

Formula, Methodology and Distribution of Vaccines

(FY2021 Appropriation Act - Public Act 2 of 2021)

April 1, 2021

Sec. 257. (1) By April 1, 2021, the department of health and human services shall report to the senate and house appropriations committees, the senate and house fiscal agencies, the senate and house policy offices, and the state budget office on the formula, or other detailed methodology, used to distribute vaccines to each local health department and each enrolled provider. The report must also include an example of how the formula, or other detailed methodology, would distribute a statewide total of 100,000 vaccines to each local health department and each enrolled provider.

(2) Within 1 business day of any changes made by the department of health and human services to the formula, or other detailed methodology, used to distribute vaccines to each local health department and each enrolled provider, the department of health and human services shall report to the senate and house appropriations committees, the senate and house fiscal agencies, the senate and house policy offices, and the state budget office on the changes made to the formula, or other detailed methodology, used to distribute vaccines to each local health department and each enrolled provider, the rationale for the change to the formula, or other detailed methodology, used to distribute vaccines to each local health department and each enrolled provider, and an example of how the revised formula, or other detailed methodology, would distribute a statewide total of 100,000 vaccines to each local health department and each enrolled provider.

(3) By April 1, 2021, the department of health and human services shall report to the senate and house appropriations committees, the senate and house fiscal agencies, the senate and house policy offices, and the state budget office on the advantages and disadvantages of incorporating a specific minimum, or baseline, number of vaccines to be distributed on a weekly basis for each specific local health department and enrolled provider.

(4) The reports required by this section must be made accessible to the public by placing the reports on an internet site.



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Michigan has prioritized vaccine allocation within Center for Disease Control's (CDC) Phases, with an emphasis on both protecting people at increased risk for severe COVID-19 illness and ensuring the continuing functioning of the health care system and essential services in the community. The allocation of vaccination is conducted in multiple steps based on population sizes, ability of providers to manage different types and amounts of vaccine, and operational considerations. Michigan Department of Health and Human Services (MDHHS) has posted examples of how the vaccine allocation formula works in

[Population Estimates for Allocation Planning_020521_715523_7.pdf \(michigan.gov\)](#) and has provided additional information in this report. The specific orders for each provider are available at [Coronavirus - COVID-19 Vaccine Dashboard \(michigan.gov\)](#) under the section entitled VACCINE ORDERS BY WEEK.

This formula changes as the amount of vaccine increases, eligible populations expand, and the types of providers who are receiving vaccine increases.

Step One: The number of first doses of each vaccine available for allocation is obtained from the Tiberius data system from the CDC and Prevention. For purposes of the example below, we assumed there were 100,000 first doses of vaccine, including 58,500 doses of Pfizer and 41,500 of Moderna. The CDC provides an allocation for a second dose for Pfizer and Moderna in the appropriate weeks later after the first doses was shipped.

Step Two: Doses needed for specific operational needs, such as distribution through a federal partnership (for example, the federal Pharmacy and Long Term Care Partnership, the Indian Health Services, and the Federal Retail Pharmacy Program), piloting of distribution by a new provider type (for example, federally qualified health center pilot; special community outreach pilot), a specific request that does not fit in the population based distribution (for example, the vaccination of veterans who are not eligible for vaccination at federal Veteran's Administration facilities), or the need for catch up second doses.

Step Three: Remaining doses are allocated to the local health departments and hospitals through the population allocation tool. For purposes of this example, we are allocating all 100,000 example doses through this formula. Step three is to determine how much of the remaining vaccine is allocated to local health departments or to hospitals. Currently, hospitals are allotted 40 percent of vaccine and local health jurisdictions are allotted 60 percent of vaccine provided through federal allocations.

Step Four: The population sizes for local health and hospitals have been based on the priority groups eligible for vaccination during the week of allocation, based on their status in the MDHHS COVID-19 Vaccine Prioritization Guidance document on the web ([MI COVID-19 Vaccination Prioritization Guidance_2152021_716344_7.pdf \(michigan.gov\)](#)). During Phase 1A, the amounts were distributed based on health care

workers and first responders identified by hospital systems and by local health departments as well as the number of beds and staff estimated in the long-term care systems (skilled nursing facilities, homes for the aged, and adult foster care facilities based on licensing data and assisted living facilities based on association data).

As eligible populations expanded, population size for hospitals were based on the total number of inpatient admissions for patients 65 years or older in 2019 as reported by the Michigan Health and Hospital Association. Populations sizes for each county were based on estimates of populations by age, childcare and teaching staff, front line essential workers, and food processing and agricultural workers from the American Community Survey data provided by the CDC and Prevention in the Tiberius system. Estimates of the number of staff and prisoners in Michigan Department of Correction's facilities were provided by that agency. Please see Table A for the county numbers most recently used. The county numbers are then summed into local health department jurisdictions.

Forty percent of the vaccine is allocated across the hospital population size and sixty percent of the vaccine is allocated across the local health departments. Population size for both allocations is adjusted for the CDC and Prevention's Social Vulnerability Index (SVI) ([CDC's Social Vulnerability Index \(SVI\)](#)).

The SVI Multiplier is based on the SVI which identifies places where a community may have more difficulty preventing human suffering and financial loss in a disaster. The SVI assess the extent that 15 known vulnerabilities (indicators) are present within a community. The SVI multiplier increases every jurisdiction's estimated population, but by differing amounts, meaning that the vaccine allocation increases or decreases for jurisdictions.

Local Health Department Allocation

When SVI is used to adjust vaccine allocations, the population is multiplied by the SVI Multiplier (calculated by the 2019 SVI data set RPL_THEMES and average census tracts for the jurisdiction). The adjusted population distribution is then used to allocate the number of doses to each jurisdiction. Areas with higher SVI values see an increase in vaccine allocation, areas with lower SVI values see a decrease. Please see Table B for SVI multiplier values for each local health department.

Formula when **not** using SVI Multiplier:

Jurisdiction Population ÷ Sum of Jurisdiction Populations = Jurisdiction Proportion
Jurisdiction Proportion × State Supply of Doses = Doses Allocated to Jurisdiction

Formula when using SVI Multiplier:

Jurisdiction Population × SVI Multiplier = Adjusted Jurisdiction Population
Adjusted Jurisdiction Population ÷ Sum of Adjusted Jurisdiction Populations = Adjusted Jurisdiction Proportion
Adjusted Jurisdiction Proportion × State Supply of Doses = Doses Allocated to Jurisdiction

The table below provides the automatic recommended allocation of 60% of the 58,500 doses of Pfizer and 41,500 of Moderna to local health departments. The table provides the SVI multiplier for each local health department, the original population sizes for the estimated eligible populations in the jurisdiction, and the SVI adjusted population sizes for each jurisdiction.

Each local health department is allocated a recommended total amount of vaccine (**Doses allocated based on population_total**) as well as Pfizer and Moderna based on the SVI adjusted population size. However, the vaccine comes in batches of 1170 for Pfizer and 100 for Moderna, so the tool must round the doses allocated by population to the available batch size. Staff set allocations of Moderna and Pfizer for each local health department from these allocation recommendations, trying to get as close to the total recommended doses from the tool using a mixture of Pfizer and Moderna.

Formula when using SVI Multiplier:

Jurisdiction Population × SVI Multiplier = Adjusted Jurisdiction Population

Adjusted Jurisdiction Population ÷ Sum of Adjusted Jurisdiction Populations = Adjusted Jurisdiction Proportion

Adjusted Jurisdiction Proportion × State Supply of Doses = Doses Allocated to Jurisdiction

As an example, Allegan County has an eligible population size of 44,674 people (i.e., Jurisdiction Population). This amount increases to 57,579 after adjustment by ~1.28888 for SVI (Adjusted Jurisdiction Population). The state's SVI adjusted jurisdiction population is 5,571,189. Allegan's SVI adjusted population proportion is 0.01033532 of that state adjusted jurisdiction population. Allegan's adjusted jurisdiction (0.01033532) times the state supply of doses for local public health (60,000) is 602 doses. The tool provides the Pfizer specific estimate and the Moderna specific estimate for each jurisdiction, allowing staff to balance the capacity of the local health department to accept different types of vaccine. The goal is to provide the local health department as close to the number of total doses recommended by the tool to the jurisdiction.

Table A - 60,000 Doses Example: Local health departments

SVI multiplier	Provider (or LHD)	Eligible Population Size	Population x SVI Modifier	L H D ?	Total	Pfizer		Moderna	
					Doses allocated based on population_total	Doses allocated based on population_p	Doses allocated based on doses per order_p	Doses allocated based on population_m	Doses allocated based on doses per order_m
1.29	Allegan	44674	57579.82	1	620	605	1170	429	400
1.60	Bay	43152	69042.40	1	744	725	1170	514	500
1.33	B-E	69384	92511.60	1	996	971	1170	689	700
1.64	Berrien	63631	104636.99	1	1127	1099	1170	779	800
1.84	BHSJ	60056	110770.51	1	1193	1163	1170	825	800
1.11	B-L	19897	22107.33	1	238	232	0	165	200
1.91	Calhoun	50865	97208.86	1	1047	1021	1170	724	700
1.82	Chippewa	14466	26360.63	1	284	277	0	196	200
1.93	CMI	78821	152387.27	1	1641	1600	1170	1135	1100
2.00	Detroit	224844	449463.23	1	4841	4720	4680	3348	3300
1.89	DHD#10	113783	214922.88	1	2315	2257	2340	1601	1600
1.87	DHD#2	32313	60317.23	1	650	633	1170	449	400
1.58	DHD#4	36637	57804.73	1	623	607	1170	431	400
1.40	D-I	17431	24403.54	1	263	256	0	182	200
1.49	D-M	27362	40738.98	1	439	428	0	303	300
1.73	Genesee	155110	268857.85	1	2896	2823	2340	2003	2000
1.13	Grand Traverse	38630	43780.89	1	472	460	0	326	300
1.53	Huron	15052	23079.89	1	249	242	0	172	200
1.56	Ingham	99734	155142.40	1	1671	1629	1170	1156	1200
1.71	Ionia	23545	40287.94	1	434	423	0	300	300
1.67	Jackson	60190	100316.67	1	1080	1053	1170	747	700
1.44	Kalamazoo	91548	132235.42	1	1424	1389	1170	985	1000
1.51	Kent	220597	333346.12	1	3590	3500	3510	2483	2500
1.31	Lapeer	38179	50056.78	1	539	526	0	373	400
1.47	Lenawee	39855	58454.59	1	630	614	1170	435	400
1.02	Livingston	79355	81158.63	1	874	852	1170	605	600

1.98	LMAS	16593	32817.07	1	353	345	0	244	200
1.38	Macomb	330148	454870.44	1	4899	4776	4680	3388	3400
1.22	Marquette	25912	31670.22	1	341	333	0	236	200
1.16	Midland	33093	38240.22	1	412	402	0	285	300
1.36	MidMI	72451	98211.49	1	1058	1031	1170	732	700
1.18	Monroe	61571	72516.72	1	781	761	1170	540	500
1.76	Muskegon	64607	113421.00	1	1222	1191	1170	845	800
1.24	NWMI	48276	60076.18	1	647	631	1170	448	400
1.04	Oakland	484849	506397.74	1	5454	5317	5850	3772	3800
1.09	Ottawa	102337	111433.40	1	1200	1170	1170	830	800
1.78	Saginaw	74782	132946.49	1	1432	1396	1170	990	1000
1.80	Sanilac	18475	33254.64	1	358	349	0	248	200
1.20	Shiawassee	28127	33751.80	1	363	354	0	251	300
1.27	St. Clair	66724	84517.07	1	910	887	1170	630	600
1.69	Tuscola	23366	39463.25	1	425	414	0	294	300
1.96	VBCass	54854	107270.83	1	1155	1126	1170	799	800
1.07	Washtenaw	134804	143791.36	1	1549	1510	1170	1071	1100
1.42	Wayne	396456	563849.24	1	6072	5921	5850	4200	4200
1.62	WUP	28182	45717.14	1	492	480	0	341	300

The table below provides the automatic recommended allocation of 40% of the 58,500 doses of Pfizer and 41,500 of Moderna to hospitals in the state. As hospitals are well positioned to outreach to people who have medical conditions that put them at risk of severe COVID-19 outcomes, hospitals are ordered by inpatient population size. The SVI multiplier for the hospital is based on the SVI multiple for the local health department where the hospital is physical located. The tool gives the total number of inpatient discharges for people aged 65 or older in 2019 and that total adjusted for SVI.

McLaren Flint Hospital had 20,634 inpatient discharges in 2019. After adjusting for the SVI Multiplier of 1.73 for Genesee County, the SVI adjusted population is 35,766. The total SIV adjusted inpatient discharges for this age group is 753,530, meaning that McLaren Flint is 0.0474646 of all SVI adjusted IP discharges for 65+. Multiplying this by the 40,000 vaccines allocated to hospitals, the tool recommends that McLaren Flint Hospital receives 1,899 doses.

Table B - 40,000 Doses Example for Hospitals

SVI multiplier	Provider (or LHD)	LHD	Eligible Population Size	HCP Pop Denom	Ultra Cold Freezer Capable	Pfizer			Moderna			Total
						Pfizer	Doses allocated based on population_p2	Doses allocated based on doses per order_p2	% Moderna	Doses allocated based on population_m2	Doses allocated based on doses per order_m2	Doses allocated based on population_total
1.73	McLaren Flint	Genesee	20634	35766	Yes	59%	1111	1170	41%	788	800	1899
1.51	Spectrum Health - Grand Rapids	Kent	22836	34508	Yes	59%	1072	1170	41%	760	800	1832
1.60	McLaren Bay Region	Bay	17533	28053	Yes	66%	871	1170	34%	618	600	1489
2.00	Henry Ford Hospital	Detroit	13597	27180	Yes	66%	844	1170	34%	599	600	1443
1.04	Beaumont Hospital-Royal Oak	Oakland	25126	26243	Yes	66%	815	1170	34%	578	600	1393
1.78	Covenant Medical Center	Saginaw	11952	21248	Yes	70%	660	1170	30%	468	500	1128
1.04	Beaumont Hospital-Troy	Oakland	19859	20742	Yes	70%	644	1170	30%	457	500	1101
1.56	Sparrow Hospital	Ingham	12662	19696	Yes	75%	612	1170	25%	434	400	1046
2.00	Ascension St. John Hospital	Detroit	9780	19550	Yes	75%	607	1170	25%	431	400	1038
1.38	McLaren Macomb	Macomb	14165	19516	Yes	75%	606	1170	25%	430	400	1036
1.42	Beaumont Hospital-Dearborn	Wayne	13192	18762	Yes	0%	583	0	100%	413	400	996
1.73	Ascension Genesys Hospital	Genesee	10719	18580	No	0%	577	0	100%	409	400	986
1.56	McLaren Greater Lansing	Ingham	11634	18097	Yes	0%	562	0	100%	399	400	961

1.38	Henry Ford Macomb Hospital	Macomb	11277	15537	Yes	0%	482	0	100%	342	300	825
1.07	St. Joseph Mercy Ann Arbor	Washtenaw	14551	15521	Yes	0%	482	0	100%	342	300	824
1.76	Mercy Health Hackley Campus	Muskegon	8740	15344	Yes	0%	476	0	100%	338	300	814
1.07	University of Michigan Health System	Washtenaw	13795	14715	Yes	0%	457	0	100%	324	300	781
1.27	McLaren Port Huron	St. Clair	11122	14088	No	0%	437	0	100%	310	300	748
1.42	St. Mary Mercy Hospital	Wayne	9384	13346	No	0%	414	0	100%	294	300	708
1.44	Bronson Methodist Hospital	Kalamazoo	8782	12685	Yes	0%	394	0	100%	279	300	673
1.38	St. John Macomb-Oakland Hospital – Warren	Macomb	9202	12678	Yes	0%	394	0	100%	279	300	673
1.67	Henry Ford Allegiance Health	Jackson	7605	12675	Yes	0%	394	0	100%	279	300	673
1.13	Munson Medical Center	Grand Traverse	10868	12317	Yes	0%	382	0	100%	271	300	654
2.00	DMC Sinai-Grace Hospital	Detroit	6117	12228	No	0%	380	0	100%	269	300	649
1.44	Ascension Borgess Hospital	Kalamazoo	8254	11922	Yes	0%	370	0	100%	263	300	633
1.42	Henry Ford Wyandotte Hospital	Wayne	7275	10347	Yes	0%	321	0	100%	228	200	549
1.04	St. Joseph Mercy Oakland	Oakland	9759	10193	Yes	0%	317	0	100%	225	200	541
1.78	Ascension St. Mary's Hospital	Saginaw	5612	9977	No	0%	310	0	100%	220	200	530
1.51	Mercy Health Saint Mary's	Kent	6472	9780	Yes	0%	304	0	100%	215	200	519
1.84	Spectrum Health Lakeland Saint Joseph	BHSJ	4948	9126	Yes	0%	283	0	100%	201	200	484
2.00	DMC Harper University Hospital	Detroit	4563	9121	Yes	0%	283	0	100%	201	200	484
1.04	Ascension Providence Hospital - Novi Campus	Oakland	8389	8762	Yes	0%	272	0	100%	193	200	465
1.16	MidMichigan Medical Center – Midland	Midland	7277	8409	Yes	0%	261	0	100%	185	200	446
1.04	Ascension Providence Hospital - Southfield Camp	Oakland	7902	8253	Yes	0%	256	0	100%	182	200	438
1.42	Beaumont Hospital-Grosse Pointe	Wayne	5675	8071	Yes	0%	251	0	100%	178	200	428
1.42	Beaumont Hospital-Trenton	Wayne	5595	7957	Yes	0%	247	0	100%	175	200	422
1.04	Beaumont Hospital-Farmington Hills	Oakland	7010	7322	Yes	0%	227	0	100%	161	200	389
2.00	DMC Detroit Receiving Hospital and University H	Detroit	3535	7066	Yes	0%	219	0	100%	156	200	375
1.73	Hurley Medical Center	Genesee	3982	6902	Yes	0%	214	0	100%	152	200	366
1.04	Henry Ford West Bloomfield Hospital	Oakland	6398	6682	Yes	0%	208	0	100%	147	100	355
1.51	Metro Health - University of Michigan Health	Kent	4421	6681	Yes	0%	207	0	100%	147	100	355
1.24	McLaren Northern Michigan	NWMI	5299	6594	Yes	0%	205	0	100%	145	100	350

1.91	Bronson Battle Creek Hospital	Calhoun	3394	6486	No	0%	201	0	100%	143	100	344
1.22	UP Health System – Marquette	Marquette	4936	6033	Yes	0%	187	0	100%	133	100	320
1.04	Ascension Providence Rochester Hospital	Oakland	5756	6012	Yes	0%	187	0	100%	132	100	319
1.42	Garden City Hospital	Wayne	3815	5426	Yes	0%	168	0	100%	120	100	288
1.42	Beaumont Hospital-Taylor	Wayne	3638	5174	Yes	0%	161	0	100%	114	100	275
1.04	McLaren Oakland	Oakland	4679	4887	No	0%	152	0	100%	108	100	259
1.09	Holland Hospital	Ottawa	4073	4435	Yes	0%	138	0	100%	98	100	235
1.42	Beaumont Hospital-Wayne	Wayne	3107	4419	Yes	0%	137	0	100%	97	100	235
1.07	St. Joseph Mercy Chelsea	Washtenaw	4141	4417	Yes	0%	137	0	100%	97	100	234
1.31	McLaren Lapeer Region	Lapeer	3168	4154	No	0%	129	0	100%	92	100	220
1.58	MidMichigan Medical Center – Alpena	DHD#4	2356	3717	No	0%	115	0	100%	82	100	197
1.04	DMC Huron Valley - Sinai Hospital	Oakland	3462	3616	Yes	0%	112	0	100%	80	100	192
1.18	ProMedica Monroe Regional Hospital	Monroe	2601	3063	Yes	0%	95	0	100%	67	100	163
1.89	Munson Healthcare Cadillac Hospital	DHD#10	1571	2967	Yes	0%	92	0	100%	65	100	158
1.36	MidMichigan Medical Center – Gratiot	MidMI	2125	2881	No	0%	89	0	100%	63	100	153
1.91	Oaklawn Hospital	Calhoun	1488	2844	Yes	0%	88	0	100%	63	100	151
1.87	MidMichigan Medical Center - West Branch	DHD#2	1450	2707	No	0%	84	0	100%	60	100	144
1.93	McLaren Central Michigan	CMI	1289	2492	No	0%	77	0	100%	55	100	132
1.27	Lake Huron Medical Center	St. Clair	1913	2423	Yes	0%	75	0	100%	53	100	129
2.00	Karmanos Cancer Center	Detroit	1212	2423	Yes	0%	75	0	100%	53	100	129
1.89	Munson Healthcare Grayling Hospital	DHD#10	1217	2299	Yes	0%	71	0	100%	51	100	122
1.84	ProMedica Coldwater Regional Hospital	BHSJ	1234	2276	No	0%	71	0	100%	50	100	121
1.89	Spectrum Health Big Rapids Hospital	DHD#10	1149	2170	Yes	#####	67	0	#DIV/0!	48	0	115
1.47	ProMedica Charles and Virginia Hickman Hospital	Lenawee	1452	2130	No	#####	66	0	#DIV/0!	47	0	113
1.04	St. John Macomb-Oakland Hospital - Madison Heig	Oakland	1975	2063	No	#####	64	0	#DIV/0!	45	0	109
1.82	War Memorial Hospital	Chippewa	1132	2063	Yes	#####	64	0	#DIV/0!	45	0	109
1.89	Spectrum Health Ludington Hospital	DHD#10	1073	2027	No	#####	63	0	#DIV/0!	45	0	108
1.36	Spectrum Health United Hospital	MidMI	1327	1799	No	#####	56	0	#DIV/0!	40	0	95
1.53	McLaren Thumb Region	Huron	1140	1748	No	#####	54	0	#DIV/0!	39	0	93
1.02	St. Joseph Mercy Livingston	Livingston	1629	1666	Yes	#####	52	0	#DIV/0!	37	0	88

1.64	Spectrum Health Lakeland Hospital Niles	Berrien	1001	1646	No	#####	51	0	#DIV/0!	36	0	87
1.00	Memorial Healthcare	Shiawasee	1506	1506	Yes	#####	47	0	#DIV/0!	33	0	80
1.51	Mary Free Bed Rehabilitation Hospital	Kent	990	1496	Yes	#####	46	0	#DIV/0!	33	0	79
1.87	Ascension St. Joseph Hospital	DHD#2	800	1493	No	#####	46	0	#DIV/0!	33	0	79
1.89	Spectrum Health Gerber Memorial	DHD#10	715	1351	No	#####	42	0	#DIV/0!	30	0	72
1.89	Munson Healthcare Manistee Hospital	DHD#10	677	1279	Yes	#####	40	0	#DIV/0!	28	0	68
1.84	Hillsdale Hospital	BHSJ	686	1265	Yes	#####	39	0	#DIV/0!	28	0	67
1.24	Munson Healthcare Otsego Memorial Hospital	NWMI	960	1195	Yes	#####	37	0	#DIV/0!	26	0	63
1.40	Dickinson County Healthcare System	D-I	823	1152	Yes	#####	36	0	#DIV/0!	25	0	61
1.33	Spectrum Health Pennock	B-E	832	1109	No	#####	34	0	#DIV/0!	24	0	59
1.49	O.S.F. St. Francis Hospital and Medical Group	D-M	742	1105	Yes	#####	34	0	#DIV/0!	24	0	59
1.09	Spectrum Health Zeeland Community Hospital	Ottawa	1004	1093	No	#####	34	0	#DIV/0!	24	0	58
1.84	Three Rivers Health	BHSJ	590	1088	No	#####	34	0	#DIV/0!	24	0	58
1.93	MidMichigan Medical Center - Clare	CMI	552	1067	No	#####	33	0	#DIV/0!	24	0	57
2.00	DMC Rehabilitation Institute of Michigan	Detroit	478	956	No	#####	30	0	#DIV/0!	21	0	51
1.96	Bronson LakeView Hospital	VBCass	479	937	Yes	#####	29	0	#DIV/0!	21	0	50
1.62	Aspirus Keweenaw Hospital	WUP	535	868	Yes	#####	27	0	#DIV/0!	19	0	46
1.62	UP Health System - Portage	WUP	528	857	Yes	#####	27	0	#DIV/0!	19	0	45
1.36	Sparrow Clinton Hospital	MidMI	561	760	No	#####	24	0	#DIV/0!	17	0	40
1.62	Aspirus Ironwood Hospital & Clinics Inc.	WUP	456	740	Yes	#####	23	0	#DIV/0!	16	0	39
1.71	Sparrow Ionia Hospital	Ionia	425	727	No	#####	23	0	#DIV/0!	16	0	39
1.93	Ascension Standish Hospital	CMI	365	706	No	#####	22	0	#DIV/0!	16	0	37
1.09	North Ottawa Community Hospital	Ottawa	634	690	Yes	#####	21	0	#DIV/0!	15	0	37
1.27	Ascension River District Hospital	St. Clair	504	638	No	#####	20	0	#DIV/0!	14	0	34
1.40	Aspirus Iron River Hospital & Clinics Inc.	D-I	441	617	Yes	#####	19	0	#DIV/0!	14	0	33
1.24	Munson Healthcare Charlevoix Hospital	NWMI	483	601	Yes	#####	19	0	#DIV/0!	13	0	32
1.93	MidMichigan Medical Center - Gladwin	CMI	303	586	No	#####	18	0	#DIV/0!	13	0	31
1.36	Sparrow Carson Hospital	MidMI	401	544	No	#####	17	0	#DIV/0!	12	0	29

1.33	Sparrow Eaton Hospital	B-E	391	521	No	####	16	0	#DIV/0!	11	0	28
1.07	C.S. Mott Children's Hospital	Washtenaw	461	492	No	####	15	0	#DIV/0!	11	0	26
1.64	Spectrum Health Lakeland Hospital Watervliet	Berrien	291	479	No	####	15	0	#DIV/0!	11	0	25
1.98	Schoolcraft Memorial Hospital	LMAS	241	477	Yes	####	15	0	#DIV/0!	11	0	25
1.96	Bronson South Haven Hospital	VBCass	239	467	No	####	15	0	#DIV/0!	10	0	25
1.84	Sturgis Hospital	BHSJ	244	450	No	####	14	0	#DIV/0!	10	0	24
1.60	McLaren Bay Special Care	Bay	268	429	No	####	13	0	#DIV/0!	9	0	23
2.00	Select Specialty Hospital - Northwest Detroit	Detroit	212	424	No	####	13	0	#DIV/0!	9	0	22
1.96	Ascension Borgess - Lee Hospital	VBCass	213	417	No	####	13	0	#DIV/0!	9	0	22
1.42	Select Specialty Hospital - Downriver	Wayne	283	402	No	####	12	0	#DIV/0!	9	0	21
1.89	Mercy Health Lakeshore Campus	DHD#10	213	402	No	####	12	0	#DIV/0!	9	0	21
1.22	UP Health System - Bell	Marquette	325	397	No	####	12	0	#DIV/0!	9	0	21
1.38	Select Specialty Hospital - Macomb	Macomb	284	391	No	####	12	0	#DIV/0!	9	0	21
1.62	Baraga County Memorial Hospital	WUP	237	384	Yes	####	12	0	#DIV/0!	8	0	20
1.53	Scheurer Hospital	Huron	250	383	No	####	12	0	#DIV/0!	8	0	20
1.29	Ascension Borgess Allegan Hospital	Allegan	289	372	No	####	12	0	#DIV/0!	8	0	20
1.98	Helen Newberry Joy Hospital	LMAS	181	358	No	####	11	0	#DIV/0!	8	0	19
1.69	Hills & Dales General Hospital	Tuscola	203	343	Yes	####	11	0	#DIV/0!	8	0	18
1.78	Select Specialty Hospital - Saginaw	Saginaw	192	341	No	####	11	0	#DIV/0!	8	0	18
1.98	Mackinac Straits Health System Inc.	LMAS	172	340	Yes	####	11	0	#DIV/0!	7	0	18
1.73	Select Specialty Hospital - Flint	Genesee	193	335	No	####	10	0	#DIV/0!	7	0	18
1.80	Marlette Regional Hospital	Sanilac	185	333	No	####	10	0	#DIV/0!	7	0	18
1.33	Eaton Rapids Medical Center	B-E	215	287	No	####	9	0	#DIV/0!	6	0	15
1.42	Select Specialty Hospital - Grosse Pointe	Wayne	199	283	No	####	9	0	#DIV/0!	6	0	15
1.56	Sparrow Specialty Hospital	Ingham	181	282	No	####	9	0	#DIV/0!	6	0	15
1.76	Select Specialty Hospital - Muskegon	Muskegon	152	267	No	####	8	0	#DIV/0!	6	0	14
1.07	Select Specialty Hospital - Ann Arbor	Washtenaw	247	263	No	####	8	0	#DIV/0!	6	0	14
1.51	Select Specialty Hospital - Spectrum Health	Kent	152	230	No	####	7	0	#DIV/0!	5	0	12
1.04	Select Specialty Hospital - Pontiac	Oakland	217	227	No	####	7	0	#DIV/0!	5	0	12
1.89	Kalkaska Memorial Health Center	DHD#10	113	213	Yes	####	7	0	#DIV/0!	5	0	11
1.44	Select Specialty Kalamazoo DBA	Kalamazoo	134	194	No	####	6	0	#DIV/0!	4	0	10

Select Specialty												
1.62	Aspirus Ontonagon Hospital	WUP	116	188	Yes	#####	6	0	#DIV/0!	4	0	10
1.93	Spectrum Health Reed City Hospital	CMI	90	174	No	#####	5	0	#DIV/0!	4	0	9
1.80	McKenzie Health System	Sanilac	85	153	Yes	#####	5	0	#DIV/0!	3	0	8
1.67	Henry Ford Allegiance Specialty Hospital	Jackson	77	128	No	#####	4	0	#DIV/0!	3	0	7
1.98	Munising Memorial Hospital	LMAS	54	107	Yes	#####	3	0	#DIV/0!	2	0	6
1.53	Harbor Beach Community Hospital Inc.	Huron	69	106	Yes	#####	3	0	#DIV/0!	2	0	6
1.69	McLaren Caro Region	Tuscola	47	79	No	#####	2	0	#DIV/0!	2	0	4
1.29	Ascension Borgess - Pipp Hospital	Allegan	49	63	No	#####	2	0	#DIV/0!	1	0	3
1.80	Deckerville Community Hospital	Sanilac	34	61	No	#####	2	0	#DIV/0!	1	0	3
1.47	ProMedica Herrick Hospital	Lenawee	41	60	No	#####	2	0	#DIV/0!	1	0	3
1.04	Henry Ford Kingswood Hospital	Oakland	53	55	No	#####	2	0	#DIV/0!	1	0	3
1.04	Henry Ford Maple Grove Center	oakland	28	29	No	#####	1	0	#DIV/0!	1	0	2
2.00	DMC Hutzel Women's Hospital	Detroit	6	12	Yes	#####	0	0	#DIV/0!	0	0	1
1.11	Munson Healthcare Paul Oliver Memorial Hospital	B-L	2	2	No	#####	0	0	#DIV/0!	0	0	0