Okay, so welcome everyone. I think we'll get started. I'm Robert Dubrow. I'm the Faculty Director of the Yale Center on Climate Change in Health and I'd like to welcome everyone. So our center works in the domains of research, education, and public health practice and also on the local and international levels. So of course, one of the main full sides of our work is Connecticut, where we live and work. So with the goal of helping policy makers and advocates in Connecticut advance your work, this sensor and Laura in particular, put a great deal of effort into researching and writing climate change health in Connecticut, the 2020 report. So it's a pleasure to introduce Dr. Laura Bozzi who's our Director of Programs and the lead author of the report. And she'll be presenting the report's main finding. Just a couple of housekeeping items. For this webinar being recorded and it'll be available on our website there on. Second, be sure to stay muted. And third, if you have questions, you can put them into the chat box and we'll have a question.
00:01:20.710 --> 00:01:24.260 and answer period at the end of Laura’s presenta-
tion.
00:01:24.260 --> 00:01:29.260 So Laura, we’re looking forward to your presenta-
tion.
00:01:29.440 --> 00:01:34.170 - Great, thanks Rob and welcome everyone.
00:01:34.170 --> 00:01:38.180 First I wanna think and recognize Rob as the co-author
00:01:38.180 --> 00:01:40.650 of this report that we’ll discuss today,
00:01:40.650 --> 00:01:42.230 as well as some other contributors
00:01:42.230 --> 00:01:45.710 that are Ian Maro, Diaz Hernandez, Chi Chen
00:01:45.710 --> 00:01:47.973 in a former student at Melville Vessel.
00:01:49.990 --> 00:01:50.823 So thank you again
00:01:50.823 --> 00:01:52.883 for your interest in this important topic.
00:01:54.380 --> 00:01:57.510 Let’s see, Rob mentioned the center a bit
00:01:57.510 --> 00:01:59.230 but just want to orient you
00:01:59.230 --> 00:02:02.010 to the Yale Center on Climate Change in Health.
00:02:02.010 --> 00:02:03.740 As Rob mentioned, our work is global
00:02:03.740 --> 00:02:06.290 but we have a particular focus here in Connecticut.
00:02:08.990 --> 00:02:11.900 And we invite you to stay engaged
00:02:11.900 --> 00:02:13.650 with the Yale Center and Climate Change in Health.
00:02:13.650 --> 00:02:16.980 We have a great slate of webinars
00:02:16.980 --> 00:02:18.630 that are coming up this semester.
00:02:19.760 --> 00:02:22.300 You can sign up for them on Eventbrite,
00:02:22.300 --> 00:02:25.530 learn about the more on our website
00:02:25.530 --> 00:02:28.330 and I think Myra is putting in links into the chat
00:02:28.330 --> 00:02:29.970 and please stay connected with us.
00:02:29.970 --> 00:02:32.170 You can follow us on social media.
00:02:32.170 --> 00:02:35.573 You can sign up for our newsletter on our website.
00:02:38.730 --> 00:02:40.003 So onto the report.
00:02:40.850 --> 00:02:44.190 We released this report in September of 2020.
00:02:44.190 --> 00:02:46.010 We hope it provides a comprehensive look
It covers 19 indicators across four domains, temperature, extreme events, infectious diseases, and air quality. You’ll see the list of 19 indicators to your right. Its purpose is to inform policy makers, health professionals, advocates and residents. Many of you on the call today about the impact of climate change now in the future on the health either on human health in Connecticut. Wherever possible we report indicators are for each County and those who aren’t from Connecticut, other eight counties which makes it a better reasonable task. And we tracked as far back as the data set would allow. Some of our data sets went back to the late 1800s. I’ll note though that in this presentation I’m largely showing the statewide results. So really encourage you to look at the report if you’re looking for the County level results. And we noted linear trends when they are statistically significant. Some of the trends were significant and they were demonstrating trends consistent with what we’d expect under climate change like increasing average temperature. The others don’t show trends yet, but we report in our findings about scientific studies.
and how they project those changes to occur in the future.

So I’ll plot on some of the indicators but 19 is a lot to cover in less than an hour so again, please check out our report on the website.

And I’ll tell you a little bit more about our data sources.

So we used all publicly available data from federal agencies, State agencies and a medical association.

We were particularly looking at federal agency data and that means that it’s largely available across the country.

So if you’re in another state and you want to look at this, you can reference our data sources.

And I’ll note, one of them that I think is really useful particularly in say a classroom, is this climate at a glance from Noah and see in the center on the right or you can access temperature and precipitation data since the late 1800s as you’ll see that we used.

To give you some context for our report.

I want to summarize some projected climate change impacts in Connecticut. These are largely drawn from a really important report that came from a UCONN and CIRCA researchers called the Connecticut physical science assessment report,
as well as updates that are found in the governor’s council on climate change, Connecticut governor’s council on climate change report from the science and technology committee. And one thing to note is that there’s high confidence in projected changes through mid-century, so about 2050, but then the projections after mid-century really depends on the actions that we take now to mitigate climate change and reduce our use of fossil fuels. And in fact, the GC3 report wrote recently coordinated mitigation now means it’s more likely that the temperature will stabilize after 2050 if not warming is likely to accelerate. So to summarize some of the projections. This is from the UCONN CIRCA report. They project a five degree increase in annual average temperature by mid-century compared to the base period of 1970 to 1999. In that same period, 8.5% increase in annual precipitation but this is mostly due to increases in the winter and the spring. Because of that increase in heavy rainfall events, a greater flood risk. And while there is more annual precipitation, there’s less in the summer increasing summer droughts.
up to three times as often by the end of the century I believe. Additionally warm spell days which are like heat waves. They project those to increase from less than three per year in the 1950s to 44 per year in 2050 and more than 120 per year by 2100. That’s with business as usual high emissions scenario. For sea level rise, there are projections of 20 inches or a half a meter by 2050, but then what happens after that really depends on our climate actions. So without a strong reduction in CO2 emissions, recent work indicates that it could be up to 80 inches or 6.7 feet by 2100. And finally Atlantic hurricanes are expected to become more intense, meaning greater wind speed with greater amounts of precipitation. Well, climate change affects everyone. It does not affect everyone equally. It’s often called a climate risk amplifier. Some people are more vulnerable to others because of where they live or work their age or race, their health condition, their social economic status. And you can see that depicted in this graphic. And essentially vulnerability is a function of three factors, exposure or how much a person is in contact with the climate hazard, sensitivity which is how much
the climate hazard affects them which can differ from person to person based on biological traits and socioeconomic status, and an individual or community’s adaptive capacity which is its ability to adapt to cope with that climate hazard. And as you can imagine, this can be bolstered by resilience planning or by access to resources and it can be hampered by historic disinvestment in communities structural racism and larger structural factors. And I’ll return to this issue of vulnerability and equity throughout the presentation. So I’ll move on to the reports findings first around temperature. So annual average temperature is increased over three degrees Fahrenheit across Connecticut and in each County over the last 125 years. And in fact, six of the hottest years in Connecticut have been since 2005. And so you can see on this graph or the center line is the average for the 1900s of temperature. So all of the bars in later years are above zero meaning that they’re higher than the average. So what does this mean for health? There’s wide range in effects and I’ll talk about some of them in later slides. High heat days can cause heat stress, heat stroke and even death.
High temperatures interact with air pollution particularly smog to produce even larger health impacts.

Warmer winters create conditions for larger tick and mosquito populations that are active over a greater proportion of the year. It creates a longer season for ragweed pollen which causes hay fever, exacerbates asthma.

We have another indicator that I don’t present here but where we looked at frost days, which are days under freezing where the temperature reaches under freezing.

And we found that it decreased from 1950 to 2018 in four of the eight counties.

And this has important ecological and human health consequences.

It can lead to more plant pests and longer season for their activity affecting both forests and agriculture.

And I’ll point in particular to something that the 2018 National Climate Assessment, they framed the Northeast chapter around changes in how this affects our seasonality and how that affects our sense of place.

They noted that the seasonality of the Northeast is central to the region’s sense of place and that it’s an important driver of rural economies.

So wide range in impacts from these warming temperatures.
Digging down a little bit more on heat related illness.

Extreme heat stresses the body’s ability to maintain its normal temperature, which can lead to heat related illness.

And this may require emergency medical treatment or hospitalization, severe cases that can cause death.

In Connecticut from 2007 to 2016, there were an average 422 ED visits and 45 hospitalizations per year for heat stress.

As I said before, vulnerability is a function of exposure, sensitivity, and adaptive capacity.

And on the right, you see a figure of the urban heat island effect.

So this is the phenomenon where cities are hotter than the surrounding areas because of the greater heat generation and the absorption of heat due to the human materials.

You can see that there’s greater exposure in cities in Connecticut than in other parts.

And that this is particularly an issue for residents in cities who have low financial or social resources to adapt.

After our workers are another group with higher exposure to extreme heat, and may have limited ability to change.

They have to work outside and if there aren’t protective policies,
then they may be at more risk.

Other vulnerable populations include the old and the young,

those with pre-existing medical conditions,

those with limited social and financial resources,

athletes and pregnant women.

In Connecticut well young people are more likely to be treated in hospital emergency rooms for heat related illness than other age groups.

The risk of inpatient admission.

So more serious heat related illness in Connecticut increases with age and it’s highest for those 75 and older.

And importantly note that these vulnerability factors are cumulative.

So if you’re someone that we’re both, we’re multiple correspond to you,

then you’re at greater risk.

So what can we do?

These are a number of possible steps forward in terms of both policy and personal action.

So the first is to make homes cooler, more energy efficient

and powered by renewable energy.

And we can do that in Connecticut through some specific ways.

We can expand our energy assistance program called (indistinct) to include cooling assistance to make those that can’t afford air conditioning particularly if they are medically vulnerable to heat related illness to make that more available.
At the same time, we need to also address weatherization to make homes more energy efficient.

There’s a lot of work happening in the State right now to address the barriers to weatherization so that more people can get their homes weatherized and more energy efficient.

And finally, we wanna do all these actions while ramping up renewable energy programs like shared solar to make sure that they work for low and middle income customers and renters so that there is both the protection against heat while also making sure that we are using renewable energy to do that.

Another way to cool our neighborhoods is by supporting an urban tree planting and maintenance. And I think on this point, it’s important to consider that the greatest cooling effect is often from a larger shade tree.

So it’s not just planting, but it’s also maintaining our larger trees. And there’s some really interesting programs around shade tree ordinances or increasing funding around maintenance for existing trees.

We need to protect against heat related illnesses at work sites, schools, and sports teams by creating plans and enforcing them to make sure that those that are exerting themselves outside
are acclimated and receive proper rest. Watershed
and other important health provisions. And municipalities can develop
and maintain local heat response plans. There's a recommendation in the governor’s council
on climate change report that the State create a framework
that the municipalities could build from. And then for personal action, elderly,
you can check on elderly neighbors during extreme heat events
and you can help to cool your neighborhoods through tree plantings and maintenance
or by painting your roof white. And we'll move on to extreme events.
So in this, just check my papers. So this next indicator,
we track the number of weather disasters federally declared disasters through FEMA
and found that from 2010 to 2019 there were nine federal disaster declarations
for weather events in Connecticut compared to only 13 in the previous 56 years.
And you can see here that there are a number of quite memorable storms like Irene and Sandy,
the Halloween or Easter, and some others that they affected all counties in the State.
So what does this mean for health? There are, of course, the immediate dangers
from severe storms and flooding like drowning or injuries.
but there are other impacts, particularly due to disruption of critical infrastructure like the likes of electricity or sanitation, drinking water supplies, food, refrigeration, phone service.

And this is important because it can interfere with access to medical care.

It may be that if someone loses electricity and then they’re on an electric medical device like for dialysis, that can be life-threatening.

Roads may be closed so that ambulances can’t reach someone in need.

So these are important ways where these are important ways where there are larger longer-term ramifications from extreme events.

There are also less visible but critically important issues related to mental health from disasters.

Individuals, for instance whose households experienced a flood reported higher levels of depression than anxiety.

These can persist for several years after an event.

And finally, there is the building stock in lower income neighborhoods is often at increased risk for damage from natural disasters.

And that this is in part due to structural inequality because of historic patterns of development in vulnerable areas and under investment in the public infrastructure in some areas leaving some more at risk than others.
The next indicator looked at an interesting issue of Superfund sites. So the CIRCLA federal law on nicknamed Superfund identifies and cleans up polluted sites. There are thousands of these across the country, manufacturing facilities and processing plants, landfills, mining sites, and for this indicator we use data from the government accountability office where they looked at all Superfund sites in the country. And using GIS they mapped which ones were vulnerable to different climate impacts. And for Connecticut, they found that seven sites, those marked on the map, out of Connecticut 16 are vulnerable to climate change impacts. This is particularly that they’re vulnerable, most are vulnerable to inland flooding, as you can see most of them are inland. There’s one side at the bottom that’s also vulnerable to hurricane impacts and hurricane storm surge and sea level rise. And this is a concern for human health because people can become exposed to the contaminants if they are released due to this impact and if they enter the ground or surface water or they get released into the air or they leach into the soil.
Of course, this is another reason to prioritize investing in speedily cleaning up these contaminated sites.

The next indicator I’ll cover is high tide flooding. So high tide flooding is what it sounds like. It’s that an area floods only during high tide, but that is related to sea level. And so as sea level increases, then high tide flooding becomes more common. And we can see that that is the case. There are two sites in Connecticut where this is measured, in New London and in Bridgeport. And I’m showing here the New London figure, but we see that the number has increased significantly since the beginning of the measurement period.

And in and of itself high tide flooding is not of significant health risk but as it becomes more common then it can become certainly more concerning. And why is that?

So one reason is that it can transmit pathogens like Vibrio bacteria if you’re walking through waters that are contaminated. It also can contaminate drinking water supplies particularly if they’re wells that are close to the Coast or contaminate coastal agricultural fields. And with highly developed coastlines, Connecticut is also at risk for high tide flooding.
affecting large number of roads, homes, businesses and other infrastructure that are along the Coast. So again, what can we do about this? In terms of policy and planning, we can make our homes more affordable, healthy and climate resilient, particularly recognizing that many homes are in either floodplains or in coastal areas. And this is especially important for low income communities who are disproportionately underinsured for protection or renters who are vulnerable to displacement after a disaster. And so the more that we can make housing secure, the better prepared we are for future climate impacts. Another specific action that municipalities can take is to enroll in FEMA’s community rating system program which is a voluntary incentive program that discounts flood insurance, premium rates for residents in the municipalities that participate. There are about 19 municipalities in Connecticut that now participate. We can do more emergency planning in a shared backup power at both congregate settings and senior living facilities to be sure that those sites where there are more vulnerable residents
that they’re prepared for extreme weather events.
And then for personal action, know your risk.
You can look up whether you’re in a flood zone
or what kind of hurricane evacuations on your end,
you can look up what your hurricane evacuation route is.
If you’re in that area, you can make a plan.
And say this recognizing that there are limitations
that make that kind of planning needs there
for some people than others.
And then I didn’t cover it,
but we do have an indicator on drought.
And as I mentioned before in the future,
Connecticut is expected to experience
more drought than in the past.
And so it’s important to now adopt
more water conservation measures
both at the individual level and the municipal levels
including installation of efficient appliances
and installing low impact designs and making retrofits.
Third, we’ll move to infectious diseases.
We conducted a detailed assessment of mosquito abundance
for this indicator using data
from the Connecticut Agricultural Experiment Station.
And we found that during 2001 to 2019
of the 28 species found in Connecticut to carry viruses,
that cause human disease,
00:24:49.300 --> 00:24:51.800 10 of those showed increasing abundance
00:24:51.800 --> 00:24:54.810 and three show trends of decrease in abundance.
00:24:54.810 --> 00:24:57.280 And this is important because mosquito abundance
00:24:57.280 --> 00:24:59.390 is a key factor that influences
00:24:59.390 --> 00:25:02.690 the capacity of the mosquito to transmit the virus
00:25:02.690 --> 00:25:05.163 and the rate in which infections spread.
00:25:06.450 --> 00:25:10.540 And you can see here a list of the mosquito species
00:25:12.330 --> 00:25:14.150 that each of the mosquito species you attract
00:25:14.150 --> 00:25:15.870 has been found to carry one or more
00:25:15.870 --> 00:25:18.530 of the following viruses that infect humans.
00:25:18.530 --> 00:25:21.640 And I’ll note that we also have indicators
00:25:21.640 --> 00:25:25.153 that covered two these Tripoli and West Nile virus.
00:25:26.350 --> 00:25:28.870 And our findings here are important again,
00:25:28.870 --> 00:25:31.780 because increases in the abundance of mosquito species
00:25:31.780 --> 00:25:34.200 that are vectors for these diseases
00:25:34.200 --> 00:25:38.293 can lead to increases in the number of viral infections.
00:25:42.770 --> 00:25:45.720 On tick-borne illnesses, in fact,
00:25:45.720 --> 00:25:48.870 we found that the total number of cases of Lyme disease
00:25:48.870 --> 00:25:53.020 have decreased Statewide over the last decade or so,
00:25:53.020 --> 00:25:54.133 which is good news.
00:25:55.710 --> 00:25:58.503 However, there are emergency concerns.
00:25:59.370 --> 00:26:00.900 One issue that we highlight in the report
00:26:00.900 --> 00:26:03.350 is around lone star ticks.
00:26:03.350 --> 00:26:04.960 Lone star ticks transmit a number
00:26:04.960 --> 00:26:07.430 of diseases and medical conditions.
00:26:07.430 --> 00:26:09.850 And you can see the list there.
00:26:09.850 --> 00:26:12.420 The lone star tick is the most common human biting disease
in the Southeastern United States.
It’s expanding into Connecticut likely due to climate factors particularly warming winters.

And importantly that the Connecticut Agricultural Experiment Station discovered established breeding populations in Fairfield County in 2018 and Haven County in 2019, meaning that the insects aren’t transients that they’re established in our State.

I mentioned foodborne Vibrio or Vibrio briefly earlier. So Vibrio bacteria live in warm coastal waters, especially in lower salinity estuaries. Humans can become infected through two routes. One is by walking through water that carries the Vibrio bacteria especially with an exposed wound. But the second and the focus of this indicator is by eating contaminated seafood, especially shellfish that’s where. And you can see from the figure on the left the annual incidents of confirmed cases of vibrio infections has increased. Foodborne infections from Vibrio typically result in symptoms, including abdominal cramps and nausea, diarrhea, fever and chills. Most of them aren’t significant, many people don’t seek medical care so actually the numbers are under reported.
But foodborne vibrio infections can be serious especially if they’re caused by one particular species. Vibrio vulnificus which causes 95% of all seafood related mortality in the United States.

But fortunately, these kinds of infections are very rare in Connecticut.

And you’ll see on the right sea surface temperature at one site in Connecticut, on Niantic Bay during the summertime, over the same period.

The bacteria grow best in warm water.

And so you can see the strong association between higher sea surface temperature, the right and the greater vibrio abundance on the left.

And already it’s been observed that these infections increase during heat waves when this has been studied around the world.

And this is one of the quite clear indications that we see in Connecticut so far of an association that we see in Connecticut so far of an association of climate change and health impacts.

What can we do here?

In terms of policies and programs, I’ll note also on this point that the governor’s council on climate change has issued its report recently that includes actions around public health and safety.

And that a number of our recommendations in our report and in this presentation are quite similar.
to those that are in the GC3 report and that’s including in this instance. So we recommend surveillance of vectors and the sea doesn’t take associated disease that is happening through the Connecticut Agricultural Station. And it's really important, particularly as they’re emerging vectors and diseases in our area. And so relatedly, it’s important to continue with public education on these emerging vectors in diseases and around prevention, best practices. And third and this is directly from the GC3 report, to develop vector-borne disease prevention and management guidelines for schools, outdoor recreation and homes to provide best practices at those sites and for reducing infections or reducing disease. And then for personal action, you can create a tick safe zone in your yard. Many of us know already about best practices around tick prevention of wearing long pants. Using the insect repellent, doing a tick check. And then we want to keep mosquitoes out with high quality housing, mosquito tight screens and windows and doors. And there are some helpful resources, including from the Connecticut Agricultural Experiment Stations and I’ve won friends won the tick management handbook.
Finally, we’ll discuss the final domain of air quality.

As you may be aware, Connecticut has issues with ground-level ozone pollution. And in fact, the American Lung Association gave each County an F grade for ozone pollution in its 2019 report.

And similarly, we found that while the number of air quality days has decreased over time, so you can see the downward trend of those bar graphs for each County that more needs to be done to protect human health.

So ground-level ozone is the result largely burning fossil fuels whether in our vehicles or in power plants.

And so importantly, this is where we can see strong health co-benefits of climate actions.

When we switched to clean energy sources or make our active transportation safer and easier, then we’re also reducing these local drivers of air pollution.

It’s worth noting as well that much of our air pollution does come from States to our West, and so this points the need for a strong federal and regional action to address climate change and air pollution.

Many of us are familiar with ground-level ozone or smog, but it’s worth a reminder about the health effects. So it’s a strong lung irritant.
It can cause the shortness of breath or coughing, but it can cause more serious consequences and it can aggravate lung diseases like asthma, emphysema and chronic bronchitis. It can increase the frequencies of asthma attacks and it may contribute to the initial development of asthma in children. And it’s worth noting that nationally asthma is the leading cause of school absenteeism.

And as I said before, the combination of air quality, air quality alert days, poor quality days and high heat days is particularly dangerous to health. Looking forward under climate change, there’s concern that past progress on reducing ground-level ozone pollution is likely to be counteracted by something called the climate penalty, which is that higher temperatures and other climatic changes are expected to bring about higher ground level ozone concentrations, especially in already polluted areas. However, to underscore a point that we’ve made throughout the presentation, the size of that climate penalty depends on our action on climate change now. So when we look at a moderate emissions pathway, so taking more action on climate change compared to a business as usual, that could prevent approximately
360 deaths per year by 2090 in the Northeast according to one study.

For the final indicator that I'll cover here, this is on aeroallergens.

We use data from a monitoring site in Waterbury that measured outdoor mold and grass pollen, tree pollen, and weed pollen. And we only found one significant trend since 2007, the percent of measure days with very high outdoor mold concentrations has increased.

However, there are some national indications about changes in pollen exposure that might be associated with climate change. And this is due to increased atmospheric CO2 concentrations.

And one more temperatures that can cause longer seasons can change the geographic distribution of producing plants, and it can increase pollen, the actual pollen production per year and that this can overall, we may see more such pollen and more allergic reactions in the future under climate change.

What can we do?

I'm focusing here on actions that are making most use of addressing of reaping the health co-benefits of climate action. So first, Connecticut is considering
a goal of 100% zero carbon electricity supply by 2040.
And we think that that is a strong way to also address local to gain that those local health co-benefits of climate action.
Another is to electrify the transportation and heating sectors.
That’s certainly easier said than done, but they come with real health co-benefits.
In particular, you can think about electrifying heavy duty municipal buses or school buses, and how that can really improve the local air quality in a given location.
Improving active transportation options is reducing carbon emissions, but it’s also increasing physical activity.
And again, supporting strong federal action to limit interstate pollution recognizing that our action alone in Connecticut doesn’t completely solve our air pollution concerns.
For personal action, you can sign up for an energy audit.
And in the fall through with energy efficiency measures, many supported by Connecticut policies.
can opt into renewable electricity, utilize active transportation and electrify your homes with heat pumps.
and your vehicles by switching to EVs.
And finally, I'll wrap up with some of our large overarching report recommendations. The first is above all swift action to reduce and eliminate carbon emissions. Connecticut is committed to reducing greenhouse gases by 245% below 2001 levels by 2030 and 80% below by 2050.

So we need to assure that this is accomplished and that Connecticut goes further toward achieving zero carbon future. Additionally, we need to continue to monitor these climate conditions and project trends in Connecticut, understanding how climate change is affecting our health and how we can respond accordingly, and provide this information to local decision-makers.

Second, we can invest in the social determinants of health. So social factors like housing and education and employment are major drivers of population health.

And we think that they're important possible synergies by taking action on climate change both mitigation and adaptation in ways that also invest our food choices and our transportation options.
We pointed principles of environmental justice to say that addressing climate change and the health inequities requires confronting their root causes by challenging historic and systemic burdens faced by low-income communities and communities of color. And that includes environmental pollution, income inequality, racism and inequitable access to power and resources. And so solutions need to be addressing these deeper drivers to be ultimately effective. Solutions need to be addressing these deeper drivers to be ultimately effective. We recommend, as I’ve mentioned before, pursuing actions that integrate climate mitigation and climate adaptation with immediate health co-benefits to fully utilize the benefits that can be achieved through policy action. We encourage building the capacity of health professionals and decision-makers to address climate and health knowing that many professionals weren’t trained in climate change, many other decision-makers weren’t trained in climate change or health, perhaps. And that kind of this knowledge gap is important for addressing these issues in the future. We recommend incorporating climate change into decision-making across sectors. So of course climate change is not a siloed issue.
Its causes and its solutions go across all areas of government and a society, and it’s important to take a intersectoral approach toward bringing solutions.

And finally, we encourage incorporating public health into climate change decision-making. There's a concept in public health called a health and all policies approach which is that public health should be at the table in making decisions from transportation to urban planning because these importantly affect health as well.

And we believe that this is important in addressing climate change, particularly on mitigation to make sure that these health benefits and health harms are fully addressed.

That wraps up this speed through our report. Again, I encourage you to download the report or sign up for our newsletter on our website and I look forward to hearing your questions coming up, thanks again.

All right, Myra, do you wanna-

- Yeah, thanks so much for that, Laura. I'm gonna just do a reverse chronological order if that's okay as I scrolled through these.

So it looks like we just had a question come in from Rachel.

I'm wondering if you looked at any indicators related to agriculture or the food industry especially given the health co-benefits.
of plant-based diets.

- Good question, so the report was focused on climate impacts in particular.

So we weren’t looking explicitly at mitigation solutions.

So we didn’t look at,

there wasn’t something specifically on food though it’s addressed sort of indirectly in a number of other indicators.

- All right thank you. - And I just say Rob again as coauthor please feel free to jump in anytime.

- All right, thank you, Laura.

We have another question from Ursula.

Are businesses mandated to recycle or invest in efficient energy systems?

It looks like business or hospitals if I’m reading the question correctly.

- [Ursula] Yes, thank you, that’s what I meant.

- [Myra] Thank you, Ursula.

That’s a good question.

I don’t know the answer.

I think Rob, maybe you know this if recycling is mandated.

It may be at a municipal level that those kinds of decisions are made.

Rob, do you know more about that in Connecticut?

All I can say is that there,

if there aren’t strong mandates, if there are any.

Yeah, so essentially the answer is no.
Yeah, but it is worth noting that we have a colleague at the Center on Climate Change and Health Study, Sherman who does like world-renowned research on reducing unhealthcare sustainability and reducing the impact of the healthcare sector. And so there’s really promising options in hospitals and others to reduce their consumption of plastics and other kinds of materials. [Ursula] Yes, I don’t think it’s that regulation. I don’t think we’re gonna get anywhere. I finished the certificate program and I’m trying to introduce concepts to my colleagues and without regulation (laughing) they need someone from the top down like telling them they have to do this or they’re gonna get fined. It’s really sad but I’m still clamoring a way to make some impact (laughing). Good, thank you. Great, I see one from Sandy, is Connecticut considering more enticing EV credits in the future? I hope so, but I don’t know specifics. Yeah, I haven’t seen anything about that. But Connecticut released a report an EV roadmap last year that set out a number of actions for the State to take. And it’s also worth noting that Connecticut signed onto the transportation climate initiative.
which is the regional program to reduce emissions from the transportation sector.

So if that is passed through the Connecticut legislature, it would produce revenue that could be used toward decarbonizing transportation.

- Yeah, I'll just add to the EV issue. So there's a whole range of issues in terms of converting to the transportation sector to EVs, which is of course critical.

- Yeah, I'll just add to the EV issue. So in addition to making the EV affordable, building the whole network of charging stations which I think maybe that's one of the things you were referring to learn that Connecticut is paying attention to.

And then there's the technology is improving all the time.

- Yeah, I'll just add to the EV issue. And then there's the technology is improving all the time.

- Yeah, I'll just add to the EV issue. And then one more of course is the, how many miles you could travel on one charge and that's been improving as well where Tesla now has a car that's not yet really affordable.

It's $75,000, but it has a range of 400 miles. And all of these things go together because as the infrastructure improves, et cetera, then as there's more demand for EVs
then the price will start to come down
to the economy of scale.
- Exactly, thank you.
Any more credits will help though, right?
For us to move in that direction.
- Yeah - Yeah, absolutely.
I really love that.
There’s an early question here from Brenda,
is there a way to categorize severe weather events
such as climate change disasters or warming disasters?
So it seems like labeling, how do we do that
or how can we do that?
I don’t know if I quite understand the question
Brenda, do you wanna specify that?
Oh okay. - Go ahead.
[Brenda] I was just thinking more about the (indistinct).
Brenda mumbles)
You know these disasters, but I know
that it’s probably a challenge to try to figure out
how to separate or define how you can go about that.
But for me, it’s just about people are onboarded
to the fact that these severe weather events are
not common
because the weather is in front of you.
- Yeah, no, I think it’s a really great point.
I think we also have kind of a shifting baseline
of accepting what seems normal.
When you look back in time,
It's certainly quite extraordinary. And there are studies that are looking at, that look at the climate contribution for a given large scale event, but generally that kind of connection for each individual one is difficult to do. I'll mention one interesting campaign that a number of groups are putting forward which is to name heat waves. So in the way that we name hurricanes giving a name to heat waves to show how they're significant and that they are becoming more prevalent. Rob do you wanna add anything there? No, I was gonna mention the heat waves too. I think that would be a nice step in the right direction to kind of emphasize, it would really help to emphasize their importance more if they gave them a name. Yeah. Great, thank you both. We have a question from Matthew. How can we find similar reports from other States? Well, it's one of the reasons that we gave this webinar was to encourage others to produce similar reports. I'll mention that there are a number of cities and States around the country that are funded through the CDC to have a climate and health program in their health department.
And through that, they’ve created reports looking at climate impacts and projecting impacts in the future. So if you live in one of those States, if you look up something like CDC climate and health program you can see reports there. Wisconsin, I’ll mention to Wisconsin, some of our extended colleagues in Wisconsin just put out a really great report for their State. And it’s especially focused on inspiring health professionals to take action on climate change.

Yeah, I think as far as we know there aren’t other reports, do you agree with that, Laura? I think using this indicator approach is unique. Jacy I had a followup question, Jacy McGaw-Cesaire here. I wanted to on that note know if there was a kind of scorecard in the process or the pipeline to compare States responses to climate change and maybe having like an NCD but for States to compare that. It’s a great idea. I don’t know of any existing work on that. It’s probably also worth mentioning that one inspiration for this report is the Lancet countdown on health and climate change which is a global effort to assess climate impacts. 
and climate action from a health perspective. And that does some of that tracking. Like one of their indicators I think is looking at countries that have a health adaptation, climate adaptation plan. So you can imagine doing something like that in the US too. I think that’s a great point. Brings up a great program to reference which is sustainable CT. And so that’s a voluntary program where municipalities can opt to join in and then become certified by taking on different sustainability actions. And those have a whole different range. Sustainability actions is not just about climate change and there are some that relate to climate and health but we would have actually been chatting with them a little bit about how that could be built out to make sure that municipalities are really acting on these issues of climate and health. Oh, great and Myra put in a link to the organizations. - A question here from Jeremy specific
to the Lyme disease indicator, were any factors considered into why the total number of Lyme disease cases have been decreasing?

Rob do you wanna grab? - I can do that. Yeah, please. - Yeah. So well first I’ll say that we then try to rigorously figure that out but we have some informed guesses about why there’s actually been a decrease in Lyme disease.

And the main guess is that it’s because, over the last decade or so, there’s been a lot more awareness about Lyme disease in the State and about the protective measures that people could take to avoid infection. So I think that’s our best guess about why.

That was one of the initially surprising trends. We fully expected to see an increase in Lyme disease, but you have to go with the data and that’s what we saw. And I don’t think it’s an artifact in any way because if anything, there would be an increase in actually, not missing Lyme disease cases as we proceed in time as opposed to the opposite. There’s no reason why there’d be more cases missed in recent years than in former years.

Great, thanks, Rob. We might have time for one or two more questions. I see one here from Mike Pascucilla.
can you discuss the New England agreement with other States, for example, Rhode Island is one of the leaders in the Northeast? Mike, do you wanna... I’m not totally sure what you mean by that. Do you wanna specify? Oop you’re on mute. Okay, of course, Dr Bozzi excellent report. As I put in my message, it’s not just research it’s reality. What I like about this report is it has these indicators, things that people can relate to. I know my colleagues and I have used it and we pushed it out to our community. We actually got some feedback from few of our community, so it’s a great report. And as far as I know, I do not think there is another State that has done something like this. We’re may have some version of it but not this comprehensive, so kudos (indistinct). So I have to say this, the reason why we have lower Lyme disease rates, because us at the local health department are doing a good job, having a little fun here. You don’t get to have lot of fun. Interesting is to see what happens next year and the following year now that our trails are packed, right?
So that is probably gonna change.

So going back to the question about the newly pack.

As I understand, and the governor through the G3 is working with other States.

And I heard about this and there's been some newspaper articles but I haven't seen anything substantial.

And I know the governor has been working with some other States and some climate change trying to sync, that's what our governor is trying to do.

And I just was wondering if you seen anything, I know it's happening but I'm not sure it's actually in a report yet.

- Well, first so I should give Mike some thanks and credit.

So he leads the local health department at the East Shore Health District and really leads on bringing climate change to the local health districts in Connecticut.

So thank you for your work.

And does it well while addressing COVID.

So I don’t know.

I think the New England governors and in Northeast governors are always collaborating on things and I think fairly see eye to eye on climate change issues.

The one that maybe has been in the papers recently is what I mentioned
00:57:37.740 --> 00:57:39.640 about the transportation climate initiative.
00:57:39.640 --> 00:57:41.420 So this is addressing
00:57:41.420 --> 00:57:44.140 and so far three States have signed on Connecticut,
00:57:44.140 --> 00:57:46.060 Rhode Island and Massachusetts.
00:57:46.060 --> 00:57:51.060 So that may be what has come up, but I agree.
00:57:51.620 --> 00:57:54.853 In these small States, again, it’s like the air pol-
00:57:55.970 --> 00:57:59.900 lution.
00:57:59.900 --> 00:58:02.780 We are very impacted by what happens around
00:58:02.780 --> 00:58:06.570 us and also that there is an efficiency of working
00:58:06.570 --> 00:58:11.160 together.
00:58:06.570 --> 00:58:11.160 And so if that can happen and now particularly
00:58:11.160 --> 00:58:13.160 supported
00:58:14.628 --> 00:58:16.211 by federal government actions and incentives
00:58:19.750 --> 00:58:23.680 - Great, thank you.
00:58:23.680 --> 00:58:28.013 - Great, so it looks like we’re out of time,
00:58:28.013 --> 00:58:30.140 but if you have any questions again,
00:58:30.140 --> 00:58:33.023 you can find my contact information or I’ll put it here,
00:58:33.023 --> 00:58:35.970 feel free to follow up.
00:58:35.970 --> 00:58:39.670 I’m so happy to have a really engaged audience.
00:58:39.670 --> 00:58:41.820 Thank you again for joining us
00:58:41.820 --> 00:58:43.950 and thank you to all of you for your interest
00:58:43.950 --> 00:58:45.283 in your work in this area.
00:58:45.283 --> 00:58:50.653 Great, take care.
00:58:50.653 --> 00:58:53.600 - [Michael] Have a good weekend, thank you.
00:58:53.600 --> 00:58:54.950 - [Rob] Yeah, bye everyone.
00:58:54.950 --> 00:58:56.683 - [Paula] Excellent job,
00:58:56.683 --> 00:58:58.180 thank you so much for sharing in.