



Reference document

Health impacts of oil and gas operations

The Headlines:

A 33 year baseline health study of petroleum workers shows they have better health than the Australian community: Monash University

No link has been found between coal seam gas operations and health concerns: Queensland Health

The risks to public health from exposure to emissions from shale gas extraction are low if operations are properly run and regulated: Public Health England

The Facts:

1. Baseline health study

The Australian Institute of Petroleum: Health Watch Study

Since 1980, the Australian Institute of Petroleum has sponsored the development and operation of an independent epidemiology program called Health Watch.

Health Watch is a university-based research program which studies people who have worked in the Australian petroleum industry to find out what happens to them in terms of their health. Health Watch has followed about 19,000 past and present employees during their time in the industry and after they leave or retire. Along the way, Health Watch records any occurrence of cancer and, eventually, the cause of death.

By comparing this information for different jobs within the petroleum industry and with the general Australian population, Health Watch tries to provide useful information about risks in jobs in the petroleum industry and risks in lifestyle. The information from the Health Watch study is important in identifying factors that may be a risk to health and ways in which these risks may be controlled.

The Health Watch Study has always been conducted independently, first at the University of Melbourne and then, from 1998, at the University of Adelaide. In 2005 the study was transferred to the Monash Centre for Occupational and Environmental Health, a leading international centre for epidemiological programs and collaborative research at Monash University

The Study clearly shows that petroleum industry employees have better health than the general Australian community and are less likely to die of the diseases commonly causing death - including cancer, heart and respiratory conditions.

Reference: <http://www.aip.com.au/health/ohs.htm>



2. Coal seam gas health study

Queensland Health: Coal Seam Gas in the Tara Region (2013)

This report provides a summary risk assessment framed on the following questions:

1. What is known about the health complaints among residents in the Tara region?
2. What is known about the impacts of CSG activities on environmental factors that may affect the health of the community (environmental health determinants) in the Tara region?
3. What is the most likely relationship between the residents' health complaints and any documented impacts of CSG activities on environmental health determinants?

Conclusion:

Given the nature of the health complaints, there are multiple potential causes and explanations. This investigation by itself is unable to determine whether any of the health effects reported by the community are linked to exposure to coal seam gas activities.

The reasons for this are multiple and include:

- **the predominant symptoms reported by the residents of the Wieambilla Estate are subjective and non-specific with a lack of clinic findings.**
- **the low number of individuals affected** approximately 3.7 per cent of the population. WHO (2012) reports that 1.7–4 per cent of the world's adult population have headache on 15 or more days every month.
- **the lack of evidence of employees working within the CSG industry having similar symptoms.**
- **the severity of the symptoms**—nine out of 46 who had reported symptoms actually presented to the local GP and there were no reports of presentations or admissions to the local hospitals. This is in contrast to the comments made by the residents who have complained that this is a serious issue that needs urgent attention and warrants immediate suspension of all CSG activity in the region.
- **other possible sources of air and water contamination**
 - The majority of residents use wood-fired heaters or open fires for heating in the winter time (when the majority of complaints occurred) and both could explain some of the symptoms the residents are complaining of e.g. eye irritation, nasal congestion, headache.
 - The majority of residents use rainwater for drinking purposes and most of these do not filter or boil their drinking water. This water can also be contaminated with bacteria, viruses or other organisms which are unlikely to be caused by CSG activities, but may cause the symptoms experienced by the residents e.g. nausea and vomiting. Other communicable diseases such as Q-fever, Leptospirosis and Ross River fever may cause some of the symptoms experienced by the residents and these causes also need to be excluded.

Reference: <http://www.health.qld.gov.au/publications/csg/>



3. Shale gas health study

Public Health England: Review of the Potential Public Health Impacts of Exposures to Chemical and Radioactive Pollutants as a Result of the Shale Gas Extraction Process (31 Oct 2013)

The risks to public health from exposure to emissions from shale gas extraction are low if operations are properly run and regulated, according to a Public Health England report.

This review of the scientific literature focusses on the potential impact of chemicals and radioactive material from all stages of shale gas extraction, including the fracturing (fracking) of shale.

Dr John Harrison, Director of PHE's Centre for Radiation, Chemical and Environmental Hazards, stated that:

- Available evidence indicates that the potential risks to public health from exposure to emissions associated with the shale gas extraction process are low if operations are properly run and regulated.
- Where potential risks have been identified in other countries, the reported problems are typically due to operational failure.
- Good on-site management and appropriate regulation of all aspects of exploratory drilling, gas capture as well as the use and storage of fracking fluid is essential to minimise the risks to the environment and health.
- Most evidence from other countries suggests that any contamination of groundwater, if it occurs, is likely to be caused by leakage through the vertical borehole. Therefore good well construction and maintenance is essential to reduce the risks of ground water contamination.
- Contamination of groundwater from the underground fracking process itself is unlikely because of the depth at which it occurs.

Reference: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332837/PHE-CRCE-009_3-7-14.pdf