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Monthly Report	762-3891

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# EPI Examiner

## A Monthly Epidemiology Report

JUNE 2009

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**June Disease Summary**

Confirmed and Probable notifiable disease cases were analyzed by date of event for this report (Table 1). Diseases were categorized as higher than expected using a two standard deviation threshold and as significantly higher than expected according to Pearson's chi-square test for fit of a distribution.

Data for June was analyzed earlier than previous months therefore the numbers are lower and no diseases were higher than expected. However, looking at the data by year to date, salmonella, mercury poisoning, malaria, and hepatitis A were significantly higher than expected compared to the last five years. There were 3 cases of carbon monoxide(CO) poisoning which hasn't been reported in the last 5 years. The CO poisoning cases were associated with the use of a propane powered machine used to strip floors of wax. All of the cases survived. According to the CDC, it is not widely known that small gasoline-powered engines and tools present a serious health hazard. Also, many people using gasoline-powered tools such as high-pressure washers, concrete cutting saws, power trowels, floor buffers, welders, pumps, compressors, and generators in buildings or semi-enclosed spaces have been poisoned by carbon monoxide.

**Carbon Monoxide (CO) Poisoning**

Carbon monoxide, or CO, is an odorless, colorless gas that can cause sudden illness and death by those that breath it in. CO is found in combustion fumes, such as those produced by cars and trucks, small gasoline engines, stoves, lanterns, burning charcoal and wood, gas ranges, heating systems and other gasoline powered equipment. CO from these sources can build up in enclosed or semi-enclosed spaces. The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion. High levels of CO inhalation can cause loss of consciousness and death. Unless suspected, CO poisoning can be difficult to diagnose because the symptoms mimic other illnesses.

**To Prevent CO Poisoning:**

Do not use gasoline-powered engines or tools inside buildings or in partially enclosed areas unless gasoline engines can be located outside and away from air intake. \*Always place the pump and power unit of high-pressure washers outdoors and away from air intake. \*Do not use portable flameless chemical heaters indoors because they still burn gas and can cause CO to build up inside your home. \*If you smell an odor from your gas refrigerator's cooling unit have an expert service it. \* Install a battery-operated CO detector in your home and check or replace the battery when necessary. \*Never use a gas range or oven for heating. \*Never use a charcoal/bbq grill, nor a portable gas camp stove indoors. \*Never use a generator inside your home, basement, garage or near a window, door, or vent.

Clinicians may visit [http://emergency.cdc.gov/disasters/co\\_guidance.asp](http://emergency.cdc.gov/disasters/co_guidance.asp) for management guidance of CO poisoning. More information can be found at <http://www.cdc.gov/co/faqs.htm>

## Infectious Diseases of Travelers

This year Broward County has seen a rise in diseases associated with traveling. This may be of concern since international travel has been increasing every year. The Fort Lauderdale Airport reports processing over 3 million international passengers each year.<sup>1</sup> Malaria was the most common of the diseases associated with travel this year. In fact, Broward has had twice the number of cases of malaria in 2009 than in the previous year. Other bacteria and viruses that travelers had include brucella, dengue, campylobacter, hepatitis A and salmonella. More cases visited Haiti than anywhere else. Some of the other places cases visited include Nigeria, Egypt, Venezuela, Argentina, Thailand, Columbia, and Jamaica.



According to a *New England Journal of Medicine* article, if all international travelers sought medical care before leaving home, and if all health care providers were well versed in the appropriate prophylactic regimens and in administering vaccines on the basis of risk, there would be much less travel-related illness.<sup>2</sup> Unfortunately, probably less than half of travelers to regions with high risk for illness seek pre-travel care, and many physicians make errors in judgment about measures such as malaria chemoprophylaxis and vaccines.<sup>2</sup> Many travelers return to their country of origin to visit friends and relatives and often believe that they have little risk of contracting disease in a place that was once their home.

Healthcare providers should ask about travel history, which can be critical, if a patient presents with a febrile syndrome, chronic diarrhea, or an unusual rash. A failure to associate a syndrome with travel may lead to delays in diagnosis and to adverse outcomes. Two common factors in death from malaria are a failure of the patient to take malaria chemoprophylaxis and a failure of the physician to consider the diagnosis early in the course of the illness.<sup>2</sup>

### **BEFORE TRAVEL**

Different areas of the world have different diseases and require different precautions. Factors that contribute to these differences include local climate, native insects, parasites, and sanitation.<sup>3</sup>

Travelers should check with the CDC Traveler's Health Website, [www.cdc.gov/travel](http://www.cdc.gov/travel) well in advance to traveling. The site provides information for risks of diseases and health recommendations, including what to know and what to do before the trip, during the trip, and upon return home.<sup>4</sup> It suggests vaccinations specific to the countries being visited and provides links to travel medicine clinics. It also has current health alerts and advisories.

Travelers should also talk to their health care provider or visit a travel clinic 4 - 6 weeks before leaving for a trip. Some vaccines need time to become effective. Depending on the destination, updating or "boosting" routine vaccinations is sometimes recommended. Examples of routine vaccinations include: diphtheria, measles - mumps - rubella (MMR), polio, and tetanus.<sup>3</sup> Other vaccines for diseases that are not commonly found in the US may also be needed. Examples of other recommended vaccines include: hepatitis A, hepatitis B, meningococcal, and typhoid. Certain countries have vaccinations required for entry and travelers may need proof of vaccination for entrance into the country. Yellow fever vaccination is required for entry into several Sub-Saharan, Central African, and South American countries.<sup>3</sup> Meningococcal vaccination is required for entry into Saudi Arabia for the Hajj pilgrimage. Children, elderly people, people with weakened immune systems or HIV, and pregnant or breast-feeding women, may have different vaccine requirements.<sup>3</sup>

### **FOOD AND WATER PRECAUTIONS<sup>3</sup>**

It is possible to contract many infections by eating or drinking contaminated food or water. Undercooked or raw foods pose a significant risk for infection. Avoid the following:

- Cooked food that has been allowed to cool (such as sold by street vendors)
- Fruit that has not been washed with clean water and then peeled
- Raw vegetables including salads
- Unpasteurized dairy foods such as milk or cheese
- Drinking water that is not chlorinated enough or that is from areas with poor sanitation can lead to infection. Only drink canned or unopened bottled beverages and drinks made with boiled water, such as tea and coffee.
- Do not use ice in your drinks. Local water can be purified by boiling, or by treating it with certain chemical kits or water filters.



### ADDITIONAL PRECAUTIONS<sup>3</sup>

- Frequently clean your hands using soap and water or an alcohol-based cleanser to help prevent infection.
- Avoid being bitten by mosquitoes by remaining indoors in a screened or air-conditioned area during the peak biting period (dawn and dusk). If out-of-doors, wear long-sleeved shirts, long pants, and hats. Apply insect repellent to exposed skin.
- Avoid standing or swimming in fresh-water rivers, streams, or lakes that are contaminated with sewage or animal feces because they can lead to infection. Generally, swimming in chlorinated pools is safe.
- Always use seat belts when driving or riding in a vehicle.

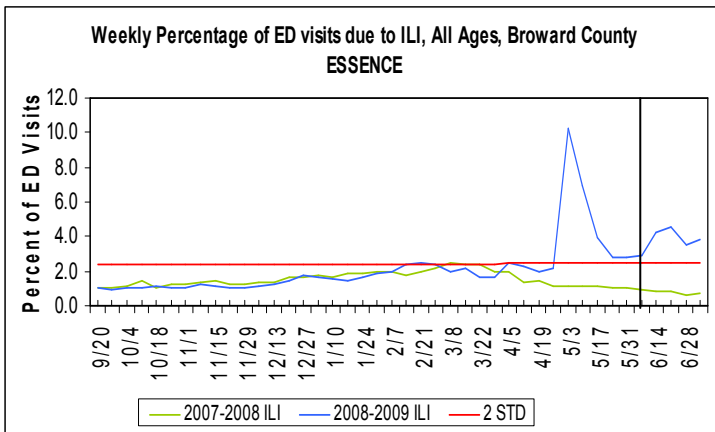
Travelers that get sick with a fever while traveling should contact their health care provider upon return home.

#### Sources:

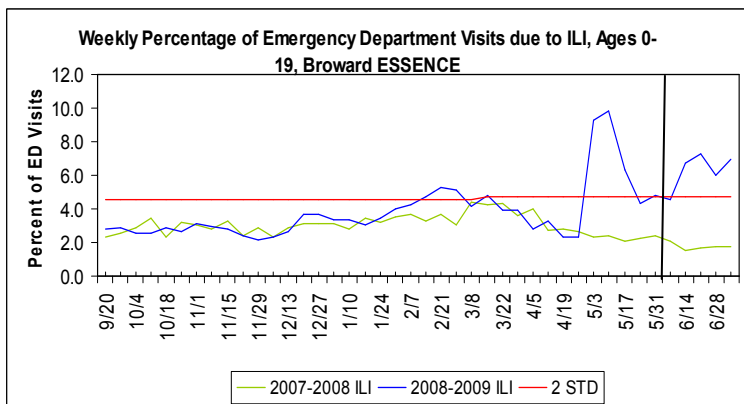
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## Broward County Influenza Surveillance

Psyche Doe, Influenza Coordinator



ILI incidence for June has decreased, but still continues to exceed the 2 standard deviation threshold. This increase is still due to the H1N1 Swine Flu Virus. There were 8 high level alerts (red) and 5 cautionary alerts (yellow) in ESSENCE for ILI visits in Broward County.



ILI incidence in youth and children continues to comprise the largest percentage of persons presenting to the Emergency Department in Broward County with ILI symptoms. ILI incidence among this age group is still above the 2 standard deviation.

### H1N1 Influenza Update:

The number of Broward confirmed Swine Influenza H1N1 cases that have been entered into Merlin as of July 1, 2009 are 133 cases and 1 confirmed death. The state of Florida has confirmed 1302 cases of H1N1 and 10 confirmed deaths due to H1N1. The overall age ranges for confirmed and probable cases are 0 to 85 years old. The average age is 19, with a median age of 15. So far, the largest number of H1N1 confirmed and probable cases (more than 60% of cases) have been in persons between the ages of 5 years and 24 years old. Reported deaths have occurred in people ranging in age from 15 months old to 58 years old, which is again atypical of seasonal flu where most deaths occur in people 65 and older.

Selected Reportable Communicable Diseases and Other Conditions Broward County Health Department

	Jun-09	May-09	YTD Jun 09	YTD Jun 08	Jun-08	Jun-07	Jun-06	Jun-05	Jun-04	5-Yr AVG
Animal Bite, PEP	1	0	7	4	1	2	1	5	0	1.8
Brucellosis	0	0	1	0	0	0	0	0	0	0
Campylobacteriosis	4	8	38	52	16	7	12	8	9	10.4
Carbon Monoxide Poisoning	3	0	3	0	0	0	0	0	0	0
Cryptosporidiosis	0	1	3	12	1	0	4	0	7	2.4
Cyclosporiasis	0	1	2	1	1	0	2	4	1	1.6
Dengue Fever	1	0	3	4	0	0	0	0	0	0
E. Coli NS	0	0	0	3	1	0	0	0	0	0.2
E.Coli Shiga Toxin	2	1	6	4	0	0	0	0	0	0
Giardiasis	5	9	46	33	10	8	9	6	6	7.8
Haemophilus Influenzae Invasive	1	5	17	7	0	2	3	1	3	1.8
Hepatitis A	0	1	18	10	2	1	4	4	2	2.6
Hepatitis B Acute	1	2	20	16	3	2	4	7	5	4.2
Hepatitis B Chronic	1	4	133	16	4	1	1	2	0	1.6
Hepatitis B HBsAg	0	1	19	26	5	2	8	8	6	5.8
Hepatitis C Chronic	0	0	327	878	128	139	108	157	117	129.8
Lead Poisoning	0	3	10	18	3	6	0	2	6	3.4
Legionellosis	0	1	4	5	1	0	0	2	0	0.6
Listeriosis	0	1	1	1	1	0	0	0	0	0.2
Malaria	1	0	11	6	1	1	1	1	0	0.8
Meningitis Other	0	1	11	10	1	1	3	1	1	1.4
Meningitis Strep Pneumoniae	0	0	0	3	0	1	0	1	2	0.8
Meningococcal Disease	0	0	3	1	0	1	0	0	2	0.6
Mercury Poisoning	0	1	6	1	0	0	2	1	0	0.6
Mumps	0	1	1	0	0	0	0	0	0	0
Novel Influenza	118	38	216	0	0	0	0	0	0	0
Pertussis	0	1	3	0	0	0	1	0	0	0.2
Salmonellosis	15	46	174	166	53	30	56	38	33	42
Shigellosis	11	10	33	56	10	43	3	9	20	17
Staphylococcus	0	1	2	0	0	0	0	0	0	0
Streptococcal Disease(Invasive Group A)	1	3	15	11	2	5	2	9	2	4
Streptococcal Pneumoniae(Drug Resistant)	2	5	46	42	5	4	4	3	13	5.8
Streptococcal Pneumoniae(Susceptible)	4	2	27	31	5	5	3	1	5	3.8
Tularemia	0	0	0	1	1	0	0	0	0	0.2
Typhoid Fever	0	0	1	2	0	0	1	0	1	0.4
Varicella	0	7	26	29	1	3	0	0	0	0.8
<b>Total</b>	<b>171</b>	<b>154</b>	<b>1,231</b>	<b>1,449</b>	<b>256</b>	<b>266</b>	<b>234</b>	<b>270</b>	<b>241</b>	<b>253.4</b>

Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)

On a daily basis, 15 Broward County hospitals automatically transmit de-identified electronic emergency department chief complaint data to the BCHD. Each chief complaint is placed into one of 11 syndrome categories using ESSENCE, a data management/analysis system developed by Johns Hopkins University in conjunction with the Department of Homeland Security. ESSENCE performs automatic data analysis, establishing a baseline with a 28-day average. Daily case data is then analyzed against this baseline to identify statistically significant increases. A yellow flag indicates a mild alert and a red flag indicates a high alert. Daily, a BCHD analyst evaluates all alerts to determine epidemiologic clustering by zip code, hospital visited, chief complaint, and the time visited at the ER.

Alerts for all hospital visits: 3 low, 2 high

Table 2. Broward County ESSENCE Alerts, June 1 - June 30, 2009

Alert	Syndrome										
	Influenza like Illness	Botulism-like	Injury	Fever	Gastro-intestinal	Hemorrhagic Illness	Neurological	Rash	Respiratory	Shock/Coma	Other
Low Level	3	4	1	4	5	3	4	0	6	1	2
High level	7	1	0	8	0	1	3	0	4	0	1