Thank you very much, uh, I would now like to introduce our next Speaker,

Professor Linda Nicholi. Doctor Nicholi is a professor of Epidemiology of microbial diseases at Yale.

She’s also the director of the Connecticut emerging infections program and the HP vaccine Working Group at Yale.

Doctor Nicholi received her Master of Science at Harvard School of public health and her PhD at Tulane University.

She has served as an advisor, an reviewer for the NIH and CDC conferences, and grant programs. Professor Nikolai thank you for being here.

Professor Nicholi thank you for having me, uhm, you can hear me, OK? Yes great OK thanks.

So um, as noted in the title of this presentation. But I’d like to talk to you all about today is about the academic public health partnerships that have either been newly developed or existing partnerships that have been called

action in response to COVID-19 next slide.

Please thank you. So I’d like to begin with a really high level overview of what is the role of public health departments in outbreak or pandemic situations.

I think most of us at the University recognize the really important need for research,

and in many of us actively engage an important research that research questions that arise during outbreaks and now what has become a pandemic,

questions about transmission, immune response,

clinical presentation, treatment, all of these things are really, really important. What public health departments do?
That’s quite different is they play a real critical role in response activities, things we do to detect trends and patterns during the course of an outbreak, so public health department’s really do this as outlined in this report from the Institute of Madison Public Health departments do this through epidemiological investigation. Surveillance are very important. Function is communicating with the public and strategic planning. So this is all again outlined in this IOM report. I really like the preface of this IOM report actually has a quote that I think very succinctly summarizes what public health systems do in times of emerging infections. In the quote you can read it there knowing is not enough, we must apply willing is not enough. We must do, and that’s the critical role public health department’s next slide please. So then what is the added value of public health academic partnerships? and I think there are several benefits to these partnerships during this time of pandemic, academic institutions can provide resources to public health efforts. I pretty sure I don’t need to tell anybody at this workshop how. Woefully underfunded, our public health system, it is. It’s a real, real modern tragedy even can’t think of another word. So I’m not saying that academic institutions can provide actual dollars, but we do have access to resources that are public.
Health system doesn’t. And one of those resources would be a range of expertise.

So academic centers, places like Yale have world renowned experts in basic and Clinical Sciences,

population science, pop policy experts and these can bring added value to the public health response.

And finally, I think it’s really worth noting the academic institutions have an agility or nimbleness to mobilize in ways that public health Department may not be able to in terms of bureaucratic structures that exist.

You know, sometimes we feel like. Our academic centers are highly bureaucratic, but I can tell you that public health systems can be even more so,

so there are many, many Venice benefits to given the role of Public Health Department.

There are many benefits to these academic partnerships next slide,

So this is a really busy slide,

and that’s because we have been really busy over the past couple of months.

On this slide, I’m just highlighting some of the different activities that we’ve been involved in.

Partnerships between Yale and sitting in state health departments.

So most of this work has been really facilitated by the presence of the Connecticut emerging infections program here at Yale.

So this the EP is a CDC funded partnership between the Connecticut Department of Public Health.

In the Yale School of Public Health,

this is a program that has been at Yale continuously funded since 1995.

So for over or just about 25 years now,

the general function of the EP is to do public health surveillance and applied epidemiologic research for a variety of Infectious Diseases.
And over the past six weeks, it’s incredible to think that it’s only been six weeks. It feels like a lifetime, but over the past six weeks or so for Cobain 19, we’ve done the following. So first of all, we have implemented surveillance for laboratory confirmed hospitalizations for COVID-19 and the results of the first month of surveillance have already been published in an MMWR that was released about a week and a half ago. We are currently in the planning phases of an epidemiologic investigation of healthcare personnel in terms of what are their risks and what are their exposures. We have already completed a rapid supplemental case series investigation of COVID-19 patients. We currently staff at the IP. It’s incredible what they’re doing. They are currently providing surge capacity for COVID-19 case reporting to DPH that includes follow up a positive lab reports gathering missing information and data entry, and that information is really critical is we need to monitor the spread of the epidemic. We also worked initially with DPH to develop and implement a volunteer contact tracing program in which we do rapid follow-up of case reports. Patients who are newly diagnosed with COVID-19, we identify who their Contacts are, people who potentially been exposed, and then we notify them about this exposure and provide them appropriate guidance so that effort is currently a partnership with the city of New Haven Health Department. We work closely with Marissa Bantus name. You’ve already heard handy all hell.
So each of these activities is really worthy of their own presentation. But since I don’t have time to do that today, what I’d like to do in the next 10 or 15 minutes or so is talk about our newest project, which is a partnership between Yale and the Connecticut Department of Public health, where we have set up an active daily monitoring system for COVID-19 in long term care facilities. So I’ll just focus on that, but anybody wants to hear about any of these other activities. I’m happy to speak more about those later.

Next slide, please. So I think everybody appreciates the significance of long term care facilities in this current pandemic.

So one of the earliest signals of their significance was the devastating outbreak that occurred in a long term care facility in Washington state in early March. So again, this is really one of the earliest occurrences as the COVID-19 came to the US, really devastating. Over 130 people were diagnosed with COVID-19, including more than 80 residents. Over 30 staff members and 20 three people died in this outbreak. So as noted in this MMWR, and I think what’s clear to probably most people at this workshop is long term care facilities are really important setting because the residents tend to be older and have underlying or comorbid health conditions which make them vulnerable to infection and worse outcomes. And it’s also a vulnerable. Settings like this congregate nature of living.
Furthermore, it’s really important setting because it’s this interface with the health care system and it really highlights the risks to the health care workforce and how important of a population that is and how hard we need to work to preserve our health care workforce at this time. So since this early report, long term care facilities are in the news locally and nationally, just about every day, so hopefully people can appreciate the significance of this population. Next slide, please. So what’s going on in Connecticut?

These are data from the Connecticut Department of Public Health. They are updated regularly on their website. This is a screenshot I pulled from April 13th where you can see that by April 13th, 50% of long term care facilities in Connecticut reported having had at least one case of COVID-19. They also note a total of over 1500 residents had been diagnosed with COVID-19. Nearly 400 of them. I been hospitalised and 14% or over 200 of them had died. So these data, and of course these numbers are constantly changing, so these data are really important and they reflect the information that was coming from the existing surveillance that had been ongoing for Kobe 19 in long term care facilities. But some important limitations had been noted.

In this surveillance system is as important as good as these data are that the Department of Public health realized there was some room for improvement.

Next slide, please. So in the existing system diagnosis of COVID-19 in long term care facilities would be reported both to the local well into three places to the local
116 00:09:29.802 --> 00:09:32.544 health Department into two different groups.
117 00:09:32.602 --> 00:09:40.360 At DPH they would be reported to the infectious disease Epidemiology group into the facility licensing investigation section or less.
118 00:09:40.360 --> 00:09:50.220 So there was sort of triple reporting of cases from long term care facilities and is create some inefficiencies for an already overburdened staff both.
119 00:09:50.220 --> 00:09:54.840 At the long term, care facilities who do the reporting and at the public health,
120 00:09:54.840 --> 00:09:58.179 local and state level that was receiving these reports.
121 00:09:58.179 --> 00:10:05.450 There was also some concern that delays in reporting could allow a single case of COVID-19 to turn into larger outbreaks,
122 00:10:05.450 --> 00:10:08.909 so the need for real time data is just essential,
123 00:10:08.909 --> 00:10:11.669 so recognizing the need to revamp this system,
124 00:10:11.669 --> 00:10:22.049 the Department of Public health put out a call essentially to us at Yale for assistance so that emodi pH you can see them all listed there are folks who
125 00:10:22.049 --> 00:10:24.480 work in the healthcare associated infection group,
126 00:10:24.480 --> 00:10:28.629 folks who work in syndromic surveillance folks who work in information technology.
127 00:10:28.629 --> 00:10:32.340 You’ll see, that’s been a really important component to this.
128 00:10:32.340 --> 00:10:36.769 We’re also very fortunate to have doctor Kevin O’laughlin in this group.
129 00:10:36.769 --> 00:10:44.149 He is ACDC signee to the state of Connecticut to help with COVID-19 so we’re very grateful for his presence.
130 00:10:44.149 --> 00:10:55.201 Next slide, please. So essentially the ask from DPH to Yale was to assist with developing and implementing an active surveillance system for COVID-19 in long term care facilities that
131 00:10:55.254 --> 00:10:58.469 could do the following. Ultimately,
132 00:10:58.530 --> 00:11:05.379 the goal is to reduce the size and scope of Coben 19 outbreaks in long term care facilities by early detection.
133 00:11:05.379 --> 00:11:11.250 Early detection is really what’s so important to improve data collection to meet the existing reporting needs,
134 00:11:11.250 --> 00:11:12.970 things need to be reported,
but we wanted to improve the ways in which this could be done efficiently and accurately to provide timely information to leadership via daily reports to enable rapid intervention when suspected or confirmed outbreaks are identified and triage prevention and control questions for response.

So long term care facilities. Have a lot of questions and we wanted to be able to use this system to address those.

Next slide, please. So we assembled a team at Yale and this is what it looks like.

Folks from the Institute for Global Health and from the school of Madison, the members of the team include faculty, staff, and students. Collectively, this group represents expertise in Epidemiology, public health, clinical Madison, Infectious Diseases, infection prevention, and really importantly, an outstanding student workforce. Next slide, please. So operationally, this is what it looks like.

so we set up this electronic database of portal through flips.

Again, the facility licensing investigation group at DPH on line reporting system.

So the long term care facilities are supposed to enter their daily reports and I’ll show you in the next slide what a daily report looks like every morning by 10:00 AM. So every day there’s supposed to complete a questionnaire on this portal.

Up by 10:30 in the morning we have run a report identifying which long term care facilities have not entered their data.

They are contacted by phone good old-fashioned telephone call that is either the student team at Yale makes these phone calls or staff at the pH make these phone calls,
154 00:12:54.049 --> 00:12:59.649 the facilities are also sent an email reminder at reminding them to report to the system.

155 00:12:59.649 --> 00:13:03.850 And if they don’t then they get a phone call from us.

156 00:13:03.850 --> 00:13:06.649 And while we’re on the phone with them.

157 00:13:06.649 --> 00:13:14.700 We complete the reporting worksheet and enter that directly into this portal so this all happens every day between about 10:30 and 2:30,

158 00:13:14.700 --> 00:13:18.559 so during the middle of the day we’re actively calling log.

159 00:13:18.559 --> 00:13:21.220 Home care facilities and asking them some questions.

160 00:13:21.220 --> 00:13:23.870 Again, I’ll show that on the next slide,

161 00:13:23.870 --> 00:13:27.190 then by three o’clock report of these data is run,

162 00:13:27.190 --> 00:13:29.519 any signals of an outbreak are identified.

163 00:13:29.519 --> 00:13:32.169 This is could include one case of COVID-19,

164 00:13:32.169 --> 00:13:34.500 and that’s a signal that’s an outbreak.

165 00:13:34.500 --> 00:13:37.149 This is communicated to the leadership at DPH,

166 00:13:37.149 --> 00:13:40.139 who can then implement appropriate response and control activities,

167 00:13:40.139 --> 00:13:44.039 and I’ll show more of that on the next slide.

168 00:13:44.039 --> 00:13:51.700 So essentially yeah, so essentially the students that are calling from Yale collect these data and submit this to DPH.

169 00:13:51.700 --> 00:13:59.889 And what this really does is it frees up the frontline public health staff or other critical tasks.

170 00:13:59.889 --> 00:14:03.539 So realize this image is a little difficult to see.

171 00:14:03.539 --> 00:14:10.840 It’s a screenshot from the online portal and it just gives you an idea of the data that we gather,

172 00:14:10.840 --> 00:14:15.220 so it’s important to note this is a facility level surveillance system.

173 00:14:15.220 --> 00:14:21.429 We are not getting individual information about any residents or any patients were getting facility level information.

174 00:14:21.429 --> 00:14:27.269 So for example, survey asks if any residents currently have any symptoms of coded 19 weather.
Any residents have been hospitalised with COVID-19. Like symptoms, whether any residents have died of these symptoms, whether anybody has tested positive for cocaine, weather, people have test pending for COVID-19, so all of the things that we can run a daily report on to identify signals for a potential outbreak.

Next slide, please. So then if a signal is detected, if something is going on, this is when the infection prevention response team is activated. These are the clinical experts I showed you from most from school medicine at Yale. And they provide several important functions in this active surveillance system. So the first thing they can do is field some of the questions from the long term care facilities regarding prevention and control, and this is all done using CDC guidance. They will participate in calls with DPH and long term care facilities to assist in control and Prevention when indicated. Should there be a signal or an outbreak, they provide clinical expert guidance to DPH in long term care facilities, unrelated matters and importantly, going forward, they’re going to be involved in a CDC LED initiative. To do more proactive work in this area rather than reactive work, so this is going to be a new area of work at CDC that’s really looking to keep Cove it out of long term care facilities that have had no
cases or a low number of cases.

Next slide, please. So I just want to show you how quickly we launched this system.

You know it’s like the time frame we’re all working on now is just really remarkable.

So the initial request came to DPH came from DP.

HTML came from the state epidemiologist Matt Carter Dr Mac harder on March 28.

The A-Team at Yale of what’s faculty, staff and students. The team at Yale was assembled the very next day on March 29th and we had our first call on April 1st.

We then spent about a week figuring out the logistics of the program,

including a lot of it logistics.

You think about setting up the surveillance system,

that they need to enter into it,

getting the students access to it so that they could enter the data.

Again, being as efficient as possible,

so a lot of it work.

So then the student training began on April 9th,

students have received training not only in this surveillance system,

but also more broadly in infection prevention,

so they can field questions possibly.

And on April 13th. Yeah,

that was just earlier this week.

Just a few days ago this system was launched.

It’s just the timing is incredible.
OK, next slide plays. So this just shows you the status of this program for the first 2 days we launched the system on the 13th and what we know from the first 2 days of active surveillance is about 350.

Phone calls have been made to long term care facilities together. This important information half of these calls have come from were made by DPH staff and about half were made by the student team. So this just really provides an idea of how great the need was for this program.

The number of calls that are being made. Just shows you how much more quickly and how much more completely we can gather data in near real time from a long term care facilities.

So it really just incredible. And it also I think signals that points to just how potentially impactful this program can be in terms of its ability to collect this information so quickly and so completely. We do expect that overtime the number of calls may go down as long term care facilities become.

More able to enter the data on their own again, it’s a new system for them as well, so we’re all getting up to speed. So where do we go from here? Well, all of this work will continue and I’m sure it will evolve overtime.

Will make improvements to the system and then at some point, I think some really important research questions can be can be answered from this program and from the data that we’re collecting, whether it’s from an implementation science perspective or about the effectiveness of infection control and Prevention programs,
or about the effectiveness of being more proactive in keeping COVID-19 out in the first place will be a lot of really interesting questions.

That we can answer and will have a tremendous amount of data to do that,

And I think that’s true for all of the public health academic partnership programs I talked about on a much earlier slide.

Tremendous amounts of data that are being collected in such unique circumstances.

I think there will be lots of opportunity for analyzing data in learning.

Learning from this experience, but right now.

The real priority is again, the public health response activity of identifying and controlling outbreaks.

Next slide, please. So, to conclude,

Jean Brown, use the word extraordinary in her introduction today and I’m using it here as well.

I really want to acknowledge that during this incredibly extraordinarily difficult at frankly horrible time that I have been honored at truly honored and so lucky to be able to work with some of the most extraordinary people in the world.

At each of these institutions,

on all of these projects that I mentioned in the beginning.

I, the commitment and the resilience and the effort and the way in which people do it in.

Just stay calm and cool and collected in these just unreal times.

It’s truly inspiring really. Get choked up thinking about all of the people that I worked with on all these projects.

And I will say it really,

it does give me hope that the people at all of these institutions and organizations,
tremendous hope that we will emerge sooner rather than later from this pandemic.

and I think the ties between all these institutions will be strengthened throughout this process.

Thank you.