

Table S1. Underlying Causes of Death Counts, Distribution, Rank, and Difference from Previous Two-Year Average for COVID-19 and Other Specific Causes, NYC 2020, 2019 and 2018
Deaths From March 11th to July 27th

ICD-10 Codes	Underlying Cause of Death (UCOD)	2020 N = 46563				2019, 2018 Avg = 19989				Relative to Avg		S.D.** from Avg	
		N	%	Rank	% excl. COVID-19	Avg	%	Rank	Difference	% Diff	Z-score	p-val	Rank
B15-B19	Viral hepatitis	36	0.1%	37	0.1%	59.0	0.3%	36	-23	-39.0%	-2.842	.00448	26
B20-B24	HIV	142	0.3%	30	0.5%	120.0	0.6%	28	22	18.3%	1.548	.12164	32
Rest of A00-B99	All other infectious diseases	421	0.9%	18	1.6%	286.5	1.4%	18	135	46.9%	5.662	.00000	13
C00-C97	Cancer	4289	9.2%	3	16.0%	4794.0	24.0%	1	-505	-10.5%	-6.176	.00000	11
C98-D49	All other Neoplasms	102	0.2%	33	0.4%	96.5	0.5%	31	6	5.7%	.449	.65365	38
D50-D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	73	0.2%	34	0.3%	70.5	0.4%	32	3	3.5%	.240	.81011	40
E66	Obesity	73	0.2%	34	0.3%	64.0	0.3%	34	9	14.1%	.878	.37978	36
E10-E14	Diabetes	1059	2.3%	5	4.0%	696.5	3.5%	4	363	52.0%	9.663	.00000	5
Rest of E00-E99	All other Endocrine, nutritional and metabolic diseases	304	0.7%	21	1.1%	178.5	0.9%	21	126	70.3%	6.329	.00000	9
F10 *	Mental and behavioral disorders due to alcohol	145	0.3%	29	0.5%	117.0	0.6%	30	28	23.9%	1.963	.04967	29
F11-F16, F18,F19 *	Mental and behavioral disorders due to psychoactive substances , excl alcohol & tobacco	36	0.1%	37	0.1%	46.5	0.2%	37	-11	-22.6%	-1.364	.17254	34
Rest of F00-F99	Rest of Mental and behavioral disorders	613	1.3%	14	2.3%	542.5	2.7%	11	71	13.0%	2.371	.01775	27
G20-G21	Parkinson's disease	215	0.5%	26	0.8%	154.5	0.8%	25	61	39.2%	3.539	.00040	24
G30	Alzheimer's disease	480	1.0%	16	1.8%	393.5	2.0%	15	87	22.0%	3.325	.00088	25
Rest of G00-G99	All other diseases of the nervous system	504	1.1%	15	1.9%	344.0	1.7%	17	160	46.5%	6.154	.00000	12
I21, I22	Acute myocardial infarction	801	1.7%	9	3.0%	661.5	3.3%	7	140	21.1%	4.147	.00003	19
I20, I25	Chronic ischemic heart disease	7436	16.0%	2	27.8%	4235.0	21.2%	2	3201	75.6%	32.749	.00000	2
I11	Hypertensive heart disease	1870	4.0%	4	7.0%	873.0	4.4%	3	997	114.2%	20.760	.00000	3
I00-I09, I13, I23,I24, I26-I51	All other diseases of the heart	845	1.8%	7	3.2%	694.0	3.5%	5	151	21.8%	4.374	.00001	17
I10, I12, I15	Hypertension	689	1.5%	11	2.6%	476.5	2.4%	13	213	44.6%	6.978	.00000	7
I60-I69	Cerebrovascular disease	840	1.8%	8	3.1%	670.0	3.4%	6	170	25.4%	4.959	.00000	14
Rest of I00-I99	All other cardiovascular diseases	310	0.7%	20	1.2%	177.5	0.9%	22	133	74.6%	6.635	.00000	8
J09-J11	Influenza	36	0.1%	37	0.1%	27.0	0.1%	38	9	33.3%	1.279	.20083	35
J12-J18	Pneumonia	953	2.0%	6	3.6%	571.5	2.9%	9	382	66.8%	10.839	.00000	4
J45-J46	Asthma	107	0.2%	32	0.4%	65.0	0.3%	33	42	64.6%	3.556	.00038	23
J40-J44, J47	Other chronic lower respiratory disease	675	1.4%	12	2.5%	622.0	3.1%	8	53	8.5%	1.688	.09144	31
J80	Respiratory distress syndrome	30	0.1%	41	0.1%	9.0	0.0%	39	21	233.3%	3.575	.00035	22
J96	Respiratory failure	36	0.1%	37	0.1%	8.5	0.0%	40	28	323.5%	4.335	.00001	18
Rest of J00-J99	All other respiratory diseases	275	0.6%	22	1.0%	236.0	1.2%	19	39	16.5%	1.967	.04915	28
K70 *	Alcoholic liver disease	130	0.3%	31	0.5%	154.5	0.8%	25	-25	-15.9%	-1.702	.08879	30
K73-K74	Other chronic liver disease	69	0.1%	36	0.3%	62.5	0.3%	35	7	10.4%	.649	.51622	37
Rest of K00-K99	Other diseases of the digestive system	395	0.8%	19	1.5%	358.5	1.8%	16	37	10.2%	1.523	.12772	33
N00-N07, N17-N19, N25-N27	Kidney disease	262	0.6%	23	1.0%	170.0	0.9%	23	92	54%	4.939	.00000	15
Rest of N00-N99	All other diseases of the genitourinary system	175	0.4%	28	0.7%	117.5	0.6%	29	58	49%	3.761	.00017	21
U071	COVID-19	19789	42.5%	1	0.0%	0	0.0%	40	19789	-	140.673	.00000	1
Rest of A00-R99	All other natural causes*	663	1.4%	13	2.5%	477.0	2.4%	12	186	39.0%	6.195	.00000	10
X40-X45, Y10-Y15, Y45, Y47, Y49 *	Accidental poisoning by psychoactive substances or alcohol regardless of intent	797	1.7%	10	3.0%	546.5	2.7%	10	251	45.8%	7.657	.00000	6
X60-X84, Y870 *	Suicide	222	0.5%	25	0.8%	220.5	1.1%	20	2	0.7%	.082	.93441	41
X85-Y09, Y871	Homicide	187	0.4%	27	0.7%	124.0	0.6%	27	63	50.8%	3.992	.00007	20
Rest of V00-Y99	Rest of External Causes	479	1.0%	17	1.8%	468.0	2.3%	14	11	2.4%	.412	.68037	39

Source: NYC Bureau of Vital Statistics, 2023

Underlying causes of Death, Difference (

* Conditions associated with deaths of despair (Case & Deaton, 2015)

** S.D. = standard deviation (see appendix)

Table S2. The Multiple Causes of Death and Indication of Mention of COVID-19 Related Comorbidity Citywide and by Sex, NYC 2020
Deaths From March 11th to July 27th

CONDITIONS (UCOD – MCODE)	CITYWIDE N = 46563 (100%)										MALE N = 25415 (54.6%)										FEMALE N = 21148 (45.4%)										
	UCOD					M(COD COVID)					UCOD					M(COD COVID)					UCOD					M(COD COVID)					
	N	%	N	%	Rank	N	%	Avg	%	Rank	% Diff	Z-score	N	%	Rank	N	%	Avg	%	Rank	% Diff	Z-score	N	%	N	%	Rank	N	%	N	%
Viral hepatitis	36	0.1%	46	0.2%	32	20	0.1%	37.5	0.4%	31	-6.7%	-3.2	30	0.3%	33	16	0.1%	21.5	0.2%	35	-25.6%	-1.2	16	0.2%	34						
HIV	142	0.3%	86	0.4%	31	94	0.4%	82.0	0.8%	27	14.6%	1.1	63	0.5%	31	48	0.2%	38.0	0.2%	27	26.3%	1.3	23	0.3%	31						
All other infectious diseases	421	0.9%	779	3.9%	13	229	0.9%	136.0	1.3%	18	68.4%	5.7	484	4.1%	13	192	0.9%	150.5	0.8%	17	27.6%	2.7	295	3.7%	13						
Cancer	4289	9.2%	624	3.2%	16	2122	8.3%	2391.5	23.7%	1	-11.3%	-5.2	364	3.1%	16	2167	10.2%	2402.5	12.1%	1	-9.8%	-4.5	260	3.3%	16						
All other Neoplasms	102	0.2%	29	0.1%	35	51	0.2%	46.0	0.5%	30	10.9%	0.6	11	0.1%	36	51	0.2%	50.5	0.3%	26	1.0%	0.1	18	0.2%	32						
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	73	0.2%	215	1.1%	24	37	0.1%	32.5	0.3%	34	13.8%	0.7	113	1.0%	26	36	0.2%	38.0	0.2%	27	-5.3%	-0.3	102	1.3%	23						
Obesity	73	0.2%	365	1.8%	20	31	0.1%	26.0	0.3%	36	19.2%	0.8	187	1.6%	21	42	0.2%	38.0	0.2%	27	10.5%	0.6	178	2.2%	21						
Diabetes	1059	2.3%	2670	13.5%	7	543	2.1%	363.0	3.6%	5	49.6%	7.2	1601	13.5%	7	516	2.4%	333.5	1.7%	7	54.7%	7.5	1069	13.4%	7						
All other Endocrine, nutritional and metabolic diseases	304	0.7%	994	5.0%	12	140	0.6%	79.5	0.8%	28	76.1%	4.8	556	4.7%	12	164	0.8%	99.0	0.5%	20	65.7%	4.7	438	5.5%	12						
Mental and behavioral disorders due to alcohol	145	0.3%	45	0.2%	33	122	0.5%	87.0	0.9%	25	40.2%	2.9	35	0.3%	32	23	0.1%	30.0	0.2%	32	-23.3%	-1.3	10	0.1%	35						
Mental and behavioral disorders due to psychoactive substances, excl alcohol & tobacco	36	0.1%	22	0.1%	36	29	0.1%	33.0	0.3%	33	-12.1%	-0.7	19	0.2%	35	7	0.0%	13.5	0.1%	36	-48.1%	-2.0	3	0.0%	36						
Rest of Mental and behavioral disorders	613	1.3%	1197	6.0%	11	188	0.7%	199.5	2.0%	14	-5.8%	-0.7	600	5.1%	11	425	2.0%	343.0	1.7%	6	23.9%	3.6	597	7.5%	9						
Parkinson's disease	215	0.5%	174	0.9%	28	118	0.5%	87.0	0.9%	25	35.6%	2.6	119	1.0%	25	97	0.5%	67.5	0.3%	23	43.7%	2.8	55	0.7%	29						
Alzheimer's disease	480	1.0%	205	1.0%	25	132	0.5%	117.0	1.2%	21	12.8%	1.2	82	0.7%	28	348	1.6%	276.5	1.4%	11	25.9%	3.5	123	1.5%	22						
All other diseases of the nervous system	504	1.1%	238	1.2%	23	195	0.8%	147.5	1.5%	17	32.2%	3.1	138	1.2%	23	309	1.5%	196.5	1.0%	14	57.3%	5.9	100	1.3%	24						
Acute myocardial infarction	801	1.7%	106	0.5%	30	417	1.6%	332.5	3.3%	6	25.4%	3.8	65	0.5%	30	384	1.8%	329.0	1.7%	9	16.7%	2.5	41	0.5%	30						
Chronic ischemic heart disease	7436	16.0%	1205	6.1%	10	3762	14.8%	2124.0	21.1%	2	77.1%	25.0	740	6.3%	10	3674	17.4%	2111.0	10.7%	2	74.0%	24.1	465	5.8%	11						
Hypertensive heart disease	1870	4.0%	645	3.3%	15	914	3.6%	420.0	4.2%	3	117.6%	15.5	379	3.2%	15	956	4.5%	453.0	2.3%	3	111.0%	15.4	266	3.3%	15						
All other diseases of the heart	845	1.8%	4969	25.1%	4	434	1.6%	328.0	3.3%	7	26.2%	3.9	2880	24.4%	4	431	2.0%	366.0	1.8%	5	17.8%	2.8	2089	26.2%	4						
Hypertension	689	1.5%	3444	17.4%	5	321	1.3%	205.5	2.0%	13	56.2%	6.0	1945	16.5%	6	368	1.7%	271.0	1.4%	12	35.8%	4.6	1499	18.8%	5						
Cerebrovascular disease	840	1.8%	447	2.3%	18	386	1.5%	274.0	2.7%	11	40.9%	5.3	267	2.3%	18	454	2.1%	396.0	2.0%	4	14.6%	2.5	180	2.3%	20						
All other cardiovascular diseases	310	0.7%	190	1.0%	27	139	0.5%	92.0	0.9%	24	51.1%	3.7	101	0.9%	27	171	0.8%	85.5	0.4%	21	100.0%	6.2	89	1.1%	25						
Influenza	36	0.1%	722	3.6%	14	14	0.1%	14.5	0.1%	37	-3.4%	-0.1	464	3.9%	14	22	0.1%	12.5	0.1%	37	76.0%	1.9	258	3.2%	17						
Pneumonia	953	2.0%	7724	39.0%	2	535	2.1%	293.5	2.9%	9	82.3%	9.8	4572	38.7%	2	418	2.0%	278.0	1.4%	10	50.4%	6.3	3152	39.6%	2						
Asthma	107	0.2%	320	1.6%	22	44	0.2%	27.0	0.3%	35	63.0%	2.4	139	1.2%	22	63	0.3%	38.0	0.2%	27	65.8%	2.9	181	2.3%	19						
Other chronic lower respiratory disease	675	1.4%	608	3.1%	17	344	1.4%	290.5	2.9%	10	18.4%	2.6	322	2.7%	17	331	1.6%	331.5	1.7%	8	-0.2%	0.0	286	3.6%	14						
Respiratory distress syndrome	30	0.1%	3255	16.4%	6	19	0.1%	5.0	0.0%	38	280.0%	3.1	1996	16.9%	5	11	0.1%	4.0	0.0%	39	175.0%	2.0	1259	15.8%	6						
Respiratory failure	36	0.1%	6145	31.1%	3	24	0.1%	3.5	0.0%	39	585.7%	4.1	3674	31.1%	3	12	0.1%	5.0	0.0%	38	140.0%	1.9	2471	31.0%	3						
All other respiratory diseases	275	0.6%	434	2.2%	19	141	0.6%	127.5	1.3%	19	10.6%	1.0	243	2.1%	19	134	0.6%	108.5	0.5%	19	23.5%	2.0	191	2.4%	18						
Alcoholic liver disease	130	0.3%	11	0.1%	37	92	0.4%	119.5	1.2%	20	-23.0%	-2.5	8	0.1%	37	38	0.2%	35.0	0.2%	31	8.6%	0.4	3	0.0%	36						
Other chronic liver disease	69	0.1%	39	0.2%	34	35	0.1%	37.0	0.4%	32	-5.4%	-0.3	22	0.2%	34	34	0.2%	25.5	0.1%	33	33.3%	1.3	17	0.2%	33						
Other diseases of the digestive system	395	0.8%	204	1.0%	26	182	0.7%	166.0	1.6%	15	9.6%	1.1	122	1.0%	24	213	1.0%	192.5	1.0%	15	10.6%	1.3	82	1.0%	27						
Kidney disease	262	0.6%	1341	6.8%	9	144	0.6%	99.0	1.0%	23	45.5%	3.5	852	7.2%	9	118	0.6%	71.0	0.4%	22	66.2%	4.0	489	6.1%	10						
All other diseases of the genitourinary system	175	0.4%	331	1.7%	21	72	0.3%	56.0	0.6%	29	28.6%	1.7	243	2.1%	19	103	0.5%	61.5	0.3%	24	67.5%	3.8	88	1.1%	26						
COVID-19	19789	42.5%	19789	100.0%	1	11821	46.5%	0	0.0%	40	#DIV/0!	106.4	11821	100.0%	1	7968	37.7%	0	0.0%	40	#DIV/0!	89.3	7968	100.0%	1						
All other natural causes†	663	1.4%	1998	10.1%	8	276	1.1%	227.5	2.3%	12	21.3%	-7.2	1155	9.8%	8	387	1.8%	249.5	0.7%	13	55.1%	6.5	843	10.6%	8						
Accidental poisoning by psychoactive substances or alcohol regardless of intent	797	1.7%	3	0.0%	38	616	2.4%	416.0	4.1%	4	48.1%	17.8	2	0.0%	38	181	0.9%	130.5	0.7%	18	38.7%	3.5	1	0.0%	38						
Suicide	222	0.5%	1	0.0%	40	169	0.7%	159.0	1.6%	16	6.3%	4.9	1	0.0%	40	53	0.3%	61.5	0.3%	24	-13.8%	-1.0	0	0.0%	39						
Homicide	187	0.4%	2	0.0%	39	163	0.6%	101.0	1.0%	22	61.4%	-8.9	2	0.0%	38	24	0.1%	23.0	0.1%	34	4.3%	0.2	0	0.0%	39						
Rest of External Causes	479	1.0%	132	0.7%	29	320	1.3%	299.5	3.0%	8	6.8%	1.0	75	0.6%	29	159	0.8%	168.5	0.9%	16	-5.8%	-0.7	57	0.7%	28						

Source: NYC Bureau of Vital Statistics, 2023
† There is 1 case classified as undetermined death ICD-10 code R99.

Table S3a. The Multiple Causes of Death and Indication of Mention of COVID-19 Related Comorbidity Citywide and by Race/Ethnicity, NYC 2020
Deaths From March 11th to July 27th

CONDITIONS (UCOD – MCODE)	CITYWIDE N = 46563 (100%)				ASIAN P.I. N = 4376 (9.4%)				BLACK N.H. N = 13440 (28.9%)				HISPANIC N = 11781 (25.3%)				WHITE N.H. N = 15206 (32.7%)				OTHER N = 1760 (3.8%)					
	UCOD		(MCODE COVID)		UCOD		(MCODE COVID)		UCOD		(MCODE COVID)		UCOD		(MCODE COVID)		UCOD		(MCODE COVID)		UCOD		(MCODE COVID)			
	N	%	N	%	N	%	Rank	N	%	Rank	N	%	Rank	N	%	Rank	N	%	Rank	N	%	Rank	N	%		
Viral hepatitis	36	0.1%	46	0.2%	2	0.0%	32	3	0.0%	13	0.2%	32	18	0.2%	20	0.3%	34	11	0.1%	10	0.2%	34	2	0.1%	1	0.1%
HIV	142	0.3%	86	0.4%	4	0.1%	1	0.1%	33	73	0.5%	39	0.7%	28	48	0.4%	28	0.4%	31	10	0.1%	12	0.2%	31	7	0.4%
All other infectious diseases	421	0.9%	779	3.9%	31	0.7%	90	4.7%	13	124	0.9%	207	3.6%	15	108	0.9%	273	4.4%	13	139	0.9%	173	3.4%	15	19	1.1%
Cancer	4289	9.2%	624	3.2%	491	11.2%	58	3.1%	16	1025	7.6%	181	3.2%	16	830	7.0%	147	2.4%	16	1831	12.0%	217	4.3%	14	112	6.4%
All other Neoplasms	102	0.2%	29	0.1%	8	0.2%	0	0.0%	35	20	0.1%	7	0.1%	34	18	0.2%	11	0.2%	35	54	0.4%	11	0.2%	32	2	0.1%
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	73	0.2%	215	1.1%	5	0.1%	16	0.8%	24	32	0.2%	90	1.6%	23	9	0.1%	54	0.9%	26	24	0.2%	48	0.9%	26	3	0.2%
Obesity	73	0.2%	365	1.8%	3	0.1%	12	0.6%	28	36	0.3%	128	2.2%	20	18	0.2%	136	2.2%	20	13	0.1%	72	1.4%	24	3	0.2%
Diabetes	1059	2.3%	2670	13.5%	104	2.4%	240	12.7%	7	461	3.4%	930	16.2%	6	251	2.1%	921	14.8%	7	191	1.3%	459	9.0%	8	52	3.0%
All other Endocrine, nutritional and metabolic diseases	304	0.7%	994	5.0%	30	0.7%	88	4.6%	14	87	0.6%	285	5.0%	12	52	0.4%	307	4.9%	11	120	0.8%	275	5.4%	12	15	0.9%
Mental and behavioral disorders due to alcohol	145	0.3%	45	0.2%	5	0.1%	0	0.0%	35	31	0.2%	9	0.2%	33	56	0.5%	21	0.3%	32	45	0.3%	11	0.2%	32	8	0.5%
Mental and behavioral disorders due to psychoactive substances , excl alcohol & tobacco	36	0.1%	22	0.1%	0	0.0%	1	0.1%	33	8	0.1%	7	0.1%	34	14	0.1%	9	0.1%	36	11	0.1%	4	0.1%	36	3	0.2%
Rest of Mental and behavioral disorders	613	1.3%	1197	6.0%	60	1.4%	93	4.9%	12	147	1.1%	296	5.2%	11	113	1.0%	316	5.1%	10	279	1.8%	444	8.7%	9	14	0.8%
Parkinson's disease	215	0.5%	174	0.9%	26	0.6%	17	0.9%	23	31	0.2%	31	0.5%	30	42	0.4%	42	0.7%	28	109	0.7%	82	1.6%	23	7	0.4%
Alzheimer's disease	480	1.0%	205	1.0%	43	1.0%	13	0.7%	26	93	0.7%	43	0.8%	27	117	1.0%	57	0.9%	25	217	1.4%	87	1.7%	21	10	0.6%
All other diseases of the nervous system	504	1.1%	238	1.2%	31	0.7%	11	0.6%	29	102	0.8%	67	1.2%	25	98	0.8%	59	0.9%	24	258	1.7%	94	1.9%	19	15	0.9%
Acute myocardial infarction	801	1.7%	106	0.5%	58	1.3%	14	0.7%	25	239	1.8%	28	0.5%	31	170	1.4%	34	0.5%	30	304	2.0%	23	0.5%	30	30	1.7%
Chronic ischemic heart disease	7436	16.0%	1205	6.1%	717	16.4%	116	6.1%	9	2045	15.2%	310	5.4%	10	1264	10.7%	302	4.8%	12	3152	20.7%	427	8.4%	10	258	14.7%
Hypertensive heart disease	1870	4.0%	645	3.3%	150	3.4%	79	4.2%	15	729	5.4%	221	3.9%	14	397	3.4%	188	3.0%	15	534	3.5%	124	2.4%	16	60	3.4%
All other diseases of the heart	845	1.8%	4969	25.1%	59	1.3%	432	22.8%	4	263	2.0%	1382	24.1%	4	168	1.4%	1481	23.8%	4	336	2.2%	1476	29.0%	3	19	1.1%
Hypertension	689	1.5%	3444	17.4%	66	1.5%	303	16.0%	6	267	2.0%	1137	19.9%	5	155	1.3%	1018	16.3%	5	174	1.1%	833	16.4%	6	27	1.5%
Cerebrovascular disease	840	1.8%	447	2.3%	87	2.0%	50	2.6%	17	265	2.0%	140	2.4%	19	179	1.5%	137	2.2%	19	283	1.9%	104	2.0%	18	26	1.5%
All other cardiovascular diseases	310	0.7%	190	1.0%	56	1.3%	7	0.4%	30	106	0.8%	71	1.2%	24	49	0.4%	45	0.7%	27	94	0.6%	60	1.2%	25	5	0.3%
Influenza	36	0.1%	722	3.6%	6	0.1%	98	5.2%	11	12	0.1%	225	3.9%	13	6	0.1%	242	3.9%	14	11	0.1%	124	2.4%	16	1	0.1%
Pneumonia	953	2.0%	7724	39.0%	109	2.5%	734	38.7%	2	243	1.8%	2422	42.3%	2	242	2.1%	2233	35.8%	2	319	2.1%	2037	40.1%	2	40	2.3%
Asthma	107	0.2%	320	1.6%	3	0.1%	24	1.3%	21	50	0.4%	101	1.8%	21	36	0.3%	132	2.1%	21	13	0.1%	48	0.9%	26	5	0.3%
Other chronic lower respiratory disease	675	1.4%	608	3.1%	62	1.4%	37	2.0%	18	143	1.1%	159	2.8%	17	145	1.2%	143	2.3%	17	298	2.0%	239	4.7%	13	27	1.5%
Respiratory distress syndrome	30	0.1%	3255	16.4%	4	0.1%	319	16.8%	5	10	0.1%	927	16.2%	7	9	0.1%	993	15.9%	6	5	0.0%	872	17.2%	5	2	0.1%
Respiratory failure	36	0.1%	6145	31.1%	3	0.1%	561	29.6%	3	11	0.1%	1823	31.8%	3	12	0.1%	2061	33.1%	3	8	0.1%	1431	28.2%	4	2	0.1%
All other respiratory diseases	275	0.6%	434	2.2%	18	0.4%	33	1.7%	19	72	0.5%	143	2.5%	18	60	0.5%	138	2.2%	18	115	0.8%	92	1.8%	20	10	0.6%
Alcoholic liver disease	130	0.3%	11	0.1%	10	0.2%	0	0.0%	35	19	0.1%	2	0.0%	37	58	0.5%	7	0.1%	37	39	0.3%	2	0.0%	37	4	0.2%
Other chronic liver disease	69	0.1%	39	0.2%	9	0.2%	4	0.2%	31	12	0.1%	6	0.1%	36	29	0.2%	21	0.3%	32	15	0.1%	6	0.1%	35	4	0.2%
Other diseases of the digestive system	395	0.8%	204	1.0%	38	0.9%	22	1.2%	22	105	0.8%	58	1.0%	26	72	0.6%	67	1.1%	23	168	1.1%	47	0.9%	28	12	0.7%
Kidney disease	262	0.6%	1341	6.8%	27	0.6%	108	5.7%	10	93	0.7%	545	9.5%	9	61	0.5%	340	5.5%	9	70	0.5%	293	5.8%	11	11	0.6%
All other diseases of the genitourinary system	175	0.4%	331	1.7%	19	0.4%	27	1.4%	20	46	0.3%	97	1.7%	22	43	0.4%	106	1.7%	22	62	0.4%	87	1.7%	21	5	0.3%
COVID-19	19789	42.5%	19789	100.0%	1896	43.3%	1896	100.0%	1	5726	42.6%	5726	100.0%	1	6233	52.9%	6233	100.0%	1	5081	33.4%	5081	100.0%	1	853	48.5%

Table S3b. Z-scores of Causes of Death Citywide and by Age-Group, NYC 2020
Deaths From March 11th to July 27th

CONDITIONS (UCOD - MCOD)	CITYWIDE N = 46563 (100%)					ASIAN P.I. N = 4376 (9.4%)					BLACK N.H. N = 13440 (28.9%)					HISPANIC N = 11781 (25.3%)					WHITE N.H. N = 15206 (32.7%)												
	UCOD		(MCOD) COVID			2019, 2018 Avg = 1599					2019, 2018 Avg = 5314.5					2019, 2018 Avg = 4013					2019, 2018 Avg = 8368.5												
	N	%	N	%	Rank	N	%	Avg	%	Rank	Difference	Z-score	N	%	Avg	%	Rank	Difference	Z-score	N	%	Avg	%	Rank	Difference	Z-score							
Viral hepatitis	36	0.1%	46	0.2%	32	*	*	6	0.4%	28	*	*	*	*	14.0	0.3%	35	*	*	18	0.2%	18.5	0.5%	32	-0.5	-0.1	11	0.1%	17.5	0.2%	31	-6.5	-1.7
HIV	142	0.3%	86	0.4%	31	*	*	1	0.0%	36	*	*	73	0.5%	65.5	1.2%	20	7.5	0.8	48	0.4%	36.5	0.9%	23	11.5	1.5	10	0.1%	12	0.1%	34	-2.0	-0.6
All other infectious diseases	421	0.9%	779	3.9%	13	31	0.7%	29	1.8%	17	2	0.3	124	0.9%	75.5	1.4%	17	48.5	4.1	108	0.9%	61	1.5%	19	47.0	4.2	139	0.9%	109	1.3%	18	30.0	2.3
Cancer	4289	9.2%	624	3.2%	16	491	11.2%	456	28.5%	1	36	1.4	1025	7.6%	1180.0	22.2%	1	-155.0	-4.3	830	7.0%	911	22.7%	1	-81.0	-2.5	1831	12.0%	2118	25.3%	1	-287.0	-5.9
All other Neoplasms	102	0.2%	29	0.1%	35	8	0.2%	9	0.5%	25	-1	-0.2	20	0.1%	25.5	0.5%	32	-5.5	-1.1	18	0.2%	13.5	0.3%	35	4.5	1.0	54	0.4%	46	0.5%	27	8.0	1.0
Diseases of the blood and blood-forming organs	73	0.2%	215	1.1%	24	5	0.1%	4	0.3%	30	1	0.4	32	0.2%	31.5	0.6%	26	0.5	0.1	9	0.1%	17.5	0.4%	33	-8.5	-2.3	24	0.2%	14	0.2%	33	10.0	1.9
Obesity	73	0.2%	365	1.8%	20	*	*	0	0.0%	39	*	*	36	0.3%	30.5	0.6%	27	5.5	0.8	18	0.2%	10	0.2%	36	8.0	1.8	13	0.1%	20	0.2%	29	-7.0	-1.6
Diabetes	1059	2.3%	2670	13.5%	7	104	2.4%	59	3.7%	4	45	4.1	461	3.4%	263.0	4.9%	4	198.0	8.6	251	2.1%	165	4.1%	5	86.0	5.0	191	1.3%	174.5	2.1%	14	16.5	1.1
All other Endocrine, nutritional and metabolic diseases	304	0.7%	994	5.0%	12	30	0.7%	14	0.8%	22	17	2.9	87	0.6%	54.5	1.0%	22	32.5	3.2	52	0.4%	40	1.0%	21	12.0	1.5	120	0.8%	64	0.8%	23	56.0	4.8
Mental and behavioral disorders	145	0.3%	45	0.2%	33	5	0.1%	7	0.4%	27	-2	-0.8	31	0.2%	30.5	0.6%	27	0.5	0.1	56	0.5%	34	0.8%	24	22.0	2.7	45	0.3%	39	0.5%	28	6.0	0.8
Mental and behavioral disorders	36	0.1%	22	0.1%	36	0	0.0%	1	0.0%	36	-1	-1.4	8	0.1%	15.5	0.3%	34	-7.5	-2.2	14	0.1%	14.5	0.4%	34	-0.5	-0.1	11	0.1%	15	0.2%	32	-4.0	-1.0
Rest of Mental and behavioral disorders	613	1.3%	1197	6.0%	11	60	1.4%	46	2.8%	8	15	1.7	147	1.1%	116.5	2.2%	13	30.5	2.3	113	1.0%	113	2.8%	11	0.0	0.0	279	1.8%	251.5	3.0%	7	27.5	1.5
Parkinson's disease	215	0.5%	174	0.9%	28	26	0.6%	12.5	0.8%	23	*	*	31	0.2%	17.5	0.3%	33	13.5	2.3	42	0.4%	32	0.8%	27	10.0	1.4	109	0.7%	88.5	1.1%	21	20.5	1.8
Alzheimer's disease	480	1.0%	205	1.0%	25	43	1.0%	34	2.1%	14	*	*	93	0.7%	84.0	1.6%	16	9.0	0.8	117	1.0%	96	2.4%	14	21.0	1.8	217	1.4%	169.5	2.0%	15	47.5	2.9
All other diseases of the nervous system	504	1.1%	238	1.2%	23	31	0.7%	25	1.6%	18	6	1.0	102	0.8%	69.0	1.3%	19	33.0	3.0	98	0.8%	60	1.5%	20	38.0	3.6	258	1.7%	177.5	2.1%	12	80.5	4.6
Acute myocardial infarction	801	1.7%	106	0.5%	30	58	1.3%	46	2.8%	8	13	1.5	239	1.8%	176.0	3.3%	7	63.0	3.7	170	1.4%	116.5	2.9%	10	53.5	3.8	304	2.0%	293.5	3.5%	6	10.5	0.5
Chronic ischemic heart disease	7436	16.0%	1205	6.1%	10	717	16.4%	313	19.6%	2	404	14.3	2045	15.2%	1076.0	20.2%	2	969.0	20.1	1264	10.7%	665.5	16.6%	2	598.5	15.8	3152	20.7%	2039	24.4%	2	1113.0	18.4
Hypertensive heart disease	1870	4.0%	645	3.3%	15	150	3.4%	50	3.1%	6	100	7.8	729	5.4%	315.0	5.9%	3	414.0	14.6	397	3.4%	174.5	4.3%	4	222.5	10.6	534	3.5%	303	3.6%	5	231.0	9.4
All other diseases of the heart	845	1.8%	4969	25.1%	4	59	1.3%	49	3.0%	7	11	1.2	263	2.0%	184.0	3.5%	6	79.0	4.5	168	1.4%	127.5	3.2%	7	40.5	2.9	336	2.2%	313	3.7%	4	23.0	1.1
Hypertension	689	1.5%	3444	17.4%	5	66	1.5%	43	2.7%	10	23	2.6	267	2.0%	161.5	3.0%	8	105.5	6.0	155	1.3%	100.5	2.5%	13	54.5	4.1	174	1.1%	153.5	1.8%	16	20.5	1.4
Cerebrovascular disease	840	1.8%	447	2.3%	18	87	2.0%	79	4.9%	3	9	0.8	265	2.0%	199.0	3.7%	5	66.0	3.7	179	1.5%	137.5	3.4%	6	41.5	2.8	283	1.9%	229.5	2.7%	8	53.5	2.9
All other cardiovascular diseases	310	0.7%	190	1.0%	27	56	1.3%	9	0.6%	24	47	6.2	106	0.8%	63.0	1.2%	21	43.0	3.9	49	0.4%	30.5	0.8%	28	18.5	2.5	94	0.6%	70	0.8%	22	24.0	2.3
Influenza	36	0.1%	722	3.6%	14	6	0.1%	4	0.2%	31	*	*	12	0.1%	8.5	0.2%	36	3.5	0.9	6	0.1%	8.5	0.2%	37	-2.5	-0.9	11	0.1%	6.5	0.1%	37	4.5	1.3
Pneumonia	953	2.0%	7724	39.0%	2	109	2.5%	52	3.2%	5	58	5.2	243	1.8%	148.5	2.8%	9	94.5	5.6	242	2.1%	119.5	3.0%	9	122.5	7.4	319	2.1%	229.5	2.7%	8	89.5	4.6
Asthma	107	0.2%	320	1.6%	22	*	*	1	0.1%	34	*	*	50	0.4%	28.5	0.5%	30	21.5	2.8	36	0.3%	24.5	0.6%	31	11.5	1.8	13	0.1%	9.5	0.1%	36	3.5	0.9
Other chronic lower respiratory diseases	675	1.4%	608	3.1%	17	62	1.4%	35	2.2%	13	*	*	143	1.1%	135.5	2.5%	11	7.5	0.6	145	1.2%	105.5	2.6%	12	39.5	3.0	298	2.0%	330.5	3.9%	3	-32.5	-1.7
Respiratory distress syndrome	30	0.1%	3255	16.4%	6	*	*	1	0.1%	34	*	*	10	0.1%	4.5	0.1%	38	5.5	1.6	9	0.1%	1.5	0.0%	39	7.5	2.4	5	0.0%	2	0.0%	39	3.0	1.3
Respiratory failure	36	0.1%	6145	31.1%	3	*	*	1	0.0%	36	*	*	11	0.1%	3.0	0.1%	39	8.0	2.3	12	0.1%	2.5	0.1%	38	9.5	2.7	8	0.1%	2.5	0.0%	38	5.5	1.9
All other respiratory diseases	275	0.6%	434	2.2%	19	18	0.4%	24	1.5%	19	-6	-1.2	72	0.5%	44.0	0.8%	24	28.0	3.1	60	0.5%	65	1.6%	18	-5.0	-0.6	115	0.8%	95	1.1%	20	20.0	1.7
Alcoholic liver disease	130	0.3%	11	0.1%	37	10	0.2%	5	0.3%	29	6	1.6	19	0.1%	26.5	0.5%	31	-7.5	-1.5	58	0.5%	67.5	1.7%	17	-9.5	-1.1	39	0.3%	46.5	0.6%	26	-7.5	-1.1
Other chronic liver disease	69	0.1%	39	0.2%	34	9	0.2%	4	0.2%	31	6	1.8	12	0.1%	8.5	0.2%	36	3.5	0.9	29	0.2%	28.5	0.7%	29	0.5	0.1	15	0.1%	20	0.2%	29	-5.0	-1.1
Other diseases of the digestive system	395	0.8%	204	1.0%	26	38	0.9%	34	2.1%	15	5	0.7	105	0.8%	94.5	1.8%	15	10.5	0.9	72	0.6%	82	2.0%	16	-10.0	-1.0	168	1.1%	138.5	1.7%	17	29.5	2.1
Kidney disease	262	0.6%	1341	6.8%	9	27	0.6%	21	1.3%	20	6	1.1	93	0.7%	54.5	1.0%	22	38.5	3.7	61	0.5%	33.5	0.8%	25	27.5	3.3	70	0.5%	52	0.6%	24	18.0	2.0
All other diseases of the genitourinary system	175	0.4%	331	1.7%	21	19	0.4%	7.5	0.5%	26	*	*	46	0.3%	29.0	0.5%	29	17.0	2.3	43	0.4%	27.5	0.7%	30	15.5	2.2	62	0.4%	49.5	0.6%	25	12.5	1.4
COVID-19	19789	42.5%	19789	100.0%	1	1896	43.3%	0	0.0%	39	1896	42.6	5726	42.6%	0	0.0%	40	5726.0	75.7	6233	52.9%	0	0.0%	40	6233.0	78.9	5081	33.4%	0	0.0%	40	5081.0	71.3
All other natural causes†	663	1.4%	1998	10.1%	8	66	1.5%	37	2.3%	12	29	6.1	184	1.4%	131.0	2.5%	12	93.0	3.6	132	1.1%	91.5	2.3%	15	40.5	3.3	250	1.6%	181.5	2.2%	11	68.5	4.0
Accidental poisoning by psychoactive substances	797	1.7%	3	0.0%	38	14	0.3%	15	0.9%	21	-1	-3.6	232	1.7%	138.5	2.6%	10	93.5	5.7	245	2.1%	185	4.6%	3	60.0	3.5	281	1.8%	193.5	2.3%	10	87.5	4.8
Suicide	222	0.5%	1	0.0%	40	27	0.6%	31	1.9%	16	-4	4.6	38	0.3%	33.0	0.6%	25	5.0	0.7	51	0.4%	39											

Table S4a. The Multiple Causes of Death and Indication of Mention of COVID-19 Related Comorbidity Citywide and by Age-Group, NYC 2020
Deaths From March 11th to July 27th

CONDITIONS (UCOD ~ MCOD)	CITYWIDE N = 46563 (100%)				Less than 45 N = 2514 (5.4%)				45 to 64 N = 9490 (20.4%)				65 to 84 N = 21064 (45.2%)				85 and older N = 13495 (29.0%)						
	UCOD		(MCOD COVID)		UCOD		(MCOD COVID)		UCOD		(MCOD COVID)		UCOD		(MCOD COVID)		UCOD		(MCOD COVID)				
	N	%	N	%	N	%	Rank	N	%	N	%	Rank	N	%	N	%	Rank	N	%	N	%		
Viral hepatitis	36	0.1%	46	0.2%	*	*	0	0.0%	36	9	0.1%	17	0.4%	32	23	0.1%	26	0.3%	32	*	*	3	0.1%
HIV	142	0.3%	86	0.4%	31	1.2%	4	0.6%	27	68	0.7%	37	0.8%	26	41	0.2%	42	0.4%	31	*	*	3	0.1%
All other infectious diseases	421	0.9%	779	3.9%	33	1.3%	40	5.6%	11	87	0.9%	212	4.7%	11	216	1.0%	416	4.1%	13	85	0.6%	111	2.5%
Cancer	4289	9.2%	624	3.2%	178	7.1%	11	1.5%	19	1166	12.3%	116	2.6%	16	2204	10.5%	390	3.9%	14	741	5.5%	107	2.4%
All other Neoplasms	102	0.2%	29	0.1%	5	0.2%	1	0.1%	32	16	0.2%	6	0.1%	35	51	0.2%	13	0.1%	34	30	0.2%	9	0.2%
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	73	0.2%	215	1.1%	17	0.7%	12	1.7%	18	17	0.2%	55	1.2%	25	29	0.1%	103	1.0%	25	10	0.1%	45	1.0%
Obesity	73	0.2%	365	1.8%	26	1.0%	63	8.8%	8	32	0.3%	178	3.9%	12	15	0.1%	121	1.2%	22	*	*	3	0.1%
Diabetes	1059	2.3%	2670	13.5%	59	2.3%	75	10.4%	6	235	2.5%	656	14.5%	6	513	2.4%	1484	14.7%	7	252	1.9%	455	10.2%
All other Endocrine, nutritional and metabolic diseases	304	0.7%	994	5.0%	15	0.6%	16	2.2%	15	44	0.5%	154	3.4%	15	135	0.6%	569	5.7%	11	110	0.8%	255	5.7%
Mental and behavioral disorders due to alcohol	145	0.3%	45	0.2%	46	1.8%	10	1.4%	20	73	0.8%	20	0.4%	30	24	0.1%	14	0.1%	33	*	*	1	0.0%
Mental and behavioral disorders due to psychoactive substances, excl alcohol & tobacco	36	0.1%	22	0.1%	14	0.6%	5	0.7%	26	17	0.2%	8	0.2%	33	5	0.0%	9	0.1%	36	*	*	0	0.0%
Rest of Mental and behavioral disorders	613	1.3%	1197	6.0%	5	0.2%	10	1.4%	20	13	0.1%	102	2.3%	17	182	0.9%	559	5.6%	12	413	3.1%	526	11.7%
Parkinson's disease	215	0.5%	174	0.9%	*	*	0	0.0%	36	5	0.1%	5	0.1%	36	108	0.5%	114	1.1%	24	102	0.8%	55	1.2%
Alzheimer's disease	480	1.0%	205	1.0%	*	*	0	0.0%	36	5	0.1%	2	0.0%	37	130	0.6%	92	0.9%	28	345	2.6%	111	2.5%
All other diseases of the nervous system	504	1.1%	238	1.2%	36	1.4%	15	2.1%	16	73	0.8%	64	1.4%	23	155	0.7%	117	1.2%	23	240	1.8%	42	0.9%
Acute myocardial infarction	801	1.7%	106	0.5%	12	0.5%	1	0.1%	32	115	1.2%	24	0.5%	29	349	1.7%	59	0.6%	30	325	2.4%	22	0.5%
Chronic ischemic heart disease	7436	16.0%	1205	6.1%	55	2.2%	3	0.4%	29	899	9.5%	169	3.7%	14	3209	15.2%	636	6.3%	10	3273	24.3%	397	8.9%
Hypertensive heart disease	1870	4.0%	645	3.3%	46	1.8%	18	2.5%	14	370	3.9%	174	3.8%	13	750	3.6%	323	3.2%	16	704	5.2%	130	2.9%
All other diseases of the heart	845	1.8%	4969	25.1%	58	2.3%	159	22.1%	4	148	1.6%	1009	22.3%	4	313	1.5%	2484	24.7%	4	326	2.4%	1317	29.4%
Hypertension	689	1.5%	3444	17.4%	15	0.6%	43	6.0%	10	95	1.0%	574	12.7%	7	302	1.4%	1922	19.1%	5	277	2.1%	905	20.2%
Cerebrovascular disease	840	1.8%	447	2.3%	29	1.2%	7	1.0%	25	126	1.3%	77	1.7%	21	356	1.7%	259	2.6%	18	329	2.4%	104	2.3%
All other cardiovascular diseases	310	0.7%	190	1.0%	18	0.7%	8	1.1%	23	63	0.7%	31	0.7%	27	96	0.5%	93	0.9%	27	133	1.0%	58	1.3%
Influenza	36	0.1%	722	3.6%	*	*	48	6.7%	9	8	0.1%	258	5.7%	10	15	0.1%	307	3.1%	17	9	0.1%	109	2.4%
Pneumonia	953	2.0%	7724	39.0%	20	0.8%	228	31.8%	2	150	1.6%	1703	37.6%	2	454	2.2%	4012	39.9%	2	329	2.4%	1781	39.7%
Asthma	107	0.2%	320	1.6%	22	0.9%	31	4.3%	13	38	0.4%	101	2.2%	18	34	0.2%	144	1.4%	21	13	0.1%	44	1.0%
Other chronic lower respiratory disease	675	1.4%	608	3.1%	*	*	1	0.1%	32	94	1.0%	92	2.0%	19	348	1.7%	341	3.4%	15	229	1.7%	174	3.9%
Respiratory distress syndrome	30	0.1%	3255	16.4%	*	*	136	18.9%	5	5	0.1%	794	17.5%	5	13	0.1%	1700	16.9%	6	8	0.1%	625	13.9%
Respiratory failure	36	0.1%	6145	31.1%	*	*	203	28.3%	3	6	0.1%	1423	31.4%	3	18	0.1%	3208	31.9%	3	10	0.1%	1311	29.3%
All other respiratory diseases	275	0.6%	434	2.2%	11	0.4%	14	1.9%	17	40	0.4%	83	1.8%	20	140	0.7%	219	2.2%	19	84	0.6%	118	2.6%
Alcoholic liver disease	130	0.3%	11	0.1%	39	1.6%	2	0.3%	31	66	0.7%	7	0.2%	34	24	0.1%	2	0.0%	37	*	*	0	0.0%
Other chronic liver disease	69	0.1%	39	0.2%	6	0.2%	4	0.6%	27	23	0.2%	18	0.4%	31	33	0.2%	13	0.1%	34	7	0.1%	4	0.1%
Other diseases of the digestive system	395	0.8%	204	1.0%	40	1.6%	8	1.1%	23	90	0.9%	58	1.3%	24	176	0.8%	94	0.9%	26	89	0.7%	44	1.0%
Kidney disease	262	0.6%	1341	6.8%	6	0.2%	37	5.2%	12	62	0.7%	305	6.7%	9	121	0.6%	731	7.3%	9	73	0.5%	268	6.0%
All other diseases of the genitourinary system	175	0.4%	331	1.7%	*	*	9	1.3%	22	28	0.3%	65	1.4%	22	77	0.4%	179	1.8%	20	66	0.5%	78	1.7%

Table S4b. Z-scores of Causes of Death Citywide and by Age-Group, NYC 2020
Deaths From March 11th to July 27th

CONDITIONS (UCOD ~ MCODE)	CITYWIDE N = 46563 (100%)					Less than 45 N = 2514 (5.4%)					45 to 64 N = 9490 (20.4%)					65 to 84 N = 21064 (45.2%)					85 and older N = 13495 (29.0%)												
	UCOD		(MCODE COVID)			UCOD		2019, 2018 Avg = 1432			UCOD		2019, 2018 Avg = 4017			UCOD		2019, 2018 Avg = 8359			UCOD		2019, 2018 Avg = 6178										
	N	%	N	%	Rank	N	%	Avg	%	Rank	Difference	Z-score	N	%	Avg	%	Rank	Difference	Z-score	N	%	Avg	%	Rank	Difference	Z-score							
Viral hepatitis	36	0.1%	46	0.2%	32	*	*	2.5	1.5%	31	*	*	9	0.1%	28.0	0.7%	25	-19.0	-4.8	23	0.1%	26	0.3%	35	-3.0	-0.6	*	0.0%	2.5	0.0%	35	*	*
HIV	142	0.3%	86	0.4%	31	31	1.2%	21.0	1.6%	15	10	1.7	68	0.7%	69.0	1.7%	15	-1.0	-0.1	41	0.2%	29	0.3%	27	12.0	1.7	*	0.0%	1	0.0%	27	*	*
All other infectious diseases	421	0.9%	779	3.9%	13	33	1.3%	23.0	13.7%	12	10	1.6	87	0.9%	57.5	1.4%	19	29.5	2.9	216	1.0%	129	1.5%	17	87.0	5.5	85	0.6%	77	1.2%	17	8	0.8
Cancer	4289	9.2%	624	3.2%	16	178	7.1%	196.0	0.3%	3	-18	-1.2	1166	12.3%	1267.5	31.6%	1	-101.5	-2.6	2204	10.5%	2486.5	29.7%	1	-282.5	-5.3	741	5.5%	844	13.7%	1	-103	-3.3
All other Neoplasms	102	0.2%	29	0.1%	35	5	0.2%	5.0	1.0%	29	0	0.0	16	0.2%	19.5	0.5%	32	-3.5	-0.8	51	0.2%	41	0.5%	26	10.0	1.3	30	0.2%	31	0.5%	26	-1	-0.2
Diseases of the blood and blood-forming organs and certain disorders involi	73	0.2%	215	1.1%	24	17	0.7%	14.0	1.3%	22	3	0.7	17	0.2%	23.0	0.6%	28	-6.0	-1.3	29	0.1%	24.5	0.3%	27	4.5	0.8	10	0.1%	9	0.1%	27	1	0.3
Obesity	73	0.2%	365	1.8%	20	26	1.0%	18.5	2.0%	18	8	1.4	32	0.3%	34.0	0.8%	22	-2.0	-0.3	15	0.1%	11.5	0.1%	27	3.5	0.8	*	0.0%	0	0.0%	27	*	*
Diabetes	1059	2.3%	2670	13.5%	7	59	2.3%	28.0	1.0%	11	31	3.8	235	2.5%	177.0	4.4%	5	58.0	3.5	513	2.4%	340.5	4.1%	7	172.5	7.1	252	1.9%	151	2.4%	7	101	5.9
All other Endocrine, nutritional and metabolic diseases	304	0.7%	994	5.0%	12	15	0.6%	14.5	2.4%	21	1	0.1	44	0.5%	21.5	0.5%	31	22.5	3.2	135	0.6%	84	1.0%	20	51.0	4.1	110	0.8%	58.5	0.9%	20	52	4.6
Mental and behavioral disorders due to alcohol	145	0.3%	45	0.2%	33	46	1.8%	35.0	0.9%	10	11	1.5	73	0.8%	63.5	1.6%	18	9.5	1.0	24	0.1%	16.5	0.2%	32	7.5	1.4	*	0.0%	2	0.0%	32	*	*
Mental and behavioral disorders due to psychoactive substances, excl alcohol	36	0.1%	22	0.1%	36	14	0.6%	13.0	0.2%	24	1	0.2	17	0.2%	28.5	0.7%	24	-11.5	-2.3	5	0.0%	5	0.1%	36	0.0	0.0	*	0.0%	0	0.0%	36	*	*
Rest of Mental and behavioral disorders	613	1.3%	1197	6.0%	11	5	0.2%	3.0	0.0%	30	2	0.8	13	0.1%	10.0	0.2%	34	3.0	0.8	182	0.9%	168	2.0%	6	14.0	0.9	413	3.1%	361.5	5.9%	6	52	2.3
Parkinson's disease	215	0.5%	174	0.9%	28	*	*	0.0	0.0%	39	*	*	5	0.1%	7.0	0.2%	36	-2.0	-0.8	108	0.5%	81	1.0%	23	27.0	2.4	102	0.8%	66.5	1.1%	23	36	3.3
Alzheimer's disease	480	1.0%	205	1.0%	25	*	*	0.5	2.6%	37	*	*	5	0.1%	3.5	0.1%	37	1.5	0.6	130	0.6%	100	1.2%	11	30.0	2.4	345	2.6%	289.5	4.7%	11	56	2.7
All other diseases of the nervous system	504	1.1%	238	1.2%	23	36	1.4%	37.0	0.5%	8	-1	-0.1	73	0.8%	47.5	1.2%	20	25.5	2.8	155	0.7%	113.5	1.4%	14	41.5	3.1	240	1.8%	146	2.4%	14	94	5.7
Acute myocardial infarction	801	1.7%	106	0.5%	30	12	0.5%	6.5	3.2%	26	6	1.5	115	1.2%	110.5	2.8%	8	4.5	0.4	349	1.7%	297	3.6%	9	52.0	2.5	325	2.4%	247.5	4.0%	9	78	3.9
Chronic ischemic heart disease	7436	16.0%	1205	6.1%	10	55	2.2%	46.5	1.4%	7	9	1.0	899	9.5%	549.5	13.7%	2	349.5	10.9	3209	15.2%	1793.5	21.5%	2	1415.5	23.4	3273	24.3%	1844.5	29.9%	2	1429	23.4
Hypertensive heart disease	1870	4.0%	645	3.3%	15	46	1.8%	20.0	2.5%	16	26	3.6	370	3.9%	178.5	4.4%	4	191.5	9.4	750	3.6%	362	4.3%	3	388.0	13.4	704	5.2%	312.5	5.1%	3	392	14.0
All other diseases of the heart	845	1.8%	4969	25.1%	4	58	2.3%	36.5	0.4%	9	22	2.6	148	1.6%	112.0	2.8%	7	36.0	2.7	313	1.5%	272.5	3.3%	5	40.5	2.1	326	2.4%	273	4.4%	5	53	2.7
Hypertension	689	1.5%	3444	17.4%	5	15	0.6%	5.5	1.1%	28	10	2.3	95	1.0%	64.0	1.6%	17	31.0	2.9	302	1.4%	219.5	2.6%	12	82.5	4.4	277	2.1%	187.5	3.0%	12	90	5.0
Cerebrovascular disease	840	1.8%	447	2.3%	18	29	1.2%	15.5	0.9%	20	14	2.4	126	1.3%	99.0	2.5%	9	27.0	2.2	356	1.7%	301	3.6%	4	55.0	2.6	329	2.4%	254.5	4.1%	4	75	3.8
All other cardiovascular diseases	310	0.7%	190	1.0%	27	18	0.7%	13.5	0.1%	23	5	1.0	63	0.7%	34.5	0.9%	21	28.5	3.4	96	0.5%	74	0.9%	21	22.0	2.1	133	1.0%	55.5	0.9%	21	78	6.4
Influenza	36	0.1%	722	3.6%	14	*	*	1.0	1.4%	36	*	*	8	0.1%	7.5	0.2%	35	0.5	0.2	15	0.1%	11	0.1%	37	4.0	0.9	9	0.1%	7.5	0.1%	37	2	0.5
Pneumonia	953	2.0%	7724	39.0%	2	20	0.8%	19.5	1.3%	17	1	0.1	150	1.6%	64.5	1.6%	16	85.5	6.6	454	2.2%	249.5	3.0%	10	204.5	9.0	329	2.4%	238	3.9%	10	91	4.6
Asthma	107	0.2%	320	1.6%	22	22	0.9%	18.0	0.2%	19	4	0.8	38	0.4%	23.0	0.6%	28	15.0	2.3	34	0.2%	20.5	0.2%	27	13.5	2.2	13	0.1%	3.5	0.1%	27	10	2.6
Other chronic lower respiratory disease	675	1.4%	608	3.1%	17	*	*	2.5	0.2%	31	*	*	94	1.0%	83.0	2.1%	12	11.0	1.0	348	1.7%	322.5	3.9%	8	25.5	1.2	229	1.7%	214	3.5%	8	15	0.9
Respiratory distress syndrome	30	0.1%	3255	16.4%	6	*	*	2.5	0.0%	31	*	*	5	0.1%	1.5	0.0%	39	4.5	2.0	13	0.1%	3.5	0.0%	39	9.5	2.6	8	0.1%	2.5	0.0%	39	6	1.9
Respiratory failure	36	0.1%	6145	31.1%	3	*	*	0.5	0.9%	37	*	*	6	0.1%	1.5	0.0%	38	4.5	1.8	18	0.1%	3	0.0%	38	15.0	3.5	10	0.1%	3.5	0.1%	38	7	2.0
All other respiratory diseases	275	0.6%	434	2.2%	19	11	0.4%	13.0	1.6%	24	-2	-0.5	40	0.4%	33.0	0.8%	23	7.0	1.0	140	0.7%	115	1.4%	19	25.0	1.9	84	0.6%	75	1.2%	19	9	0.9
Alcoholic liver disease	130	0.3%	11	0.1%	37	39	1.6%	23.0	0.1%	12	16	2.4	66	0.7%	90.0	2.2%	10	-24.0	-2.6	24	0.1%	38.5	0.5%	31	-14.5	-2.5	*	0.0%	3	0.0%	31	*	*
Other chronic liver disease	69	0.1%	39	0.2%	34	6	0.2%	2.0	1.5%	35	4	1.6	23	0.2%	22.0	0.5%	30	1.0	0.2	33	0.2%	34.5	0.4%	33	-1.5	-0.2	7	0.1%	4	0.1%	33	3	1.1
Other diseases of the digestive system	395	0.8%	204	1.0%	26	40	1.6%	21.5	0.5%	14	19	2.7	90	0.9%	76.0	1.9%	13	14.0	1.3	176	0.8%	151.5	1.8%	15	24.5	1.7	89	0.7%	109.5	1.8%	15	-21	-1.9
Kidney disease	262	0.6%	1341	6.8%	9	6	0.2%	6.5	0.2%	26	-1	-0.2	62	0.7%	28.0	0.7%	25	34.0	4.1	121	0.6%	84.5	1.0%	22	36.5	3.1	73	0.5%	51	0.8%	22	22	2.4
All other diseases of the genitourinary system	175	0.4%	331	1.7%	21	*	*	2.5	0.0%	31	*	*	28	0.3%	16.5	0.4%	33	11.5	2.0	77	0.4%	53	0.6%	24	24.0	2.5	66	0.5%	45.5	0.7%	24	21	2.3
COVID-19	19789	42.5%	19789	100.0%	1	718	28.6%	0	14.5%	39	718	18.4	4527	47.7%	0	0.0%	40	4527.0	67.3	10062	47.8%	0	0.0%	40	10062.0	100.3	4482	33.2%	0	0.0%	40	4482	66.9
All other natural causes†	663	1.4%	1998	10.1%	8	160	6.4%	207.0	16.7%	2	-47	-5.4	75	0.8%	76.0	1.9%	13	-1.0	-0.1	125	0.6%	88.5	1.1%	13	36.5	3.0	303	2.2%	104.5	1.7%	13	199	10.9
Accidental poisoning by psychoactive substances or alcohol regardless of int	797	1.7%	3	0.0%	38	375	14.9%	239.5	6.8%	1	136	13.9	383	4.0%	261.5	6.5%	3	121.5	5.7	39	0.2%	44.5	0.5%	18	-5.5	-0.8	*	0.0%	1	0.0%	18	*	*
Suicide	222	0.5%	1	0.0%	40	92	3.7%	98.0	6.5%	5	-6	0.0	79	0.8%	86.0	2.1%	11	-7.0	-0.7	43	0.2%	31	0.4%	24	12.0	1.7	8	0.1%	5.5	0.1%	24	3	0.8
Homicide	187	0.4%	2	0.0%	39	151																											

