

## PM with Mark Colvin

Monday to Friday from 6:10pm on ABC Local Radio and 5:10pm on Radio National.

---

# Epidemiologist: No safe lead threshold

---

Mark Colvin reported this story on Monday, November 16, 2009 18:34:00

---

MARK COLVIN: A visiting expert on heavy metal poisoning says that lead, like asbestos, has no safe level for human exposure.

Bruce Lanphear is an epidemiologist from Simon Fraser University in Vancouver, and he says there are levels of lead in big cities, as well as lead mining and smelting towns, that are dangerous to both children and adults.

I asked Professor Lanphear first, how sure he was that there was no safe level for lead.

BRUCE LANPHEAR: Well, it's still evolving, but for example, even though the Centres for Disease Control lead advisory committee was itself contaminated by the lead industry, they still came out, when they put together a panel, and said more likely than not, there's adverse consequences below 10 microgram per decilitre, number one.

And number two, there's no evidence of a threshold. So even this panel in the midst of...

MARK COLVIN: When you say no evidence of a threshold, that's the same as when I say there's no safe level?

BRUCE LANPHEAR: Yes. I mean that's the scientific way to say it.

MARK COLVIN: Ten micrograms per decilitre doesn't really mean anything to average person.

BRUCE LANPHEAR: That's right. To the extent we can measure it today, the best evidence says there's no safe level. Now, at some point if we get down to measuring lead in blood, for example, that's 10 or a thousand times lower than it is today, we might find a threshold.

Given the best evidence today, there's no evidence of a threshold. There's no safe level.

MARK COLVIN: So, given what we've been talking about, that the air in our cities has still got quite a lot of lead in it, what do we do?

BRUCE LANPHEAR: Well, I think in the short term - tomorrow - it's very difficult to think about how we can make it better.

I think the key though is recognising that over the next five, 10 or 15 years we need to take steps so that what we do today will bring about much lower levels of exposure across the board for all children, and in particular, focus on children who have especially high levels, and how do we reduce their exposures.

But even for adults, the other key determinant that most independent committees would recognise is that below 10 microgram per decilitre we see evidence of heightened blood pressure and very low levels of lead in the blood for adults.

And if you followed a group of adults, what we've seen is that... not myself, but other researchers have found with follow-up of adults if you have higher lead-blooded levels you're more likely to die

from a heart attack or a stroke.

MARK COLVIN: So far we've talked about it as a national problem, but it's also a very localised problem in towns like Port Pirie and Mt Isa.

BRUCE LANPHEAR: Yes.

MARK COLVIN: Smelters and mines creating very high lead loads. What do we do about that?

BRUCE LANPHEAR: Well, it's hard to say, you know, a blanket statement about what we should do except we do need to find ways to ratchet down exposure. If we can continue to reduce emissions from smelters, for example, that's what we need to focus on.

If we can continue to reduce to exposure of children to the soil or lead that settles out in house dust, that's what we need to focus on.

The key is that if there's no evidence of a threshold, if there's no safe level, we need to continue to be very vigilant and bring down exposures.

MARK COLVIN: What do we do about the mines at Mt Isa?

BRUCE LANPHEAR: Well, it think this is something that, you know, we... I wouldn't want to say one person's opinion is exactly what we should do, but we clearly need to do things that will reduce the childrens' exposures.

In the long-term, for example, if you ask me what we should do, we should find ways to make sure that children don't live near smelters; that communities aren't built adjacent to smelters. That's easy enough to say; tomorrow it's more difficult to figure out what to do.

In the United States a smelter than I worked with, what they have done is essentially buy-out the houses in closest proximity to the smelter stack, and they've also done soil abatement of the yards that are closest to the stack, because what they're finding is even when they did abatement 10 years ago, it builds a back-up rather quickly.

MARK COLVIN: Sounds very expensive and yet you say... I've got an article in which you say that the community actually saves or actually makes money...

BRUCE LANPHEAR: That's right.

MARK COLVIN: How?

BRUCE LANPHEAR: Well, this is recent cost benefit analysis that was done by Elise Gould, published this last year. What she did is she said 'what would we save, if we invested one dollar to reduce children's blood lead levels in housing?' Now she focused on housing, but I think the same metric's are relevant for other kinds of sources.

For every dollar we spend we would save somewhere between \$17 and \$220.

MARK COLVIN: How does that work?

BRUCE LANPHEAR: Well, what happens is we know from all these studies that for every decrement in IQ you have reduced lifetime earnings, increase in special education costs and ultimately an increase the behaviour problems and even criminal behaviour.

So the cost to society is tremendous when you add all that up. In fact, the cost benefit ratio for reducing lead looks better than the cost benefit ratio for vaccines, which have long been touted as one of the single most important public health interventions.

Now, that's not to put them head to head. But the point is if we continue to allow our children to be exposed to lead as well as adults, the cost to society is really quite tremendous.

MARK COLVIN: So what are the barriers?

BRUCE LANPHEAR: The barriers... I think the biggest issue is the short and the long term costs. You put the investment up front for the long term benefit and ultimately, of course, industries don't want to make this investment because they have to worry about their profits at their next quarter.

Governments are a bit strapped, right; we're in the midst of a recession. And so somehow you have to bring together enough interest and willpower and say 'this is in the best interest of our communities and our children'.

MARK COLVIN: What are your suggestions for doing that?

BRUCE LANPHEAR: Well, of course it and to be driven by local politics. I think ultimately what people need to recognise, and this is what I've seen time again with lead, is that there is only action when there's a community outrage; when community gets together and says 'we've had enough, we want to protect our children better'.

The problem in places like Mt Isa, for example, is that the communities are dependent upon industry; everybody has a family member who works at the mine. And so I don't think it's fair for us to expect them to be the ones that get up in arms about it.

A great story out the United States, Herculaneum Missouri, there was a mine and the families knew their kids were being lead poisoned, but everybody had a brother, a sister, a father, an uncle that worked at the mine.

And so I think they accepted it, whether they wanted it or thought about it, I don't think they could even deal with it. But then there was a strike, and the smelter brought in people from outside the community to work at the mine.

All of a sudden the community began to realise, what have we done? And they began to fight. And ultimately it was that community that forced the EPA to lower the allowable levels of lead in the air.

MARK COLVIN: Professor Bruce Lanphear, lead expert from Simon Fraser University in Vancouver.

You can hear a longer version of that interview on our website this evening.

©2009 ABC