

Australian Firefighters' Health Study

Monash Centre for Occupational and Environmental Health (MonCOEH)

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Background

In 2008/09, the Australasian Fire and Emergency Service Authorities Council (AFAC) commissioned Monash University to assess the feasibility of conducting a cohort study of cancer, mortality and other possible health outcomes in Australian firefighters.

After review of the data held by the firefighting agencies, a national retrospective cohort study of Australian firefighters was considered feasible. This study is now being undertaken by Monash under a contract with AFAC.

Study Aims

The specific aims of the retrospective cohort study will be to:

- Investigate differences in the overall death rate and rates for specific causes of death in Australian firefighters compared to those of the general population. The outcomes of primary interest are deaths from cancer, cardiovascular disease, non-malignant respiratory diseases and traumatic injury.
- Examine differences in the overall cancer rate and rates of specific cancer types in Australian firefighters compared to those of the general population. The cancers of primary interest are brain and central nervous system malignancies, melanoma, testicular cancer, prostate cancer, bladder cancer, non-Hodgkin lymphoma, multiple myeloma, and for women, cervical cancer, thyroid cancer and breast cancer.
- Compare the cancer incidence and death rates for subgroups within the cohort; e.g. by agency, type of firefighter, duration of active firefighting, types of incidents attended and other exposure types.
- Assess the feasibility of investigating other health outcomes for which employed and volunteer firefighters may be at increased risk.
- Identify exposures which may be associated with increased risk of cancer and/or mortality among firefighters.



Methods

The Australian Firefighters' Health Study is assembling a cohort of current and former firefighters by extracting data from existing computerised records held by nine participating firefighting agencies. The cohort of approximately 215,000 firefighters will include men and women, career, part-time and volunteer firefighters.

Cancer and mortality outcomes will be obtained through data linkage with the Australian Cancer Database and the National Death Index. Existing historical occupational and incident data will be used to investigate any links between occupational firefighting and later cancer and death outcomes.

Duration of active firefighting in years will be used as an exposure metric for most employees and volunteer firefighters. Data from career and volunteer firefighters will be analysed separately. For many firefighters, it will be possible to compare risk by grouping firefighters by the number and types of emergency incidents attended after 1997, and perhaps the frequency of exposure to some hazardous materials.



Study Process

Ethics committee approval has been granted from the Monash University Human Research Ethics Committee (MUHREC).

A Study Advisory Committee including representatives of stakeholders has been established. During the first meeting in November 2011, the study's scope and methodology were reviewed, the Advisory Committee terms of reference were agreed on and the study plan, schedule and reporting process were discussed.

Earlier this year, Monash has commenced collecting data on an agency by agency basis. Each firefighting agency was asked to provide necessary information such as names, dates of birth and post codes of firefighters and service history information such as job title, number and type of fires attended.

It is anticipated this data collection phase and the associated data cleaning will be completed by the end of 2013.



Firefighters' Health Study Advisory Committee, November 2011

Anticipated outcomes

No previous published study has undertaken analyses based on contemporary exposure incident data, so the use of such data is likely to result in more refined exposure assessment methods than previously used.

The study will give insight into any differences of the overall cancer and death rates in Australian firefighters compared to those of the general population, and it will allow comparison of cancer incidence and death rates for subgroups within the cohort. Such findings can then be used to inform preventive strategies to better protect the health of future firefighters.