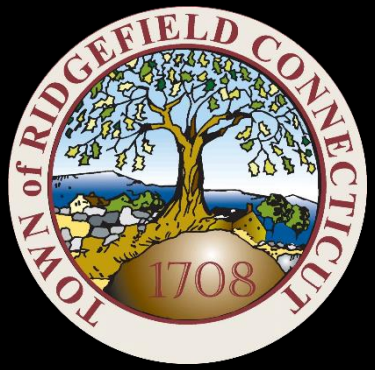
Ridgefield Town Zoom Meeting

Ridgefield COVID-19 Task Force



https://www.ridgefieldct.org

Ridgefield Town Zoom Meeting
Thursday December 17, 2020 7:00 PM

Agenda

Opening Remarks	**Rudy Marconi** *First Selectman*
COVID-19 Data Update	**Dr. Rick Lawrence, PhD** *Data Scientist*
School Update	**Dr. Susie Da Silva, EdD** *School Superintendent*
Testing Update	**Rudy Marconi** *First Selectman*
Vaccine Update	**Dr. Maher Madhoun, MD, MMM** *Hospitalist Director, Stamford Health* *Infectious Disease Specialist* **Ed Briggs** *Director of Public Health*
Q & A	**Group**
Closing Remarks	**Rudy Marconi** *First Selectman*

Email questions for speakers to: PIO@ridgefieldct.org

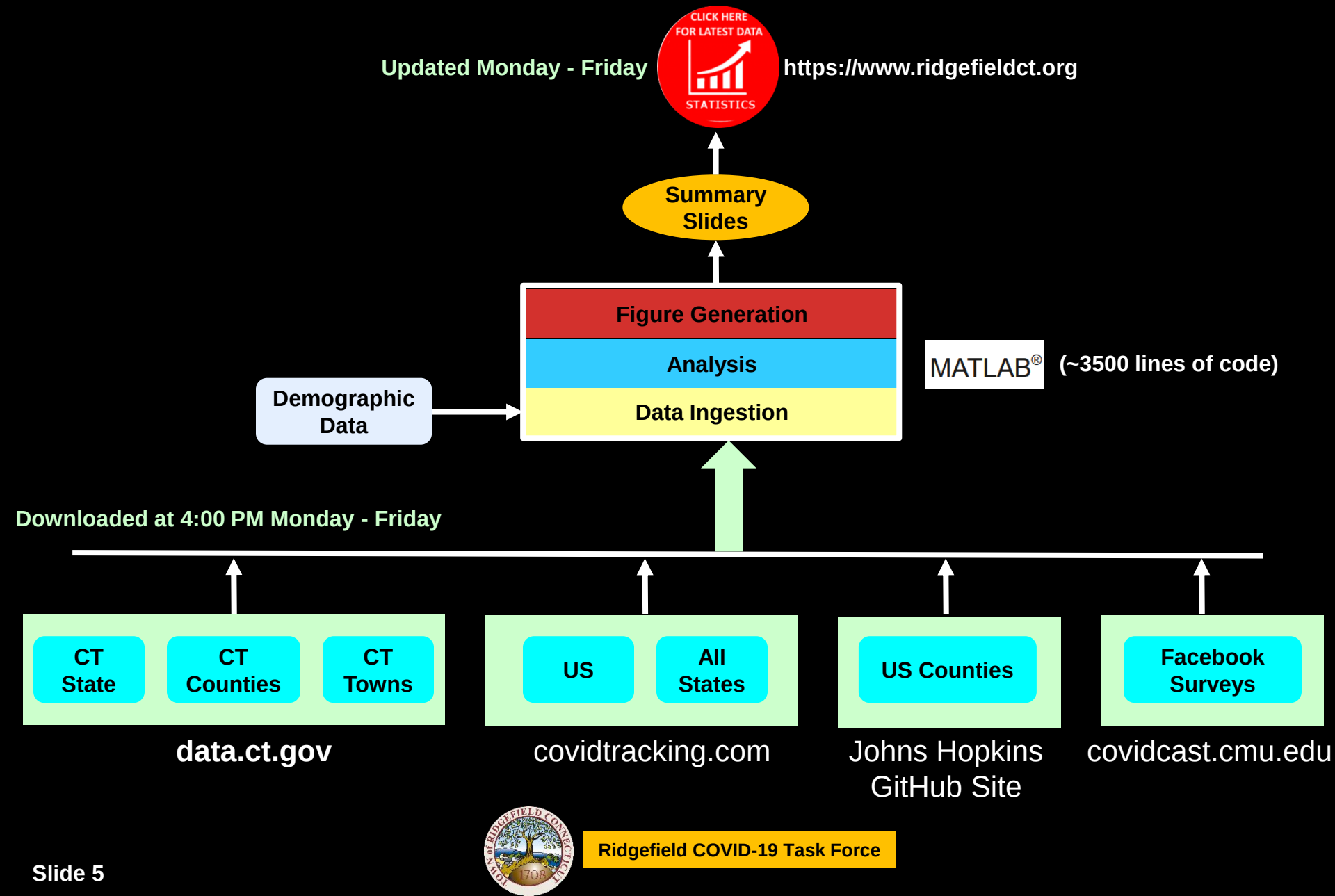
COVID-19 Data Update

Rick Lawrence, Ph.D.
Data Scientist

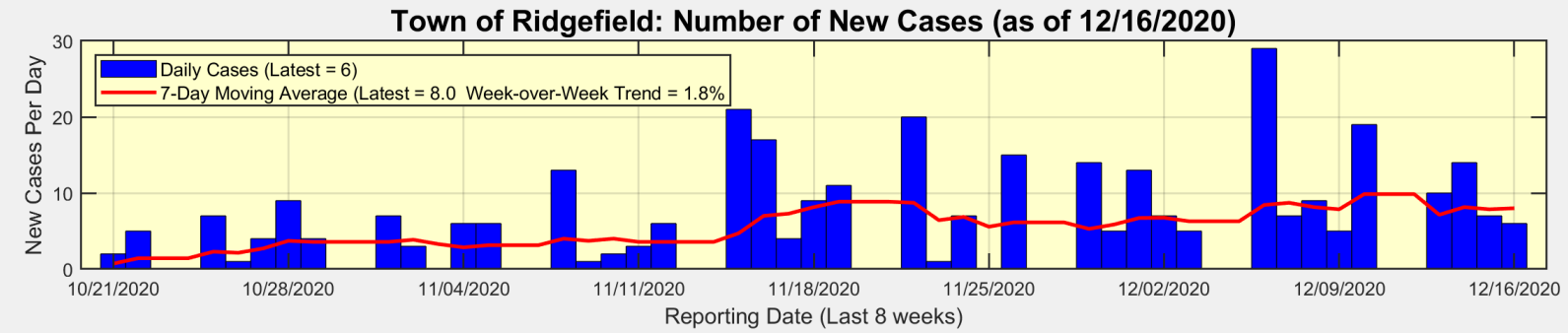
We start with a Basic Primer on COVID data reporting

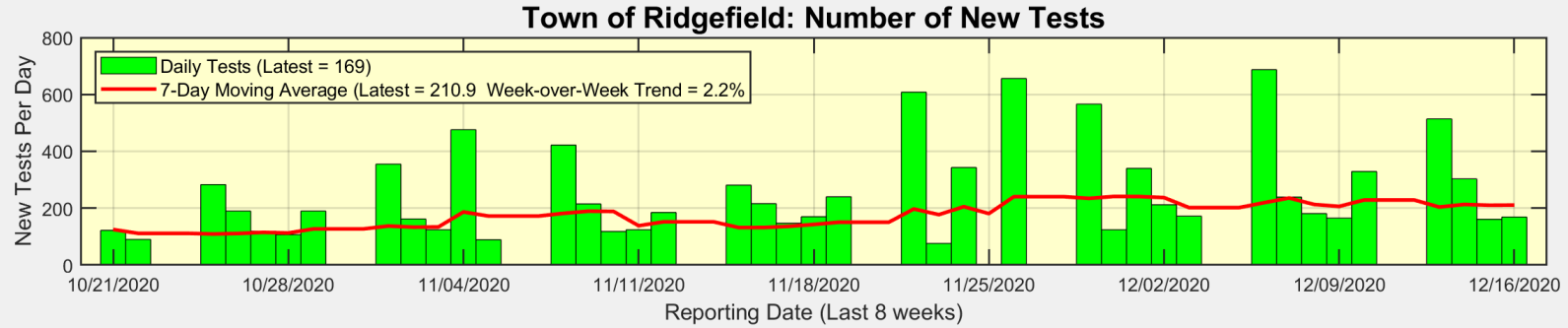
- The ***New Case Rate*** is the number of new cases per day per 100,000 Residents
  - It is typically averaged over the past 7 days to remove weekend fluctuations.
- The ***New Test Rate*** is the number of new tests per day per 100,000 Residents
  - It is typically averaged over the past 7 days to remove weekend fluctuations.
- The ***Test Positivity Rate*** is the New Case Rate divided by the New Test Rate
  - It is the fraction of tests that come back positive, expressed as a percent.

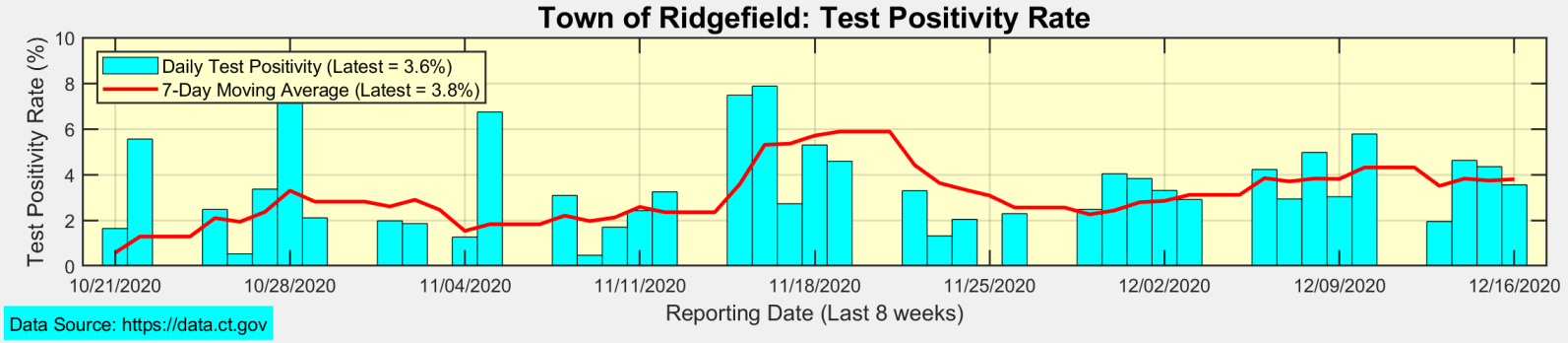
The Town Website is updated every weekday with the latest analysis



This view shows the State-Reported New Cases, New Tests, and Test Positivity for Ridgefield



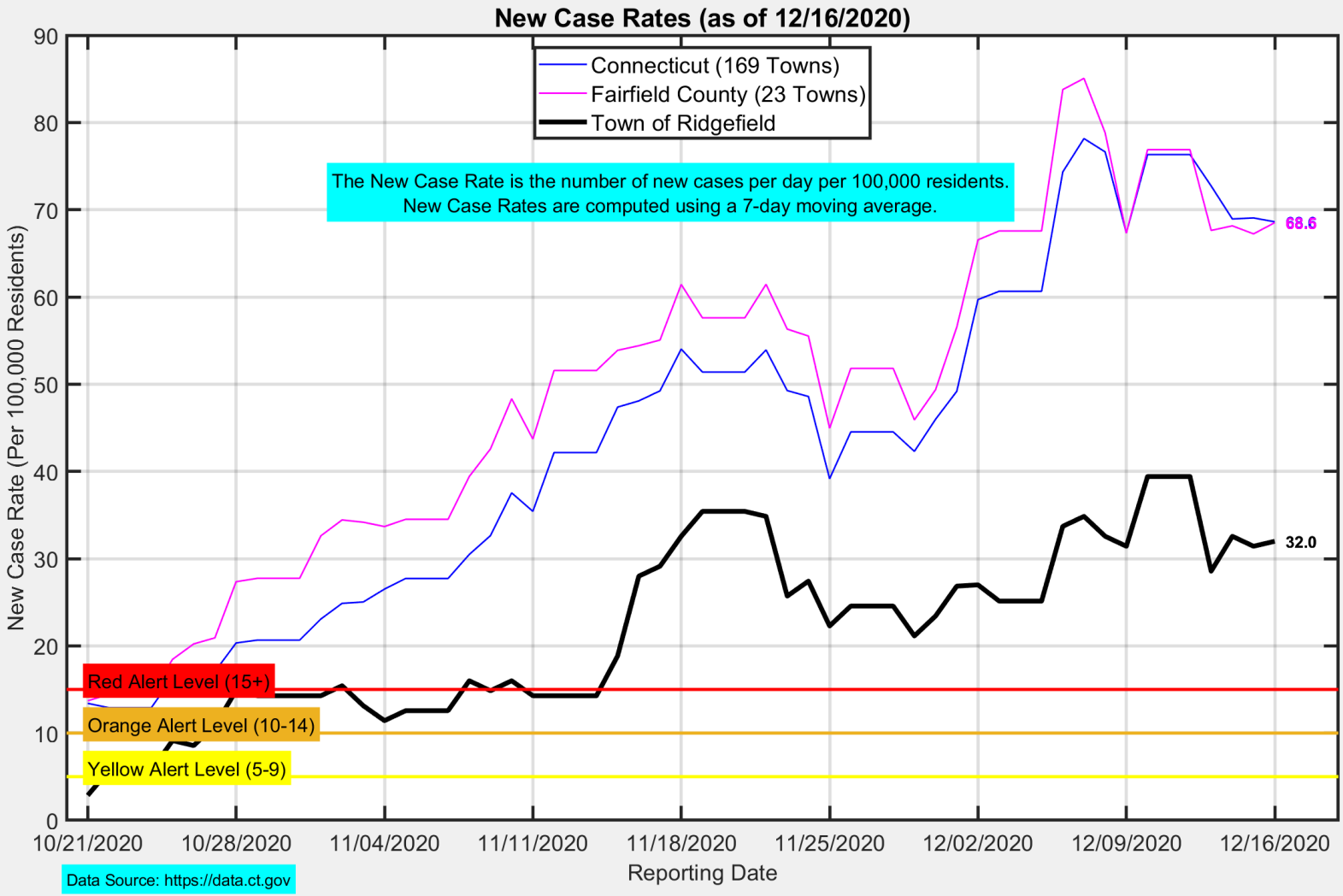




Data Source: https://data.ct.gov

This figure is updated on the Website every weekday.

We compare the New Case Rate in Ridgefield with the County and State



This summary is updated on the Website every weekday.

Ridgefield Summary

Data downloaded on Thursday, 12/17/2020 at 4:00 PM

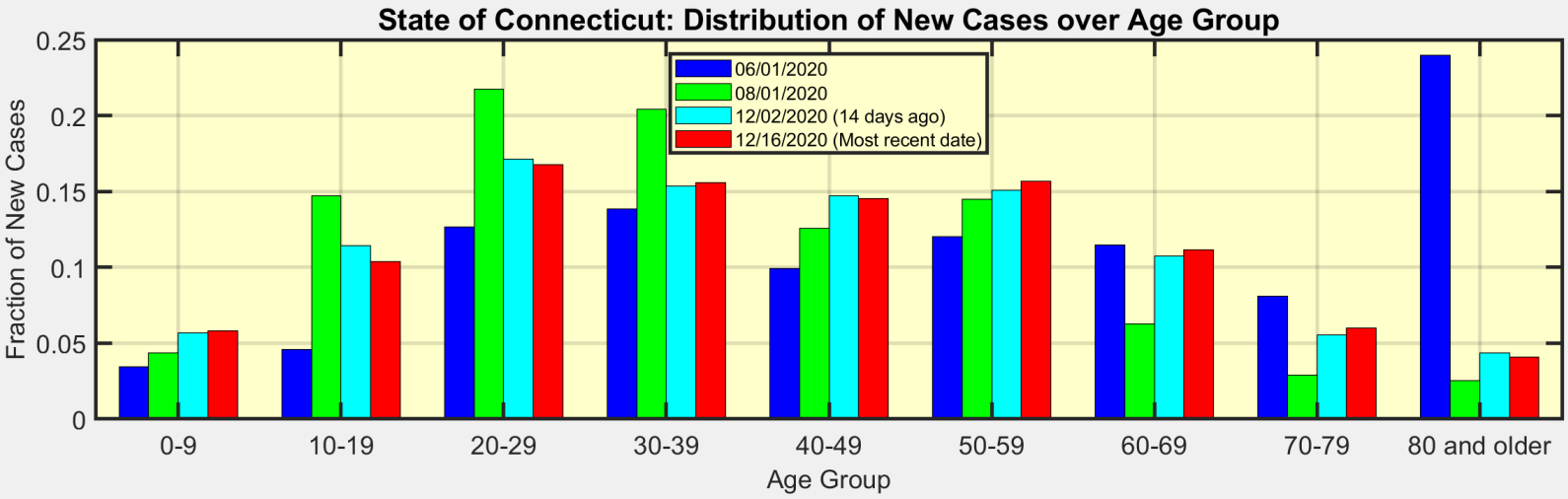
Ridgefield	Wednesday 12/16/2020	Tuesday 12/15/2020
Number of New Cases Reported	6	7
New Case Rate (per 100,000 Residents)	**32.0**	31.4
New Test Rate (per 100,000 Residents)	843.1	840.8
Test Positivity	3.8%	3.7%
Fairfield County	**Wednesday 12/16/2020**	**Tuesday 12/15/2020**
Number of New Cases Reported	614	543
New Case Rate (per 100,000 Residents)	68.5	67.2
New Test Rate (per 100,000 Residents)	971.4	977.5
Test Positivity	7.1%	6.9%
Currently Hospitalized	296	304

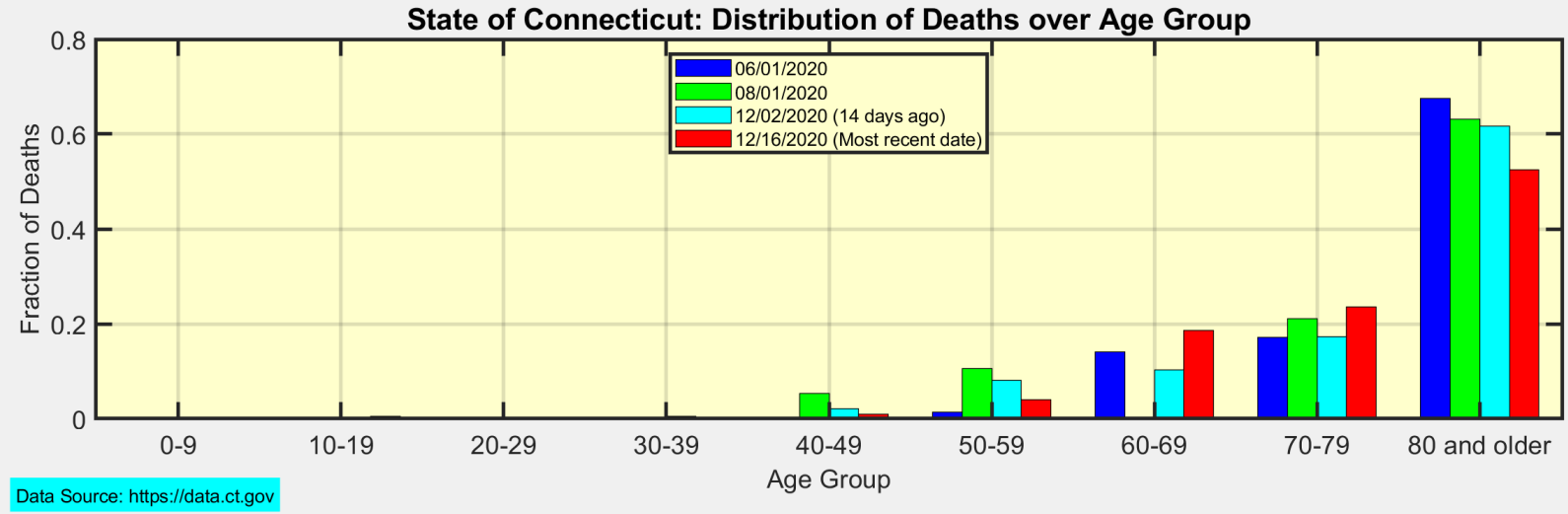
Data Source: https://data.ct.gov. This report reflects data reported to the State through Wednesday 12/16/2020. The New Case Rate, New Test Rate, and Test Positivity are computed using 7-day moving averages.

Our data science confirms CDC and other studies:

Wearing a Mask Reduces COVID Case Rates

These are the distributions of New Cases and Deaths over age group for *the State of Connecticut*

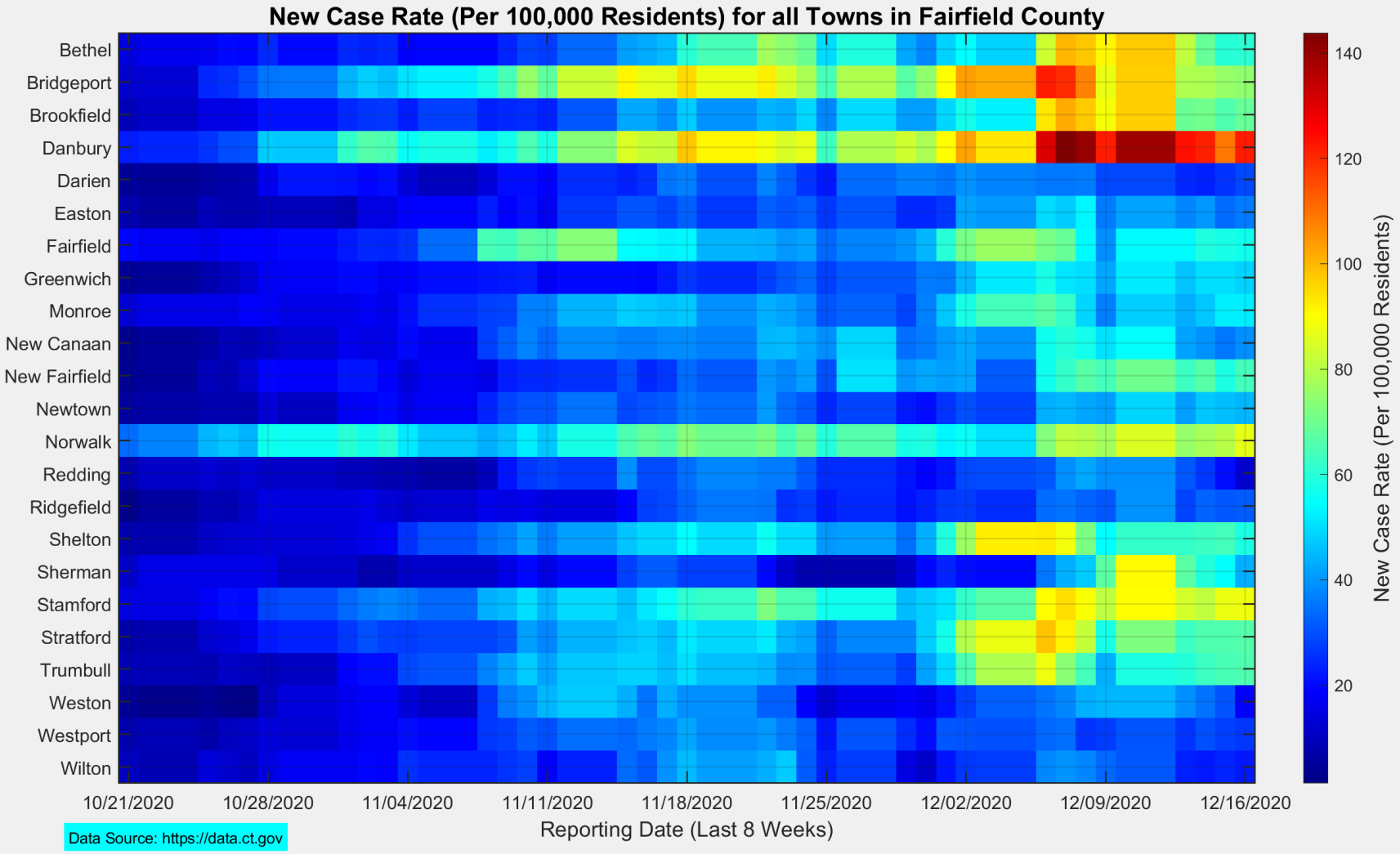




Data Source: https://data.ct.gov

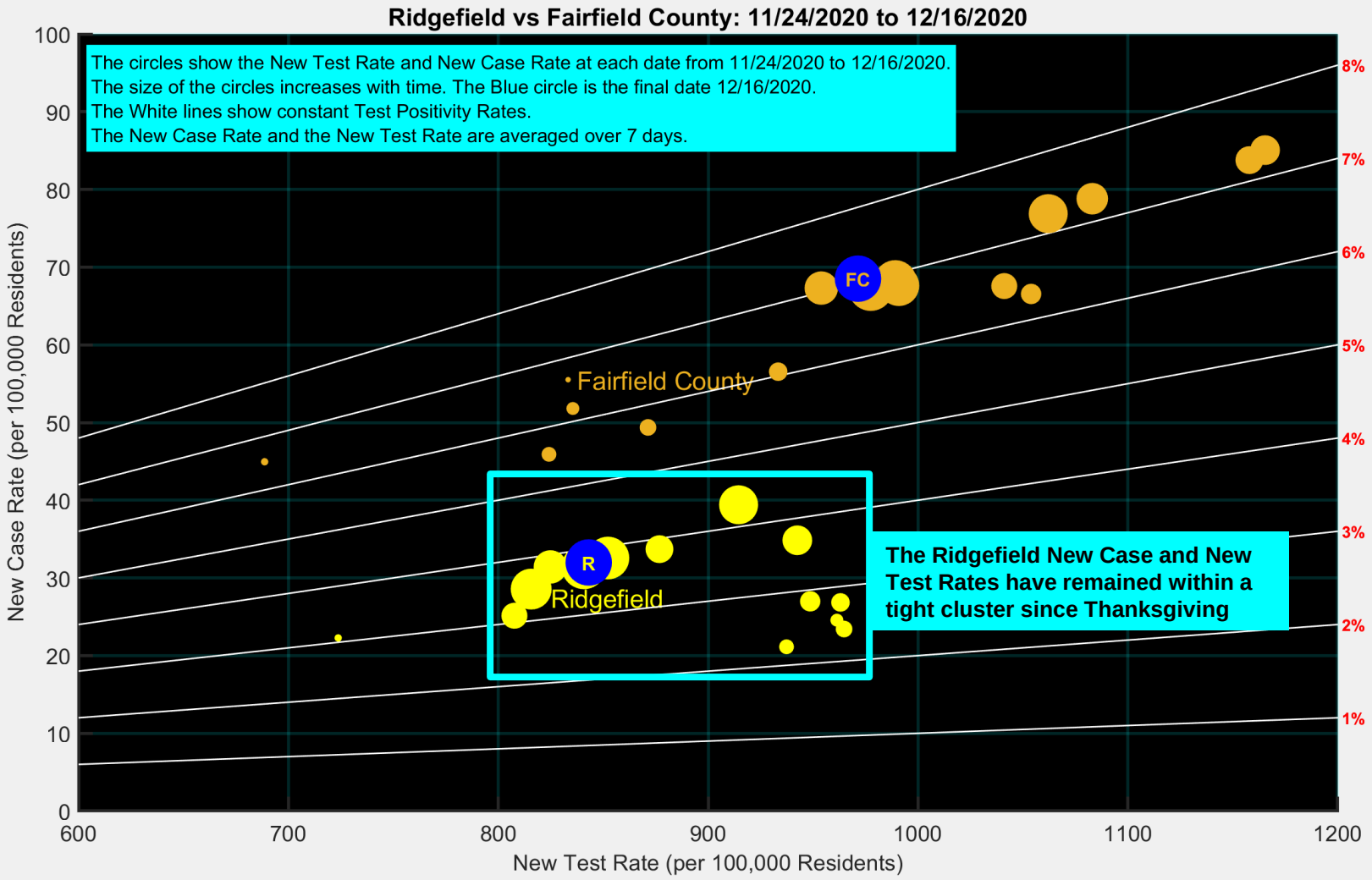
This heat map is useful to see how New Cases Rates are evolving in Fairfield County

The magnitude of the New Case Rate is indicated by the color bar at the right. Red indicates the highest values.



Data Source: https://data.ct.gov

There has been no significant spike in the New Case Rates in Ridgefield since Thanksgiving



Ridgefield COVID-19 Task Force

School Update

Susie Da Silva, Ed.D.
Superintendent of Schools

Testing Update

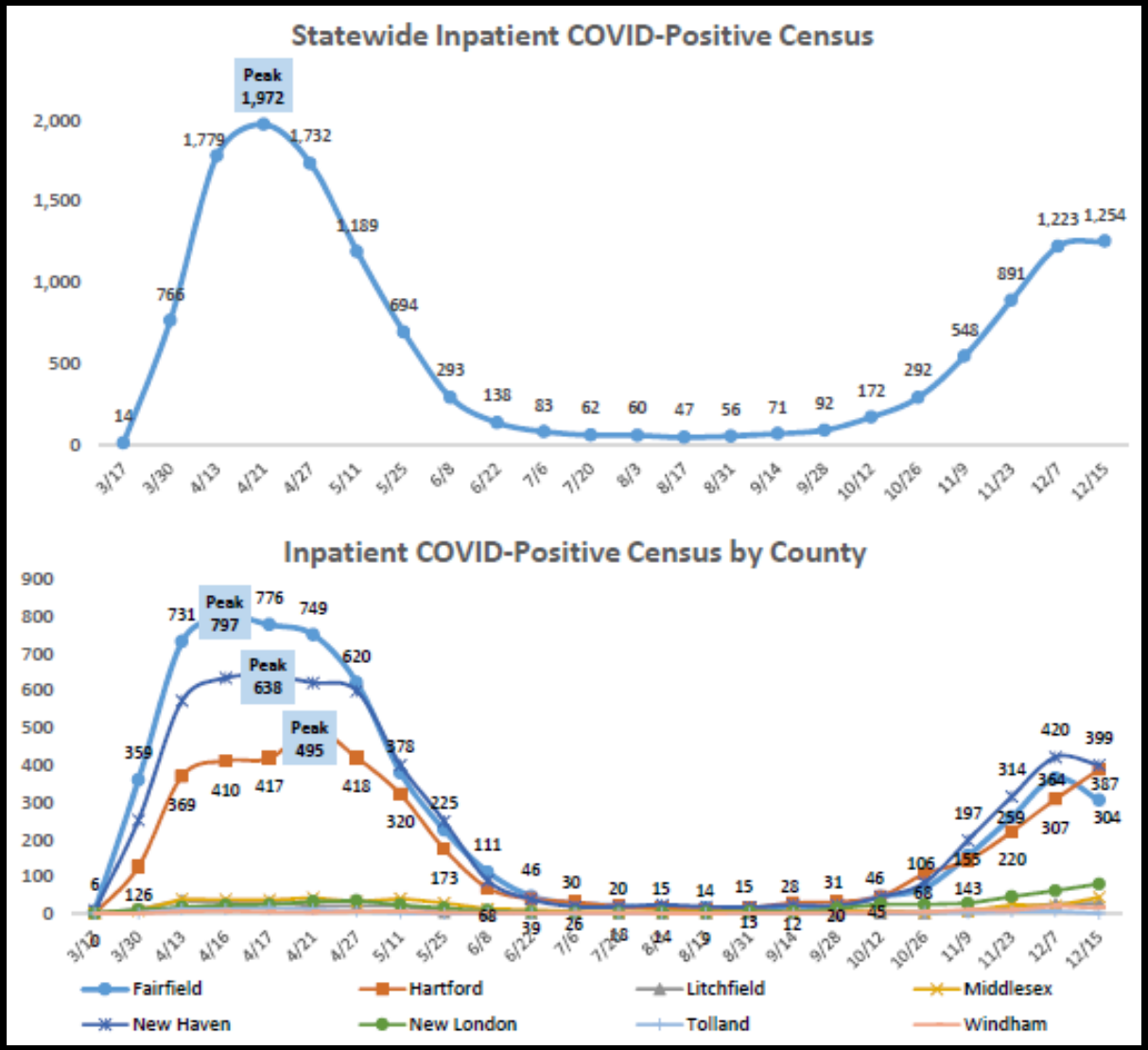
Rudy Marconi
First Selectman

Vaccine Update

Dr. Maher Madhoun, MD, MMM
Hospitalist Director, Stamford Health
Infectious Disease Specialist

Ed Briggs
Director of Public Health

State of Connecticut: Inpatient Census (as of 12.14.20)



Data Source: CT Hospital Association

Ridgefield COVID-19 Task Force

Vaccination Logistics

- Licensing a vaccine
- Vaccine manufacturing and storage
  - Technical requirements for storage and handling pose operational challenges for widespread distribution of the vaccine candidates
  - Some vaccines require ultra-cold storage in specialized freezers
- Combating vaccine hesitancy
  - False information on social media
  - Hesitancy on taking a new vaccine which was quickly developed
- Timeline was expedited from Operation Warp Speed
  - One reason vaccine development is normally slow is because companies want to see candidates successfully pass through each sequence in the development process before providing funding into the next phase

I got vaccinated!

Vaccines

- mRNA
  - Moderna/NIAID
  - Pfizer/BioNTech
- Replication-defective live vector
  - AstraZeneca/Oxford
  - Johnson&Johnson
  - Merck
- Recombinant subunit protein (w/adjuvent)
  - Novavax
  - Sanofi/GSK
- Attenuated live or inactivated coronavirus
  - Sinovac, Sinopharm
  - Several other Asian pharmaceutical ventures

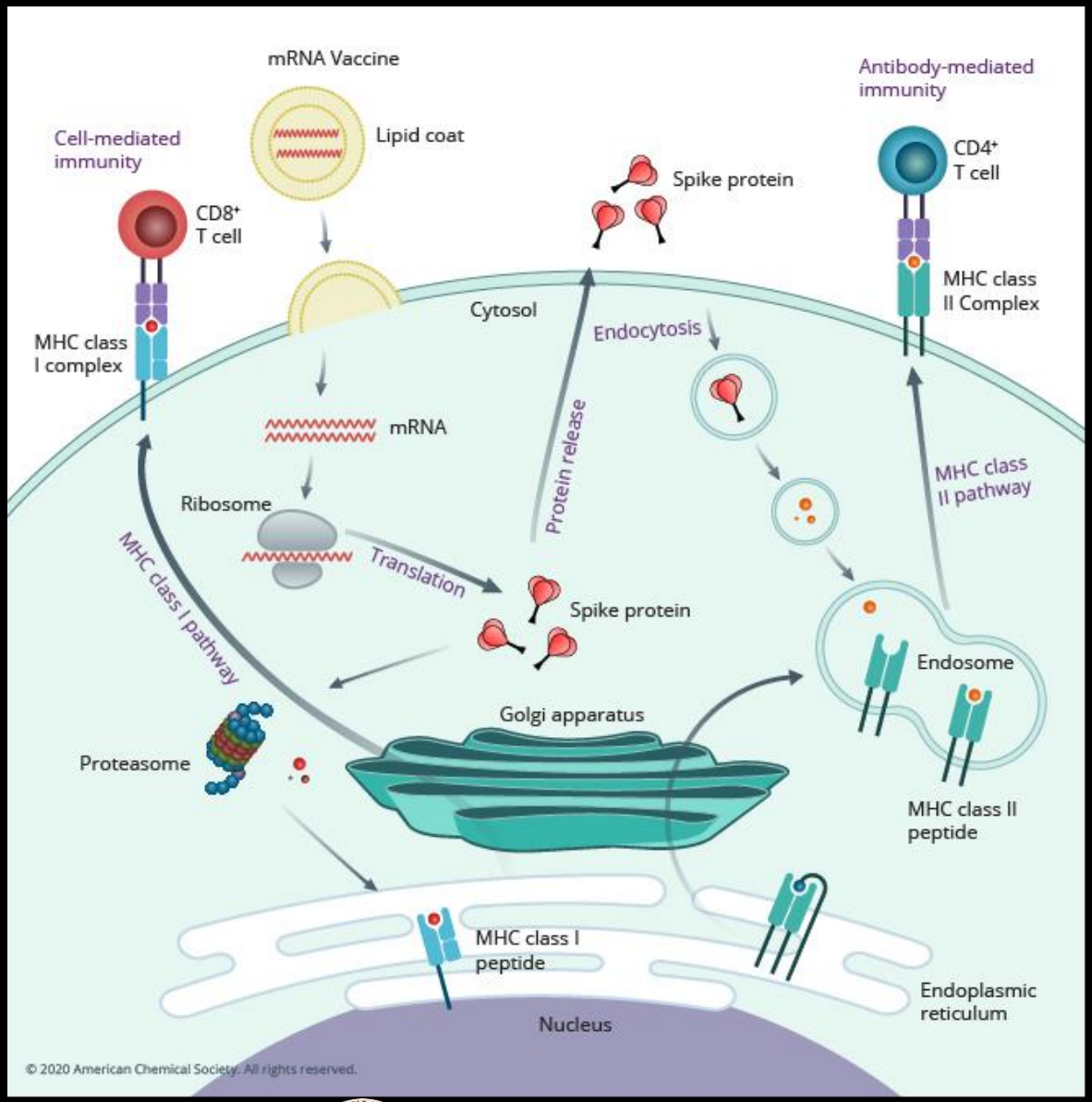
COVID-19 mRNA vaccines are given in the upper arm muscle

Developing Safe and Effective Covid Vaccines — Operation Warp Speed's Strategy and Approach Moncef Slaoui, Ph.D., and Matthew Hepburn, M.D. NEJM 9/1/20

New Approach to Vaccines

- mRNA vaccines are a new type of vaccine to protect against infectious diseases
- To trigger an immune response, many vaccines put a weakened or inactivated germ into our bodies unlike the mRNA vaccines
- mRNA vaccines they teach our cells how to make a protein—or even just a piece of a protein—that triggers an immune response inside our bodies
  - That immune response is what protects us from getting infected if the real virus enters our bodies

COVID-19 mRNA vaccines give instructions for our cells to make a harmless piece of what is called the "spike protein"



Ridgefield COVID-19 Task Force

Facts About COVID-19 mRNA Vaccines

- They cannot give someone COVID-19
- mRNA vaccines do not use the live virus that causes COVID-19
- They do not affect or interact with our DNA in any way
- mRNA never enters the nucleus of the cell, which is where our DNA (genetic material) is kept
- mRNA vaccines have been studied before for Zika, rabies, and cytomegalovirus
- Future mRNA vaccine technology may allow for one vaccine to provide protection for multiple diseases, thus decreasing the number of shots needed for protection against common vaccine-preventable diseases

Allergy Question

- The good news is that the mRNA vaccine doesn't contain any known allergens like eggs or metals
- There are no derivatives of food allergies and there is no aluminum or mercury
- There is nothing that is inherently allergenic
- It does have fats, salts and other ingredients commonly found in everyday medications that help maintain stability
- Because we already have mRNA in nearly every cell of our bodies naturally, it's harmless

Pfizer Vaccine

- Study enrolled 43,661 adults
- 42% of global and 30% of US participants have “racially and ethnically diverse” backgrounds
- 40% of global and 45% of US participants were 56-85 years of age
- **Primary analysis -- 95% efficacy against COVID-19 beginning 28 days after the first dose**
- **170 confirmed cases of COVID-19 were evaluated, with 162 observed in the placebo group versus 8 in the vaccine group**
- **Observed efficacy in adults over 65 years of age was over 94%**
- **Efficacy was consistent across age, gender, race and ethnicity demographics**
- **9 cases of severe COVID-19 were observed in the placebo group and 1 in the vaccine group**
- Data demonstrate vaccine was well tolerated across all populations
  - No serious safety concerns observed
  - Frequent headache, myalgias, arm pain, fever, fatigue

Safety Data

- No evident serious safety signals in any of the trials so far
- There is a prevalence of minor flu-like symptoms
- FDA staff recommends watching for Bell's Palsy in both the Moderna and Pfizer vaccine recipients, however this was not deemed to be a side effect from the vaccine
  - The FDA said that there were four reported cases of Bell's palsy among Moderna's 30,000 trial participants, including three who got the vaccine.
- No data in pregnancy, lactation, or pediatrics
- Prospective safety assessment:
  - Vaccine Adverse Event Reporting System (VAERS) online system available to anyone
  - V-SAFE, new CDC smartphone AP for patients after-vaccination health check and reporting
  - Vaccine Safety Datalink (VSD) - collaboration between CDC and several HCOs to conduct ongoing safety monitoring in large populations

Safety Data

	Moderna	Pfizer/BioNTech
Age Range	18 and older	16 and older
Efficacy Endpoint	14 days after Dose 2	7 days after Dose 2
Efficacy (Vaccine/Placebo)	94.5% (5/90)	95.0% (8/162)

Side effect	Moderna	Pfizer/BioNTech
Injection site pain - Dose 1	87%	83%
Injection site pain - Dose 2	91%	78%
Injection site redness - Dose 1	3%	5%
Injection site redness - Dose 2	9%	6%
Injection site swelling - Dose 1	7%	6%
Injection site swelling - Dose 2	13%	6%
Fatigue - Dose 1	39%	47%
Fatigue - Dose 2	68%	59%
Headache - Dose 1	35%	42%
Headache - Dose 2	62%	52%
Muscle pain - Dose 1	20%	21%
Muscle pain - Dose 2	47%	37%
Joint pain - Dose 1	16%	11%
Joint pain - Dose 2	35%	21%
Chills - Dose 1	9%	14%
Chills - Dose 2	48%	35%
Fever - Dose 1	1%	4%
Fever - Dose 2	17%	16%
Nausea/Vomiting - Dose 1	9%	1%
Nausea/Vomiting - Dose 2	21%	2%
Diarrhea -Dose 1	1%	11%
Diarrhea -Dose 2	1%	10%

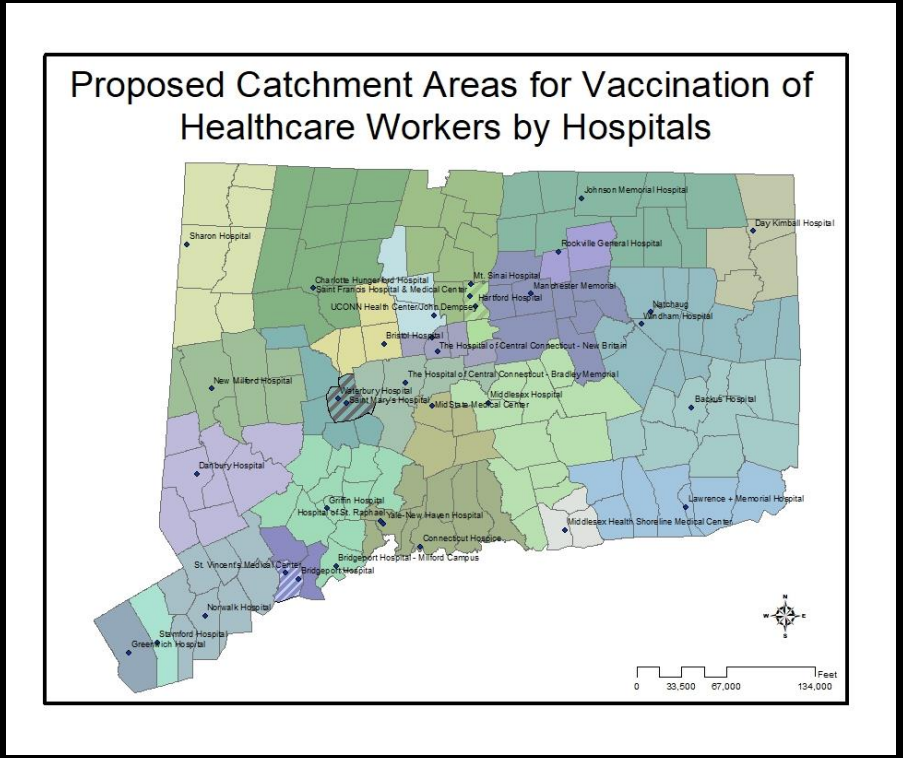
COVID Vaccination Plan

- State Governor's Task Force convened 9/21 at request of CDC

- Planning:
  - Pfizer approved via FDA Emergency Use Authorization last week
  - Moderna applying for FDA Emergency Use Authorization today
  - Stratification by ACIP and DOH
    - 1a - Hospital HCW and residents/patients in long term care facilities
    - 1b - Other healthcare workers, first responders, high-risk individuals (teachers)
  - Hospital being allocated the Pfizer vaccine currently
    - Storage requirement at minus 70C
    - 2 dose regimen, 21 days apart
    - Record keeping logistics are formidable - VAMS

DPH is asking Hospitals to vaccinate

- Hospital staff
- Staff of provider networks
- Healthcare providers in the catchment area who are not part of the provider network
- EMS



Level of Vaccine Needed for Herd Immunity

Likely Scenario

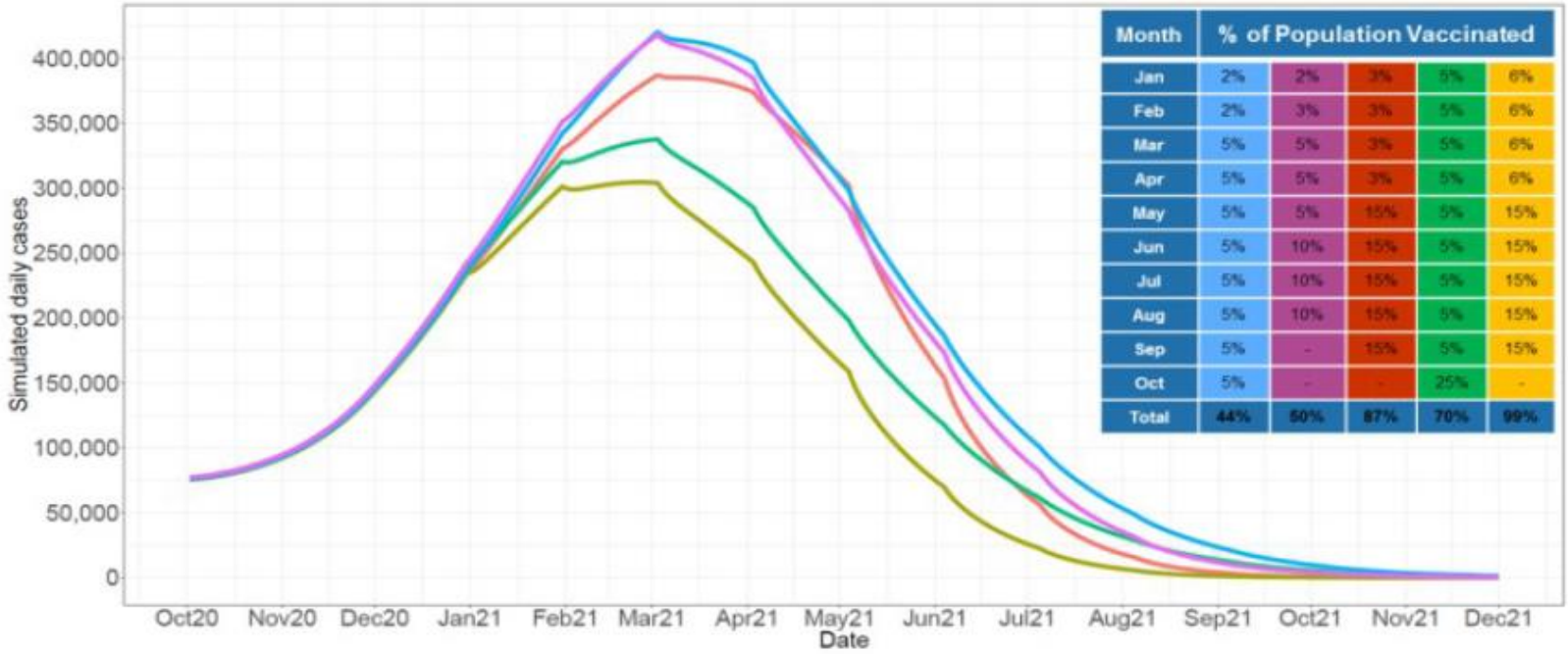
Exhibit 3: Required vaccine penetration to achieve herd immunity assuming R_0=3 and life-long immunity.

Infected Population %	Susceptible Population %	Vaccine Efficacy	Bar For Herd Immunity (% Protected)	**Required Vaccine Penetration**
10%	90%	90%	67%	**70%**
15%	85%	90%	67%	**68%**
20%	80%	90%	67%	**65%**
25%	75%	90%	67%	**62%**
30%	70%	90%	67%	**59%**

Source: Morgan Stanley Research.

Simulations suggest that peak US case rates may not be reached until March 21

Exhibit 1: Simulations of five vaccination scenarios. The vaccination schedule of each curve is delineated in the table, wherein the color of the curve matches the color of the corresponding vaccination schedule. Note that the curves below represent the mean value of 500 simulations with our epidemiological model.



Month	% of Population Vaccinated				
Jan	2%	2%	3%	5%	6%
Feb	2%	3%	3%	5%	6%
Mar	5%	5%	3%	5%	6%
Apr	5%	5%	3%	5%	6%
May	5%	5%	15%	5%	15%
Jun	5%	10%	15%	5%	15%
Jul	5%	10%	15%	5%	15%
Aug	5%	10%	15%	5%	15%
Sep	5%	-	15%	5%	15%
Oct	5%	-	-	25%	-
Total	44%	60%	87%	70%	99%

Source: Morgan Stanley Research

PCR Testing

- COVID PCR test remains the gold standard for diagnosis
  - Detects genetic material of the virus
  - Recommended for symptomatic patients
  - Recommended for asymptomatic patients who are exposed
  - Recommended for patients requiring testing prior to a procedure
  - Only acceptable test when returning from travel
  - Can remain positive for weeks to months after COVID diagnosis

Antigen Testing

- COVID Antigen testing useful in clinical scenarios
  - Recommended for symptomatic individuals within first week of illness onset
  - “Clearance” for patients who are persistently PCR positive
  - Less sensitive than PCR
  - Less sensitive for asymptomatic individuals, regardless of exposure status
  - Faster turn around times (15 minutes)
  - New home kit was approved (should cost around $30)—projected to hit the market in January

Mask Wearing and Prevention

- The rationale for all individuals (regardless of symptoms) to wear a mask in the community is primarily to contain secretions and prevent transmission from individuals with infection, including those who have asymptomatic or pre-symptomatic infection

- Mask-wearing has also been hypothesized to reduce the viral load, even if it doesn't eliminate exposure, and thereby reduces the risk of severe illness

- Continue maintaining social distancing

Agenda

Opening Remarks	**Rudy Marconi** *First Selectman*
COVID-19 Data Update	**Dr. Rick Lawrence, PhD** *Data Scientist*
School Update	**Dr. Susie Da Silva, EdD** *School Superintendent*
Testing Update	**Rudy Marconi** *First Selectman*
Vaccine Update	**Dr. Maher Madhoun, MD, MMM** *Hospitalist Director, Stamford Health* *Infectious Disease Specialist* **Ed Briggs** *Director of Public Health*
Q & A	**Group**
Closing Remarks	**Rudy Marconi** *First Selectman*

Email questions for speakers to: PIO@ridgefieldct.org