

Opening statement - Dr Louise Woodward – 11/04/2024

Introduction

I have been practicing as a paediatrician in the NT for over 13 years. Currently, I work at Royal Darwin Hospital and in my private clinic. I give this evidence in my personal capacity as a medical professional and as a person who has first-hand experience delivering paediatric and neonatal care throughout the Top End.

Today I will be giving evidence to the Committee on the Middle Arm project's risk to public health. It is my opinion, which is supported by evidence, that the gas processing and petrochemical manufacturing at Middle Arm, so close to the major population centres of Darwin and Palmerston pose a serious risk of harm to residents.

Our hospitals are struggling to cope with the burden of disease now. The Middle Arm development is likely to increase acute and chronic disease for a population which already has some of the worst health outcomes in the country.

It is unethical to impose known environmental pollution on residents when there is a known risk to health. The public health risk from gas processing and petrochemical manufacture is clear and is supported by robust, independent, scientific evidence.

All of this is in addition to the climate risks which are well known.

The federal government should be investing the \$1.5 billion directly into the NT community to address the serious health inequities suffered by Territorians.

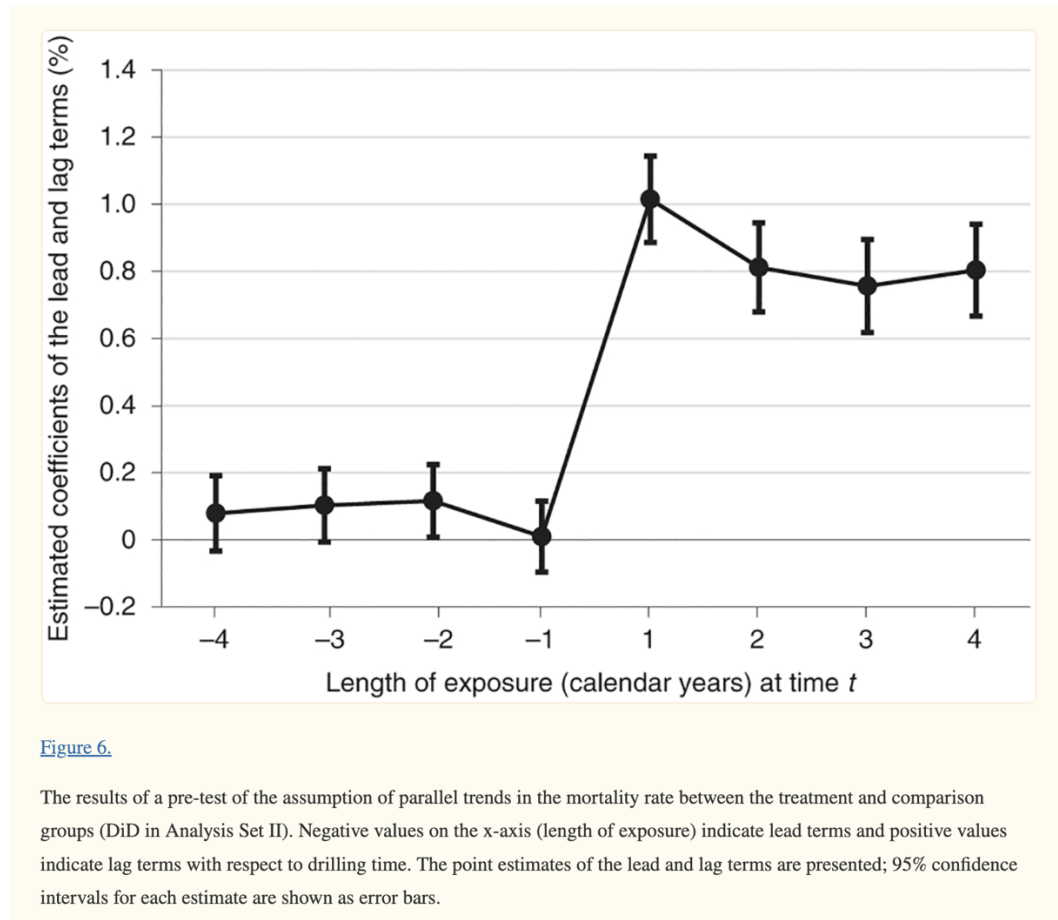
Asthma and cancer risks

[Every aspect of gas extraction and processing](#) emits toxic and harmful chemicals into the air, contributing to hazardous air quality for residents. These chemicals include a group called volatile organic compounds which dissolve readily into the air and enter the lungs where they distribute throughout the body. The health impacts vary depending on the toxin and the susceptibility of the people exposed.

[Research](#) shows that people living near gas operations who are exposed to air pollution containing these toxic chemicals have higher rates of asthma and severity of asthma attacks; higher rates of cancers, especially blood cancers; increased stillbirths, premature birth and low birth weight, and higher [all-cause mortality](#) due to an exacerbation of chronic disease. A study in 2021 showed that proximity to gas operations has been shown to be a risk factor for Acute Lymphoblastic Leukaemia in Pennsylvania. The NT population already suffers from some of the highest rates of hospitalisation, as well as heart disease, rheumatic fever, renal disease, and diabetes compared to the rest of Australia. We have the highest rates of still birth, premature

birth, and low birth weight. Adding harmful pollutants into the environment where many vulnerable people live will only increase health inequity and is totally unethical.

Graph showing increase in mortality from time of gas exposure (time point 0)



Li L et al. **Exposure to Unconventional Oil and Gas Development and All-cause Mortality in Medicare Beneficiaries.** *Nat Energy.* 2022 Feb;7(2):177-185. doi: 10.1038/s41560-021-00970-y. Epub 2022 Jan 27.

Impact on local communities

[Children](#) and pregnant women are more likely to suffer from the health effects of toxic air pollution due their higher respiratory rates and metabolic demand. People with chronic diseases are more vulnerable to the health impacts of air pollution. [Research](#) shows higher all-cause mortality for people living near unconventional gas operations with greater impacts, the closer the residence to the gas operation.

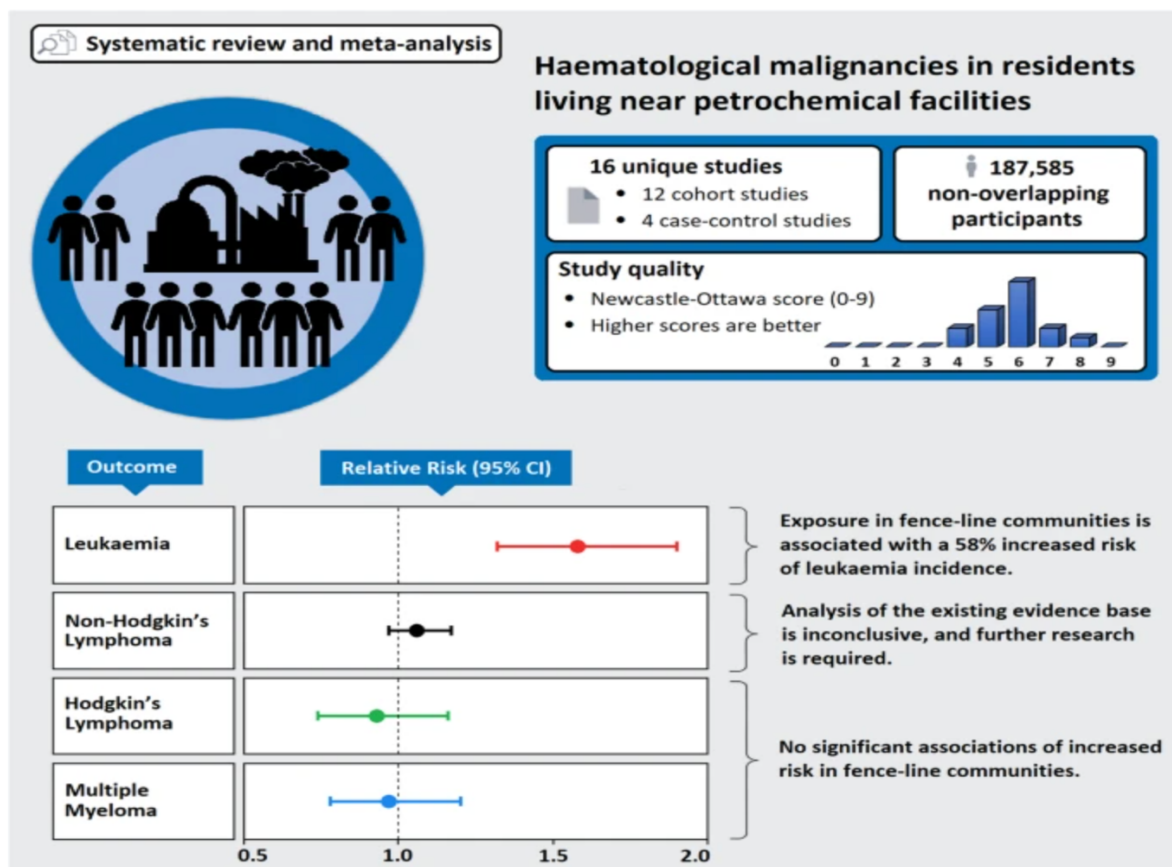
Darwin has several large gas processing plants here already contributing to harmful air pollution. Inpex and Santos are releasing alarming amounts of volatile organic compounds every year, which include toxins such as [benzene](#) where there is no safe level of prolonged exposure for residents.

Petrochemical manufacturing

The Middle Arm Sustainable Development website

<https://middlearmprecinct.nt.gov.au/Industries/methanol> advertises petrochemical manufacture including ethylene and methanol. There is no mention on the website about the health impacts of petrochemical manufacture. Petrochemical manufacturing is a toxic process with significant health risks for both workers and residents living nearby. Concerningly, research shows that people living within 5km of petrochemical facilities have an [increased risk of leukaemia](#) and this risk has not improved despite improved regulations and technology. Thousands of residents in the Palmerston area will live within 5km of the Middle Arm project which is projected to have petrochemical manufacturing.

Figure showing elevated risk of leukaemia for residents within 5km of petrochemical facilities



Jephcote, C. et al. A systematic review and meta-analysis of haematological malignancies in residents living near petrochemical facilities. *Environ Health* 19, 53 (2020).

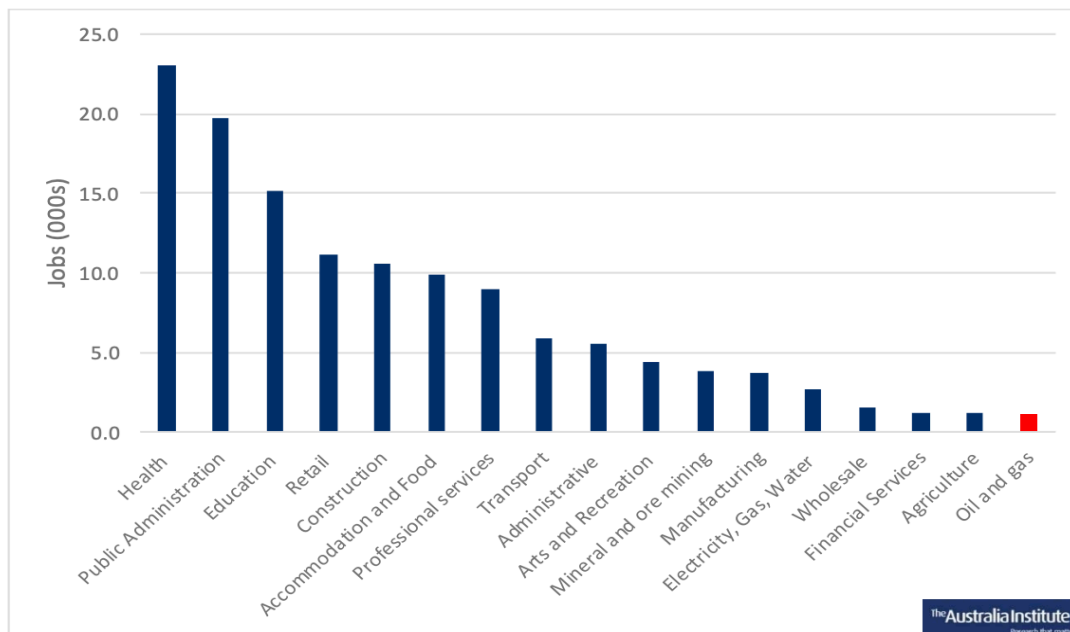
Climate Change

Climate change is an ever-present threat to the people of the NT with more frequent life-threatening heatwaves, fires, floods, and natural disasters. The climate crisis is caused by the extraction and burning of fossil fuels, which is exacerbated by Australia's [increasing exports of gas](#). Darwin is projected to become [unliveable](#) in 50 years due to extreme heat if climate change is not addressed urgently. Prior to 2010, Darwin experienced an average of 11 days over 35 degrees each year. [In 2021](#), we had 40 days over 35 degrees. The NT needs to take urgent climate action for Darwin to remain viable place to live into the future. This means they need to move away from the export of fossil fuels and grow the renewables sector.

Socioeconomic opportunities

The health sector is one of the highest employers in the NT, followed by the education sector. I encourage the government to create local employment and reduce health inequities, by diverting the federal funding planned for Middle Arm to health, education, tourism, and housing in the NT. Investment in these areas would create many more long-term, sustainable jobs than the Middle Arm development, as well as reduce health inequities, and improve the living conditions for people living in the NT.

Figure 2 Employment by selected industry, Northern Territory.



Source: ABS (May 2023) Labour Force, Australia, Detailed, Table EQ06, <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia-detailed/latest-release>. Oil and gas employment figures are averaged over 12 months and include half Exploration and Other Mining Services.