

2021 Ohio Rural Health Conference

Mortality Data 2010 - 2019

Prepared by:

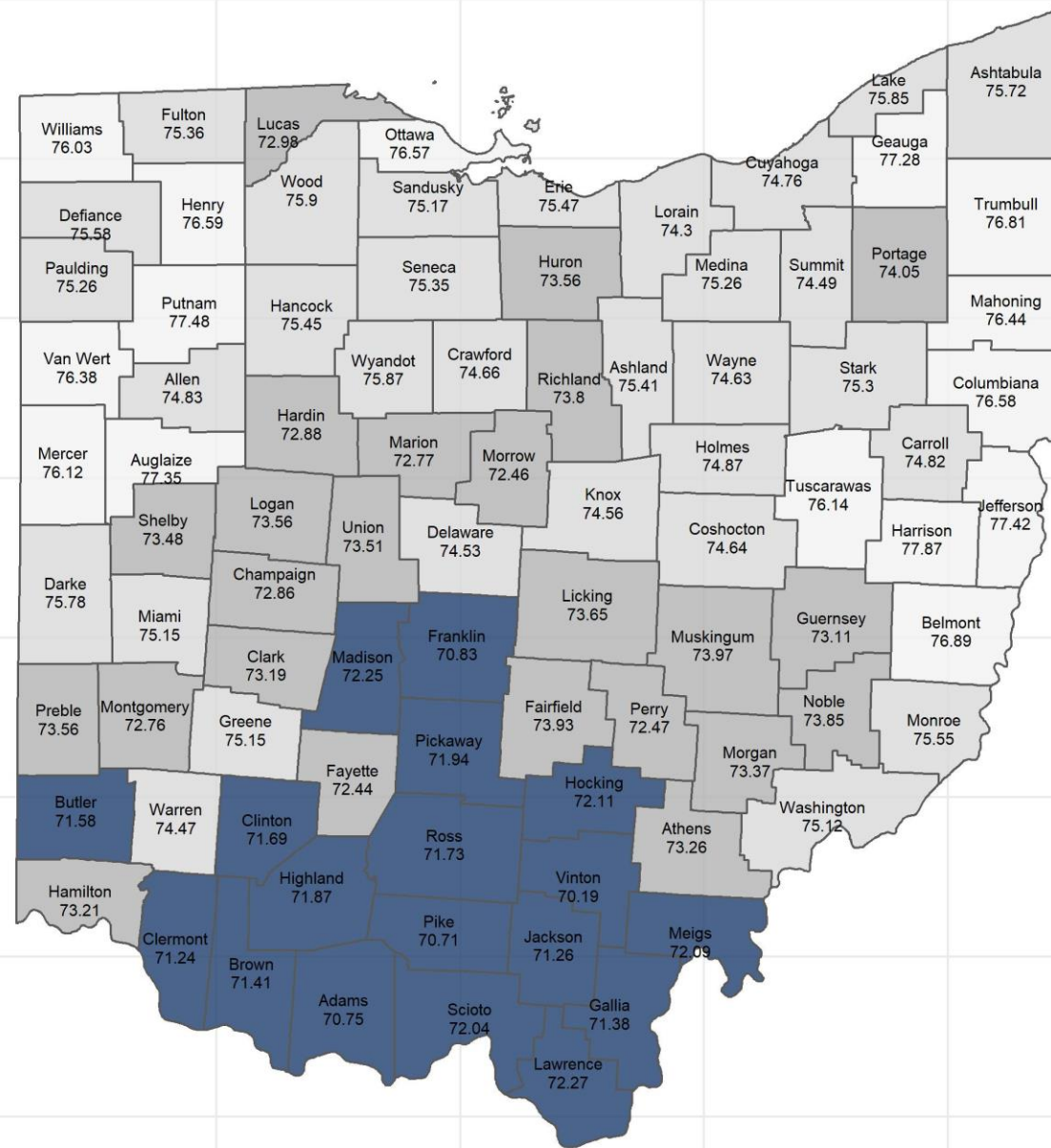
The OHIO Alliance for Population Health

College of Health Sciences and Professions, Ohio University

The Voinovich School of Leadership and Public Affairs, Ohio University



Average Age of Death: 2019



Rate (70.2,72.3] (72.3,74] (74,75.9] (75.9,77.9]

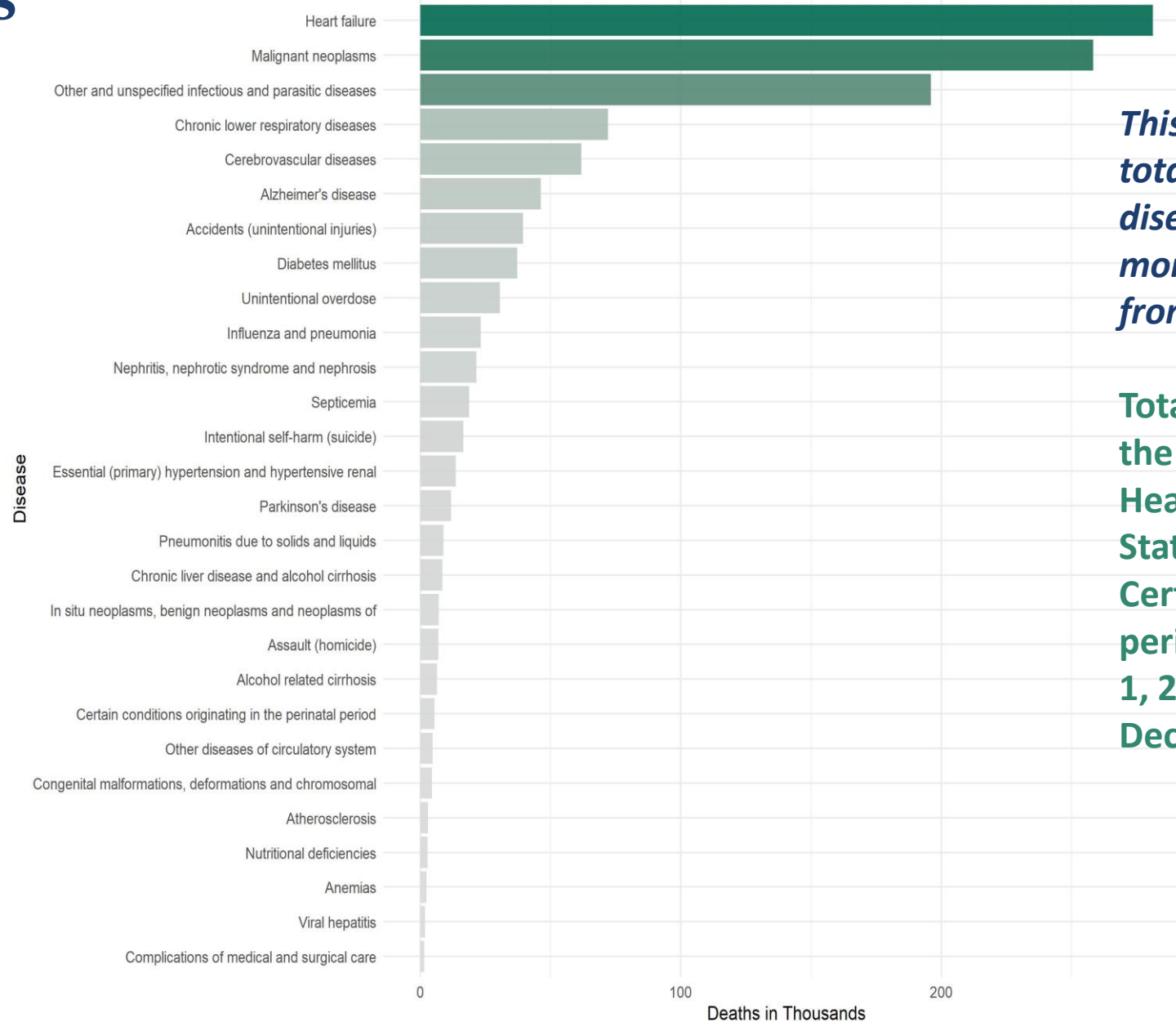
This figure represents the average age of death for all 2019 Ohio decedents by County.

Total deaths recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2019, and ending December 31, 2019.

Table 1A: Deaths by Disease Category and Year
Ohio, 2010 - 2019

Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total	Change
Heart failure	26731	26940	27053	27543	27643	28680	28157	28712	29921	29819	281199	11.6%
Malignant neoplasms	25573	25642	25813	25550	25906	25928	26092	26232	25756	25755	258247	0.7%
Other and unspecified infectious and parasitic diseases	17221	18582	19092	19677	19480	19455	19643	20805	20984	21001	195940	21.9%
Chronic lower respiratory diseases	6842	7137	7202	7156	6899	7330	7146	7428	7661	7314	72115	6.9%
Cerebrovascular diseases	5901	5857	5923	5861	5991	6091	6172	6608	6738	6691	61833	13.4%
Alzheimer's disease	4167	4112	4012	3867	4157	4730	5124	5233	5507	5329	46238	27.9%
Accidents (unintentional injuries)	3640	3707	3710	3564	3838	3893	4145	4333	4207	4480	39517	23.1%
Diabetes mellitus	3525	3732	3676	3631	3697	3702	3622	3812	3917	3934	37248	11.6%
Unintentional overdose	1587	1822	1968	2171	2602	3149	4170	5005	3901	4180	30555	163.4%
Influenza and pneumonia	2040	2362	2255	2445	2528	2507	2259	2316	2473	1993	23178	-2.3%
Nephritis, nephrotic syndrome and nephrosis	2108	2012	2113	2048	2063	2149	2314	2288	2265	2220	21580	5.3%
Septicemia	1564	1647	1679	1804	1790	2005	2061	2148	2136	1973	18807	26.2%
Intentional self-harm (suicide)	1450	1498	1572	1562	1529	1687	1763	1787	1888	1841	16577	27.0%
Essential (primary) hypertension and hypertensive renal	1233	1316	1288	1340	1386	1415	1415	1408	1414	1417	13632	14.9%
Parkinson's disease	938	982	1048	1107	1108	1147	1269	1314	1460	1506	11879	60.6%

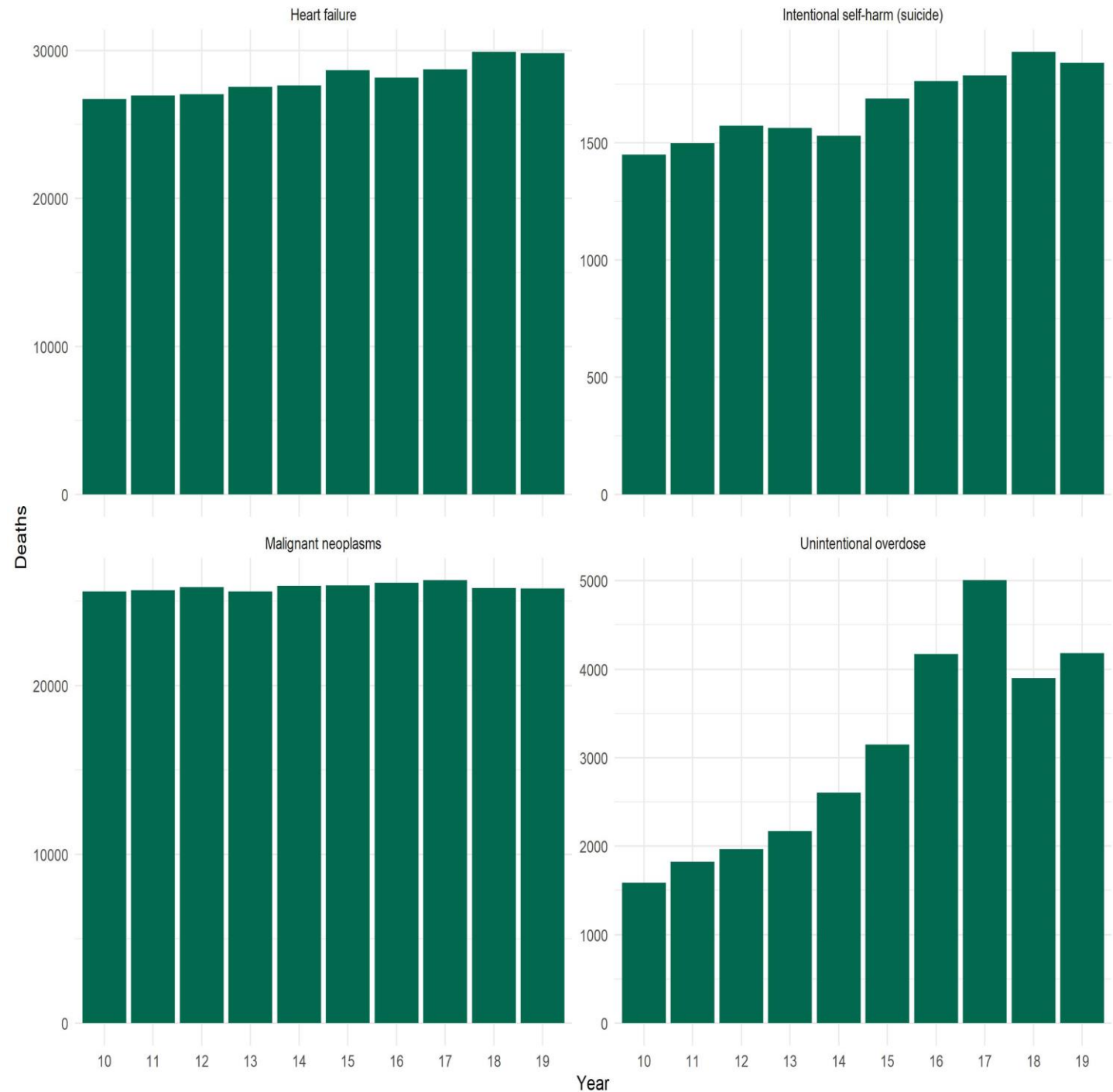
All Fatalities by Disease: 2010 - 2019



This figure represents total Ohio fatalities for disease categories with more than 1,500 deaths from 2010 through 2019.

Total deaths recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Deaths by Selected Diseases: 2010 - 2019



Years of Life Lost Methodology

YLL were calculated by subtracting the age at death from the standard life expectancy for each decedent ($YLL = \text{standard life expectancy} - \text{age at death}$). Male and female life expectancy at each individual age was determined from the Social Security Administration Period Life Table.

Hall, O. Trent DO; Hall, Orman E. MA; McGrath, Ryan P. PhD; Haile, Zelalem T. PhD Years of Life Lost due to Opioid Overdose in Ohio: Temporal and Geographic Patterns of Excess Mortality, Journal of Addiction Medicine: March/April 2020 - Volume 14 - Issue 2 - p 156-162

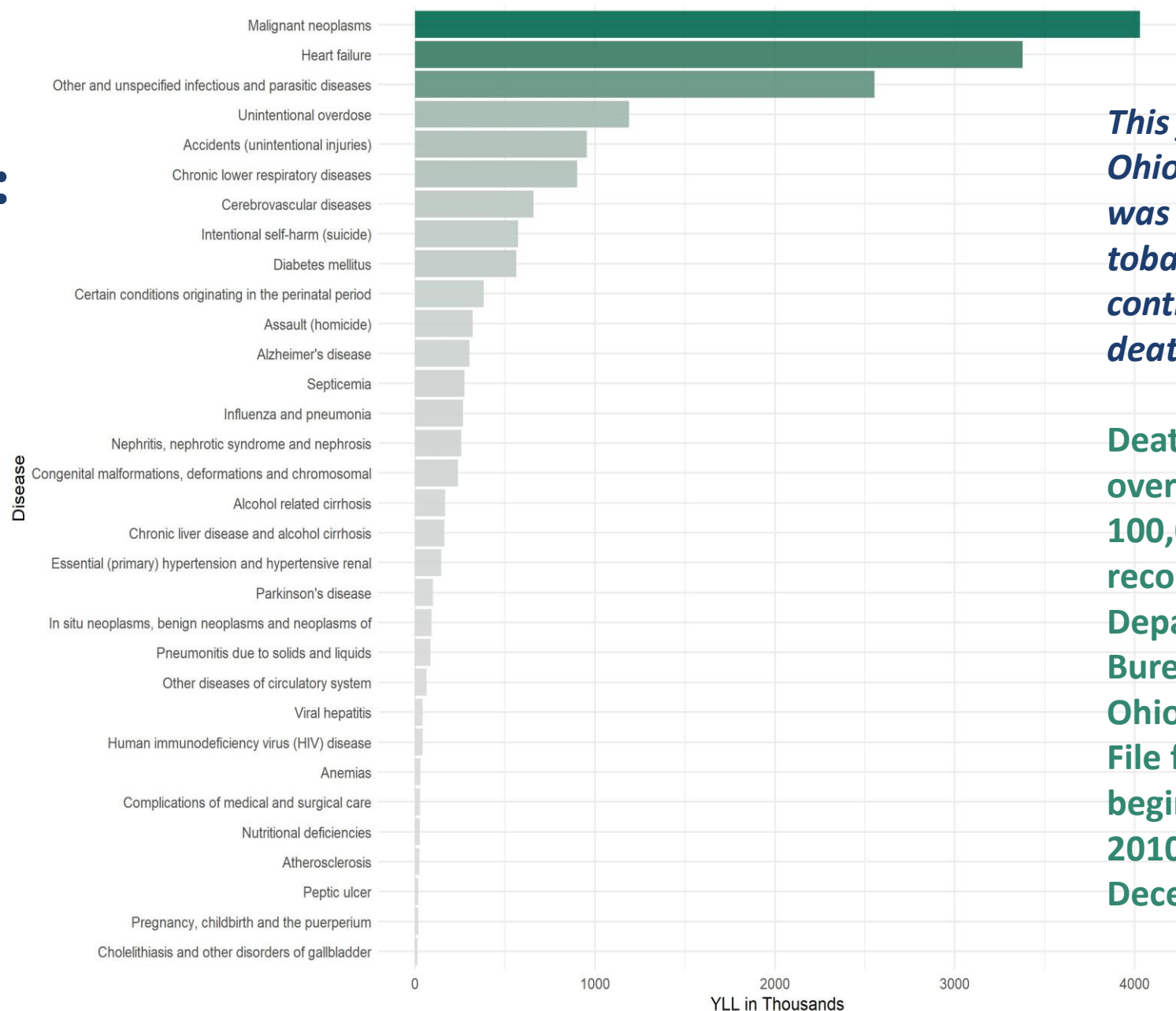
doi: 10.1097/ADM.0000000000000554

Table 2A: Years of Life Lost by Disease Category and Year

Ohio, 2010 - 2019

Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Malignant neoplasms	402,319	400,489	405,434	402,843	408,469	406,163	405,500	408,288	396,988	393,152	4,029,643
Heart failure	320,527	317,876	324,077	329,918	331,215	343,496	344,035	349,399	358,366	357,845	3,376,754
Other and unspecified infectious and parasitic diseases	229,519	239,949	242,511	247,743	247,757	256,880	261,218	275,513	276,347	275,969	2,553,405
Unintentional overdose	61,751	68,859	75,830	82,784	101,586	124,485	165,312	196,143	153,031	160,938	1,190,718
Accidents (unintentional injuries)	93,460	92,832	91,747	87,456	89,819	95,307	99,287	103,784	98,763	103,203	955,657
Chronic lower respiratory diseases	83,438	87,463	88,872	89,241	86,214	91,597	90,660	94,256	95,747	92,960	900,448
Cerebrovascular diseases	64,269	63,431	63,020	63,862	63,756	64,528	66,344	69,824	70,764	70,034	659,831
Intentional self-harm (suicide)	50,943	52,169	53,485	52,503	52,520	58,168	60,312	63,233	65,382	63,659	572,373
Diabetes mellitus	52,370	55,550	53,691	55,654	56,171	55,736	55,631	58,993	60,119	59,473	563,389
Certain conditions originating in the perinatal period	39,533	40,813	39,897	38,327	38,610	37,427	40,189	39,291	34,270	34,372	382,730
Assault (homicide)	26,434	29,112	30,132	31,321	27,320	31,958	34,436	39,589	35,125	34,540	319,969
Alzheimer's disease	27,697	27,192	25,933	25,347	26,998	30,126	33,261	34,527	36,396	35,134	302,611
Septicemia	23,112	24,974	24,062	25,956	25,858	29,370	30,228	31,138	31,249	28,853	274,801
Influenza and pneumonia	22,766	27,649	24,000	27,084	29,410	26,966	28,434	26,391	29,906	25,157	267,764
Nephritis, nephrotic syndrome and nephrosis	24,175	23,699	25,326	24,398	24,504	25,780	27,959	27,366	27,001	27,968	258,176

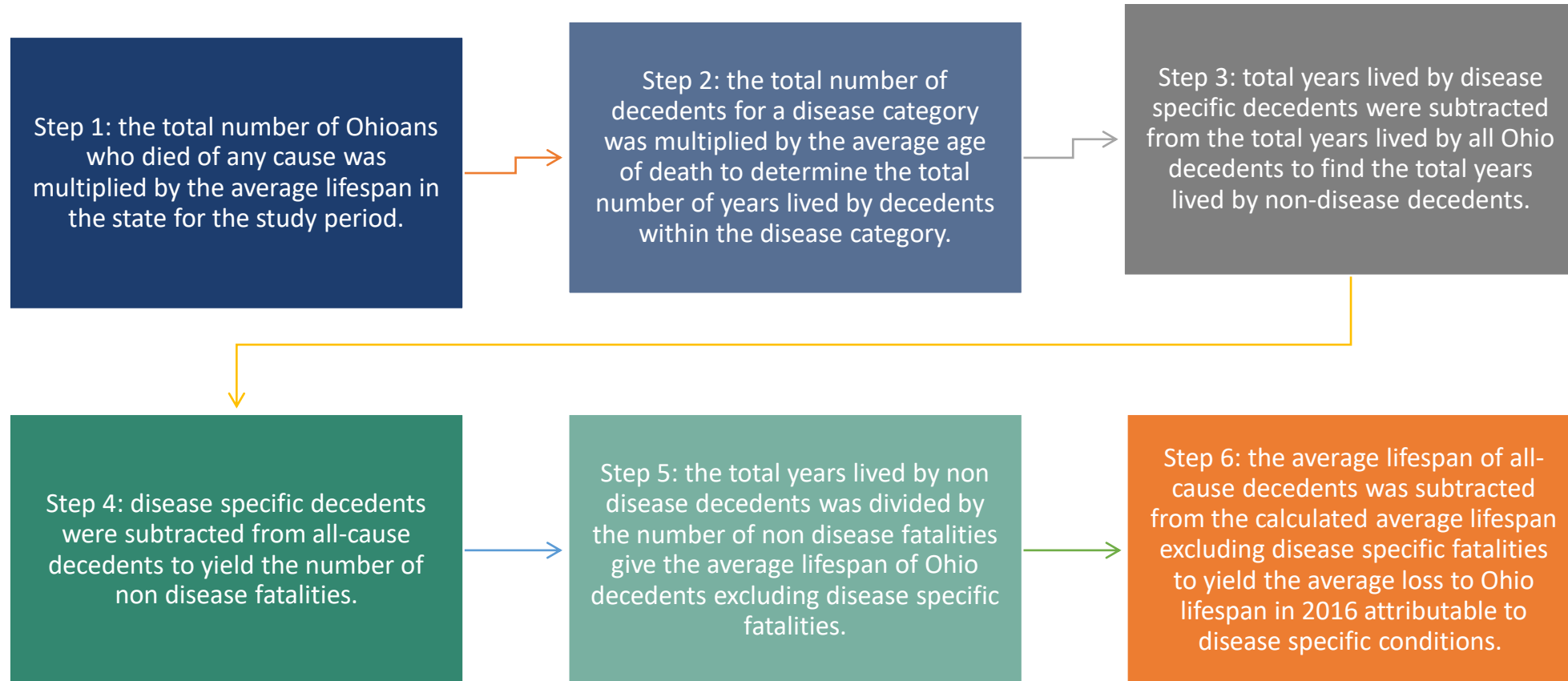
Years of Life Lost by Disease: 2010 - 2019



This figure represents Ohio fatalities where it was determined that tobacco was a contributing cause of death.

Deaths represent average overdose death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Effect on Lifespan Methodology



Hall, O. Trent DO; Hall, Orman E. MA; McGrath, Ryan P. PhD; Haile, Zelalem T. PhD Years of Life Lost due to Opioid Overdose in Ohio: Temporal and Geographic Patterns of Excess Mortality, Journal of Addiction Medicine: March/April 2020 - Volume 14 - Issue 2 - p 156-162

doi: 10.1097/ADM.0000000000000554

Effect on Lifespan Example

Unintentional Overdose

2010 - 2019



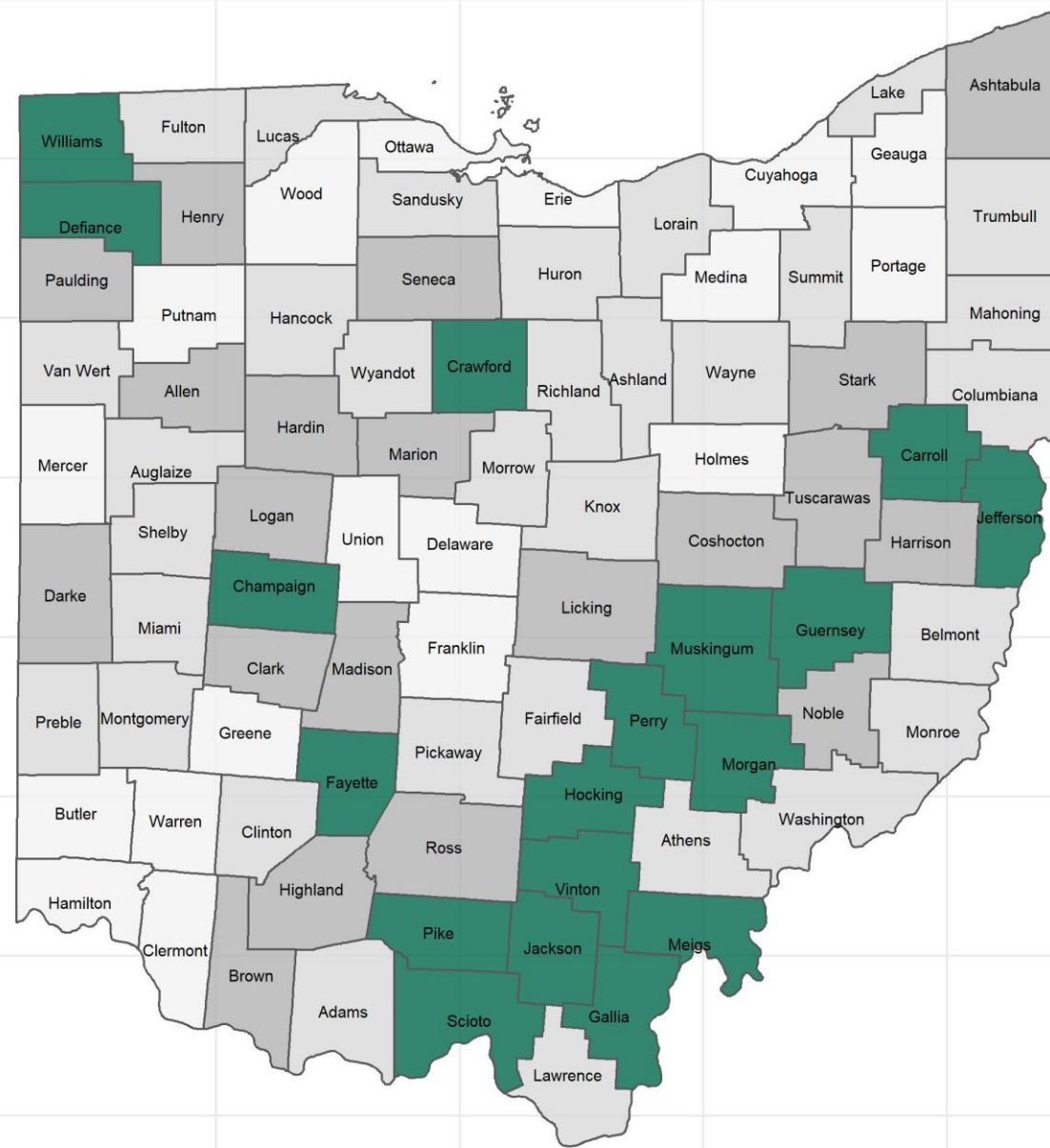
Category	Calculation
All Decedents	
Total Deaths	1,199,799
Total Years	89,384,217
Average Years	74.5
Overdose	
Total Deaths	30,555
Total Years	1,304,314
Average Years	42.7
Non-Overdose	
Total Deaths	1,169,244
Total Years	88,079,903
Average Years	75.3
EOL	- 0.83
EOL Months	- 9.97

Table 3A: Effect on Lifespan by Disease Category and Year
Ohio, 2010 - 2019

Disease	Total Disease Years	Total Disease Count	Average Age of Death Disease	Effect on Lifespan in Months
Unintentional overdose	1,304,314	30,555	42.7	-9.97
Malignant neoplasms	18,618,362	258,247	72.1	-7.92
Intentional self-harm (suicide)	810,074	16,577	48.9	-4.31
Accidents (unintentional injuries)	2,563,413	39,517	64.9	-3.94
Certain conditions originating in the perinatal period	67,850	5,500	12.3	-3.43
Assault (homicide)	247,811	6,976	35.5	-2.74
Congenital malformations, deformations and chromosomal	133,621	4,462	29.9	-1.99
Alcohol related cirrhosis	376,525	6,500	57.9	-1.08
Chronic liver disease and alcohol cirrhosis	560,989	8,474	66.2	-0.71
Diabetes mellitus	2,715,236	37,248	72.9	-0.61
Human immunodeficiency virus (HIV) disease	68,239	1,348	50.6	-0.32
Viral hepatitis	118,401	1,839	64.4	-0.19
Pregnancy, childbirth and the puerperium	11,784	370	31.8	-0.16
Complications of medical and surgical care	107,937	1,526	70.7	-0.06
Legal intervention	8,095	188	43.1	-0.06



Tobacco Related Fatalities: 2010 - 2019

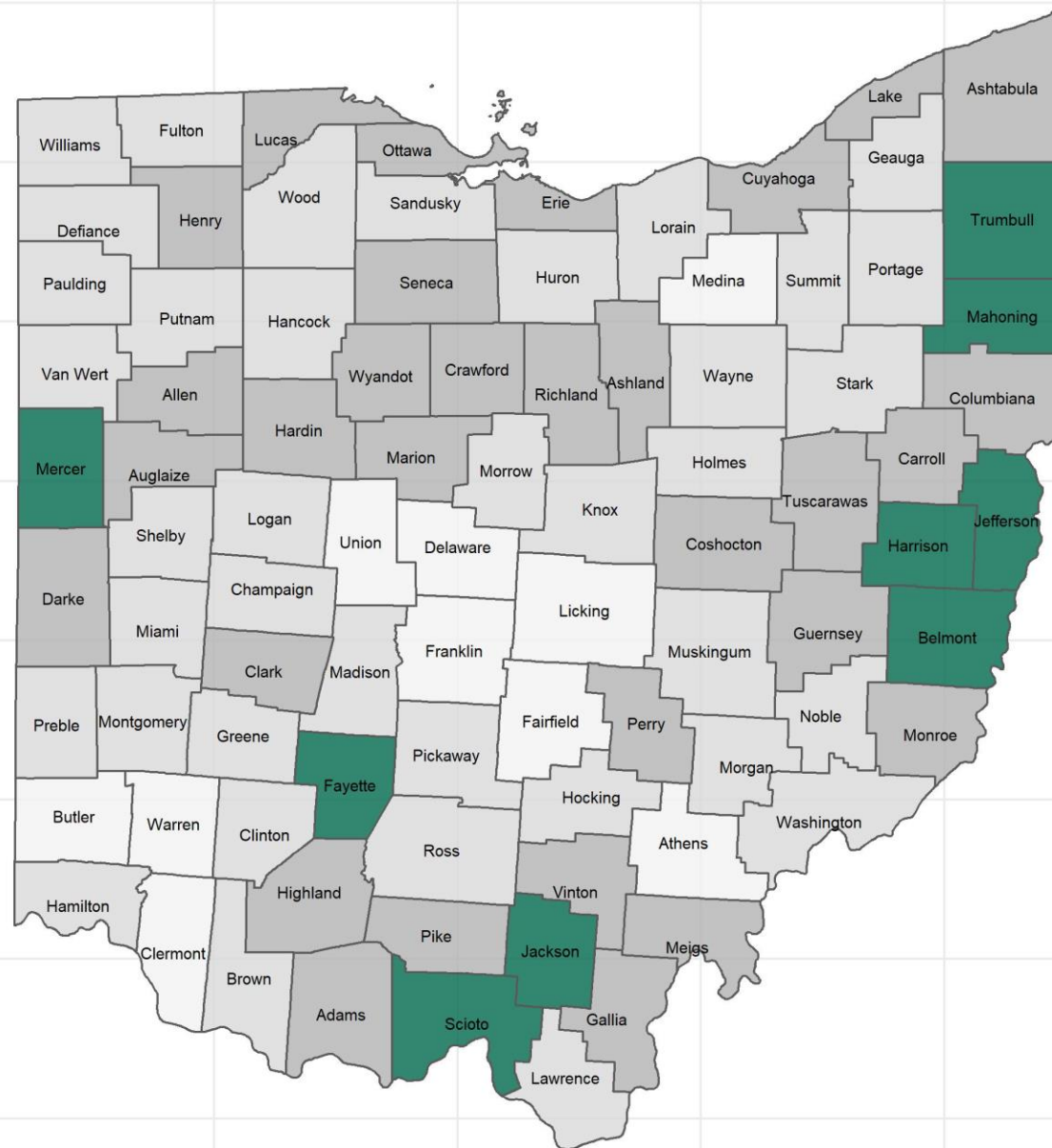


Rate (57.7,96.7] (96.7,130] (130,168] (168,234]

This figure represents Ohio fatalities where it was determined that tobacco was a contributing cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Heart Failure Fatalities: 2010 - 2019

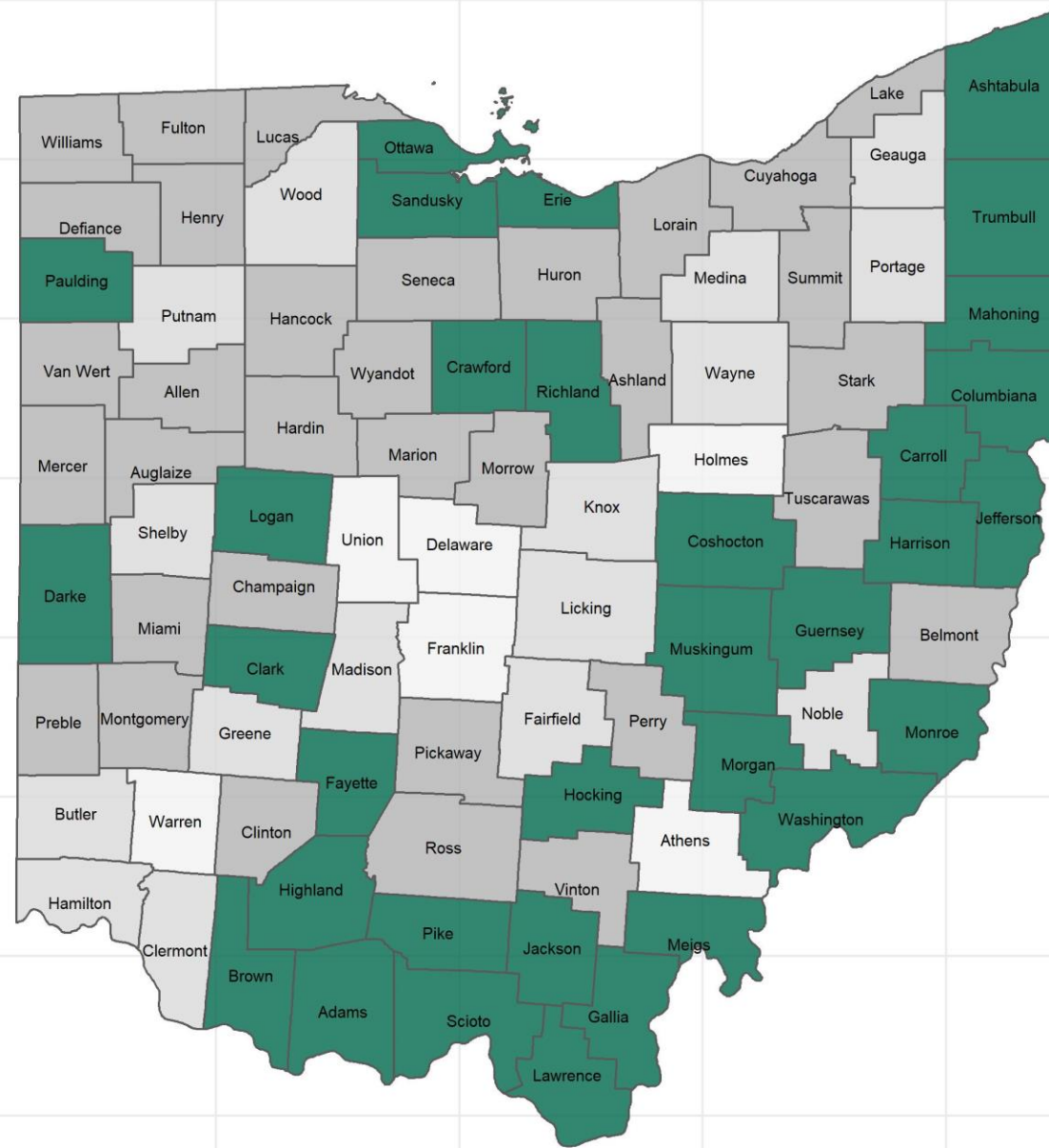


Rate (115,192] (192,252] (252,316] (316,413]

This figure represents Ohio fatalities where it was determined that Heart Failure was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

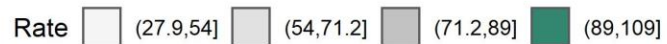
Cancer Fatalities: 2010 - 2019



Rate (124,161] (161,211] (211,248] (248,293]

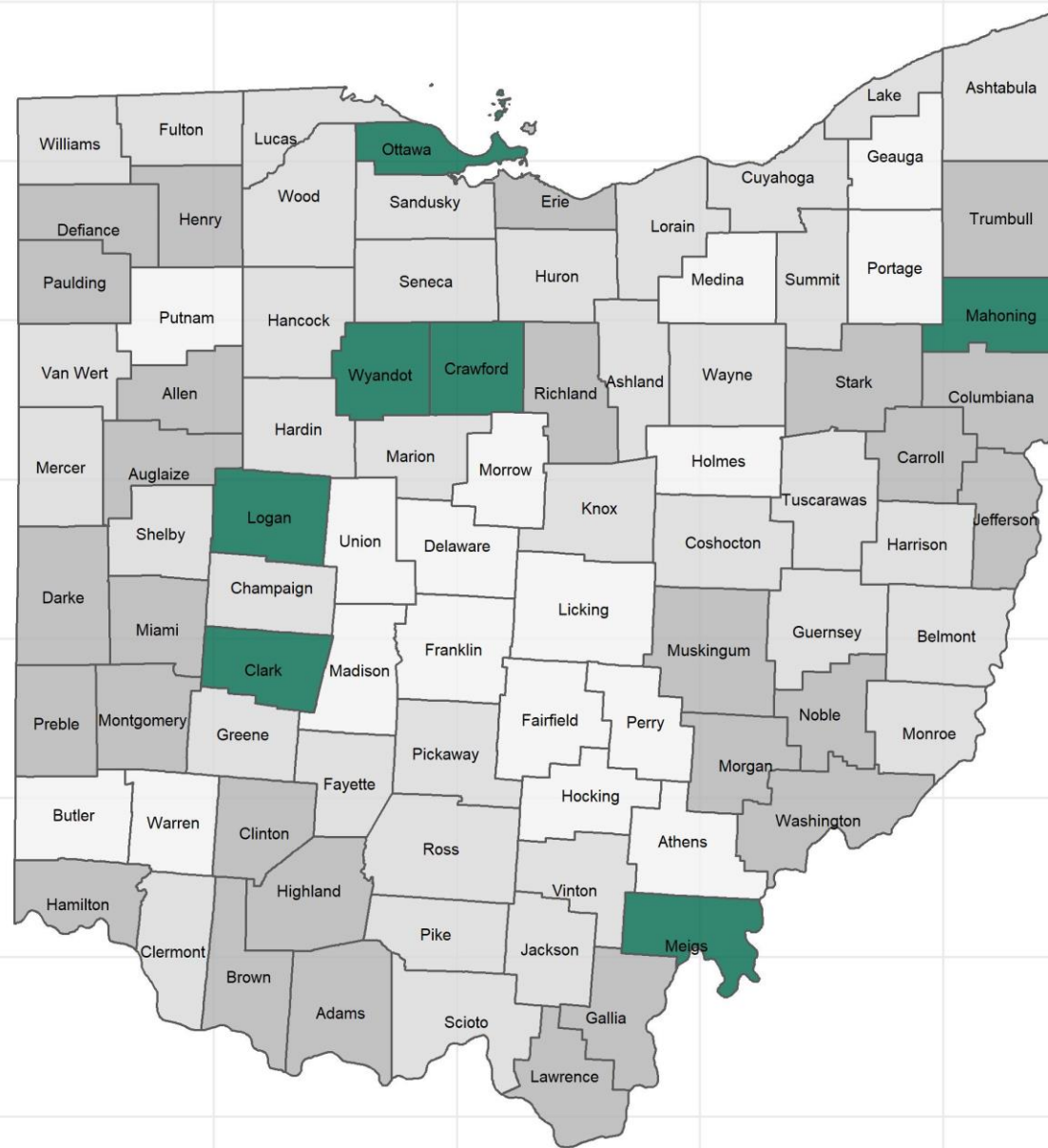
This figure represents Ohio fatalities where it was determined that Cancer was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.



Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Cerebrovascular Disease Fatalities: 2010 - 2019

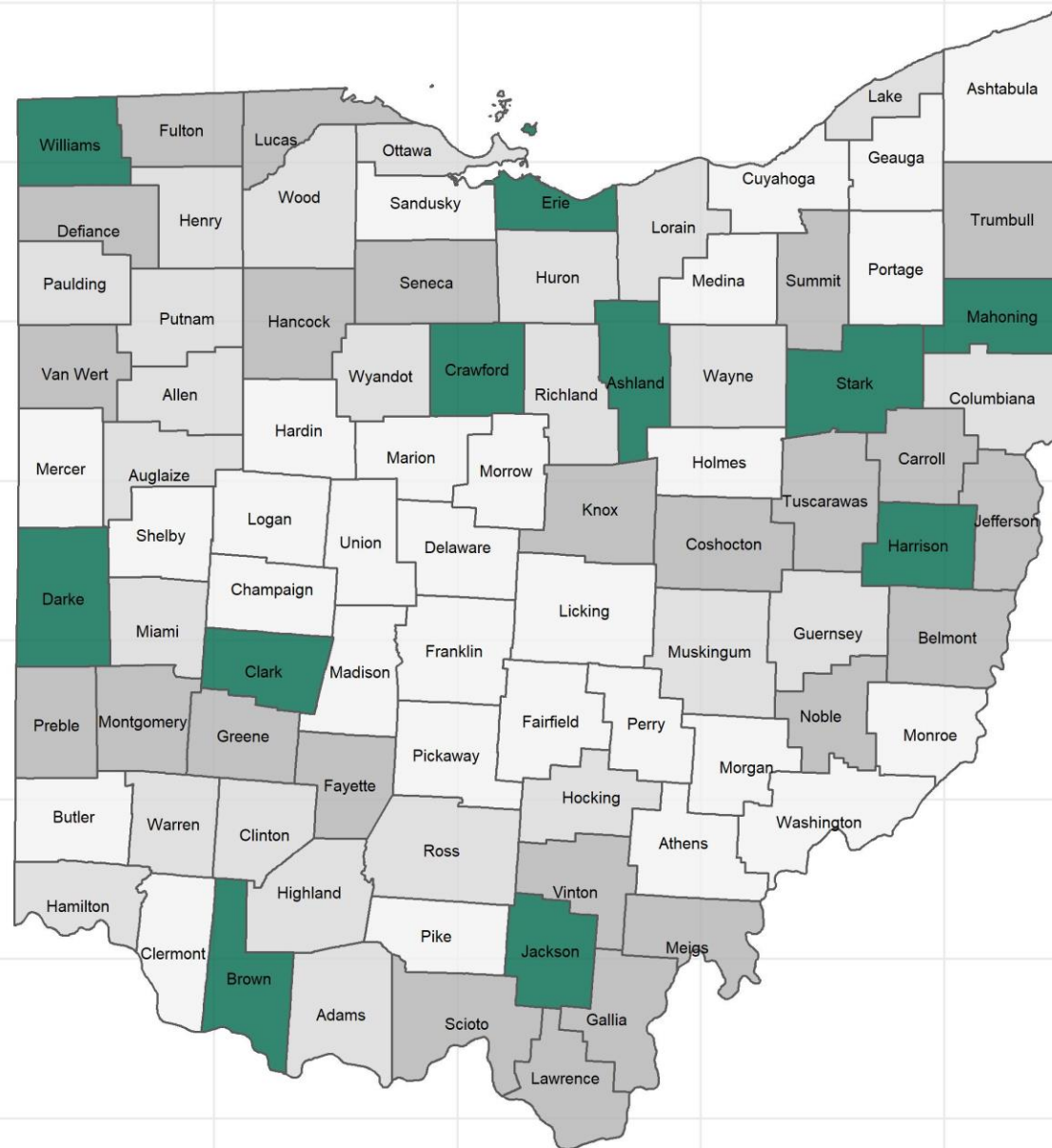


This figure represents Ohio fatalities where it was determined that Cerebrovascular conditions were the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Rate (26.5,44.4] (44.4,55.2] (55.2,65.7] (65.7,79.6]

Alzheimer Disease Fatalities: 2010 - 2019

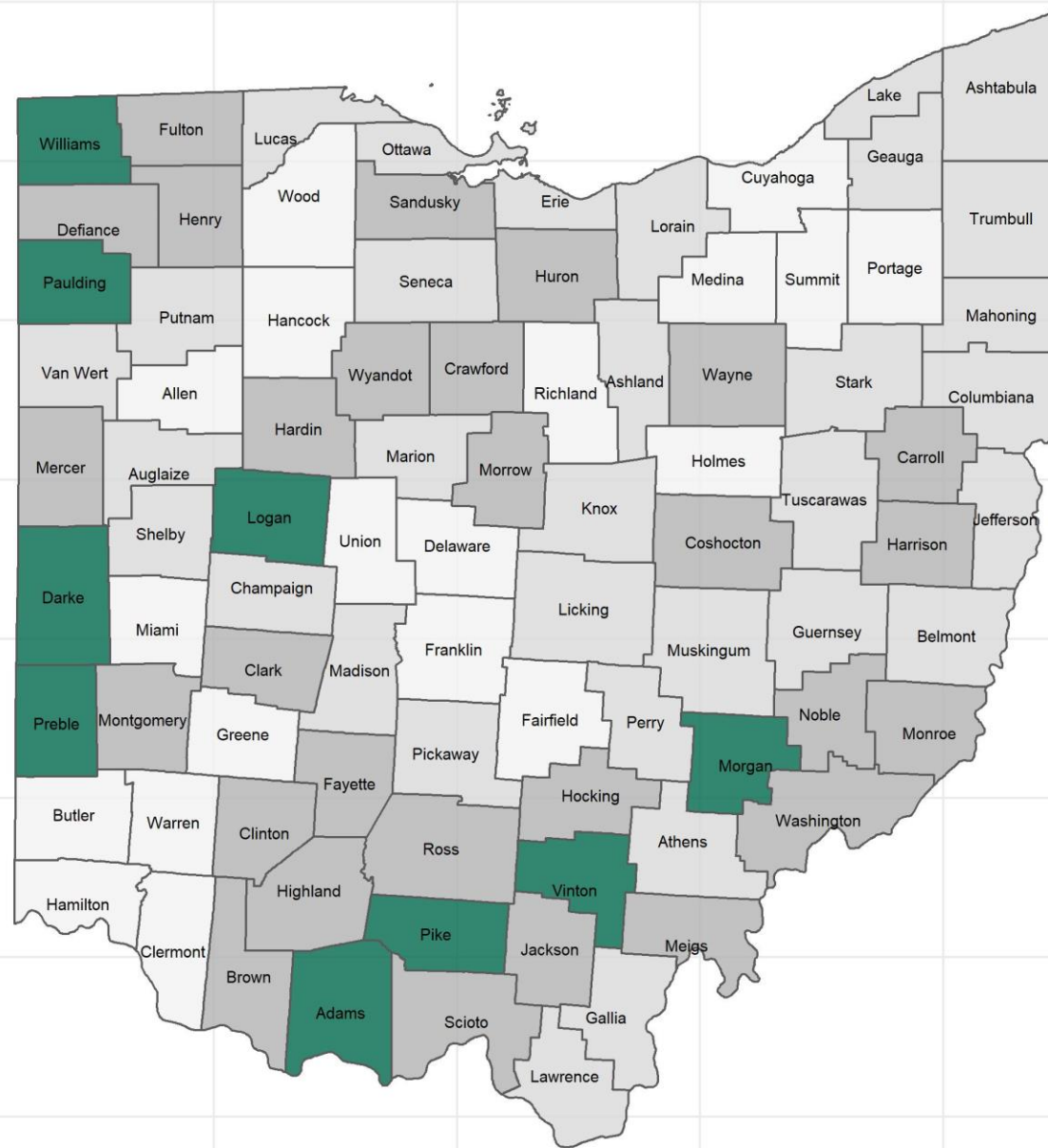


Rate (18.6,33.2] (33.2,43.3] (43.3,55.9] (55.9,72.8]

This figure represents Ohio fatalities where it was determined that Alzheimer Disease was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Accidental Death Fatalities: 2010 - 2019

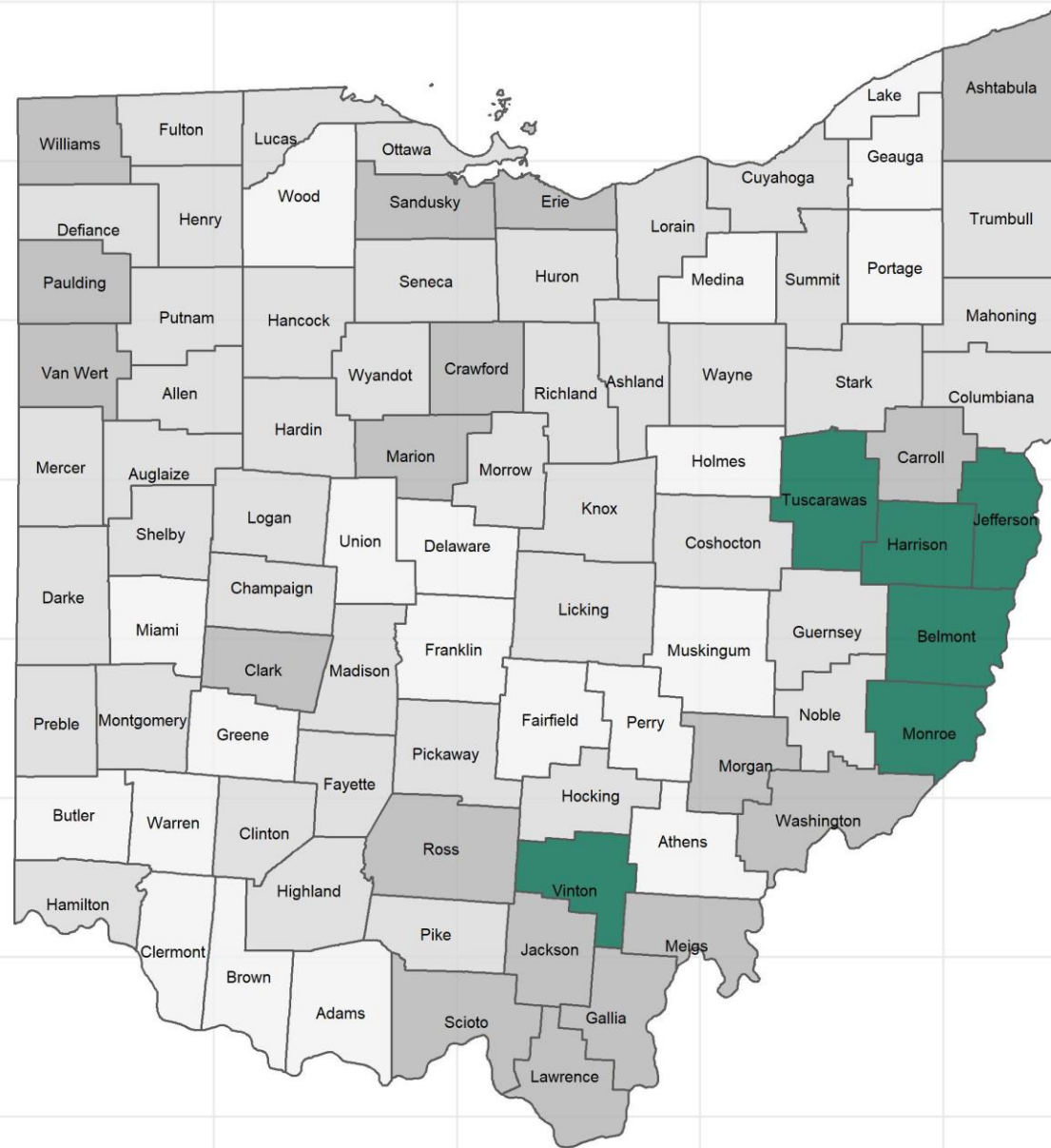


Rate (20.3,30.2] (30.2,38.5] (38.5,46.8] (46.8,60.8]

This figure represents Ohio fatalities where it was determined that accidental death (excluding overdose) was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Diabetes Fatalities: 2010 - 2019

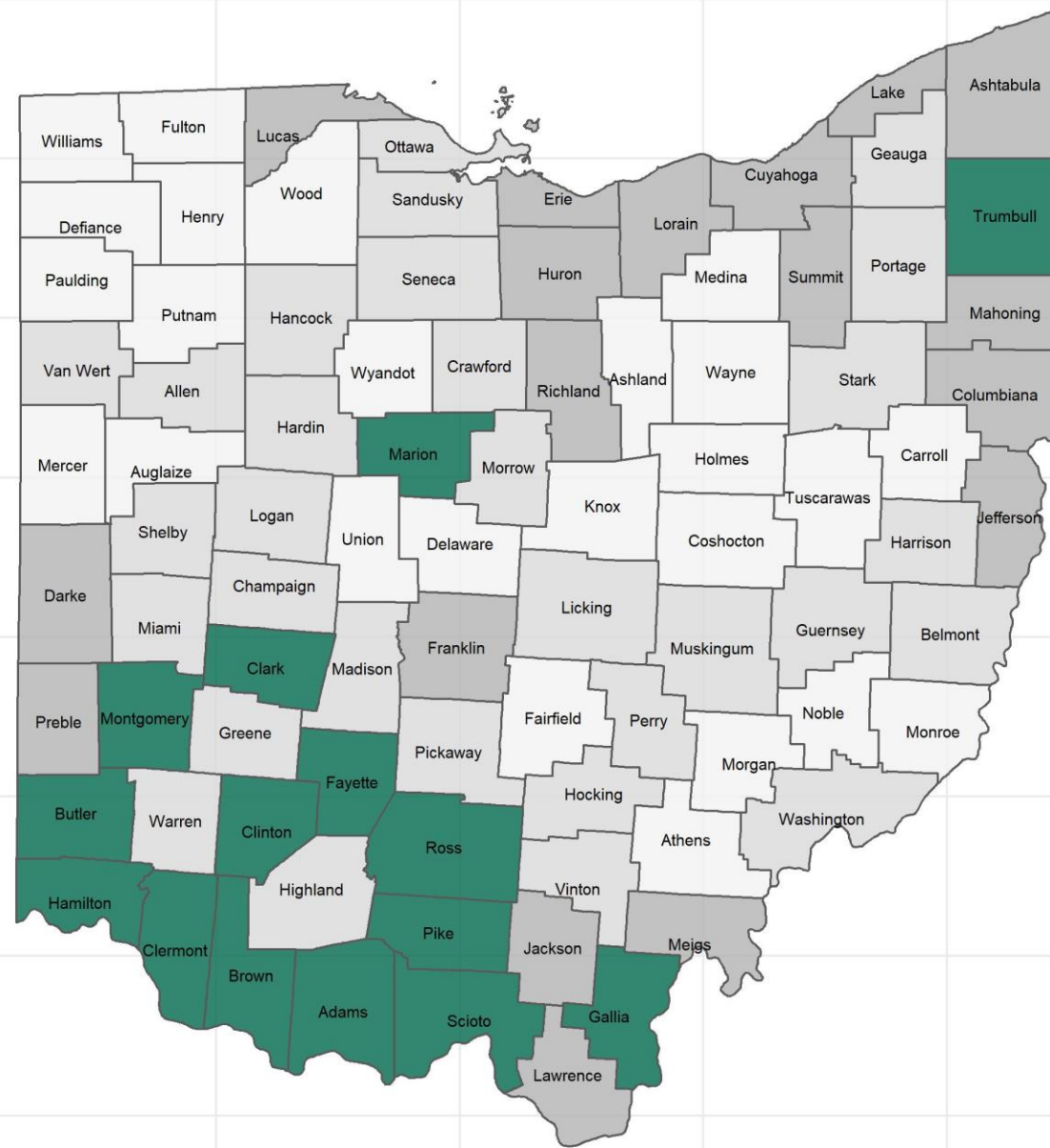


Rate (11.8,28.2] (28.2,38.8] (38.8,50.2] (50.2,63.8]

This figure represents Ohio fatalities where it was determined that Diabetes Mellitus was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Overdose Fatalities: 2010 - 2019



Rate (3.64,14.2] (14.2,22.4] (22.4,30.2] (30.2,46]

This figure represents Ohio fatalities where it was determined that Unintentional Overdose was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

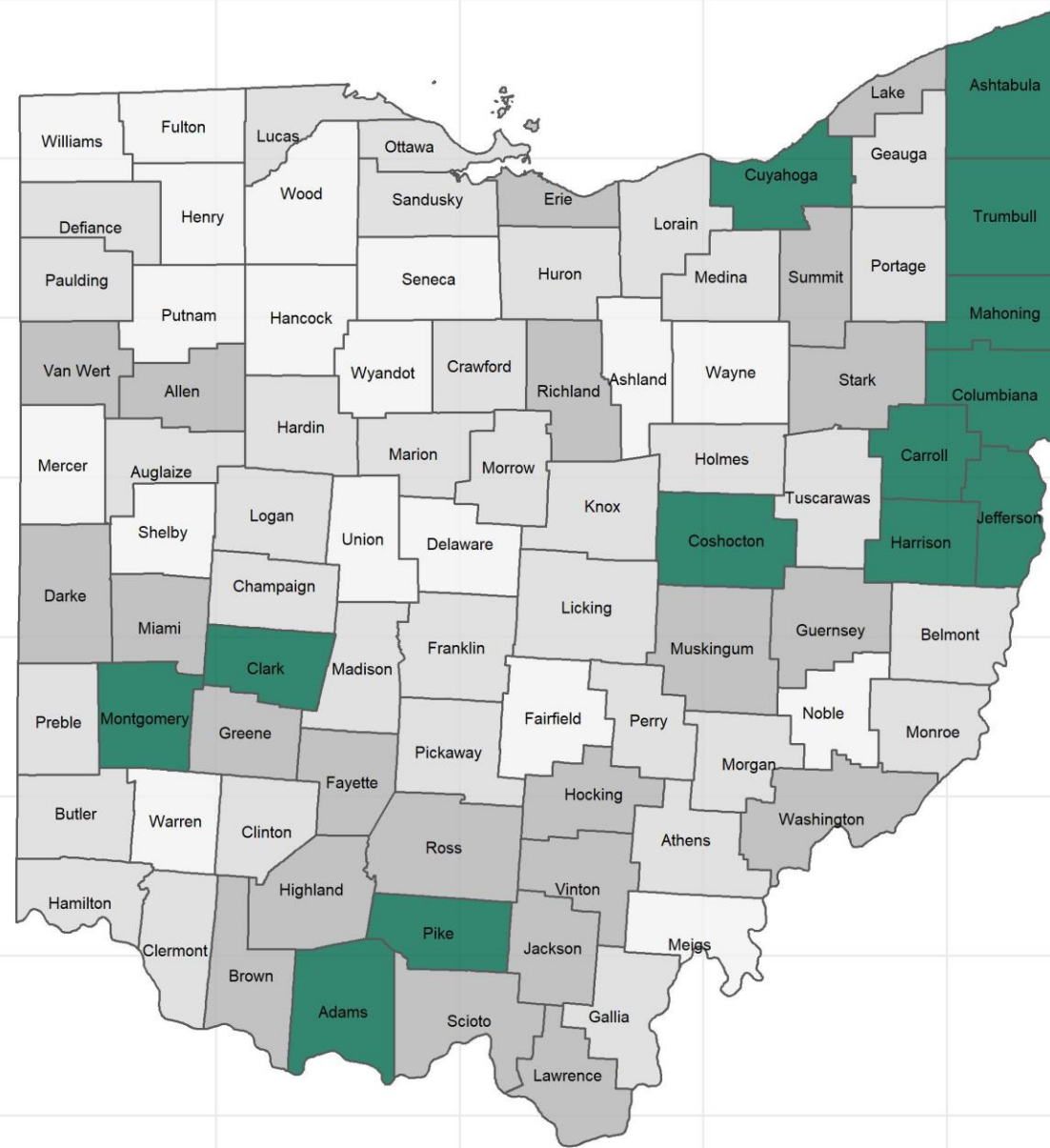


Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.



Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Septicemia Fatalities: 2010 - 2019

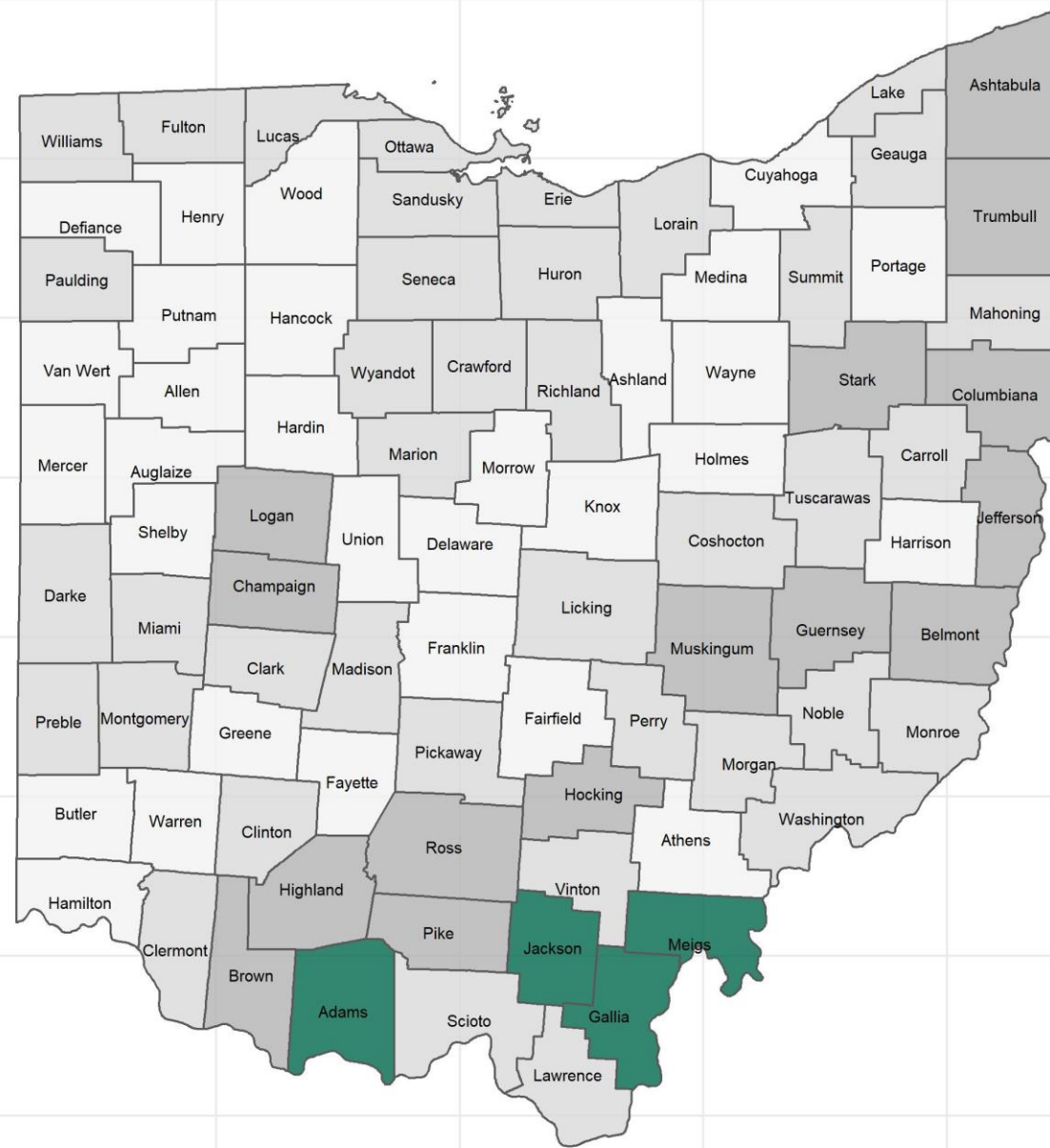


Rate (5.99,11.1] (11.1,15] (15,20] (20,28.3]

This figure represents Ohio fatalities where it was determined that Septicemia was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Suicide Fatalities: 2010 - 2019

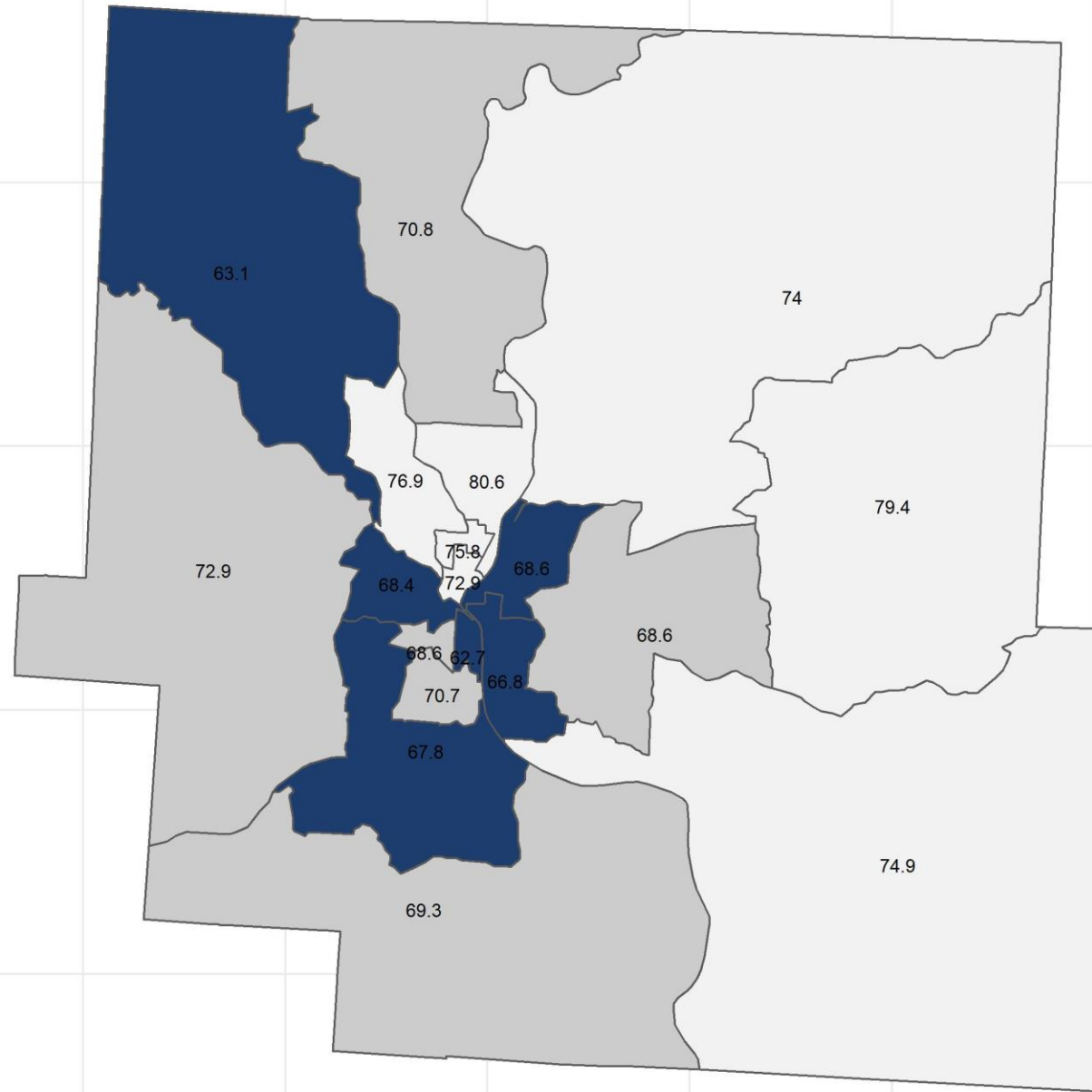


Rate (6.38,12.8] (12.8,16.5] (16.5,20.1] (20.1,24.7]

This figure represents Ohio fatalities where it was determined that Suicide was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Muskingum County Average Age of Death by Census Tract: 2019



This figure represents the average age of death for all 2019 Muskingum County decedents by census tract.

Total deaths recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2019, and ending December 31, 2019.

Age (62.7,68.6] (68.6,72.9] (72.9,80.6]

Table 1A: Deaths by Disease Category and Year

Muskingum County, 2010 - 2019

Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total	Change
Malignant neoplasms	213	220	240	213	227	214	212	210	187	222	2158	4.2%
Heart failure	217	142	191	188	207	224	210	219	193	219	2010	0.9%
Other and unspecified infectious and parasitic diseases	122	139	196	163	170	166	207	231	254	200	1848	63.9%
Chronic lower respiratory diseases	58	74	69	76	98	84	72	85	72	66	754	13.8%
Cerebrovascular diseases	46	63	66	55	54	45	60	55	50	33	527	-28.3%
Alzheimer's disease	46	19	23	18	27	33	47	35	50	46	344	0.0%
Accidents (unintentional injuries)	34	28	35	27	39	23	29	25	33	32	305	-5.9%
Diabetes mellitus	21	19	10	21	27	26	20	27	24	33	228	57.1%
Nephritis, nephrotic syndrome and nephrosis	10	13	23	18	29	33	24	18	23	30	221	200.0%
Influenza and pneumonia	14	20	20	25	20	21	24	11	20	16	191	14.3%
Atherosclerosis	45	30	28	22	11	5	12	14	2	0	169	
Intentional self-harm (suicide)	16	18	13	13	11	16	18	14	26	17	162	6.3%
Septicemia	6	17	18	21	15	8	12	16	16	15	144	
Unintentional overdose	5	2	7	10	5	13	9	21	36	33	141	
Chronic liver disease and alcohol cirrhosis	5	14	10	8	10	13	5	14	15	12	106	

Table 2A: Years of Life Lost by Disease Category and Year

Muskingum County, 2010 - 2019

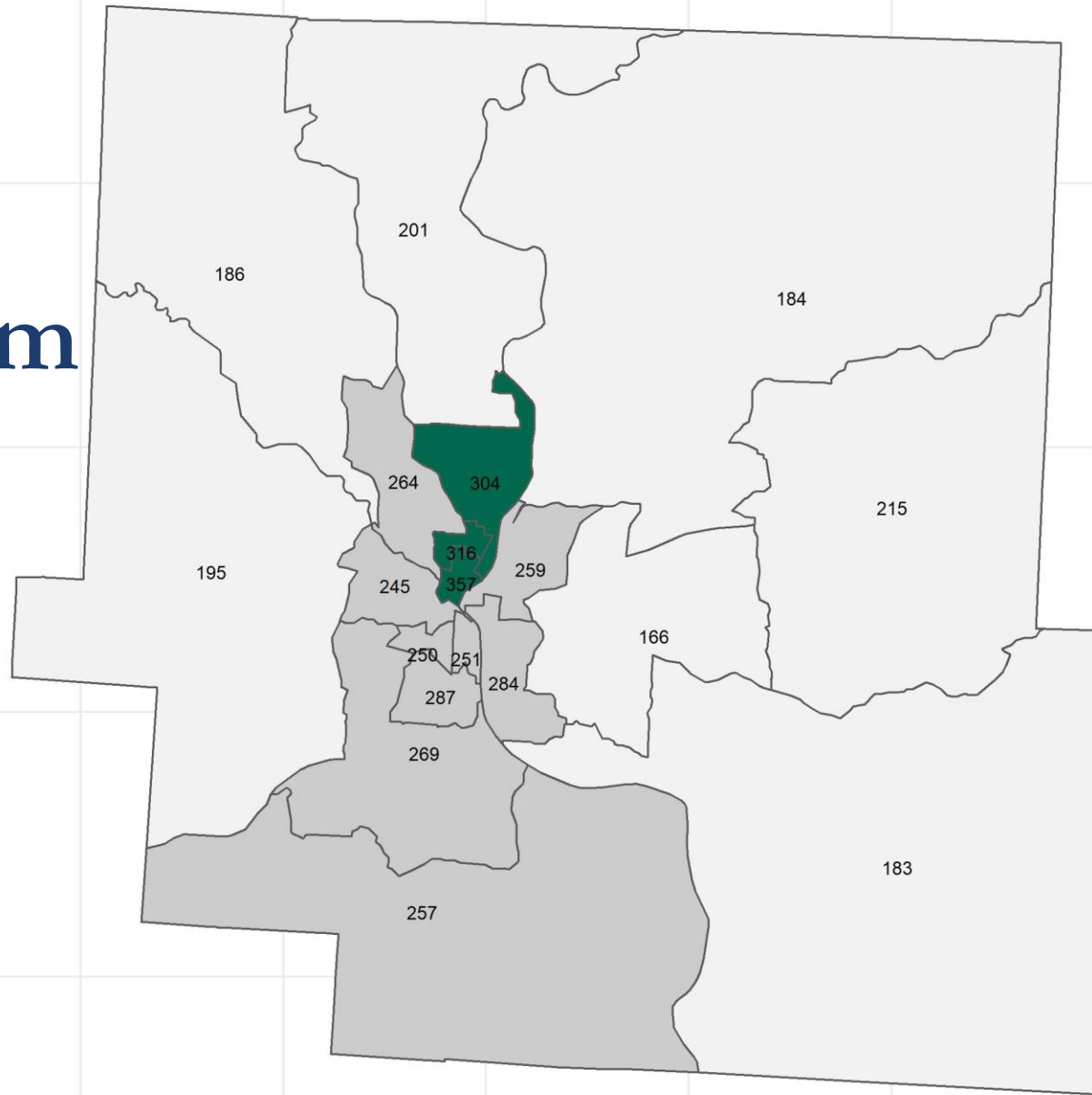
Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Malignant neoplasms	3,323	3,280	4,033	3,463	3,680	3,359	3,437	3,370	2,815	3,299	34,059
Other and unspecified infectious and parasitic diseases	1,986	1,936	2,694	2,048	2,205	2,146	2,564	2,817	3,066	2,920	24,382
Heart failure	2,688	1,764	2,231	2,368	2,444	2,813	2,712	2,769	2,198	2,356	24,344
Chronic lower respiratory diseases	813	888	831	945	1,283	1,141	1,005	1,226	1,030	986	10,147
Accidents (unintentional injuries)	1,056	775	850	557	883	724	791	549	794	1,207	8,185
Unintentional overdose	198	95	290	371	170	541	334	858	1,477	1,264	5,598
Intentional self-harm (suicide)	514	643	409	417	359	446	608	555	1,012	572	5,536
Cerebrovascular diseases	450	625	598	546	495	429	523	631	505	461	5,263
Diabetes mellitus	401	340	192	405	418	423	309	541	368	571	3,969
Nephritis, nephrotic syndrome and nephrosis	140	178	197	186	391	300	257	171	273	398	2,491
Alzheimer's disease	373	120	156	137	202	201	352	256	339	325	2,462
Influenza and pneumonia	130	276	207	314	236	249	470	149	258	142	2,432
Chronic liver disease and alcohol cirrhosis	100	298	199	138	187	259	92	212	300	247	2,030
Septicemia	76	190	203	257	218	184	118	174	213	191	1,824
Certain conditions originating in the perinatal period	260	48	69	265	288	156	264	79	46	337	1,812

Table 3A: Effect on Lifespan by Disease Category and Year

Muskingum County, 2010 – 2019

Disease	Total Disease Years	Total Disease Count	Average Age of Death Disease	Effect on Lifespan	Effect on Lifespan
Malignant neoplasms	152,799	2,158	70.81	-0.887	-10.64
Accidents (unintentional injuries)	17,786	305	58.32	-0.5	-6.00
Intentional self-harm (suicide)	7,545	162	46.57	-0.458	-5.50
Unintentional overdose	6,648	141	47.15	-0.389	-4.67
Certain conditions originating in the perinatal period	398	28	14.21	-0.17	-2.04
Diabetes mellitus	15,550	228	68.2	-0.137	-1.64
Congenital malformations, deformations and chromosomal	823	29	28.38	-0.135	-1.62
Assault (homicide)	666	23	28.96	-0.105	-1.26
Chronic liver disease and alcohol cirrhosis	6,934	106	65.42	-0.093	-1.12
Alcohol related cirrhosis	1,602	27	59.33	-0.04	-0.48
Human immunodeficiency virus (HIV) disease	508	10	50.8	-0.024	-0.29
Viral hepatitis	716	12	59.67	-0.017	-0.20
Meningitis	193	4	48.25	-0.01	-0.12
Complications of medical and surgical care	955	14	68.21	-0.008	-0.10
Pregnancy, childbirth and the puerperium	69	2	34.5	-0.008	-0.10

Cancer Fatalities Muskingum County: 2010 - 2019



This figure represents Muskingum County fatalities where it was determined that Cancer was the primary underlying cause of death.

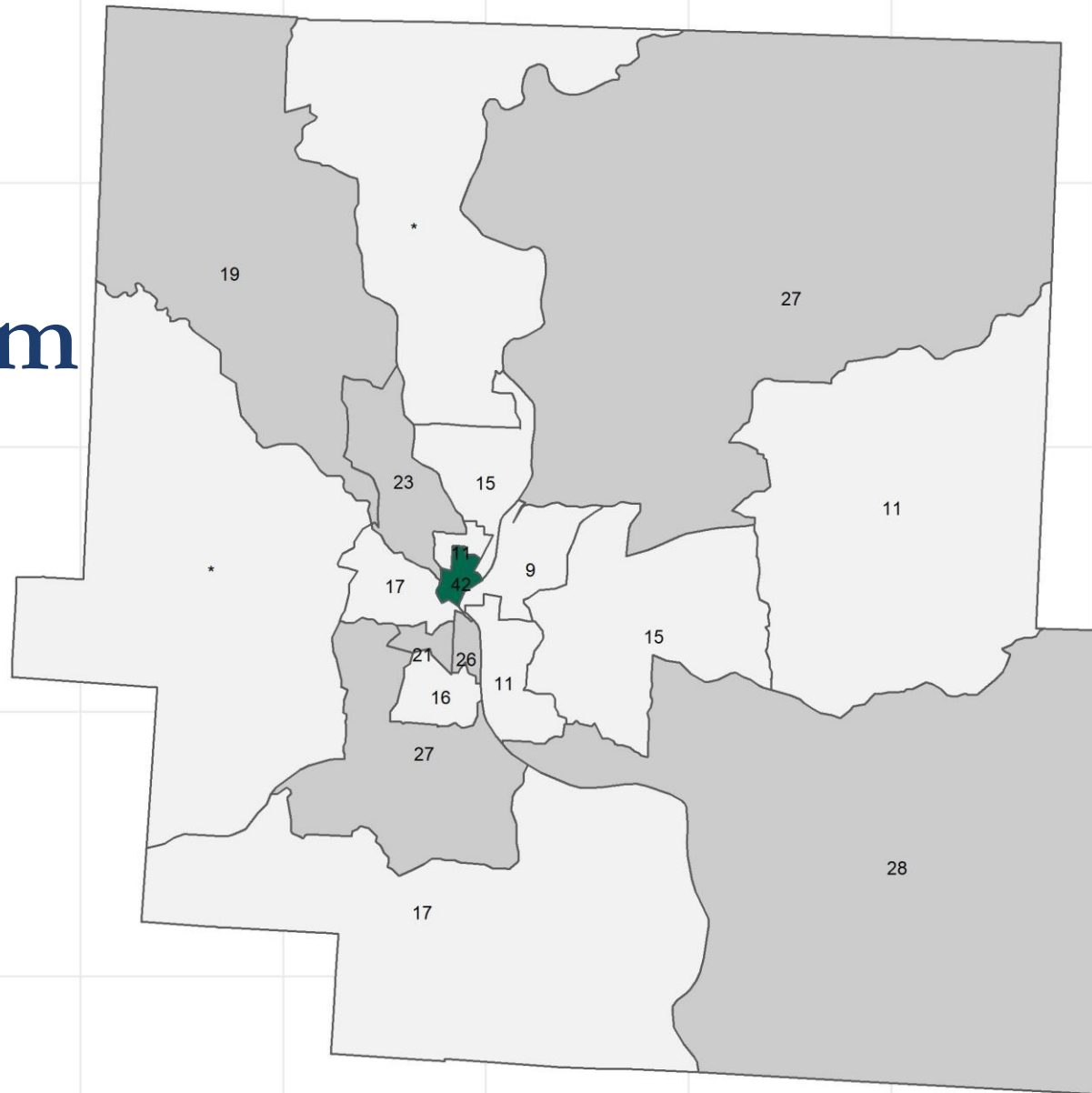
Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Rate (166,215] (215,287] (287,357]



Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Suicide Fatalities Muskingum County: 2010 - 2019

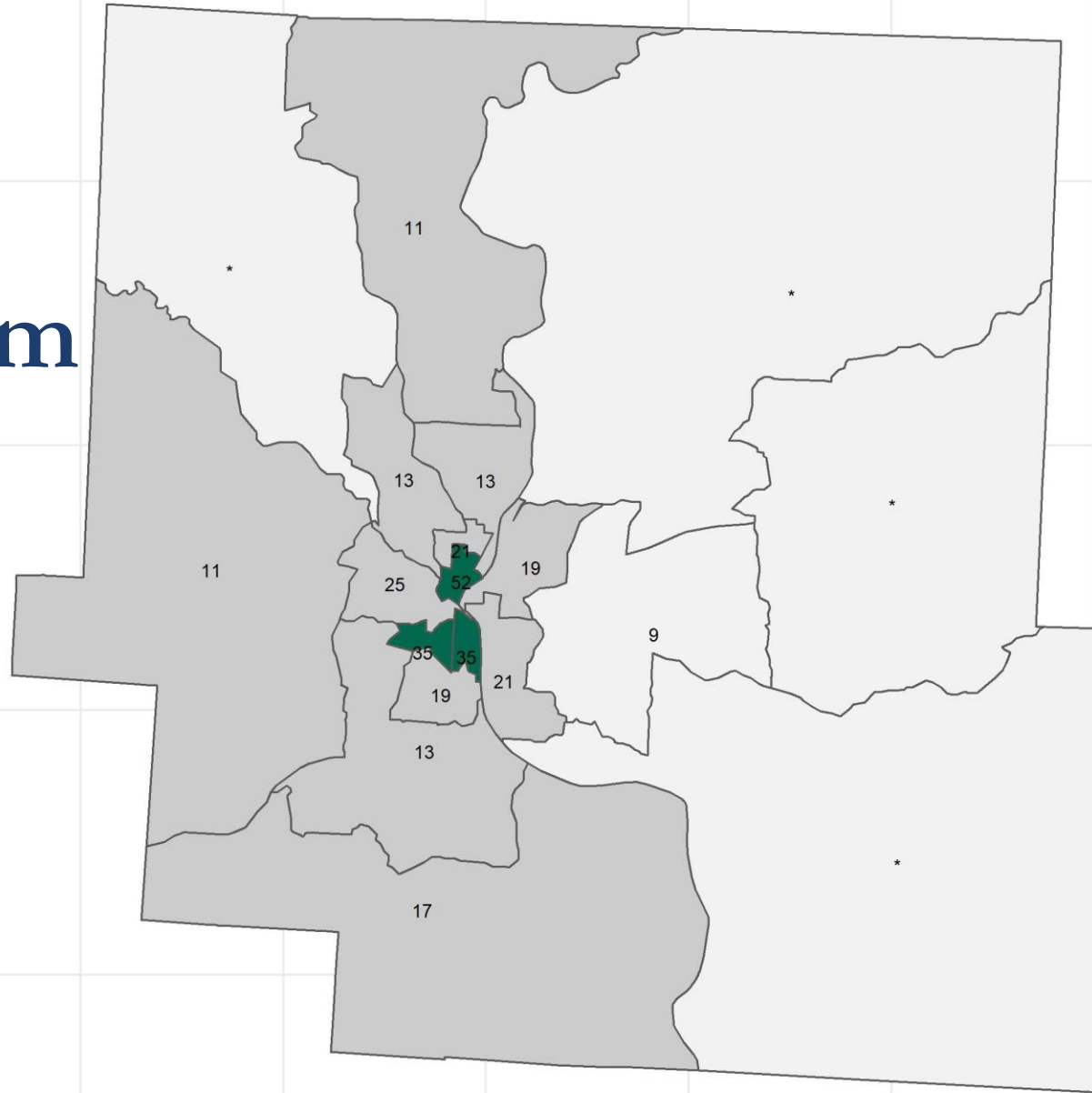


This figure represents Muskingum County fatalities where it was determined that suicide was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Rate  (7.78,17.4]  (17.4,28]  (28,42.2]

Overdose Fatalities Muskingum County: 2010 - 2019

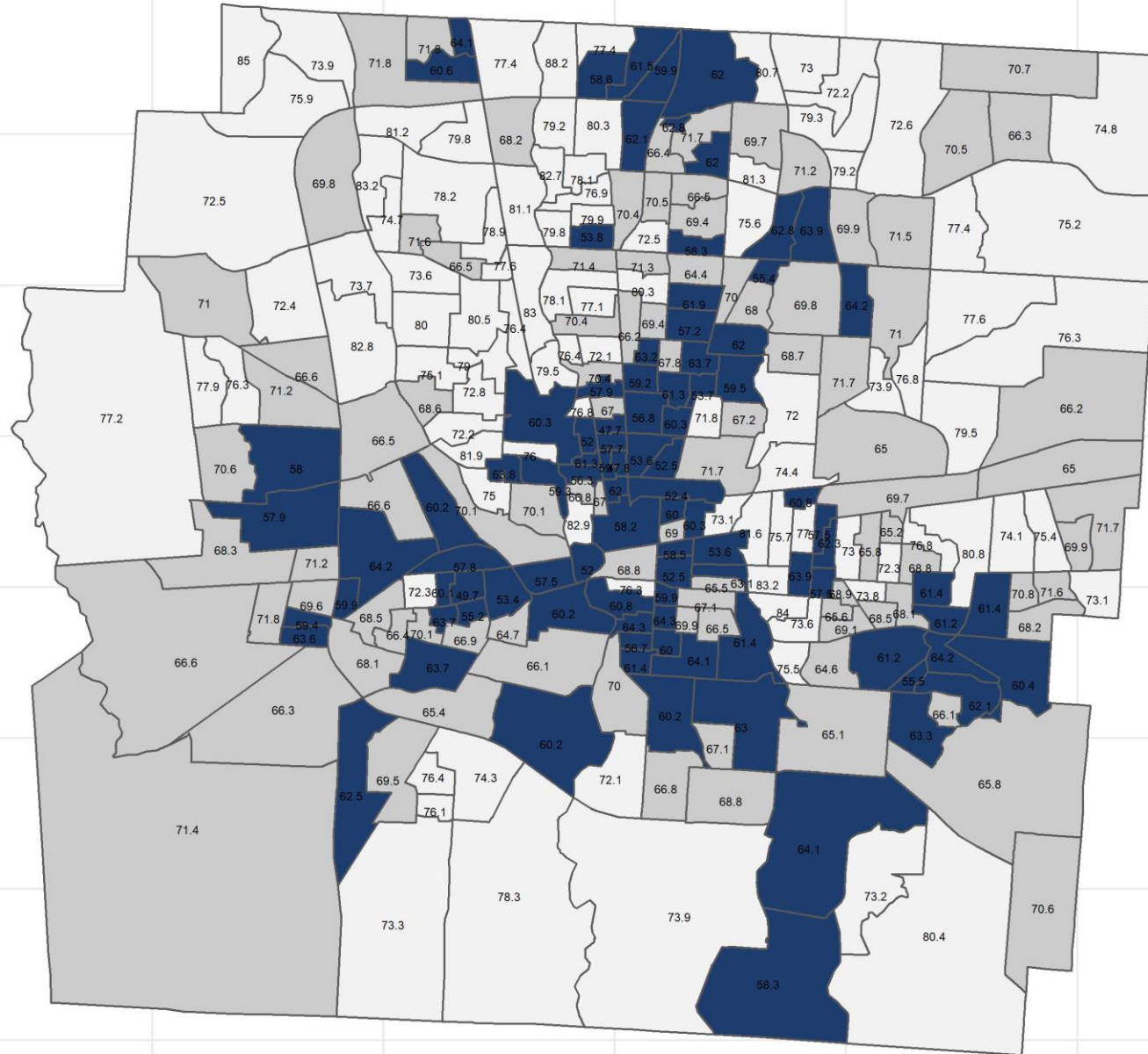


This figure represents Muskingum County fatalities where it was determined that overdose was the primary underlying cause of death.

Deaths represent average death rates per 100,000 population, recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2010, and ending December 31, 2019.

Rate (1.81,9.43] (9.43,25.3] (25.3,51.9]

Franklin County Average Age of Death by Census Tract: 2019

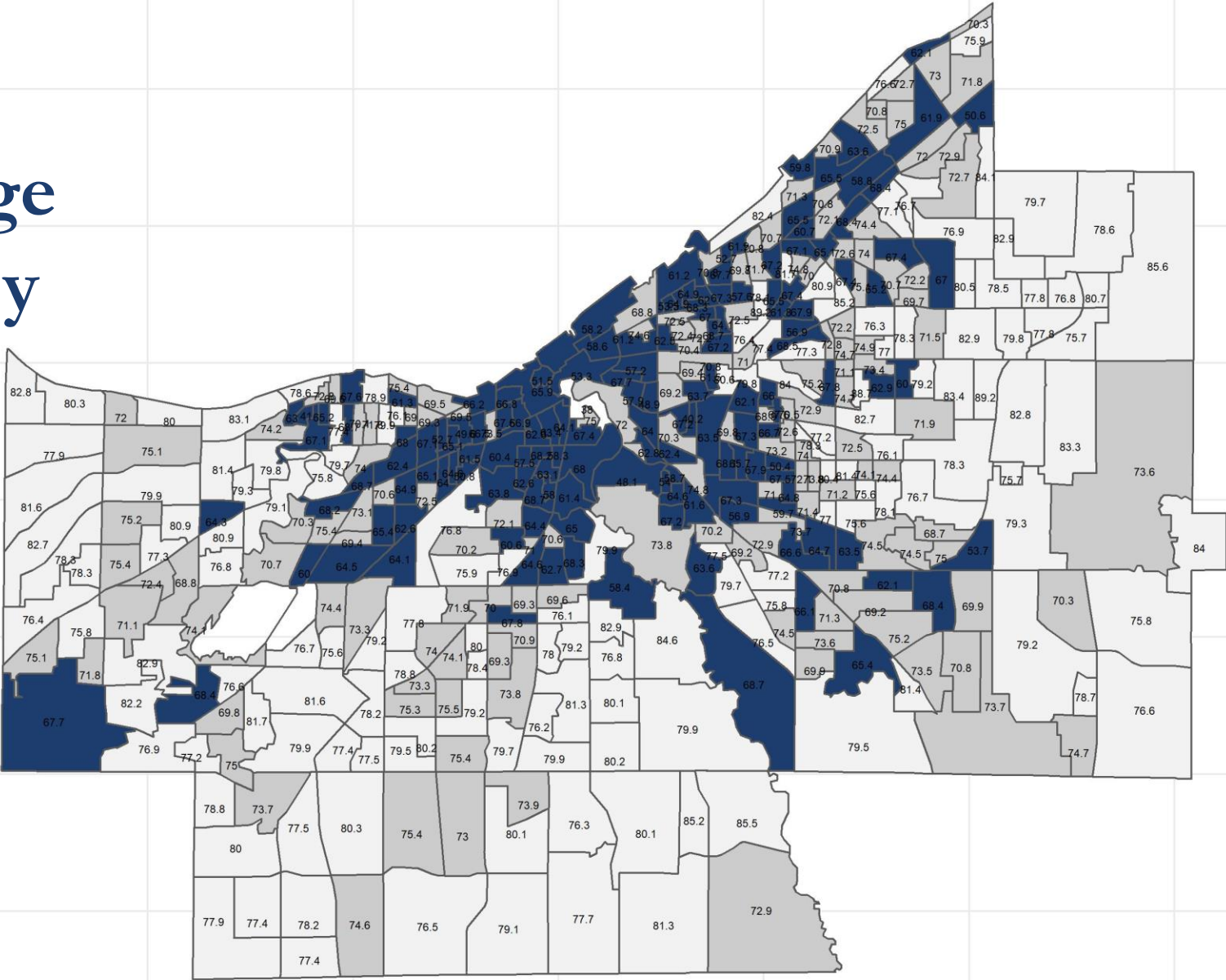


This figure represents the average age of death for all 2019 Franklin County decedents by census tract.

Total deaths recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2019, and ending December 31, 2019.

Age (47.7,64.4] (64.4,71.8] (71.8,88.2]

Cuyahoga County Average Age of Death by Census Tract: 2019

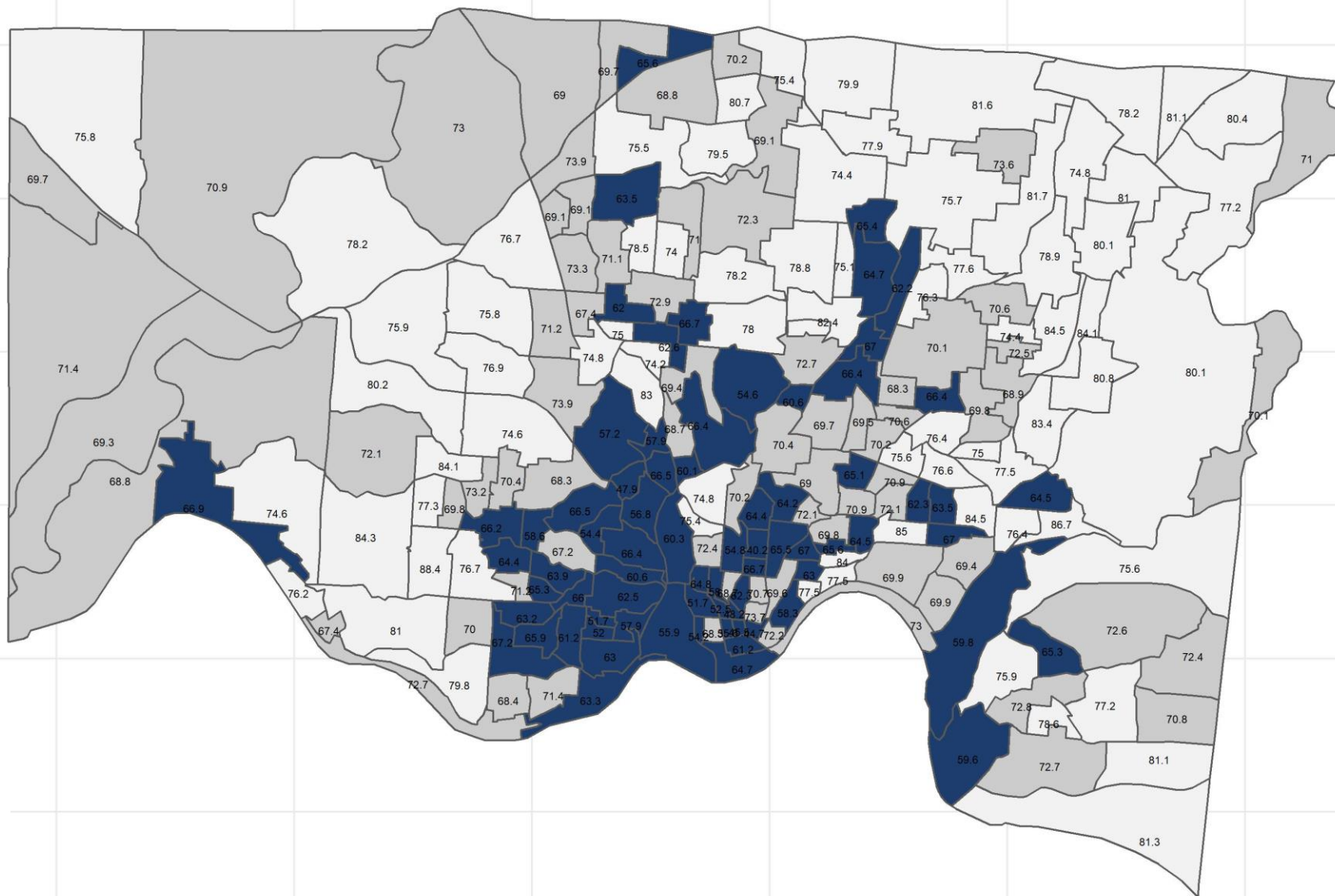


This figure represents the average age of death for all 2019 Cuyahoga County decedents by census tract.

Total deaths recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2019, and ending December 31, 2019.

Age (38,68.7] (68.7,75.5] (75.5,89.2] NA

Hamilton County Average Age of Death by Census Tract: 2019



Age  (40.2,67.2]  (67.2,73.9]  (73.9,88.4]

This figure represents the average age of death for all 2019 Hamilton County decedents by census tract.

Total deaths recorded by the Ohio Department of Health, Bureau of Vital Statistics, Ohio Death Certificate File for the period beginning January 1, 2019, and ending December 31, 2019.