Anxiety often lingers after an environmental disaster. A new tool could help measure it

By <u>Rachel Clayton</u>
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Colleen Hartland says the community is still affected years after a massive industrial blaze sent thick smoke over homes.*(ABC News: Rachel Clayton)*

The morning of August 30, 2018, is seared into Colleen Hartland's mind.

She watched as a plume of thick, black smoke twisted its way over rows of houses at Tottenham, in Melbourne's west.

Sirens whirred past the former Victorian Greens MP's house.

It was the day an industrial fire [sent a torrent of dangerous chemicals through Stony Creek in Cruickshank Park](#), killing scores of fish, damaging trees and turning the waterway into an oil-slicked swamp. "It was stomach churning," Ms Hartland said.

Ms Hartland said the anxiety has never fully left her.

"I know that three fire engines going past my house means something bad is about to happen," she said.

The 2018 fire spewed thick, toxic smoke over homes in Melbourne's west.*(AAP: David Crosling)*

Search for a tool to quantify pollution distress

That distress is now something Victoria's Environment Protection Authority (EPA) is trying to measure.

Its environmental scientist Mark Taylor said while the psychological harm of pollution events was well known, there was no "standardised tool" to measure it.

Stony Creek in Melbourne's west has been affected by multiple pollution events in recent years.*(ABC News: Rachel Clayton)*

"The act says the EPA is to protect people and human health and the environment from pollution, but the human health part is hard to nail down," Professor Taylor said.

The EPA is now working alongside the University of Adelaide to develop a tool to capture the psychological effect of a large-scale pollution event.

Professor Taylor said the tool would make it easier to target mental health services to the right communities and help the EPA prosecute polluters for harming human health.

"We'll be able to say not only did you pollute the environment you actually harmed the people," Professor Taylor said.

The tool, called The Environmental Distress Tool (TEDI), is a set of questions based on the Kessler Psychological Distress Scale also known as the K10, which is used by doctors across Australia to measure an individual's level of anxiety and depression.

The TEDI will produce a score that will be measured against a general community baseline from the Bureau of Statistics.

It will tell people what their score was, and provide contact information and resources about where and how to get support.

Professor Taylor said it could pave the way for other states, territories and even countries to follow suit.

"We'll be the first regulator in the world to have a definitive tool like this," he said.

Concept yet to be tested in court

University of Adelaide project researcher Cynthia Barlow said no EPA or other similar agency had used a standardised tool to measure general community psychological impact from pollution or environmental events.

"EPA policy worldwide is based on health impacts like respiratory and heart impacts, mental health is just not considered," Dr Barlow said.

"This not only puts mental health into the equation for pollution regulation and prosecution, it will provide a standard way to measure the impact of pollution and environmental events on communities."

Environmental Justice Australia lawyer Elke Nicholson said the tool sounded like a good idea but ultimately would have to be tested in court.

"There have been some really great examples in the last few years of citizen science being used in the courts, particularly around illegal forestry and this is somewhat akin to that," she said.

> *"Without more detail it's hard to say how a court would treat it and what weight they would give the evidence."*

But Professor Taylor said he was confident it would stack up.

"In the event of any prosecution, we would have a really robust set of evidence to say these are the steps we have gone through to test this instrument," he said.

"We know that the K10 is a standard tool applied across Australia and we'll be able to see differences in that community relative to the broader population."

The tool will also be used to measure levels of distress after an environmental crisis like a bushfire or flood event.

Impact of disaster is more than 'weather and economics'

The first stage of the trial occurred last year with residents in Maribyrnong in Melbourne's west affected by the 2022 floods.

Madeleine Serle is one of those people. She still lives on the top floor of her house after the ground floor was inundated with waist-high water.

Madeleine Serle hopes the new tool can be used to highlight the broader impacts of natural disasters on communities.*(ABC News: Rachel Clayton)*

Over a year later her home is still scarred by the flood; carpet torn off the floor, paint peeling off walls.

Industrial fans run day and night downstairs, drying out the remnants of the flood, while simultaneously exacerbating the enduring impact on her mental wellbeing.

The 59-year-old said the simple joy of rain on the roof had turned into a source of fear.

"There's this sense the wellbeing of your environment is really disturbed. Your sense of place is devastated," Ms Serle said.

Ms Serle is still grappling with the psychological fallout from the devastating Maribyrnong floods. (ABC News: Rachel Clayton)

She said she supported the EPA's new tool and hoped it would make others realise that during the aftermath of a disaster psychological support had to be prioritised.

"I think it's a terrific idea, we need to think of disasters in a broader sense than just weather and economics because that does not give you a whole picture of the human in the disaster."

But she said it would have a broader uptake if the community was involved before it was rolled out.

"There's a very big difference between having a conversation about a disaster with a stranger versus a person who knows about it and experienced it so community consultation is absolutely critical."

Tool expected to become available later this year

Dr Barlow said 20 per cent of participants in Maribyrnong reported very high distress, and another 20 per cent reported high distress.

The greatest cause of distress was flooded homes, while other factors included difficulty claiming insurance, controversy over the cause of the flood and follow-up action afterwards.

Dr Barlow said the value of TEDI was that it could isolate how much stress was due to the event alone, and how much was due to factors in the aftermath.

She said those who used the tool during the first stage of the trial said it was "appropriate and easy to use", but it needed to be available in different languages, for the the vision impaired, and those without internet access.

About 45 per cent said they would definitely use the tool again if another event occurred, 44 per cent would probably complete it again, and 12 per cent were neutral.

The EPA and the University of Adelaide will trial the tool on victims of bushfire and pollution events before launching it later this year.

Source: https://www.abc.net.au/news/2024-01-31/victoria-epa-melb-industrial-pollution-fire-flood-mental-health/103402774