

AVIAN FLU (LONG FORMAT)

"TruTranscripts, The Transcription Experts" (212-686-0088)

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IBM Web Documentary
Avian Flu (Long Format)
OGILVY & MATHER

(MUSIC)

DR. JAMES KAUFMAN

I think one of the most sobering events was the Liberty Loan Parade that took place in October of 1918. This is an event that was held one month after the Spanish flu had already broken out near Boston, and public health officials warned the government not to hold this event.

DR. JOSEPH JASINSKI

The parade was not cancelled and roughly 11,000 people lost their lives from the uh ... from the Spanish flu in couple weeks.

(MUSIC CHANGE)

RADIO VOICE

Over one hundred million birds recalled in China in an attempt to stall the spread of bird flu. H5n1

(Inaudible) ...

(Overlapping Comments)

(LOUD BEEPING)

MAN

... hundreds of millions worldwide could die.

(BOMB SOUND)

(MUSIC)

DR. AJAY ROYYURU

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Influenza virus is a nasty virus.

(MUSIC)

DANIEL PELINO

We are only one step away from a pandemic situation around the world with avian flu.

MAN

Doomsday scenario is actually quite uh, vivid.

(BEATING SOUND)

MAN

The original bird is a swan. The swan lives in China.

(MUSIC)

MAN

The swan is handled by Ming Chow.

DR. DEBORAH MOSCA

Air travel allows people to in essence, circle the globe in less than 24 hours.

MAN

Ming Chou's cousin happens to be an engineer and he is on a plane to the United States. In that plane, he infects 150 people.

DR. DEBORAH MOSCA

And those people would come in contact in their home environment with hundreds more that you would end up having in essence, a global health situation in a very short period of time.

MAN

Then the human's the problem.

(LOUD NOISE - HOWLING)

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DR. AJAY ROYYURU

Over the last hundred years or so ...

(MUSIC)

... there have been repeated instances of outbreaks

...

DR. WILLIAM ROUSH

There've been episodes where whole villages or whole clusters of ... of humans in ... in a valley or a geographically restricted area are being wiped out.

(NOISE)

(CUT)

DR. AJAY ROYYURU

The one that caused the most amount of human mortality is the 1918 variation.

MAN

At the time, it actually wiped out somewhere between 50 to a hundred million people.

(NOISE - BATTLE SOUNDS)

MAN

Uh, it killed more soldiers in the US Army than all the fighting in World War I.

(NOISE)

DR. JOSEPH JASINSKI

The probability with some mutation will occur that will result in a bug that's human transmissible is, I think, fairly high.

(MUSIC)

DR. ANDREW LEIGH BROWN

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The ... inter-dependence, the in- ... inter-linkage of um, human cities, the high densities of population is a critical factor in uh, leading to rapid transmission of ... of um, pandemic influenza.

DR. JOSEPH JASINSKI

So the avian flu is ... is ... is a concern. It's the current bad bug. Uh, people are worried about it because it's been around for awhile.

DR. AJAY ROYYURU

Thankfully, so far only a few hundred people are known to have been exposed to this virus, the H5n1 virus. But of those, about 50 to 60 percent are dead.

(CRUNCHING NOISE)

DR. WILLIAM ROUSH

Birds are definitely not the enemy in this case. So the enemy is this virus that has this ... incredible ability to mutate.

DR. NICHOLAS TSINOREMAS

We have the computing power. We have the technology. We have the scientific expertise. If we bring them all together under one umbrella, we can fight the bird flu virus.

DR. HARRY ORF

The stakes in this research are pretty high. It's a life and death issue.

DR. DEBORAH MOSCA

We have to win and we will win.

(MUSIC)

DR. AJAY ROYYURU

At this point in time, the virus is smart. Okay? The virus is a few steps ahead of us. It's variations that occur in the virus in its natural course of ... you know, the virus makes copies of itself within ourselves, and as it makes copies ...

DR. ALICE McHARDY

Their replication system just makes a lot of errors.

DR. AJAY ROYYURU

You know, it's figured out how to actually make more variations (BIRD SOUND) in every life cycle.

DR. ALICE McHARDY

And this is actually to the advantage of the virus, because it wants to mutate and escape the immune system of the host.

DR. AJAY ROYYURU

If your body builds a defense against one particular strain of virus, because the virus is using a low fidelity copying mechanism, it actually creates a new copy which is a bit different from what you have defenses for.

DR. NICHOLAS TSINOREMAS

We know that the virus is jump species, so we need to understand how, and using computer modeling, when this kind of jump will occur.

DR. DEBORAH MOSCA

Project Check Mate is uh, collaboration between IBM and the Scripps Research Institute.

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DR. ALICE McHARDY

The goal of our project is to predict the mutations before they actually occur, so we have the chance to create a vaccine and be prepared in the case of a pandemic.

DR. HARRY ORF

What we're trying to do is corner the avian flu.

DR. DEBORAH MOSCA

We're modeling it using uh, the IBM's blue gene technology ...

DR. AJAY ROYYURU

What we're looking at here behind me is the protein ... the hemagglutinin protein from the virus. It's the H in H5n1. If you think of what happened just a few years ago with the human genome project, biology is being transformed into an information science.

PETE MARTINEZ

Before, we used to take and ... and model viruses through a petri dish, a mouse and a monkey. Now we can use it in a super computer and get back in minutes what used to take months.

DR. HARRY ORF

The blue gene computer is simply the fastest computer on the planet, period.

(MUSIC/BIRD SOUNDS)

DR. AJAY ROYYURU

So the global pandemic initiative is a ... it's a body that IBM facilitated, but it's not just IBM. It has

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participation from the World Health Organization, from the CDC. An example of what we are doing is stem ... is ... is a research effort that IBM started modeling how epidemics evolve.

DR. JOESPH JASINSKI

It has a really good model of the world. It has a model of where all the cities are, where all the people are. It has models of uh, where all the airports are, where all the airplanes fly. Uh, it could in the future, have models of all the bird migration pathways.

DR. DANIEL FORD

STEM is capable of simulating the entire planet.

DR. JOSEPH JASINSKI

What if scenarios. What if I ... actually am fast enough and I quarantine all the people?

(MUSIC STOPS)

DR. JOSEPH JASINSKI

What if one escapes?

(SIREN)

DR. WILLIAM ROUSH

All it would take is one person on the plane from New York um, who's infected to infect an entire plane. And then that group of people, wherever they've landed in Chicago or L.A. or Miami can spread out ... Um, this could spread incredibly rapidly.

DR. AJAY ROYYURU

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It's gonna take a lot of smarts. It's the collective smarts of the research community across immunology, virology, computational biology and hopefully, we can bring all of this together and beat the virus.

PETE MARTINEZ

But we got China (sic). We got Japan. We got Europe. We got the United States. We have Latin America ... all of them collaborating.

DR. DEBORAH MOSCA

It is a mobilization effort on uh, a worldwide scale that is going to be life changing in terms of how we collaborate in the future on scientific advances.

DANIEL PELINO

If we do nothing about the bird flu and we knew that this was a possibility, shame on us.

(END OF TAPE)