Stephen Butcher,
"Harwood,"
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Dr Jill McKenzie,
Medical Officer of Health,
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Private Bag 31 907,
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Dear Jill,

On Wednesday last week I was passed a copy of your letter to Masterton District Council regarding my March submission to improve the quality of Masterton's water, specifically to reduce ischaemic heart failures and cancer registrations resulting from free radicals.

I would like to address some of the points you raise and update you on my research, if Masterton District Council has not done so already.

My approach to epidemiology is very much coloured by my background in architecture in which preconceptions are discouraged. So I have to disregard chlorination as being safe despite it being regarded as such in law, that is, when I look at the epidemiology of cancer and chlorine I mustn't assume either that there is or isn't a connection between the two. From another angle, if we accept that something is *not* a health problem then we are less likely to question it, or to research it to check if the assumption is true, and the more likely it is that a simple mistake might grow to epidemic proportions.

On the matter of a causal link between chlorine and cancer I must confess to being undecided. The epidemiology shows a connection but I am inclined, at this stage, to say it is a connection between chlorine and the cancer *epidemic* rather than to cancers. I do not know for sure whether chlorine causes cancer, feeds cancerous growth after cancer is triggered by some other carcinogen or some combination of the two. An observation in favour of a causal connection is the immediate effect chlorine has on cancer registrations. An observation in favour of the growth scenario is the continued increase in cancer registrations after the initial sudden increase. I really do not know at this stage but my research, without limiting other possibilities I hope, suggests that the hydrogen radical is involved in some way.

While conventional wisdom regarding cancer suggests a time lag between an initial defect and the presentation of a tumour, the epidemiology shows the contrary to be true, i.e. cancer registrations can and do double in a single year, which is the norm rather than the exception. So there is a mismatch between accepted theory and actual recorded events. One related question that can be asked on this subject is, do cancer registration rates halve within a single year if chlorine is removed from a water supply?

As you will see from the addenda, I was asked by Councillor Judith Callaghan to look at cancer rates in rural domiciles around Masterton. The question is absolutely fair; after all, if I am correct there should be no cancer epidemic at all in rural domiciles. So that research has been done for Masterton and I have confirmed that there is little or no cancer epidemic in Masterton rural domiciles where there is little or no serviced urban component . The rural epidemic-free rate today is the same as the Masterton urban rate before chlorination began in the late 1960's and the same as countries today which have never had cancer epidemics.

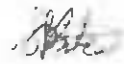
Further, the rural domicile of Wainuioru has a water supply which was chlorinated up to 2003/2004. Residents found, contrary to accepted theory which states that chlorine in water rapidly evaporates when exposed to the air, that chorine was building up in their water storage and header tanks. They asked for the chlorinator to be turned off. As you will see the rate of cancer registrations halved in a single year following that being done and registrations have stayed at that reduced rate. So we must consider the possibility that the currently accepted understanding of cancer processes is wrong or incomplete.

My intentions with Carterton were somewhat more modest than with Masterton. At that time I did not have the data I have now, the consequence being that while the epidemiology showed a connection between pH and cancer there were no data proving a connection between chlorine and cancer. The data relating to pH showed an anomaly: where lime is replaced with sodium hydroxide or deleted altogether then there is a 30% reduction in cancer registrations. Unfortunately my submission to Carterton District Council appears to have been sucked into a black hole. There appears to be no cost difference between lime and sodium hydroxide dosing. Greater Wellington have retained sodium hydroxide at Te Marua having recently explored the possibility of changing to lime but have found it fiscally better to stay with hydroxide. With little or no cost to Carterton it is a shame that the possibility of reducing cancer registrations has been discouraged for no reason other than a philosophical preference.

My data is obtained from the Ministry of Health and from Cancer Registry archives and is checked against the World Health Organisation guidelines and I always check for changes between ICD codes and category coding shifts that have occurred over the years. It has been an extremely involved process but I am confident that I have not used any suspect data. If I may comment on data storage and extraction in New Zealand, the previous system whereby the Cancer Registry, DHBs and the Health Information Service had their own data systems made it easier to check for errors. The current system with all data centralised with the MOH makes checking for errors much more difficult and time consuming, especially when much of the archived hard copy has been destroyed as a result of DHBs only having to keep their records for ten years.

In a similar vein, and coming back to your original point that chlorine has prevented many transmissible diseases and associated epidemics, I must point out that chlorination is not the only way of securing a safe water supply. If other methods, such as that which I am suggesting for Masterton, were encouraged then a fair comparison of the health consequences of each could be made.

Regards,



Stephen Butcher (B.Arch.)