

## Response to Parliamentary Question 14533/12

21<sup>st</sup> March 2012

Dear Minister of State Deputy Roisin Shortall T.D.

I note with interest your response to Deputy Stagg T.D., parliamentary question (ref: 14533/12) regarding my report on the Human Toxicity, Environmental impact and Legal Implications of water fluoridation.

While there is no doubt that you have many heavy burdens, duties and responsibilities in your role as Minister with responsibility for Primary Care at the Department of Health, I am disappointed and alarmed that as Minister responsible for legislative process and functions of your department that you have not seen fit to read my report personally or review any of its principal findings. It is sadly apparent from your reply to the parliamentary question presented by Deputy Emmet Stagg T.D., that you have neither read any of the relevant reports published by the following scientific organizations which are addressed in detail within my report, including:

- The European Commission's Scientific Committee on Health and Environmental Risks (SCHER)
- The European Commissions Scientific Committee on Cosmetic Products and Non-Food Products (SCCNFP) intended for Consumers
- The USA National Research Council (NRC) Scientific Committee on Fluoride in Drinking Water (whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine in the United States of America)
- The United Kingdom's NHS University of York Review on Fluoridation
- The United Kingdom's Expert Group on Vitamins and Minerals
- The British Medical Research Council
- The EU Scientific Panel on Dietetic Products, Nutrition and Allergies
- The World Health Organisation (WHO)
- The U.S.A Environmental Protection Agency

Or the additional findings of over 1,100 peer-reviewed scientific papers as referenced and examined in my report provided to you outlining the human health risks associated with water fluoridation products.

I believe that it is appropriate that as Minister you are correctly advised of any misrepresentation of scientific research, in particular the statement provided to you by Department Officials regarding the findings of SCHER, which is incorrect. In the interest of transparency and accuracy, as you have decided not to personally read the report that was directed to you personally in your capacity as Minister with responsibility for Primary Care I have summarised the main findings that may be relevant to you in the context of the response provided by you to Deputy Staggs parliamentary question.

Please note the following:

- Contrary to the Minister statement SCHER found that the toxicology of hexafluorosilicic acid and hexafluorosilicic acid compounds are incompletely investigated. These are the chemicals agent in drinking water fluoridation that your Department insist on injecting into public water supplies, despite not having been tested for human or environmental toxicity. Naturally you will understand that this is illegal and violates EU and National Law.
- Contrary to the Minister statement SCHER acknowledged that limited evidence from epidemiological studies points towards adverse health effects following systemic fluoride consumption, e.g., carcinogenicity, developmental neurotoxicity and reproductive toxicity and requested more detailed studies to be undertaken in the interests of public safety. Ireland is the only EU country that fluoridates its public drinking water supplies therefore the onus of responsibility lies with the Department of Health to undertake any research necessary to prove without doubt that the chemicals used are safe for human consumption and the environment.
- Contrary to the Minister statement SCHER observed that water fluoridation was intended to have a beneficial effect on caries prevention but could also induce fluorosis with a very narrow margin of exposure.
- Contrary to the Minister statement SCHER acknowledged that there is a risk dental fluorosis in children in EU countries with systemic fluoride exposure (this only applies to Ireland). In Ireland dental fluorosis affects up to 30% of children in communities with fluoridated water compared to 1.5% in non-fluoridated areas. In fluoridated communities it was observed that 1% of children developed moderate dental fluorosis with a further 1% developing severe fluorosis. Neither moderate nor severe fluorosis was observed in children in non-fluoridated communities.<sup>1</sup>
- Contrary to the Minister statement SCHER reported that the systemic exposure to fluoride in drinking water is associated with an increased risk of dental and bone fluorosis and noted that exposure to fluoride levels during tooth development can result in dental fluorosis and excess systemically absorbed fluoride may impair normal development of enamel in the pre-eruptive tooth. Re
- Contrary to the Minister statement SCHER observed that enamel fluorosis seen in areas with fluoridated water has been attributed to inappropriate high fluoride intake. This observation is observed in Ireland where dental fluorosis affects up to 30% of children.
- Contrary to the Minister statement SCHER observed that topical application (using toothpaste) as opposed to fluoridation of drinking water is the more efficient measure in preventing tooth decay.
- Contrary to the Minister statement The SCHER findings observed that the tolerable Upper Intake Level (UL), is exceeded for infants whose diet consists of formulated food products made up with fluoridated water.

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<sup>1</sup> Ref: Dental Fluorosis In Primary Teeth Of 5-Year-Olds In Ireland D.M. O'mullane<sup>1</sup>, M. Harding<sup>1</sup>, H.P. Whelton<sup>1</sup>, M.S. Cronin<sup>1</sup>, And J.J. Warren<sup>2</sup>, <sup>1</sup> University College Cork, Ireland, <sup>2</sup> University Of Iowa, USA

- Contrary to the Minister statement SCHER observed that there is slight evidence that high level occupational exposure to fluoride affects male reproductive hormone levels and that a few studies on human populations have suggested that fluoride might be associated with alterations in reproductive hormones and fertility.
- Contrary to the Minister statement SCHER observed that most of the animal studies on the reproductive effects of fluoride exposure deal with the male reproductive system of mice and rats and that little or no data is available for human studies. SCHER acknowledged that animal studies consistently show an effect on spermatogenesis or male fertility.
- Contrary to the Minister statement SCHER accepted that some epidemiological studies seem to indicate a possible link between fluoride in drinking water and osteosarcoma (childhood bone cancer) disparities.
- Contrary to the Minister statement SCHER found that fluoride can weaken bone and increase the risk of bone fractures.
- Contrary to the Minister statement one of the more critical risk concerns to public health that SCHER observed is that there are insufficient human studies to prevent concluding firmly that fluoride intake hampers children's neurodevelopment or impairs IQ. While SCHER may have observed that —available human studies do not allow concluding firmly that fluoride intake hampers children's neurodevelopment" it did not question the latest scientific findings or present any shortcomings regarding a recent study which SCHER reported concluded "that intake of fluoride in drinking water may contribute to the decreased intelligence in children".
- Contrary to the Minister statement SCHER acknowledged that their environmental review was simplistic and based on just one published paper. It is noted in particular that the observations and conclusion of the reference study<sup>2</sup> on which the review itself was based clearly contradict the subsequent findings of the SCHER committee. In particular, Camargo observed that the toxic action of fluoride resides in the fact that fluoride ions act as enzymatic poisons, inhibiting enzyme activity and, ultimately, interrupting metabolic processes such as glycolysis and synthesis of proteins.

Further to the Minister comments "*that the balance of scientific evidence worldwide confirms that water fluoridation.. does not cause any ill effects and continues to be safe..*"

I respectfully wish to correct what I believe to be inaccurate advice that you as Minister have been provided with.

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<sup>2</sup> Camargo JA (2003) Fluoride toxicity to aquatic organisms: a review. Chemosphere 50: 251-64

Contrary to what the Minister has been advised, the European Commission's Scientific Committee on Cosmetic Products and Non-Food Products (SCCNFP) intended for Consumers review (2003) observed that systemic exposure to fluoride, resulting from fluoridation of drinking water supplies not only contaminates infant formula food but may impair normal development of enamel in the pre-eruptive tooth and cause fluorosis.

The Minister is also advised that certain additional health risks have clearly been identified by both the EU Commission SCHER and United States National Research Council (NRC) scientific committees in particular that infants who are fed formula milk constituted with fluoridated water and individuals with diabetics are the most at risk of negative health impacts from exposure to fluoridated water.

In addition, contrary to what the Minister has been advised, both the SCHER and NRC reports identified additional epidemiology, toxicology, clinical medicine, and environmental exposure assessments that need to be undertaken in order to fill data gaps in the hazard profile, the health effects and the exposure assessment of fluoride. Chapter 16 of my report provided to your offices lists a minimum of fifty-nine recommended studies required to be undertaken on fluoridation compounds as recommended by international scientific bodies to quantify the public health risks from fluoridation of drinking water supplies.

In addition, the Minister is respectfully advised that further research was also recommended in assessing the health and environmental risks that may be associated with the use of the most common drinking water fluoridation agents like silicofluorides, taking into account their hazard profiles, their mode of use in water fluoridation, their physical chemical behaviour when diluted in water and the possible adverse effects they may have in exacerbating fluoride health effects as reported in some scientific studies.

Furthermore contrary to what the Minister has been advised the United States Public Health Service have stated<sup>3</sup> that "(s)egments of the population are unusually susceptible to the toxic effects of fluoride. They include "postmenopausal women and elderly men, pregnant woman and their foetuses, people with deficiencies of calcium, magnesium and/or Vitamin C, and people with cardiovascular and kidney problems."

The Minister is respectfully advised that the President of the Canadian Association of Dental Research, Professor Hardy Limeback, B.Sc., Ph.D., D.D.S., and Head of the Department of Preventive Dentistry for the University of Toronto has stated that —"*children under three should never use fluoridated toothpaste or drink fluoridated water. And baby formula must never be made up using fluoridated water.*"

The Minister is respectfully advised that the *Journal of American Dental Association* have stated that "*the current reported decline in caries tooth*

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<sup>3</sup> United States Public Health Service Report (ATSDR TP-91/17, pg. 112, Sec.2.7, April 1993)

*decay in the US and other Western industrialized countries has been observed in both fluoridated and non-fluoridated communities, with percentage reductions in each community apparently about the same".*

The Minister is respectfully advised that Dr. Simon Beisler, Chief of Urology, Roosevelt Hospital and Past President of the American Urological Association stated that *"it is now clear that fluoride is a potentially harmful substance when present in the drinking water in any amount"*

The Minister is respectfully advised that Dr. Arvid Carlsson, Pharmacologist and Nobel Laureate in Medicine (2000) stated that the practice of fluoridation *"is against all principles of modern pharmacology. It's really obsolete. No doubt about that...those nations that are using it should feel ashamed of themselves. It's against science. If you drink it (fluorine), you are running the risk of all kinds of toxic actions. And, of course, there are such actions. This is something you shouldn't expose citizens to. I would advise against fluoridation"*

The Minister is respectfully advised that Dr Valdez-Jimenez, et al. recently published in the official scientific Journal of the Spanish Neurology Society (Sociedad Española de Neurología, SEN) revealed that *"the prolonged ingestion of fluoride may cause significant damage to health and particularly to the nervous system."* The study examined how *"fluoride induces changes in the brain's physical structure and biochemistry which affects the neurological and mental development of individuals including cognitive processes, such as learning and memory. It further observed that the effects...are not immediate and that it can take 20 years or more for its toxic effect to become evident"*

The Minister is respectfully advised that recent scientific papers published in the Lanset (2006) noted that *"fluoridated water may be having its most devastating effects on the most vulnerable, those in utero and infants less than one year old, whose brains are most sensitive to developmental neurotoxins such as fluoride."*

The Minister is respectfully advised that Dr. Albert W Burgstahler, Professor Emeritus of Chemistry, University of Kansas who stated that *"although dental public health officials in countries promoting water fluoridation adamantly deny the existence of illness caused by fluoride in drinking water, undeniable medical ill effects from fluoride added to drinking water have been known and reported since the start of water fluoridation over 50 years ago"*

My report on Human Toxicity, Environmental Impact and Legal Implications of Water Fluoridation outlines how recent scientific studies have found that fluoride inhibits homocysteine metabolism. Homocysteine metabolism is associated with neurological diseases including neural tube defect, schizophrenia, bipolar disorder, depression, Parkinson's disease and epilepsy as well as cognitive aging and dementia.

The Minister is no doubt aware that Ireland sadly has the highest incidence of neurological disease in Europe, if not the world. Given the international

published research the link between prevalence of neurological disease in Ireland and overexposure to fluorides cannot be discounted.

The Minister should be aware that scientific studies have now demonstrated that is now known that *"the human pineal gland contains the highest concentration of fluoride in the body. Fluoride is associated with depressed pineal melatonin synthesis"*.<sup>4</sup>

The Minister should be aware that the U.S. National Research Council have stated<sup>5</sup> *"recent information on the role of the pineal organ in humans suggests that any agent that affects pineal function could affect human health in a variety of ways, including effects on sexual maturation, calcium metabolism, parathyroid function, postmenopausal osteoporosis, cancer, and psychiatric disease"*.

The Minister should be aware that the WHO have found<sup>6</sup> that low calcium and magnesium drinking waters are associated with neurodegenerative disease, certain cancers, hypocalcaemia, as well as cardiovascular mortality from cardiovascular, ischaemic heart and hypertensive heart disease and increased risk of sudden death syndrome.

The Minister should be aware of the UK Medical Research Council finding<sup>7</sup> that *"Fluoride seeks out essential elements such as calcium and magnesium and binds with them, thereby interfering with their capacity to fulfil important metabolic processes in the body"* or the previously mentioned WHO findings on health impacts for consuming low calcium and magnesium drinking water, the Department of Health in Ireland still insists on adding a chemical compound to drinking water that is now known to further reduce the availability of both calcium and magnesium. That this would occur at all is alarming, that it would occur in high risk areas with 'soft' water is deeply disturbing. It is no wonder that these same geographic areas have been found to be the medical hotspots for cancer, neurological disease and cardiovascular disease in Ireland.

My report provides much more detailed information and examination of the impacts of silicafluorides on human health and the environment and I would ask that you please take the time to read this report in order to assist you developing appropriate policy in the interest of public safety and environmental protection. It includes published studies from that over two hundred and twenty separate peer-reviewed international scientific journals covering every aspect of medicine and environmental assessment from dental health to biochemistry, toxicology, metabolism, the blood, bone

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<sup>4</sup> Luke J. (2001). Fluoride deposition in the aged human pineal gland. School of Biological Sciences, University of Surrey, Guildford, UK, Department of Obstetrics and Gynaecology, The Royal London Hospital, Caries Research 35:125-128.

<sup>5</sup> National Research Council. (2006). Fluoride in Drinking Water: A Scientific Review of EPA's Standards. National Academies Press, Washington D.C. p221-22

<sup>6</sup> Calcium and Magnesium in Drinking-water Public health Significance, World Health Organization, 2009.

<sup>7</sup> UK Medical Research Council Working Group Report: Water Fluoridation and Health, September 2002

research, the brain, metabolism, epidemiology, pharmacology, neurotoxicology, molecular neurobiology, dental health and environmental toxicology have been examined and reviewed in this report. In total over twelve hundred scientific published papers and references are provided in this report allowing the health, legal and environmental impacts to be examined in some detail alongside associated risks that have not yet been previously examined elsewhere. All of the evidence is convergent and demonstrates that fluoride compounds should not be added to public water supplies, when examined collectively the evidence clearly demonstrates that fluoridation of drinking water supplies is both unsafe and having significant negative health implications for human health, society and the natural environment.

As I have previously outlined in the scientific report provided to you and in accordance with legislation<sup>8,9,10,11</sup> the Minister and Health Service Executive are required to establish testing protocols to ensure that adequate epidemiology, toxicology, clinical medicine and environmental exposure assessments are undertaken to protect the consumer as well as determine the environmental impact from exposure to silicafluorides. This must be undertaken in conjunction with other Departments and State agencies including the Department of Environment, Department of Agriculture and Food and Fisheries, the Food Safety Authority and the EPA.

As Minister you should be aware that no such testing protocols exist and furthermore you should be aware that water fluoridation results in contaminated foodstuffs in violation of EU law in particular:

- *European Council Regulation (852/2004/EEC) on the Hygiene of Foodstuffs*
- *European Council Regulations (S.I. No. 243/1998) for Infant Formulae and Follow-On Formulae.*

As Minister you should also be aware that legal precedence exists in Europe establishing clearly that fluoridated water is defined as a medicinal product. Medical products are governed by the *European Council Directive on Medicinal Products for Human Use (2004/27/EC)*. The State is required under EU law for the protection of public health to undertake detailed risk assessment and performance of tests and clinical trials including toxicological and pharmacological tests to demonstrate the effectiveness and risks associated with water fluoridation.

The Minister is respectfully advised that the Government of Ireland or its agencies have never undertaken risk assessments on the fluoridation products in use in Ireland. This would constitute a flagrant and serious violation of Directive 2001/83/EC.

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<sup>8</sup> Directive 2006/121/EC

<sup>9</sup> Regulation (EC) No 1907/2006 of The European Parliament and of The Council of 18 December 2006

<sup>10</sup> Regulation (EC) No 1272/2008 Of The European Parliament And Of The Council Of 16 December 2008

<sup>11</sup> The Chemicals Act 2008

The Minister is respectfully advised that no toxicological or pharmacological trials on the fluoridation products have been undertaken by the State. The Government of Ireland is required to undertake a risk benefit analysis of all medical products including artificially fluoridated water before fluoridation becomes public policy. The Minister is respectfully advised that no such risk benefit analysis has been undertaken by the Government of Ireland. The Government of Ireland is required to undertake an environmental impact assessment of the impact of water fluoridation on the environment before any such public policy should commence. The Minister is respectfully advised that no such environmental impact assessment has been undertaken.

In ending I request that the Minister provide answers to the following questions:

- Why is it that other scientific organizations across Europe within any other Member State do not support the positions of the Irish expert body on fluorides ?
- If any such body did support this position why is Ireland the only country in Europe that has a policy mandating the fluoridating of its public water supplies ?
- Why is it that each and every other county in Europe have ceased fluoridation of drinking water supplies ?
- Why is it that the HSE insist, on continuing to inject a chemical into drinking water supplies that the scientific experts of the European Commission and the United States National Research Council, amongst many others, have clearly found that inappropriate scientific evidence exists to demonstrate its safety, in particular that no detailed scientific examination has been undertaken to determine its human health risk or toxicological impact on humans or the environment ?
- Why is it that we are allowing the most at risk in our society including all bottle fed infants in Ireland to consume formula feed contaminated with untested silicafluoride compounds at concentrations far in excess of international recommended safe or tolerable limits?
- Can the Ministers advise if such epidemiology, toxicology, clinical medicine and environmental exposure assessment data and documentation exists within the Department of Health?
- Where such information may exist can the Minister provide me with copies of same?
- In the absence of such information can the Minister advice how the Department of Health can justify such a policy?
- Contrary to International and EU law, why is the Government of Ireland allowing tens of thousands of tonnes of fluoride compounds, consisting of a listed dangerous substance that is known to be a persistent toxin in the environment to be discharged into surface waters and groundwater aquifers and onto agricultural lands at concentrations known to be harmful to ecosystems, in particular protected species such as salmon as well as soil biota?

I look forward to your reply.

Yours sincerely