Final Transcript: A Dose of Reality

Hello, I'm Vanessa Corwin
And, I'm Kathleen Kaan

Robert Kennedy Jr. is our secretary of health and human services. We have epidemics of bird flu and measles. Research grants have been abruptly terminated. Health budgets and staffs have been slashed, all of which is putting our health in jeopardy. With us today to shed some light on what's happening and how we can protect our health, is

- Dr. Bruce Y. Lee, Professor of Health Policy at the City University of New York Graduate School of Public Health and Health Policy
- Dr. Lee is also Founder and Executive Director of the School of Public Health Center for Advanced Technology and Communication in Health and Artificial Intelligence, Modeling, and Informatics for Nutrition Guidance and Systems Center.

VC: Welcome, Dr. Lee. Thanks for joining us today.

BL: Great to be here, Vanessa.

VC: So, since RFK Jr. has become head of Health and Human Services, he has been steadily undermining public confidence in vaccine safety and efficacy. What can be done to stop him?

BL: We have to remember the history of vaccines that, a lot of the vaccines that are being used have been around for many, many years, in many cases, decades. And vaccines have been among the greatest public health success that we've seen throughout history. Before vaccines there were diseases like smallpox, or every summer people had to worry about their kid's getting polio, maybe getting paralyzed. And then we've had various epidemics and pandemics throughout history. And life expectancy used to be much shorter. Midlife was in your 20s. It's a completely different situation now. And the challenges with vaccines have been in part a victim of their own success. They've eliminated a lot of the problem so we don't have to worry about them. So, people don't realize how devastating these problems used to be and now can be again if we lose sight of what vaccines can actually do. The measles is a perfect example. It's eliminated, completely eliminated from the US in the year 2000. Now we're having to worry about it again.

KK: Is it true that the canceled flu vaccine meeting was rescheduled and held behind closed doors? If that's true then why have we not heard anything about the outcome? This is hardly the transparency RFK promised during his confirmation hearings.

BL: Yeah, so what typically happens is there's a meeting of the FDA, the Food & Drug Administration, there's also a meeting of the World Health Organization, the WHO, and historically since first of all the United States has had great influence in the World Health Organization, there's been a lot of interactions between the international agency and the national agency and there's coordination, because they have data, the FDA has data, they share data. What are the best strains to put into the flu vaccine? That's cooperation. It's much better

to have more information and work together against a common enemy. The common enemy is the flu virus. But what happened was, there was an initial cancellation of the FDA meeting, and that includes external advisors, top people in the field to give advice to the FDA. That was probably done without much thought. You have to say, hold on a second, we've got this flu vaccine coming up, how are we going to decide about that? So, the word is that one thing has changed. FDA officials were allowed to go to the WHO meeting, or at least participate in it, so there was some exchange of information but it's very unclear of like what the plans are going forward and what's been happening because again, there are real things we have to worry about. It takes about six months; you have to have a six-month advance manufacture lead time to get the vaccines made and distributed. So, we're already in April. We're rapidly approaching the time when you need to start vaccinating which is September, October. So, what's going to happen there? So, it's unclear and that's left a lot of people quite confused. We also have to remember there's a whole lot of coordination that needs to occur to get the flu vaccine out there. Should we expect the vaccines to arrive on time? Will they be the right vaccines? Will they even be manufactured? Most likely they will be manufactured. All that stuff is unclear right now.

VC: So, you think we will have a flu vaccine this season?

BL: That's the hope and also a lot of these pharmaceutical companies, they already have contracts in place. They made decisions to allocate certain manufacturing lines to the flu vaccines. They have to do that in advance. One of the things that pharmaceutical companies don't want to do is they don't want to let their manufacturing plants or lines be idle. We've got to go ahead with particular plans because we have contracts to do these things. So, the hope is that there's going to be enough pressure to actually do the right thing public health-wise.

KK: You know, since the National Institutes of Health has halted funding for research, canceled programs intended to discover new vaccines, what next, what can people do? Just wait, and see?

BL: That's concerning because again, we have to think about history. This is part of where the misinformation comes. There's this argument that well, you know, vaccines are there just to make money, things like that. We have to remember that actually they are much less of a money maker for pharmaceutical companies than many other types of medications. So that's why historically you actually saw a shrinkage of manufacturers willing to produce vaccines. That actually occurred throughout much of the 90s. So, a lot of companies either got rid of their vaccine manufacturing line, or they consolidated, or some of the vaccine manufacturers went out of business because they wanted to shift to other things.

VC: Is this why some vaccines are manufactured abroad?

BL: That's part of the reason. That's part of the reason, yeah. And also then in the 2000s, different policy makers had to come up with more incentives to incentivize pharmaceutical companies to manufacture vaccines so that's one of the reasons why Gavi arose. The Gavi alliance arose because they could then establish these advance market commitments to convince manufacturers, OK, if we give you the money in advance, could you please manufacture these vaccines specifically for lower- and middle-income countries? And that's why we saw, OK, manufacturers are willing to stay in the game. And then the COVID pandemic made them realize, OK, this could be profitable from a business standpoint. So, if you are going to take away incentive, and part of

the incentive is, like, people doing research on vaccines and things like that, then the concern is that once again, pharma companies will move away from manufacturing vaccines and then who's going to make them?

KK: Some researchers are resigning over Kennedy's vaccine policies. Do you think they should stay? What do you think they should do to fight this?

BL: Yeah, the concern is of course we are going to have a significant brain drain from the government organizations or even from our country because there's a lot of, I'm hearing a lot of people talk about it. Some of my colleagues talk about it, about moving to other countries, because this is not a healthy environment for science. We've already suffered over the past two decades, a real drop in NIH funding, like if you count for inflation. You know, it's not as if people say, I'm going to go into scientific research because I want to become really famous and make a lot of money. So, people who are doing it are doing it because they really actually love what they're doing or they believe in the impact, they want to help society. So, first of all you don't want to lose those folks. But it's a bit much to ask them to stand up against all this like pressure that they may be facing, or you're hearing stories about people who are being censored in terms of what they can say and those things like that, or being pushed in certain directions to do something that goes against their conscience, that's tough. I do realize that it's a personal decision and we can't blame people for not wanting to do that. But it's a shame, so we have to think about if they can't help the government, what are the alternatives? How can they continue to get resources to do their work? That's what we need to be thinking of as a society.

VC: Now does the possibility exist that some vaccines that are around now will be discontinued? And could any government stockpiles, could they run out?

BL: So, I think the current vaccines, like we were talking about, like the MMR vaccine, the hepatitis vaccines, the ones that are standard vaccines, right now, a lot of manufacturing is in place already to do that. We don't know the specifics of the contracts because those are negotiated, things like that. So, I would suspect that immediately in the short term we'll probably have those vaccines available. But who knows what's going to happen in the longer term. The stockpiles are a different story. Because you don't know the financial arrangements with the contracts with those, but there's probably going to be less clamoring if those aren't available. Look at actual surveys throughout the country and the vast majority of people understand and believe in the value of vaccines. They just don't happen to be the loudest. Social media, you don't know how many bots out there, spreading misinformation. But the majority of people. They've seen the benefits of it, so they'll want it. They'll say hey, where are they? I need to have my child vaccinated, or I myself need to get vaccinated so there will be that clamor, but with stockpiles, no one's clamoring for the stockpiles. So, we only learn about the problems after the problem. After… it's like toilet paper. If you have plenty of toilet paper no problem, but if you hear where's my toilet paper then you get worried, right?

VC: RFK is a font of misinformation. This guy, he commented on X, first he said that measles, the MMR vaccine, that's the way to go, and then he comes out endorsing some very sketchy individuals, and he said (things like) vaccines are a personal choice, this kind of thing. And he even said that the best way to deal with the measles epidemic is to just get infected. So, what is the best way for people to sort out this font of misinformation?

BL: Just one quick thing about the whole personal choice question., vaccines are protective for the person but it's also protective for everyone else. So, we have to remember that we are all connected in society, we affect each other, so we can't go off and say I'm going to do whatever the heck I want and not affect anyone else. That's the key thing to remember with this. Regarding misinformation and disinformation, the key thing is, we all have to learn how to think critically. We all have to learn how to like sort through information and understand where it's actually coming from. So first and foremost, when someone says something and says, "just trust me," don't. Right, because true scientists will say, the evidence suggests, and here's the evidence. Look at the evidence yourself, here are the studies and things like that. So, one thing is, it has to be backed by legitimate sources and legitimate facts. Another thing that I'm seeing is that people are talking about the word "study." And I remember I was listening to someone talk once and that person was saying, yeah you look at the studies, and when someone asked that person, well, what studies? That person said, well, I tried it myself. That is not a study. You say studies? Where is it actually from? Is it a legitimate source? So, what's the actual explanation? When we talk about legitimate sources, historically, a lot of the government websites have been legitimate sources, like CDC, NIH, the National Library of Medicine, Medline, those things like that. Of course, the concern right now is what is going to be put in there. So, you also have to look at other sources. There are major health systems, academic centers like the Mayo Clinic, Cleveland Clinic, Johns Hopkins, Harvard, that put out these things and they make it very clear where the information is from, who's writing it, those things like that. The other thing you can do is double check. Choose two or three legitimate sources. You may also want to choose sources outside the country too. Go to Health Canada. Go to World Health Organization. Are they saying the same things? These are ways to double check. So, we have to learn how to like, double check these things. Don't listen to a certain personality just because they're famous.

KK: You must educate yourself and not take anything for granted, there's so much happening at one time. So, it's good to go to other resources like that.

BL: Yeah, one of the problems is science has sort of dropped off, I mean, everyone needs to learn science. Science is how we describe the world around us. It's not this esoteric subject that only a small percentage of people should know. Everyone should at least have some basic understanding of science.

KK: Well, I think this country doesn't respect scientists anymore. Especially during COVID when Dr.Fauci was standing there talking and Trump, on the other hand, said drink, what did he say?

BY: Bleach, and all that stuff like that.

KK: Yeah, drink bleach and it'll go away.

BY: I don't know if it was actually recommended but it was mentioned as a possibility. Those things are dangerous, you don't want to play around with bleach. Don't even mention playing around with bleach. That can lead to poisoning, or damage.

KK: What about bird flu? RFK was reported to have said that farmers should preserve those birds that don't have it, don't have the flu, and let the virus run its course. Regarding the bird flu vaccine is it only for humans? How effective is it and who should get it? We live in the city. We're not on the farm.

BL: There are very few diseases where run its course is the solution. The danger of allowing something like the bird flu to spread is, first of all, you're losing a lot of birds, and you're losing a lot of eggs. That's one of the reasons why the prices of eggs have gone up. So, you're potentially devastating the bird population. Two, is its now affecting other animals, dairy cattle or what have you. So, you don't want to just let it run its course. And then finally if it were to jump to humans, you could lose humans. You can't suggest something that could be deadly to run its course. So the concern is as the flu keeps spreading, avian influenza keeps spreading, first of all it will continue to hurt birds and other animals, but every time it multiplies there is the risk of it mutating or there's the risk of its swapping genes somehow and gaining the capability of not just infecting humans but the big concern is, it's already infected some humans, but the big concern is it gets to the point where it can be transmitted from human to human. That's where we start to really worry, right, because that's what can start epidemics and pandemics. Science suggests that's what happened with the COVID pandemic. It achieved the ability to jump from, like, bats or some other animals to humans. That's the concern. That's why we should be worried about it.

VC: Is there, I just want to clarify, there is a vaccine, right? That humans can get against the avian flu, is that right? Like poultry workers, people like that?

BL: Yeah, so the issue again is also that we don't know how the strains will kind of change and mutate, and those things like that. So, there are vaccines against certain strains of the bird flu that humans can take but you don't know what the ultimate thing will look like if it jumps. So, we aren't necessarily, we don't have an armamentarium in place necessarily to deal with it. There's also the chance that the human flu vaccine may offer some protection but that's unclear. It's unclear until we see what actually jumps. That's why it's important to monitor this thing. That's why it's important to control it and that's why it's important to know exactly when it might jump so that you can quickly spring to action and have plans on how to deal with that. All of those in a big part were absent in 2020. And that's why we had so much trouble with the pandemic.

VC: Now in the face of all of this misinformation about health and about vaccines, how does AI figure into all of this?

BL: Well, one problem is that it looks like a lot of the misinformation and disinformation is being generated by AI. So, you have these bots, you can have interactions with someone on X and you don't know if it's a real person. Nowadays the verified thing doesn't have any meaning because like if you paid for the verified badge then you can get it. It can be paid for and immediately staffed by a bot. You have no idea. So, they can be responsible for spreading, either creating misinformation or spreading it. So, I remember, what was that, there was an issue where AI was generating some images or pictures of Taylor Swift, or something like that, a while ago? Similarly, you don't know. It could be generating pictures or images of something showing something that never really happened, never really existed, like trying to show some kind of vaccine side effect that never really existed, or trying to show someone doing something with a vaccine that didn't actually happen, so now we have to be worried about not just text misinformation but also image misinformation, and I should say disinformation. Misinformation is, oops, I accidentally gave you some misinformation. Oops, I actually told you that that suit would look great on you but it looks horrible. Sorry. That's misinformation. Disinformation

is, you should wear that suit even though I know it's horrible because you're going to look terrible and I'm going to win. That's disinformation. Disinformation is deliberate.

KK: Is there any… what's the word…is there anyone looking over or responsible for AI, what goes out, is there some part of this crazy government that monitors?

BL: One of the issues or problems is that it was recognized during the COVID 19 pandemic that misinformation and disinformation had become a problem, so the existing leadership at the time at the NIH, Francis Collins, etc., they were interested in establishing an initiative to study misinformation/disinformation and ways to counteract it. I was actually invited to talk at one of the workshops on misinformation and disinformation held by the NIH and then subsequently the plan was to issue a call for grants, a call for proposals where they could award experts around the country in misinformation and disinformation technology like AI and then study ways to deal with these things. So, one example is to find ways to identify misinformation. You can use AI in a positive way to help identify misinformation. That, for some reason, was completely shuttered, I believe it was maybe a couple of years ago, either one or two years ago. And that made headlines. And when that happened some people interviewed me and asked me because they knew I was involved in the workshop, etc., and this is one of the areas that I'm involved in. And everyone around the country was confused. All the experts, like why? This is a huge need. So that being said, we don't know if there's anything out there that is actually monitoring what's going on. And if there's any indication, there are some people out there suggesting that whatever can be said should be allowed to be said. That's the opposite. And then there's also been cuts in communications officers and things like that so who knows what's going to happen.

VC: Exactly. So as consumers, as patients, what vaccines should we get now?

BL: Well, there's the standard vaccines for kids that's recommended and have long been on the CDC website. If for some reason that changes, you can look at a lot of like state websites that probably still have the… I want to emphasize that states are the ones that put in vaccine requirements, not the CDC, not nationally, but most of them have agreed with each other in terms of what vaccines should be required so you can look at multiple states like California and New York or some other states to see what they require so kids can get those vaccines on the right schedule. That would include things like the MMR vaccine, hepatitis vaccine, pertussis, tetanus, things like that. And if you're an adult and you haven't gotten those vaccines you should probably get them as soon as possible. Or check to see which ones of those you've gotten and double check so there's that and there's also talk of, OK, not everyone who might have gotten the measles vaccine may be protected so you want to double check what type of vaccine you got in the past, because there was a period of time where an inactivated vaccine was being given and that doesn't give you as good protection as the current vaccine so you just want to double check that. OK, that being said, then there are the adult vaccines and the regular annual vaccines. There are adult vaccines like the pneumococcal vaccine which you want to get at a certain age and then there's the shingles vaccine. Anyone who's gotten shingles will tell you how horrible or painful it is to get it so it's preferable to get the vaccine. And there's the annual flu vaccine. The annual flu vaccine tends to range in efficacy from about 30% to 60% depending on how well the strains match. So, it's not going to offer you full protection but it can significantly reduce your risk of being infected, considerably reduce your risk of having bad outcomes and can actually shorten, if you do get symptoms, shorten symptom length. It's beneficial to get that every year. And then there's the COVID vaccine. So, the challenge with the COVID vaccine is, there hasn't

been clear recommendations, but the thing is the COVID vaccine, the protection tends to wane after four to six months and the strains keep evolving and changing. So, it's probably a good idea to get at least updated on that once a year and then if you are at higher risk maybe every six months. Those are the vaccines to look out for.

KK: I have a question about the measles vaccine. I'm sure people that are older got it when they were babies and that's going to be hard to figure out what vaccine it was. Would it hurt to get the new measles vaccine?

BL: That's one of the reasons why they have a recommendation as a cutoff, I think it's 1957, if you were born before 1957 there's a really, really, really high probability that you got the measles at some point so you're probably protected. Measles vaccines didn't become available until the 60s. But there's not a harm to get the vaccine. Nothing's 100% safe, of course. There's always a risk, you could have swelling, and localized issues, a very, very small percentage of people may get more severe reactions. There's always that, but the risks are very low so there's usually no harm in getting an extra measles vaccine if you can't look back and tell if you were actually vaccinated. Again, the measles vaccine, in the form of MMR vaccine has been given to people for years. Millions of people around the world for years and years and years.

KK: Can you also suggest any resources where people can go to get reliable information on vaccines?

BL: Yup. So historically, and I want to emphasize historically, the government websites have provided reliable information, a lot of HHS websites, CDC, NIH, National Library of Medicine, those have been reliable. Historically. I cannot vouch for what's going to happen next so I would urge double checking everything. So, if you see something on a government website you probably want to double check so, Mayo Clinic has good information, Cleveland Clinic, Johns Hopkins, Harvard. Make sure it's actually their sites so double check the URL. There's been incidents of people putting up fake sites, things like that. State governments, the health departments tend to have information as well. Again, double check that they're the right health department. The NYC Department of Health has good information. And as I mentioned also you can double check with some foreign sources. Health Canada, World Health Organization. It's a good idea to look at least two sources, if not three. When you see something in three different sources you could probably rely on that most likely, but those are the sources that I would opt for. There are also established news sources but those sources should link to those reliable sources. If you see something on the ABC News, which has long been a reliable news source, or like NPR, you can say this is probably reliable but you want to make sure that they link to reliable sources, where did they actually draw it from. Because there are incidences where you might have an opinion in one of these reliable… like the New York Times might call for an opinion. That doesn't mean the New York Times supports this information. It's an opinion. So be very careful about that when it comes to news media sources.

VC: Excellent. Thank you so much. This really clarified a lot of things for us.

BL: It's great, Vanessa and Kathleen, that you're doing work to get information out there, strictly science information. I feel like, you know, if you were to ask people, like, you know, name the Avengers. Or name the latest Oscar winner, things like that, people might be able to say, etc. But if you were to say, name some top scientists, or name some scientific breakthroughs, or whatever, that would go down very quickly. And why is that the case? It should be exciting to talk about science. It should be exciting to talk about what scientists are doing. That should be common. And it you go to other countries; Japan is an example. People talk about science

on a more daily basis. I like the idea that you have as a topic a scientific topic and the fact that you're getting stuff out there so kudos to both of you.

VC/KK: Thank you, thank you very much.

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