Indicator: Acute Myocardial Infarction Hospitalizations

A heart attack is also called an acute myocardial infarction (AMI). In 2007, the American Heart Association estimated 565,000 new attacks and 300,000 recurrent attacks of AMI annually. Among Americans age 20 and older, new and recurrent heart attack prevalence for both men and women represented 3.7% of the US population or 7,900,000 (4.9 million men and 3.0 million women).

Many studies have shown links between pollution and health effects. Increases in air pollution have been linked to increases in heart attacks. High levels of air pollution according to the EPA Air Quality Index directly affect people with heart disease. Overall air quality has improved in the last 20 years but urban areas are still a concern. The elderly and children are especially vulnerable to the effects of air pollution.

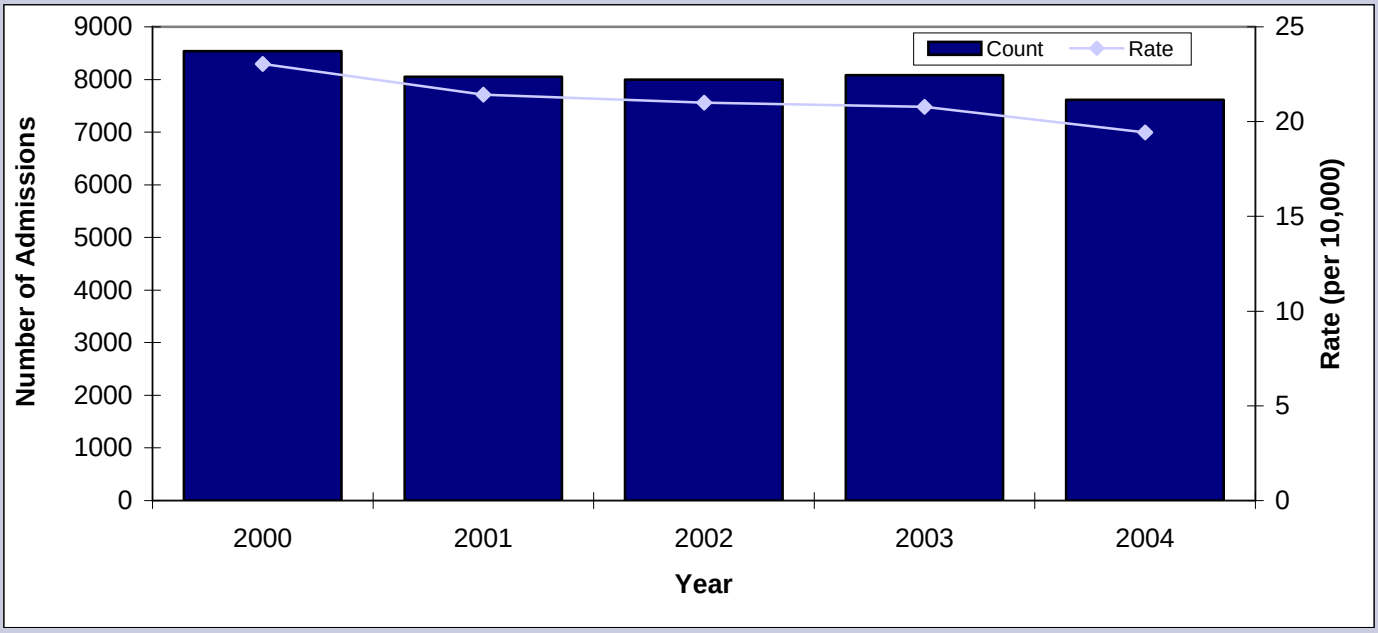
The level of environmental risk depends on several factors including the amount of pollution in the air, the amount of air we breathe in a given time, and our overall health. Other, less direct ways people are exposed to air pollutants include eating food products contaminated by air toxins that have been deposited where they grow, drinking water contaminated by air pollutants, ingesting contaminated soil, and touching contaminated soil, dust or water.

You can take steps to help protect your health from air pollution.

- Get to know how sensitive you are to air pollution.
- Know when and where air pollution may be bad.
- Plan activities when and where pollution levels are lower.
- Change your activity level.
- Listen to your body.
- Consult your health care provider.

- Hospitalization data for AMIs omits individuals who do not receive medical care or who are not hospitalized, including those who die in emergency rooms, in nursing homes, or at home without being admitted to a hospital, and those treated in outpatient settings.
- Differences in rates by time or area may reflect differences or changes in diagnostic techniques and criteria and in the coding of AMI or in medical care access.
- Differences in rates by area may be due to different sociodemographic characteristics and associated behaviors. When comparing rates across geographic areas, a variety on non-environmental factors, such as access to medical care and diet, can impact the likelihood of persons hospitalized for AMI.
- Reporting rates at the state and/or county level will not show the true AMI burden at a more local level (i.e. neighborhood) and may not be geographically resolved enough to be linked with many types of environmental data. When looking at small geographic levels (e.g. ZIP code), users must take into consideration appropriate cell suppression rules imposed by the data providers or individual state programs.
- Although duplicate records and transfers from one hospital to another are excluded, the measures are based upon events, not individuals, because no unique identifier is always available. When multiple admissions are not identified, the true prevalence will be overestimated.
- Even at the county level it can be expected that the measures generated will often be based upon numbers too small to report or present without violating state and federal privacy guidelines and regulations. Careful adherence to cell suppression rules in cross tabulations is necessary and methods to increase cell sizes by combining data across time (e.g., months, years) and geographic areas may be appropriate.

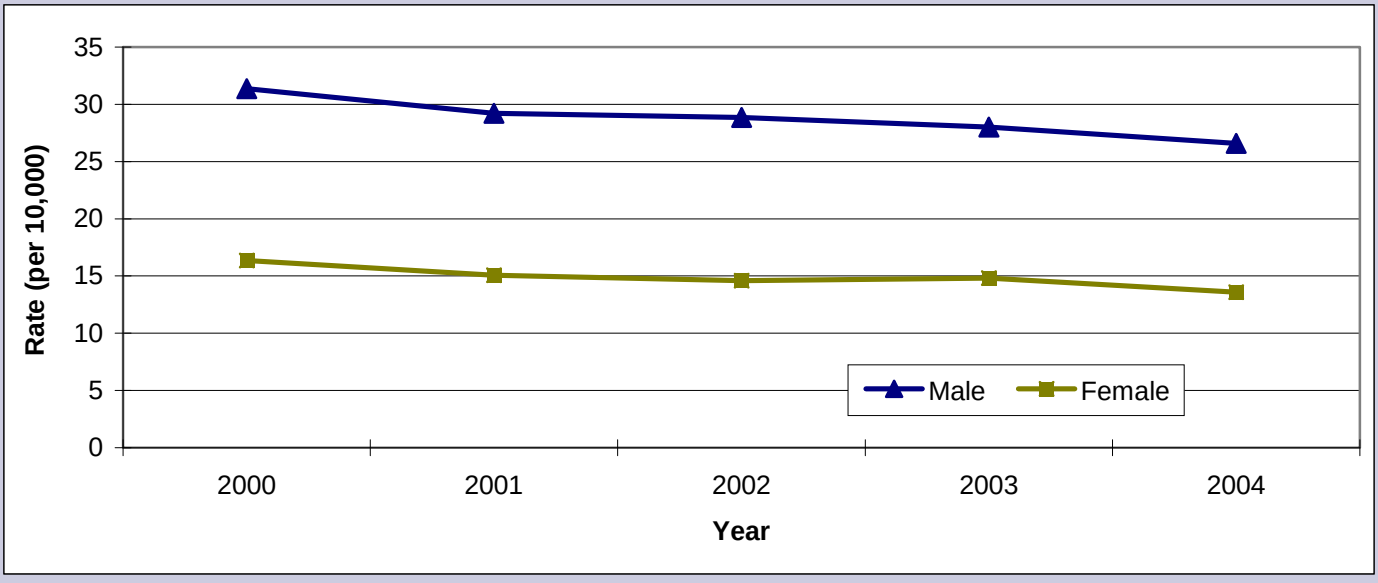
Annual Counts and Age-adjusted Rates of AMI Hospitalization
Connecticut 2000-2005



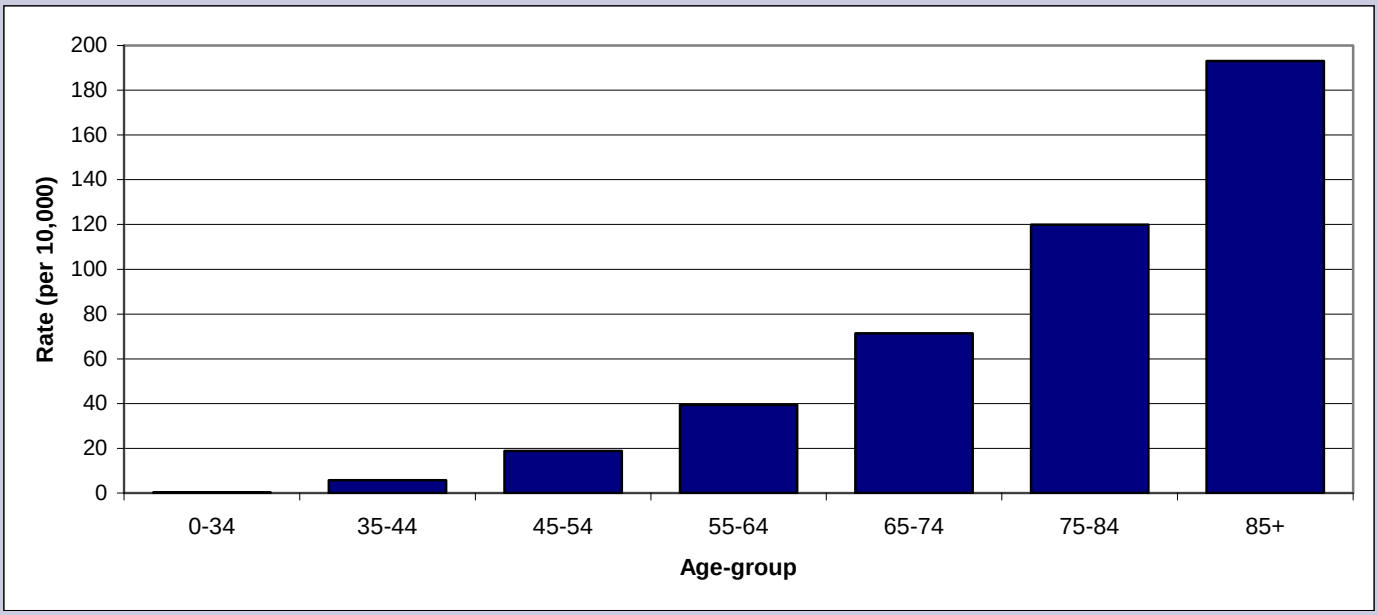
Each year in Connecticut, there are an average of 7,800 hospitalizations for acute myocardial infarctions (AMI) among Connecticut residents. The rate remained relatively stable between 2000 and 2005.

AMI hospitalization rates were consistently higher for males compared to females during this time period. However, he rates for each gender remained relatively stable over the five-year period.

Annual Age-adjusted AMI Hospitalization Rates, by Gender
Connecticut 2000-2005



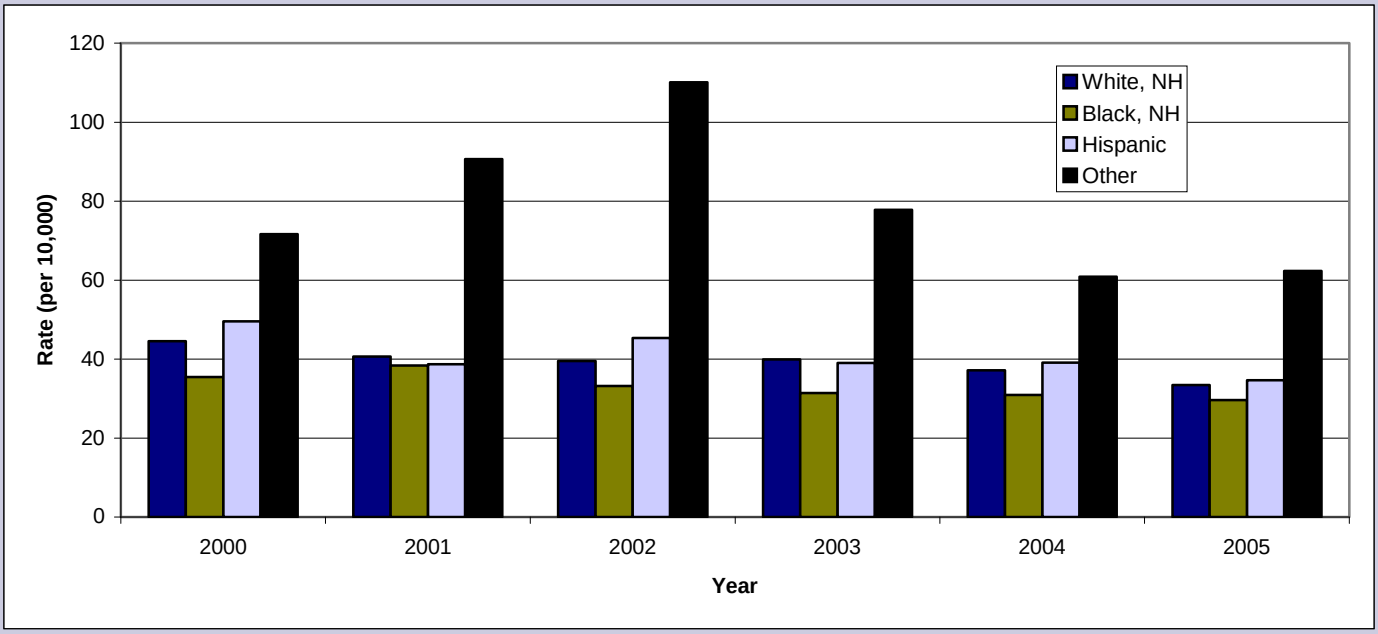
Age-specific AMI Hospitalization Rates, Connecticut 2000-2005



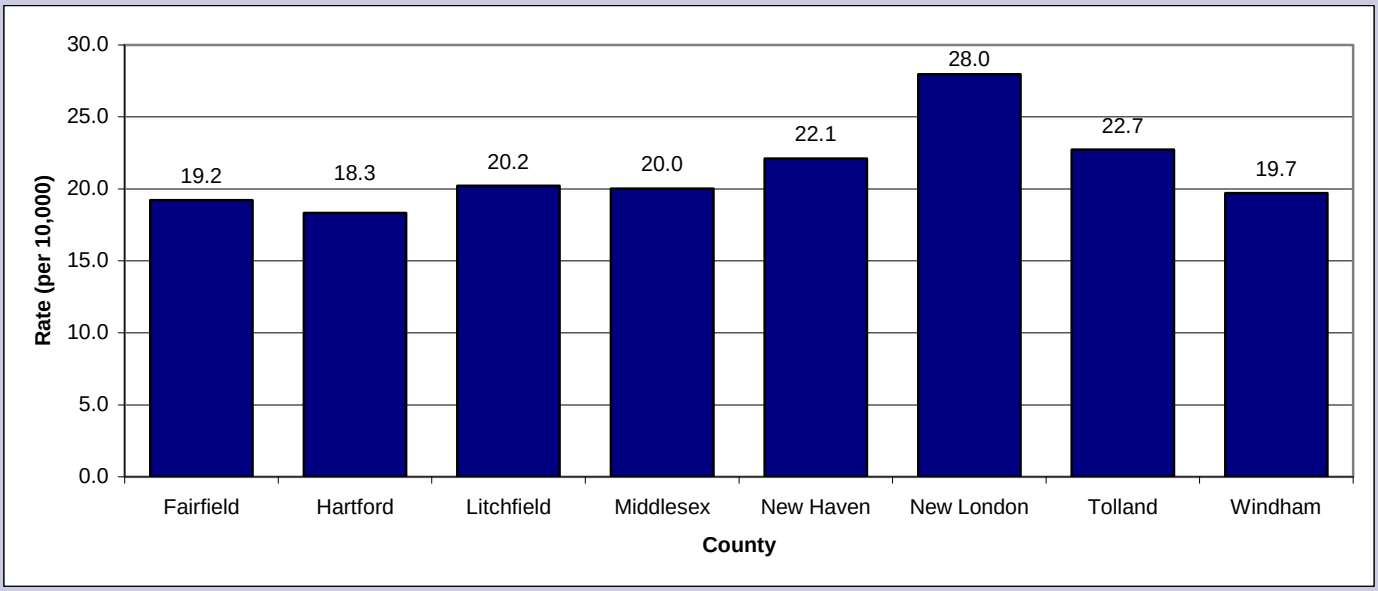
AMI hospitalization rates increase with increasing age. Hospitalization rates were highest among Connecticut residents age 85 years and over.

With respect to race and ethnicity, the highest rates of AMI hospitalization were seen among individuals with a race/ethnicity identified as “Other”. The rates for those with a specified race and ethnicity (White, non-Hispanic; Black non-Hispanic; and Hispanic) were relatively similar across years.

Age-adjusted AMI Hospitalization Rates — by race/ethnicity, 2000-2005



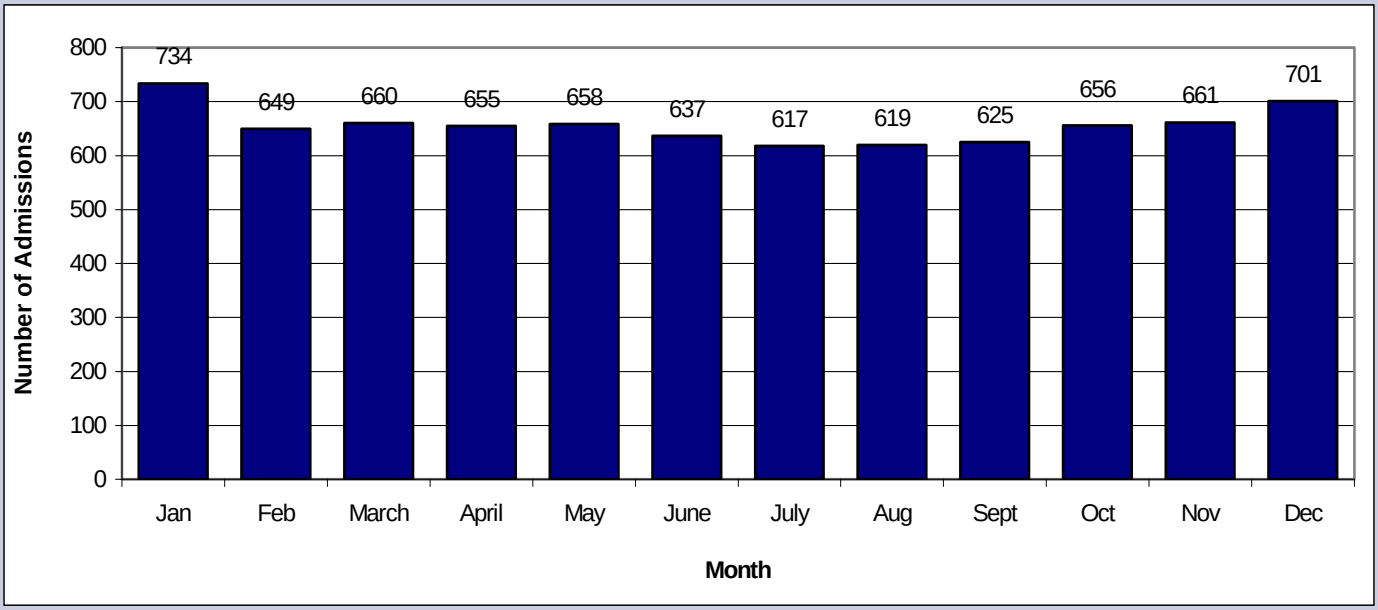
Average Age-adjusted AMI Hospitalizations Rates — by county, 2000-2005



Of the eight counties in Connecticut, residents of New London county showed the highest AMI hospitalization rates. Rates in the other seven counties were relatively similar to each other.

The number of AMI hospital admissions remains relatively constant from month to month. However, there appears to be a slight decrease in the summer months ((July and August) and a slight increase in the winter (December and January).

Average Number of AMI Hospitalizations — by month, 2000-2005



DATA TABLES

Annual age-adjusted rates & counts of AMI hospitalizations, Connecticut 2000-2005

	Male		Female		Total	
	Count	Rate*	Count	Rate*	Count	Rate*
2000	4912	31.37	3626	16.34	8538	23.04
2001	4657	29.21	3395	15.08	8052	21.41
2002	4670	28.85	3328	14.59	7998	20.99
2003	4629	28.02	3456	14.81	8085	20.78
2004	4426	26.57	3188	13.59	7614	19.43
2005	4019	23.79	2921	12.48	6940	17.51

* Rate per 10,000 population

Annual age-specific counts of AMI hospitalizations, Connecticut 2000-2005

	Year											
	2000		2001		2002		2003		2004		2005	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
0-34	54	0.3	66	0.4	43	0.3	53	0.3	49	0.3	43	0.3
35-44	387	6.7	350	6.0	338	5.9	314	5.5	340	6.0	288	5.2
45-54	1067	22.2	976	19.5	1051	20.8	953	18.5	935	17.8	890	16.5
55-64	1470	47.6	1414	44.4	1309	38.6	1490	42.0	1332	36.3	1272	33.5
65-74	1953	84.3	1734	75.9	1824	80.7	1560	69.2	1492	66.4	1305	58.2
75-84	2332	133.8	2233	127.7	2059	117.8	2267	129.9	2055	118.5	1869	109.0
85+	1275	198.4	1279	192.4	1374	201.1	1448	204.2	1411	195.9	1273	171.1

* Rate per 10,000 population

Annual age-adjusted counts & rates of AMI hospitalizations, by race—Connecticut 2000-2005

	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2000	7607	44.57	383	35.46	322	49.59	226	71.65
2001	7037	40.67	414	38.34	294	38.74	307	90.59
2002	6881	39.55	378	33.15	348	45.33	391	110.10
2003	7078	39.91	373	31.43	334	38.99	300	77.77
2004	6614	37.19	381	30.91	363	39.13	256	60.89
2005	5971	33.46	367	29.59	329	34.66	273	62.28

* Rate per 10,000 population

DATA TABLES

Annual AMI hospitalization counts and age-adjusted rates, by county, Connecticut 2000-2005

	2000		2001		2002		2003		2004		2005	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Fairfield	2175	23.25	1959	20.57	1800	18.71	1781	18.29	1801	18.32	1606	16.16
Hartford	1842	18.98	1880	19.20	1823	18.43	1955	19.28	1748	17.07	1763	17.06
Litchfield	540	25.91	443	20.82	463	21.19	452	20.16	422	18.75	332	14.44
Middlesex	377	21.92	389	22.11	363	20.24	349	18.94	358	19.18	335	17.68
New Haven	2178	23.79	2033	21.86	2188	23.26	2240	23.33	2095	21.79	1792	18.56
New London	851	31.81	807	29.87	828	30.13	771	27.43	704	24.79	680	23.67
Tolland	270	22.47	320	25.92	321	24.95	317	23.93	294	21.65	244	17.43
Windham	305	27.76	221	19.74	212	19.00	220	19.64	192	16.52	188	15.50

* Rate per 10,000 population

Average number of AMI hospitalizations, by month— Connecticut 2000-2005

	Average # of Hospitalizations
January	733.7
February	649.3
March	660.2
April	654.7
May	658.0
June	636.5
July	617.3
August	619.3
September	624.8
October	655.7
November	660.8
December	700.8

Useful Links

CT DPH — Heart Disease and Stroke Prevention Program
Http://www.ct.gov/dph

CDC - Division for Heart Disease and Stroke Prevention
http://www.cdc.gov/DHDSP/about_program.htm

American Heart Association
http://americanheart.org

Environmental Protection Agency — Health and the Environment
http://www.epa.gov/air/particlepollution/health.html