Bore water and chronic illness

New studies by Australian health scientists indicate that contaminated bore water has a deadly role in the epidemic of chronic illnesses in remote parts of Australia.
This report from journalist, Jeff McMullen who has spent most of the last two decades working with Aboriginal people in the bush.

If a baby is fed unsafe water contaminated with nitrates the child turns blue. The striking bluish colour occurs mainly around the eyes and mouth. It is the decrease of the oxygen carrying capacity of the haemoglobin that causes Blue Baby Syndrome and it's potentially fatal. Yet in scores of communities across Australia many people are unaware of the growing evidence that nitrates in bore water is a crucial factor in the elevated levels of premature deaths, chronic illness and disease, particularly renal problems afflicting children and adults.

There are about 20,000 Australians with end-stage kidney disease but some regions have growing epidemics of this and other chronic illnesses. A ten-year study by the Western Desert Kidney Project in the Goldfields region of Western Australia investigated why remote Aboriginal communities and isolated country towns have these much higher clusters of multiple chronic illnesses. Dr. Christine Jeffries-Stokes, one of the project leaders who has written a PHD on this puzzle, says a central factor is the dangerously elevated levels of nitrates combing with heavy metals such as uranium in the bore water used in these areas.

New research, especially in the United States, Central American nations and Sri Lanka, has confirmed the importance of the nitrates link revealed by the Western Desert Kidney Project.

Nitrates occur naturally from the breakdown of plants in many parts of the world including Australia but in the American farm belt states nitrates are also a consequence of agricultural practices. The threat is serious in mining regions because nitrates make heavy metals such as uranium more soluble. The compound, uranyl nitrate, is highly toxic to kidneys.

Dr Jeffries-Stokes, a paediatrician to the Goldfields region, says boiling bore water contaminated with nitrates only exacerbates the problem. With the presence of uranium, arsenic and other heavy metals widespread in these mining districts, the combination produces, in her words, "a perfect storm".

Which makes it all the more extraordinary that for a decade, the West Australian Government led by former Premier, Colin Barnett, issued water safety exemptions to allow the remote communities in the Goldfields and Pilbara to use bore water with nitrate levels known to exceed the recommended safety mark.

Australian Drinking Water Guidelines specify a "safe" level for infants under three months of age as 50mg of nitrates per litre and 100 mg per litre for adults and children older than three.

On the basis that no other water supply was readily available, the WA Government simply exempted from the water regulations the larger towns of Laverton and Leonora, as well as smaller places such as Menzies, Cue, Meekatharra, Mt. Magnet, Nabawa, New Norcia, Sandstone and Yalgoo.

One of Australia's most respected epidemiologists, Professor Fiona Stanley, said that "this is an important public health and human rights issue, particularly for the Aboriginal populations of the eastern Goldfields. And the neglect that we have shown these populations over the years is being added to by our reluctance to clean up the water supply."

Shortly before heading to Perth to plead for action by the current Labor State Government, Dr Jeffries-Stokes said that what the Western Desert research team discovered was that the epidemic of chronic illness hits black and white, rich and poor. Policemen, health workers and school teachers in remote communities are just as susceptible as the most disadvantaged Indigenous people.

Rather than seeing remote communities as a "lifestyle choice" as former Prime Minister, Tony Abbott once described them, Dr Jeffries-Stokes wants government to focus on the remedies to provide that fundamental human right of clean, safe, drinking water.

A first step according to Professor Wendy Hoy, one of Australia's leading kidney health researchers at the University of Queensland, is to utilize the existing large network of knowledgeable medical and science experts to urgently draft a unified national response because most experts say that the bore water threat exists in many parts of the nation.

An independent Victorian chemical engineer, Phil Krasnostein of Optimos Solutions, finds it hard to believe that only one or two of the WA communities with contaminated water have seen the arrival of water treatment technology. A community reverse osmosis plant can handle more populated towns, while in smaller remote communities individual filters fitted under the kitchen sink can make the water safe to drink.

Look at it this way. It costs about $70,000 a year to provide dialysis for a single kidney patient. If we don't head off the chronic illness plague, particularly in remote areas, the long-term costs will be far higher and perhaps unmanageable.

I leave State, Territory and Federal governments with this question. The findings about nitrates and heavy metals are now on your desk. Why is there no national coordinated action when there is clearly an affordable solution?

This is Jeff McMullen for the Science Show.

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