kvemo Kartli	29 260	3,58
Shida Kartli	42 166	5,16
Georgia	816 437	100

Number of fully vaccinated persons by type of a vaccine (as of October 1, 2021):

- Pfizer BioNTech – **425,493** people
- AstraZeneca – **58,591** people
- Sinopharm – **253,253** people
- Sinovac – **79,100** people

Number of Vaccinated Persons by Type of COVID-19 Vaccine (First and Second doses), Georgia, 15.03.2021 - 1.10.2021



VACCINATION MARATHON "In SERVICE TO GEORGIA - WE GET VACCINATED FOR THE EACH OTHER SAKE "

- ➡ Under the initiative of the National Center for Disease Control and Public Health and the Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs successfully launched a vaccination marathon across Georgia on October 18 with the main message – the vaccination is the right choice for saving lives of our children, parents, friends and relatives. The campaign was implemented countrywide in about 50 villages by the end of October and around 150,000 people had access to reliable and qualified information from leading specialists in the field, and if desired, they had the opportunity to get vaccinated on the spot.
- ➡ Rural doctors, representatives of the Ministry of Health, the National Center for Disease Control and Municipal Centers for Public Health, rural trustees, local government representatives, NGOs and other stakeholders took part in the marathon. Educational materials were provided to the population during the information meetings. Hundreds of people joined the marathon.
- ➡ The project is supported by the World Health Organization, the EU and UN Delegation to Georgia, the United Nations Development Program (UNDP).

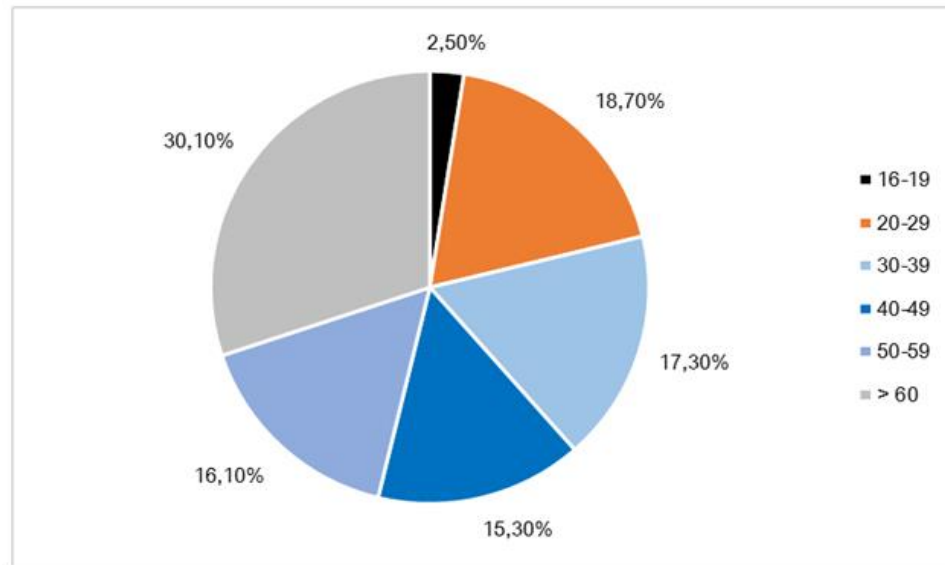
ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI) AND MONITORING

- ➡ As of October 1, 2021, **in total 1,802,612 vaccine shots** were administered in Georgia and the System for Surveillance of Adverse Events Following Immunization (AEFI) registered 1,699 (0, 1%) AEFIs.

Distribution of Adverse Events Following Immunization by the Vaccines Used, Georgia, 15.03.2021 - 1.10.2021

Vaccine	I dose	II dose	Total	Total doses administered
Pfizer BioNTech	555	337	892	I dose 540 057, II dose 432 169
AstraZeneca	310	53	363	I dose 61 452, II dose 58 768
Sinopharm	233	76	309	I dose 298 516, II dose 254 851
Sinovac	104	31	135	I dose 88 333, II dose 79 533

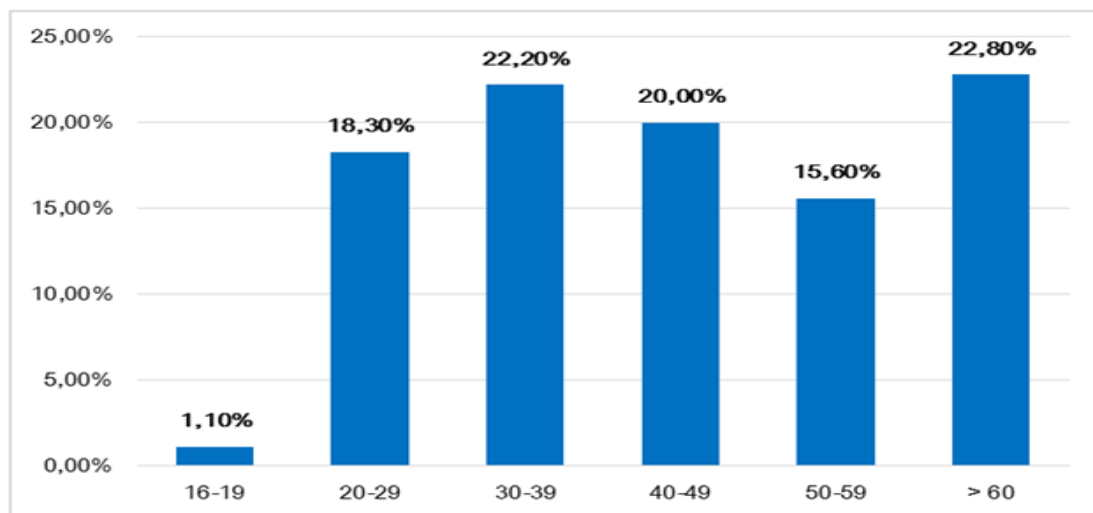
% Distribution of Adverse Events Following Immunization by Age Groups, Georgia, 15.03.2021 - 1.10.2021



Out of 1,699 cases of AEFI, 180 were considered serious:

- Hospitalized - 156 patients (44 - inpatient, 112 - outpatient)
- Lethal outcome - 6 (in the hospital - 5, at home - 1)
- Severe AEFI share - 0.01%

Percentage Distribution of Adverse Events Following Immunization by Age Groups, Georgia, 15.03.2021 - 1.10.2021



**Indications for Mild and Severe Events Following Immunization by Vaccine Type per 10,000 of Doses Used,
Georgia, 15.03.2021 - 1.10.2021**

Vaccine	Rate of Mild AEFIs per 10,000 of Doses	Rate of Severe AEFIs per 10,000 of Doses	A Total of Mild and Severe AEFIs per 10,000 of Doses
Pfizer BioNTech	13.6	0.4	14.0
AstraZeneca	46.1	3.1	49.2
Sinopharm	8.0	1.3	9.3
Sinovac	12.4	2.0	14.4

The National Committee of Immunization Safety Experts reviewed **102** cases of adverse events following immunization:

- Compatible with the causality link to immunization - 60
- Incompatible - 29
- Uncertain - 12

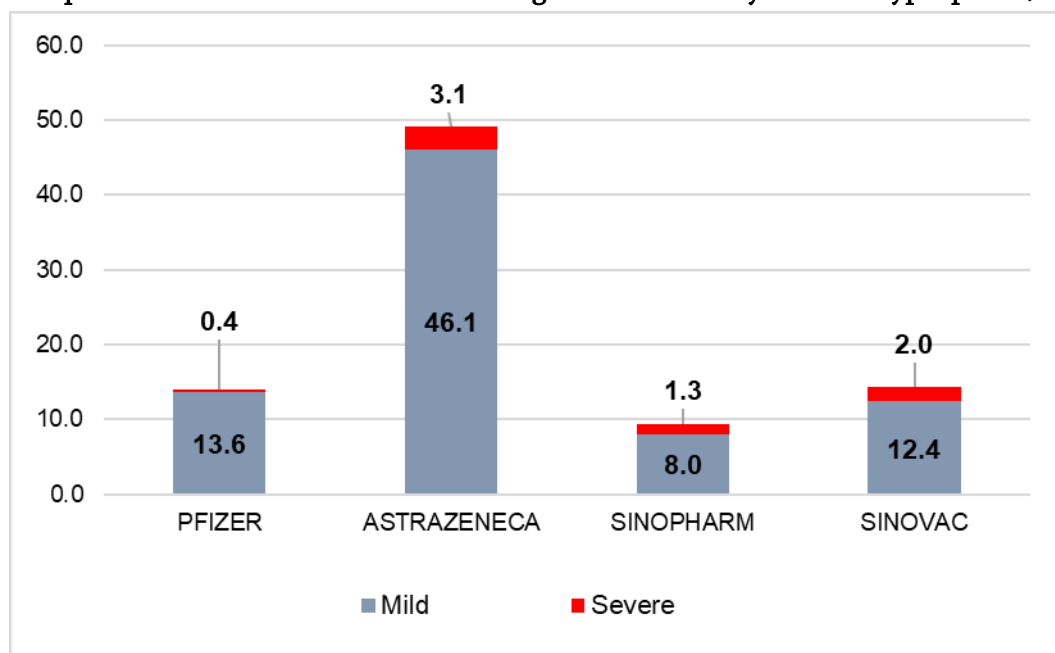
5 out of 6 lethal cases were incompatible with the causal link with immunization. The review of 1 case was suspended until the submission of additional documentation to the committee.

The Most Commonly Reported Adverse Events Following Immunization by Vaccines

Adverse Events Following Immunization	Pfizer BioNTech	AstraZeneca	Sinopharm	Sinovac	Total
Fever ≥ 38	266	151	38	18	473
Temperature rise <38	225	65	50	20	360
Lymphadenopathy	33	2	2	0	37
Allergic reactions (angioedema, rash)	88	34	66	25	213
Probable anaphylaxis *	1	3	4	1	9
Arthralgia	155	60	33	11	259
Myalgia	89	52	25	10	176
Arterial hypertension	44	30	36	10	120
Fever - like event	47	63	16	9	135
Fatigue	207	64	66	35	372
Pain and swelling at the injection area	182	80	20	12	294
Headache	165	69	52	30	316
Syncope and collapse	14	7	8	9	38
Other (exacerbation of the disease, dizziness, nausea, vomiting, diarrhea, arterial hypotension, tachycardia, numbness, confirmed COVID, etc.)					748

** The number of cases of anaphylaxis is probable, since tryptase analysis has not been performed in some cases*

The Most Frequent Mild and Severe Events Following Immunization by Vaccine Types per 10,000 of Doses



The most commonly reported post - immunization adverse events according to vaccines are the rate of 10,000 doses

Adverse Events Following Immunization	Pfizer BioNTech	AstraZeneca	Sinopharm	Sinovac	Total
Fever ≥ 38	2.7	12.6	0.7	1.1	2.6
Temperature rise <38	2.3	5.4	0.9	1.2	2
Lymphadenopathy	0.3	0.2	0.04	0	0.2
Allergic reactions (angioedema, rash, etc.)	0.9	2.8	1.2	1.5	1.2
Probable anaphylaxis *	0.01	0.2	0.1	0.1	0.04
Arthralgia	1.6	5.0	0.6	0.7	1.4
Myalgia	0.9	4.3	0.5	0.6	1
Arterial hypertension	0.5	2.5	0.7	0.6	0.7
Fever - like event	0.5	5.2	0.3	0.5	0.7
General weakness	2.1	5.3	1.2	2.1	2.1
Pain and swelling at the injection area	1.9	6.7	0.4	0.7	1.6
Headache	1.7	5.7	0.9	1.8	1.7
Syncope and collapse	0.1	0.6	0.1	0.5	0.2
Other (exacerbation of the disease, dizziness, nausea, vomiting, diarrhea, arterial hypotension, tachycardia, numbness, confirmed COVID, etc.)					4.1

Distribution of adverse events following immunization by vaccine in some European countries

	Pfizer	AstraZeneca	Moderna	Total Administered Doses	Share of Adverse Events Following Immunization (%)	Dates
England	90,842	193,105	13,536	78,168,962	0.38	09.12.2020 - 22.09.2021
Wales	5,933	10,299	455	4,610,095	0.36	09.12.2020 - 22.09.2021
Northern Ireland	2,271	2,831	49	2,510,683	0.2	09.12.2020 - 22.09.2021
Scotland	9,169	16,445	1,675	7,984,538	0.34	09.12.2020 - 22.09.2021
Germany	41,534	40,368	24,457	101,877,124	0.1	27.12.2020 - 31.08.2021
Belgium	12,361	8,454	3,243	7,896,683	0.3	25.03.2021 - 26.07.2021

Sources: <https://www.gov.uk/government/publications/coronavirus-covid-19-vaccine-adverse-reactions/coronavirus-vaccine-summary-of-yellow-card-reporting>
https://www.pei.de/SharedDocs/Downloads/DE/newsroom/dossiers/sicherheitsberichte/sicherheitsbericht-27-12-bis-31-08-21.pdf?__blob=publicationFile&v=6

→ The Working Group verifies the completeness and accuracy of AEFI forms (dosage, brand name, expiration date, etc.), transmits information to the National Regulatory Agency, which is then responsible for delivering AEFI cases to the WHO / Uppsala Monitoring Center. AEFI's are also communicated daily to 3 vaccine manufacturers - to Sinopharm in the form of an English version of Form 58, to Pfizer - BioNTech via the website (www.cvdvaccine.com) and to Sinovac via a special form provided by it.

EVALUATION OF THE COVID - 19 VACCINE EFFECTIVENESS

In order to assess the vaccination process against COVID - 19 in the country and to evaluate the achieved results in the light of international experience, the cases of post - vaccination infections are being monitored and the main characteristics are being evaluated. The assessment covered the period from March 15 to September 30 2021³.

Characteristics of Covid vaccines were selected for evaluation:

- Effectiveness of protection against infection
- Effectiveness of protection against hospitalization
- Effectiveness of protection against the need of intensive and critical care
- The effectiveness of protection against a lethal outcome

Any person ≥ 18 years of age with both doses of COVID - 19 vaccine, for whom SARS - CoV 2 virus infection is confirmed by the laboratory ≥ 14 days after administration of the second dose, is considered as the Infected Vaccinated Case.

Data sources:

- Immunization module
- Laboratory module
- Vital registry
- Hospitalization module
- Data from the National Health Agency

As of October 1, 814,771 people were fully vaccinated in Georgia, among whom, 11,403 laboratory - confirmed cases of SARS-CoV-2 were identified. During the above - mentioned period, 279,987 laboratory - confirmed infections were registered in the ≥ 18 - year - old population.

Conclusion (March 15 - September 30, 2021)

Effectiveness of protection against infection: The probability of infection among fully vaccinated individuals is 9.44 times lower (95% CI 9.26 - 9.62; $P < 0.0001$) compared to non - vaccinated individuals.

- In fully vaccinated individuals, the effectiveness of protection against COVID-19 vaccine is **89.41%** (95% CI 89.21 - 89.61, $P < 0.0001$).

Effectiveness of protection against Hospitalization: The overall effectiveness of protection against hospitalization among fully vaccinated persons is 93.35% (95% CI 92.99 - 93.70, $P < 0.0001$), including:

³ The methodology provided by CDC was used in the evaluation <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covid-net/purpose-methods.html>

- Vaccination in the ≥ 60 age group protects by 92.29% from hospitalization (95% CI 91.23 - 92.82; $P < 0.0001$).
- In the age group from 18 to 59 years, the effectiveness of protection against hospitalization is 94.64% (95% CI 94.18 - 95.06; $P < 0.0001$).



Effectiveness of protection against the need for intensive and critical care (getting into the ICU): In the intensive care unit, treatment was required for 72 fully vaccinated cases (of which only 4 were < 60 years old).

Protection against the need for intensive and critical care in case of full vaccination is 97.81% (95% CI 97.24 - 98.27, $P < 0.0001$).

- In the age group of ≥ 60 , the need for intensive treatment of fully vaccinated people is lower by 97.74% than in case of non - vaccinated persons (95% CI 97.17 - 98.28, $P < 0.0001$).
- In the 18 - 59 age group, this figure equals 99.2% (95% CI 97.86 - 99.7, $P < 0.0001$).

Effectiveness of protection against lethal outcome: During the period of March 15, 2021 - September 30, 2021, **5,469** lethal cases were registered among > 18 -year-old population since commencement of vaccination. **98.96%** (5,412) of these cases were not vaccinated, while **1.04 %** (57) - vaccinated.

- In the 18 - 59-year-old group, the protection against lethal outcome among the fully vaccinated population is 99.34% (95% CI 97.35 - 99.83 $P < 0.0001$).
- In the ≥ 60 -year-old group, full vaccination provides 97.24% protection against lethal outcome (95% CI 96.40 - 97.88 $P < 0.0001$).



A detailed analysis of the COVID - 19 mortality characteristics and risks in fully vaccinated individuals, by vaccines, comorbidities, hospital stay, and other clinical or socio - demographic parameters will be presented in the annual summarizing analysis.

Evaluation of the effectiveness of a particular vaccine type used in the country is a long and specific process. In addition, there is a proven positive effect of using vaccines against all selected characteristics.

COMMUNICATION CAMPAIGN OF THE NATIONAL CENTER FOR DISEASE CONTROL AND PUBLIC HEALTH ON COVID - 19

Information has been continuously provided to the media and the public since January 2020. Risk communication started. Video lectures for medical staff were prepared by the Center. Information and educational materials were developed, including for ethnic minorities living in Georgia. The social media campaign has been activated. "Stay at Home" campaign was promoted on the social network with the support of celebrities. At the beginning of the pandemic, informational advertisements were prepared and placed on street monitors, informational electronic banners were placed on various Internet pages and video portals. International, evidence - based educational materials developed by CDC, WHO etc. are being translated and adapted, visual materials, educational posters, infographics, videos are being produced and distributed on social media. Online briefings for the media and the public are held from time to time on the official Facebook page of the Center. Information is provided on a permanent basis through the Center's Hotline 116 001.

A Communication Action Plan was prepared with the involvement of experts to support the COVID - 19 vaccination process. Informational and educational materials were published and distributed in the regions. At this stage, the Center has conducted more than 20 online webinars for media representatives, including regional media. Up to 20 live sessions were organized on the Center's Facebook page with the participation of experts about vaccination related issues; Around 100 online meetings were held for employees of various organizations. The outreach campaign through the Facebook page of the Center is running continuously: <https://www.facebook.com/ncdcgeorgia>.

With the financial support of WHO and the European Union, a COVID - 19 information campaign is underway, which includes social media activities based on the concept of social media, video development and adaptation; cycle of programs in regional media; online media webinars. The website www.ncdc.vaccines.ge has been designed, where citizens can get information about evidence - based vaccination.

Informational - educational videos were prepared with the support of WHO:

- Registration Instruction for Vaccination against COVID - 19
<https://www.youtube.com/watch?v=VlI2WvBDZQU>
- Which way do you take for COVID - 19 vaccination
<https://www.youtube.com/watch?v=WQcX3l2Uwe>
- What is the path of COVID - 19 vaccines from creation to authorization
<https://www.youtube.com/watch?v=BhoMLBnZYnk>
- What does emergency authorization mean
<https://www.youtube.com/watch?v=4PTOL8zR0sU>
- Vaccination brings us closer <https://www.youtube.com/watch?v=S8EXwKSx0Qc>
- Whether necessary or not to follow preventive measures after vaccination
https://www.youtube.com/watch?v=7n5mEn2ijgo&feature=emb_imp_woyt

- Healthcare workers, specialists about vaccination
- <https://www.youtube.com/watch?v=pYuQ5uxI0gk>
- <https://www.youtube.com/watch?v=Q515X0Dhh98&t=1s>
- https://www.youtube.com/watch?time_continue=2&v=r6Lxm6GOAJA&feature=emb_logo
- https://www.youtube.com/watch?v=gxidpDB1sc0&feature=emb_imp_woyt
- https://www.youtube.com/watch?v=Hnxkb76LhPY&feature=emb_imp_woyt
- <https://www.youtube.com/watch?v=4Wu62uO4yCg>



Informational and educational videos were translated into Armenian and Azerbaijani languages with the support of donor organizations:

- How the vaccine (WHO) works - in Azerbaijani language:
<https://www.ncdc.ge/#/pages/video/71a21b42-5001-48e8-b3fe-026c6546f792>
 - Road to COVID - 19 Vaccine - WHO. In Armenian language:
<https://www.ncdc.ge/#/pages/video/4470d97c-f8f9-47a7-bc3b-8bf6a91cd359>
- About registration for vaccination:
- <https://vaccines.ncdc.ge/video/#registration> - in Armenian
 - <https://vaccines.ncdc.ge/video/#registration> - in Azerbaijani

Informational and educational materials were prepared in Armenian

<https://ncdc.ge/#/pages/content/ccaa3aff-8d10-4b7b-90d2-e0378b99f857> and

<https://ncdc.ge/#/pages/content/117316d641a9-a32e-c45696356e47> in Azerbaijani languages

A training course was prepared for introduction of vaccination, consisting of 3 modules, including interpersonal and crisis communication module.

Within the framework of the state program "Health Promotion" the "Health Promotion Education Campaign in the Context of COVID-19" is underway on the Facebook page of the Center:
<https://www.facebook.com/HealthPromotionGeorgia/>.

ბაზისურად რისკების შესახებ

დაინფიცირებული ადამიანები უფრო ადვილად ატარებენ COVID-19-ის ინფექციას, ვიდრე სხვები. მაგრამ ყველა ადამიანი შეიძლება დაინფიცირდეს.

კითხვა

რატომ ავირცა? ხომ არ სუბოპტიმალური იმუნიტეტი გააძლიერებდა გავრცელებას?

პასუხი

აქტიური შემთხვევების გამოძიების მიზნით, ინფორმაცია გვაქვს, რომ COVID-19-ის ინფექციის შემთხვევები უფრო ხშირად აღინიშნება ადამიანებში, რომლებსაც უფრო მაღალი რისკი აქვთ დაინფიცირდეს.

დასაწყისი სტადია

დაინფიცირებული ადამიანები უფრო ადვილად ატარებენ COVID-19-ის ინფექციას, ვიდრე სხვები. მაგრამ ყველა ადამიანი შეიძლება დაინფიცირდეს.

პასუხი

აქტიური შემთხვევების გამოძიების მიზნით, ინფორმაცია გვაქვს, რომ COVID-19-ის ინფექციის შემთხვევები უფრო ხშირად აღინიშნება ადამიანებში, რომლებსაც უფრო მაღალი რისკი აქვთ დაინფიცირდეს.

დასაწყისი სტადია

დაინფიცირებული ადამიანები უფრო ადვილად ატარებენ COVID-19-ის ინფექციას, ვიდრე სხვები. მაგრამ ყველა ადამიანი შეიძლება დაინფიცირდეს.

პასუხი

აქტიური შემთხვევების გამოძიების მიზნით, ინფორმაცია გვაქვს, რომ COVID-19-ის ინფექციის შემთხვევები უფრო ხშირად აღინიშნება ადამიანებში, რომლებსაც უფრო მაღალი რისკი აქვთ დაინფიცირდეს.

Meetings are held with representatives of the Christian Orthodox Church and the other confessions and religious leaders in the areas populated by ethnic minorities; also, with representatives of the non - governmental and the civil sectors working with the ethnic minority community, representatives of educational institutions, parents, representatives of schools, pre - school institutions in the regions. Programs are being broadcasted in the regional media. The concept of an information campaign for the introduction of the COVID - 19 vaccine was created with the support of Zink Network; Website www.covax.ge was designed; an information campaign is in progress through social media.

HOTLINE OF THE NATIONAL CENTER FOR DISEASE CONTROL AND PUBLIC HEALTH - 116 001

➡ Calls related to COVID - 19 released on the Center hotline started on January 23, 2020. As of October 1, 2021, the hotline operator function was being performed by 80 people at different times (with a three - group shift schedule).

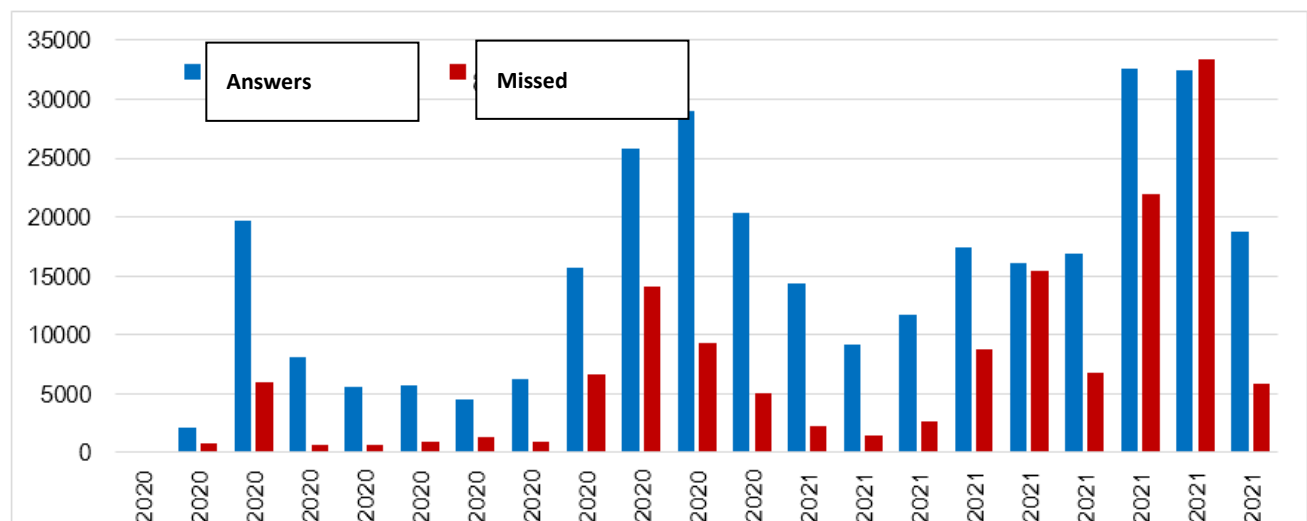
➡ Hotline operation hours:

- Working days: 09:00 - 23:00
- Holidays: 09:00 - 23:00

Total number of incoming hotline calls – 457,666:

- Answers: 312,610 calls (68%)
- Missed: 145,056 calls (32%)

Total Number of Incoming Calls to the Hotline of the National Center for Disease Control and Public Health (23.01.2020 – 30.09.2021)



INTERNATIONAL PARTNERSHIP

During the COVID-19 pandemic period, the National Center for Disease Control and Public Health actively communicated with the public and various target groups, as well as with international partners. Collaborating with international partners has played an important role in strengthening the Centre's capacity to fight COVID-19 infection, both technically and financially. This cooperation aims to obtain the most transparent, timely information from the Center's key strategic partners, as well as to share recommendations based on the best practices to the target audience. Intensive meetings with diplomatic corps and foreign officials took place during this period.



The COVAX Facility was established in 2020 to increase the global equality of vaccines and improve the availability and speed of supply for countries. It is a global collaboration that facilitates the development, production, and equitable distribution of diagnostic and therapeutic agents and vaccines. The government of Georgia has signed an agreement with the fund, based on which the country would receive 1,484,400 doses of the vaccine against COVID-19. So far, 160,020 doses of AstraZeneca and Pfizer vaccines have been received.


During the period of July - September 2021, Georgia received a certain supply of vaccines from international partners:

- 100,000 doses of Sinovak (donated by the Chinese government)
- 5,000 doses of AstraZeneca (donated by Austria)
- 15,000 doses of AstraZeneca (donated by Lithuania)
- 500,000 doses of Pfizer (Donated by the United States Government)
- 100,000 doses of Sinopharm (Red Cross Society donation)
- 83 070 doses of Pfizer (Donated by the Government of Latvia)

Financial support was provided by the EU, WHO, US CDC to strengthen and facilitate the COVID - 19 immunization process (including the Medical Human Resources Training Component).

US European Command Humanitarian Assistance Program procured equipment required for vaccination for the Georgian party to fight COVID, part of which has already been received by Georgia:

- 1,250,000 units of 0.5 ml syringes for injection
- 1 unit of vaccine carrier (refrigerator machine)
- 1 unit of minivan
- 100 units of vaccine transport cold box (different sizes)
- 130 units of temperature monitoring devices (Data Logger)
- 22 000 Safe Waste Container
- 3 units of "80" Degree Freezer Refrigerator - Thermo Fisher Scientific TSX60086D for Vaccine Storage

- 
- Data on daily confirmed cases are sent to the World Health Organization on a daily basis
 - The European Center for Disease Control and Prevention (ECDC) platform at TESSy uploads weekly case data (by age group and gender) and numbers of vaccinated persons by vaccine types.


DATA SOURCES

The main source of information about COVID - 19 testing is the electronic COVID - 19 test recording module Covid Lab (<http://labcov.moh.gov.ge/Hmis.LabCov.Web/>), which collects data from an outpatient and inpatient service provider entities, municipal /city public health services; the NCDC; Lugar Research Center and laboratories in or outside medical facilities. The module records information about the patient's medical history, smear, rapid simple test or laboratory tests and their results (positive, negative and suspicious cases). Data is uploaded within 24 hours following the event.


The COVID - 19 Infectious Diseases Information Source also includes the Electronic Integrated Disease Surveillance System, which aims to strengthen and support the monitoring and prevention of human and animal diseases within the framework of the Unified Health Concept, as well as the International Health Regulations (IHR 2005). EIDSS handles disease - specific information, samples, and laboratory data and aggregate data.

An electronic immunization management module is available to manage the immunization process, which is posted on the portal of the National Center for Disease Control and Public Health www.portal.ncdc.ge

COVID-19 vaccines are also recorded in the module along with the other vaccines. The system allows the printing of the vaccine form for the beneficiary.



COVID 19 ბარათი/ COVID 19 FORM




მონაცემები განახლებულია / Data Updated 15.07.2021 20:50

პირადი ნომერი Personal Number	გვარი, სახელი Name, Surname	დაბადების თარიღი Date of Birth
01010...

COVID 19 ვაქცინაცია COVID 19 Vaccination	ვაქცინის მწარმოებელი Vaccine Manufacturer	სეროული ნომერი Serial Number	თარიღი Date	სამედიცინო დაწესებულება Medical institution
კოვიდი 19 დოზა 1/ Covid 19 Dose 1	„Pfizer Manufacturing Partner“	ER7449	06.04.2021	შპს კეცისის მედიცინის ცენტრი
კოვიდი 19 დოზა 2/ Covid 19 Dose 2	„Pfizer Manufacturing Partner“	ER7449	27.04.2021	შპს კეცისის მედიცინის ცენტრი

PCR ტესტის შედეგი PCR Test Result	თარიღი Date	ლაბორატორია Laboratory
neg	21.06.2021	შპს სამედიცინო ცენტრი ციტო

ბელმოწერილია ელექტრონულად
Signed Digitally


The main sources of information about hospitalized and deceased patients were:

- Ministry of IDPs from the Occupied Territories of Georgia, Labor, Health and Social Affairs
- Vital registry
- Electronic Module for Registration of Patients discharged from inpatient facility - Form IV - 066 (Order N01 - 43 / N of the Minister of IDPs from the Occupied Territories, Labor, Health and Social Affairs of April 16, 2020)
- Database of the National Health Agency



Various Internet resources have also been used in the preparation of the document.

DEFINITIONS

Novel Coronavirus (SARS-CoV-2) - the third zoonotic coronavirus outbreak of the 21st century, when the infection was transmitted from person to person.

Pandemic - An epidemic characterized by the spread of an infectious disease in a wider region or around the world.

COVID-19 National Vaccine Deployment Plan - a plan developed in Georgia by the Interagency Coordination Commission on the basis of a methodological document proposed by the WHO for the Implementation of COVID - 19 Vaccination. It is a guide for conducting vaccination and covers all necessary actions, responsible parties and financial needs.

PCR testing - Real time reverse transcription polymerase chain reaction / RT – PCR.

Antigen - based Testing Ag - RDTs - Rapid chromatographic immunoassay that qualitatively determines the presence of new coronavirus antigen in a nasal swab sample.

Rapid antibody - based testing - detects presence of IgG; IgM and IgA antibodies in the blood, which are produced as an immune response in case of infection with the virus and are detected in the active phase of the disease and / or after, indicating the presence of immunity to the virus.

Cumulative incidence - an indicator that determines the total number of new cases of infection in a population at risk in a given period of time.

COVID-19 Effective Reproduction Index (Rt) - An indicator of the infection transmission in real time, used to assess whether an epidemic is increasing, decreasing or remains stable.

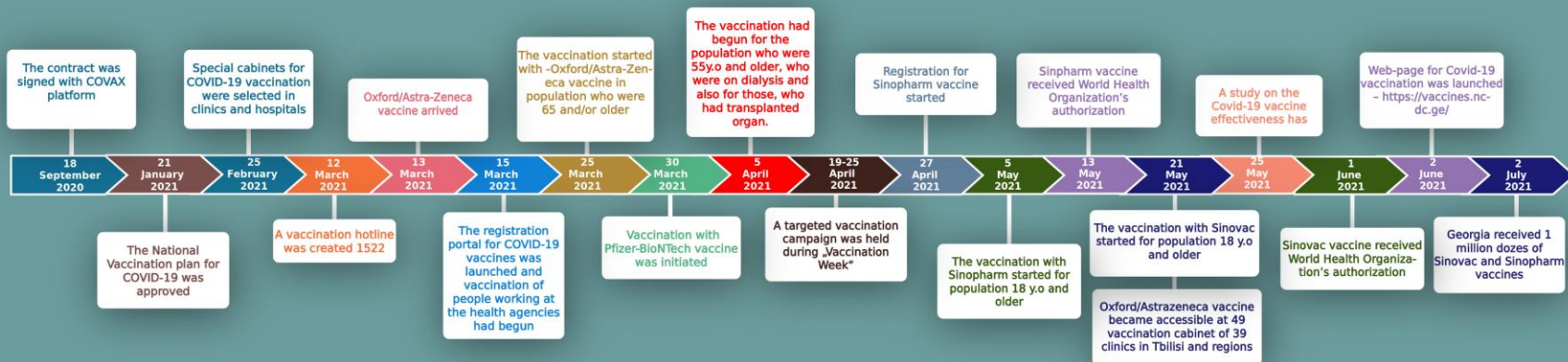
Mortality rate from COVID-19 (per 100,000 or 1 million of population) - The number of deaths from COVID-19 for 100,000 or 1 million of population.

Case Fatality Rate of COVID-19 (%) - share of COVID-19 induced deaths in all confirmed cases.

Excess mortality due to all causes - an indicator of whether the rapid spread of a particular disease and related deaths have affected the overall mortality rate. It is defined as a mortality rate that exceeds the expected rate.

AEFI - adverse event following immunization.

COVID-19 Vaccination process in Georgia



Pfizer-BioNTech
Oxford/AstraZeneca
Sinopharm SARS-CoV-2 Vaccine (Vero Cell)
Sinovac. CoronaVac -Vero Cell, Inactivated

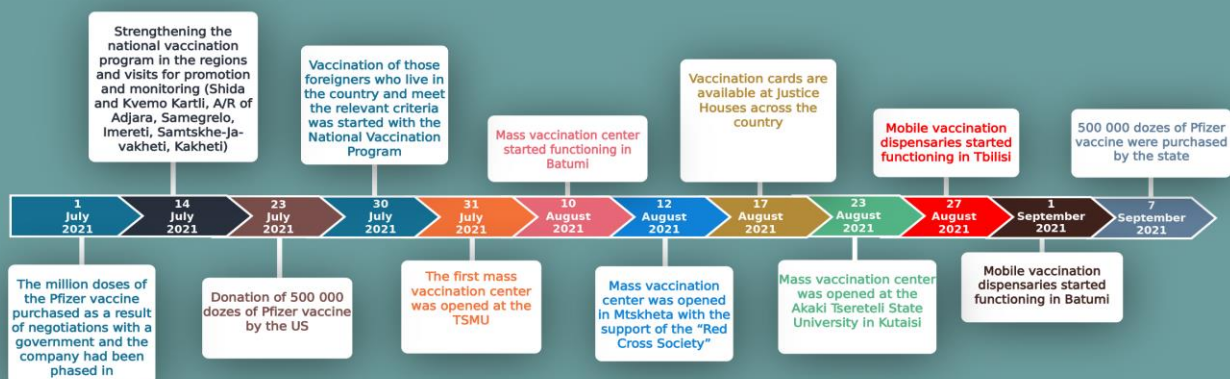
Get vaccinated for each other



დაავადებათა კონტროლისა და
საზოგადოებრივი ჯანმრთელობის
ეროვნული ცენტრი

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CONTROL AND PUBLIC HEALTH

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GEORGIAN NATIONAL CENTER FOR DISEASE
CONTROL AND PUBLIC HEALTH

Actions Taken in Georgia in Terms of Fighting the Novel Coronavirus Infection COVID-19 After the First Confirmed Case

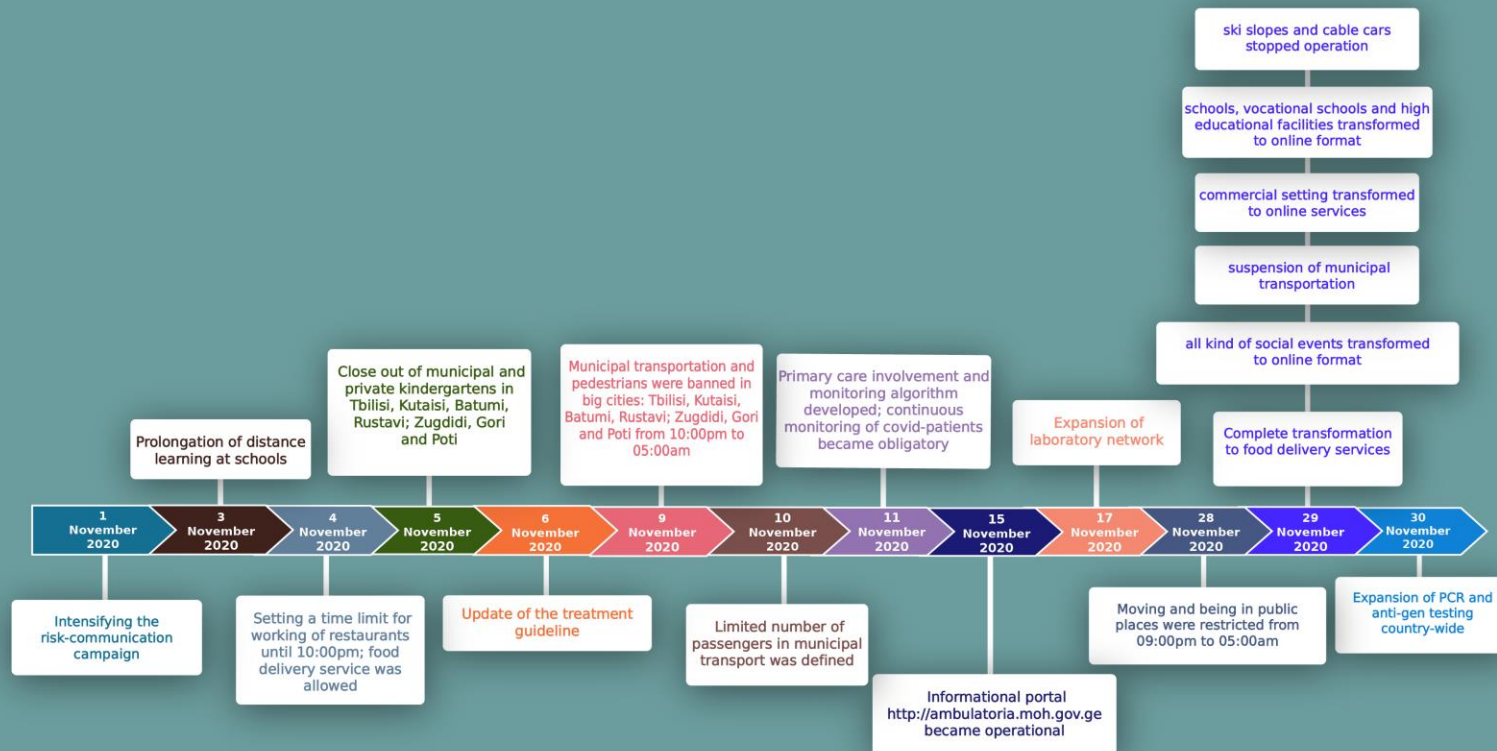
October 2020



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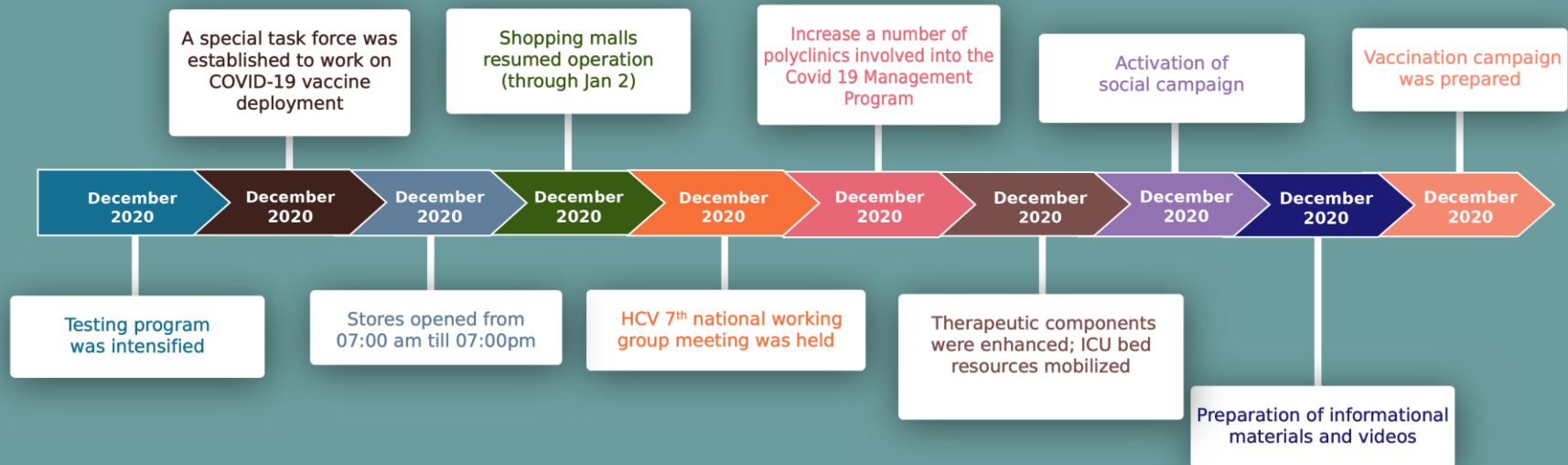
November 2020



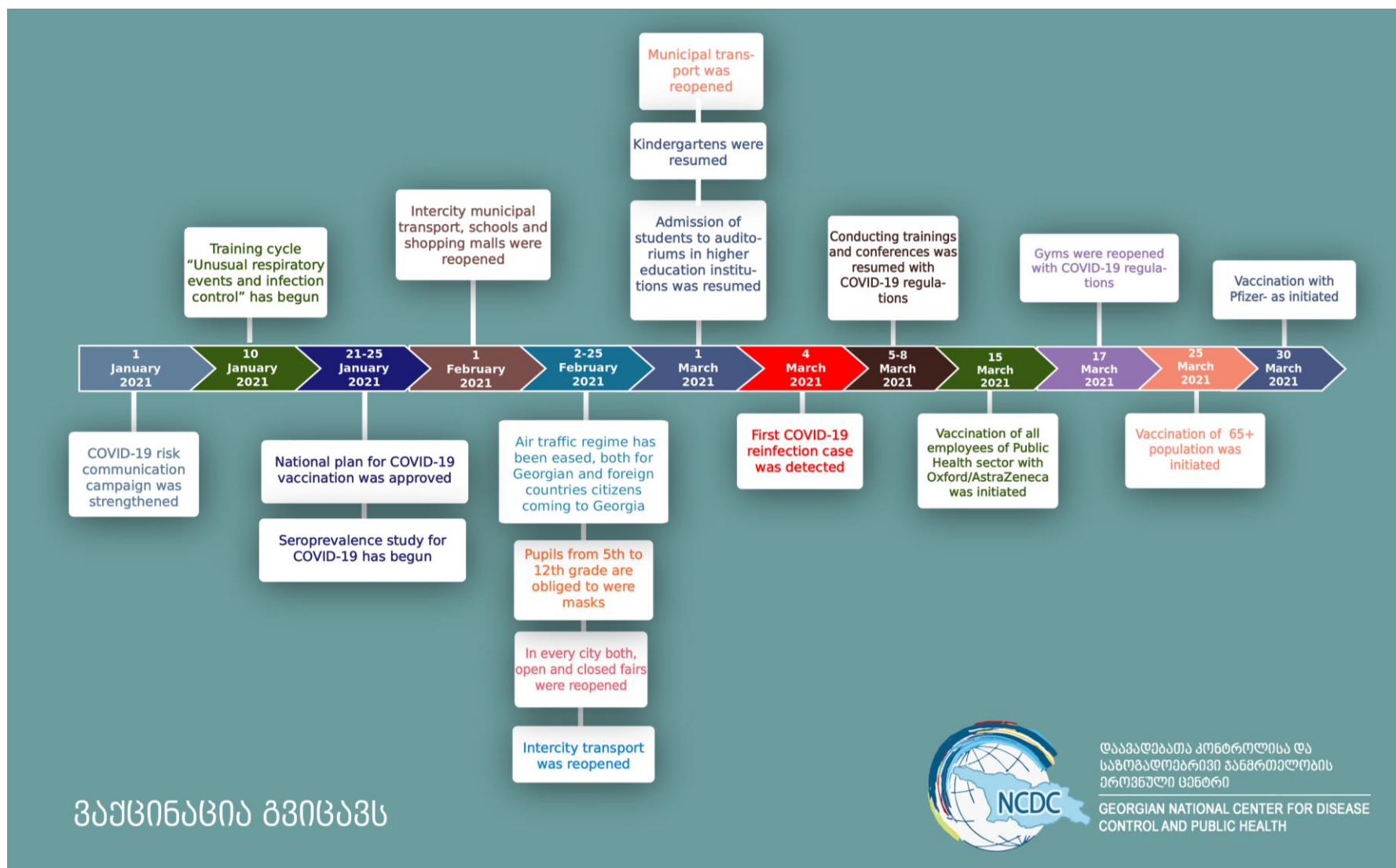
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GEORGIAN NATIONAL CENTER FOR DISEASE CONTROL AND PUBLIC HEALTH

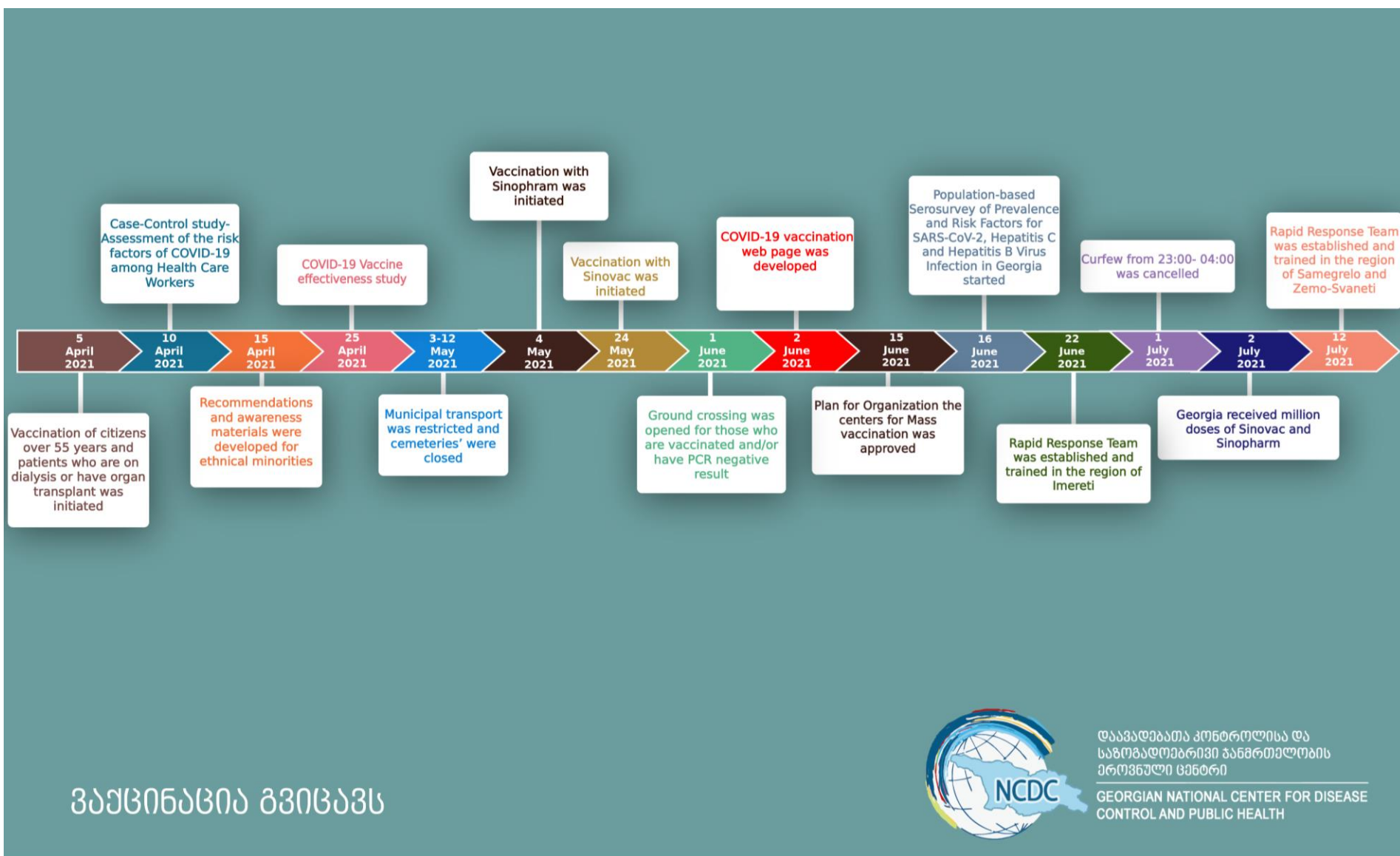
Actions Taken in Georgia in Terms of Fighting the Novel Coronavirus Infection COVID-19 After the First Confirmed Case

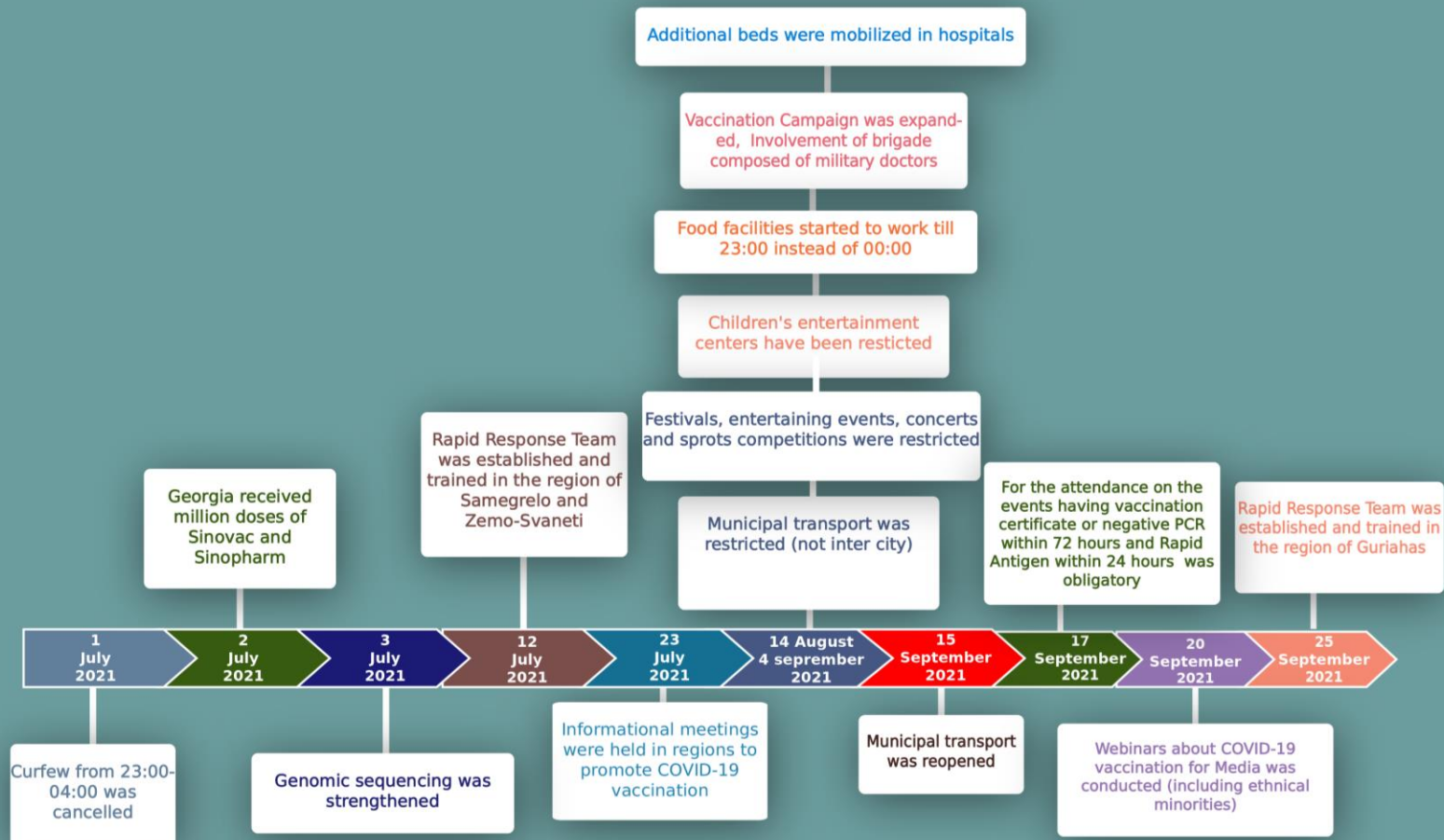
December 2020



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ეროვნული ცენტრი
GEORGIAN NATIONAL CENTER FOR DISEASE
CONTROL AND PUBLIC HEALTH







National Center for Disease Control and Public Health

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