EPI WATCH

Monthly Epidemiology Newsletter

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Leading Causes of Foodborne Illness Outbreaks in the United States, 2014–2022

Rebecca Bohinc, MPH, CPH

A recent MMWR published in March 2025 provided an in-depth summary of contributing factors of foodborne illness outbreaks between 2014-2022[1]. The report estimated 800 outbreaks are identified each year and are associated with approximately 800 hospitalizations and 20 deaths annually. Factor in the economic impact of resulting illness and the rippling affects expand even further. One study estimated that circa 2023, the cost of foodborne illness in the US along was nearly $75 billion dollars, representing not only healthcare costs, but also productivity loss[2].

Evaluating potential root causes and contributing factors provides insight to guide mitigation measures and food safety recommendations. Data for the MMWR was via the National Outbreak Reporting System. Out of 2677 outbreaks included in the report, 43% were attributed to bacterial pathogens such as Salmonella, Campylobacter and Shigella while 31% of outbreaks were due to viral illness such as norovirus. For bacterial outbreaks, food contaminated by an animal or environmental sources were the greatest contributing factors followed immediately by improper food storage and holding practices. Foods stored out of proper holding temperatures can allow for bacterial growth while not cooking foods to safe internal temperatures does not kill potential existing bacteria. In addition, cross contamination in the food preparation process was a key factor as the cause of outbreaks stressing the importance of following food safety practices.

Among the viral outbreaks investigated, contamination from an infectious food worker through barehand or gloved-hand contact with food was the leading contributing factor in 78% (638/819) of the outbreaks. Viral agents such as norovirus are extremely infectious and can shed from human stool even after someone recovers from their illness. Food workers experiencing gastrointestinal illness should remain home from work for at least 48 hours after symptoms resolve and they should continue to practice proper hand hygiene after using the toilet and before eating, preparing, or handling food.

Most outbreaks examined in the MMWR were due to foods prepared by public establishments such as restaurants or caterers. However, 432 outbreaks were due to foods prepared at nonpublic settings such as home for family meals, potlucks, or other group gatherings. With that in mind, keep the following tips to mind practice proper food handling process at home[3].

- Do not prepare meals or touch foods served to others while you are feeling ill
- Wash your hands before, during, and after food preparation
- Use a food thermometer to ensure all foods are thoroughly cooked to safe internal temperatures
- Carefully wash fruits and vegetables before preparing and eating them
- Avoid cross contamination of utensils, cutting boards, or surfaces exposed to raw meat or dairy products
- Heat leftovers thoroughly to an internal temperature of 165°F
- Refrigerate perishable foods within two hours of cooking or serving
- Discard any foods left out at room temperature for more than two hours

References:

[1]http://dx.doi.org/10.15585/mmwr.ss7401a1
[2]doi: 10.1089/fpd.2023.0157.
[3]https://www.cdc.gov/norovirus/communication-resources/facts-for-food-workers.html

Influenza Season, 2024–2025

By: Emma Freeman, MSE

Influenza season typically span from Week 40 of one year to Week 20 of the next year, although activity is monitored year-round. Influenza activity reached very high levels in Pinellas County during the 2024-2025 influenza season with a peak identified at the end of 2024 which surpassed activity experienced in the past four influenza seasons. Pinellas County had 39 influenza outbreaks reported this season which was more than a 300% increase as compared to last influenza season. One pediatric influenza death was reported during the 2024-2025 season in Pinellas County.

The percent of ED visits with a discharge diagnosis of influenza in Pinellas County started low at the beginning of the season but rapidly increased at the end of 2024[1]. After a slight decrease at the beginning of 2025, visits then increased for a second time beginning with Week 3. During Week 5, ED visits for influenza made up 10% of all visits and then decreased throughout the remainder of the influenza season. Overall, ED visits for influenza were highest among the 18-44 age group during the season.

Percent positivity for influenza remained low at the beginning of the season but increased sharply after Week 44[2]. The peak in percent positivity occurred during Week 5, similar to the peak in the percent of ED visits. From Week 1 to Week 8, percent positivity was higher than levels experienced during the past four influenza seasons. Influenza A was the predominant type of the season and influenza A H3 was the predominant subtype. Towards the last few weeks of the 2024-2025 season, influenza B was the predominant type. Influenza A H1N1 2009 pandemic was the predominant subtype after Week 2.

Similar to Pinellas County, Florida overall experienced very high influenza activity during the 2024-2025 season[3]. The percent of ED visits for influenza in Florida experienced two peaks during the season. The first increase began during Week 49, followed by another larger increase after Week 3. ED visits decreased after the peak experienced during Week 6 and remained at low levels. Percent positivity for influenza was very high during the 2024-2025 season and peaked during Week 5. The predominant strain of the season was influenza A H3. The number of positive labs for influenza B increased towards the end of the season. Twenty-one pediatric deaths have been reported during the 2024-2025 influenza season. Seventeen of the pediatric deaths were unvaccinated and fifteen had underlying medical conditions.

Influenza activity reached very high levels across the United States as well[4]. The 2024-2025 influenza season was classified as a high severity season; the last high severity influenza season was 2017-2018. The percentage of visits for respiratory illness reached higher levels than were experienced during the past five influenza seasons. Percent positivity for influenza was high during the 2024-2025 influenza season and peaked during Week 5. The predominant subtype of the season was influenza H(H1N1)pdm09. Two hundred sixty-six pediatric deaths have been reported in the U.S. during the 2024-2025 influenza season.

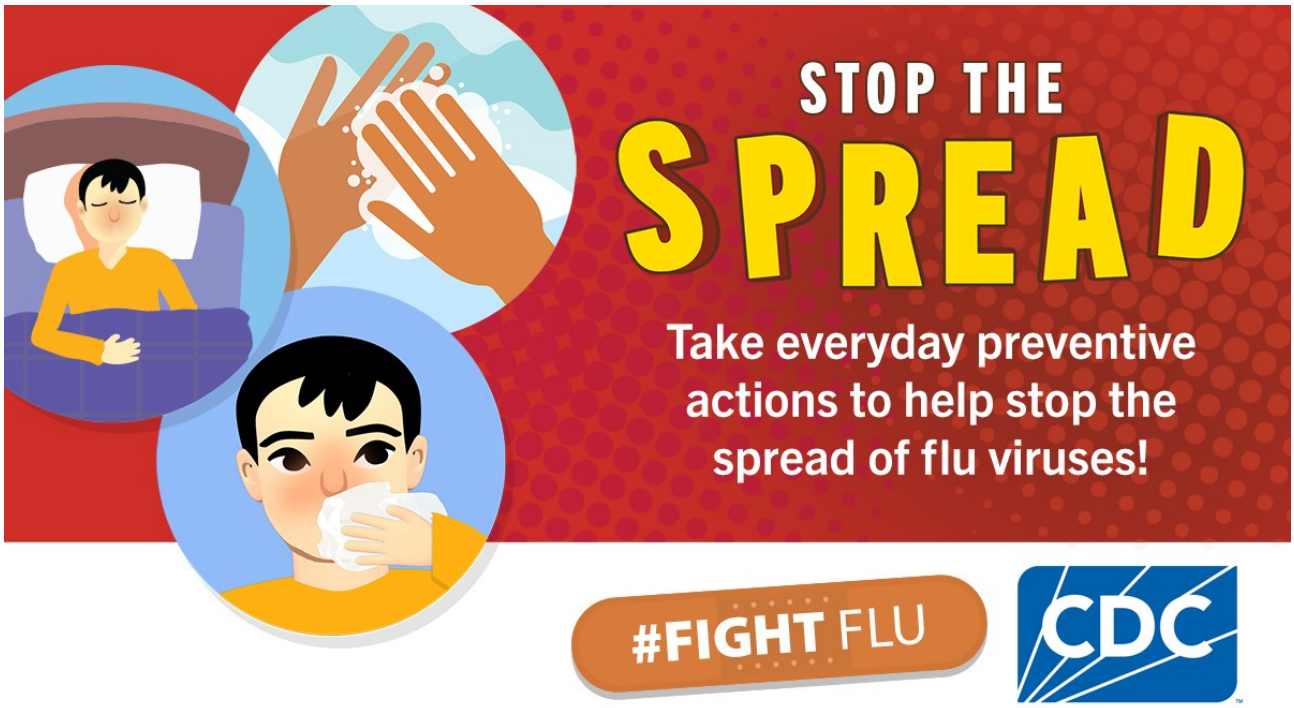
References:

[1] Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE-FL)

[2] Merlin Reportable Disease System

[3] https://www.floridahealth.gov/diseases-and-conditions/respiratory-illness/influenza/index.html

[4] https://www.cdc.gov/fluview/index.html



Select Reportable Diseases in Pinellas County

Disease	Pinellas		YTD Total		Pinellas County Annual Totals		
	Jun 2025	Jun 2024	Pinellas 2025	Florida 2025	2024	2023	2022
A. Vaccine Preventable							
Coronavirus 2019	765	1783	3860	79167	19906	45495	110630
Measles	0	0	0	4	0	0	0
Mpox	0	0	0	17	12	6	155
Mumps	0	0	0	7	2	0	0
Pertussis	5	2	44	809	38	1	2
Varicella	0	5	9	242	157	25	24
B. CNS Diseases & Bacteremias							
Creutzfeldt-Jakob Disease (CJD)	0	0	2	23	3	1	3
Meningitis (bacterial, cryptococcal, mycotic)	1	2	1	86	16	6	11
Meningococcal Disease	0	0	1	17	1	3	2
C. Enteric Infections							
Campylobacteriosis	16	23	111	2848	221	222	203
Cryptosporidiosis	3	3	11	219	29	28	38
Cyclosporiasis	1	1	1	26	7	11	19
E. coli Shiga Toxin (+)	4	3	17	566	34	36	26
Giardiasis	5	5	22	473	59	40	34
Hemolytic Uremic Syndrome (HUS)	0	0	1	19	2	2	0
Listeriosis	1	0	2	35	1	2	3
Salmonellosis	20	11	71	2960	220	187	170
Shigellosis	3	3	30	558	46	55	35
D. Viral Hepatitis							
Hepatitis A	0	0	0	74	1	1	20
Hepatitis B: Pregnant Woman +HBsAg	0	0	3	215	4	17	20
Hepatitis B, Acute	1	4	6	268	32	37	32
Hepatitis C, Acute	4	12	37	851	92	104	117
E. Vectorborne/Zoonoses							
Animal Rabies	0	0	0	52	1	1	0
Rabies, possible exposure	17	12	91	3015	195	180	134
Chikungunya Fever	0	0	0	4	1	0	0
Dengue fever	0	1	1	141	10	5	7
Eastern Equine Encephalitis	0	0	0	0	0	0	0
Lyme Disease	1	0	5	110	13	21	11
Malaria	0	0	0	20	2	4	4
West Nile Virus	0	0	0	1	1	0	0
Zika Virus Disease	0	0	0	0	0	0	0
F. Others							
Hansens Disease (Leprosy)	0	1	0	15	1	1	0
Legionellosis	4	0	24	316	36	16	37
Mercury Poisoning	0	0	0	22	0	0	0
Vibrio Infections	3	2	16	175	29	16	16
Tuberculosis	1	2	16	355	25	20	22
G. Sexually Transmitted Infections							
Chlamydia	311	349	1772	47284	3904	4256	4054
Gonorrhea	125	174	771	17367	1806	1802	1752
Syphilis, Total	36	50	242	7494	578	687	766
Syphilis, Infectious (Primary and Secondary)	14	26	91	1449	286	361	347
Syphilis, Early Latent	10	6	92	2317	144	206	279
Syphilis, Late Syphilis (Late Latent; Neurosyphilis)	11	18	57	3607	141	112	135
Syphilis, Congenital	1	0	2	121	7	8	5

*YTD up to July 31, 2025

**includes travel and non-travel associated cases