

Hazelwood Mine Fire Health Study

Scientific Reference Group Meeting 1/2019

Monday 6 May 2019

4.00-5.00pm AEST

Jolley Room, Level 2, 553 St Kilda Road and via Zoom

AGENDA

1. In attendance & Welcomes

Professor Ross Coppel (Chair), Professor Michael Abramson, Professor John Attia, Dr Jillian Blackman, Dr Sharon Harrison (Minutes), Associate Professor Fay Johnston, Dr Melita Keywood, Associate Professor Rebecca Kippen, Professor Alexander McFarlane, Professor Judi Walker, Professor Rory Wolfe, Professor Graeme Zosky

New member Professor John Attia was welcomed to the SRG. JA is an epidemiologist and Director of the Clinical Research Design, IT and Statistical Support Unit at Hunter Medical Research Institute at the University of Newcastle. He is also a practicing physician, with training in palliative care.

2. Apologies

Professor Michael Ackland, Dr Beth Edmondson, Associate Professor Jane Ford, Professor Anna Hansell, Mr Michael Keating

3. Conflict of Interest

No conflicts of interest were declared.

4. Minutes of previous meeting

The minutes of the previous meeting were accepted without amendment.

5. Revised Project Plan

Strategic Overview Implementation Strategy (JW)

JW reported that in late December 2018 the Minister for Health had requested that the Study complete a Strategic Overview and Revised Project Plan (SORPP) for Years 6-10 of the Study.

JW provided an overview of the recommendations from the Ministerial Advisory Committee's Interim Report, submitted to the Minister in September 2018. The report contained 3 suggested 'future actions':

- The Study complete strategic review of all ongoing research streams;

- Monash appoint one or more independent expert members to the Scientific Reference Group to provide further oversight and review; and
- DHHS to facilitate an integrated communication plan between relevant agencies in the Latrobe Valley.

JW advised in undertaking the strategic overview of the HHS, the Latrobe Health Innovation Zone Guiding Principles (access, innovation, equity, integrity, inclusion, collaboration, partnerships, strength & unity) enshrined in the LHIZ Charter have been considered. The Study has undertaken extensive stakeholder consultation with local agencies and groups as part preparing the SORPP. The HHS Research Streams were asked to consider the findings to date and what they mean for the community, as well as whether research plans need to be changed to address issues or in order to address research questions.

JW reported that the Study had prepared an Implementation Strategy for stakeholder consultation for the SORPP and that the Implementation Strategy had been endorsed by the Ministerial Advisory Committee and Latrobe Health Assembly Board. JW advised that the Study is now entering a 4-week consultation period.

It was reported that the Study is now working on the second draft of the revised Project Plans for Years 6-10 and a number of meetings have been held to discuss the Study budget for Years 6-10. The Study is on track to submit the SORPP on the Project Milestone date on 17 July 2019.

MA reported that felt that the process of preparing the SORPP has been helpful and that the Latrobe Health Assembly had provided useful feedback.

RC asked whether the final draft of the SORPP can be finalised a week earlier to allow the SRG members time to review it. JB advised that there is time in the timeline for submission to allow for further consultation.

It was noted that researchers were considering related but extended ideas/projects as part of the SORPP. A copy of the draft SORPP submission was circulated to SRG members with the meeting papers. SRG member Professor Anna Hansell was an apology and provided a detailed written response to the SORPP document ahead of the meeting.

Early Life Follow-up Stream (Att. 2)

Fay Johnston attended the meeting, providing an overview of the plans for the Early Life Follow-up Stream over the next five years, advising that the ELF Stream would continue as originally planned with some potential additions.

FJ advised that there are 570 children in the ELF cohort, with families completing monthly diaries. The first round of clinical testing was completed in Year 3. The analysis of identified and anonymous health datasets, including MBS/PBS, will continue. Follow-up clinical testing is planned in Years 6 and 9 with the new addition of central blood pressure measurement to the previous clinical testing protocol. The preliminary findings from the first round of clinical testing include: the children exposed to mine fire emissions have stiffer lungs and blood vessels. The

exposed children experienced more respiratory infections and increase usage of antibiotics. FJ emphasized that the youngest members of the ELF cohort were too young to participate in many parts of the first round of clinical testing and this limited the sample size, and statistical power of the analysis. FJ reported that the clearest results relating to mine fire emissions have been found with the association between exposure to smoke and gestational diabetes mellitus in pregnant women.

Based on the findings regarding immunological outcomes from the first round of clinical testing, researchers plan to undertake further respiratory function tests, including spirometry, breath by breath tracking to the previous forced oscillation technique (FOT), and FeNO (a test of exhaled nitric oxide). Researchers would also like to include skin prick testing and blood markers of immune function.

The ELF team also plan to collaborate with the Psychological Impacts Stream to build upon previous findings of an association between maternal stress, pre-term birth and low birth weight.

It was noted that ELF's proposal has been discussed by the Project Steering Committee and the additional tests are generally simple and could be done with limited additional cost. SRG members noted that burden of blood testing with young children and the impact this might have on retention.

RC emphasized that the retention of participants should be a key focus when considering which tests should be included in the protocol for clinical testing.

Psychological Impacts Stream (Att. 1)

JB reported that Psychological Impacts Stream has two main substudies:

- the Schools Study which targets the NAPLAN years; and
- the Adult Psychological Impacts Study

The Schools Study achieved a recruitment rate of 22% in Morwell and 15% in the broader Latrobe Valley. While researchers had planned to undertake three data collection rounds, it has been decided in consultation with the biostatistician and the Project Steering Committee that the further rounds of data collection from Schools Study participants will not go ahead. The previous two rounds of Schools Study surveys have provided substantial information about the development and persistence of distress associated with the Hazelwood event in school-aged children, and a third round of data would be challenging to analyse and interpret because of the reducing sample size

Researchers will continue to analyse the recently received linked 2017 NAPLAN data for Schools Study participants and the broader Latrobe Valley. New collection of de-identified NAPLAN data from the Department of Education and Training (DET) South Eastern Victoria Region would investigate regional educational outcomes.

The Adult Psychological Impacts Study will re-survey participants from the Adult Survey as planned. The Psychological Impacts Stream will be collaborating more closely with other research Streams in Years 6-10. ELF families will be surveyed, looking at psycho-social factors, demographic data and risk factors. Psych Stream researchers will collaborate more closely with the Respiratory Stream, adding psychological measures to the Respiratory Stream followup, and investigating comorbidities between respiratory and psychological health.

Sandy McFarlane noted that research looking at veterans who served in Afghanistan has identified a sub-group with significant levels of psychological stress and respiratory symptoms and suggested that the research looking at stress/anxiety/respiratory co-morbidities would provide an exciting opportunity to explore this relationship further.

It was noted that researchers will also be looking more closely at the psychological outcomes when analysing the Hazelinks hospital and ambulance data.

RC asked whether there are funds to support the focus on respiratory/psychological symptoms. It was noted that the discontinuation of further Schools Study data collection rounds has freed up some resources.

RC asked whether the planned deviation from the original project plan has been discussed with DHHS and the Community Advisory Committee. JB confirmed that there has been a lot of discussion with the CAC and DHHS regarding the difficulties with recruitment for the Schools Study. The SORPP exercise has encouraged researchers to consider the best areas to focus efforts and resources on in Years 6-10.

Hazelinks Stream (Att. 3)

The Hazelinks stream has two components 1) identified data linkage 2) anonymised data extraction. The anonymised data linkage was not included in the original project plan.

The analysis of Hazelinks identified data (already collected) for consenting Adult Survey participants has commenced and will continue.

JB noted that the judicial inquiry found increased deaths during the fire. Study researchers are now undertaking more detailed analysis of the anonymised mortality data, including cause of death. The first identified linkage to the National Death Index is expected to be undertaken in Year 7 (2021).

MA emphasized that data linkages and extractions have proved to be a cost-effective way of getting a perspective on longer-term health impacts, providing data on general health and health service usage.

An anonymous cancer data extraction has been completed, providing data on background cancer incidence in the Latrobe Valley and surrounds. An identified linkage to Australian Cancer Registry and Victorian Cancer registry databases is expected to be undertaken in Year 9.

Respiratory Stream (Att. 4 & Att. 5)

MA reported that the Respiratory Stream researchers are continuing to analyse the data collected during the clinical testing round.

A paper on asthma has been approved by DHHS. Researchers found little difference in objective markers of asthma. Preliminary findings suggest an overall crude prevalence of chronic obstructive pulmonary disease of 7.3%, i.e. no increase in the background prevalence of COPD.

Researchers plan to follow the original study plan, continuing the FOT and multi-breath nitrogen wash-out tests in future data collection rounds. MA said he was grateful to Anna Hansell for the input she provided reviewing the Revised Project Plan for the Respiratory Stream.

The SRG discussed a sampling calculation conducted using simulation. It was agreed that to detect a 5ml/yr greater FEV₁ decline in heavily exposed Morwell participants it would be necessary to complete 2 further data collection rounds.

CV Stream (Att. 4)

MA reported that a paper on the management of hypertension is currently with DHHS for approval. MA reported that researchers did not find a difference in primary and secondary endpoints. The cardiovascular testing suggested no association between Hazelwood mine fire smoke exposure and cardiovascular disease 3.5 to 4 years after the fire.

Cardiovascular testing will be discontinued and participants will be followed passively through Hazelinks for cardiovascular-related ambulance, hospital, cancer and mortality outcomes for the Adult Survey cohort via linked data, and for the wider community via anonymous data extractions. This includes MACE, which comprise myocardial infarctions, strokes and cardiovascular-related deaths.

Community Wellbeing Stream (Att. 6)

MA reported that the Community Wellbeing Stream researchers have analysed community wellbeing through social media, focus groups and qualitative interviews. Researchers are also looking at the changing situation in the Latrobe Valley (closure of the power station and mine, job losses) and how the community is coping.

The Community Wellbeing Stream will collaborate with the Psychological Impacts Stream researchers in Years 6-10, drawing on quantitative data. Researchers will develop a "Community Wellbeing Barometer", which brings together existing datasets to produce an objective, consolidated report on indicators of social wellbeing and social capital.

RC asked how the Study could be used to address broader questions? MA reported that Professor John Catford, Chair of the Latrobe Health Assembly, attended the Annual Retreat in February 2019. JC is keen to use the HHS data to develop community health profiles and this may provide an opportunity for researchers to undertake further analysis of the Study data with support from the LHA.

It was acknowledged that the Study's longitudinal data could be used to look at other research questions, such as patterns of co-morbidity. RC noted that Monash University is a partner institution in the new Digital Health CRE and recommended that MA speak to Chris Reid.

6. Other Business

RC requested that a more polished version of the Strategic Overview and Revised Project Plan be circulated to the SRG in 3-4 weeks ahead of the due date mid July.

7. Next Meeting

The SRG agreed that it would not be necessary to hold another meeting before the SORPP is submitted and that the Group would meet again later in the year. In the interim, items could be circulated to SRG Members out of session.