

Oil Spill Health Effect Summary



MS Canyon 252 Oil Spill Surveillance Report

Week 23 From 06/06/2010 - 06/12/2010

The Oil Spill Surveillance Summary Report describes the results of the tracking done by the Louisiana Department of Health and Hospitals Office of Public (OPH) Health Section of Environmental Epidemiology & Toxicology (SEET). This report relies on data supplied by sentinel surveillance sites, including hospital emergency departments, outpatient clinics, physicians' offices and Louisiana poison control center.

SEET is tracking and evaluating all acute health effects related to the BP Oil Spill. Potential complaints include exposure to odors/fumes, skin contact with contaminated water or objects, heat stress, in addition to injuries such as lacerations/fractures resulting from clean-up or containment activities. All patients treated for an oil spill-related injury or illness should be reported to OPH/SEET as soon as possible. This information is critical to state agencies monitoring the health impact of the oil spill on Louisiana residents and workers.

What to report	
Patient name and contact information, name of reporting facility, name and telephone number of person reporting event, and brief description of health complaint and treatment. OPH/SEET will follow-up if more information is needed.	
How to report	
Telephone	888-293-7020 (24/7)
Fax	225-342-8117
Database	
All human surveillance data are entered in a database maintained by SEET. The data include demographics characteristics about persons exposed, workers from the rigs, workers involved in clean up, other workers (EMS for example) and residents. Data are also collected on the nature of exposure, type of work, route of exposure and location of exposure. Clinical and health care utilization data are also collected.	

Summary

There have been 109 reports of health complaints believed to be related to exposure to pollutants from the oil spill. Seventy four (74) reports came from among workers and 35 from among the general population (see limitations of these data explained on page 2). Most workers reported having had symptoms that cleared up quickly resulting from exposures attributed to a variety of chemicals. Nine (9) had short hospitalizations. The general population complaints were related to odors, and symptoms were considered mostly mild. Three (3) attributed their hospitalization to exposures (Investigations are pending).

The syndromic surveillance system is monitoring emergency department visits in 7 hospitals in regions 1,3 and 9 to determine if there are increases in upper respiratory illnesses (URI) and asthma increasing in the region. This year's weekly data (percentage of asthma and URI among emergency department visits) are compared with the past 3 years. There is no increase to report. (see page 6).

Treatment information	Call the Louisiana Poison Center: 1-800-222-1222. The Poison Center is staffed 24-hours a day and can provide medical management advice.
Information on potential health risks related to the oil spill see	http://emergency.cdc.gov/chemical/oil_spill_gm_2010.asp

Page 1: Summary	Page 5: Illness and health care utilization
Page 2: Comments	Page 6: Syndromic surveillance
Page 3 : Demographics of persons exposed	Page 7: Air surveillance data
Page 4: Details about exposures	Page 8: Seafood surveillance data

Data presented in this report is in aggregate form, there are no personal identifier and no individual line listing that could be used to identify individuals. This is a public document

Comments

On April 20 the Deep Water Horizon exploded and collapsed into the sea on April 22 (CDC week 16). Four weeks later the health surveillance system in place started to receive reports of human exposures.

Goal of the targeted surveillance

The goal of this surveillance is to monitor possible human health effects of exposure to pollutants resulting from the spill. This report does not include injuries which are the primary conditions affecting the workers. It also does not include chronic disease (for example, it would not include hypoglycemia in a diabetic worker) or acute conditions that are not directly resulting from pollutants (for example, a foodborne outbreak), but it includes any exacerbations of a chronic condition that could be resulting from exposure to pollutants (mainly for pulmonary and dermatologic conditions resulting from inhalation or skin exposure).

A surveillance is a dynamic system

As reports are received they are entered in a database. From this database, interviewers will collect additional information from the reporter and from the patient. This process may take several days. This report summarizes the status of the database at the time the report is compiled. Week over week comparisons are discouraged as data may change when new information becomes available.

Limitations of exposure histories and of health complaints

Because of the nature of environmental exposures, there is no attempt made in this report to confirm the exact cause of symptoms or exposure. Health complaints are the symptoms and signs reported by the person affected. Some of these are objective (vomiting, for example), others are subjective (nausea, for example). There are large variations in how subjective symptoms are perceived and reported.

Syndromic surveillance

Syndromic Surveillance utilizes the detection of well-defined symptoms as an indicator of the possible presence of a public health problem. The Metro New Orleans Hospital Emergency Department Syndromic Surveillance Report is compiled from Emergency Department (ED) Chief Complaint data reported to LAOPH Infectious Diseases Epidemiology Section by Metro New Orleans hospitals (7 hospitals from Regions 1, 3 and 9). Text contained in the Chief Complaint data is analyzed by CDC-supplied software, and ED records are flagged when Chief Complaint data contain text indicative of a specific syndrome.

Infectious Diseases Epidemiology currently flags ED records when Chief Complaint data indicate specific syndromes. For the purpose of this surveillance, "Asthma" and "Upper respiratory symptoms are of interest.

CDC Week

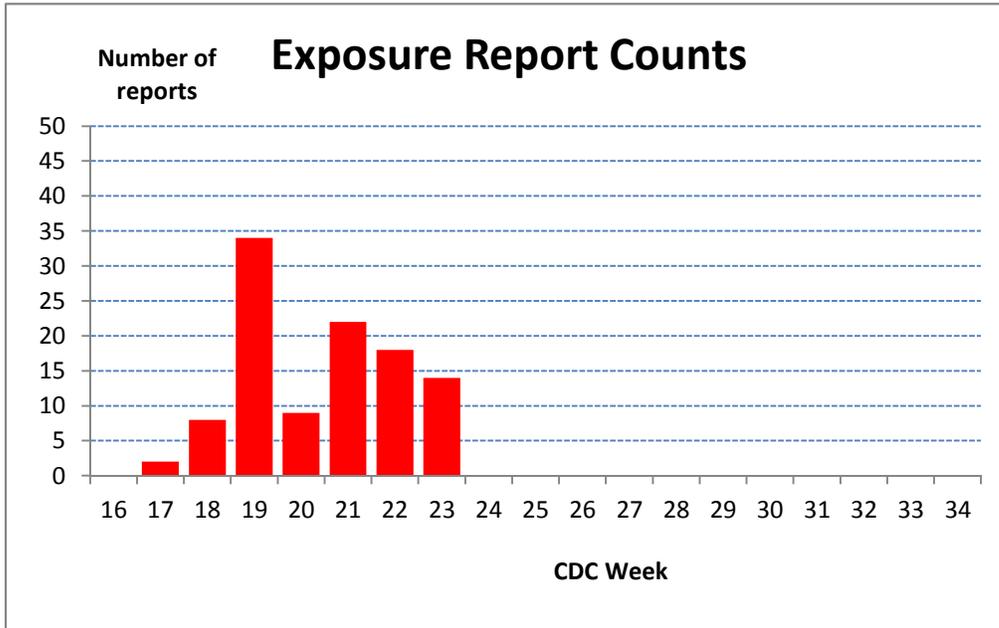
To facilitate to coordination of reporting, the Centers for Disease Control, assigns a number to each week of the year. The dates corresponding to each week in the report are explained on Page 3.

Oil Spill Exposure Demographic Information

This graph shows the number of reports for conditions perceived to be related to exposure to oil spill materials. This type of data is based on a patient's report and does not necessarily reflect a confirmed health effect from the oil spill. On the other hand, cases of exposures that did not warrant accessing medical care are not reported here.

Total numbers	Reports	109	Workers	74	Home	35
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First day of the week
CDC Report Week



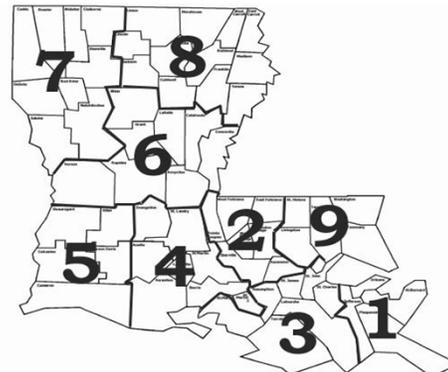
04/18/10	16	0
04/25/10	17	2
05/02/10	18	8
05/09/10	19	34
05/16/10	20	9
05/23/10	21	22
05/30/10	22	18
06/06/10	23	14
06/13/10	24	
06/20/10	25	
06/27/10	26	
06/28/10	27	
06/29/10	28	
06/30/10	29	
07/01/10	30	
07/02/10	31	
07/03/10	32	
07/04/10	33	
07/05/10	34	
07/06/10	35	

Age and Gender distribution

	Gender		Age				Total
	M	F	0-17	18-44	45-64	65+	
Worker	71	3	0	51	22	1	74
General population	12	23	5	15	12	2	34
Total	83	26	5	66	34	3	108

Parish of residence

Region	Total
1: Greater NO Orleans Jefferson Plaquemine St Bernard	14 9 4 5
2: Baton Rouge	3
3: Houma/Thibodaux Lafourche Terrebonne Other	17 8 4
4: Lafayette	8
5: Lake Charles	3
9: North Shore	7
Other Louisiana	1
Out of State	21



**Illness
Health Care Utilization**

Illness Information		
	Work	Pop
Respiratory		
Nose irritation	2	2
Nose bleed	1	0
Throat irritation	16	18
Shortness of breath/difficulty breathing	9	7
Aggravation of existing asthma	0	5
Aggravation of existing respiratory illness (COPD)/other	1	2
Cough	12	7
Other	1	3
Eye		
Eye irritation	11	12
Other	0	0
GI		
Nausea	21	10
Vomiting	12	1
Diarrhea	7	2
Cvasc		
Chest pain	8	3
Irregular beat/ rapid beat	0	1
Aggravation of existing cardio-vascular disease	0	0
Skin		
Rashes	8	2
Other	0	0
Other		
Headache	28	14
Dizziness	5	3
Patients	74	35

*Cases may be counted in more than 1 category

Health care utilization

	Work	Pop
Type of health care obtained		
Poison control center call	1	17
Emergency department/Urgent care	55	10
Clinic /Physician office	10	3
Call to health department /Hotline	0	1
No formal visit	0	4
Total	66	35
Hospitalization: All were short, generally 1 day	9	3

Clusters

01-05/13/10: Sixteen oil rig workers were exposed to fumes reported to be dispersant. They experienced nausea, vomiting and flu-like symptoms. They were sent to a Plaquemines Parish clinic. By the time they arrived most symptoms have been alleviated. They were examined, treated symptomatically and released immediately.

02-Five offshore oil rig workers complained of irritative symptoms after being exposed to fumes thought to be dispersant. They were sent to Lafayette clinic, examined, treated symptomatically and released immediately.

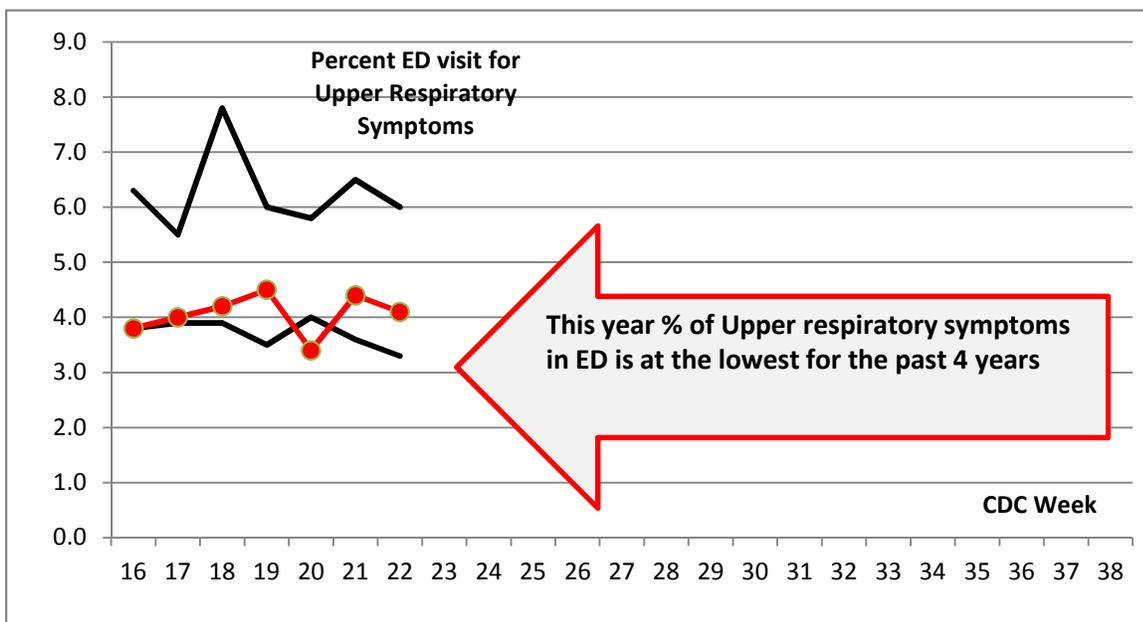
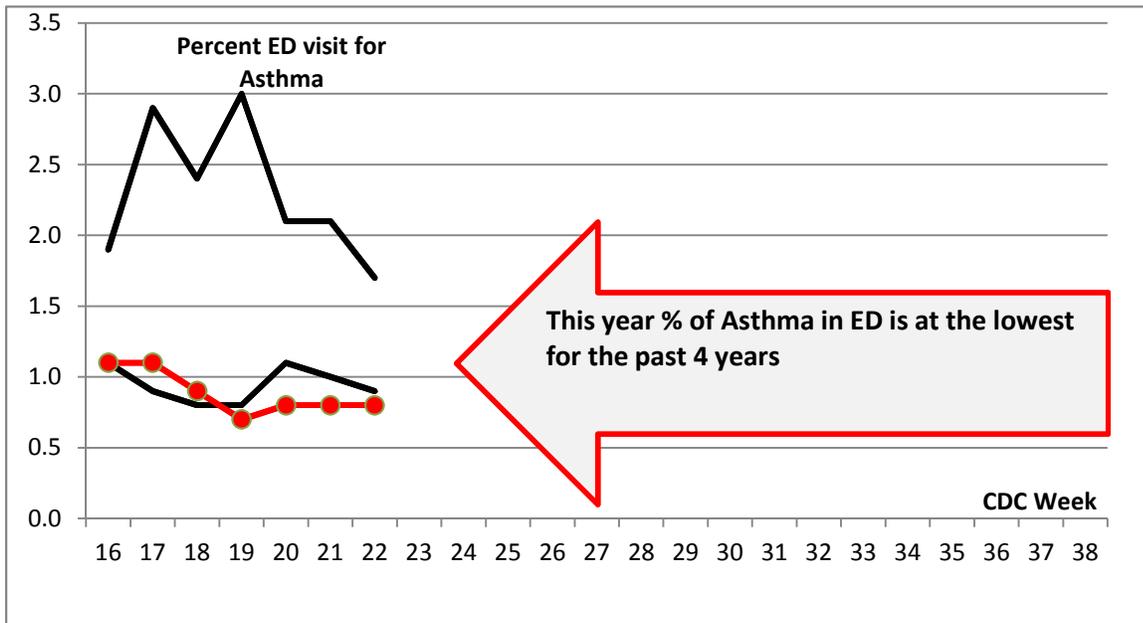
03-05/26/10 Seven clean-up workers had been working on a boat, busting oil sheen for two weeks. They experienced nausea, headaches, burning throat and chest pain. They were exposed to fumes they believed to be dispersant. They were transported to West Jefferson hospital. One was released the same day. Six others were hospitalized (5 for 1 day, 1 for 2 days). An investigation is pending.

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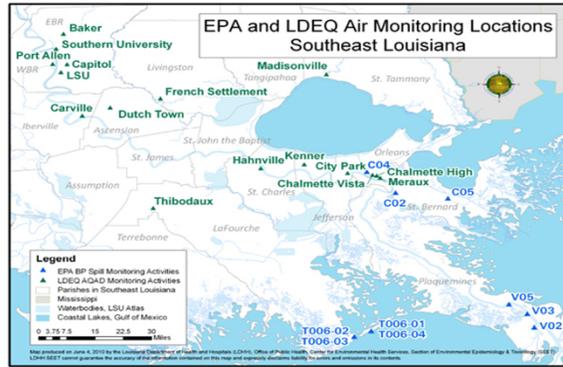
The black lines (smooth, no dots) represent the lowest and the highest percentages observed in the past 3 years. The red lines (with dots) represent the percentages observed this year. The syndromic surveillance does not show any higher rates in the GNO area.



Air surveillance

1- EPA

EPA performs 24-hour air sampling for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and particulate matter (PM2.5) using stationary air monitors at 8 sites across Southeastern Louisiana (see map). These monitors are also used for continuous hourly monitoring of hydrogen sulfide (H2S), sulfur dioxide (SO2), and PM10. EPA's mobile TAGA (Trace Atmospheric Gas Analyzer) unit performs real-time episodic monitoring of H2S, SO2, benzene, toluene, xylene, and components of the dispersant being used on the oil spill.



2- Louisiana Department of Environmental Quality's (LDEQ) Air Quality Assessment Division (AQAD)

LDEQ monitors levels of H2S, SO2, total non-methane organic carbon (TNMOC), and PM2.5 using ambient air monitors located in a number of cities across Southeastern Louisiana (see map).

3- Center for Toxicology and Environmental Health, LLC (CTEH)

CTEH is a private company working with BP to monitor the effects of the oil spill. CTEH monitors VOCs, H2S, SO2, and particulate matter (PM2.5 and PM10) along the Gulf shores from Port Arthur, TX to Appalachee Bay, FL.

SUMMARY of EPA AIR DATA, April 28, 2010 – June 5, 2010

-Particulates have been present at normal levels for the Gulf coastline at this time of year. [NOTE: Particulate matter measurements are affected by humidity. Readings trend higher with higher humidity levels.]

-Except for benzene on April 30, 2010 in Plaquemines Parish (V03) and naphthalene on May 17, 2010 in Orleans Parish (C04), volatile organic carbon (VOC) concentrations have remained below the screening values.

-On June 2, 2010, one benzo(a)pyrene concentration exceeded screening values at a monitor on Florida's coast, near Panama City. Because benzo(a)pyrene's carcinogenic effects are measured over chronic exposure durations (years), this will only be of concern if the exceedence continues at this monitor over a significant period of time.

[EPA quote: "The levels we are seeing are not expected to be high enough to cause long lasting effects – but people may experience eye or throat irritation, or headaches. The effects should go away when H2S levels diminish, or when a person leaves the area. The lack of similar H2S readings at nearby monitors indicates that the source is unlikely to be from the oil spill and is more likely coming from a source unrelated to the spill." Retrieved from the "Air Monitoring Data Reports" summary at <http://www.epa.gov/bpspill/air.html>]

SUMMARY of LDEQ/AQAD AIR DATA REPORTS May 25, 2010 – June 9, 2010

- TNMOC and SO2 readings were reported as normal for these sites.
- H2S was present in ranges that could be detected by smell but are not considered health threatening.
- PM2.5 levels remained below the National Ambient Air Quality Standards

SUMMARY of CTEH's AIR DATA REPORTS, May 9, 2010 – June 5, 2010

- Crude oil vapors were not detected between Port Arthur, TX and Appalachee Bay, FL. Elevated VOC detections were determined not to be related to the oil spill (some were reportedly due to construction engines or boat traffic).
- On June 3 and June 5, Crude oil odors were detected in several Louisiana locations where crude oil had been sighted.
- Particulate levels were below levels of concern, with exceptions attributed to weather conditions or nearby dredging operations

Contaminants	Scr Value	Source	Particulate Matter (Louisiana)		
Volatile Organic Compounds (VOCs) (Louisiana)			PM2.5	150 ug/m ³	Level of Concern
Benzene	29 ug/m ³	Acute MRL	PM10	35 ug/m ³	
Ethylbenzene	43000 ug/m ³	Acute MRL	H2S	0.07 ug/m ³	Acute EMEG
Isopropylbenzene (Cumene)	4000 ug/m ³	HQ=10	SO2	10 ug/m ³	Acute EMEG
Naphthalene	30 ug/m ³	HQ=11	Dispersant Components (Louisiana)		
Toluene	3800 ug/m ³	Acute MRL	2-butoxyethanol	6,000 ppb	Acute EMEG
m-, p-, or o-Xylene	8700 ug/m ³	Acute MRL	1-(2-butoxy-1-methylethoxy)-2-propanol	7 ppb	(also known as Dipropylene Glycol Mono Butyl Ether)
PAHs (Gulf coastline, not measured in Louisiana)					
Benzo (a) anthracene	8.7 ng/m ³	RBC			
Benzo (a) pyrene	0.87 ng/m ³	RBC			
Benzo (b) fluoranthene	8.7 ng/m ³	RBC			
Benzo (k) fluoranthene	8.7 ng/m ³	RBC			
Chrysene	87 ng/m ³	RBC			
Dibenz (a,h) anthracene	0.8 ng/m ³	RBC			
Indeno(1,2,3-cd)pyrene	8.7 ng/m ³	RBC			
These screening values are not indicators of potential health risks. They function as triggers for further evaluation when contaminant concentrations exceed the screening values.					

Seafood surveillance data

The Louisiana Department of Health and Hospitals (DHH) and Department of Wildlife and Fisheries (DWF)

have been collecting seafood samples since 04/30/2010. Oysters, Shrimp, Crab and Finfish (e.g. Drum, trout, catfish, sheepshead, croaker) are collected by DHH and DWF personnel and brought to a laboratory to undergo analysis for PAH (Polynuclear Aromatic Hydrocarbons) and aliphatic hydrocarbon compounds.

SUMMARY OF SEAFOOD DATA, 04/30 to 06/01, 2010

Of 198 seafood samples (Figure 1) collected between April 30, 2010 and June 1, 2010 (Table 1), trace levels of PAHs were detected in 3 samples (Table 2). All compounds detected were below health-based comparison values (Table 3), meaning that any chemicals detected were below levels that could potentially threaten the public's health. DHH personnel collect a water sample from Oyster Harvest Areas at the time oysters are collected. Between April 30, 2010 and June 1, 2010, 41 water samples were collected and analyzed for total petroleum hydrocarbons (TPH). TPH was not detected in any of the samples.

	Oysters	Shrimp	Crab	Finfish	All seafood
1	2	0	0	6	8
2	5	0	0	0	5
3	6	5	1	7	19
4	2	0	0	1	3
5	3	1	0	3	7
6	4	3	0	8	15
7	5	6	0	10	21
9	3	0	0	0	3
10	1	0	0	0	1
12	0	3	0	4	7
13	9	3	3	4	19
14	2	2	0	2	6
15	2	2	0	1	5
16	1	0	2	3	6
17	2	1	0	1	4
19	6	2	2	2	12
21	3	1	0	2	6
23	0	1	1	2	4
26	3	4	3	5	15
28	3	3	0	6	12
29/30	3	7	1	8	19
Unk	0	0	0	1	1
All areas	65	44	13	76	198

	No. of samples			Range (mg/kg)	Hydrocarbon compounds detected include Chrysene, Fluorene, Fluoranthene, Phenanthrene, and
	Total	NOT detected	detected		
Oysters	65	64	1	ND-0.002	
Shrimp	44	44	0	ND	
Crab	13	13	0	ND	
Finfish	76	74	2	ND-0.006	
All seafood	198	195	3	ND-0.006	

COMPOUND	HEALTH-BASED COMPARISON VALUE (CV) ¹ mg/kg
c12-c36 Aliphatics	233
Polynuclear Aromatic PAH	
Anthracene	700
Benzo(A) anthracene	0.75
Benzo(A) pyrene	0.075
Benzo(B) fluoranthene	0.75
Benzo(K) fluoranthene	7.5
Chrysene	75
Dibenzo(A,H) anthracene	0.075
Fluoranthene	93
Fluorene	93
Indeno(1,2,3-CD) pyrene	0.75
Naphtalene	47
Phenanthrene	700
Pyrene	70

1 CVs for fish/shellfish are based on the assumptions and methods presented in the draft Protocol for Issuing Public Health Advisories for Chemical Contaminants in Recreationally Caught Fish and Shellfish (January 2010) http://www.dhh.louisiana.gov/offices/misccdocs/docs-205/HFCA/LA_Fish_Advisory_Protocol_Public_Comment_1-2010.pdf

