

Indicators Program

Covid-19 in Iowa: February Update on Hospitalizations, Age, and Cases

Figure 1. Reported Daily Covid-19 Patients Hospitalized, in ICU, and on Ventilators, Iowa, 2020-2021

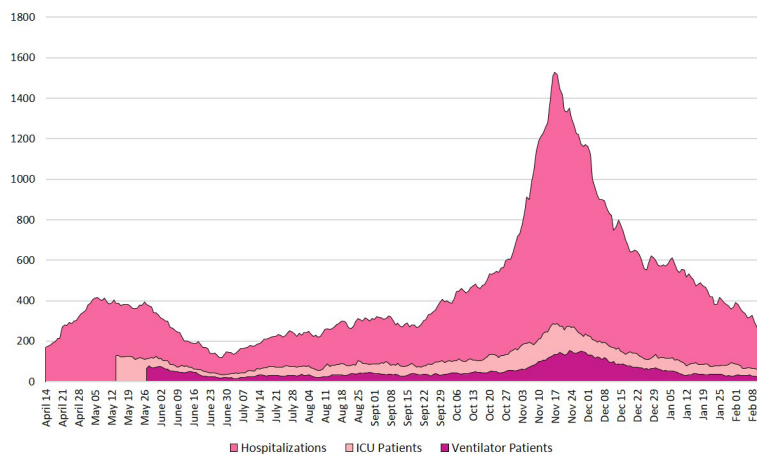


Figure 2. Weekly Average Number of Hospitalized Covid-19 Patients and Weekly Additional Covid-19 Cases Age 61-80 and Age 81 or Older, Iowa, 2020-2021

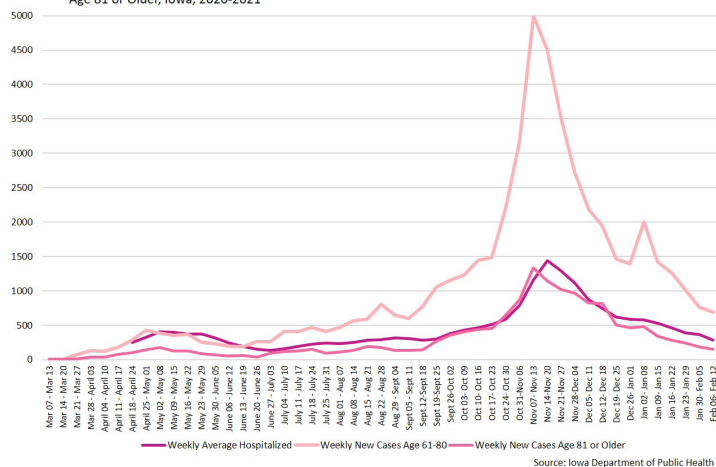
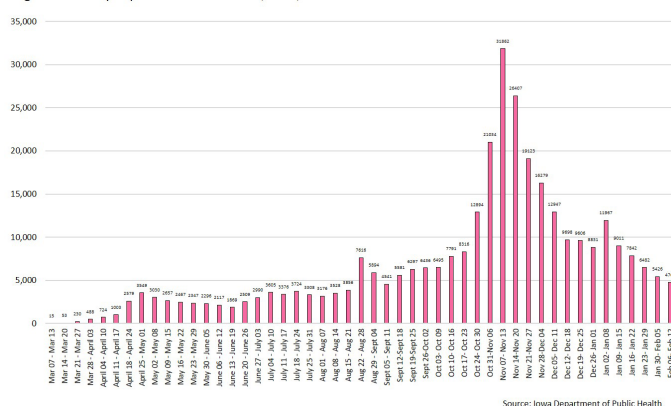


Figure 3. Weekly Reported Covid-19 Cases, Iowa, 2020-2021

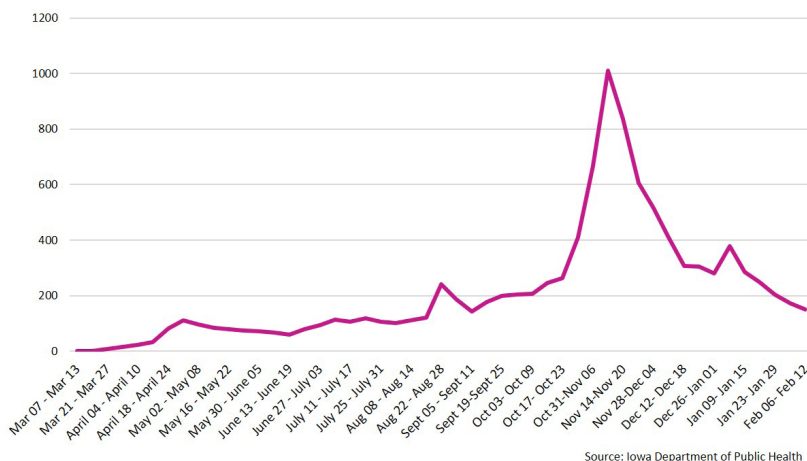


Covid-19¹ cases have been reported in Iowa since March 7, 2020. Although some persons with Covid-19 may have few, if any, symptoms of the virus, for others the virus can cause serious health problems and can lead to death. Indicators of the severity of the disease for some is that they have been hospitalized for treatment, have needed additional care in an ICU, or have major breathing difficulties and need to be on a ventilator machine as well. In April 2020, the Iowa Department of Public Health (IDPH) began reporting the number of Covid-19 patients that were hospitalized² as well as those that were in an intensive care unit (ICU) or on a ventilator breathing machine, although there were different starting dates for which reporting of each type of patient began. The source of the information reviewed here is IDPH.³

In 2020, Iowa had reached a peak of more than 1,500 daily hospitalized Covid-19 patients on November 16th - 18th (Figure 1). At that time, more than 280 Covid-19 patients were in ICUs in Iowa and within a few days ventilator patients reached 150. During those days and weeks, some hospitals and Regional Medical Coordination areas (RMCC)³ were nearing their capacity for these most severely ill patients and there were concerns that health systems statewide would not be able to manage additional cases and surges in the need for ICU beds and ventilators. On November 17th, Iowa's Governor Reynolds issued a proclamation requiring additional mask and social distancing measures for the state.⁴

Fortunately for Iowans, since November, 2020 the state has experienced a distinct and significant decline in Covid-19 patients who are hospitalized, in an Intensive Care Unit (ICU), or who are on ventilators (Figure 1, Table 1). After the peak November days, the number hospitalized declined to approximately 900 daily by early December and then to 600 daily by early January. Daily totals have been below 400 since late January with a weekly⁵ average of hospitalized Covid-19 patients of 286 for the week ending February 12th, the last week reported here (Figure 2, Table 1). It is gratifying to know that hospitalizations have declined as it is the sickest Covid-19 patients who end up needing hospitalizations, ICUs, and ventilators.

Figure 4. Weekly Rate of Covid-19 Cases/100,000 Population, Iowa, 2020-2021



These declines in the need for hospitalizations in Iowa coincided with the significant decline in total new Covid-19 cases reported in the state along with decreases in the number of new cases for persons age 61-80 and persons age 81 and older (Figures 2, 3; Table 1). Iowa had nearly 32,000 total new cases reported during the week ending November 13th along with nearly 5,000 new cases among persons 61-80 and more than 1,300 cases age 81 or older. Those were the highest numbers of these cases in any week either before or since.

Hospitalization is more likely to occur among patients who are older or have pre-existing conditions.^{1,3} We could expect then, that the age of patients would be a factor in the number needing hospitalization. Although hospitalized patients at any given time can be from cases reported in any previous week, throughout these weeks and months, the average weekly number of hospitalized patients has tended to track most closely to the number of new cases of patients age 81 or older rather than with those age 61-80 (Figure 2, Table 1).

Most weeks since mid-November have shown new reported cases declining in total and across the age groups. The most recent numbers reported here for the week ending February 12th had 4,768 new total cases, 693 for those age 61-80, and 153 for persons age 81 and over. Cases had not ranged at these lower numbers since September (Figures 2, 3; Table 1).

It can be useful to compare the average weekly number of hospitalized patients with the new cases of that same week. During the early weeks of hospitalizations in May, the weekly average number of hospitalizations, as a percent of new cases, ranged from 13% to 16% (Table 1). In the recent weeks of 2021, however, hospitalization trends are much more moderate than those for May. The percentage of hospitalized relative to weekly new cases is staying at a much lower level ranging around 5% to 7% (Table 1).

As noted, some Covid-19 patients become quite ill. During the earliest weeks that ICU and ventilator patients were reported, approximately one-

third of those hospitalized were in ICU units. In recent weeks, the proportion of hospitalized who are in ICU units is lower now, hovering around 17-22%. In addition, the proportion of ICU patients on ventilators is somewhat lower now than when the ventilator reporting began in June (Table 1). In those earliest weeks, around two-thirds of Covid-19 ICU patients were on ventilators. So far in the weeks of 2021, fewer than half of ICU Covid patients were on ventilators (Table 1).

One measure used to examine trends is the rate of Covid-19 cases per 100,000 population. The number of Covid-19 cases for an area is divided by the population and then multiplied by 100,000 to give a rate per 100,000 population. Based on a population estimate for Iowa of 3,155,070,⁶ the weekly case rate/100,000 statewide for Iowa was 151 for the week ending February 12th (Figure 4, Table 1). This rate, although higher than many of the earliest weeks that Covid-19 had been active in Iowa, is the lowest rate since September and is significantly lower than the rates experienced during the weeks in Iowa when cases were increasing most rapidly. During the week with the highest number of new cases (November 13th) the statewide weekly rate for Covid-19 was 1,010 per 100,000 population. Iowa exceeded a rate of 600/100,000 for four consecutive weeks during that time (Figure 4, Table 1).

Iowa has now begun distributing the vaccines for Covid-19. It is hoped that the vaccines, along with continued safety and vigilance measures, will lead to continued declines in Covid-19 cases and hospitalizations in the state.

Covid-19 in Iowa: February Update on Hospitalizations, Age, and Cases

Table 1. Cumulative Covid-19 Cases and Deaths,¹ Weekly Cases by Age, Rate/100,000 Population,² Reported Deaths,³ and Average Weekly Number of Hospitalized,^{4,5} Intensive Care (ICU), and Ventilator Covid-19 Patients, Iowa, 2020-2021.

Week	Total Cumulative		Weekly					Average Weekly Number of Covid-19 Patients			Percentages		
	Cases	Deaths	Reported Cases	Cases	Cases	Reported Deaths	Rate/100,000 Population	Hospitalized	ICU	Ventilator	% of Weekly Cases Hospitalized	% of Hospitalized in ICU	% of ICU on Ventilators
				Age 61-80	Age 81 or older								
Mar 07 - Mar 13	15	0	15	12	0	0	1	*	*	*	*	*	*
Mar 14 - Mar 20	68	0	50	12	0	0	2	*	*	*	*	*	*
Mar 21 - Mar 27	298	3	230	74	10	3	7	*	*	*	*	*	*
Mar 28 - April 03	786	14	488	129	38	11	15	*	*	*	*	*	*
April 04 - April 10	1510	34	724	122	33	20	23	*	*	*	*	*	*
April 11 - April 17	2513	74	1003	183	75	40	32	*	*	*	*	*	*
April 18 - April 24	5092	112	2579	289	105	38	82	250	*	*	9.7	*	*
April 25 - May 01	8641	175	3549	428	146	63	112	321	*	*	9.0	*	*
May 02 - May 08	11671	252	3030	385	177	77	96	402	*	*	13.3	*	*
May 09 - May 15	14328	346	2657	351	127	94	84	394	*	*	14.8	*	*
May 16 - May 22	16795	444	2467	366	129	98	78	375	122	*	15.2	32.5	*
May 23 - May 29	19142	528	2347	255	88	84	74	377	115	*	16.1	30.5	*
May 30 - June 05	21438	598	2296	232	66	70	73	318	111	70	13.9	34.9	63.1
June 06 - June 12	23555	650	2117	194	50	52	67	243	80	49	11.5	32.9	61.3
June 13 - June 19	25424	681	1869	185	58	31	59	193	66	44	10.3	34.2	66.7
June 20 - June 26	27933	704	2509	260	38	23	80	150	45	25	6.0	30.0	55.6
June 27 - July 03	30923	721	2990	262	93	17	95	135	37	19	4.5	27.4	51.4
July 04 - July 10	34528	748	3605	409	116	27	114	162	47	21	4.5	29.0	44.7
July 11 - July 17	37904	787	3376	406	131	39	107	192	63	30	5.7	32.8	47.6
July 18 - July 24	41628	826	3724	467	149	39	118	223	73	30	6.0	32.7	41.1
July 25 - July 31	44936	872	3308	407	94	46	105	239	76	31	7.2	31.8	40.8
Aug 01 - Aug 07	48112	925	3176	470	112	53	101	236	71	30	7.4	30.1	42.3
Aug 08 - Aug 14	51640	973	3528	567	133	48	112	247	71	26	7.0	28.7	36.6
Aug 15 - Aug 21	55496	1030	3856	594	196	57	122	286	84	33	7.4	29.4	39.3
Aug 22 - Aug 28	63112	1108	7616	806	180	78	241	295	90	40	4.8	30.5	44.4
Aug 29 - Sept 04	69006	1160	5894	647	137	52	187	312	88	41	5.3	28.2	46.6
Sept 05 - Sept 11	73547	1216	4541	602	136	56	144	306	89	36	6.7	29.1	40.4
Sept 12 - Sept 18	79128	1264	5581	775	145	48	177	279	81	33	5.0	29.0	40.7
Sept 19 - Sept 25	85425	1311	6297	1062	265	47	200	299	78	35	4.7	26.1	44.9
Sept 26 - Oct 02	91861	1377	6436	1160	353	66	204	381	97	35	5.9	25.5	36.1
Oct 03 - Oct 09	98356	1454	6495	1234	405	77	206	428	104	41	6.6	24.3	39.4
Oct 10 - Oct 16	106147	1526	7791	1444	435	72	247	462	106	45	5.9	22.9	42.5
Oct 17 - Oct 23	114463	1629	8316	1486	452	103	264	514	125	48	6.2	24.3	38.4
Oct 24 - Oct 30	127357	1715	12894	2218	640	86	409	586	136	50	4.5	23.2	36.8
Oct 31 - Nov 06	148391	1829	21034	3160	877	114	667	793	177	62	3.8	22.3	35.0
Nov 07 - Nov 13	180253	1972	31862	4995	1329	143	1010	1150	212	95	3.6	18.4	44.8
Nov 14 - Nov 20	206660	2159	26407	4509	1144	187	837	1441	275	131	5.5	19.1	47.6
Nov 21 - Nov 27	225783	2360	19123	3501	1025	201	606	1292	263	143	6.8	20.4	54.4
Nov 28 - Dec 04	242062	2665	16279	2721	965	305	516	1108	222	136	6.8	20.0	61.3
Dec 05 - Dec 11	255009	3208	12947	2181	827	543	410	875	188	111	6.8	21.5	59.0
Dec 12 - Dec 18	264707	3451	9698	1857	639	243	307	745	153	86	6.8	20.5	56.2
Dec 19 - Dec 25	274313	3744	9606	1459	507	293	304	623	133	71	6.5	21.3	53.4
Dec 26 - Jan 01	283144	3946	8831	1395	465	202	280	588	119	64	6.7	20.2	53.8
Jan 02 - Jan 08	295111	4127	11967	2005	481	181	379	582	115	52	4.9	19.8	45.2
Jan 09 - Jan 15	304122	4321	9011	1421	337	194	286	531	91	35	5.9	17.1	38.5
Jan 16 - Jan 22	311964	4487	7842	1262	279	166	249	465	86	37	5.9	18.5	43.0
Jan 23 - Jan 29	318446	4651	6482	1017	245	164	205	391	80	34	6.0	20.5	42.5
Jan 30 - Feb 05	323872	5108	5426	762	183	457	172	363	81	31	6.7	22.3	38.3
Feb 06 - Feb 12	328640	5236	4768	693	153	128	151	286	64	31	6.0	22.4	48.4

¹Source: Iowa Department of Public Health, cases reported may be from any previous week; ²The rate/100,000 population is calculated by dividing the number of weekly cases by Iowa's population estimate for 2019 (3,155,070) and multiplying the result by 100,000; ³Deaths reported in any given week may have occurred in any previous week;

⁴Hospitalized patients at any given time may be from cases reported in any previous week; ⁵Hospitalized patients include non-Iowans; *not available

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This report, others in the series, along with other information related to Covid-19 in Iowa and nationwide is available at:
<https://indicators.extension.iastate.edu/Indicators/COVID19/>

Notes

¹Coronavirus disease 2019 (COVID-19) is defined as illness caused by a novel coronavirus now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV) <https://www.medscape.com/answers/2500114-197401/what-is-covid-19>. For symptoms see: <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html> For additional risks for older persons see: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html>

²At any given time, the number of persons hospitalized results from cases reported from any previous days and week. In addition, hospitalizations can last for longer periods of time, from several days to several weeks or more and can include non-Iowans.

³The source for the Covid-19 data reviewed here is the Iowa Department of Public Health (IDPH). Through the months that Covid-19 cases have been reported in Iowa, the Iowa Department of Public Health has utilized several methods of reporting the cases and testing in Iowa. These include press reports, web sites, data tables and files, mapping, and graphing. The data in this report have been gathered from a number of these methods. Several web sites directly from or affiliated with the Iowa Department of Public Health have been used. These include: <https://www.idph.iowa.gov/>; <https://idph.iowa.gov/Emerging-Health-Issues/Novel-Coronavirus>; <https://coronavirus.iowa.gov/>; <https://coronavirus.iowa.gov/pages/access>; <https://open-iowa.opendata.arcgis.com/datasets/iacovid19-demographics>; and <https://open-iowa.opendata.arcgis.com/datasets/ia-covid19-cases>

⁴Proclamation November 16, 2020 <https://coronavirus.iowa.gov/pages/proclamations>

⁵Although cases are reported on a daily basis, there are day-by-day variations in reporting that include weekends and holidays that make it useful to aggregate cases and reporting on a weekly basis to look at trends. The weeks reported here start with cases and tests reported for a Saturday and end with the reporting for the following Friday.

⁶U.S. Census Bureau, Population Estimates, <https://www.census.gov/programs-surveys/popest/data/tables.html>

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