

IS THE MORTALITY ADVANTAGE OF PHYSICIANS DUE TO LOWER RATES OF SMOKING?

Dario M Torre, Nae-Yuh Wang, Lucy A
Mead, Daniel E Ford, Michael J Klag.

The Johns Hopkins Medical Institutions

BACKGROUND

- U.S. physicians have lower mortality than the general population
- Smoking is strongly related to health outcomes
- The contribution of smoking to the mortality benefit of physicians is not known

OBJECTIVES

- To compare the overall and cause-specific mortality of physicians to the age-race-gender matched general U.S. population over the same calendar time
- To determine whether smoking behavior influences the mortality experience of physicians compared to the general population

METHODS

- Design: Prospective cohort study
- Study population: The Precursors Study
 - 1,213 male medical students
 - classes 1948-1964 of JHU School of Medicine
- Follow-up: Deaths through 1998 ascertained by annual questionnaires, contacting family members and co-workers, scanning obituaries, National Death Index searches. Smoking behavior assessed up to 11 times from baseline to 1993
 - vital status known for >99 % of the cohort

DATA ANALYSIS

- Expected deaths calculated by multiplying age-gender-race-calendar time specific death rates by person years of follow up, stratified by smoking status at baseline and lifetime smoking
- Death rates based on U.S. vital statistics for white males from 1948-1969, projected through 1998
- Standardized mortality ratios (SMR) calculated by dividing observed by expected number of deaths
- 95 % CI around SMR's calculated using Poisson distribution

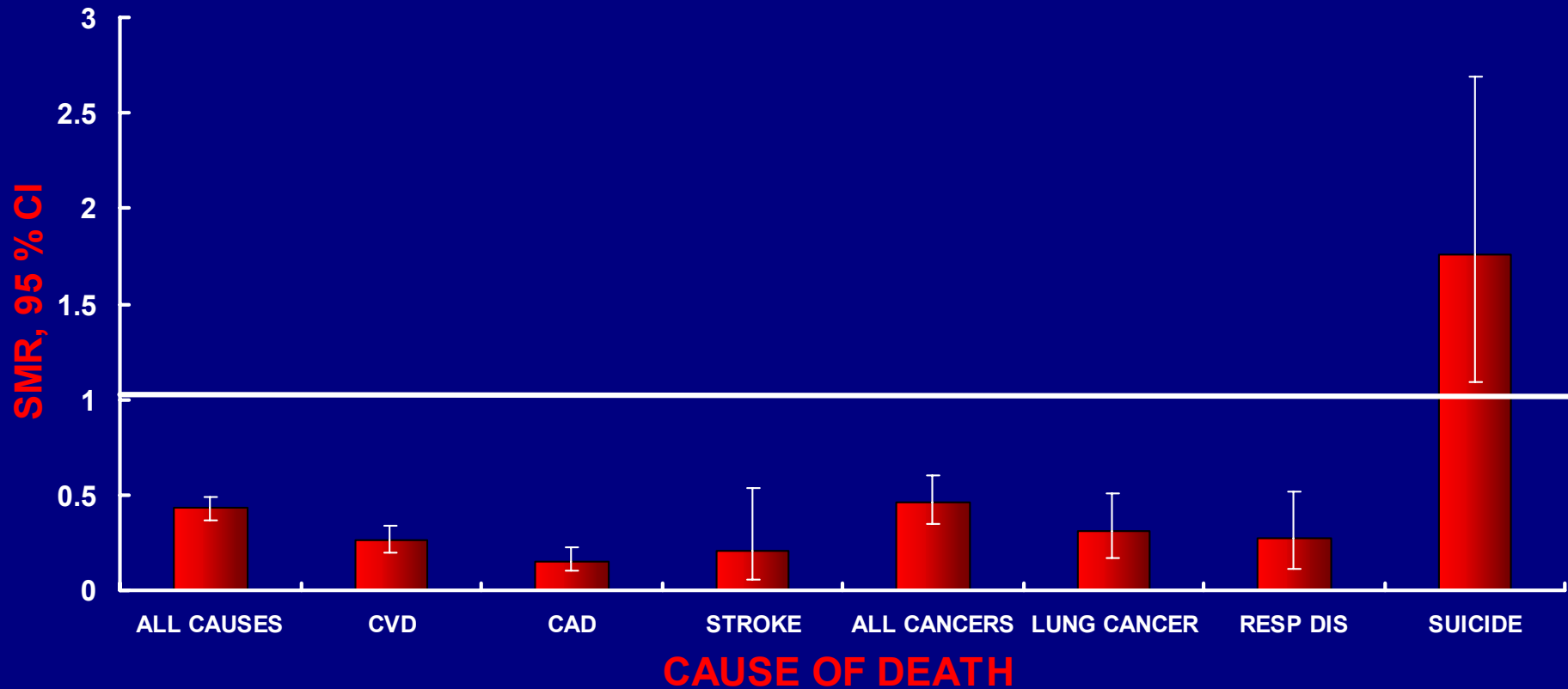
BASELINE CHARACTERISTICS OF 1,213 MALE PHYSICIANS IN THE PRECURSORS STUDY, 1948-1964

- White race, % 98
- Mean age at graduation, yr 26
- Smokers, % 51
- SBP, mmHg 115
- DBP, mmHg 69
- BMI, kg/m² 23
- Serum cholesterol, mg/dl 192
- Father's occupation (white collar) % 81

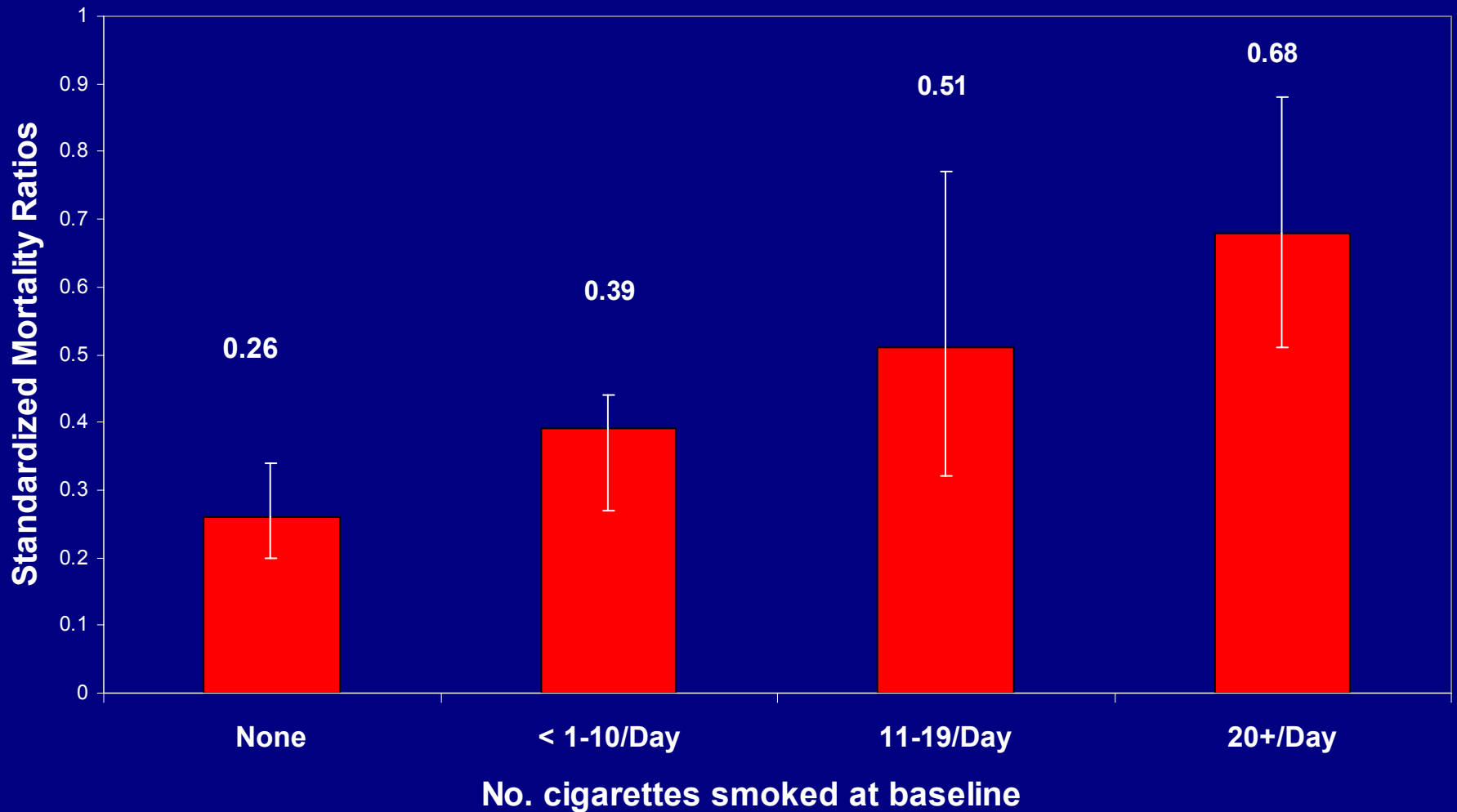
CHARACTERISTICS OVER FOLLOW-UP OF 1,213 MALE PHYSICIANS IN THE PRECURSORS STUDY, 1948-1998

- Total follow-up person years, 48,000
- Mean length of follow-up, yr 40
- Mean age at death, yr
 - Overall 57
 - CVD 60
 - suicide 45

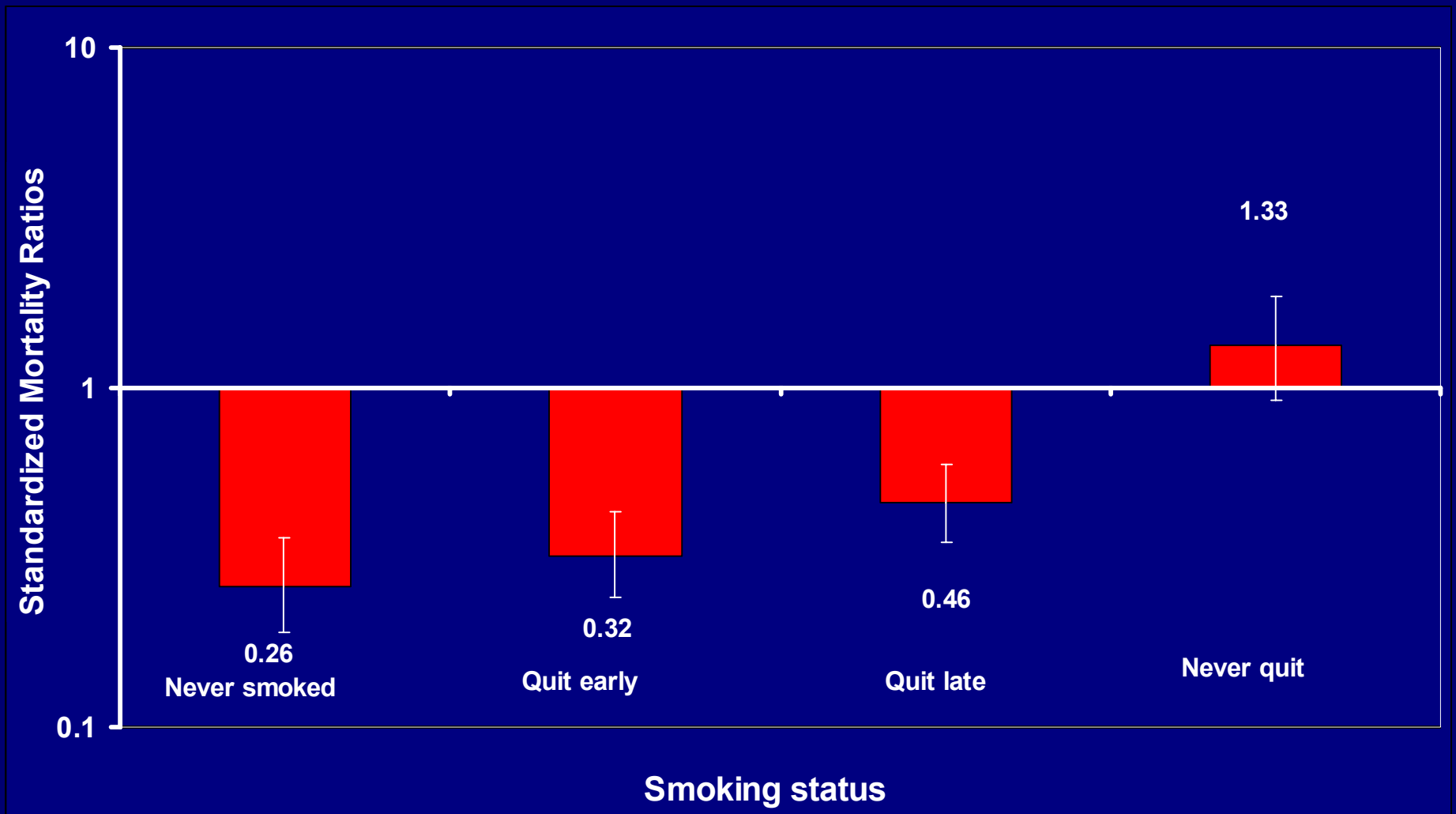
ALL CAUSE MORTALITY IN 1,213 WHITE MALE PHYSICIANS COMPARE TO U.S. POPULATION: THE PRECURSORS STUDY



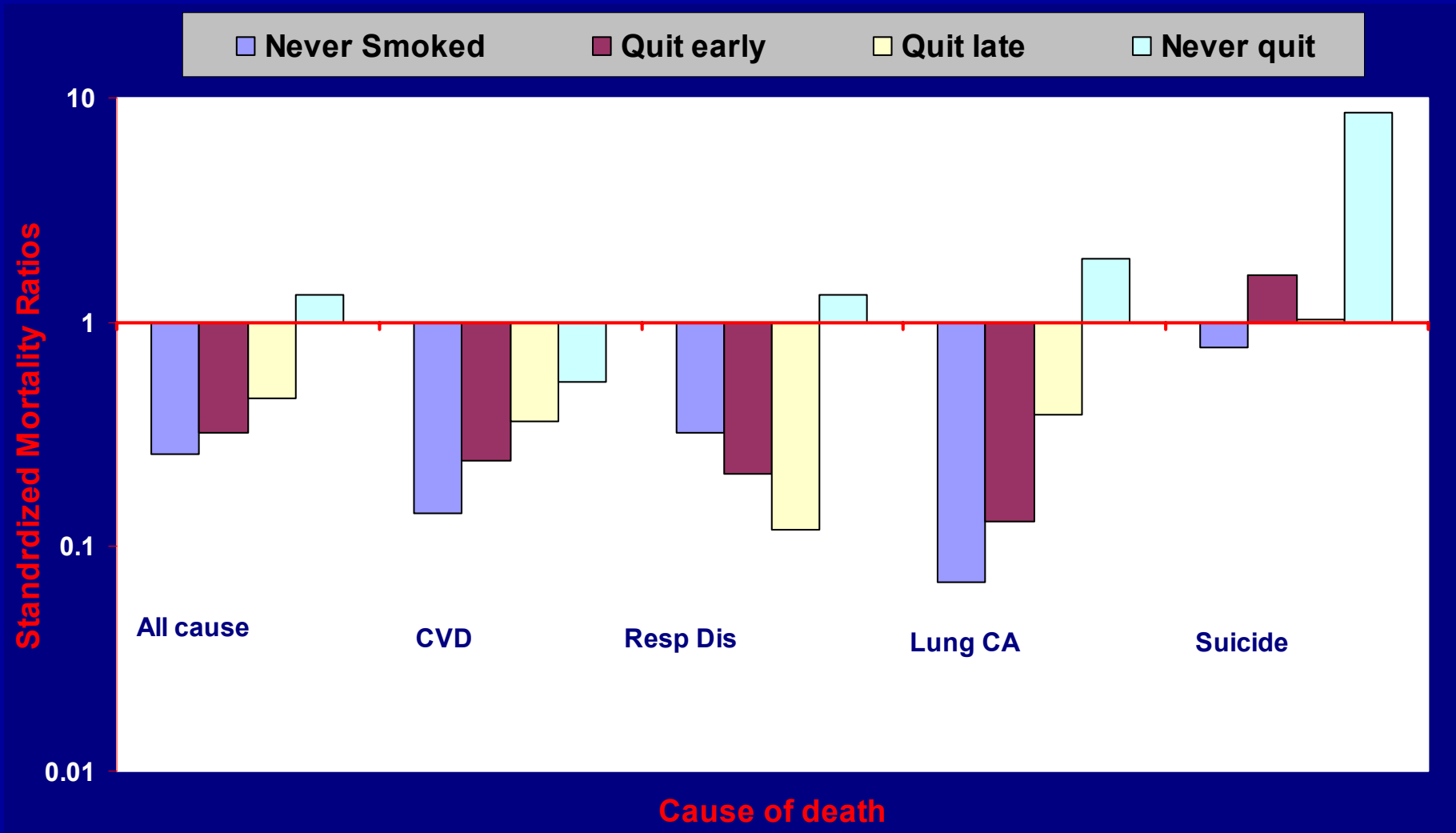
ALL CAUSE MORTALITY BY BASELINE SMOKING STATUS IN 1,213 WHITE MALE PHYSICIANS: THE PRECURSORS STUDY



ALL CAUSE MORTALITY BY LIFELONG SMOKING STATUS IN 1,213 WHITE MALE PHYSICIANS COMPARED TO U.S POPULATION : THE PRECURSORS STUDY



CAUSE SPECIFIC MORTALITY BY SMOKING STATUS IN 1,213 WHITE MALE PHYSICIANS : THE PRECURSORS STUDY



LIMITATIONS

- All men
- Vast majority white
- Graduates of one medical school
- Smoking status not ascertained in general population

CONCLUSIONS

- No mortality benefit among physicians who are lifelong smokers
- Substantial health benefits associated with low rates of smoking among physicians, compared to the general population
- Inverse dose-response relationship between smoking behavior and mortality compared to the U.S. population