

American Heart Association

**AN ESTIMATED 35,000 ISCHEMIC
HEART DISEASE DEATHS
ANNUALLY ARE ASSOCIATED WITH
PASSIVE EXPOSURE TO TOBACCO
SMOKE**

American Heart Association

**AN ESTIMATED 1,200,000
AMERICANS WILL HAVE A NEW OR
RECURRENT CORONARY ATTACK
THIS YEAR**

**THE SINGLE LARGEST KILLER OF
AMERICAN MALES AND FEMALES
SMOKE**

American Heart Association

**EVERY 26 SECONDS AN AMERICAN
WILL SUFFER A CORONARY EVENT**

**EVERY 60 SECONDS SOMEONE
WILL DIE FROM ONE**

**40% OF PEOPLE WHO EXPERIENCE
A CORONARY ATTACK IN A GIVEN
YEAR WILL DIE FROM IT**

SURGEON GENERAL REPORT – 2006

BOTTOM LINE

- **BREATHING SECONDHAND SMOKE MAKES IT MORE LIKELY THAT YOU WILL GET A HEART DISEASE, HAVE A HEART ATTACK, AND DIE EARLY**



HELENA HEART STUDY
BRITISH MEDICAL JOURNAL
APRIL 5, 2004

- **A 40% REDUCTION IN HEART ATTACKS DURING THE 6 MONTHS THAT THE HELENA SMOKEFREE ORDINANCE WAS IN EFFECT**
- **THE FIRST STUDY TO FIND AN ASSOCIATION BETWEEN SMOKEFREE ORDINANCES AND A RAPID REDUCTION IN HEART ATTACKS**
- **FOLLOWING REPEAL OF ORDINANCE, AMI LEVELS RETURNED TO PREVIOUS LEVELS**



Pueblo Heart Study 2005



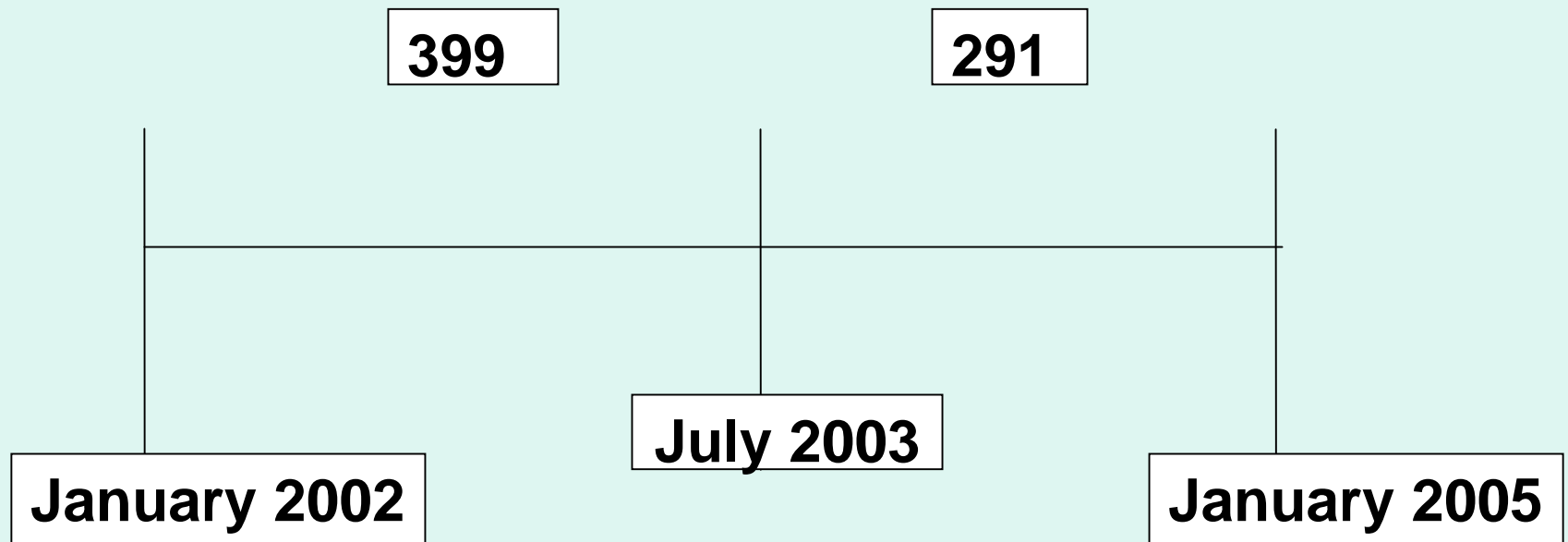
Study Design



- **All heart attacks in Pueblo admitted to either Parkview Medical Center or St. Mary-Corwin Medical Center.**
- **Time frame covered the year and a half before the Smoke-Free Air Act went into effect on July 1, 2003, as well as a year and a half afterward.**
- **Residence determined by patient's zip code.**



Results



**Number of heart attacks were
reduced by 108**



Study Design



Observed and Expected AMI Counts/100,000 Person Years by Time and Location

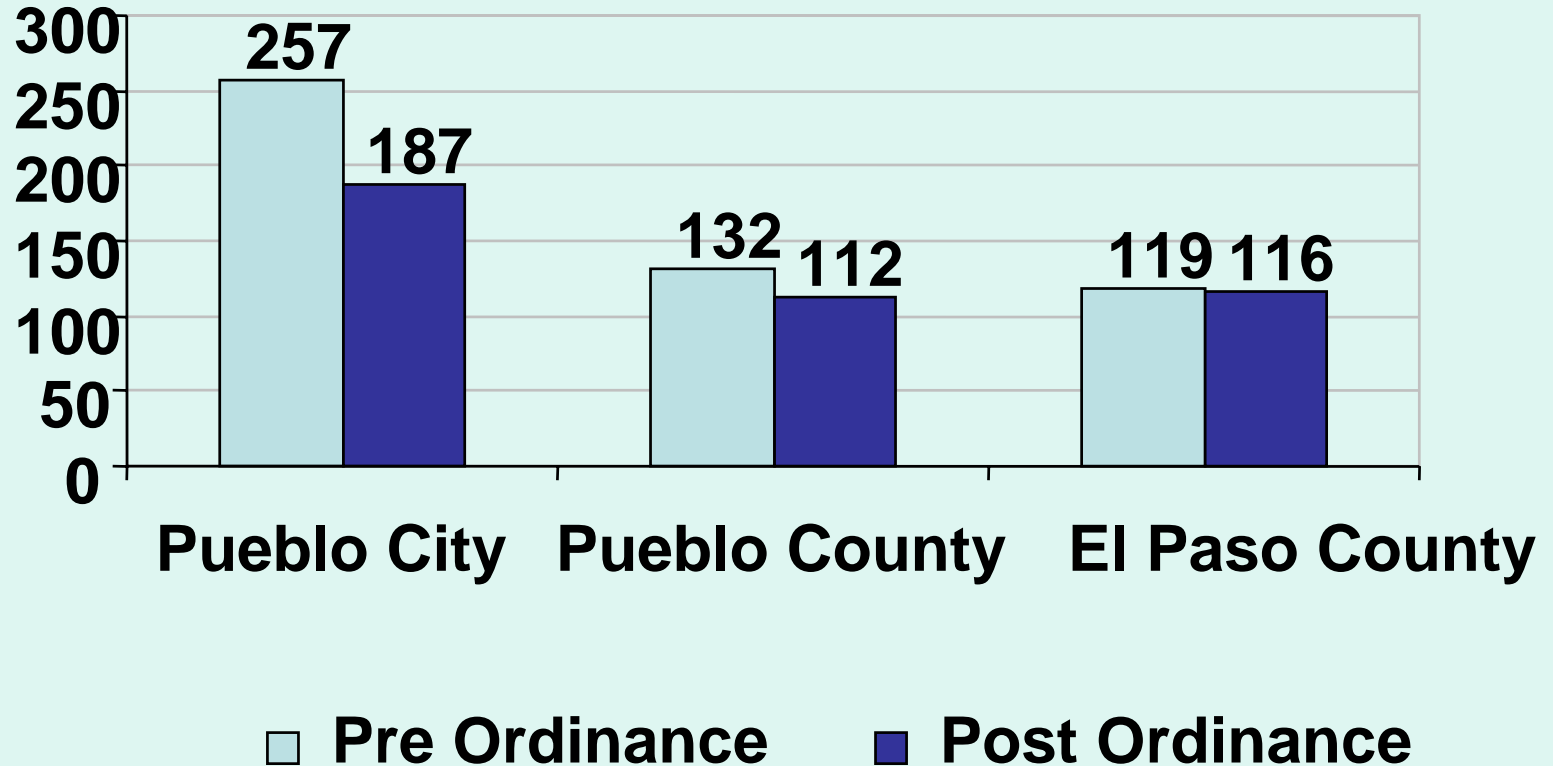
| Location | Statistic | Pre | Post | RR for AMI post ordinance (95% CI) |
|----------------------------|---------------------------|-----|------|------------------------------------|
| Inside Pueblo City Limits | N | 399 | 291 | 0.73 (0.63 - 0.85) |
| | Rate/100,000 Person Years | 257 | 187 | |
| Outside Pueblo City Limits | N | 89 | 76 | 0.85 (0.63 - 1.16) |
| | Rate/100,000 Person Years | 132 | 112 | |
| El Paso County | N | 984 | 955 | 0.97 (0.89 - 1.06) |
| | Rate/100,000 Person Years | 119 | 116 | |





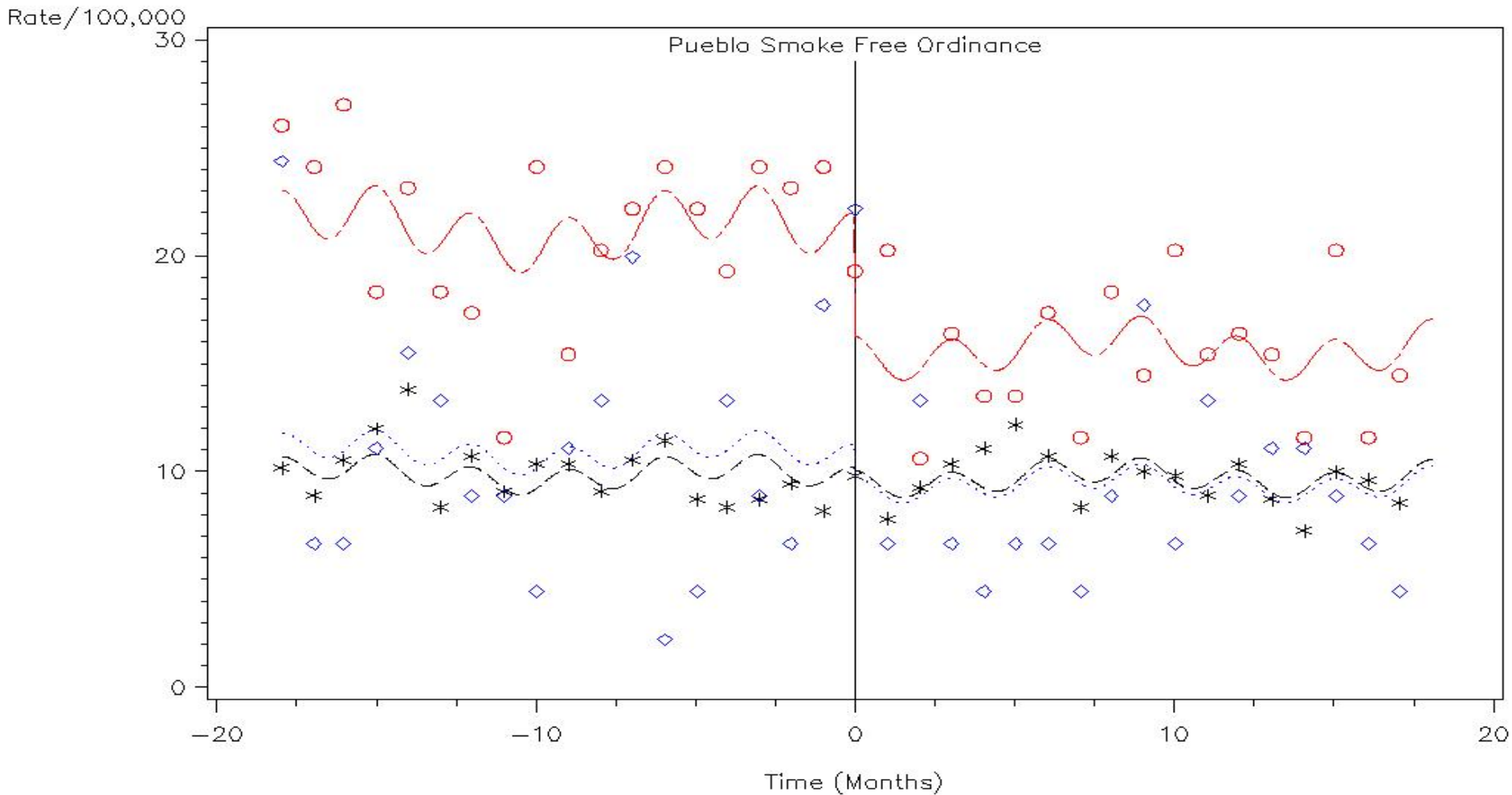
Total AMI Hospitalizations

Per 100,000 Person Years



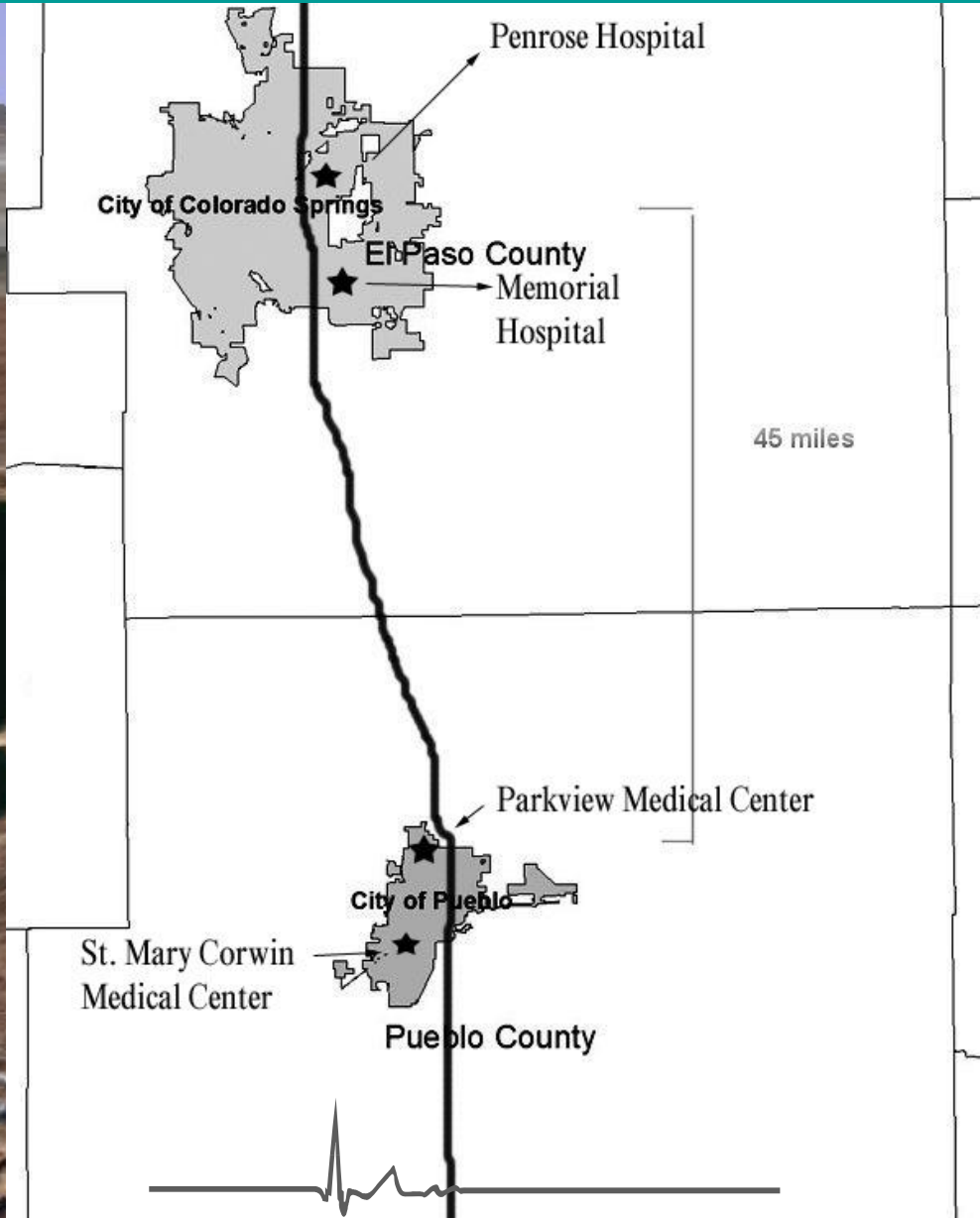
Results

Actual and Predicted Monthly AMI Rates Per 100,000
Relative to Pueblo City Limits Smoke Free Ordinance Enactment (Time=0)



| | | | | |
|----------|-------|-----------------------|-----------|--------------------------|
| Location | * * * | El Paso County Actual | ----- | El Paso County Predicted |
| | ○ ○ ○ | Inside Pueblo Actual | - - - - - | Inside Pueblo Predicted |
| | ◇ ◇ ◇ | Outside Pueblo Actual | | Outside Pueblo Predicted |

Pueblo and El Paso County



Secondhand Smoke and the Heart

5 minute exposure stiffens the aorta, the main artery carrying blood from the heart to the body. Makes the heart work harder to pump blood.

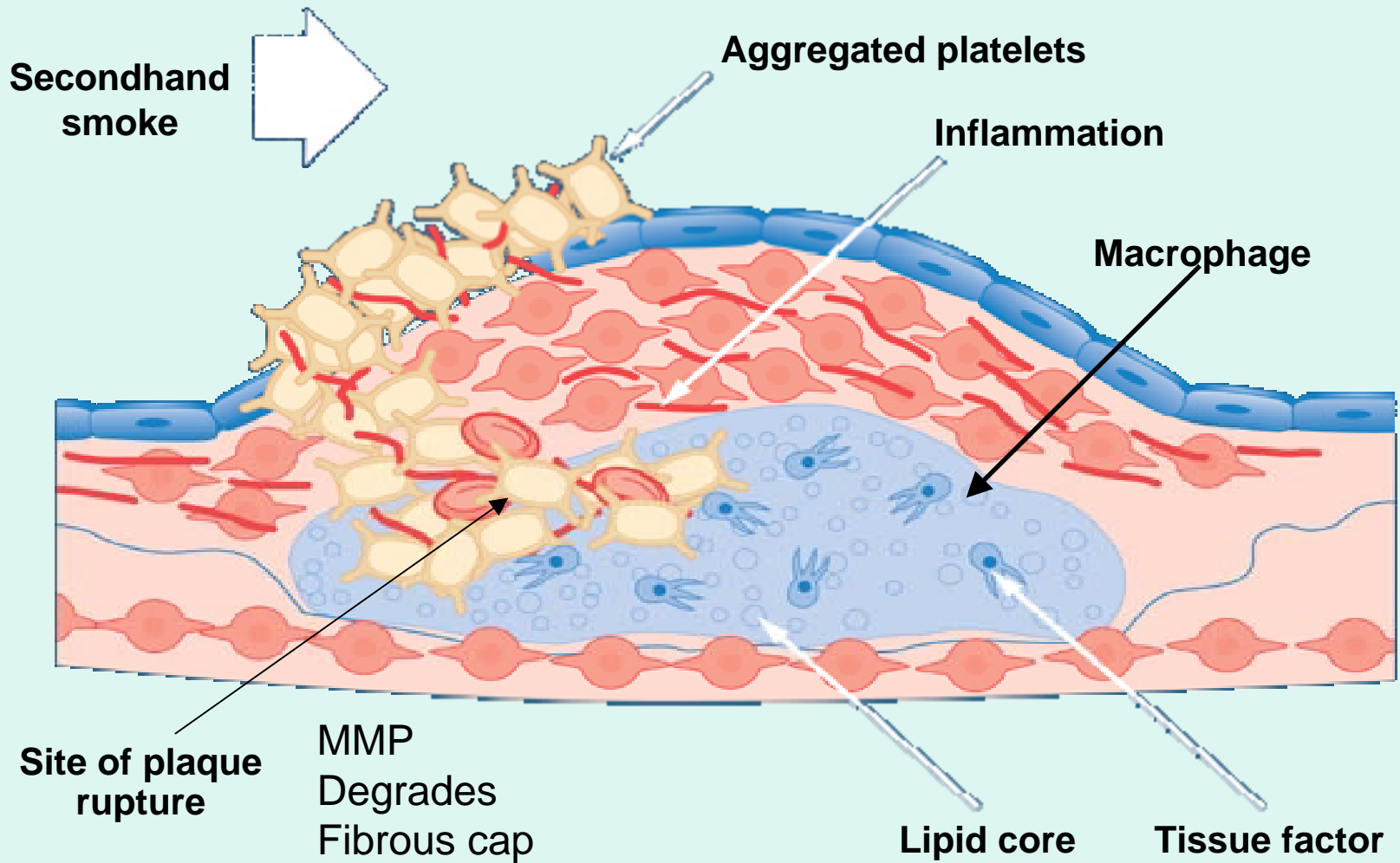
20 minutes exposure activates blood platelets involved in the clotting process. Activated platelets are more likely to form a blood clot in the blood stream. If the clot blocks the artery in the heart this causes a heart attack.

30 minutes exposure compromises the coronary arteries and their ability to dilate and lead to a heart attack.

2 hours exposure disturbs the heart rhythm.



Plaque Disruption





The Pueblo Heart Study is adding to the growing body of knowledge that shows indoor smoke-free environments have the potential to rapidly improve a community's overall health while reducing the number of heart attacks.



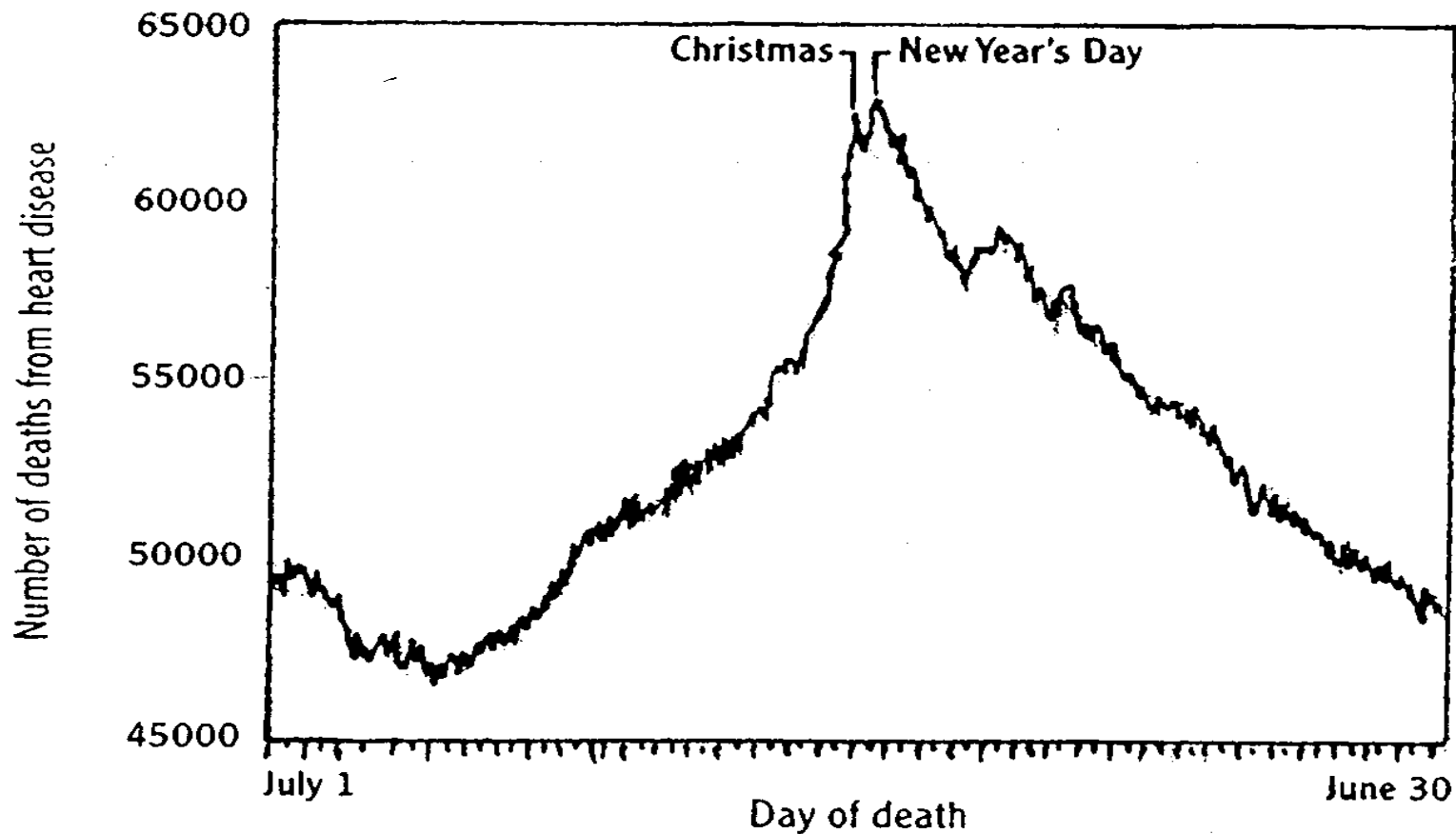
Study Concerns



- **Seasonality**
- **Smokers vs Non-Smokers**
- **Death Prior to Hospital Arrival**
- **Air Pollution**
- **New Preventive Medicine Efforts**
- **Did Ordinance Cause Smokers to Quit**
- **Population Changes**



Seasonal Deaths



Data from 53 million deaths between 1973 and 2001 show that deaths from heart disease peak in December/January, with spikes on Christmas and New Year's Day.



A casual association between enforcement of a smoke-free ordinance and a reduction in AMI admissions cannot be definitely made.



Savings



- **Initial heart attack estimated at several million dollars up to \$4.5 million in health care costs.**
- **Ancillary costs of missed work, loss of livelihood, rehabilitation and follow-up medical care.**



SURGEON GENERAL REPORT – 2006

- **TOBACCO INDUSTRY HAS ATTEMPTED TO UNDERMINE THE FINDINGS OF KEY STUDIES**
- **ASSISTED IN ESTABLISHING A SCIENTIFIC SOCIETY WITH A JOURNAL**
- **ATTEMPTED TO SUSTAIN CONTROVERSY EVEN AS THE SCIENTIFIC COMMUNITY REACHED CONSENSUS**

SURGEON GENERAL REPORT – 2006

- DOCUMENTS INDICATE THAT IT HAS ENGAGED IN WIDESPREAD ACTIVITIES THAT HAVE GONE BEYOND THE BOUNDS OF ACCEPTED SCIENTIFIC PRACTICE
- THROUGH A VARIETY OF ORGANIZED TACTICS, IT HAS ATTEMPTED TO UNDERMINE THE CREDIBILITY OF THE SCIENTIFIC EVIDENCE ON SHS
- HAS FUNDED OR CARRIED OUT RESEARCH THAT HAS BEEN JUDGED TO BE BIASED
- SUPPORTED SCIENTISTS TO GENERATE LETTERS TO EDITORS THAT CRITICIZED RESEARCH PUBLICATIONS

SURGEON GENERAL REPORT – 2006

- **THERE IS NO SAFE AMOUNT OF SECONDHAND SMOKE**
- **BREATHING EVEN A LITTLE CAN BE DANGEROUS
SECONDHAND SMOKE CAUSES HEART DISEASE
AND LUNG CANCER**
- **SEPARATE “ NO SMOKING” SECTIONS DO NOT
PROTECT YOU FROM SECONDHAND SMOKE.
NEITHER DOES FILTERING THE AIR OR OPENING A
WINDOW**