Accelerating the International Response Towards a Lead-Free Future

Monday, April 15, 2024

JUSTIN SANDEFUR:
Good morning, everybody. Welcome to the Center for Global Development. And welcome to everybody who is watching online. My name is Justin Sandefur. I'm a senior fellow here at CGD. And it is my privilege to welcome you to this panel on accelerating the international response towards a lead free future. The global scourge of lead poisoning is a topic which, I think, is super well-suited for the Center for Global Development and for concerted action by lots of other development actors. In the familiar framing, the stakes are super high, affecting millions of kids and adults worldwide. The topic, until very recently, has been quite neglected. And we also believe, I think, some of our panelists are going to try to convince you that it is quite tractable. There are solutions on the table. We're here in the middle of the IMF, World Bank Spring meetings down the road. People are discussing, you know, global trade imbalances and solving sovereign debt crises, which feel, I think, much harder to address than lead poisoning.

But I want to try to convince you that the welfare consequences are perhaps in the same league. I think, right now we are at a bit of an inflection point. I don't want to jinx things. I don't want to quite say historic, but I think, in a dozen years we might look back at 2023, 2024, and maybe even this panel and say that this was really a turning point at which the world started to take this issue seriously and give it the attention it deserves. Not the start of that effort, but hopefully a step change in our collective efforts. So, with no further ado, I'm going to hand over to Rachel Silverman Bonnifield, who for the last two or three years has really supercharged and led CGD's own work on lead poisoning. And Rachel will introduce a tool and then the rest of the panel. Over to you.

RACHEL SILVERMAN BONNIFIELD:
Terrific. Thank you so much, Justin. And thanks, everyone, who's gathered here today or watching online. Great to have you all here and very exciting to have it here. Have you here for this specific issue. I also do not want to jinx things, but I do want to reinforce why today's convening of such distinguished leaders in development and philanthropy feels so important based on where we started. So, to set the scene, let's go back to April, 2021. And this was when we first had our first CGD blog on global lead poisoning. It was hosted almost exactly three years ago, and what it inspired this is that admittedly, we were a little bit late to the party because there had been people working on this long before who were doing excellent work, including Pure Earth, even UNICEF, IHME, collecting data that the

USEPA, who was working with the international alliance to eliminate lead paint, and they had been working in this space for a while and producing evidence that almost half of children in low and middle income countries had blood lead levels equivalent or worse to those seen in Flint at the worst point in its water crisis.

And when we came across this evidence, it was sort of shocking because we, who had worked in development for a long time in global health, had no idea. And if this were remotely true and you know, spoiler alert, it is at least in rough order of magnitude, the welfare consequences of that for global health, for children's education, for overall development and economic growth are, frankly, staggering. And you know, to be clear, we were coming into a space that already had people doing excellent work, but it had not yet broken through to that mainstream development understanding. And you know, we saw excellent projects working to mitigate lead contaminated sites like those led by the World Bank and Pure Earth. We had seen policy work to get lead out of gasoline and out of paint by the EPA and others, but again, not quite breaking through on that mainstream global health and development agenda. So, we undertook a program of research and review of the evidence and a working group. And through that process, we've confirmed that the initial evidence and our kind of hunch on the matter is more or less correct.

That lead should indeed rank at the top tier of the development agenda, and that it's not just a major development challenge, but a very solvable one. So, just to give a couple of factoids about the scale of harm we're talking about. So, first, through its effects on children's cognitive development, lead exposure can explain about a fifth of the learning gap between rich and poor countries. That is a tremendous order of magnitude of harm. But it also means that there's a tremendous scope to close that gap if we can address the sources of lead poisoning that are affecting children. And through its subtle, but very real effects on cardiovascular disease risk, there's a range of estimates, but we can pretty confidently say at this point that lead exposure has a higher estimated death toll than malaria and HIV combined. But here's the good news, we see ample evidence that lead poisoning can be significantly mitigated with modest financial commitments if we elevate it on the international agenda.

And that's why it's so exciting to be here today, because to bring us back to 2021, when we started, lead poisoning was almost entirely absent from this international agenda and largely neglected by funders and implementers. And so, our call to the Biden administration, it was, to be honest, a bit aspirational. You know, it was not something we expected would happen in the short term, but something we wanted people to start paying attention to. And three years later, I'm standing here today, I'm honestly amazed by how quickly the world is mobilizing to address this issue. The speed and intensity of the

response from the US government, from the other philanthropic and development partners represented here today, including the Asian Development Bank, Open Philanthropy and the world Bank, country work happening in India that we'll hear more about, which is really exciting given the opportunity for improvement there, this has all really exceeded our wildest expectations of how fast we could make progress in this space.

And to make this point, we fast forward to January of 2024 this year, where we had a follow up CGD blog post from when USAID administrator, Samantha Power, used her Davos platform to elevate global lead poisoning as a USAID priority. And from what we've heard and what we'll hear more about today from our distinguished speakers, this first announcement is only the beginning of USAID leadership to fight global lead poisoning in partnership with national governments, development institutions, and philanthropies. On a personal note, it's really deeply gratifying to see the enthusiasm and thoughtfulness with which USAID leadership and the leadership of these other institutions has embraced this issue and the thoughtfulness with which they're doing so. So, with that, we are delighted to welcome back Dr Atul Gawande to CGD. Dr Gawande is now serving as assistant administrator for global health at USAID. And will open today's events with remarks on USAID's vision for the global fight against lead poisoning.

Dr Gawande, the floor is yours.

ATUL GAWANDE:
Thank you, Rachel, for that great introduction. I just want to start by saying we heard you. (LAUGH) Center for Global Development has done an extraordinary effort to put the magnitude of the impact of lead on the global agenda. And I heard it and administrator power heard it. And we are motivated by impact. Our job is to make sure we're reducing premature mortality in the world and protecting Americans from health threats from abroad. And lead falls into both of these categories. The prevalence, Flint was a major wake up call for the United States. This was the finding that lead pipes were causing one in 20 children in Flint, Michigan, to have elevated blood lead levels, lead toxicity. And it led to a major commitment that President Biden announced this past fall that we would be removing all lead pipes in water service lines across the country, with a major commitment of $15 billion to support that happening. What that raised was, well, what is happening in the international community, the work of removing lead from gasoline had a tremendous world, but it has turned out to be insufficient for not just the United States, but the entire world.

If one in 20 children in Flint were victims of lead toxicity, one in two children in low and middle income countries have elevated blood lead levels. 90% of the problem are in low middle income countries. The impact is of the neurotoxicity, this was for me, the wake up

call fact. On average, in low middle income countries, it is causing a six point reduction in IQ. Six points doesn't sound like much, but if you take the IQ scale and move it six points to the left, that means that there are 60% more intellectually disabled children in the low middle income countries and 60% fewer gifted intellectually children. And that has a huge damage on the future welfare of the child, of the family, and the country as a whole. The second fact that was the wake up call is that the growing evidence that the lead gets stored in the bones and leaches out across a child's lifetime. And it's translating when they reach the age of having children of their own, translates into massively increased rates of low birth weight and of preterm birth.

Then as they get older, the lead in their bones leaching out, plus lead exposure in the community continues to cause damage through atherosclerosis, and cardiovascular deaths are now estimated to be north of 1.5 million cardiovascular deaths. That is a scale that's even larger than HIV and malaria combined. We understand we have much more awareness now about the damages of environmental health as we focus on climate and health. And after Flint, Michigan, and other episodes that are demonstrating lead coming into the country in spices, in foods, and in other ways we're exposed. The health community, the global health community has lacked awareness on this. We have had partners in the environmental community who've been pushing these issues at EPA and elsewhere in ministries all across the world. But it's time for the global health community to join in this fight. It doesn't require billions of dollars to solve. This is a space where our primary investments are making sure that regulations that stop, for example, lead from being added to paint, to spices, to foods, to cosmetics, to toys that that can happen and save hundreds of thousands of lives just by itself.

And then we have the opportunity to address the problems of sources that come from runoff, from mines, from the use of lead acid batteries that during recycling exposes workers, exposes communities when recycling isn't done safely around the world. We are increasingly in possession of the playbooks for making action successful. We have seen how action in Philippines on lead paint has had a dramatic reduction on measured lead levels in children, not just because of the action on paint, but because of the awareness leading to broader actions more widely. In Thailand, I had a chance to visit with their equivalent of the Centers for Disease Control, and they had taken a team that focused on outbreaks and took three people to focus on lead outbreaks, lead measured level, measured high lead levels in the workforce and in children, and then follow up to find the sources and act against those sources. They found sources from the biggest selling noodle pot in the country having lead in it, to finding that it was in paint or in direct food sources as well.

And being able to address those, they found mines in particular local communities that required action, they found that there were lead acid battery recyclers in communities that were spilling lead acid into the water sources. And by taking action, they went from 50% of their children having elevated lead levels, to a place where they now actually have set their target to be less than 5%.

ATUL GAWANDE:
That has been part of the reason why Thailand has actually reached the point, along with their excellent primary health care system, that they have matched or actually exceeded US life expectancy on $300 per person per year for their health system compared to our $12,000 per person per year. So, I do not think we can achieve equity in health without taking on this critical environmental health source. We have some fantastic people you'll be getting to hear from, but I just want to say USAID is joining with the entire US government in making sure that there is awareness about this issue, that we're acting through all of our missions to bring this to the global agenda, and to catalyze action in the private sector and elsewhere. Thank you very much for the chance to be here, where you at the Center for Global Development have made such a difference. Thank you. (APPLAUSE)
('SAGA OF HARRISON CRABFEATHERS' BY THE DAVE ANDERSON TRIO PLAYS)

RACHEL SILVERMAN BONNIFIELD:
Thank you so much for that. It's obviously very gratifying for us to have you here and to see this elevated so high on USAID leadership's agenda. I'd be curious to hear a little bit about the sort of forward-looking plan. So, USAID is a funder, obviously, but you also have a broader set of resources, mission networks, partnerships, soft influences. So, what's your thinking for how USAID is going to bring all of this to bear together to address this issue?

ATUL GAWANDE:
Well, let me start with the funding challenge. 100% of our funds are earmarked, and only 1.5 million of our USAID funding goes towards this topic, towards lead. We can use maternal child health funds, but the challenges that we're also critically focused on are preventing child and maternal death causes as well. And so, part of the answer here is coming from partnering with a number of private sector organizations. Open philanthropy is playing a critical role in driving private sector funds towards this space. We are also working with UNICEF as a major, a long-time both investigator in bringing what, you know, their famous report, The Toxic Truth, is of lead poisoning in children and their ability to have touch points with countries around the world. But our most critical ways we're making a difference, yes, we're going to mobilize more resources in this space, but I think the most critical thing is that we have touch points through our missions in more than 100 countries

in the world. Of our 80 missions that have health programming, 51 are in countries that do not have a ban to eliminate lead paint.

So, 90% of high-income countries have addressed lead in paint, have joined the international ban effort, just like we did in unleaded gasoline. But we have an opportunity to address, to start with the consumer side of this, and then we're learning how to build the playbook to address what we know is also our big causes like the battery problem that I referred to.

RACHEL SILVERMAN BONNIFIELD:
And for everyone who hasn't already seen The Toxic Truth Report, it's a Pure Earth and UNICEF report from 2020, strongly recommended as a great foundational resource on what's been happening worldwide with lead poisoning. But to pick up on what you're saying about your outreach to the missions and your touch points, as you start having these conversations with countries, what sort of response are you getting? What's sort of the feedback? Are people open? Are they interested? Are they surprised? What's the reaction you're getting?

ATUL GAWANDE:
So I was in India, and you're going to get to see Indu Bhushan, who will join the next panel, and he was in one of these meetings where I got to pull together about 20 people when I visited who included lead experts, leaders on health and outside health in the government, and as well as healthcare leaders from outside the government. And the people who've been doing work in the lead space were incredibly passionate and could tell you the statistics but also tell you about lives they've seen directly affected. And the first number one reaction from those who had not been aware of what was going on, because some of those lead experts were within the Indian government itself, right? These are people who just haven't had the ear of the people at the highest levels. And they said, why haven't we heard about this? How can this be? How can we not be taking action? And there was commitment coming out of that to advance rapid action. Now, India is a place where many of the laws are on the books, and the issue is implementation and also understanding how do you follow up in such a huge country?

In many places, I'd say the second reaction is, as we move to planning, this is multisectoral. And so, neither health nor the environmental folks are able to lead it unless you empower someone to be your coordinator at a government level. In Nigeria, they did not have a lead law, and they've now committed to passing the lead law. They have established a lead action plan at a government level, and they have named a lead coordinator. I believe their minister of health that's the lead coordinator. But they've named an action arm who has authority to move. Almost everybody wants to do measurement to understand, is it really

that big in our country? And most countries haven't had any recent measures of their lead levels. And then what are the sources, and how do we solve going after them? And so, you can have the laws on the books, and you create awareness and put a plan together, but that's the execution that they start moving towards.

RACHEL SILVERMAN BONNIFIELD:
I think that's exactly what we've been seeing, is we have some of these conversations as well, both the sort of shock, how did we not know about this? And a little bit disbelief. What's really the evidence? We don't have local data, we don't have a good surveillance system. I want to pick up on what you were saying about Thailand and their surveillance and using pandemic resources for lead surveillance. You've worked, obviously, broadly in global health and pandemic preparedness. Lead has not historically been part of that surveillance agenda. Do you have any thoughts on sort of how we can kind of mainstream it into the types of things we should be looking for and surveilling for in global health?

ATUL GAWANDE:
Yeah, so, number one, we're working with UNICEF on, UNICEF has a module in their multi-sectoral something. It's the mixed survey. So, this is their broad country survey they do in many places. And they have the ability to include, they have a module where they will take a sample of children's, but you need a blood sample. So, you have to draw a tube of blood, and not everybody is willing to do that. Understanding that you only need 3,000 or 4,000 samples to get a broad understanding of the country lead levels is making it possible for UNICEF to do that. At USAID, we are aiming to adapt that into our own surveys. We have a, what we call the DHS survey, which is also used as our way to track whether we're making progress on our HIV goals, on our TB goals, and on our child health goals, which this would then become part of, and I'd see that as a critical element. And then CDC has sponsored a grand challenge for a less invasive way, developing innovations for a less invasive way to track lead levels.

RACHEL SILVERMAN BONNIFIELD:
Yeah. We've been doing some work recently on looking at the suite of tools for blood lead testing. I think a big finding is that they're not quite fit for purpose for what low and middle-income countries need right now. They're either too expensive or too onerous or too health worker intensive to really be used at scale. So, this feels like a big opportunity. But again, a multisectoral one, right, like bringing in the private sector, bringing in research and development, the pharmaceutical industry. And I guess to that point about multisectoralism, you know, you, within USAID, we have a number of bureaus working on different sectors. So how within USAID are you approaching this as an organization in terms

of bringing the whole agency together and its various resources in different bureaus and its sectoral expertise?

ATUL GAWANDE:
Well, so very similar to the way I talked about in other governments, we've needed to establish a lead coordinator. And at USAID, that's been someone from global health that we've funded and supported to play a full-time, pretty much full-time role, focus on this. Nida Parks, who is somewhere in the audience, and in the back is our lead coordinator at the agency level and connected into the interagency. We've had long-time experts in our education sector. Our earmark actually was managed by our division called the IPI. We have our policy shop. So, we have a wide range of representation in the activities across the agency. The education sector has huge value. This has huge impact there, and so they have a huge opportunity for an involvement because of the ways that action here can have such outsized gains for education outcomes as well.

RACHEL SILVERMAN BONNIFIELD:
And as this message spreads throughout USAID, how have you found people within the agency reacting? I mean, these are development practitioners, are they surprised, interested? What's their reaction to kind of learning about this and becoming brought into this world?

ATUL GAWANDE:
Well, I think we've all reached a point where we think pretty much the low-hanging fruit is gone, right? Low-hanging fruit in doing work in development is you have a problem with massive impact, it's tractable, and it's been neglected. And so, the initial skepticism is, come on. We still have a problem like that that has not been tackled. And it doesn't take long seeing the Lancet article, seeing The Toxic Truth report from UNICEF, seeing that this is that example. But it takes that first couple go-arounds like it does with the government. You have to bring it out and bring it forward. And then to recognize this isn't something that requires massive resources. It requires some, but not anywhere near the level that an HIV, TB, malaria, or other initiative requires. And so, the next shift is, alright, what do we do? How do I get this on my plate? What is going to have to give in order to get it done? But this is one of those where elbow grease in the country with counterparts in the governments and in the private sector have really big impact.

And we call it part of our progress beyond programs agenda. This is one that can have massive progress beyond our slated earmarked programs.

RACHEL SILVERMAN BONNIFIELD:
Yeah. I mean, it's interesting as well that USAID is very focused on consumer goods as its

sort of initial wave of interventions. And one thing that's interesting to me as an American is that part of the reason why we in the lead community know about these contaminated consumer goods is because they show up in America. And we have a surveillance system in New York that is catching consumer goods from all over the world that are ending up in American cities and poisoning American children. Obviously, our main concern is with saving lives and protecting children in low and middle-income countries where the scale is massive. But can you talk a little bit about how you see the global dimensions of this agenda? I mean, it's a pollution issue to some extent, it's this trade and consumer protection issue, and it does cross borders.

ATUL GAWANDE:
Yeah. Right now, we have an outbreak of lead poisoning occurring in more than 35 states now traced to applesauce in turning up in Lunchables, turning up on grocery shelves, where the sourcing has turned out to be from Ecuador. And then the spice in it, the cinnamon, is the source of the lead. That can be imported from many places around the world. And I think it's still being investigated, is it the spice grinder that was sitting in Ecuador, or was it the import of spices where it's not uncommonly added in South Asia? And so, we have a global source of virtually everything in the United States. And a problem abroad can then come affect brain development of our own children here and not go detected for a long time and then need international cooperation to address. This is the opportunity to address both of our mandates at USAID Global Health, which has to do with protecting Americans from health threats from abroad and reducing premature death globally. And this immediately jumped too high on our agenda for both of those reasons.

RACHEL SILVERMAN BONNIFIELD:
Perfect. OK, well, we're going to welcome you back a little bit later, and we're going to move now to our second panel. So, can I invite our panelists to the stage? Thank you.

Thank you, everyone, and great to have our panel of distinguished guests here with us. So, to introduce everyone, I'll start here welcoming back Scott Morris, former CGD, who is now the Vice President for East and Southeast Asia and the Pacific at the Asian Development Bank. Next to him, we have Dr Indu Bhushan, who is the Chair of the India Working Group on Lead Poisoning, which is doing really incredible things to address the tremendous scale of lead poisoning in India. And Dr Valerie Hickey, who's the Global Director for Environment, Natural Resources, and Blue Economy at the World Bank. So, thank you to all three of you for being here. To start off our discussion, let's go to Dr Bhushan, who chairs this India Working Group. Can you maybe tell us, start off by telling us a little bit about the scale and scope of the problem in India and what you see as the biggest opportunities to make progress at scale and quickly?

INDU BHUSHAN:
Thank you, Rachel, for inviting me here. So, the problem, the several problems that I'll focus on four major issues that we see in India. Number one, that at policy level, problem of lead poisoning is almost invisible. If you talk to any top policymaker, they don't know about the problem. If they know, they are not convinced about the impact of the problem on development outcomes. And if you look at our national health program, there is nothing on lead poisoning, school health program, nothing on lead poisoning, if you look at our teachers or doctors, they don't know about lead poisoning, and also, our medical education doesn't have anything on lead poisoning. So, the problem is invisible. Second and related problem is that we don't have data, nationally representative data on lead poisoning. And it's a chicken and egg situation because there is no data and no prevalence data. So of course there is no policy response, and there is no surveillance system to look at the data. So, we don't know what the prevalence is, and in most cases, we don't know what the sources are, and also, we don't know the impact of lead poisoning on development outcomes.

Third thing, like you were mentioning that we have very strong standards, and most of these standards we've taken from developed countries, and so they are as good as anywhere in the world. But implementation needs to work on, like we need to improve the implementation. And the last, I think, most important point from my perspective is the equity issues, because the people, the poor people, what they eat, where they live, and where they work, is actually they expose them more to lead poisoning. Just to explain, poor people buy their turmeric or spices from informal sector, which is not regulated, and we know that some work which has been done by Pure Earth, that turmeric has very high lead content, and it's not regulated because it's beyond the purview of our regulators. Similarly, they live in areas which are more polluted, and most of them are living close to, say, mines or thermal power plants where they're exposed to lead much more. And, of course, they work in industries where they're also exposed.

So, these are the problems, but we also have huge opportunities, and we've done meetings across the country, and we find that there's a lot of small studies and information, including some work by Vital Strategies, Pure Earth, which has provided data. So, leveraging that data, so first of all, we have just combined all this data and put it in a portal so that we know what the problem is. But also, the last three months I've been talking to various secretaries and some ministers in terms of sensitizing them about the problem and sharing the data, which is actually showing some impact. So, using the current data to sensitize and do some advocacy is one opportunity that we are doing. Second is, of course, to collect more data, both in terms of prevalence but also sources, and for that, actually, we need more resources, and we are receiving resources from many of you who are in this

audience, but we need much more. We need more from ADB, we need more from Pure Earth, and I think it has to be a whole-of-a-society approach.

And finally, we need more innovations. It's like it was being mentioned that currently the testing is very expensive, and so we have some green shoots. One of our institutes have developed a sweat patch, which is very cheap, and it can make for more cost-effective testing, that could be done. There's another university which is doing some research on looking at the isotopes from blood lead levels, and that can help in terms of identifying the source of.

INDU BHUSHAN:
Source of that blood poisoning. So, promoting these innovations, working with the private sector is another thing that we need to do.

RACHEL SILVERMAN BONNIFIELD:
Thank you so much. And to make this point on resources, because we've heard about it from you, the lack of resource, and from Dr Gawande talking about the USAID earmarking issues. Part of the problem historically has been this has not been a space that has attracted a ton of resources. We put together a rough estimate of what we think is going into this space from philanthropies and development partners. And that's on the order of about 15 million per year historically. That is a very small amount of money in development. And that's for the entire world. And so, when you think about what has been accomplished with that amount of money, it's actually quite incredible. But it's not enough to do what we need to do at scale in every country. So, we're here for spring meetings. So, hopefully, there's more money coming soon from some people, (LAUGHTER) won't put anyone on the spot. But turning now to Scott Morris who's joining us from the Asian Development Bank. And I should note that Scott's ADB colleague Albert Park, who's the Chief Economist of the ADB, has been involved in our lead working group from the start, and truly a tremendous contributor to what we've been working on.

Scott, can you speak a little bit to why and how the ADB is now working to address the global lead poisoning crisis in client countries? And how are you finding national governments responding as they become more aware?

SCOTT MORRIS:
Sure. Thank you, Rachel. And it's really great to be back home at CGD. And particularly on this topic as I was reflecting on it, it sort of represents how you would think or would want institutions like ADB to approach any issue. So, namely, a well-established evidence base and a lot of work already done, CGD working group. And as I'll come to even internally at the bank in thinking about the policy nature of the problems, sort of what are the channels

of, you know, where are the interventions that are needed? And how do we attack this? And I think probably the most important thing I can say is, is to actually just acknowledge Albert Park's work within ADB. So, I came to the bank with this on my list of things I wanted to look into, figure out where we could be doing more. And immediately realized there's already been a lot done both Albert's participation in the working group, but frankly, the way he's used his platform at the bank to create his own research agenda. And that's multifaceted.

And including on the evidence base itself, he's, you know, there's a paper focused on the evidence Indonesia with really important preliminary findings, which was, what I highlighted, living close to a toxic site during a child's early years leads to a penalty in numeracy scores equivalent to about two to three years of primary level education. So, this was specific to Indonesia. So, we're commissioning doing that kind of research that's helping to add to the overall evidence base. But he's also much of the work is actually focused again, on the policy side that really is, is setting us up well to figure out as an MDB, what can we be doing in partnership with our client governments? A lot of the work has focused on the battery industry issues and the informal economy around battery recycling. So, commissioned important work that's one specific to Vietnam, another Bangladesh. So, all of that is sort of an internal evidence base. And as Albert and I have now spent a lot of time discussing, how do we shift this work to the operational side of the bank.

And here I would say, you know, I think it's worth a few minutes on some of the simple elements of what we are as an institution. So, namely, we are mostly a lender, we lend money to governments. It's important to understand that because you have to grapple immediately with demand. We can't force any government to take, to borrow money for things they don't want to do. So, there's sort of, I think there's a multi-stage effort to build toward major commitments on the part of our counterpart governments to take this on and to see us as not just as a source of finance, but actually providing the technical expertise to help them address it. And that's, I think, a key first step and some of what we've done, frankly, it goes back to work before my time, Albert's time at the bank, is that there is a lot that we can do through TA grants. And I think an upside of the relative affordability of a lot of the interventions in this area is that there's, we actually have considerable grant resources, even as, you know, predominantly, we are a lender, nonetheless, a lot of discretion around how we can allocate this technical assistance.

Even here though, I think there's an important, you know, there's an important question of the demand side of it because it's frankly, you know, we do a lot of these TA activities in all of our countries, many different sectors. It's free for the most part (LAUGHTER), although we're trying more and more to get countries to pay for it a little bit, frankly, as a discipline on our own choices. But when something's free, it's not so clear that you have the buy-in that,

that you really need. So, where we've done TAs in this area in the past, you know, I think with mixed success, but some successes they haven't themselves led to some large scale either project loan or I think importantly in terms of where we want to go lending at the policy level, so namely providing budget support to governments in tandem with a robust policy agenda around a sector or an issue like this. So, I think we're looking for opportunities to do more of the TA to make sure they're well targeted that we have the buy-in.

As Indu said, I think there's a particular challenge of the invisibility of this when you particularly think about our political counterparts. So, I'm based in Manila. It only takes five minutes to realize you have a transport problem in the city of Manila in terms of traffic. And that has to be addressed. And in fact, we are at the multi-billion dollar level working with the government of the Philippines on public transport solutions. I was just in Laos of two weeks ago, you know, temperatures of 110 degrees in a period of the year when the farmers were burning forests to clear yields for planting, you know, air quality was horrible. Again, immediately evident that this needs, this needs some policy response and intervention. The critical importance of the evidence base and the relative lack of ambiguity around the evidence base for lead, I think is, you know, it's a substitute for seeing with your own eyes, smelling with your own nose that you know that, that there's something going on here.

So, this is one of those instances where the evidence base is so compelling that it really is a matter of marshaling it effectively in an institution like ours to convince government counterparts about the need to prioritize it. One upside I would say for us generally of the pandemic period is that we actually are getting more traction for health sector work. Even a country like Thailand that starts with high capacity has been engaged with us more and more. Following the pandemic period, we're seeing that in the Philippines where we have a large health sector program going on. So, I think increasingly we see opportunity, particularly through that, what we call a policy based loan. So, fairly large lending activity, you know, billion dollars oftentimes attached to, which is a robust policy framework. So, I think as we talk to our health team in the bank and some of the other sectors that have a relevant role to play here, they've immediately said, oh yeah, you know, this is, this is something that we can attach to that level of work that we're doing across a number of our countries.

So, I think we see a lot of opportunity there. I think the last thing I would say though is that it is just as the challenge of finding champions on the government side, we have a bit of that challenge at the ADB, I suspect at the World Bank of, you know, it's an issue that's multifaceted, particularly when it comes to the interventions you need to get to solutions. And as a result, you kind of look around and like, who wants to take charge of this? Well,

the health team is kind of interested and maybe on the environmental side, you need to bring these teams together. I think that's where, again, you know, Albert has been great in helping to drive the basic case for this. I'll try to play my role. But taking on something like the battery recycling issue is, you know, in a lot of respects, a more complex endeavor, you know, in sort of creating the right incentives identifying a regulatory regime that works and then getting that kind of buy-in. So, there's a lot of work to be done. I'm excited actually.

And to be as a test, to be at an institution where people really do try to say yes when you approach them with something like this, I think is really important that I've been gratified to see that already.

RACHEL SILVERMAN BONNIFIELD:
That's great to hear. So, I mean, maybe this actually is a great transition to Dr Valerie Hickey who of the World Bank. The World Bank has had some large operations in the lead-poisoning space. And I'd be... Could you share a little bit about the World Bank's response, so both the country operations also the knowledge products on the health and economic impacts? And if you have any learnings on, you know, from your history working in this space.

VALERIE HICKEY:
No, thank you, Rachel. It's been so interesting always to be at the last person in a panel because you learn so much and it allows you to circumvent a lot of your talking points. You know, lead is one of the reasons we actually updated our mission at the World Bank. So, our mission is to end poverty on a livable planet because we recognize that we can never have a world without poverty in a world with lead poisoning. And that was based on really trying to understand the analytics. And that's the first thing we've spent a lot of time doing because even just today in the discussion, Atul gave the number of 1.5 million deaths. We did research and we think globally it's over 5.5 million deaths. That's a huge difference. And in the development world where there are so many problems, ambiguous analysis can lead to paralysis. And it's a great excuse for countries to say, no thanks, you're not ready, we don't have the data. And so, for us, focusing on data analytics has been key, not just to get the data right, but to make that clarion call for the economic community to react, not just to help the health community.

Because this isn't just a health issue, because we didn't just look at the numbers of people dying from cardiovascular disease. We didn't just look at the loss of IQ points. Almost 800 million IQ points lost in one year alone. You heard the numbers from Atul, but we also looked at the cost, the welfare costs globally. And it's about $6 trillion or 7% of global. So, this is not just a health issue. These are the numbers that convince ministries of finance that this is an issue they need to look at. So, data and analytics matter, we heard about that.

Now, one of the other threads that have come across in the panel and from Dr Gawande earlier is how, and Rachel, you started by saying, we only need modest financial resources. And when it comes to the forward look, that's absolutely true. Preventing future pollution from lead is relatively modest as an investment, particularly when you look at policy-based investments, for example, they're not particularly expensive. Building the right regulatory framework, there's fewer than 85 countries who have rules against lead paint.

That leaves 100 who don't. You can make those changes. It can take time. We saw it took 40 years to get lead out of gasoline with Algeria only doing it in 2021 as the last country. So, it can take decades, but it has to be done. And as Indu said, it has to be complimented with institutional strengthening, And not just with the Ministry of Environment or the Ministry of Health to be able to actually access this, assess the levels, think about where it's coming, look for for provenance, but with the Ministry of Trade, with the Ministry of Education. So, this is a multi-sectoral problem, but that can be a relatively modest financial investment. And it can be done across more than one heavy mineral or more than one pollutant. One of the things we've found is it's not just lead poisoning that is having these huge welfare costs and these huge numbers of deaths. It's things like cadmium poisoning, another million, million and a half people dead a year, asbestos, which was overly finally outlawed fully here in the US last month, it's still used in 16 countries as a major construction material killing a quarter of a million workers a year.

And those are people mostly doing day laborer who are keeping their family in food. So, we can think about lead and the other minerals and build a strong regulatory framework just as the new global framework for chemicals calls on us to do. But that's the forward look. We also have to think about the fact that people already have huge amounts of lead in their blood, in their bones. So, we have to think about going backwards and retrofitting the infrastructure and changing out the landscape. And this is expensive. Just in one community in Zambia alone in the copper, belt where copper has, where lead has been part of the tailings coming out of copper mining, just to help 30,000 children, it costs $65 million. And this is to do soil rehabilitation, to do infrastructure rehabilitation. That's one community in one very poor country at a time when 60% of low-income countries are in debt distress. They don't have a huge amount of money to share, to spare. And they're coming out of a COVID hangover.

Or just education losses mean that 70% of ten-year-olds are illiterate. So, Scott rightly talks about this lack of demand and it's there, but in part it's not there because just because they don't know about lead, it's because there's lots of other stuff going on too. And so, that's why when we've started thinking about how do we go back and rehabilitate already polluted areas, help kids, help adults, we have to think about where are the synergies? And this is

where, for example, in our water program, we all know climate change is a story of water. And so, non-revenue, water, water that is wasted by coming through pipes and leaking away at a time when too many countries are suffering from drought is a huge financial burden on countries not to mind a healthcare and economic burden. So, countries immediately recognize that there's a financial bonus from a retrofitting their water infrastructure to reduce non-revenue water. So, we're helping them do that and remove lead fittings when they're doing it, because in an expensive world, that's about the cheapest way you can get rid of lead and do rehabilitation by doing it when you're doing other things in the same infrastructure.

So, those are some of the lessons. The other two for us, finally, I think that are key, and this is something that hopefully we'll work more with ADB with USAID with others, is how do we make financing more available, including for the private sector? Because so many of the sources of lead are in consumer supply chains, are in production processes that are managed and owned by the private sector. And if they're going to begin to take up the need to change those production processes, to change the type of equipment they need, to replace lead and turmeric for something else in turmeric that will give that same sense to people, they're going to need money. And that's where MDB finance is important because we can help de-risk for the private sector, whether it's through co-investing for some new innovative approaches, whether it's through specific risk reduction, whether it's through credit enhancements so they can get access to cheaper finance, thinking about private sector finance is important, not just public sector finance.

And then finally, partnerships, not just with everybody around this room, we're very proud that we co-chaired the Inter-Organization Programme for the Sound Management of Chemicals, the IOMC, because it's going to take an awful lot of sectors. We need that partnership between the health sector and that the economic sector between the ministers of finance and the ministers of health. We need to work with ministers of education so that they begin to think about where their kids are playing. And as the ground on which those kids are taking recess, clean or dirty is the water they're drinking clean or dirty? So, we need partnership at all levels. So, I think when we think about the data and analytics, finance partnership applied both to the forward look, which is cheaper and much more tractable, preventing future pollution, but also thinking about what's the cheapest, least expensive way to retrofit because we can't forget the people who are already poisoned.

RACHEL SILVERMAN BONNIFIELD:
Now, that's a great point. And I mean, I think, it's both a great point as a standalone point of thinking what through, what the overall bill and scope of this challenge is. But then also it

does underline the importance of prevention, right? Every month that we don't have bands on lead paint, that's lead paint that's going on to millions of buildings around the world, it is going to be very difficult and expensive to try and retrofit all those buildings pair, you know, I mean lead paint mitigation and remediation. That is, anyone who's renovated an old house knows that is expensive business. And every month, we don't ban lead paint and get rid of it is more lead paint to going on buildings that's going to have to go through that process. So, we're coming close to time. And I want to turn back to Dr Bhushan, you know, maybe to react a little bit to what you've heard from your colleagues in the development bank. And then one thing I'd really like to hear and has been underlined by Dr Hickey's comment is, you know, we sort of have two problems at the same time actually with lead poisoning that are similar but distinct.

One is this kind of broad based, low to medium level of lead exposure that we see pretty widespread. This is where the one in two number comes from. These children, they are being subtly affected, they're IQs are lower, their cognitive development is affected, but it is for these children mostly invisible. They're mostly not symptomatic. There are also people who are occupationally exposed, who are living next to contaminated sites, who have extraordinarily high blood lead levels, acute lead poisoning who need medical intervention, who need, who are really having their immediate quality of life destroyed. You know, how do you think about tackling those two dual challenges in a context like India?

INDU BHUSHAN:
Well, as far as India is concerned, I think we have to first look and get the data on both of these issues that what is happening, because right now, if you go to even the best medical colleges in the country, they don't have the testing capacity or knowledge for lead. And we've had a lot of stories. And when Dr Gawande was there, he heard the stories that children come with the lead poisoning symptoms, but no one can diagnose that. So, I think we are starting from... A very low base where I think creating database in terms of identifying the problem, both for children and adults, and also sources of lead, is the key. And our own goal is, with many other partners, but with Pali India Foundation as well, is that in next three to six months, we will have very credible source of data, because like you, our country is also undergoing elections, and we'll have a new government in June. So to the new government, we want to present a proposal that this is the problem and this is based on this evidence, and this is the approach that you should be taking going forward.

And hopefully, we'll have a mission where there'll be capacity at local level, at district level, and up in terms of testing for lead so that we can identify the problem. And also training of doctors and others so that they can address this problem, but also looking at sources and

working with private sector, as Dr Hickey was saying, in terms of recycling of batteries in mines and other sectors, that we focus on that so that the contamination also stops.

RACHEL SILVERMAN BONNIFIELD:
Maybe just one final question to you, and other panelists as well, but I think the point about invisibility and demand is a very important one, and it does seem to be a bit of a chicken and egg problem, but also just the nature of the problem, as Scott was very eloquently sharing. In the US, part of how we've gotten a major government response has been through civil society action, from communities that were being poisoned and to sort of step up to call attention to it. Do you see a path to sort of engaging civil society more broadly around this issue, and having some of that demand from the bottom up instead of just trying to target top policy-makers?

INDU BHUSHAN:
Absolutely. And that is what this India Working Group is. And India Working Group is not a government body. It's a body which has the presentation from very different sections of society, including civil society, and development partners, and others who are part of this. And in India, because health is a state subject, and so we are also working with states and creating... trying to create demand there and trying to identify because the problem is so vast, and we have 36 states and UTs, and working with all of them together may not be possible, so we are identifying and prioritizing a few states where we can work with and follow the same approach that you're saying, that working with civil society and NGOs, that we create demand for this and sensitize the governments to take action.

RACHEL SILVERMAN BONNIFIELD:
Excellent.

VALERIE HICKEY:
If I can just add one point on that. In low-income countries, it's even more important to work with civil society, not just from an advocacy base and India is absolutely right, that is key but also because civil society tends to be the capillarity through which development is delivered. It's civil society that is often doing things like putting in water infrastructure, providing primary health care. And if they're not aware of these issues, and if they can't help be part of measuring and raising those data, then we'll end up again in a space where we're missing a key partner at the table.

RACHEL SILVERMAN BONNIFIELD:
Alright. Well, thank you to all of our panelists for joining us. We're going to break very shortly and have one final discussion. Thank you.

INDU BHUSHAN:
Thank you.

RACHEL SILVERMAN BONNIFIELD:
Excellent. OK. Well, welcome back after that very short interruption. I'm delighted to welcome back Dr Atul Gawande to the stage and also to introduce Emily Oehlsen, who's the Managing Director of Global Health and Well-Being at Open Philanthropy. And for this final little mini-panel, we're going to be forward-looking of what's coming up, what's on the agenda, and what do we have to be excited about in this space. So Emily, I'm delighted to hear that Open Philanthropy has recently elevated global lead exposure as a focus area. Can you maybe tell me a little bit about what this means, why you've decided lead should be a priority, and how this overall fits into Open Philanthropy's philosophy on grant-making and prioritization?

EMILY OEHLSEN:
Absolutely. Let me start by just thanking you, Rachel, and Dr Gawande for having me. Open Philanthropy is very excited to be able to contribute to this issue alongside the leadership that CDG and USAID are showing. So we recently at Open Philanthropy we're a foundation that gives away a couple hundred million dollars a year on global health topics, among others. And we recently decided to expand our grant-making targeting lead exposure in low- and middle-income countries at the end of last year. This builds on grant-making that we've done since 2019 at the recommendation of GiveWell, which is a partner organization that we work with very closely, including a grant that we've made to the Center for Global Development and Rachel's work. So to say a little bit about why we're really excited about this opportunity and what's motivated it, so Open Philanthropy's mission is to help others as much as possible with the resources available to us. Many foundations begin with a particular cause area in mind, and then they try to do the most good to maximize impact within that cause area.

One thing that sets Open Philanthropy apart is that we are cause agnostic. So we come in and we have a huge research team that's dedicated to trying to find the issues where we think we can do the most good. And the criteria we use to identify those issues, to echo some of the language that Justin used earlier, are three. The first is important. So how many people are affected by the problem and how deeply neglected? How much philanthropic funding is targeted towards combating whatever the problem might be? And then tractability. Can philanthropic funding actually make a difference? And lead exposure scores vary highly across all three, which as we've heard over the course of this session is very unusual. So just to repeat, in terms of importance, the actual numbers of deaths we have a range, but it's in the ballpark of major killers like malaria, HIV/AIDS, tuberculosis. So

we know it's extremely important. In terms of neglectedness, Rachel mentioned this earlier, but we think between $10 and $15 million of philanthropic funding is going towards this issue every year.

That's 1,000x less funding that is dedicated towards HIV/AIDS. So just as a point of comparison, we think it's really relatively neglected. And then tractability. There are these great instances on relatively low funding of success. We can see progress actually happening in the world. And one thing we do a lot at Open Philanthropy is try to put together what we call cost-effectiveness analyses. We're trying to estimate how effective we think every dollar we could spend is. And we did some recent work to estimate a potential grant to continue to combat lead contamination and spices in Bangladesh. And we think over the next five years we can save about 20,000 lives at about $100 per life saved, which is incredible. You don't see those numbers every day, at least in the work that we do. So we think, to summarize, we think lead is important, neglected, and intractable. And that is our motivation for wanting to expand. We're really grateful, as I said, for the leadership that CGD and USAID are showing.

I guess also just to end on a point of humility, we've known about this issue for a long time. As I mentioned earlier, GiveWell recommended the first grants to us in 2019. And I think we've moved too slowly on this topic, and I take some personal responsibility for that. But I think we're excited to continue to push it forward and try to accelerate the progress that's already underway.

RACHEL SILVERMAN BONNIFIELD:
Thanks, Emily. And of course, I should say we are personally grateful for Open Philanthropy's support in this area. Atul, could you maybe share a bit? You talked a little bit about partnering with Open Philanthropy earlier. Can you talk in a forward-looking sense about how you see some of these broader partnerships with philanthropy, other development partnerships going forward, both within the US government and obviously in the broader world?

ATUL GAWANDE:
Well, I'd say it falls into a couple of buckets. One is around innovation, research, and development, and that is a space where you can partner on doing that almost anywhere in the world and advancing our diagnostic tools, advancing the approaches that we take and the knowledge in the area, our evaluation of what works, what doesn't work. I think that's incredibly important. I'd say number two is it starts at the countries. We need to have awareness grow, but then when there's awareness, we need to be able to develop what I call the playbooks for how we make a difference. And you know, I'd look to the future by looking back a little bit and give a couple of examples. You know, New York City, you talked

about, is one of the few that actually surveils for toxic metals. And they recognize that in the immigrant community from the country of Georgia, there were very high lead levels that were appearing, and it led to recognizing that spices in Georgia were being contaminated, adulterated with spices.

And then that led, with the partnership of the New York City Public Health team, to work that the government of Georgia took on lead spices, spices being added to lead and making their policies tighten up across the board. And within five years, they had not only addressed the spices issue there, they had seen a two-thirds reduction in blood lead levels in the hardest-hit parts of the country. In Bangladesh, which both of you referred to, it was really a PhD student who put an effort on finding out why are the lead levels so high, tracing it to turmeric, figuring out that in turmeric, the lead is a color brightener and lead chromate is a yellow color. It also adds weight to the spice. So when you sell by the pound, it also means you make more money. And then you had the challenge of a government that doesn't have that much money for enforcement. Once they had the laws on the books, they really devised an innovative approach, which was really creating television-ready scenes. They would go into a spice market.

They'd have what's called an XRF, I call it an XRF gun, but it's a detector that looks like a little laser beam kind of thing. And you can measure directly on spices what the metal content is and immediately find on the spot. The government had brought television cameras along that activated the communities to recognize the issue. There's nothing more powerful than mothers worried about whether food is getting to their families that's poisoned. And even though they didn't have a lot of resources, that publicity led to a massive reduction in the lead levels from the sources of lead in Dhaka with direct effects on the children's blood levels. Lastly, I want to say Brazil, they have been taking on the battery problem. And they have come up with what they've called extended producer responsibility requirements, that if you produce lead acid batteries, that you are expected to be responsible for the life cycle of that battery. Many of the batteries were being recycled in slums, where you would pour out the water in the battery, which contains lead, recharge the battery, and then put it back on the market.

Exposes the workers, exposes the families, leached into the ground, and you saw these extraordinary acute toxicity levels. And that problem of informal recycling is reduced by 80%. Finally, Thailand has then, I think, pioneered an effort that they are requiring, you know, you can still have a problem that the formal recyclers can have poisoning of their workers. And they require, in certain industries, including the lead recyclers, they have to measure worker lead levels and report them to the government. And then the government is taking action on those as a way to do that. So we're still in the early days of learning how

to apply lessons. But what gives me hope and is the pathway in the future is that we're working now with governments to develop their lead plans. Governments like you are helping us devise and understand more sharply what are the playbooks, who are the... where are the countries we can learn from. And we're creating south-to-south, east-to-east learning in ways that are enabling countries to learn from one another and us to... there's lots that we can do.

RACHEL SILVERMAN BONNIFIELD:
That's great. And just, you know, to follow up on the point about the XRF analyzers, you know, these are devices. You can hold them in a hand, walk around with them. They're, well, on the one hand, they're expensive, but they're also extremely not expensive given what they do. They're about $30,000, roughly, per piece. And they make the lead not invisible, because you can go around and the highly technical term is zap things and see, you know, how much lead is in them. And that means that a small enforcement unit equipped with one or two of these can have an outsize impact, as in Bangladesh. Turning back to Emily, sort of as you look forward to the next several years now that this is on the agenda, where do you think that new resources for lead poisoning can do the most good? Do you have kind of ideas about where open philanthropy should be spending its money in the space? And what kinds of programs, interventions, research are kind of on your agenda for what you'd like to see?

EMILY OEHLSEN:
Absolutely. So we're thinking about organizing our strategy in three big buckets, and I'll echo many of the themes that Dr Gawande mentioned. But maybe the first thing I'll say is that we want our strategy in this area to be extremely iterative. So we are already working and will continue to work with a lot of the organizations that have been represented in this session, and then many that have been mentioned in Pure Earth Lead Exposure Elimination Project and others. So our three pillars, as we're thinking about it now, are measurement, mitigation, and mainstreaming. So to start with measurement, we think there are two big areas of initial progress that we'd like to see. The first is around blood lead level surveys, and this has been mentioned already. So we have a lot of evidence that this is an enormous problem, especially in low- and middle-income countries. But it's not the case that there's routine surveillance everywhere, and so we want to support that so that we can better understand both the magnitude of the problem and then also to develop a better sense of where it's coming from.

And so that's the second piece around source identification. We know that lead can come from lots of different sources, paint, spices, cookware, soil contamination, batteries. And it's very difficult to make progress if you don't understand where it's coming from. And so at

this basic level, we want to understand how big the problem is and then what are those sources where lead is affecting people. The second pillar is around mitigation. So we want to take the cost-effective, low-hanging fruit opportunities now to mitigate exposure to lead, even if that looks a bit messy and opportunistic ex-post. We think the major tractable sources, at least right now, are around spices and paint. That's where we've seen some great initial progress. In a relative sense, we think the economic incentives for lead in those products is a bit weaker, and so there's a clearer path to progress there. As Dr Gawande said, we also want to be developing playbooks for some of these harder-to-reach sources, that then ideally we can experiment, pilot in several places, and then expand geographically.

And then last is mainstreaming. We want to contribute to the effort to bring this up, the global health agenda. We think that a huge part of that is ownership by national governments, and Valerie mentioned this earlier, but helping to support where we can capacity in national governments to take on this issue, working with USAID, other aid organizations, multilaterals. We think that it will involve a lot of events like this one, convening groups to collaborate, getting input on our grant-making strategy. We anticipate developing technical resources and guidelines for the UN and other multilateral organizations. And then we're also really keen to talk to other philanthropists who are interested in getting involved. We want to be bringing in others to help us in this effort, and so that's a huge part of our focus at Open Philanthropy. So yeah, just to sum up, our main areas we think are going to be measurement, so blood lead level surveys and then source identification, mitigation, focusing initially on paint and spices but then expanding out from there into harder-to-reach sources, and then mainstreaming, working with national governments, aid agencies, multilaterals, and then we hope many, many more philanthropists who become inspired by the work that everyone here is doing.

RACHEL SILVERMAN BONNIFIELD:
That's all very exciting. And I guess for final words, turning back to you, any closing thoughts, reflections on the path forward?

ATUL GAWANDE:
Yeah, just to say, I think what you see here is what we hope to create, which is government working with philanthropy working with experts and think tanks, as well as producers, industry, and a variety of other folks. There isn't the mechanism at this point to coordinate all of these activities, and I think one of the things that you'll see is USAID trying to catalyze a way that we can all work together in a decisive, in an organized fashion over the next few months, and we'll see whether we're able to pull the pieces together to make that happen.

RACHEL SILVERMAN BONNIFIELD:
OK, so stay tuned, everyone. It sounds like there's exciting things coming down the track, both from our partners and also CGD will continue to stay engaged in the space and continue our research and convening role. Thank you again to all of our panelists and guests. It was a great pleasure to have you here and to hear what each of your organizations is doing, and we really look forward to continuing the conversation and collaboration. Thank you. (APPLAUSE) (UPBEAT MUSIC)