

Submission for Senate Inquiry regarding “Investigations into a possible cancer cluster on the Bellarine Peninsula, Victoria”

I am a long-term resident of Barwon Heads (since 1987) with tertiary and post-grad qualifications including pathology, toxicology and epidemiology. I have had over 30 years' experience working in the field of Industrial/Occupational Hygiene in industry, including a focus on assessing health risks associated with chemical exposures.

I am very sceptical about the claims that have been made regarding higher cancer and other disease rates in Barwon Heads (and the broader Bellarine) and any involvement from past mosquito spraying practices. Like many people in the community I have watched the media reports and posts regarding these claims with some disbelief and concern. I have some major problems with the line of investigation of the people raising the concerns, and as far as I can see they have not provided any credible evidence to back-up their accusations.

My submission will focus on cancer rates as the data in this area is clearer. The accusations that have been raised regarding other “auto-immune” diseases appear to cover a wide range of conditions which makes it difficult to verify and investigate.

Regarding the so-called “cancer cluster”: When this concern was investigated by the Vic. Chief Health Officer, he quite rightly referred to the Australian Cancer Atlas to look for any evidence. His conclusions were that there was no evidence of a higher rate of cancer in any geographical areas of the Bellarine (including Barwon Heads/Ocean Grove) based on data from the Australian Cancer Atlas. He also concluded that cancers of the types specifically mentioned in the media (and in the posts coming from the people raising concerns) were not elevated (i.e. breast, liver, non-Hodgkin lymphoma, multiple myeloma, brain cancers and leukaemia).

The people making the accusations have stated that they believe that the data in the Australian Cancer Atlas is flawed for this region. I don't think that they can say that. The Australia Cancer Atlas was set up by a dedicated team of investigators (including epidemiologists) specifically to try to identify geographic variations in cancer incidence such as the ones they are raising. To see examples of areas with increased rates, one just needs to look at the data in the Atlas for certain suburbs of Melbourne (e.g. Collingwood). Cancer is a notifiable disease, and all cases diagnosed must be notified to the Vic. Cancer registry by residential address. The Australian Cancer Atlas gets its data for Vic. directly from the Vic. Cancer Registry. The years covered for the current data set ranges from 2005 to 2014 for the cancers of interest. The people making the accusations have said that population growth in the area has had a washing out effect on this region's data, however, when it is considered that most people moving into the area are coming from Melbourne (including suburbs with higher incidence of cancer) plus the fact that many people moving to the region are of retirement age or older (another group with higher incidence of cancer), you would expect that the impact would push local rates up, not down. If the Vic. Chief Health Officer had any concerns with the Cancer Atlas data, it has not prompted him to change or modify his original conclusions. Whatever data the accusers come up with (much of which

appears to be hear-say), it will not be as good as the data in the Vic. Cancer Registry or the Australian Cancer Atlas.

Regarding their focus on pesticide use in the region. Initially they were blaming the past use of dieldrin by farmers for a perceived increase in cancers, however, after soil testing was carried out by independent contractors for the Vic. School Building Authority, that found nothing of concern, they suddenly changed focus to insecticides used by COGG for mosquito control. One product that they have focused on is Temephos (Abate), which they have claimed is responsible for multiple many forms of cancer and other “auto-immune” diseases (e.g. Crohns, Ulcerative Colitis, Inflammable bowel disease, celiac disease, MS, to name a few) in the area. According to the Chief Health Officer’s report, Temephos was only used here until 1987, and it does not persist in the environment. In any case, there is no evidence that Temephos is carcinogenic. While this specific insecticide has not been assessed by IARC (the International Agency for Research on Cancer), it has been reviewed by other authorities. The following extracts come from the 2019 Documentation for TLVs published by the ACGIH (American Conference of Government Industrial Hygienists). “In testing Temephos has been shown to not have a carcinogenic effect, was not a reproductive or developmental toxin, and was not genotoxic. It has an A4 classification- Not classifiable as a human carcinogen.In humans, repeated oral doses of up to 3.7 mg/kg (body weight) were without cholinergic (or other adverse) effects.Lifetime feeding studies in rats did not produce an increase in tumours.”

In any case, even if it was carcinogenic, the environmental exposure levels should not be anywhere near levels that could harm humans. The doses involved would have been just way too low.

The major causes of cancer (not counting skin cancer) are (i) smoking, (ii) dietary imbalances (including excessive alcohol) (iii) chronic infections and (iv) hormonal factors, which are influenced primarily by lifestyle. Neither epidemiology nor toxicology supports the idea that exposures to environmental levels of synthetic industrial chemicals including pesticides are important as a cause of human cancer. The exception to this is occupational exposures to certain chemicals which involve much higher levels of exposure over a working life and are thought to be responsible for about 4% of cancers overall.

The people who are raising the concerns have stated that the mosquito spraying practices used in the recent past, with a focus on the use of Temephos, have caused a wide range of cancers and other, mainly “auto-immune” diseases. The fact that the accusations that have been raised cover a very wide range of conditions makes it more unlikely that a particular chemical exposure is involved.

The people making the accusations have stated that they believe that the data in the Australian Cancer Atlas is flawed for this region, because it does not include people who are in the region for shorter periods. The toxic impact of any chemical is closely related to the dose received. I believe that the environmental exposure to mosquito spraying received by people living in this area will be orders of magnitude below that required to have any toxic effect. The argument by the accusers that disease data for people who are in the region for

holidays periods should be included only weakens their argument, since the doses associated with such transient exposures will be much less than for those living in the area.

I am writing this submission because based on some conversations that I have had with other local people, and other posts that I have seen (e.g. on Facebook), the accusations being made are scaring some people, especially some young parents with children. My hope is that this inquiry will include assessment by people who are qualified and are experts in the field.

While I feel great sympathy for people who have been impacted by cancer and other diseases, I am also concerned that some of the folks making the accusations are really looking for a third party to blame for their situation. Rather than assessing their own lifestyle choices, they are trying to find someone else to be responsible, for whatever reason. I think that some of the accusations that have been made against the Geelong Council and people involved in the mosquito control programs are unfair and unjustified.

I know that some of the people raising the concerns are committed to their beliefs, however, in the end "science doesn't care what you believe". I hope this inquiry will provide some clarification for all involved.