

SUPPLEMENTARY TABLE 3. Million Hearts-preventable emergency department, hospitalization, mortality and overall mutually exclusive event rates (per 100,000 population) among adults aged 35–64 years, nationally by demographic characteristics and by US state*, 2016

State	Treat-and-release ED visits [†] , in thousands	Acute hospitalizations [§] (SE [¶]) Count, in thousands	Cost, in \$US millions	Deaths, in thousands	Treat-and-release ED visit rate [†]	Acute hospitalization rate [§] (SE [¶])	Mortality rate	Mutually exclusive events** Count, in thousands Rate	
United States	—	774.8 (10.0)	12,983.2 (105.3)	73.4	—	594.9 (7.8)	58.9	—	—
Men	—	481.6 (6.3)	8,354.5 (74.3)	48.2	—	752.0 (9.9)	78.8	—	—
Women	—	292.9 (4.0)	4,623.9 (44.1)	25.2	—	442.7 (5.9)	39.6	—	—
Race/ethnicity ^{††}									
Non-Hispanic white	—	—	—	47.6	—	—	58.6	—	—
Non-Hispanic black	—	—	—	17.0	—	—	110.0	—	—
Hispanic	—	—	—	6.2	—	—	32.1	—	—
Other	—	—	—	2.6	—	—	29.8	—	—
Asian/PI	—	—	—	2.0	—	—	25.9	—	—
AI/AN	—	—	—	0.6	—	—	60.8	—	—
Event type ^{§§}									
AMI	NA	233.2 (4.0)	5,193.6 (16.8)	27.0	NA	187.0 (3.2)	21.6	260.2 (4.0)	208.6 (3.2)
Stroke	NA	178.1 (3.1)	3,503.9 (28.8)	19.5	NA	142.8 (2.5)	15.6	197.6 (3.1)	158.4 (2.5)
Precursor	—	50.6 (1.0)	393.7 (3.2)	1.1	—	40.6 (0.8)	0.9	—	—
Other	—	312.9 (4.6)	3,892.0 (12.2)	25.8	—	250.9 (3.7)	20.7	—	—
Alabama	—	—	—	1.8	—	—	97.4	—	—
Alaska	—	1.2	32.7	0.1	—	415.4	35.9	—	—
Arizona	2.5	12.9	210.8	1.1	100.2	511.6	42.5	16.5	654.3
Arkansas	1.8	8.4	100.0	1.6	161.3	747.4	139.6	11.8	1048.3
California	16.2	75.8	1713.7	6.6	107.6	503.5	44.0	98.6	655.2
Colorado	—	7.6	153.8	0.8	—	353.8	38.3	—	—
Connecticut	0.5	6.9	139.3	0.5	35.0	473.2	32.7	7.9	540.8
Delaware	—	—	—	0.2	—	—	53.3	—	—
District of Columbia ^{†††}	0.4	3.7	65.4	0.2	178.3	1,483.4	81.6	4.3	1743.1
Florida	8.4	59.1	844.2	4.4	105.1	743.3	55.4	71.8	903.8
Georgia	7.7	29.3	414.0	3.2	191.9	729.8	79.8	40.2	1001.5
Hawaii	0.8	3.5	69.8	0.3	151.3	656.0	51.7	4.6	859.0
Idaho	—	—	—	0.3	—	—	56.5	—	—
Illinois	5.0	29.2	508.1	3.0	98.7	581.8	60.7	37.2	741.2
Indiana	3.9	17.9	284.9	1.9	151.9	702.2	72.7	23.6	926.8
Iowa	1.5	5.4	87.4	0.5	128.3	461.4	43.5	7.4	633.2
Kansas	1.3	5.8	83.0	0.6	119.8	537.3	54.0	7.6	711.2
Kentucky	3.8	13.8	241.5	1.9	220.8	795.6	110.3	19.6	1126.7
Louisiana	—	16.5	216.1	1.8	—	930.4	99.5	—	—
Maine	0.7	2.9	62.4	0.2	132.8	534.1	44.9	3.9	711.8
Maryland	3.2	13.0	180.6	1.4	131.0	540.5	57.8	17.6	729.3
Massachusetts	1.2	13.0	273.5	0.9	42.6 ^{***}	480.9	32.6	15.0	556.1
Michigan	—	28.6	433.2	2.5	—	733.7	64.9	—	—
Minnesota	1.4	9.0	192.8	0.6	64.8	419.8	29.5	11.0	514.1
Mississippi	—	10.4	130.6	1.7	—	919.6	148.9	—	—
Missouri	3.3	18.3	283.3	1.9	139.6	781.5	81.9	23.4	1003.0
Montana	0.3	1.4	25.6	0.2	87.8	361.2	38.5	1.9	487.4
Nebraska	0.6	3.0	57.8	0.3	89.3	434.7	45.5	4.0	569.4
Nevada	1.7	7.3	111.3	0.7	149.9	641.5	58.8	9.7	850.2

Vital Signs: State-Level Variation in Nonfatal and Fatal Cardiovascular Events Targeted for Prevention by Million Hearts 2022

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State	Treat-and-release	Acute hospitalizations [§] (SE [†])	Deaths, in thousands	Treat-and-release ED	Acute hospitalization	Mortality rate	Mutually exclusive events ^{**}	
	ED visits [†] , in thousands	Count, in thousands		Cost, in \$US millions	visit rate [†]		rate [§] (SE [†])	Count, in thousands
New Hampshire	—	—	0.2	—	—	38.1	—	—
New Jersey	3.7	18.9	1.5	101.3	519.9	40.2	24.1	661.4
New Mexico	—	3.0	0.4	—	391.7	49.2	—	—
New York	5.5	43.2	3.4	70.7	558.9	43.9	52.1	673.5
North Carolina	6.0	29.0	2.4	151.8	728.2	60.1	37.4	940.0
North Dakota	0.3	1.7	0.1	106.4	630.8	42.3	2.1	779.5
Ohio	6.8	33.7	3.1	150.6	743.2	68.6	43.6	962.4
Oklahoma	—	10.2	1.3	—	709.3	91.7	—	—
Oregon	—	7.3	0.6	—	456.6	39.8	—	—
Pennsylvania	—	34.3	2.9	—	683.1	57.7	—	—
Rhode Island	0.4	2.4	0.2	103.0	579.7	43.4	3.0	726.1
South Carolina	3.9	15.0	1.6	205.3	786.8	83.9	20.5	1076.0
South Dakota	0.3	1.5	0.2	96.4	472.7	78.0	2.0	647.1
Tennessee	5.5	23.3	2.4	213.8	897.2	93.6	31.2	1204.6
Texas	16.3	67.7	6.7	157.1	653.9	64.7	90.7	875.6
Utah	0.7	3.5	0.3	69.5	348.3	31.6	4.6	449.3
Vermont	0.2	0.8	0.1	77.6	329.7	27.3	1.1	434.5
Virginia	—	20.0	1.9	—	602.1	58.1	—	—
Washington	—	13.2	1.0	—	464.6	36.7	—	—
West Virginia	—	6.1	0.6	—	831.6	76.8	—	—
Wisconsin	1.8	10.8	1.1	79.8	476.3	46.7	13.7	602.8
Wyoming	0.3	0.6	0.1	116.4	291.4	56.4	1.0	464.2

Sources: Agency for Healthcare Research and Quality's Healthcare Cost and Utilization Project (HCUP), National Inpatient Sample (NIS), State Emergency Department Databases (from all states except Alabama, Alaska, Colorado, Delaware, Idaho, Louisiana, Michigan, Mississippi, New Hampshire, New Mexico, Oklahoma, Oregon, Pennsylvania, Virginia, Washington, and West Virginia; ED data for Mississippi and Oregon are regularly collected, but 2016 data were not available at time of this report) and State Inpatient Databases (from all states except Alabama, Delaware, Idaho, and New Hampshire); National Center for Health Statistics' National Vital Statistics System (NVSS) Mortality Data (all states are represented).

Abbreviations: SE, standard error; ED, emergency department; Asian/PI, Asian/Pacific Islander; AI/AN, American Indian/Alaskan Native; AMI, acute myocardial infarction.

*Calculated only for states where data were made available.

[†]Excludes ED visits where the patient died in the ED, were transferred to another hospital, or were admitted to the same hospital.

[§]Excludes hospitalizations that were reported as elective or where the patient died in the hospital or was transferred to another hospital.

^{††}SEs are provided only for national acute hospitalization estimates as they are determined using a sample of hospitalizations (NIS) obtained from the HCUP State Inpatient Databases. There is no sampling error produced when using mortality data from the NVSS or the state-level HCUP data.

^{**}Includes non-fatal, treat-and-release ED visits, non-fatal, acute hospitalizations and deaths attributed to acute myocardial infarctions, strokes, precursor cardiovascular conditions and other cardiovascular conditions. Complete data are available for 34 states and the District of Columbia.

^{†††}Race/ethnicity information was consistently available nationally for only mortality data. During 1999-2011, the sensitivity for identifying the correct race and ethnicity on death certificates was 99.2% (non-Hispanic whites), 98.1% (non-Hispanic blacks), 91.3% (Hispanics), 93.5% (Asian/PI), and 73.3% (AI/AN) (Arias E, Heron M, Hakes JK. The validity of race and Hispanic-origin reporting on death certificates in the United States: An update. National Center for Health Statistics. Vital Health Stat 2(172). 2016 (https://www.cdc.gov/nchs/data/series/sr_02/sr02_172.pdf)).

^{§§}Additional information about the event types is included in Supplementary Table 1 (<https://stacks.cdc.gov/view/cdc/58170>).

^{††††}Values for non-fatal and overall mutually exclusive event totals for this jurisdiction are likely overestimates because the non-fatal events are attributed to where the event was treated and not the residence of the patient.

^{****}Transfers to other acute care hospitals are not identified in discharge disposition codes, so they could not be excluded from the analysis and the value may be slightly inflated.

— Data not available.

NA, Not applicable as not part of the Million Hearts 2022 event case definition.