Tuesday, May 1, 2024 / One Flu Over The Cowcow’s Nest

[HALF SECOND OF SILENCE]

[BILLBOARD]

SEAN RAMESWARAM (host): We don’t have to worry about bird flu right?

HADY MAWAJDEH (producer) as a BIRD: Maybe?  
  
SEAN: That’s a bird thing! It’s right there in the name!

HADY THE BIRD: Who knows?!  
  
SEAN: But then a dang cow went and got the dang bird flu.  
  
 HADY THE BIRD: Uh-oh.

SCORING IN

*<CLIP> CBC: Jason Schmidt, dairy farmer: It's like Oh boy, that's my industry and I know there's going to be some fallout.*

SEAN: And then at least one human …   
  
 HADY THE BIRD: Oh no.   
  
SEAN: … got the bird flu from a cow we think?

*<CLIP> KVUE: Anchor: A person tested positive for the bird flu and was exposed to dairy cattle that authorities believe were also infected.*

SEAN: And then because the cows have the bird flu there’s bird flu in our milk –   
  
 HADY THE BIRD: Oh no!  
  
SEAN: – at least if you’re drinking that cow milk.

*<CLIP> NBC: Anne Thompson, correspondent: Veterinary epidemiologist Andrew Bowman is testing milk from six states and finding traces of bird flu where he shouldn’t.*

SEAN: But you won’t get sick if your milk is pasteurized. Which, for most Americans, it is. And the U.S. government is in control! And they’re surely doing a great job. Right?

SCORING OUT

SEAN: Mmmmmmaybe listen to this episode of *Today, Explained* just to be on the safe side.

HADY THE BIRD: See you soon.

[THEME]

SEAN: *Today, Explained*. Sean. Ramesv– Rameswa? I mispronounced my own name. <laughs>

KEREN: Whatever, that's how I say it.

SEAN: It's early. *Today, Explained* Sean Rameswaram, here with Karen Landman, Doctor Karen Landman to you! Karen, there's bird flu in the milk?

KEREN: Um, I've heard scientists call it moo flu.

SEAN: Moo flu!

KEREN: It's cute. Right?  
  
SEAN: <laughs>

<COW MOOS>

SEAN: Before we get into all the deets in the news and all that stuff, can you just remind people what the avian flu is? What are we cooking with here?

KEREN: So avian flu is actually a bunch of different types of viruses. But the one that we are talking about here is called an H5n1 virus. And importantly, this is part of a class of flu viruses called influenza A viruses. What you need to know about the difference between influenza A and influenza B and C and D viruses is that the ones that are responsible for pandemics are typically influenza A viruses.

SEAN: And, and taking a bird's eye view here …  
  
KEREN: <chortles>   
  
SEAN: … you’re clearly referencing several other bird flus that we've dealt with. What, what, what does this meant for the US in the past?

KEREN: I think the first H5n1 flu virus was identified in the mid 90s.

<SCORING IN> Do your job do some research

*<CLIP>: AP ARCHIVE: Dr: Keiji Fukuda, CDC: The most likely way these viruses are being transmitted is either from some avian species—it could be chicken, it could be another species, but it’s most likely from poultry to humans.*

KEREN: There have been lots of different types of bird flu viruses that have emerged since then. There's low pathogenic kinds and there are high pathogenic kinds. And unsurprisingly, it's the high pathogenic kinds that really catch our attention.

*<CLIP> EURONEWS: Cases of H5n8 bird flu have been detected in wild ducks in northern France, amid a recent outbreak of the disease in Europe. France, Europe's largest poultry producer, is still recovering from a severe epidemic, which led to a total halting of duck and goose production in the south west of the country.*

KEREN: H5 types of bird flu viruses have spread in the U.S. in the past and, you know, have caused some alarm in the past, but they have never spread the way we're seeing this particular bird flu spread in the US.

SEAN: Big news is that the bird flu has jumped to the cows, Keren. Has that happened before? Is this, is this something that's just new to us, or is this just new, period?

KEREN: This is new period. So there are a couple of things about this that are really surprising to people who follow bird flu. One is the fact that we're seeing an influenza A virus in cows. Now, we have known that cows can get flu. I don't actually know how severe the disease is, but evidently not severe enough that it has caused a lot of concern to humans and not pathogenic to humans in any way. It may also be we don't know this, it may be that various types of flu have spread to cows in the past and spread without causing any symptoms. So you don't test cows for flu on a routine basis. So we just don't know this. But the fact that a dairy worker got an influenza A virus transmitted to them from a cow, that is the first time that we know of that ever happening.

<SCORING OUT> Do your job do some research

SEAN: Okay. Before we talk a bunch about how it's spreading amongst the cows and how it got to a human – all super important – I want to ask you how it got from the birds to the cows, because I read in a in a opinion piece in the Times written by Zeynep Tufekci this weekend that apparently we're feeding our dairy cows like actual chicken shit. And, and I just have lots of questions.

KEREN: So that is true. And it is horrifying when you think about it.

SEAN: Ugh.

KEREN: Yeah. So we do feed animal waste to other animals on our factory farms for sure. So I will say that, a professor at, University of Pennsylvania, Louise Moncla, who I spoke with on Friday, has done some analysis of the genetic strains of this flu that have been released by the USDA. These are flu viruses that were infecting the cows involved in this outbreak. And her analysis shows that this was likely introduced into one cow …

SFX — Single cow

KEREN: … and then spread from that cow to a lot of other cows.

SFX — Harmonious cows

SCORING IN — 8 Leg down

KEREN: I think one of the leading theories is that it is being spread among cows through milking machines. There's huge concentrations of virus in their milk when it comes straight out of the cow and on their udders. And so there's, ostensibly lots and lots of virus on the milking machines. I don't know if you know these works. I don't I've never really seen these in action, but they hook on the milking machines onto the udders of these cows. And then the milking machines do their work…

SEAN: Sure.

KEREN: …and then they switch out the cow and they pop another cow on the milking machine. So if there has not been any sanitization happening of the machine, then…and there's a lot of virus on the milking machine, it's going to very easily infect cow after calf to cow. So that is one possibility. You know, other possibilities are the cows are ending up eating a little of each other's poop while they're in the barn or in whatever holding pen they're in. And if they're shedding the virus in their poop, which we know happens in a lot of other species with influenza, then they could be transmitting it that way. I think the thing we do not want to see is this virus being transmitted through the air.

SEAN: Aha.

KEREN: Because then, you know, there are a couple of sorts of criteria that, flu virus has to meet in order to have a human pandemic potential. And one of them is that it has to spread easily through the air. And, that would suggest if, if it does that, it would suggest that this virus has a lot more potential to cause problems among humans than we realize.

SCORING OUT

SEAN: Well, let's talk about the one human who got it from a cow. What are the theories there? Who is this person? Where were they?

KEREN: They were a dairy worker in Texas. And so far as I have heard, the only symptoms that they had from their infection were conjunctivitis. That means sort of a red redness and infection. Maybe some irritation of the eye.

SEAN: Pinkeye!

KEREN: Pinkeye. That's right. And that is suggestive of basically getting a squirt or a little droplet of infected milk in their eye and, uh, having mild symptoms as a consequence of that.   
  
SEAN: Huh.

KEREN: And that is not, you know, it's kind of neither here nor there in terms of how much does that worry us? I think it doesn't have that characteristic of being an obvious respiratory transmission. That would really set off a lot of alarm bells.

SEAN: Hm.

KEREN: So the fact that this is that we now have only one person with this, and that they only got infected in the eye doesn't really match that pattern. Right. So it lets us think, okay, maybe this causes…this can cause some mild illness in humans if it has contact with a mucous membrane. And that's actually pretty important for kind of grading its ability to cause problems in humans.

SEAN: Hm. But speaking of causing problems in humans. It's in the milk. How concerned should we be that this H5n1 virus is in our dairy?

KEREN: So in our pasteurized dairy, we shouldn't really be that concerned about it.

SEAN: Huh!

KEREN: We know from past studies that viruses that are enveloped, like the flu virus, which means they're kind of protected, maybe a little bit more from their environment, like the flu viruses that they are, killed, made, transmissible, non pathogenic through the pasteurization process. So that, you know, there are new data released on Friday. They tried to grow the virus particles that were isolated from the milk and eggs and nothing grew. So that's pretty reassuring. And it confirms what the USDA and the FDA thought was probably true before. So all that is great. Now, raw milk isn't pasteurized. And there are several states that have rules that make it legal for people to sell and drink raw milk.

SEAN: Okay. So for the moment, if you're drinking pasteurized milk, oat milk, soy milk, almond milk, coconut milk.   
  
KEREN: Yeah.  
  
SEAN: You got nothing to worry about.

KEREN: Absolutely.

SEAN: And then if you're drinking raw milk, you got some questions to ask yourself.

KEREN: All bets are off. No, I recommend not doing that.

SEAN: And then, is there any chance this could become much worse? I don't know, who knows, “P-word”, you know…

KEREN: Of course!

SEAN: Why are you yelling at me?! I didn't do it!

KEREN: No, you did not. This is not your fault. I think where scientists are maybe struggling a little bit right now is. It is with quantifying the risk and communicating the risk. Bird flu has always been scary to us. Not because it has done a pandemic before. <laughs>  
  
SEAN: <chortles>  
  
KEREN: But because it just surprises us all the time. And when a virus surprises you on a regular basis, you learn not to be glib about it.  
  
SEAN: Mm.

KEREN: So like the fact that an influenza A virus is infecting cows, I don't think any flu experts would have predicted that. So yes, this could do a lot of different things, but it hasn't showed us yet that it is doing those things. The things we want to watch out for are whether it gets good at spreading between humans. You know, it's one thing to spread from a cow to a human, but it spreads from a human to a human, even causing mild symptoms. That would be worrisome because it can adapt to become more pathogenic to cause worse disease. We also don't want to see it causing severe disease in cows because, conversely, if it causes severe disease then all it has to do is adapt to spread through the air among humans.

<SCORING IN> 8bit adventure time

KEREN: You know, we're kind of looking at it a little bit like, okay, if you line up a bunch of slices of Swiss cheese together, they're going to be holes in each individual slice of Swiss cheese. But the odds that they're all going to line up in the same place is small. What we want to avoid is a situation where all of those holes line up. You know, where this virus undergoes enough mutations in a host, that's enough like a human that when it skips to a human, it's adapted enough that it's only a few mutations away from causing a really severe disease and a lot of spread.

SCORING BUMP  
  
SEAN: Dr. Keren Landman. Vox dot com.

Her colleague (our colleague) Kenny Torella is going to join us to help us understand who’s in charge of the Swiss cheese, and whether they’re currently falling down on the job, when we’re back on *Today, Explained*.

[BREAK]

[BUMPER]

SEAN: *Today, Explained* is back with Keren’s colleague, Kenny Torrella. Kenny, the USDA is in charge of our cows. How are they responding in this high stakes situation?

KENNY: So the USDA, over the last month, since bird flu was first detected on a Texas dairy farm, it has been really widely criticized by infectious disease experts…

SEAN: Hm.

KENNY:...for its response and for multiple reasons. The first is that it took the agency nearly a month to upload data containing genetic sequences of the virus.

SEAN: Yikes.

KENNY: And then once that data was uploaded, it was incomplete. You know, it lacked specifics that researchers say that they needed to properly study it. And, one former official from the Department of Health and Human Services even told STAT news that it was as if, quote, ‘The USDA is intentionally trying to hide data from the world.’

SEAN: Oh, no! So USDA so far has been kind of blowing it on, sharing data, sharing genetic information. How are they doing on monitoring the spread of this bird flu in cows?

KENNY: Yes, you know they've also faced criticism for insufficient monitoring. You know, experts believe the virus had been circulating for months on U.S. dairy farms before it was detected, which suggests the need for better and more proactive disease surveillance on the part of the USDA. Because, you know, this didn't come out of nowhere. Bird flu has ravaged hundreds of poultry farms over the last two years. But in addition to the disease surveillance concern, there's also been a reporting issue. You know, bird flu was first detected on a dairy farm in late March, and it took over four weeks for the USDA to begin to require producers to report positive tests.

SEAN: Hmhm. What's going on at the USDA, Kenny? That they're, they're blowing it on sharing data. They're blowing it on monitoring. How – isn't this literally their job?

KENNY: Yeah, and we've been here before because the US poultry industry experienced a massive bird flu outbreak in 2015.

SCORING IN — Clear Focus (APM)

*<CLIP> CBS MINNESOTA: Pat Kessler, reporter: The experts still haven't figured out exactly what caused Minnesota's unprecedented avian flu outbreak. But Renville County farmer Barb Frank told lawmakers she's still living the nightmare.*

*Barb Frank, farmer: It took four days to kill the first barn, the first 135,000.*

KENNY: And at the time, the USDA and the poultry industry vowed to really beef up disease surveillance and biosecurity on farms. And despite all that work, the outbreak we're now experiencing over these last two years is even worse. It's the worst bird flu outbreak in U.S. history.

SEAN: Hm

KENNY: The main approach the USDA and the farming industry has taken to, to slow the spread of the disease has been to kill flocks at the first sign of infection.

<CLIP> CBS MINNESOTA: *Barb Frank, farmer: The destruction of our flocks was beyond what your imaginations can imagine.*

KENNY: That's actually mandatory because it is highly contagious and fatal among birds. But the USDA has been really reluctant to consider taking a stronger approach, such as vaccinating birds, because the poultry industry really doesn't want to. There's this fear that it will disrupt trade, because a lot of countries don't want to take eggs and poultry meat from countries that vaccinate animals, because it's harder to detect whether that animal was actually sick or just has antigens from the vaccine in their body.   
  
SEAN: Hm.

KENNY: And trade is a major source of revenue for the industry.

SEAN: Of course.

KENNY: So, you know, this kind of deference to industry that we've seen playing out during this outbreak in dairy cows is part of this larger pattern. You know, the USDA has really failed to hold the industry's feet to the fire on a range of other issues, like pollution and labor concerns and false advertising, animal welfare. And we're seeing that play out with the bird flu outbreak in dairy cows. You know, more strict measures earlier on would have been a hassle for industry. There's, there's no doubt about that. But it would have been in the public's best interest as it's critical to stop the spread of avian flu in mammals.

SCORING OUT

SEAN: Okay, so you're talking about the USDA being caught between its obligations to We the People and its, you know, industry deference. But isn't it bad for the industry to have avian flu in our dairy?

KENNY: Yeah, it's, it's not a good look. But the dairy industry, as with the poultry industry and other parts of the, the agricultural sector, deal with a number of diseases and most of them they can control. They don't become pandemics within their herds. And so with bird flu, I think dairy producers and industry groups have had to weigh the hassle and costs of taking strict measures to stop the virus, you know, against the potential for it to become a real problem within their industry. And in this case, it seems that they're not so worried about it and they've taken a more lax approach.

KENNY: A lot of this can be explained by tension within the USDA's mission, which is to both promote and regulate American agriculture. And you can't really do both properly. You know, it does a great job of promoting and subsidizing agriculture, but critics say it often looks the other way on these societal problems that stem from food production. Public health in this case, and you could argue that maybe this focus on promotion made sense when the USDA was formed over 150 years ago, and agriculture was a major part of the U.S. economy. You know, you wanted to ensure food security, develop the agricultural sciences to feed more people. But now, if you look at the most common products of American agriculture, just a few wealthy companies control the market, and they've been able to largely avoid meaningful regulations on a number of issues like public health, the environment, and animal welfare through accruing a lot of political power. You know, agriculture donates a lot to politicians and has immense sway on Capitol Hill. And there's also a revolving door between industry and government. You know, in fact, USDA Secretary Tom Vilsack was the president of a major dairy organization in between his time as Obama's USDA secretary and now Biden's USDA secretary.

SEAN: How has the USDA responded to the critiques that they're kind of falling down on the job?

KENNY: The agency has pushed back against a lot of the criticisms. In response to criticism over its delay in uploading data on the virus. It said that it's dedicated to transparency and the timely release of information, and its continue to reiterate that it's trying to increase cooperation with dairy farmers, to monitor and test cows, to increase biosecurity on farms, and to coordinate with other agencies. And, you know, don't get me wrong, this is a rapidly evolving virus that poses a lot of challenges to even the most seasoned scientists and USDA staff. But at the same time, you would be hard pressed to find infectious disease experts who have, you know, nothing but good things to say about the agency's response over the last month.

SEAN: Hm. I mean, if this does get worse, is there lingering concern that the USDA isn't taking this seriously enough? Or do we think if more humans start catching this disease from cows, that we'll see them beef up their response?

KENNY: The USDA is starting to take some measures that could slow the spread of the disease. On Monday, a federal order by the USDA went into effect that will require any laboratory or state veterinarian that finds a positive bird flu test on a dairy farm will have to report it to the USDA.

*<CLIP> 11ALIVE: USDA’s order requires dairy cattle moving between states to be tested for all types of influenza. Any cow that tests positive can't cross state lines without satisfying conditions set by the USDA's inspection arm.*

KENNY: So that certainly represents some progress. Some, you know, critics say it should have been done sooner. Some critics say the order is too narrow and there should be much more testing being done, but it's a step in the right direction.

<SCORING IN> Do your job do some research

KENNY: Ultimately, even though the FDA has detected fragments of the virus in milk, they assure consumers it's safe to consume. And many independent experts have confirmed that, too. So at this point in time, the commercial milk supply remains safe. That's the general consensus. But we'll see how this shakes out in the coming weeks and months. It's a rapidly changing situation, and I think if anything, it highlights to the public the emerging disease threat posed by keeping thousands, tens of thousands of animals together on farms where disease can spread quickly.

SCORING BUMP  
  
SEAN: Kenny Torella. He’s a writer at Vox. Read and support his work at Vox dot com.

Haleema Shah, Matthew Collette, Patrick Boyd, and Amina Al-Sadi work at Vox, too. Respectively, they produce, report, edit, mix, and sometimes even fact check *Today, Explained*.

<SCORING OUT> Do your job do some research

[10 SECONDS OF SILENCE]