Florida HEALTH Sumter County

EPI ANALYSIS

Florida HEALTH Sumter County

September, 2015

Volume 2, Quarter 1

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Sumter County Disease Report Summary

In the month of September, Sumter County Epidemiology investigated a number of cases of note including two, unrelated cases of Creutzfeldt-Jakob Disease, two unrelated cases of E.coli 0157:H7, along with a case of *Vibrio vulnificus*.

NOROVIRUS

October and November begin the time of year when norovirus outbreaks are most often reported across the U.S. The Florida Department of Health in Sumter County (FDOHSC) would like to remind our health care partners that all outbreaks, or suspected outbreaks, should be reported to FDOHSC.

FDOHSC can be provide assistance with diagnostic testing and guidance on control of the spread of these outbreaks. To report an outbreak, or any reportable disease, contact FDOHSC Epidemiology at:

Phone: (352)569-3106
Fax:(352)512-6555
After-Hours (352)303-6237

When to Suspect a Norovirus Outbreak

Norovirus should be suspected when:

- The mean (or median) illness duration is 12 to 60 hours
- The mean (or median) incubation period is 24 to 48 hours,
- More than 50% of patients present with vomiting, and
- No bacterial agent found.

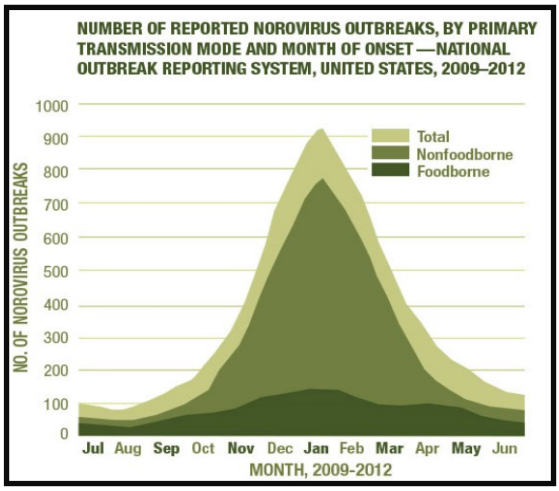

Chart courtesy of the Centers for Disease Control and Prevention

What do you if you think an outbreak is occurring in your facility?

1. Form a hypothesis for what may be occurring.
2. Implement appropriate control measures.
3. Keep a line-list of ill individuals (both staff & non-staff).
4. Contact FDOH Sumter County.
5. Collect samples for testing.
6. Review effectiveness of control measures.

Food Recalls

In the last 30 days the following food recalls were issued. More information can be found at, http://www.floridahealth.gov/

Brand Names	Food	Date of Recall	Health Risk
Whole Foods Market	Organic Roquefort Cheese	10/7/2015	*Listeria Monocytogenes*
General Mills	Frozen Cascadian Farm Cut	10/2/2015	*Listeria Monocytogenes*
Texas Star Nut and Food Co.	Natural Macadamia Nuts, Simply Raw Trail Mix	10/2/2015	*Salmonella*
Aspen Foods	Breaded Chicken Products	10/2/2015	*Salmonella Enteritidis*

Guidelines for Heartland Virus Disease Testing

Heartland virus (HRTV) is a recently discovered tick-borne phlebovirus that causes an Ehrlichiosis-like illness. Cases have been reported in persons in Missouri, Oklahoma, and Tennessee; animal data suggests broad distribution in the central and eastern U.S. including in Florida. Preliminary evidence suggests the virus may be transmitted through the bite of a tick, with the lone star tick (*Amblyomma americanum*) implicated as a vector. This tick is present throughout the southeastern U.S.

Clinical presentation is acute febrile illness with fatigue, anorexia, headache, nausea, or diarrhea with leukopenia, thrombocytopenia, and mild to moderately elevated liver transaminases in the two weeks following tick exposure. Symptoms may appear similar to ehrlichiosis but patients do not respond to doxycycline treatment, and test negative for ehrlichiosis. Co-infection with *Ehrlichia* is also possible.

To learn more about this virus including virus distribution, the Centers for Disease Control and Prevention (CDC) is developing a diagnostic testing for HRTV infection in patients with a clinically compatible illness. However, because the laboratory tests are investigational, patients must meet the study inclusion criteria and provide consent for the testing to be performed. Testing must be requested through the county health department at (352)569-3106 if you have a patient that meets all of the following inclusion criteria:

Exposure and all of the following
- Aged ≥18 years
- Fever (≥38°C)
- Leukopenia (white blood cell count <4,500 cells/μL)
- Thrombocytopenia (platelet count <150,000 cells/mL)
- Acute illness onset in the last two weeks
- No underlying conditions that could explain their clinical findings (e.g., cancer)

Exposure: having been in wooded, brushy, or grassy areas (i.e. potential tick habitat) during the 2 weeks prior to onset of illness. A history of a tick bite is not required. Most people who develop a tick-borne disease do not remember being bitten by a tick.

If a tick-borne illness, including ehrlichiosis, anaplasmosis, Rocky Mountain spotted fever (RMSF), and other spotted fever rickettsiosis (SFR) is suspected, CDC recommended treatment is doxycycline and should be initiated immediately.

EPI Quiz Question

What environment is responsible for the generation of the largest share of Earth's breathable oxygen?

(Answer on pg 4.)

Flu Season

Influenza season is officially underway.

You may have the flu if:

- In addition to coughing or sneezing, you're suffering from a fever, headache, chills or body aches.
- It came on suddenly.

The flu is most contagious early in the illness. If you believe you're coming down with the flu:

- Go home or stay home.
- Keep your hands clean, and coughs and sneezes covered
- Consider seeing your doctor.

Prevent the flu—it's in your hands!

- Don't touch or shake hands with people who are sick.
- Wash your hands often with soap and water. If you don't have soap and water, use an alcohol-based hand sanitizer.
- Clean and disinfect frequently touched surfaces.

- Cover your mouth and nose with a tissue when you cough or sneeze. If you don't have a tissue, cough or sneeze into your upper sleeve or elbow, not your hands.
- Stay home when you're sick, and keep your children home when they're sick.

Florida Department of Health in Sumter County

Reportable Disease Count September, 2015

Prepared By: Daniel Chacreton, M.P.H., C.P.H.

	Sumter County					Florida				
	September		Cumulative (YTD)			September		Cumulative (YTD)		
Disease Category	2015	2014	2015	2014	Expected	2015	2014	2015	2014	Expected
A. Vaccine Preventable Diseases										
Measles	-	-	-	-	0	-	-	5	-	0
Pertussis	-	-	-	3	2	30	45	263	628	539
Tetanus	-	-	-	-	0	-	-	2	2	2
Varicella	-	-	1	4	4	94	65	588	438	428
B. CNS Diseases & Bacteremias										
EEE (Eastern Equine)	-	-	-	-	0	-	-	-	1	1
H. Influenzae	-	1	2	2	2	75	9	195	211	194
Meningococcal Disease	-	-	-	1	1	3	5	20	37	39
Strep Pneumoniae, Invasive, Drug Resistant	-	-	1	1	2	15	10	125	338	293
Strep Pneumoniae, Invasive, Susceptible	-	-	1	1	1	14	8	194	336	301
C. Enteric Infections										
Campylobacteriosis	1	2	12	13	12	284	236	2794	2358	2290
Cryptosporidiosis	-	1	3	8	8	156	486	694	1329	1429
Escherichia Coli Shiga Toxin +	2	-	3	4	5	47	38	358	374	359
Giardiasis	-	1	4	5	6	122	105	807	875	874
Hemolytic Uremic Syndrome	-	-	-	-	0	-	1	4	5	5
Salmonellosis	2	3	12	16	16	831	809	4511	4405	4777
Shigellosis	-	-	3	2	2	152	146	1665	1997	1958
Vibriosis **(All Reportable Species)**	1	-	1	-	0	23	17	153	119	125
D. Viral Hepatitis										
Hepatitis A	-	-	-	1	1	9	10	90	83	80
Hepatitis B, Acute	-	1	1	2	2	45	45	394	294	306
Hepatitis B, Chronic	3	1	16	11	11	462	364	4300	3675	3686
Hepatitis C, Acute	17	-	1	-	0	15	13	137	143	137
Hepatitis C, Chronic	-	1	182	150	147	2255	1859	21498	16707	16809
Hepatitis +HBsAg in pregnant women	-	-	-	-	0	39	54	347	394	383
E. Vector Borne, Zoonoses										
Post-Exposure Prophylaxis for Rabies (PEP)	1	-	10	9	9	230	275	2508	2136	2246
Rabid Animals	-	-	-		0	8	9	56	68	71
Lyme Disease	-	1	2	3	2	48	22	221	119	128
Rocky Mountain Spotted Fever	-	-	-	1	2	4	-	31	26	24
Dengue Fever	-	-	-	-	0	6	9	40	71	71
Ehrlichiosis/Anaplasmosis	-	-	-	-	1	5	-	25	42	28
Malaria	-	-	-	-	0	3	3	28	41	39
Chikungunya	-	-	-	-	0	12	65	109	252	332
F. Others										
Carbon Monoxide Poisoning	-	-	-	1	1	30	12	204	119	141
Creutzfeldt - Jakob Disease (CJD)	1	-	1	2	2	3	-	24	13	18
Lead Poisoning	-	-	1	2	4	154	62	729	560	612
Legionellosis	-	-	-	2	2	31	5	232	212	215
Influenza A, Novel or Pandemic Strains	-	-	-	-	0	-	-	-	-	0
Pesticide-Related Illness/ Injury	-	-	-	-	0	25	4	55	19	56

~ Expected case numbers are calculated using total incidence rates of 2013 totals.
~ Expected rates are crude rates.
~Incidence rate calculated using State of Florida est. mid-year population 2013 (U.S. Census Bureau)
~ Mid-Year population for Sumter County Based 2012 est. (U.S. Census Bureau).
~ Case totals based on total number of cases reported during calander years 2013 & 2014.

Florida Department of Health in Sumter County

415 E Noble Ave

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(Click here to learn more)

MISSION :

To protect, promote & improve the health of all people in Florida through integrated state, county, & community efforts.

VISION :

To be the *Healthiest State* in the Nation

VALUES (ICARE) :

Innovation: We search for creative solutions and manage resources wisely.

Collaboration: We use teamwork to achieve common goals & solve problems.

Accountability: We perform with integrity & respect.

Responsiveness: We achieve our mission by serving our customers & engaging our partners.

Excellence: We promote quality outcomes through learning & continuous performance improvement.

Epi Quiz Answer

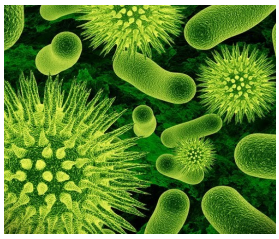
What environment is responsible for the generation of the largest share of Earth's breathable oxygen?

The Surface Waters

Microorganisms such as cyanobacteria (blue-green algae) and algae, which inhabit both the fresh and salt waters of the world, produce the greatest share of the world's breathable oxygen. In fact, it could be argued that microorganisms are responsible for all of the Earth's breathable oxygen, as many researchers theorize that the chloroplasts in plants, which are responsible for photosynthesis, actually have their roots in captured bacteria. This means that long ago the organisms that became modern plants assimilated the genetic materials from ancient cyanobacteria which later allowed them to convert sunlight into energy. A similar theory explains the origins of the mitochondria in human cells.

Creating oxygen is not the only important thing microorganisms do for humans. A healthy adult will have upwards of 1 trillion bacteria on their skin. That equates to 100,000 bacteria on every sq. cm of skin. The human digestive system is home to another 100 trillion microbes that perform a variety of jobs including assisting with digestion. According to research published by the National Institutes of Health (NIH), the human body is host to 10 times more bacterial cells than human cells.

There are so many different species of bacteria, alone, that to discover one unknown to science all you would have to do is pick up the first handful of dirt you see. Until very recently we have only been able to grow around 1% of all bacteria in the laboratory. A new technique, that focuses on replicating the organisms natural environment, described in the journal *Nature*[1], has found a way to grow many previously unculturable bacteria from both marine and terrestrial environments. This technique may even hold the keys to solving the current antimicrobial resistance crisis by identifying new antibiotics.



Infectious disease epidemiology typically focuses on bad microorganisms. Ebola, influenza, hepatitis and other harmful microorganisms account for only a small fraction of microscopic life. Most microorganisms on earth are either benign or even beneficial to human life. It has been said that the human race really lives on a bacterial planet as they would survive just fine without us, but we could not live without them.

So while it is important to remember to do everything you can to protect yourself from nefarious microorganisms like influenza by getting your flu shot, take a moment to thank the rest of the microscopic world because without them we would not be here.

1. *Ferrari, B., Winsley, T., Gillings, M., & Binnerup, S. (2008). Cultivating previously uncultured soil bacteria using a soil substrate membrane system. Nature Protocols, 1261-1269. doi:10.1038/nprot.2008.102*