

Office of Disease Control
and Health Protection

EPI-LOG

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Enteric Pathogens
By: **Jyothi Praveen, MPH**

The incidence of enteric diseases increased in Volusia County during Fall 2013 as compared to the rest of the year with most of the increase being due to *Salmonella* infections. There were no significant outbreaks identified nor common sources. Improper handling of raw chicken during food preparation was a common finding.

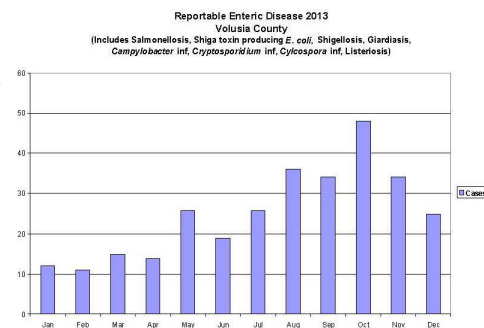
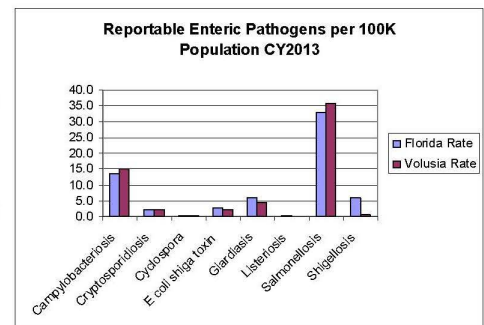
Enteric pathogens include bacteria, viruses, parasites and sometimes fungi. Our focus in this article is on some of the pathogenic enteric bacteria due to the spike in cases seen during the fall months. Enteric infections are usually contracted through contaminated food or water. They can also be transmitted person to person through the fecal-oral route. Symptoms often include nausea, vomiting, abdominal cramping, diarrhea, and fever. The symptoms vary between different pathogens and generally appear anywhere from a few hours to a week or more following exposure. Severity of the disease increases in young children, pregnant women, older adults and in persons with chronic illnesses. Enteric diseases that were reported to us from October through December 2013 included campylobacteriosis, cryptosporidiosis, giardiasis, salmonellosis, shiga toxin producing *E.coli* (STEC), and shigellosis.

Salmonellosis cases were analyzed based on age group and hospitalization for the year 2013. Fifty percent of the cases were seen in the 0-5 years age group; among the adults ten percent of the cases were in the 61-70 years age group and nine percent cases were 51-60. The rest of the age groups were all less than or equal to six percent. Out of the reported cases, 27 percent were hospitalized and there were no reported fatalities. We also had several STEC cases affecting children less than five years old. Two of these patients developed hemolytic uremic syndrome with one fatality.

Chapter 64D-3, F.A.C requires that STEC and any other *E. coli* 0157:H7 isolates to be forwarded to the Bureau of Public Health Laboratories (BPHL) for serologic testing and pulsed-field gel electrophoresis (PFGE) typing to detect clusters and outbreaks. Please ensure any isolates are submitted to assist us with source identification.

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It is important that all of these enteric diseases be reported in a timely manner to Florida Department of Health in Volusia County. Even though individual cases of norovirus infection are not reportable, all outbreaks of acute gastroenteritis due to either suspected or confirmed norovirus have to be reported. Norovirus can spread easily from person to person in settings like daycare, schools, nursing homes, hotels and cruise ships. Enteric diseases can be prevented by practicing good hand hygiene, washing fruits and vegetables, disinfecting surfaces after preparing meat, cooking food to the appropriate temperature, and proper food storage. People should stay away from preparing food or caring for others during their illness. For further information on preventing food-borne illness, please visit: <http://www.foodsafety.gov/>.



Tick-borne Diseases

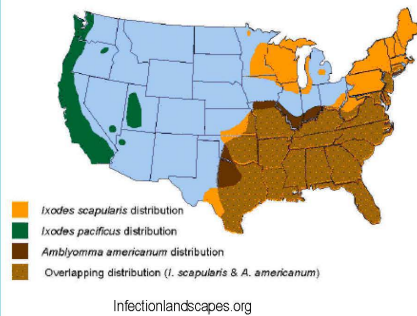
By: David Parfitt, MPH

With the warmer weather soon to be upon us in Volusia County, the Centers for Disease Control and Prevention (CDC) recommends individuals increase their prevention efforts against ticks. While ticks are actively feeding year round, it is during the spring and summer months that ticks within the smaller nymph stage of their life cycle are typically most abundant. The nymphs are harder to notice due to their size and stay attached to their hosts for extended amounts of time increasing the risk of disease transmission.

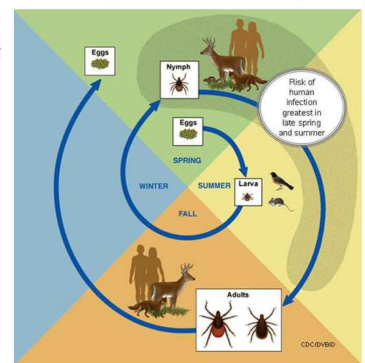
Geographic distribution dictates tick species and pathogen. While only a small number of tick species can actually spread disease, here in Florida we are most concerned with the American Dog tick (*Dermacentor variabilis*), the Blacklegged tick or Deer tick (*Ixodes scapularis*), the Brown Dog tick (*Rhipicephalus sanguineus*), the Gulf Coast tick (*Amblyomma maculatum*), and the Lone Star tick (*Amblyomma americanum*). State reportable tick-borne conditions include Rocky Mountain spotted fever, Lyme disease, Anaplasmosis, Ehrlichiosis, and Tularemia.

It is important to see a physician or other health care provider if you have had a recent tick exposure and begin to have any of the common symptoms associated to tick-borne illnesses. Symptoms that should be evaluated if occurring within a few weeks of a tick bite can include, headache, muscle aches, joint pain, fever and/or a rash. With Lyme disease often patients will experience a gradually expanding rash known as erythema migrans (EM). This occurs in approximately 70-80% of those infected, beginning on average, 7 days after the bite. The rash will expand in size over time and start to look like a "bull's eye", often warm to the touch. Treatment for tick-borne diseases will be determined by a physician based on geographic region of where the bite occurred, diagnostic testing and specific symptoms. While severe infection can occur, if diagnosed early enough most tick-borne illnesses can be treated with antibiotics. Last year in Volusia County the Department of Health reported a total of 10 tick-borne cases to the state.

The Florida Department of Health recommends some basic prevention methods to avoid tick bites. It is important to apply repellants containing DEET when venturing outside and to always follow the labeled instructions. In addition, it is a good idea to walk in the center of trails when hiking to avoid ticks that "quest" or preparing to attach by clinging to brush. Those spending time outdoors should wear light colored clothing to more easily spot ticks, check your body for ticks regularly and remove them properly and promptly from your skin. Other recommendations include checking your pets for ticks and utilizing landscape techniques that can create a tick-free zone in your yard.



cdc.gov



For further information on tick-borne diseases, please contact the Florida Department of Health in Volusia County at 386-274-0651 or please visit the DOH website at

<http://www.floridahealth.gov/diseases-and-conditions/tick-and-insect-borne-diseases/index.html>

Emergency Support Function 8 (ESF-8) and the Daytona 500

By: Vincent Soto, MPA

As the running of the Daytona 500 nears, special events planning has already begun at the Daytona Beach Police Department. Their planning focuses primarily on traffic control, getting race fans into and out of the speedway as quickly as possible and ongoing security of the site. Still there is additional planning to be initiated by ESF-8 Public Health and Medical partners. ESF-8 at the local level provides a coordinated response to a public health and medical emergency.

So who are the key ESF-8 partners in Volusia County for the Daytona 500?

- Halifax Hospital serves as the trauma hospital and is less than five minutes from the Speedway.
- Volusia County Emergency Medical Services serves as the ambulance service and will be pre-stationed outside the Speedway.
- Volusia County Emergency Management while on non-activated status, has personnel in the Emergency Operations Center (EOC) ready to activate in the event a large scale response is needed.
- The Florida Department of Health in Volusia County is responsible for five key areas:
 - 1) Lead agency for ESF-8 response, work together with community partners during a medical response to a mass casualty Incident;
 - 2) Disease surveillance and outbreak response, monitor the risk of transmission of infectious diseases which are potentially increased during mass gatherings;
 - 3) Environmental Health staff are involved in the inspection of the camping areas in and around the track. Staff would also investigate any food or water-borne disease reported amongst the public attendees;
 - 4) Public information and health promotions, provides opportunities to encourage physically active lifestyles, as well as promoting tobacco free and healthy eating opportunities;
 - 5) Public health preparedness and response to potential incidents involving the deliberate use of potential explosive, biological and chemical agents or radio nuclear material, all this while using the Incident Command System (ICS). This last responsibility is truly an important security issue, with law enforcement as the lead agency but one that would be shared with the health department as a response to any terrorist activity.



The local response community in Daytona Beach arrived at the conclusion (over ten years ago) that the Florida Department of Health in Volusia County and the other ESF-8 partners play an important role in the safety and security of both the residents and the visitors during special events, especially one called the Daytona 500.

Volusia County Disease Activity*	4th Quarter 2013	4th Quarter 2012	Full Year 2013	Full Year 2012
Vaccine Preventable				
Mumps	1	0	1	0
Pertussis	2	1	18	8
Varicella	1	6	15	18
CNS Diseases and Bacteremias				
Creutzfeldt-Jakob disease (CJD)	1	1	2	1
Encephalitis (non-arboviral)	0	0	0	0
Haemophilus influenzae (invasive)	2	0	6	6
Meningitis (bacterial, cryptococcal, mycotic)	0	1	2	5
Meningococcal disease	1	0	2	0
Staphylococcus aureus community associated mortality	5	0	5	0
Staphylococcus aureus (GISA/VISA)	0	0	0	0
Streptococcal disease, group A, invasive	2	4	12	9
Streptococcus pneumoniae (invasive disease)	10	14	39	0
Drug resistant	5	10	19	24
Drug susceptible	5	4	20	17
Enteric Infections				
Campylobacteriosis	12	23	75	76
Cryptosporidiosis	4	3	10	7
Cyclosporiasis	0	0	1	3
Escherichia coli, shiga-toxin producing (STEC)	5	0	11	14
Giardiasis	8	1	22	16
Listeriosis	0	0	0	0
Salmonellosis	77	62	178	177
Shigellosis	1	3	3	46
Typhoid Fever	0	0	0	0
Viral Hepatitis				
Hepatitis A	0	1	2	3
Hepatitis B, acute	0	0	7	10
Hepatitis B, chronic	14	15	70	62
Hepatitis C, acute	0	3	12	10
Hepatitis C, chronic	199	182	848	830
Hepatitis E	0	0	0	0
Hepatitis +HBsAg in pregnant women	1	2	6	2
Vector Borne, Zoonoses				
Dengue Fever	0	1	2	2
Ehrlichiosis/Anaplasmosis	0	0	2	0
Lyme disease	1	3	7	6
Malaria	0	1	0	2
Monkey bite	0	0	0	0
Q Fever, acute	0	0	0	0
Rabies, animal	3	1	5	2
Rabies (possible exposure)	54	37	178	109
Rocky Mountain spotted fever	1	0	2	0
West Nile virus, neuroinvasive	0	0	0	1
HIV/AIDS†				
HIV	31	16	113	88
AIDS	14	15	71	65
STDs†				
Chlamydia	451	447	1729	1973
Gonorrhea	148	132	576	479
Syphilis				
Infectious (Primary and Secondary)	6	2	29	11
Early latent (Infection for <1 year)	4	0	14	8
Late latent (Tertiary)	4	4	23	13
Latent, unknown duration	3	1	9	2
Others				
Carbon monoxide poisoning	7	0	10	3
Hansen's Disease (leprosy)	0	0	0	0
Hemolytic Uremic Syndrome	2	0	2	0
Influenza due to novel or pandemic strains	0	0	0	0
Influenza-associated pediatric mortality	0	0	0	0
Lead poisoning	4	1	5	4
Legionellosis	5	1	6	3
Pesticide related illness or injury	0	0	3	2
Tuberculosis			13	9
Vibriosis	0	0	3	2

*Includes reported confirmed/probable cases. Data is provisional and subject to change.
† Numbers are for Area 12 (Volusia/Flagler)

Influenza Season Update

By: David Parfitt, MPH

Volusia County:

For the majority of the current flu season the county activity level has been generally mild. During the month of January, Volusia County did witness a significant increase in the number of individuals seen at local emergency departments for influenza like illness (ILI). The percent of total visits was well above expected seasonal levels. In addition, the percent of those with ILI that were admitted has seen a slight increase as well.

Positive lab reports for influenza A from local hospitals to the health department have also had a recent increase. From January 01, 2014 to February 06, 2014 area health providers sent a total of 23 specimens to the Bureau of Public Health Laboratory (BPHL) in Jacksonville, FL for additional testing. It was determined that out of the 5 specimens that tested positive all were found to be influenza A (2009 H1N1).



State:

Although most counties have reported mild influenza activity, emergency department and urgent care center ILI visits have had a slight increase recently. There has also been a statewide increase in pregnant women being seen at emergency departments for treatment. In Florida there have been no reported influenza or ILI outbreaks nor pediatric influenza-associated deaths for Week 5 (January 26-February 1) of this current year.

Throughout Florida, as in Volusia County, influenza A (2009 H1N1) continues to be the most common subtype discovered at the state laboratories. In Week 5, 32 of 73 specimens sent to the state lab were positive for influenza. Of the 32 polymerase chain reaction (PCR) positive and subtyped, 23 were influenza A (2009 H1N1), 3 were identified as influenza A unspecified, 2 were influenza A (H3) and four were influenza B.

National:

According to the Centers for Disease Control and Prevention (CDC) influenza activity continues to remain elevated as indicated by the most recent FluView report. As reported all ten regions throughout the country have ILI activity above their baseline levels and 29 states have indicated widespread geographic influenza activity for Week 5.

Since the first of October, 6,081 laboratory-confirmed influenza associated hospitalizations have been reported with the highest rates among individuals 65 and older.

While Influenza A (H3N2) and influenza B viruses have been reported nationally influenza A (2009 H1N1) continues to be the most common. This is the first time since the 2009 pandemic that the virus has circulated at such high of levels. Earlier this year North America had a human case of influenza A (H5N1) infection in a patient from Canada who had recently traveled to China. In most cases of highly pathogenic avian influenza A (H5N1) infection is related to contact with sick or dead infected poultry.

The health department continues to recommend that everyone 6 months of age or older receive the annual flu vaccine. Those with chronic conditions, the elderly, pregnant women and young children all more susceptible to complications should be made a priority.

For more information regarding the flu or the current vaccine please contact the Florida Department of Health in Volusia County at 386-274-0651.

References:

Centers for Disease Control and Prevention: www.cdc.gov/flu/

Florida Flu Review Week 5: January 26 – February 1, 2014: www.floridahealth.gov/floridaflu



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