

Parasites linked to sewage fertiliser as stomach bugs grip Sydney

Sharri Markson, The Sunday Telegraph
7-9 minutes

Human sewage used as fertiliser on farms across NSW is being blamed for a breakout of Third World parasites across Sydney.

Doctors fear the Sydney Water biosolids strategy, which turns 180,000 tonnes of human waste into fertiliser yearly, could be behind the emergence of a gut bug, *Blastocystis hominis*, usually found in dirty water in Third World countries and spread via faeces, and a second parasite which often accompanies it, *Dientamoeba fragilis*.

Both cause cramps, distended abdomen, diarrhoea, weight loss and fatigue.

Confidential microbiology tests, signed off on by Sydney Water in the past four months and obtained by The Sunday Telegraph, detected *D. fragilis* in one in five samples of primary wastewater. The tests did not look for *Blastocystis hominis*.

Solid waste removed from the sewage is turned into biosolids and sent to 20 farms in NSW to enrich soil under a sustainability program.

Professor Kerryn Phelps, former head of the Australian Medical Association said there needs to be an independent inquiry into the practice after detecting an increasing number of patients with the parasites in their gut. "I've noticed an increase in these pathogens in people who have not travelled overseas," she said.

"One hundred and eighty thousand tonnes of partially treated sewage is being used as fertiliser annually and the program had not been independently assessed.

"From a public health point of view, we have what appears to be a significant problem."

Switzerland and Austria have banned the use of sewerage sludge as fertiliser, while in Sweden and parts of Germany, supermarkets do not stock products treated with biosolids.

Three studies, published in international medical and public health policy journals, found residents living near land where biosolids are used suffered a statistically higher rate of illness.

The most recent, a 2007 health survey of residents living near Ohio farm fields which use biosolids, published in the international journal, *Archives of Environmental & Occupational Health*, said this: "Results revealed that some reported health-related symptoms were statistically significantly elevated among the exposed residents. The findings suggest an increased risk for certain respiratory, gastrointestinal and other diseases among residents living near farm fields on which the use of biosolids was permitted."

Yet, NSW Health has not reviewed the health impacts of the program nor conducted tests on the wheat, canola and barley farms where soil has been fertilised with faeces.

Leading gastroenterologist, Professor Thomas Borody, who carried out research supporting the team that won a Nobel Prize for cure of stomach ulcers, said there needs to be an investigation into the biosolids program to give the public certainty that human faeces is not infecting our food supply.

He said in the past 10 to 15 years, 1500 people had been diagnosed with *D. fragilis* and Blastocystis in his practice.

"If we are going to be using foods grown on crops which use these biosolids it would be good to have a certain level of assurance that they are not carrying pathogens," he said.

He said the parasite Blastocystis hominis was difficult to kill in humans.

"The problem, apart from parasites, is viruses," he said. "Faecal matter transmits viruses that give you diarrhoea. What worries us more is the sporadic case of Hepatitis B and C when you do not know how it has been caught. Some people have never used needles."



Amity Smith with her children Isabella 8, Fergus 6 and Hamish 4, pictured in Lilyfield. Picture: Tim Hunter

Mum's mystery infection

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SYDNEY mum Amity Smith was told repeatedly by doctors that the cause of her distended stomach, extreme pain, cramping and fatigue was irritable bowel syndrome.

For four years, Ms Smith, of Lilyfield, spent thousands of dollars visiting leading gastroenterologists, naturopaths, dieticians and GPs.

"I'd look six months pregnant. I couldn't wear normal clothes," she said.

"It was gradually getting worse and worse and affecting my life more. I'd get a little bit of pain, and I felt lethargic and irritable."

As a last resort, Ms Smith, 37, went to a specialist clinic, the Centre for Digestive Diseases, in January.

Tests revealed she had two parasites, *dientamoeba fragilis* and *blastocystitis hominis*, in her gut.

It took two infusions of anti-parasitic treatment to kill the pathogens.

Ms Smith is now having her sons tested.

"The doctor said it was transferred through the faecal-oral route, from eating contaminated food or drinking water that hasn't been treated properly in Third World countries, but I haven't been travelling to any Third World countries," she said.

Sydney Water says parasite not a concern

Despite the discussion in medical journals about the transmission of *D. fragilis*, and the fact a recent study showed its incidence was far higher in Sydney's northern suburbs than in Brisbane or Western Australia, Sydney Water's spokesman said the bug was not a concern and was unlikely to survive for long outside the body.

"Sydney Water is unaware of any cases of illnesses directly caused by biosolids," the spokesman said.

Former general manager of Pittwater City Council, Angus Gordon, who retired in 2006, said NSW Health advised him not to use biosolids on sports ovals because it was not safe around children.

"The problem with biosolids was, at the time we were being advised, that there was the possibility of pathogens being within the biosolids," he said. "We were asking the question: if we were to use this material would it be safe for people, particularly children, to play on those fields, given that people do sustain injuries and grazes? "At the time we rejected it on the basis that we weren't able to get the assurances."

NSW Health's spokesman said if Environmental Protection Authority (EPA) guidelines were adhered to, the use of biosolids was unlikely to present a risk to public health.

The 92-page long EPA guidelines state that if biosolids are used on agricultural land, crops - from potatoes to lettuce and turf - should not be grown for between 18 months and five years. There is also a 30-day harvesting rule for animal feed and fibre crops.

"Where there is a high potential for public exposure, access should be restricted by fencing and signing for one year after biosolids application," the guidelines state.

Sydney Water's water quality and public health program manager Peter Cox could not give a definitive answer when asked whether pathogens could be transferred from biosolids to humans, posing a health risk.

"What we do is we manage the guidelines to make sure that the biosolids are safe for the purpose that they are used," he said. "Pathogens can exist in very low numbers but not enough to cause any harm."

"There are lots and lots of pathogens and it will depend on the individual bit of biosolid that you pick up to analyse. The whole management of biosolids, which includes treatment and potential for exposure, is there so that it doesn't cause a risk to health."

Sydney Water does not test its biosolids for the two pathogens and would not reveal which, if any, it does test for.