



Under the Scope

Indian River County Health Department



Fall
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Pigs and the Flu—H3N2v

In 2011, infection with variant H3N2 (H3N2v) influenza was confirmed in 12 people in five states. The virus, identified in pigs in 2010, is a reassortant of swine, avian and human influenza viruses, and contains the matrix (M) gene from the 2009 H1N1 pandemic virus. It appears to spread more easily from pigs to people than other variant viruses. Since July 2012, there have been 307 human cases reported in 13 states. Most cases have been children, and part of large outbreaks associated with exposure to swine at county and state agricultural fairs. There have been 16 hospitalizations and one death in an adult with underlying health conditions. As fair season is ending in other parts of the country, Florida's fairs have just started and run from October through May. The Indian River County Fair is in March.

Clinically, influenza caused by H3N2v cannot be distinguished from seasonal flu. H3N2v should be suspected if the patient has had **exposure to swine** in the week prior to illness, or close contact with an ill person with recent swine exposure. Rapid influenza diagnostic tests are not reliable for detection of H3N2v.¹ Contact the Health Department as soon as possible for sampling and testing guidance if H3N2v is suspected. Clinical management of H3N2v infection is similar to that of seasonal influenza. H3N2v viruses are susceptible to the neuraminidase inhibitor drugs oseltamivir and zanamivir. They are, however, resistant to amantadine and rimantadine.

Things to remember:

- People at higher risk for influenza complications, including young children, should avoid exposure to pigs and to ill persons with swine exposure.
- People should avoid exposure to pigs that look or act sick.
- If visiting a swine barn, wash hands when entering and when leaving; don't take food or drink inside; and keep strollers, toys pacifiers, baby bottles, etc. out of pig areas.
- People with flu-like symptoms should avoid contact with pigs. This helps prevent coinfection and the pig or person becoming a mixing vessel for genetic reassortment that can produce pandemic strains.

People who develop flu-like illness after swine exposure should contact their doctor.

To date, no cases of H3N2v infection have been reported in Florida.

More information about H3N2v can be found at <http://www.cdc.gov/flu/swineflu/influenza-variant-viruses-h3n2v.htm>

2012-2013 Seasonal Influenza

Everyone 6 months of age and older should be vaccinated annually for influenza – optimally before there is influenza activity in the community, but it is never too late to be vaccinated, as long as influenza viruses are circulating. Vaccination is particularly important in people who are at high risk for developing flu-related complications, as well as their caregivers, household contacts, and all health-care personnel.

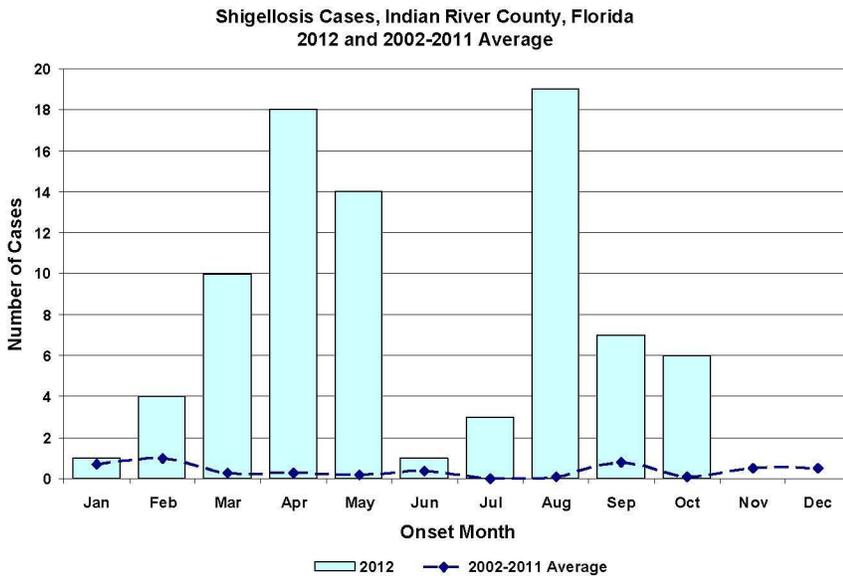
The 2012-2013 influenza vaccine contains A/California/7/2009 (H1N1)-like, A/Victoria/361/2011 (H3N2)-like, and B/Wisconsin/1/2010-like (Yamagata lineage) antigens. While the H1N1 virus used to make the 2012-2013 flu vaccine is the same virus that was included in the 2011-2012 vaccine, H3N2 and B vaccine viruses are different from those in the 2011-2012 influenza vaccine for the Northern Hemisphere.

Florida is currently reporting an increase in influenza activity statewide, primarily focused in North and Central regions of the state, as shown in our influenza surveillance systems. <http://www.doh.state.fl.us/floridaflu/>

¹ Balish et al. (2012) Analytical detection of influenza A(H3N2)v and other A variant viruses from the USA by rapid influenza diagnostic tests. Influenza and Other Respiratory Viruses DOI:10.1111/irv.12017.



Shigellosis Outbreak — Since the beginning of the year, 82 cases of shigellosis, caused by *Shigella sonnei*, have been reported to Indian River County Health Department, a ten-fold increase over our average number of cases. Cases subsided in June, and we were hopeful that the outbreak we experienced in the spring was over. As can be seen in the figure below, this wasn't the case, and we had another surge of cases beginning in August. Because of the low infectious dose, *Shigella* is readily transmitted person to person and on fomites. The majority of cases have occurred in young children, their care givers and families. Antibiotic resistance remains an issue. Antibiograms on isolates from IRC cases show that all isolates are resistant to amoxicillin clavulanate, ampicillin, cefoxitin, gentamicin and tobramycin. Sixty-seven percent of isolates are resistant to trimethoprim-sulfamethoxazole. The table summarizes Indian River County case antibiogram results to date.



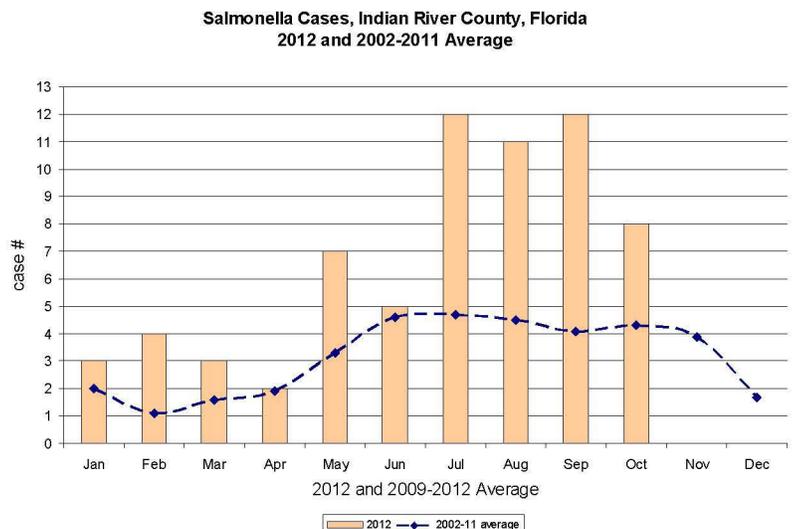
Antibiotic	% isolates resistant (# resist or intermediate/total tested)
Amoxicillin/Clavulanate	100% (35/35)
Ampicillin	100% (46/46)
TMP/Sulfa	67% (33/49)
Azithromycin	11% (4/35)*
Nitrofurantoin	0% (0/23)
Ciprofloxacin	0% (0/41)
Levofloxacin	0% (0/40)
Ceftriaxone	2% (1/42)*

*Intermediate resistance to azithromycin in 9% (3/35) and ceftriaxone 2% (1/42) isolates.

Salmonellosis in Indian River County — In addition to our shigellosis outbreak, Indian River County has seen an increase of salmonellosis cases this summer and into the fall (see figure below). Salmonellosis is characterized by diarrhea, fever and abdominal cramps 12 to 72 hours after infection. It is caused by the bacterium *Salmonella*, of which there are over 2000 known serotypes. *Salmonella* species are found in a wide variety of animals, including livestock, pets, birds, reptiles and amphibians. *Salmonella* is transmitted by consuming feces from an infected animal or human, usually by ingesting contaminated food or water, or by direct contact. Common mechanisms of transmission include eating inadequately cooked eggs, meat or poultry or cross-contaminated foods, contaminated produce, unpasteurized milk or milk products, direct contact with feces of infected animals, and person-to-person spread from an ill person. In uncomplicated cases, symptoms last around 4 to 7 days, but organisms can be shed in the feces for up to several months. Antibiotic treatment can prolong carriage and encourage resistant strains, and should be reserved for treating invasive disease. IRCHD Environmental Health investigators interview each case to determine the probable source of infection and any epidemiological links to other cases. To date, laboratory data show a number of different serogroups of *Salmonella* organisms, and no epidemiological links among cases.

Indian River County is also seeing an increase in norovirus-like illness in the community, including in a number of assisted living facilities.

Prevention of these and other enteric diseases is similar, and aimed at preventing ingestion of feces containing such organisms. Proper and frequent hand washing is the most important (yes, mom was right!), especially after using the bathroom and before eating. People with diarrhea illness should stay home until 24 hours after their symptoms cease, and should not prepare food and drinks for others.



Selected Reportable Diseases/Conditions, Jan 1, 2012 - Oct 31, 2012 with 3-year Comparison

Indian River County

Cases (rate per 100,000 population)	Florida		Indian River County		
	2012 YTD	2012 YTD	CY 2011	CY 2010	CY 2009
Enteric Diseases					
Campylobacteriosis	2,216 (11.6)	31 (22.0)	23 (16.6)	15 (10.9)	11 (8.0)
Cryptosporidiosis	385 (2.0)	4 (2.8)	11 (7.9)	9 (6.5)	14 (10.2)
Cyclosporiasis	23 (0.1)	0	0	1 (0.7)	0
<i>Escherichia coli, Shiga toxin producing</i>	354 (1.9)	1(0.7)	2 (1.4)	1 (0.7)	0
Giardiasis	853 (4.5)	11 (7.8)	10 (7.2)	11 (8.0)	18 (13.1)
Listeriosis	21 (0.1)	0	0	0	1 (0.7)
Salmonellosis	5,529 (28.9)	67 (47.6)	46 (33.1)	53 (3.4)	60 (43.6)
Shigellosis	1,616 (8.5)	82 (58.3)	4 (2.9)	1 (0.7)	2 (1.5)
<i>Vibrio alginolyticus</i>	46 (0.2)	1 (0.7)	0	0	0
<i>Vibrio parahaemolyticus</i>	35 (0.2)	0	1 (0.7)	1 (0.7)	0
<i>Vibrio vulnificus</i>	22 (0.1)	0	1 (0.7)	1 (0.7)	1 (0.7)
Vector Borne, Zoonoses					
Lyme Disease	88 (0.5)	0	0	0	5 (3.6)
Malaria	50 (0.3)	0	1 (0.7)	0	0
Rabies, Animal	89 (0.5)	0	2 (1.4)	5 (3.6)	0
Rabies, Possible Human Exposure	1,911 (10.0)	9 (6.4)	21 (15.1)	25 (18.1)	24 (17.4)
Tularemia	0	0	0	0	1 (0.7)
CNS & Invasive Diseases					
<i>Haemophilus influenzae (invasive disease)</i>	185 (1.0)	0	3 (2.2)	0	0
<i>Streptococcus pneumoniae, invasive disease, drug resistant</i>	347 (1.8)	0	1 (0.7)	8 (5.8)	5 (3.6)
<i>Streptococcus pneumoniae, invasive disease, susceptible</i>	406 (2.1)	1 (0.7)	3 (2.2)	4 (2.9)	4 (2.9)
Streptococcal disease, invasive, Group A	190 (1.0)	1 (0.7)	3 (2.2)	2 (1.5)	3 (2.2)
Vaccine Preventable					
Mumps	4 (0.02)	0	1 (0.7)	0	0
Pertussis	491 (2.6)	0	1 (0.7)	0	0
Varicella	707 (3.7)	7 (5.0)	10 (7.2)	9 (6.5)	19 (13.8)
Viral Hepatitis					
Hepatitis A	88 (0.5)	0	2 (1.4)	2 (1.5)	0
Hepatitis B (+HBsAg in pregnant women)	303 (1.6)	2 (1.4)	2 (1.4)	5 (3.6)	0
Hepatitis B, Acute	240 (1.3)	1 (0.7)	0	4 (2.9)	2 (1.5)
Hepatitis B, Chronic	3,464 (18.1)	16 (11.4)	22 (15.8)	6 (4.3)	3 (2.2)
Hepatitis C, Acute	139 (0.7)	2 (1.4)	0	0	2 (1.5)
Hepatitis C, Chronic	19,268 (100.7)	139 (98.8)	149 (107.3)	130 (94.1)	117 (85.0)
HIV / AIDS*					
HIV	3,116 (16.3)	10 (7.1)	23 (16.6)	23 (16.2)	14 (9.9)
AIDS	1,575 (8.2)	5 (3.6)	11 (7.9)	11 (7.7)	14 (9.9)
STDs*					
Chlamydia	45,662 (238.7)	289 (205.3)	422 (303.7)	422 (297.0)	454 (319.9)
Gonorrhea	11,229 (58.7)	74 (52.6)	138 (99.3)	73 (51.4)	151 (106.4)
Infectious Syphilis	770 (4.0)	0	4 (2.9)	4 (2.8)	1 (0.7)
Others					
Carbon Monoxide poisoning	75 (0.4)	1 (0.7)	0	1 (0.7)	0
Influenza A, novel or pandemic strain	0	0	0	4 (2.9)	33 (24.0)
Lead poisoning	669 (3.5)	3 (2.1)	2 (1.4)	2 (1.5)	2 (1.5)
Legionellosis	165 (0.9)	3 (2.1)	2 (1.4)	1 (0.7)	1 (0.7)
Mercury poisoning	8 (0.04)	0	0	0	0
Pesticide-related illness or injury	73 (0.4)	2 (1.4)	1 (0.7)	2 (1.5)	0
Tuberculosis*	326 (1.7)	2 (1.4)	3 (2.2)	3 (2.1)	3 (2.1)

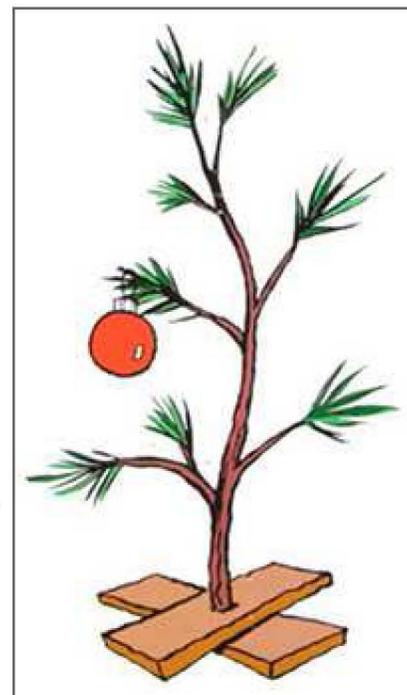
*2012 data are provisional and subject to change; YTD as of 07/31/2012

Don't Let Your Ho, Ho, Ho Turn into Help, Help, Help!

Are thoughts of gold, silver and all things gifting running through your head? What about boring office holiday parties where your boss is wearing a sweater they can see from the International Space Station? This time of year there are so many things that we have to do: bake the cookies, package the cookies, give the cookies away, buy presents, wrap presents, return presents, clean the house, decorate the house, pack, travel, unpack, and the list goes on and on and on and on. With all this going on it doesn't take much for safety to be forgotten.

This time of year increases are seen in traffic accidents, house fires, animal injuries and other preventable incidents. So rather than letting your ho, ho, ho season turn into help, help, help, take the time to think about these important holiday safety related topics.

Holiday trees present more than a decorating challenge, they also represent a fire hazard. A burning tree can fill a room with fire and deadly gases in seconds. Make sure that you select a tree that is green and the branches are hard to pull back, keep the tree stand filled with water at all times and do not place the tree near a heat source or put a candle on it. Learn more at: http://www.usfa.fema.gov/citizens/home_fire_prev/holiday-seasonal/holiday.shtm



Holiday decorations should be nonflammable or flame-retardant and located away from any heat source. Learn more at: <http://www.cpsc.gov/cpsc/pub/prere/ prhtml12/12054.html>

Holiday pet safety interventions are important to keep your non *Homo sapiens* family members safe. Think about potential hazards that come from: **Tinsel** can cause obstructed digestive tracks; **chocolate, holly and mistletoe** are toxic to animals; **decorations** can cause a variety of issues with pets when played with or chewed on... Learn more at: <http://www.aspca.org/pet-care/pet-care-tips/holiday-safety-tips.aspx>

Holiday food safety is also very important to consider. Keep everything clean including your hands, the food prep area, and the food itself. Keep raw foods away from foods that won't be cooked. When cooking, make sure that meat, poultry and fish are cooked to a safe temperature. Refrigerate any leftovers within two hours of finishing the meal. Learn more at: http://www.fsis.usda.gov/fact_sheets/Seasonal_Food_Safety_Fact_Sheets/index.asp

This time of year should be about enjoying those you love and enduring everyone else, not about emergency visits to the human or veterinary hospital. Take the time to make it a safe holiday season.

From all of us at IRCHD – Have a Wonderful Holiday Season!

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