

All-cause and cause-specific mortality in a cohort of WTC-exposed and non-WTC-exposed firefighters Ankura Singh* Ankura Singh Rachel Zeig-Owens Madeline Cannon Mayris P. Webber David J. Prezant Paolo Boffetta Charles B. Hall

Background

Studies show that rescue/recovery workers who responded to the World Trade Center (WTC) disaster had reduced mortality compared with general populations, but findings may be influenced by the healthy worker effect or access to care. No study has compared mortality in WTC-exposed workers to that in a comparable occupational cohort.

Objective

To compare mortality rates in WTC-exposed Fire Department of the City of New York (FDNY) firefighters vs in a comparison cohort of similarly healthy non-WTC-exposed firefighters from other cities.

Methods

10,786 male WTC-exposed FDNY firefighters and 8,813 male non-WTC-exposed firefighters from the Chicago, Philadelphia and San Francisco fire departments who were employed on 9/11/01 (9/11) were included in the analyses. WTC-exposed firefighters receive routine health monitoring, even after retirement, via the WTC Health Program (WTCHP). Follow-up began on 9/11 and ended at the earliest of the following: death date or 12/31/16. Death dates and causes of death were obtained from the National Death Index, and demographic data from the fire departments. Poisson regression models estimated RRs of all-cause and cause-specific mortality in WTC-exposed vs non-WTC-exposed firefighters, controlling for age and race.

Results

WTC-exposed firefighters were younger on 9/11 than the non-WTC-exposed (mean \pm SD=40.4 \pm 7.4 vs 43.9 \pm 9.2 yrs). Between 9/11/01-12/31/16, there were 261 deaths among WTC-exposed firefighters and 605 deaths among non-WTC-exposed. After controlling for age and race, WTC-exposed firefighters had lower rates of mortality from all causes, cancer, heart disease and respiratory diseases (figure).

Conclusion

In the first 15 years post 9/11, we observed significantly lower mortality rates in WTC-exposed firefighters compared with non-WTC-exposed firefighters. Better mortality outcomes in the WTC-exposed cohort may be a result of the free routine health monitoring, including cancer screenings, that they receive as part of the WTCHP.



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