

The Wagerup and Surrounds Community Health Survey June 2008

Summary: BY Geoff Pain and Kingsley Dyson

Here is a very brief summary of the report with quotes and my comments and interpretation.

As discussed by phone, the study is fundamentally flawed by not identifying which respondents were also former or current Alcoa employees. A substantial number of plant workers live in the affected communities.

This has a strong bearing on the expected cooperation level for the survey. Many Alcoa workers suffer symptoms associated with chemical exposure.

General comments

The study is an alarm and should trigger further detailed study.

The incidence of asthma is about double the state average. (Table page 30).

Cancer rates are higher and more so in males. (Table page 30). As discussed, we need to identify types of cancer and age at death to compare with State averages.

Cookernup has more than double the risk of cancer (Table 9 page 32).

Participation rates inadequate (from pages 16 & 18)

Page 16 “It is reasonable to assume that not all residents of 5061410 would have been approached to participate in the study.”

Page 18 is telling: “This raises the strong suspicion that the list of telephone numbers used for the sampling frame was incomplete or contained errors or omissions.”

	Participants	Population	Sample percentage
5061402 North Waroona	49	469	10.5 %
5061403 Location where -Hamel?	30	488	6.1 %
5061404 South Waroona	131	742	17.7 %
5061405 Central east Waroona	71	651	10.9 %
5061410 Yarloop to north of Waroona including Hamel and Wagerup	66	348	19.0 %
5061501 Yarloop	252	387	65.1 %
5061508 Harvey to Wagerup	132	554	23.8 %
5061510 North East Yarloop	36	163	22.1 %
5061518 Cookernup	141	296	47.7 %

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“Residents of Cookernup had a higher likelihood of reporting cancer than the remainder of the state after adjusting for confounding factors”.

[Geoff Pain’s comment: a p value of 0.05 is acceptable for publication in a scientific journal. The report confirms this on page 17: “A p-value of less than 0.05 is taken here to indicate a **statistically significant** association between locality and the health outcome.” A p-value of 0.05 means **95% certain**, 0.01 means **99% certain**.]

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“Residents of Hamel/Wagerup/Yarloop and Cookernup had a significantly higher likelihood of reporting the following symptoms potentially **related to chemical exposure** on half or more days than the remainder of the state after adjusting for confounding factors – headache, breathing difficulties, sore or irritated eyes, skin irritation or eczema, cough or sore throat, fatigue after sleep and nosebleed (see Table 9 on page 51).”

[Geoff Pain’s comment: Formaldehyde and similar compounds emitted from the Wagerup plant are known to cause this range of symptoms well as sensitization and cancer].

“Residents of Hamel/Wagerup/Yarloop had a significantly higher likelihood of reporting the following symptoms on half or more days than the remainder of the state after adjusting for confounding factors – stuffy nose, weakness or dizziness and nausea. In Hamel/Wagerup/Yarloop, 22.7% of residents reported stuffy nose on half or more days, 12.6% reported feeling weak or dizzy, and 6.4% reported nausea, compared with 13.7%, 5.4% and 1.9% in WA overall respectively.”

“The reported rates for **nosebleed were significantly elevated across the whole Wagerup region** compared with the rest of the state. Nosebleeds on half or more days were reported by 2.9% of residents in Hamel/Wagerup/Yarloop, 2.7% in Waroona, and 2.2% in Cookernup compared with 0.7% in WA overall.”

Symptoms potentially related to chemical exposure

“At least one **significantly** elevated rate was found for each of the symptoms considered. The highest number of elevated rates was found in the Hamel/Wagerup/Yarloop area followed by the Cookernup area.” (page 38).

Headache – About **2.5 times the State average** (page 39)

Breathing difficulties - **3 to 4 times State average** (page 40)

Sore or irritated eyes – **about 3 times State average for males** (more workers)
Adjustment for “psychological distress” is not valid.

Difficulty concentrating or remembering – about double State average (page 42)
Note that aluminium is a well-known neurotoxin and autopsies of alumina workers show accumulation of aluminium in their brains.

Stuffy nose or sinusitis - **About 2.5 times the State average for males**
Adjustment for “psychological distress” is not valid.

Skin irritation or rashes or eczema – almost double the State average

“Adjusted locality ORs for skin irritation were significantly greater than one for Cookernup (OR=1.96, p<0.01) and Hamel/Wagerup/Yarloop (OR=1.70, p=0.02).”
page 44.

Cough or sore throat – nearly 3 times State average (page 45).

Fatigued after a good night’s sleep – **up 50% on State average** (page 46).

Felt weak or dizzy – 2 to 4 times State average (page 47).

*** Nosebleed – Up to 11 times the State average** (page 48)

[Geoff Pain’s comment: Nosebleeds are extremely worrying as repeated scarring of tissue can cause cancer. A factor of **11 times** the State average incidence requires **urgent** investigation].

Nausea – “For females in the Hamel/Wagerup/Yarloop area, 10.2% reported feeling nauseous on half or more days compared with a state average of 2.0%.” **More than 5 times State average**. Adjustment for “psychological distress” is not valid.