

Supplementary Figures and Tables

Table S1: American Community Survey census indicators, table references, and factor score coefficients from 2012-2017

US Census Indicator	2012-2017 ACS Table Reference, 5-year estimates	Factor Score Coefficient 2012	Factor Score Coefficient 2013	Factor Score Coefficient 2014	Factor Score Coefficient 2015	Factor Score Coefficient 2016	Factor Score Coefficient 2017
Median family income	B19013	-0.16638	-0.17221	-0.16295	-0.16102	-0.16087	-0.16993
Income disparity	B19001	0.07705	0.07615	0.08298	0.08417	0.08019	0.06799
Families below poverty level	B17010	0.11021	0.12182	0.12629	0.12707	0.12555	0.12298
% population below 150% poverty threshold	C17002	0.22177	0.21806	0.21815	0.22455	0.22914	0.23659
Single parent household with dependents <18	B23008	0.03544	0.03803	0.03658	0.03698	0.03817	0.04165
Households without a motor vehicle	B25044	0.0546	0.05144	0.05392	0.05365	0.05666	0.05646
Households without a telephone	B25043	0.01257	0.00894	0.00725	0.00648	0.00685	0.00892
Occupied housing units without complete plumbing	B25016	0.03533	0.03295	0.03167	0.03	0.02692	0.02963
Owner occupied housing units	B25003	-0.01012	-0.00841	-0.00915	-0.00855	-0.00888	-0.00733
Households with >1 person per room	B25014	0.02759	0.03006	0.02886	0.03246	0.03546	0.03747
Median monthly mortgage	B25088	-0.15057	-0.14344	-0.1461	-0.13736	-0.13578	-0.13004
Median gross rent	B25064	-0.05158	-0.05216	-0.05079	-0.05359	-0.05922	-0.06295
Median home value	B25077	-0.0649	-0.0689	-0.06525	-0.07038	-0.07345	-0.0749

Employed persons ≥ 16 in white collar occupation	C24010	-0.01983	-0.02211	-0.0239	-0.02224	-0.02079	-0.01947
Civilian labor force unemployed (aged ≥ 16)	B23025	0.02676	0.02071	0.02081	0.02157	0.0228	0.02451
Population aged ≥ 25 with < 9yr education	B15003	0.01503	0.016	0.01088	0.00766	0.00431	0.01132
Population aged ≥ 25 with at least a high school education	B15003	-0.23235	-0.22358	-0.22647	-0.22431	-0.22112	-0.21015

Table S2: Factors associated with opioid prescriptions in the U.S, 2012-2017

Negative binomial regression analysis examined the risk of higher rates of opioid prescriptions in 2,712 of 3,142 U.S. counties with available opioid prescribing data. Independent variables included year, ADI quintile, percent male, percent white, and age.

	IRR	95% CI		p-value
Year				
2012	Ref.			
2013	0.98	0.97	0.98	<0.001
2014	0.95	0.94	0.96	<0.001
2015	0.89	0.88	0.90	<0.001
2016	0.84	0.83	0.85	<0.001
2017	0.75	0.73	0.76	<0.001
Area Deprivation Index, quintile				
1	Ref.			
2	1.16	1.11	1.21	<0.001
3	1.38	1.32	1.44	<0.001
4	1.57	1.51	1.65	<0.001
5	1.72	1.63	1.82	<0.001
Sex, percentage				
Male	0.94	0.94	0.95	<0.001
Race/ethnicity, percentage*				
White	1.04	1.03	1.06	<0.001
Age, percentage				
18-44 years	1.03	1.02	1.04	<0.001
45-64 years	1.02	1.01	1.03	<0.001
≥65 years	1.01	1.01	1.02	<0.001

* Percent white variable was scaled by 10 in the model (i.e., per 10% change)

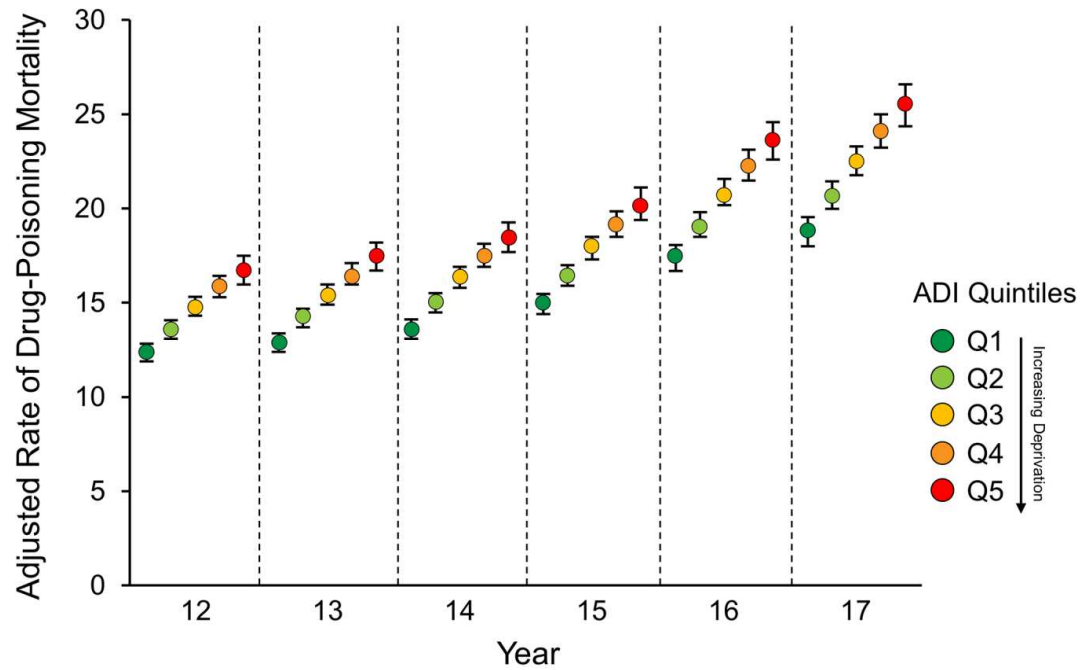


Figure S1. Adjusted rates of drug-poisoning mortality by ADI quintile from 2012-2017.

Rates adjusted for year, age, race, and sex were calculated per 100,000 people.

Supplementary Appendix

The county-level ADI scores used for this study could not be included in a single table. The interested reader can information on how to request them online at

<https://www.mayo.edu/research/area-deprivation-index>.