WEBVTT

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00:00:01.020 --> 00:00:04.920

Tony Lupo: Looks like the rain is staying mainly to our south.

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00:00:37.170 --> 00:00:38.940

Shibu Jose: We will give it another minute

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00:00:40.320 --> 00:00:42.180

Shibu Jose: for the participants to join us.

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00:01:07.620 --> 00:01:10.890

Shibu Jose: We do have some background noise coming through. So Tony,

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00:01:16.410 --> 00:01:17.160

Tony Lupo: I think,

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00:01:17.190 --> 00:01:19.110

Tony Lupo: Yeah, I think I know where it's coming from.

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00:01:25.290 --> 00:01:33.540

Carolyn Orbann: I hope I don't get a kid popping in here. I have two older ones that they know to stay out, but I have a three-year-old who sometimes makes it to the door before my husband can get her.

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00:01:41.640 --> 00:01:43.410

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00:01:47.130 --> 00:01:47.550

Shibu Jose: Well,

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00:01:49.050 --> 00:01:51.540

Shibu Jose: Let's get started then. Good afternoon, everyone.

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00:01:52.680 --> 00:01:54.390

Shibu Jose: I know people are still joining us.

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00:01:57.090 --> 00:02:00.270

Shibu Jose: Welcome back to the CAFNR webinar series.

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00:02:02.760 --> 00:02:11.160

Shibu Jose: We have a very special guest with us today, Dr. Carolyn Orbann, from the School of Health Professions.

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00:02:12.990 --> 00:02:22.830

Shibu Jose: Before I introduce Dr. Tony Lupo, let me remind everyone that you should use the Q&A box. Not the chatroom.

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00:02:23.280 --> 00:02:43.530

Shibu Jose: If you have questions, you can post your questions anytime during the talk and later on Dr. Lupo will be moderating the Q&A so he will be picking up your questions and repeating those questions so that everyone can hear the questions and asking them to Dr. Orbann.

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00:02:46.980 --> 00:02:48.180

Shibu Jose: I also

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00:02:49.380 --> 00:02:59.760

Shibu Jose: want to make sure that I thank two individuals behind the scenes, helping us through the webinar. James Hundle and Michelle Enger. So thank you both.

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00:03:00.660 --> 00:03:12.690

Shibu Jose: We are doing very well. The attendance has been quite good for a webinar. So I appreciate all of you joining us again today.

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00:03:13.320 --> 00:03:39.690

Shibu Jose: So without further ado, let me introduce Dr. Tony Lupo. Tony is the chair of the CAFNR Research Council. And so, Tony, thank you very much for your service. As the chair of CAFNR Research Council, or CRC for short. So Tony will be introducing our special guest today. Tony.

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00:03:41.430 --> 00:03:55.650

Tony Lupo: Thank you, Shibu, and thank you all for being on the webinar today. We're pleased to have with us Dr. Carolyn Orbann from the MU Health Professions.

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00:03:56.640 --> 00:04:07.110

Tony Lupo: She's an associate teaching professor over there and coordinator of international and intercultural initiatives. Her research interests

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00:04:07.980 --> 00:04:32.460

Tony Lupo: are in the ways that cultural behaviors influence the spread of infectious diseases and human populations and she's published a number of papers in that area as well as been an ACT Teaching Excellence Award winner here at the University of Missouri. So without further ado,

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00:04:33.690 --> 00:04:34.740

Tony Lupo: Dr. Orbann.

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00:04:36.870 --> 00:04:40.980

Carolyn Orbann: Hi. So is this the point which I should share my screen probably.

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00:04:42.660 --> 00:04:50.610

Carolyn Orbann: Okay. Hi. I want to thank you guys all for inviting me here to talk about my research and my thoughts on how my research might

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00:04:52.170 --> 00:04:56.730

Carolyn Orbann: have relevance in this in this current pandemic that we're all experiencing.

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00:04:57.750 --> 00:05:06.630

Carolyn Orbann: I've been working with Lisa Sattenspiel in the Department of Anthropology for many years now. She was my dissertation mentor and we've continued to work together

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00:05:07.590 --> 00:05:17.280

Carolyn Orbann: looking at infectious disease and you know historical pandemics. A lot of work on the 1918 flu and then a couple of other pandemics as well.

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00:05:18.690 --> 00:05:27.810

Carolyn Orbann: And so we think a lot about the way that culture and cultural behaviors impact how populations experienced the flu, particularly in small populations or

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00:05:28.380 --> 00:05:38.160

Carolyn Orbann: indigenous populations, rural populations. So I started this project a couple years ago with a McNair Scholar. So I'd like to acknowledge the support of the McNair program.

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00:05:38.490 --> 00:05:49.740

Carolyn Orbann: And my scholar is now in grad school. So I'm very excited for her, but I've continued to work with a number of other students, primarily from the Honors College. So this has been a really student-driven project as well.

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00:05:50.280 --> 00:05:58.140

Carolyn Orbann: There's a number of reasons that it is a really helpful to have students on board and really accessible to students and I'll show you that in just a minute.

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00:05:59.760 --> 00:06:01.320

Carolyn Orbann: Let me go ahead and go to the next slide.

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00:06:03.060 --> 00:06:11.430

Carolyn Orbann: Just a refresher. I know there's been a ton of work on the 1918 flu and popular media now because people are looking for parallels and this is really

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00:06:12.210 --> 00:06:20.700

Carolyn Orbann: probably the, the last big pandemic, worldwide pandemic of the respiratory disease. And so people kind of think of it as a potential model.

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00:06:21.480 --> 00:06:30.240

Carolyn Orbann: For the coronavirus epidemic that we're all experiencing. Um, so just some kind of important points here that is relevant for the research that I've been doing

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00:06:30.840 --> 00:06:39.540

Carolyn Orbann: You know, it was huge. It caused a lot of deaths. It was more than average flu pandemic and in terms of its case fatality rate.

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00:06:40.380 --> 00:06:53.730

Carolyn Orbann: It was experienced in three waves over 1918 and 1919 and that first wave was in the spring of 1918 that was a low mortality wave. So a lot of people got sick, but not very many people died compared to the later waves.

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00:06:54.450 --> 00:06:59.730

Carolyn Orbann: Fall 1918 was the big wave where there was the highest mortality and that's holds true for Missouri.

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00:07:00.450 --> 00:07:09.630

Carolyn Orbann: And then there was a spring wave as well. Many places also experienced an echo wave in the regular flu season of 1920 which showed some kind of

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00:07:10.230 --> 00:07:16.620

Carolyn Orbann: Unusually high mortality, flu mortality. And so I think there's still some active research and trying to understand if that was

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00:07:17.310 --> 00:07:31.290

Carolyn Orbann: the same strain or different strain or what exactly caused that. But I'll show you what that looks like in Missouri as well. This flu pandemic was known for having a disproportionately high rate of death among young adults compared to regular influenza outbreaks.

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00:07:32.640 --> 00:07:42.690

Carolyn Orbann: This, you may have heard of a U shaped curve versus a W shaped curve. If you imagine a mortality curve, the U shape is a typical influenza year where you have a high rate of death

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00:07:44.700 --> 00:07:52.200

Carolyn Orbann: in infants and young children, and then a high rate of death in the elderly. So this pandemic, the 1918 flu,

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00:07:52.620 --> 00:08:03.900

Carolyn Orbann: did also have a high rate of death in those populations, but it's described as a W because of that disproportionately high or unusually high rate of deaths among young adults, so that forms that middle peak of the W.

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00:08:05.220 --> 00:08:11.070

Carolyn Orbann: So it's not that children and young people and the elderly didn't die in the 1918 flu, they definitely did

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00:08:11.550 --> 00:08:16.470

Carolyn Orbann: but it just wasn't that that different compared to the rate of death among young adults.

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00:08:17.010 --> 00:08:30.810

Carolyn Orbann: So that's, that's why you might hear about that disproportionate effect. Okay, so in this project I was using publicly available data from the Secretary of State's office to look at mortality only mortality in rural Missouri counties.

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00:08:31.770 --> 00:08:37.050

Carolyn Orbann: And I was using the death certificate database which is available through the Secretary of State's office.

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00:08:38.280 --> 00:08:47.850

Carolyn Orbann: This is all available online. You can Google it and I just googled, you know, Missouri death certificates and you can search on every single death certificate from 1910 to 1968

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00:08:48.240 --> 00:08:54.270

Carolyn Orbann: And so I've just been going county by county with my students and looking at every single death certificate and

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00:08:56.370 --> 00:09:06.210

Carolyn Orbann: Excuse me, trying to collect the data for those who died of flu or pneumonia. Pneumonia typically for the pandemic was a very common.

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00:09:06.870 --> 00:09:13.320

Carolyn Orbann: contributing cause of death, or even primary cause of death. It was a very common secondary infection. So I collect those as well.

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00:09:13.800 --> 00:09:20.190

Carolyn Orbann: This is just an example I blurred out the names, just for this person's privacy, but these are publicly available certificates so you could

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00:09:20.550 --> 00:09:25.470

Carolyn Orbann: Excuse me, you could look them up yourself if you want it to. And I just have some indications here of

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00:09:25.830 --> 00:09:31.230

Carolyn Orbann: The kinds of things I'm looking at. So I'm organizing these by county, basically because these certificates are organized by county.

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00:09:31.860 --> 00:09:38.760

Carolyn Orbann: One of the things I hope to do is in the future, once we've collected all these, is do some more sophisticated geographic work.

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00:09:39.300 --> 00:09:47.820

Carolyn Orbann: I collect the person's name just for reference for when I go back and do some accuracy checks. I collect demographic information.

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00:09:48.240 --> 00:09:54.840

Carolyn Orbann: In this case, this person was a white female. I don't collect whether they're married or not, at this point, but that is something that could be done.

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00:09:55.680 --> 00:10:05.880

Carolyn Orbann: I collect their age, usually to the, to the whole year unless if the person's not quite a year, I collect their year zero and then I note in the note column how many months they were,

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00:10:06.390 --> 00:10:17.370

Carolyn Orbann: Or days or hours. I look here and collect the date of death that helps me understand, you know, the pattern of spread along the timeline between 1918 and 1919 or 1920

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00:10:18.030 --> 00:10:26.220

Carolyn Orbann: And I'm collecting all the flu and pneumonia deaths from January 1, 1918 through the end of December 1920 so I'm collecting in a in a three year period.

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00:10:27.900 --> 00:10:41.760

Carolyn Orbann: And then look well I primarily look first at the cause of death before I collect any of these data. You can see this person. It was noted specifically a Spanish influenza with a secondary cause of bronchopneumonia and also nephritis and parotitis.

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00:10:43.080 --> 00:10:55.470

Carolyn Orbann: So sometimes they're listed to Spanish influenza sometimes just influenza sometimes pneumonia, bronchitis, pneumonia, lower pneumonia. Sometimes the grip, which is a historical name for the flu.

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00:10:56.010 --> 00:11:01.890

Carolyn Orbann: So you do have to get used to reading these handwriting. Everybody in every different county has different handwriting. So that's always a challenge.

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00:11:02.730 --> 00:11:07.530

Carolyn Orbann: As well. So that's the basic data that I collect. Occasionally I'll note

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00:11:08.040 --> 00:11:15.090

Carolyn Orbann: family members who have all passed in the pandemic and I can see that you can see the additional blacked out where the names of the father and mother.

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00:11:15.420 --> 00:11:24.120

Carolyn Orbann: So if people share that I’ll collect that just as something that's interesting in the data set right now. I'm not doing anything particular with that information.

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00:11:25.680 --> 00:11:30.030

Carolyn Orbann: And I've kind of split up the state into five regions, general regions.

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00:11:31.770 --> 00:11:38.790

Carolyn Orbann: And I've been collecting and we were trying to collect initially along the rivers, because our initial hypothesis was trying to look at the

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00:11:39.690 --> 00:11:49.980

Carolyn Orbann: the role of the rivers and spreading the disease or travel along the rivers and so we were trying to collect the county's data that were lied along the Missouri or the Mississippi River.

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00:11:51.600 --> 00:11:58.350

Carolyn Orbann: That didn't really seem to have any kind of outcome when we actually collected these data. There's no pattern that you know holds along the rivers of any importance.

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00:11:59.670 --> 00:12:07.500

Carolyn Orbann: Another thing we were interested in addressing was there's kind of a theory that this flu may have actually originated in Kansas. And so we thought

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00:12:07.890 --> 00:12:17.580

Carolyn Orbann: that Missouri's in an ideal place to try to test that out because if it did originate in Kansas, then you perhaps would expect to see the flu moving from the west and moved towards the east.

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00:12:18.780 --> 00:12:24.270

Carolyn Orbann: So we were doing that as well, that also we don't. We can't provide any support for that hypothesis.

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00:12:25.260 --> 00:12:31.050

Carolyn Orbann: At least from the death data you've made. I suppose you might have support for that from the

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00:12:31.830 --> 00:12:36.870

Carolyn Orbann: illness data, but we don't have that kind of data for the available to us at this point.

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00:12:37.410 --> 00:12:47.940

Carolyn Orbann: Um, so in the meantime. We've been collecting all the counties. Now, now that I've had, you know, more students involved and I've done a tutorial on this topic. So we've done this as a project. So we're trying to collect

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00:12:48.630 --> 00:12:54.540

Carolyn Orbann: these data for the whole state. And so you can see I finished the southeast and we're working through the other

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00:12:55.710 --> 00:12:59.190

Carolyn Orbann: geographic regions kind of systematically

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00:13:00.570 --> 00:13:07.620

Carolyn Orbann: Here's just a summary of the numbers, we're talking about so far. So from the different regions. You can see I've collected

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00:13:09.000 --> 00:13:15.090

Carolyn Orbann: however many counties worth of data that's what the N is and the region. So in northeast region, we've collected 13 counties worth of data.

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00:13:16.260 --> 00:13:28.140

Carolyn Orbann: And in those 13 counties, they had 2249 flu deaths out of a total of 9185 deaths. So what those percentages at the side are proportionate mortality and I do want to make that clear.

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00:13:28.470 --> 00:13:43.140

Carolyn Orbann: It's not a case fatality chance; it's not an overall mortality. This just means that flu is a cause of death over those three years, was about a quarter of all deaths. So of all the deaths that took place in those counties in that region, about a quarter of them were from flu.

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00:13:45.030 --> 00:13:50.910

Carolyn Orbann: So you can see there's a little bit of variation, the state average so far. And this is ongoing research. So this is not finished.

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00:13:51.360 --> 00:14:00.810

Carolyn Orbann: But the state average was about the proportion of mortality was about 27 and a half percent of all deaths of everything I've collected so far was from the flu over those three years.

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00:14:02.220 --> 00:14:09.960

Carolyn Orbann: But you can see there's one region that is kind of a little bit more standout that's the southeast where you had a 31.7%

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00:14:10.650 --> 00:14:23.580

Carolyn Orbann: proportionate mortality for flu and the Southwest, a little bit higher. So I think the general thing I'm comfortable saying about the flu was that the southern parts of the state seem to have somewhat more mortality from flu compared to other causes.

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00:14:25.440 --> 00:14:28.440

Carolyn Orbann: As I said, ongoing research, though, so don't hold me too much to this.

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00:14:30.450 --> 00:14:41.490

Carolyn Orbann: If you want to see the the curve, the death curve, here's, here's what you can see and this is starting at the beginning of the year 1918 and going through the end of the year 1920

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00:14:42.180 --> 00:14:50.880

Carolyn Orbann: And so if you can, if you can see my pointer. I can do a little laser pointer here. So this here. What I'm circling

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00:14:51.510 --> 00:14:59.970

Carolyn Orbann: Would represent kind of that first wave and it's ending here towards the end of April early May 1918

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00:15:00.600 --> 00:15:14.640

Carolyn Orbann: Right, so it's kind of in that normal flu season. I'm impressed. A little bit later. And then you see the second line here. And that's very, very clear. These are counts. These are counts of deaths. The Missouri census from 1910

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00:15:16.020 --> 00:15:26.520

Carolyn Orbann: doesn't have appropriate data at that I've been able to find so far to allow me to do age-specific death rates or other death rates just yet. So I'm still kind of working on that. That's

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00:15:27.720 --> 00:15:31.890

Carolyn Orbann: Kind of the next phase of the project. But anyway, these are counts, I just want to make that clear.

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00:15:32.370 --> 00:15:41.520

Carolyn Orbann: You can see the second, the second wave here and this would be heading into the third wave. So this is actually where globally. There was a third wave in this area.

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00:15:42.240 --> 00:15:57.150

Carolyn Orbann: But you can see in Missouri, it's kind of been kind of merged into the second wave. And then what is over here, this very clear peak is actually the 1920 echo. And so this is a little bit unique will not unique is not obviously the right word. Okay, this is a little bit notable

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00:15:58.590 --> 00:16:07.200

Carolyn Orbann: In that it's higher. It's very, very high almost as high as the peak number of deaths and in the in the 1918 fall

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00:16:07.650 --> 00:16:18.030

Carolyn Orbann: So that seems to be something that probably Missouri is experiencing differently than other places in the world. And so this is something worth pursuing. And probably trying to understand exactly why that happened.

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00:16:18.930 --> 00:16:30.810

Carolyn Orbann: And this is also to bring this to the topic today why I'm a little worried about Missouri's experience with this pandemic, because we do have this history of having this kind of delayed

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00:16:31.830 --> 00:16:44.130

Carolyn Orbann: or echo peak that I worried that you know is that something we're going to experience here or not as well. And so I there's I can talk about that towards the end, but there's reasons to think possibly and there's reasons to say, Well, maybe not.

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00:16:47.550 --> 00:16:53.010

Carolyn Orbann: What I want you to see here is basically that the region's experienced the same pattern.

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00:16:53.700 --> 00:16:59.880

Carolyn Orbann: Right and so don't get too caught up in the numbers. That's why I've made that blue very, very light because I don't want to draw your, your eye to it too much.

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00:17:00.150 --> 00:17:06.870

Carolyn Orbann: And some of the some of the differences in peak sizes have to do with data collection. What I'd like you to see instead is the pattern, and that is that

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00:17:07.590 --> 00:17:17.760

Carolyn Orbann: There's not one geographic region that seems to show any difference earlier or later or the peaks being really any different in their timing than any other region.

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00:17:18.510 --> 00:17:22.020

Carolyn Orbann: This may be because we're collecting death data and not illness data.

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00:17:22.620 --> 00:17:29.310

Carolyn Orbann: So you're going to erase some of those early cases that might signal, the beginning of the pandemic in Missouri. This may be a data quality

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00:17:29.790 --> 00:17:39.840

Carolyn Orbann: thing. Also important to think about, though, in, in the current pandemic is what's the quality of the data that's available and how can we use that to interpret kind of the history of this pandemic.

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00:17:40.830 --> 00:17:48.780

Carolyn Orbann: Okay, so, so basically from this, you're just seeing that the dashed line is the average overall that really all the regions.

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00:17:49.230 --> 00:17:58.440

Carolyn Orbann: Show a pretty similar pattern. There's a few little differences here and there, but I'm not comfortable saying that there's any regional difference and timing based on these data just yet.

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00:18:01.590 --> 00:18:08.520

Carolyn Orbann: Okay, so this is just kind of a summary of what I found so far that in Missouri. There were not that many deaths in the first wave

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00:18:08.940 --> 00:18:20.790

Carolyn Orbann: The, the bulk of the dots happened in that second wave and then potentially in the 1920 waves. It really is hard to distinguish the third wave from the second wave in many counties in Missouri.

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00:18:22.470 --> 00:18:29.580

Carolyn Orbann: Geography if to me this this is still pretty ambiguous. I don't see any clear evidence from from movement from Kansas and Missouri.

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00:18:30.030 --> 00:18:37.350

Carolyn Orbann: And there's no evidence of moving along the rivers, which I included just because that was our initial our initial hypothesis we wanted to test. I don't

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00:18:37.680 --> 00:18:47.220

Carolyn Orbann: There's tons of reasons why there would not be any reason any movement along the rivers just kind of pass the heyday of river travel in Missouri, but it was a nice hypothesis to work on with a student.

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00:18:49.380 --> 00:18:51.750

Carolyn Orbann: This echo wave I'm finding very interesting.

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00:18:53.220 --> 00:19:11.550

Carolyn Orbann: It was, it was really significant in in a couple of counties, there were actually more deaths in the 1920 peak than there were in the 1918 peak. And so I'm wondering if perhaps you know these counties had large pockets of population that were passed over in the 1918

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00:19:12.990 --> 00:19:21.810

Carolyn Orbann: outbreak and then we're hit kind of extra hard in 1920 if that's the reason it would be really nice to kind of find some some good data and morbidity.

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00:19:22.200 --> 00:19:32.400

Carolyn Orbann: On illness data to see if that's potentially what that is. We're kind of developing some ideas about how we can look at that and see if if these counties were passed over in 1918.

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00:19:35.040 --> 00:19:47.520

Carolyn Orbann: So how does this compare to the current, the current pandemic. I mean, I think one of the things to notice we're still here in the Midwest. Missouri has not changed any, any place you know where it is and

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00:19:48.420 --> 00:19:53.190

Carolyn Orbann: it's, it's still is pretty predictable, where an outbreak is going to enter the state from.

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00:19:54.450 --> 00:19:56.880

Carolyn Orbann: For the, for the most part the urban places in

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00:19:57.960 --> 00:20:10.740

Carolyn Orbann: Are the same as are the same urban places that exists today, right. So St. Louis, although smaller, is still a significant urban center in our state. Kansas City, the Springfield Joplin area still important urban centers and

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00:20:11.460 --> 00:20:20.010

Carolyn Orbann: likely to be the place where somebody's bringing in a pandemic, bringing in a case to enter our state for the first time is likely to travel through.

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00:20:20.940 --> 00:20:34.290

Carolyn Orbann: That means we have time to plan, right, if you look at America as a continent North America is a continent on the, you know, Major, major population areas on the coast. If you're talking about an epidemic coming in from overseas probably coming in from the coast.

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00:20:35.550 --> 00:20:38.640

Carolyn Orbann: And that gives us time to plan here in the in the center of the country.

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00:20:39.600 --> 00:20:48.300

Carolyn Orbann: Okay, so just a quick and some of this has actually changed since I put this little timeline together. Yesterday, the first case in the US was reported on January 21.

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00:20:48.960 --> 00:20:59.250

Carolyn Orbann: The first case of person to person transmission, which is is important for understanding community spread, was reported in Chicago. So that first case in the US on the 21st was on the west coast.

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00:20:59.910 --> 00:21:12.270

Carolyn Orbann: January 30 is the first case of person to person transmission in Chicago. And to me, I'm thinking, you know, we need to be paying attention to what's happening in Chicago, because that's there's a major amount of travel between our metro areas and Chicago.

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00:21:13.500 --> 00:21:18.210

Carolyn Orbann: And March 1 was the first case in St. Louis. That was a travel related case.

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00:21:19.590 --> 00:21:30.630

Carolyn Orbann: In March 12, the first case was in Springfield, also travel related and in March 17 Boone County had its first travel related case. So you can see the amount of time that passed between that January 30

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00:21:31.500 --> 00:21:36.840

Carolyn Orbann: First case of person to person. And our first cases here in the state, which means we had time to plan for this.

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00:21:37.530 --> 00:21:57.210

Carolyn Orbann: As of yesterday. According to the New York Times tracker. We had almost 6000 cases so 5941 and 220 deaths so moved from those first individual cases popping up here and there to now in, you know, a matter of weeks to the kind of thousands of cases that we have now.

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00:21:59.340 --> 00:22:04.470

Carolyn Orbann: So what I'd like to think about that is, how does this. How does, how does the 1918 flu.

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00:22:05.040 --> 00:22:12.360

Carolyn Orbann: pandemic. In the end, the experiences of, particularly the rural communities that I was looking at, how is that helpful for understanding the coronavirus

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00:22:13.110 --> 00:22:28.380

Carolyn Orbann: Pandemic, if at all, is it can we use it as a model. Um, so one of the things I'm thinking about is access to healthcare. So we know that there's problems with access to health care, particularly primary care and hospital care in rural Missouri and it's it's probably

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00:22:29.700 --> 00:22:40.260

Carolyn Orbann: I, you know, it's hard to say. Has it gotten worse right? There was potentially more health providers in small communities back in the early 1900s, but the quality of care of probably wasn't that great.

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00:22:41.070 --> 00:22:50.940

Carolyn Orbann: There definitely wasn't antibiotics to help treat secondary infections, those kinds of things, but there were providers there. So it's really hard to interpret. But definitely, there's an access problem now.

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00:22:52.380 --> 00:23:00.510

Carolyn Orbann: How patterns of activities change? What's the relationship between these rural communities and the urban centers where you're likely to have those first cases and

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00:23:00.990 --> 00:23:03.030

Carolyn Orbann: You know, how often do people travel between

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00:23:03.660 --> 00:23:14.400

Carolyn Orbann: small, small towns and other small towns versus small towns in big cities. What are the magnet metro areas in different parts of the state and how far is that are they drawing populations from?

142

00:23:14.880 --> 00:23:22.500

Carolyn Orbann: So if you live in the bootheel, are you more likely to go for example to St. Louis, or to Springfield, and why. And those are things that I'm really interested in.

143

00:23:24.720 --> 00:23:33.270

Carolyn Orbann: What I'm calling intensification of rural life. It is surprising to me how many counties had more people in them in the early 1900s

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00:23:33.810 --> 00:23:44.130

Carolyn Orbann: then now. So a number of Missouri counties have actually lost population, sometimes by by, you know, large numbers. Sometimes the populations are close to half today what they were in 1918

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00:23:45.270 --> 00:23:55.110

Carolyn Orbann: Or even 1910 so I'm wondering what that means for social supports, political supports, population movements across rural parts of the state.

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00:23:57.210 --> 00:24:06.360

Carolyn Orbann: I'm probably my biggest worry for coronavirus is this idea that there could be an echo that the communities may be missed during this pandemic.

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00:24:06.870 --> 00:24:15.690

Carolyn Orbann: But if there are successive waves into the fall and even into next year that the communities will continue to be unprepared or under prepared.

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00:24:18.390 --> 00:24:26.970

Carolyn Orbann: And then also thinking about what has changed over the last hundred years. And we know that really important in this current virus outbreak has been nursing homes.

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00:24:27.660 --> 00:24:38.340

Carolyn Orbann: As notes of infection, you know, back in the 1918 flu there were some homes but not to the level of today. So the institutional populations were really different back then.

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00:24:39.000 --> 00:24:49.800

Carolyn Orbann: Than are now. And so I think in some ways that's, you know, it just changes the way we have to think about where the risks are in the community. Much more common back then to have

151

00:24:50.760 --> 00:24:56.610

Carolyn Orbann: like intergenerational families. So, um, what are other social organizations that may have changed.

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00:24:57.030 --> 00:25:04.170

Carolyn Orbann: What are people's ways of life. So we know now in Missouri, some of the some of the meat packing plants seem to be clusters of cases.

153

00:25:05.070 --> 00:25:18.570

Carolyn Orbann: Back then those didn't exist in the way that they do now, where they do now. Right. So Saline county, those they just didn't exist. The same way so we need to be thinking about how the how the rural places in this in the state have also changed.

154

00:25:20.100 --> 00:25:24.900

Carolyn Orbann: Okay, so. So just as a general kind of sum up, you know, understanding these behaviors

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00:25:25.470 --> 00:25:31.530

Carolyn Orbann: and the social structures behind the behaviors that helps spread these 1918 pandemic can give insight.

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00:25:31.890 --> 00:25:44.550

Carolyn Orbann: Into what drives pandemics bread. Today, I would just worried about using them too closely as a model because there's lots of reasons that the 1918 may not be a great model for the coronavirus as well.

157

00:25:47.220 --> 00:25:48.300

Carolyn Orbann: So I think

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00:25:49.350 --> 00:25:56.610

Carolyn Orbann: Does that sound like I'd like to acknowledge all these folks for their help and their assistance, financial assistance and otherwise.

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00:25:59.730 --> 00:26:05.850

Carolyn Orbann: And I am open to questions. And I'm happy to spend, you know, whatever time is needed to answer questions.

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00:26:08.550 --> 00:26:12.480

Tony Lupo: Okay, thank you for that talk. The first question that I have

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00:26:13.830 --> 00:26:22.080

Tony Lupo: in the question box is you showed a slide that showed the three waves of mortality.

162

00:26:23.250 --> 00:26:28.200

Tony Lupo: What is a historical pattern look like. In other words, what is a normal

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00:26:29.430 --> 00:26:31.110

Tony Lupo: flu season look like?

164

00:26:31.380 --> 00:26:43.440

Carolyn Orbann: Yeah, I'm actually also collecting the flu mortality from 1910 so that I'll be able to show that in the future. I don't have enough data right now to be able to show you anything.

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00:26:45.240 --> 00:26:51.120

Carolyn Orbann: And off the top of my head. I don't, I, I don't know the numbers for Missouri off the top of my head.

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00:26:52.350 --> 00:27:05.340

Carolyn Orbann: To be able to tell you what a normal flu. I mean, everybody acknowledged that the flu pandemic was happening. So I think, you know, it wasn't that anyone was denying it. But yeah, that is part of what we're doing. Also, is to collect the year 1910 just as a baseline.

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00:27:07.830 --> 00:27:08.370

Tony Lupo: Okay.

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00:27:10.410 --> 00:27:11.070

Tony Lupo: Um,

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00:27:12.390 --> 00:27:22.800

Tony Lupo: How, how are there. Were there any effects on animals in rural areas, compared to now with these pandemics? Was any of that information available?

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00:27:23.340 --> 00:27:26.640

Carolyn Orbann: Effects on animals.

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00:27:27.750 --> 00:27:34.020

Carolyn Orbann: Animals are important for flu as those kind of mixing bowls that can kind of help new strains emerge.

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00:27:34.530 --> 00:27:47.670

Carolyn Orbann: I have not seen anything about animals being culled or anything like that. I've been doing some historical research at the Historical Society. Most of the papers, I've looked at so far though have been

173

00:27:48.690 --> 00:27:58.110

Carolyn Orbann: people who were not farmers. So kind of professionals, health professionals or others. So I haven't seen anything about that specifically

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00:27:59.160 --> 00:28:13.110

Carolyn Orbann: You know, I know that action now. Like when a new flu emerges, especially like a bird flu has been to cull animal populations, but I think animal based agriculture was probably pretty different back then to you guys in the audience are probably better prepared to answer that than I am.

175

00:28:15.900 --> 00:28:42.450

Tony Lupo: Oh, thank you. Okay, here's one. And it's a little longer, but I'll try to get through this and get it accurate since the initial testing criteria for Missouri only allowed testing for folks with known contact or travel to major infected areas and even now are only tested if

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00:28:43.590 --> 00:28:44.850

Tony Lupo: severely ill.

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00:28:46.290 --> 00:28:59.430

Tony Lupo: And while it has also been a demonstrated that there are many asymptomatic carriers for COVID. How difficult is it to monitor spread or get good models since models require good data?

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00:29:00.810 --> 00:29:01.230

Carolyn Orbann: Yeah.

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00:29:01.290 --> 00:29:03.090

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00:29:03.360 --> 00:29:07.560

Carolyn Orbann: Yeah i mean i i think this is always the challenge with modeling.

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00:29:08.580 --> 00:29:13.200

Carolyn Orbann: Anything in the historic you know past is that the quality of the data.

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00:29:15.960 --> 00:29:33.420

Carolyn Orbann: Yeah, and I mean I've have worked on a on a measles model where there's very few even listed causes of death and the records that I'm looking at so it's it's all kind of inference based on other sources. So in historical research, you're always looking for multiple lines of evidence.

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00:29:34.560 --> 00:29:43.560

Carolyn Orbann: So you have the death records and then you have supporting records you have maybe municipal records or where you can get them, you know, newspapers hospital records, those kinds of things. So

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00:29:44.220 --> 00:29:52.500

Carolyn Orbann: somebody's looking back on this pandemic will likely have very similar problems that we have in looking at the 1918 flu. We just don't have

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00:29:52.920 --> 00:30:00.690

Carolyn Orbann: case data for most places and especially in rural communities where you aren't necessarily having the newspapers documenting things.

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00:30:01.230 --> 00:30:08.070

Carolyn Orbann: It is kind of wild looking at these old newspapers and thinking in a pre HIPAA time, they would literally publish the names of people who are sick.

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00:30:08.430 --> 00:30:13.800

Carolyn Orbann: In on the front page you know so and so is convalescing sometimes they call it fluing so and so is fluing

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00:30:14.250 --> 00:30:20.550

Carolyn Orbann: And whole families. They will say this on whole families. It's finished with the flu and they're coming you know we've said we saw them downtown. And I thought,

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00:30:20.760 --> 00:30:28.350

Carolyn Orbann: WELL, NEWSPAPERS ARE REALLY REALLY different back then and how they identify people. But yeah, it is one of the biggest challenges and i i

190

00:30:28.830 --> 00:30:45.870

Carolyn Orbann: I think that we're seeing in real time why those gaps in data exist and and that actually think helps me understand more you know how I can use these these past data as well, you know, how does it come to be that you only have death data versus morbidity data.

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00:30:48.540 --> 00:30:50.640

Tony Lupo: And another question is

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00:30:52.230 --> 00:31:08.340

Tony Lupo: did other cities or rural areas also have social distancing protocols. We know St. Louis did in that 1918 flu epidemic. DId other cities do the same?

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00:31:08.400 --> 00:31:22.140

Carolyn Orbann: Yeah. Other cities did, um, I have a few slides on here from a family in Aurora, which is kind of down Springfield ish area, little outside of Springfield, and they talk about their schools being closed for weeks and

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00:31:22.890 --> 00:31:30.840

Carolyn Orbann: you know the amazing thing was people were still traveling so in the middle of this you know schools being closed and this one couple whose letters I was reading

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00:31:31.200 --> 00:31:44.880

Carolyn Orbann: travel to St. Louis, to see their son who was on R&R from training for World War One. So, you know, there was kind of this mixed like just like we're having now when people are people, what is an acceptable reason to break your self-quarantine and what's not, you know,

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00:31:46.740 --> 00:31:52.110

Carolyn Orbann: Let me see it. Some people have I've shared this with some people. But there's this great interchange where this

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00:31:52.950 --> 00:31:59.460

Carolyn Orbann: mother and daughter had letters. They were writing to various people in their extended family and the mother was saying, well, you just need to lay low

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00:31:59.760 --> 00:32:05.730

Carolyn Orbann: and the daughter is saying we want to have a Halloween party and no one can no one can tell us no, we're going to have the party anyway. And they did.

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00:32:06.090 --> 00:32:20.700

Carolyn Orbann: So I mean it's, you know, humans are for real different 100 years later, but we're also kind of the same. So, yeah, but other cities definitely did they did things like closing schools, you know, not holding church services, other kinds of those kinds of things.

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00:32:22.440 --> 00:32:27.060

Tony Lupo: And here's one that I think will combine two questions.

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00:32:29.820 --> 00:32:39.240

Tony Lupo: Is there an accepted rationale for why we had lower deaths in the first wave or conversely, why was the second wave worse?

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00:32:39.450 --> 00:32:43.980

Tony Lupo: And does that imply, we're in for worse with the next year.

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00:32:44.130 --> 00:32:44.670

Yeah.

204

00:32:45.870 --> 00:32:52.680

Carolyn Orbann: There's all kinds of ideas about about why you know anything happened during the 1918 flu and

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00:32:53.430 --> 00:33:01.650

Carolyn Orbann: one of the ones I've seen for that second wave is perhaps that there was a mutation in the strain that somehow made it somewhat more virulent

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00:33:02.460 --> 00:33:06.210

Carolyn Orbann: for that second wave. So between the first wave and the second wave that it got more deadly.

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00:33:06.870 --> 00:33:14.490

Carolyn Orbann: Um, I, I would always also want to include things like the the social impacts, um, you know,

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00:33:14.910 --> 00:33:22.050

Carolyn Orbann: if you have communities that already had a really tough flu season and you know you don't have, you know, people perhaps were already sick.

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00:33:22.650 --> 00:33:29.520

Carolyn Orbann: Or the families had already experienced the death in the first wave and now you're down one person. So you can't earn as much money or

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00:33:30.150 --> 00:33:41.910

Carolyn Orbann: you know they continued impact of people going around for World War One, you know, not just the men who were drafted, but also other people in the community, leaving the community weakened, you know socially weakened.

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00:33:42.630 --> 00:33:48.900

Carolyn Orbann: I think all of those are probably part of it. But, you know, one of the main theories seems to be that there was a mutation in the strain.

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00:33:51.630 --> 00:34:12.540

Tony Lupo: And another question, would it be possible to compare rates among army camps from 1918 to current meat packing plants where you do have these large concentrations and see if the rates are higher in these groups.

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00:34:12.930 --> 00:34:20.850

Carolyn Orbann: Yeah, I think you could. There have been people who looked at the flu, specifically in the military camps on both in America and overseas at the at the fronts

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00:34:21.510 --> 00:34:35.040

Carolyn Orbann: and in other countries and, you know, so there's all kinds of research about, you know, each soldier had so many square square feet of personal space. And how many people were packed into, you know, a center of a hall of what size. So there is that that research is definitely out there.

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00:34:37.650 --> 00:34:54.870

Tony Lupo: Okay, and the, this will be the last one. And I think you may have already touched on this. Is there any evidence that the 1918 pandemic didn't start in Kansas or is the origin still unknown.

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00:34:56.100 --> 00:35:03.900

Carolyn Orbann: This is the one I don't want to get in trouble with anybody because this has been the real, this has been the real fight of this of 1918 pandemic is where it started.

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00:35:04.230 --> 00:35:10.140

Carolyn Orbann: You know, so many flus to start in Asia for ecological reasons, right, that there's the there's, um,

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00:35:10.710 --> 00:35:20.370

Carolyn Orbann: There's overwintering bird communities and birds are a national reservoir for flus and there's also large communities of domestic birds and also large communities of pigs.

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00:35:20.700 --> 00:35:26.970

Carolyn Orbann: All of those species in close contact with each other and in humans provides a really good mixing ground for viruses like the flu.

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00:35:28.170 --> 00:35:37.620

Carolyn Orbann: The theory about Kansas was based on the fact that there was a community near one of the military bases that seem to have a really tough

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00:35:38.040 --> 00:35:53.760

Carolyn Orbann: flu season in I think it was the winter of 1915-16. And so that was kind of the beginning of thinking, what could have started in a camp in Kansas, because that winter had a really, really bad flu season in this community and then shortly after that you started seeing

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00:35:55.080 --> 00:35:59.310

Carolyn Orbann: what looked like some flu cases at the camp. Um, I

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00:36:00.780 --> 00:36:11.370

Carolyn Orbann: I would hate to come down on the side, but I would say probably most folks don't think it started in Kansas, it would be a really different event than we're almost all the other flus come from.

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00:36:14.340 --> 00:36:14.910

Tony Lupo: Thank you.

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00:36:16.140 --> 00:36:20.580

Tony Lupo: I'll just allow this one more that came in.

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00:36:22.050 --> 00:36:36.510

Tony Lupo: It says, is it plausible to think that we could continue doing the social distancing for a long period of time. If we're going to, if we think there may be more waves.

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00:36:37.980 --> 00:36:45.630

Carolyn Orbann: I mean, as a person who thinks about human behavior, it's sounding like it's harder and harder for people to

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00:36:48.180 --> 00:36:56.010

Carolyn Orbann: want to do that and and for me when I think about about people in their health decisions, you have to think a lot about what people want to do and why.

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00:36:56.580 --> 00:37:07.770

Carolyn Orbann: And so sure you know there are circumstances in which you can imagine people being quarantined for months and months at a time and but I think that would take, you know, almost a

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00:37:08.400 --> 00:37:16.920

Carolyn Orbann: forceful presence. I think voluntary quarantine is a lot harder to sell to most Americans over such a long period of time. Um,

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00:37:17.730 --> 00:37:21.630

Carolyn Orbann: You know, I, I've been really impressed, though at how

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00:37:22.380 --> 00:37:33.090

Carolyn Orbann: various communities around the country have been this very kind of very pro-social vocally pro-social saying you know the reasons that we're doing this are positive reasons and, you know,

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00:37:33.510 --> 00:37:46.500

Carolyn Orbann: overcome your normal you know, I want to do what I want, because I'm an American, kind of feeling and and do this for other people, that's been really different and least and kind of how I see us living our kind of public American culture.

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00:37:48.660 --> 00:37:56.220

Tony Lupo: And was there. Was there any information about the economic impact of that 1918?

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00:37:56.370 --> 00:38:03.840

Carolyn Orbann: Sure. Yeah. Yeah. And this, there has been some research and you know this is not my area, specifically, but in what I've read, you know if if you

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00:38:04.140 --> 00:38:11.310

Carolyn Orbann: stop your social distancing too soon. It's not that people can just go back to work in a kind of neutral way. It's that you start getting new infections.

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00:38:11.670 --> 00:38:14.880

Carolyn Orbann: And so the the economic consequences really can be quite negative

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00:38:15.270 --> 00:38:28.980

Carolyn Orbann: and so I I've seen you guys have probably seen it, too, because it's been out there, but I've seen some some research that shows that communities that's that kind of opened back up too early actually had kind of a worse long run because you've just had so many more cases.

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00:38:31.920 --> 00:38:52.620

Tony Lupo: Excellent. I'd like to say thank you again for that wonderful talk. A very interesting to listen to and to see all that parallels and differences between that event, and this one. And I'd like to thank everyone for attending and thanks again James and

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00:38:53.850 --> 00:38:56.040

Tony Lupo: Shibu, anything else?

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00:38:57.330 --> 00:39:02.490

Shibu Jose: Away. Well, thank you, Tony. And thank you, Carolyn, very much.

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00:39:04.380 --> 00:39:18.090

Shibu Jose: Well, I would like to remind people that we have two more coming up, two more webinars coming up next week.. Again, the same time Wednesday at two o'clock.

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00:39:18.660 --> 00:39:32.160

Shibu Jose: We have Dr. Samniqueka Halsey talking about using models as a tool to predict and prevent the spread of disease epidemics and then on May 6

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00:39:33.420 --> 00:39:52.140

Shibu Jose: And it's a Wednesday at 2pm we have Dr Bhanu P. Telugu from the University of Maryland, College Park, he will be talking about domestic pigs as transitional bridge models. Hope you will be able to join us. We have

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00:39:53.190 --> 00:40:10.740

Shibu Jose: at least one or two more webinars after those two. So I will be announcing those schedules later this week. So thank you all for joining us and Carolyn. Again, thank you very much for a wonderful talk. Thank you.

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00:40:11.670 --> 00:40:12.060

Thank you.

247

00:40:13.320 --> 00:40:14.820

Shibu Jose: All right, thanks everyone.

248

00:40:16.050 --> 00:40:16.890

Shibu Jose: See you next week.

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00:40:27.030 --> 00:40:28.320

Carolyn Orbann: Thank you all for having me.

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00:40:31.140 --> 00:40:33.000

Webinar Host: Oh, thank you. Thanks so much.

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00:40:34.470 --> 00:40:35.550

Carolyn Orbann: I'm going to leave the meeting now.

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00:40:36.540 --> 00:40:38.250

Webinar Host: All right, take care.