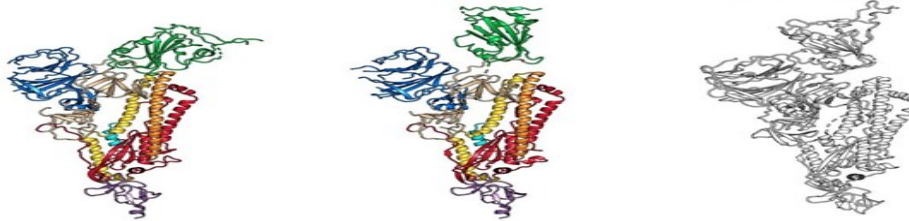




# EPI WATCH



## COVID-19 Variant Strains

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Mutation is one of many ways that viruses adapt to invade their hosts. SARS-CoV-2 mutates regularly, with approximately one new mutation every two weeks. While many of these mutations do not provide survivability benefits, there are some that are advantageous to the virus. As of September 2020, there are 2 COVID-19 variant strands that have scientists concerned worldwide.

One of those strains, named B.1.1.7, originated in the United Kingdom and has mutated with unusually high frequency. It has now been detected in 22 countries. As of January 13, there were 76 cases reported in the United States, 22 of them in Florida. This strain is estimated to be 75% more transmissible than the 501N lineage, however there is no evidence to suggest it has increased severity or decreased vaccine efficacy. More research is needed to determine how the individual mutation and the combinatorial effects of the mutations together would affect the strain. This strain involves multiple mutations:

- A change in the receptor binding domain, the part of the virus that allows the virus to “dock” to body receptors to enter host cells, of the spike protein.
- Mutation with the ORF8 stop codon, whose significance is currently being researched.
- 69/70 deletion, which has contributed to the free arrangement in the spike protein and has spontaneously mutated multiple times.
- P681H, which creates a furin cleavage site between S1 and S2 in the spike protein. This cleavage site allows the virus easier entry inside respiratory cells.

There is also the B.1.351 lineage, which originated in South Africa, with similar mutations except for the 69/70 deletion. This strain is independent of the B.1.1.7 lineage that originated in the UK. While this strain is also suggested to have increased transmissibility, there is no evidence to suggest increased severity or decreased vaccine effectiveness.

Additionally, it is important to note that variants may develop the ability to:

- Cause either milder or more severe disease in humans
- Evade immunity either from natural infection or vaccination
- Develop resistance to monoclonal antibodies used for treatment
- Spread more quickly
- Evade detection by specific diagnostic tests, which can affect some diagnostic PCR assays that use an S gene target. However, considering most PCR tests use multiple targets, this is not predicted to be significant.

For more information, visit CDC's [Emerging SARS-CoV-2 Variants](#).

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# 2020-2021 Flu Season Update

by Paola Mancera

Based on the most recent data from the Centers for Disease Control and Prevention (CDC), seasonal influenza activity continues to be below expected levels. Nationwide clinical testing for Week 1 revealed a 0.4% positivity rate with a cumulative season positivity rate of 0.3%. Nationwide, the predominate strain in circulation appears to be influenza B. In Florida, the predominant strain is undetermined, with most counties seeing mild or no influenza activity. In Pinellas County, influenza activity levels remain mild and less than observed during this time period in previous years. Outpatient visits coded for influenza-like illnesses are at 1.7%, below the expected national baseline of 2.6%. Mortality surveillance for Week 1 showed that nationwide deaths attributed to pneumonia, influenza, and COVID (PIC) were approximately 17.2% of all deaths, an increase of approximately 8% more than expected for this time of year. With the exclusion of COVID-related deaths, Florida is currently seeing a decrease in pneumonia and influenza-related deaths. So far this season, there has only been one pediatric death attributed to influenza in the United States, compared to 195 during the 2019-2020 influenza season.

Decreases in metrics used to report seasonal flu activity nationwide should be approached with caution, as there are currently many variables that may be contributing to this decrease. Seasonal positivity rates could be impacted by decreased testing as testing efforts have been predominately focused on COVID-19. Additionally, there is no data to evaluate how testing for respiratory illnesses is being approached in the outpatient setting and whether patients that present with respiratory illnesses are being assessed for causes of respiratory illnesses other than COVID-19. The pandemic has also changed how individuals access the healthcare system. This could be causing key surveillance networks for influenza to miss visits as individuals either refrain from seeking care or access the healthcare system in settings which do not report to nationwide surveillance systems, leading to underreporting. Mortality data is especially vulnerable to delays in reporting associated with high death rates and the dependence on manually coded records. Finally, the decrease in flu activity could be attributed, at least to some extent, to the increase in behaviors to reduce the spread of COVID-19 including increased handwashing, sneeze and cough etiquette, and limiting contact with others when experiencing respiratory symptoms that also work to reduce other respiratory illnesses.

While vaccination for flu season typically begins in early fall, it is not too late to receive the flu vaccine. The flu vaccine cannot protect against COVID-19 but it can aid in decreasing the burden on communities and healthcare systems during the COVID-19 pandemic as well as protect against complications from severe respiratory illness. The CDC recommends that all individuals over the age of 6 months receive the flu vaccine. For individuals who have recently tested positive for COVID-19 or are symptomatic, vaccination should be deferred until recovery from acute illness occurs.

For more information on the current flu season, visit the [CDC Weekly U.S. Influenza Surveillance Report](#)

## Outbreak of *Listeria* Infections Linked to Deli Meats

The Centers for Disease Control and Prevention (CDC) are currently investigating a multi-state outbreak of listeriosis that is likely linked to deli meats. As of November 30, 2020, 11 cases have been reported among residents of Massachusetts (7 cases), New York (2 cases), and Florida (1 case). The cases ranged in age from 40 to 89 years old with a median age of 82 years. 82% of the cases are female and all 11 were hospitalized. The case from Florida died. The specimens that tested positive for *Listeria* were collected between August 6, 2020 and October 30, 2020.

An epidemiological investigation has indicated that deli meats are the likely source of this outbreak. All ten of the cases that were interviewed reported consuming Italian-style deli meats such as salami, mortadella, and prosciutto. The meats were reportedly pre-packaged and sliced at deli counters at different locations. Investigation is ongoing to attempt to identify a common supplier or type of meat.

Deli meats, also called cold cuts or lunch meats, can be contaminated with *Listeria* bacteria. To avoid illness, it's important to always follow appropriate food safety, even if there are not outbreaks occurring:

- Don't let juice from hot dogs or lunch meats get on other foods, utensils, or food preparation surfaces.
- Wash hands after handling hot dogs, lunch meats, or deli meats,
- Store unopened packages of hot dogs in the refrigerator for no more than 2 weeks and opened packages for no longer than 1 week.
- Store factory-sealed, unopened packages of deli meats in the refrigerator for no longer than 2 weeks. Store opened packages and meats sliced at deli counters no longer than 3-5 days in the refrigerator.



For persons at higher risk of serious complications, including pregnant people, older adults, and people with weakened immune systems, additional precautions are recommended:

- Avoid eating hot dogs, lunch meat, cold cuts, other deli meats, or fermented or dried sausages unless they are heated to 165 °F or until steaming hot just before serving.
- Avoid eating refrigerated pâté or meat spreads from a deli counter or the refrigerated section of a store. Meat spreads or pâté that do not need to be refrigerated, such as those in cans, jars, or sealed pouches, are a safer choice.

For more information on *Listeria*, please visit [CDC Listeria](#)

# Select Reportable Diseases in Pinellas County

Disease	Pinellas		YTD Total		Pinellas Annual Totals		
	December 2020	December 2019	Pinellas 2020	Florida 2020	2019	2018	2017
<b>A. Vaccine Preventable</b>							
Measles	0	0	0	1	1	7	0
Mumps	0	1	1	55	7	10	3
Pertussis	0	1	8	215	27	32	36
Varicella	1	7	18	346	33	67	24
<b>B. CNS Diseases &amp; Bacteremias</b>							
Creutzfeldt-Jakob Disease (CJD)	0	0	0	11	3	1	2
Meningitis (Bacterial, Cryptococcal, Mycotic)	2	1	6	84	7	9	7
Meningococcal Disease	0	0	2	19	1	1	0
<b>C. Enteric Infections</b>							
Campylobacteriosis	24	26	249	3393	310	264	207
Cryptosporidiosis	1	7	38	285	64	34	40
Cyclosporiasis	0	0	9	152	28	4	6
<i>E. coli</i> Shiga Toxin (+)	2	1	11	493	24	15	22
Giardiasis	1	3	28	652	52	41	45
Hemolytic Uremic Syndrome (HUS)	0	0	0	3	1	0	0
Listeriosis	0	1	2	35	2	1	0
Salmonellosis	19	16	174	6606	201	233	279
Shigellosis	3	2	19	544	22	40	26
<b>D. Viral Hepatitis</b>							
Hepatitis A	0	0	4	1009	377	113	1
Hepatitis B: Pregnant Woman	0	2	18	335	24	14	25
Hepatitis B, Acute	8	7	40	550	72	52	51
Hepatitis C, Acute	7	9	101	1442	82	40	30
<b>E. Vector Borne/ Zoonoses</b>							
Animal Rabies	0	0	0	81	2	1	3
Rabies, possible exposure	4	7	118	3461	128	130	140
Chikungunya Fever	0	0	0	0	0	0	0
Dengue	0	0	1	117	3	0	0
Eastern Equine Encephalitis	0	0	0	0	0	0	0
Lyme Disease	0	2	11	183	22	14	19
Malaria	0	0	2	20	5	3	0
West Nile Virus	0	0	0	96	0	0	0
Zika Virus Disease	0	0	0	1	3	2	5
<b>F. Others</b>							
Chlamydia	362	401	3981	n/a	4588	4422	418
Gonorrhea	160	172	1629	n/a	1537	1439	1574
Hansen's Disease	0	0	0	28	0	0	0
Legionellosis	4	4	38	830	43	37	28
Mercury Poisoning	0	0	1	9	1	1	1
Syphilis, Total	34	35	423	n/a	479	438	382
Syphilis, Primary and Secondary	16	12	196	n/a	213	190	160
Syphilis, Early Latent	9	17	145	n/a	191	158	128
Syphilis, Congenital	1	0	5	n/a	6	2	5
Syphilis, Late Syphilis	8	6	77	n/a	69	88	89
Tuberculosis	4	3	24	n/a	23	33	28
<i>Vibrio</i> Infections	1	0	12	258	18	6	11

\*YTD up to January 1, 2021. n/a = not available at this time

Reportable diseases include confirmed and probable cases only. All case counts are current and provisional. Data is collected from the Merlin Reportable Disease database, surveillance systems maintained at the Florida Department of Health in Pinellas County, and Florida CHARTS <http://www.floridacharts.com/charts/default.aspx>. STD data in STARS is continually updated. Please note, data from the previous month takes up to an additional month or more to be correctly updated.