

# EPI MONTHLY REPORT

MIAMI-DADE COUNTY HEALTH DEPARTMENT

## Inside the Issue

1

Investigation of a fumigation exposure at a Miami Dade public building

3

Travelers' Health

Selected Notifiable Disease Reports Historical data

4

EDC-IS Influenza/Respiratory Illness Surveillance Report

5

Monthly Report, Selected Reportable Diseases/ Conditions in December 2011

Epidemiology, Disease Control  
& Immunization Services  
8600 NW 17th Street  
Suite 200  
Miami, Florida 33126  
Tel: (305) 470-5660  
Fax: (305) 470-5533

## INVESTIGATION OF A FUMIGATION EXPOSURE AT A MIAMI-DADE PUBLIC BUILDING

*Anthony Llau, MPH and Vincent Conte, MD*

### Background

On October 20th, 2011, the Miami-Dade County Health Department (MDCHD) Office of Epidemiology and Disease Control and Immunization Services (EDC-IS) received a call from an employee regarding several individuals becoming ill. According to the caller, Vikane gas (sulfuryl fluoride) and Chloropicrin gas (tear gas) were used to fumigate the building for termites on October 8th. The staff was allowed to return to the building on October 11th. Since that time, approximately 22 employees had complained of symptoms such as irritated throat, nose dripping, dry mouth, weakness, and headache.

### Methods

EDC-IS was provided with contact information of 55 employees that currently worked in the building. The facility consisted of two floors, with the first containing a lobby area, several clerk service areas, courtrooms, file rooms, and offices; the second comprised of a lunch area, several offices, and a large file room. Each individual was interviewed using the Florida Department of Health Pesticide Reporting Form along with a supplemental questionnaire developed by EDC-IS staff.

A **probable case** was defined as any person that worked or visited the building between October 11th & 20th who, in the absence of fever, experienced **either**: 1) At least one of the following major symptoms **and** at least two of the following minor symptoms or 2) At least two of the following major symptoms.

A **suspected case** was defined as any person that worked **or** visited the building between October 11th & 20th who, in the absence of fever, experienced at least one of

the following major symptoms or at least two of the following minor symptoms.

Major Symptoms: Eye Irritation, Nose Irritation, Throat Irritation, Shortness of Breath  
Minor Symptoms: Headache, Eye Redness, Watery Eyes, Cough, Dry Mouth, Nausea

### Results & Discussion

Fifty employees were interviewed, of which thirty-eight (76%) were found to meet either the probable or suspect case definition. Nine employees (18%) did not experience any symptoms, six of which were security/screening employees. The remaining employees experienced symptoms; however, they did not meet either case definition. Symptom onset dates for the majority of all cases (84%) occurred on October 11th, the first day the building was opened after fumigation. Eye and throat irritation and headache comprised the majority of symptoms reported (Figures 1 & 2). The age range among cases was between 23 and 67 years. The incidence rate for females and males was 89% & 47%, respectively (RR = 1.90,  $p < .01$ ). Among 37 interviewed employees whose primary work site was on the first floor, 27 (73%) were either a probable or suspect case. Moreover, all eleven interviewed employees who primarily worked on the second floor were classified as a case, 9 of which were probable (Figure 3). Based on interviews and symptoms, this outbreak may have resulted from minor Chloropicrin exposure. According to the Environmental Protection Agency (EPA), Chloropicrin is a type of tear gas that is used along with Vikane fumigation. Its purpose is to serve as a warning agent for potential exposures to other fumigants. Symptoms of Chloropicrin exposure include eye, nose, throat, and up-



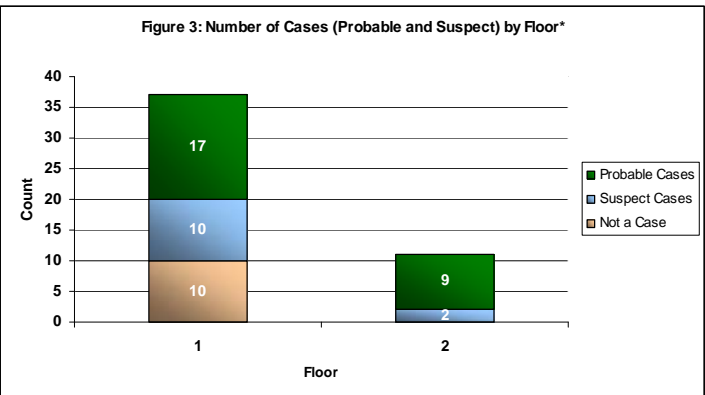
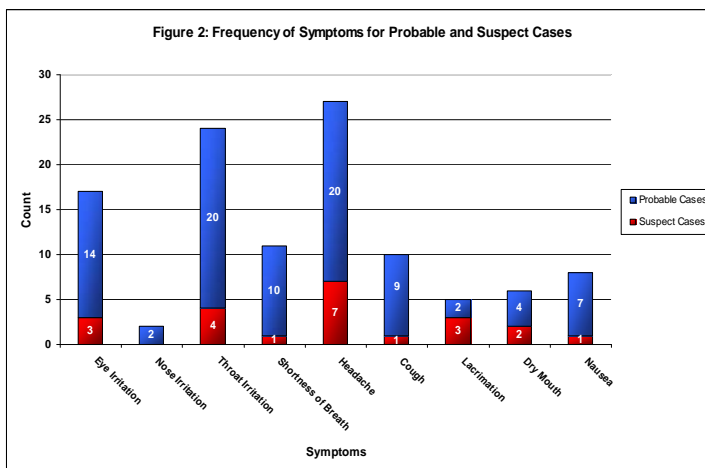
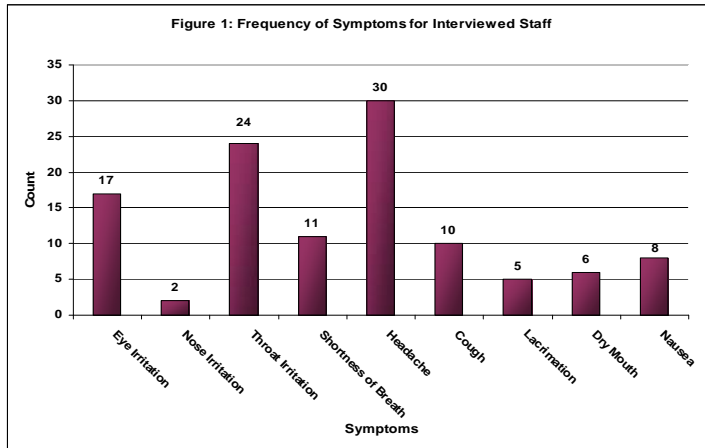
per respiratory irritation which were consistent with those of the affected employees. A 2004 human sensory irritation study indicated that participants exposed to Chloropicrin for 20-30 minutes at 0.15 parts per million (ppm) experienced mild irritation without leading to more severe irritation or respiratory effects. In addition, the study showed that all symptoms experienced by the test subjects exposed to 0.15 ppm of Chloropicrin resolved within 1 hour after the exposure ended. It was also noted in the study that once the symptoms resolved, they did not return or linger and were all transitory in nature, only being felt during actual exposure to the Chloropicrin.

Once the treated structures are ventilated, Chloropicrin is normally not specifically tested for because it is usually eliminated along with Vikane. However, in this case, a test was conducted for the presence of Chloropicrin using "Kitigawa Tubes" that are filled with a liquid that changes color in the presence of Chloropicrin as low as 0.1 ppm. The tubes were sampled throughout the building and no color change was observed in any area.

An inspection conducted by the Florida Department of Agriculture and Consumer Services (FDACS) found that the fumigation operation was done in full compliance with the State of Florida rules and regulations. Moreover, the company followed all post-fumigation procedures in accordance with the registered Vikane label requirements and the state pest control regulations. Based on this evidence, none of the employees were exposed to Vikane gas at any time. A private company performed an indoor air quality evaluation, and their findings confirmed all previous results. They found no harmful gases present in the building, and stated that there should not be any further problems from gas exposure in this facility.

Once a building has been fumigated with chemical agents such as Vikane and Chloropicrin, individuals should be aware of the possibility of illness and/or outbreaks. According to state regulations, after a fumigant is applied, a warning sign is placed outside the building to alert individuals that the structure is unsafe for reentry. Accessibility is prohibited until 1) the aeration procedures as required by the fumigant product label are completed, and 2) the certified operator has personally checked the breathing zone of each room and found the structure to be safe for human entry and occupancy. A Morbidity and Mortality Report released in 1987 described a fumigation

company who improperly conducted Vikane post-fumigation procedures which resulted in the deaths of two elderly individuals. Thus, this incident points out the need to immediately notify county health officials once symptoms occur to prevent further outbreaks such as the one highlighted in this report.



References  
 Environmental Protection Agency (EPA). (1993). RED Facts Sulfuryl Fluoride. Obtained from <http://www.epa.gov/oppsrrd1/REDS/factsheets/0176fact.pdf>. EPA. (2008). Acute Exposure Guideline Levels, Chloropicrin. Obtained from [http://www.epa.gov/oppt/aegl/pubs/chloropicrin\\_interim.pdf](http://www.epa.gov/oppt/aegl/pubs/chloropicrin_interim.pdf).



# Travelers' Health

by CDC

<http://www.freemania.net/images/travel.jpg>

## Planning to take trips for 2012?

*Before you start planning your future destination, make sure you read about travel health information. The Centers for Disease Control provides a list of world regions and gives plenty of information on planning ahead for illnesses, injuries and other medical issue one may encounter during their travel. For example, there are vaccines recommended to protect travelers from illnesses present in other parts of the world and to prevent the importation of infectious diseases across international borders.*



<http://wwwnc.cdc.gov/travel/destinations/list.htm>

*Also, the World Health Organization (WHO) advises travelers and travel medicine practitioners to be aware of the occurrence of diseases in the destination countries. Unforeseen natural or man-made disasters may occur; outbreaks of known or newly emerging infectious diseases are often unpredictable.*

*So the day you start planning your destination, research the*

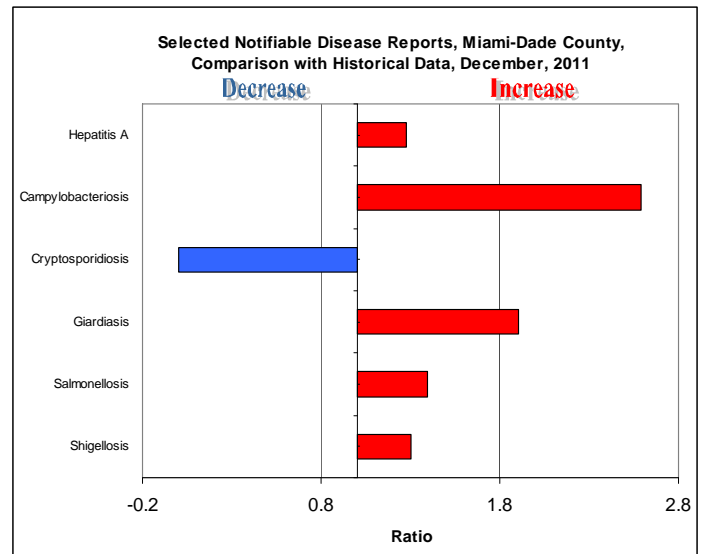
*country and learn ways to protect and prevent any infectious diseases.*

EVERYDAY HEALTH  
**VACCINE** Data  
 Prevention Help Us



**TO REPORT ANY DISEASE AND FOR INFORMATION CALL:  
 Epidemiology, Disease Control & Immunization Services**

- Childhood Lead Poisoning Prevention Program .....305-470-6877
- Hepatitis .....305-470-5536
- Immunizations or outbreaks .....305-470-5660
- HIV/AIDS Program .....305-470-6999
- STD Program .....305-575-5430
- Tuberculosis Program .....305- 575-5415
- Immunization Service .....305-470-5660
- To make an appointment.....786-845-0550





## PARTICIPATE IN INFLUENZA SENTINEL PROVIDER SURVEILLANCE

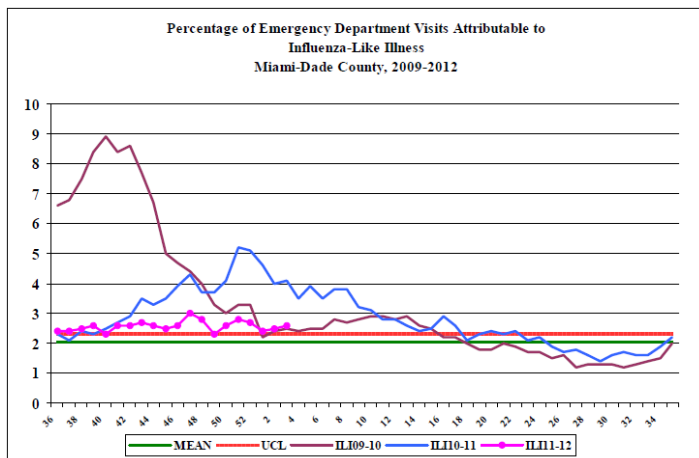
### Miami-Dade County Health Department EDC-IS Influenza/Respiratory Illness Surveillance Report



**Week 03: 01/15/2012– 01/21/2012**

Miami Dade County Health Department EDC-IS collects and analyzes weekly information on influenza activity in Miami-Dade County. On a daily basis, selected Miami-Dade County hospitals electronically transmit hospital emergency department data to the Miami-Dade County Health Department.

This data is then categorized into 11 distinct syndromes. The influenza-like illness (ILI) syndrome consists of fever with either cough or sore throat. It can also include a chief complaint of “flu”. Each week, staff will determine the percentage of all emergency department visits that fall into the ILI category.



During this period, there were 6,994 ED visits; among them 339 (4.8%) were ILI. At the same week of last year, 6.0% of ED visits were ILI.

### The Miami-Dade County Health Department NEEDS Influenza Sentinel Providers!!

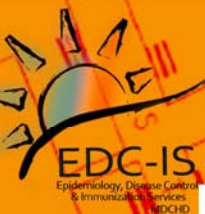
Sentinel providers are key to the success of the Florida Department of Health’s Influenza Surveillance System. Data reported by sentinel providers gives a picture of the influenza virus and ILI activity in the U.S. and Florida which can be used to guide prevention and control activities, vaccine strain selection, and patient care.

- Providers of any specialty, in any type of practice, are eligible to be sentinel providers.
- Most providers report that it takes **less than 30 minutes a week** to compile and report data on the total number of patients seen and the number of patients seen with influenza-like illness.
- Sentinel providers can submit specimens from a subset of patients to the state laboratory for virus isolation **free of charge**.

For more information, please contact  
**Lakisha Thomas** at 305-470-5660.

### About the Epi Monthly Report

The Epi Monthly Report is a publication of the Miami-Dade County Health Department, Epidemiology, Disease Control & Immunization Services. The publication serves a primary audience of physicians, nurses, and public health professionals. Articles published in the Epi Monthly Report may focus on quantitative research and analysis, program updates, field investigations, or provider education. For more information or to submit an article, contact Lizbeth Londoño at 305-470-6918.



# Miami-Dade County Monthly Report

## Select Reportable Disease/Conditions

### December 2011

Diseases/Conditions	2011 Current Month	2011 Year to Date	2010 Year to Date	2009 Year to Date
<b>HIV/AIDS</b>				
AIDS*	44	736	680	845
HIV	96	1449	1281	1349
<b>STD</b>				
Infectious Syphilis*	27	306	347	N/A
Chlamydia*	761	8659	8639	N/A
Gonorrhea*	193	2343	2440	N/A
<b>TB</b>				
Tuberculosis**	41	158	154	N/A
<b>Epidemiology, Disease Control &amp; Immunization Services</b>				
<b>Epidemiology</b>				
Campylobacteriosis	28	409	186	164
Ciguatera Poisoning	2	19	13	34
Cryptosporidiosis	0	21	23	24
Cyclosporiasis	5	10	1	3
Dengue Fever	6	23	53	10
E. coli, O157:H7	1	10	16	21
E. coli, Non-O157	0	0	0	0
Encephalitis (except WNV)	0	0	0	0
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	39	318	798	663
Influenza Novel Strain	0	0	20	1389
Influenza, Pediatric Death	0	0	0	2
Legionellosis	3	19	12	18
Leptospirosis	0	0	1	1
Listeriosis	7	11	14	3
Lyme disease	2	5	6	6
Malaria	1	19	34	20
Meningitis (except aseptic)	5	35	20	26
Meningococcal Disease	1	16	18	15
Salmonellosis	51	598	485	567
Shigellosis	14	120	205	170
Streptococcus pneumoniae, Drug Resistant	12	92	140	114
Toxoplasmosis	0	0	1	2
Typhoid Fever	0	3	3	3
Vibriosis	5	7	14	2
West Nile Fever	0	1	0	1
<b>Immunization Preventable Diseases</b>				
Measles	0	0	0	0
Mumps	0	0	4	5
Pertussis	5	32	28	36
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	1	47	80	57
<b>Hepatitis</b>				
Hepatitis A	4	26	49	43
Hepatitis B (Acute)	3	8	27	12
<b>Lead</b>				
Lead Poisoning	14	135	240	159

\*Data is provisional at the county level and is subject to edit checks by state and federal agencies.

\*\* Data on tuberculosis are provisional at the county level.