

Oil-Spill Syndromic Surveillance Summary
August 8, 2010– August 14, 2010
Week 32

The mobile drilling platform, Deep Water Horizon, sank on April 20 (Week 16). In Florida, active monitoring of syndromic surveillance systems for the detection of adverse health effects due to exposure to crude oil, crude oil by-products, pollutants, distillates and dispersal agents reported from Escambia, Santa Rosa, Okaloosa, Walton, Bay and Gulf counties began 2 weeks later on May 6, 2010 in Week 18.

ESSENCE, FPICN and NPDS

The Bureau of Environmental Public Health Medicine monitors for crude oil related illness affecting humans using three syndromic surveillance systems.

1. Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)
ESSENCE provides emergency department (ED) data from chief complaints and standardized groupings of chief complaints. Daily alerts are system generated according to different statistical algorithms. Algorithms are based on the past week's data and produce alerts if the daily count exceeds the expected value. ESSENCE also contains a poison information center module (ESSENCE-PIC) that allows the ability to query based upon clinical effects.
2. Florida Poison Information Center Network (FPICN)
FPICN reports calls received by the three regional Florida-based poison information centers which includes, but is not limited to, caller name and location, route(s) of exposure, case report narrative, treatment recommendation, disposition and follow-up notes.
3. National Poison Data System (NPDS)
NPDS produces a geocentric report containing all calls answered by any poison control center in the United States. This uniqueness of the system allows reporting of all calls originating in Florida including those not placed from a Florida LAN line. Therefore, calls that may be placed by out-of-state visitors which could be routed according to the caller's area code rather than the caller's actual location are also captured.

Surveillance Goals

1. To detect and report human illness related to various routes of exposure to crude oil, crude oil by-products and distillates
2. To track adverse health effects due to human contact with crude oil pollutants in order to inform planning and decision making partners. Reported effects may be directly related to crude oil, crude oil by-products or from an exacerbation of chronic illnesses induced by crude oil related exposures
3. To inform situational awareness reports used to direct messages towards the general population, vulnerable populations and rumor control
4. To collect and analyze possible cognitive, emotional and behavioral indicators of adverse mental health effects and disseminate reports to aid in the assessment and coordination of mental health resources for those directly and indirectly affected by the oil spill.

Surveillance Limitations

Currently, ED data are available for 5/9 hospitals in the Florida panhandle and are located in Bay, Escambia, Gulf, Santa Rosa and Walton counties. Also, ED data in ESSENCE from chief complaints do not provide the full clinical picture of ED visits; therefore, follow-up with local health department



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staff may be necessary. FPICN data are available statewide, but are self-reported and follow-up may be required. NPDS query parameters can not be set to stratify by county and can contain self-reported illness calls from counties outside of the panhandle. Overlap of these data sources is a natural by-product of syndromic surveillance and counts of exposures and/or illnesses may be duplicated.

Exposures related to the Deepwater Horizon incident which result in illness may be missed in the course of current surveillance in the following ways:

1. Ill individuals may present to an ED department outside the ESSENCE data collection network in the panhandle
2. Ill individuals may present to an ED outside of the panhandle or State
3. Ill individuals may present at the ED and report symptoms not currently under surveillance
4. Ill individuals may present at an ESSENCE enrolled hospital that does not have the technical ability to code/flag oil-related ED visits
5. Ill individuals may seek care at walk-in/urgent care or private health care providers
6. Ill individuals may not seek care
7. Ill individuals may receive onsite emergency care (e.g. EMS)

Summary to Date

Nine special call designation codes have been created by FPICN to further assist the State with monitoring the effect of the Gulf of Mexico Oil Spill event on the community as well provide more insight for planning and decision-making activities. The *Deepwater Horizon Response Calls Report* stratifies callers into categories, e.g. resident, visitor or oil-spill responder. Currently, FPICN is receiving the majority of Florida specific calls related to the oil spill.

All information (e.g. case notes) for calls received previously by partner poison information centers have been back entered into FPICN. On an ongoing basis information will be back entered for all Florida related calls that are routed and handled by partner poison information centers. The table below shows the culmination of all calls placed in Florida from May 1, 2010 through August 14, 2010 regarding the Gulf of Mexico Oil Spill.

Table 1: FPICN Calls Related to Gulf of Mexico Oil Spill, 5/1/2010-8/14/2010

Call Summary*						
Call Type	FL Resident	Visitor	HCP	Response Worker	Unspecified	Total Calls
Info Request	71	11	3	2	101	188
Exposure	213	8	0	12	4	237
Total Calls	284	19	3	14	105	425

Of the 237 reports received by FPICN 213 were from Florida residents, eight (8) from visitors and twelve (12) from oil workers. One (1) of these reports was also captured in ESSENCE. Information needed to classify four (4) calls was not provided in external partner reports.

*All case notes have been back entered by FPICN. However, UNSPECIFIED will be used as the call type designation for records entered from partner reports that do not contain sorting information from calls handled by non-Florida Centers.



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Inhalational exposures (157) were reported by the vast majority of callers followed by dermal exposures (41). Exposure via ingestion was listed in three (3) reports and one (1) listed ocular exposure. Multiple exposure routes (e.g. ingestion/dermal, ingestion/inhalational/dermal) were reported for 25 exposures. Route of exposure was unknown for ten (10) reports. Throat or ocular irritation, dizziness, shortness of breath, nausea, vomiting, diarrhea, cough, bronchospasm, headache, chest pain and rash were frequently reported symptoms.

Table 2: FPICN Calls By Caller County Related to Gulf of Mexico Oil Spill, 5/1/2010-8/14/2010*

Reported Exposures By Caller County	
County	Period Calls
Bay	9
Broward	1
Collier	2
Duval	3
Escambia	90
Franklin	4
Hamilton	1
Hillsborough	4
Lee	1
Leon	1
Levy	4
Miami-Dade	1
Okaloosa	28
Orange	3
Osceola	1
Pasco	1
Pinellas	9
Polk	2
Santa Rosa	57
Sarasota	3
UNKNOWN	3
Volusia	1
Walton	8
Total Florida Calls	237

*Does not include calls to FPICN for informational purposes only

Seventeen (17) reports were identified from ESSENCE-ED chief complaint data (one of these reports was also captured by FPICN). Twelve (12) reports were from oil clean-up workers. Chest pain, headache and heat-related illness were cited as reasons for at least four (4) of the visits. In one or more ED visits for oil worker-related illness difficulty breathing, shortness of breath, dry cough, dizziness, rash, chest pain, hypertension, headache and muscle sprain were listed as chief complaints.



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However, one oil worker was hospitalized due to pneumonia and another due to anemia. Four (4) Florida residents reported symptoms such as nausea and vomiting, shortness of breath, chafing or blisters after contact with tar balls, crude oil or after walking on the beach. One (1) ED chief complaint was from a visitor seeking treatment for nausea and vomiting after spending time on several Florida beaches and coming into contact with oil. This episode was also captured by FPICN who determined that the reported symptoms were not related to oil exposure, but referred the individual to a health care facility (HCF). All 17 reports were from Escambia County.

In Florida, a total of 253 accounts of illness after contact with crude oil related pollutants were reported from May 1, 2010 – August 14, 2010. 237 accounts of self-reported illness were retrieved from FPICN and 17 chief complaints were captured from ESSENCE ED. However, since one report was recorded by both surveillance systems it has counted as one report only in the total count.

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Syndromic Surveillance
Week 32, 8/8/2010 to 8/14/2010

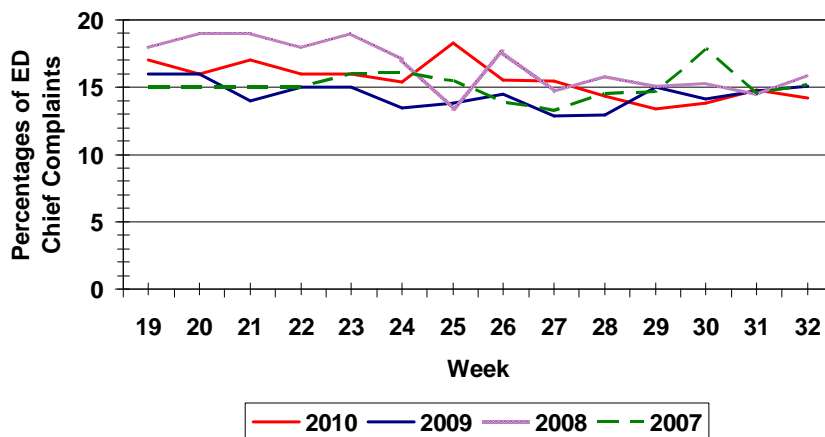
Gastrointestinal (GI) Illness:

Two methods are utilized to query GI related ESSENCE ED data. One query is based upon the GI syndrome which includes the medical sub-groupings abdominal pain, bloating, diarrhea, gastroenteritis, GI bleeding, loss of appetite, nausea and vomiting. The second query utilizes key words such as “oil”, “fumes” and “beach” combined in syntax to capture chief complaints possibly associated with exposure to crude oil pollutants that may be reported by an ED visitor. ESSENCE-PIC queries are based on system provided acute GI related health effects, for example, abdominal pain, dehydration, diarrhea, dysphagia, esophageal stricture, oral irritation, nausea, oral burns, throat irritation and vomiting.

ESSENCE ED - Week 32 2010

- ✓ None of the reported GI related illness identified through ESSENCE ED review were recorded as being associated with crude oil based on review of chief complaints
- ✓ 14 percent of all chief complaints were related to GI illness in Week 32
- ✓ Week 32 2010 does not reflect any abnormal trending when compared to the 3-year historical data

**Weekly Percentages of GI Illness from
Emergency Department (ED) Chief Complaints
Selected Panhandle Counties**



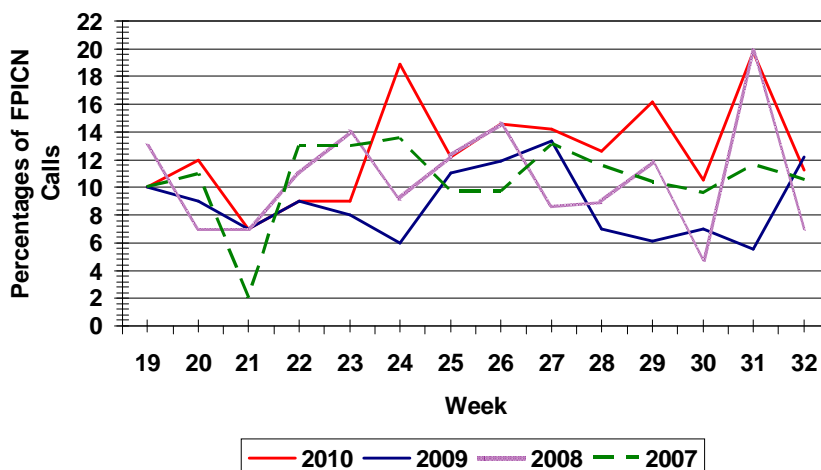
The past three years of data are used to compare and characterize seasonal trends in the data for ESSENCE-ED panhandle counties Bay, Escambia and Santa Rosa during weeks 19-30. Gulf & Walton counties were added in Week 31.

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ESSENCE PIC - Week 32 2010

- ✓ Two (2) reports recorded only GI related illness as adverse health effects associated with the oil spill. One report recorded GI related illness in conjunction with dermal/rash related illness.
- ✓ 11 percent of all reports to FPICN were related to GI illness in Week 32
- ✓ 30 percent of all reports noting GI related illness were related to the oil spill
- ✓ Week 32 2010 showed a decrease in reports of GI related illness since Week 32 and was slightly lower than Week 32 of 2009.

**Weekly Percentages of GI Health Effects
From FPICN Calls, Selected Panhandle Counties**



*The past three years of data are used to compare and characterize seasonal trends in the data.
ESSENCE-PIC panhandle counties - Bay, Escambia, Gulf, Okaloosa, Santa Rosa and Walton*

Respiratory:

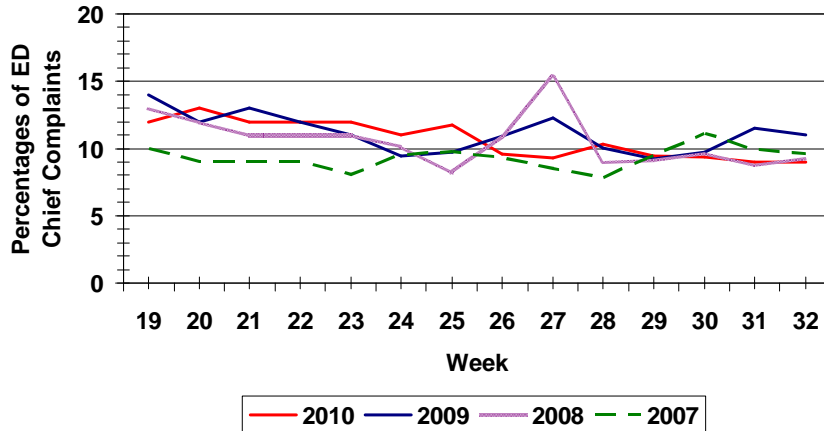
Two methods are utilized to query respiratory related ESSENCE ED data. One query is based upon the respiratory syndrome which includes medical sub-groupings such as cough, difficulty breathing, shortness of breath, sore throat, wheezing, nasal congestion and acute bronchitis. The second query utilizes key words such as “oil”, “fumes” and “beach” combined in syntax to capture chief complaints possibly associated with exposure to crude oil pollutants that may be reported by an ED visitor. ESSENCE-PIC queries are based on select acute respiratory health effects such as bronchospasm, cough/choke, cyanosis, dyspnea, hyperventilation/tachypnea, respiratory arrest and respiratory depression.

ESSENCE ED - Week 32 2010

- ✓ One (1) report of respiratory related illness was identified through ESSENCE ED review and recorded as being associated with oil spill clean up activities based on review of the chief complaint
- ✓ Almost 9 percent of all chief complaints were related to respiratory illness
- ✓ Week 32 2010 does not reflect any abnormal trending when compared to the 3 year historical data

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**Weekly Percentages of Respiratory Illness from
 Emergency Department (ED) Chief Complaints
 Selected Panhandle Counties**

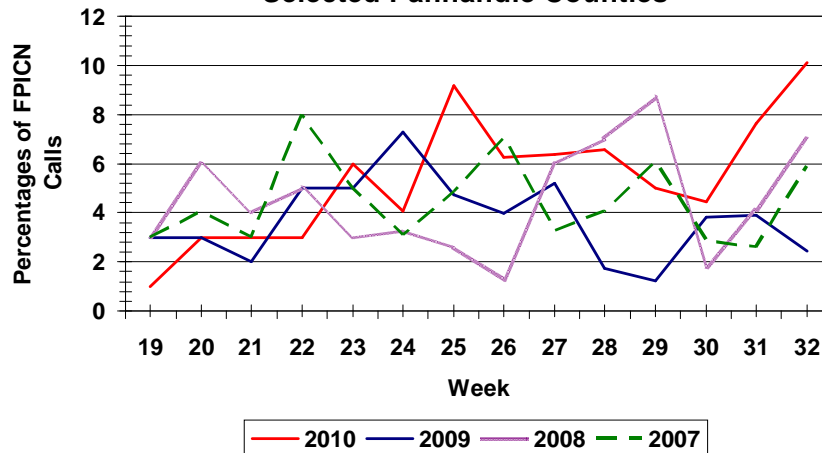


The past three years of data are used to compare and characterize seasonal trends in the data for ESSENCE-ED panhandle counties Bay, Escambia and Santa Rosa during weeks 19-30. Gulf & Walton counties were added in Week 31.

ESSENCE PIC - Week 32 2010

- ✓ One (1) report recorded respiratory related illness associated with the oil spill.
- ✓ 10 percent of all calls to FPICN were related to respiratory illness
- ✓ 11 percent of all respiratory related illness reports were related to the oil spill in Week 32
- ✓ Week 32 2010 demonstrated a sharp increase above previously reported respiratory related calls for 2010 and continued to remain higher than the past 3 years.

**Weekly Percentages of Respiratory Health
 Effects From FPICN Calls
 Selected Panhandle Counties**



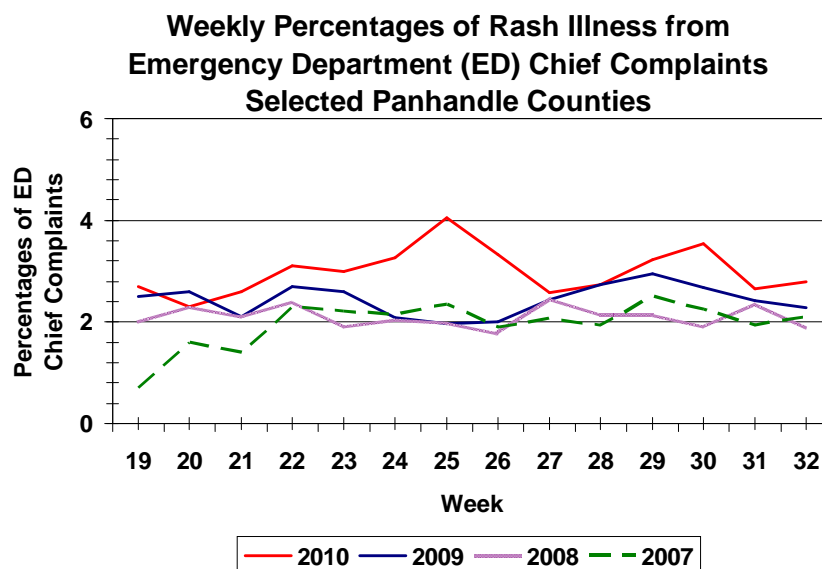
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Rash/Dermal:

Two methods are utilized to query rash related ESSENCE ED data. One query is based upon the “rash syndrome” which includes the medical sub-groupings flushing, rash and sores. The second query utilizes key words such as “oil”, “fumes” and “beach” combined in syntax to capture chief complaints possibly associated with exposure to crude oil pollutants that may be reported by an ED visitor. ESSENCE-PIC queries are based on select acute dermal health effects such as bullae, burns, cellulitis, ecchymosis, edema, erythema flushed, hives/welts, irritation/pain, necrosis, pallor, pruritus and rash.

ESSENCE ED - Week 32 2010

- ✓ None of the reported rash related illness identified through ESSENCE ED review were recorded as being associated with crude oil based on review of chief complaints
- ✓ Almost 3 percent of all chief complaints were associated with rash related illness.
- ✓ Week 32 2010 demonstrated an increase in rash related chief complaints from the previous week and remains slightly higher than the past three years.

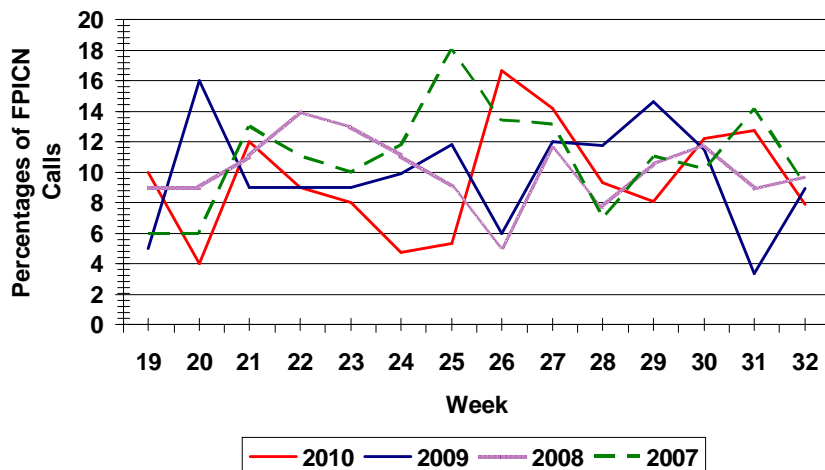


The past three years of data are used to compare and characterize seasonal trends in the data for ESSENCE-ED panhandle counties Bay, Escambia and Santa Rosa during weeks 19-30. Gulf & Walton counties were added in Week 31.

ESSENCE PIC - Week 32 2010

- ✓ One (1) report recorded only rash related illness as adverse health effects associated with the oil spill. One (1) report indicated rash related illness in conjunction with GI related illness.
- ✓ Almost 8 percent of all reports were associated with dermal/rash related illness.
- ✓ Week 32 2010 demonstrated a decrease in dermal/rash related illness calls and was slightly lower than the past three years.

**Weekly Percentages of Dermal Health Effects
From FPICN Calls, Selected Panhandle Counties**



FPICN Surveillance Summary* – Week 32, 8/8/2010 to 8/14/2010

- 6 crude oil exposure reports were recorded by FPICN from panhandle counties associated with the oil spill. One report was from a non-panhandle county and the county was unknown for one (1) report. Six (6) reports noted adverse clinical effects and two (2) reports did not.
- Two (2) reports indicated only GI related illness and one (1) report recorded only respiratory related illness. One (1) report listed only rash/dermal related illness and one (1) report noted rash/dermal illness in conjunction with GI related illness. Clinical effects were noted as “Other” in the final report.
- Four (4) reports were from Escambia and one (1) was from Okaloosa County. One (1) report was recorded from Orange County associated with panhandle oil spill clean up activities.
- 4 reports indicated inhalational exposure, one (1) noted dermal exposure and one (1) listed ingestion/dermal exposure.
- Reported adverse health effects included cough/choke, pain (not dermal/GI/ocular), rash, pruritis, skin redness/flushing, throat irritation, nausea, vomiting, dizziness/vertigo, shortness of breath, headache and related “other” clinical effects.
- The age range for those who experienced adverse clinical effects was eight years in age to 54. Ages were not listed in all reports.

Cluster Alert

On 8/9/2010, one call was received by a partner poison information center (non-Florida) to report three (3) persons in Escambia County with adverse clinical effects related to inhalational exposure to crude oil pollutants. Adverse clinical effects included nausea, vomiting, throat irritation, headache, confusion and pain (not dermal/GI/ocular). FPICN will conduct a follow-up.

[No update is available at this time regarding the cluster reported for Week 31.]

*FPICN collects all reports of illness due to crude oil exposure regardless of whether the caller specified clinical effects. ESSENCE- PIC contains only records for which clinical effects have been provided by the caller.

There are 131 clinical effects specific codes available for classification of caller reported illnesses. The designation of “OTHER” is given if a reported clinical effect in a patient is not one of the 131 specific codes.



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BioSense - CDC

CDC is providing surveillance through the syndromic surveillance system BioSense. This system collects data from 22 VA & 16 DoD coastal facilities in Florida. Retrospective data has been compiled by CDC week and stratified by Panhandle versus Gulf Coast going back to January 2010 with 2009 provided for comparison.*

BioSense Panhandle Counties DOD Facilities		BioSense Panhandle Counties VA Facilities	
County	Facility Count	County	Facility Count
Bay	2	Bay	1
Escambia	4	Escambia	1
Okaloosa	3	Leon	1
Santa Rosa	1		

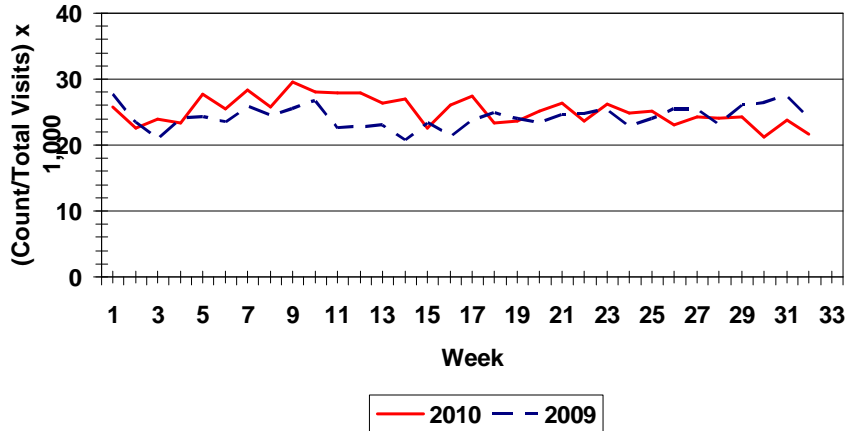
BioSense Gulf Coast Counties DOD Facilities		BioSense Gulf Coast Counties VA Facilities	
County	Facility Count	County	Facility Count
Hillsborough	3	Charlotte	1
Monroe	1	Citrus	1
Pinellas	2	Collier	1
		Hillsborough	3
		Hernando	1
		Lee	1
		Manatee	1
		Marion	1
		Monroe	2
		Pasco	2
		Pinellas	3
		Polk	1
		Sarasota	1

Comments

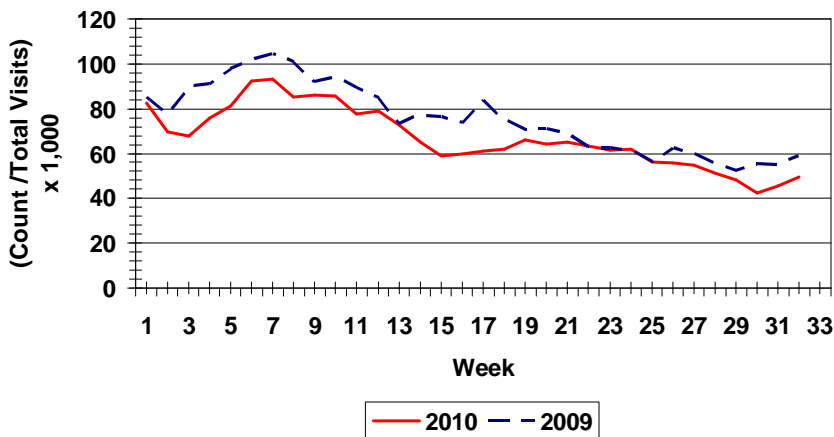
Rates are given per 1,000 facility visits. The CDC is running anomaly detection algorithms daily. No anomalies have been reported.

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Weekly GI Related Illness Visits
DOD Facilities, Panhandle Counties (BioSense)
 Week 1 - 32

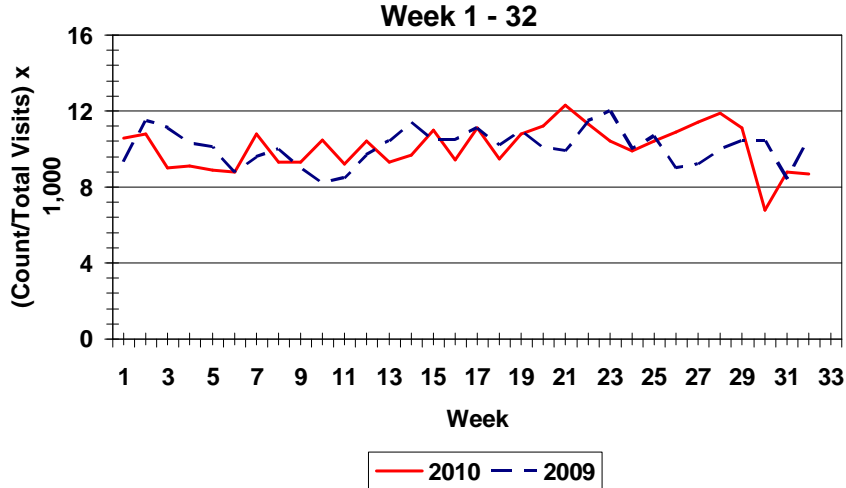


Weekly Respiratory Related Illness Visits
DOD Facilities, Panhandle Counties (BioSense)
 Week 1 - 32

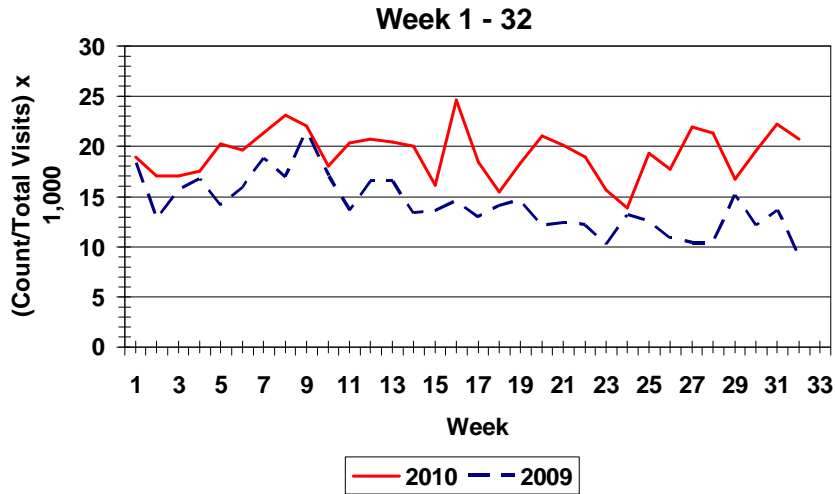


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**Weekly Rash Related Illness Visits
 DOD Facilities, Panhandle Counties (BioSense)**

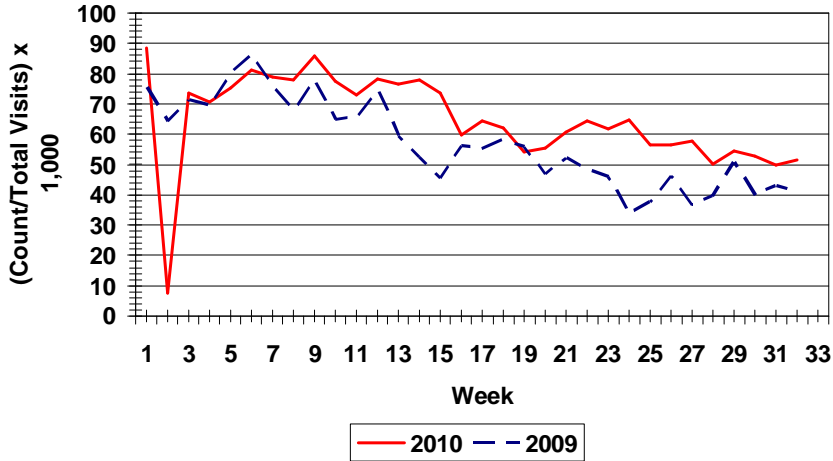


**Weekly GI Related Illness Visits
 DOD Facilities, Gulf Coast Counties (BioSense)**

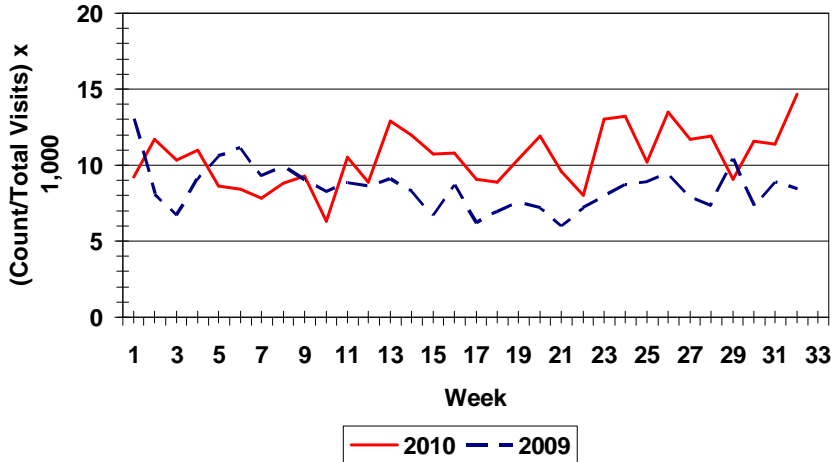


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Weekly Respiratory Related Illness Visits
DOD Facilities, Gulf Coast Counties (BioSense)
 Week 1 - 32

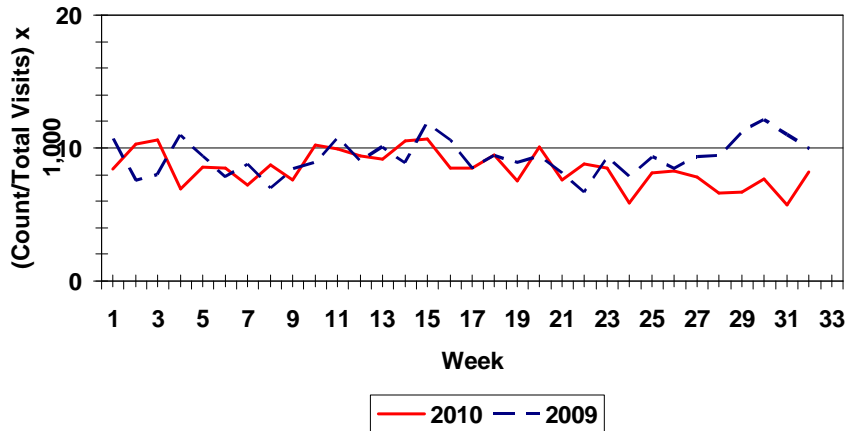


Weekly Rash Related Illness Visits
DOD Facilities, Gulf Coast Counties (BioSense)
 Week 1 - 32

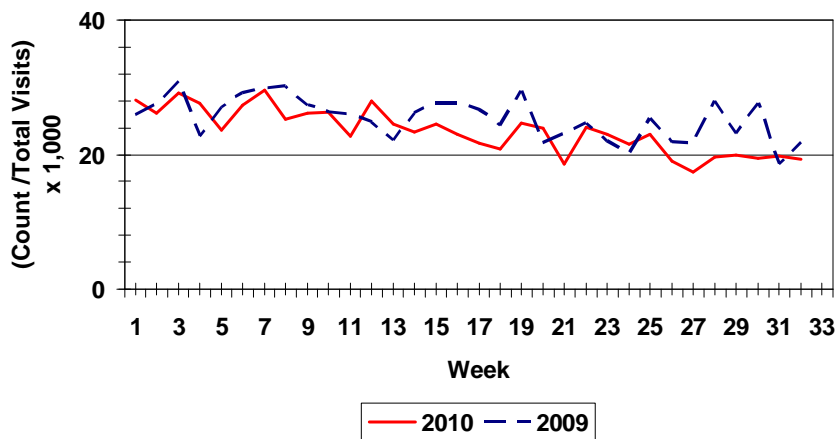


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Weekly GI Related Illness Visits
VA Facilities, Panhandle Counties (BioSense)
Week 1 - 32

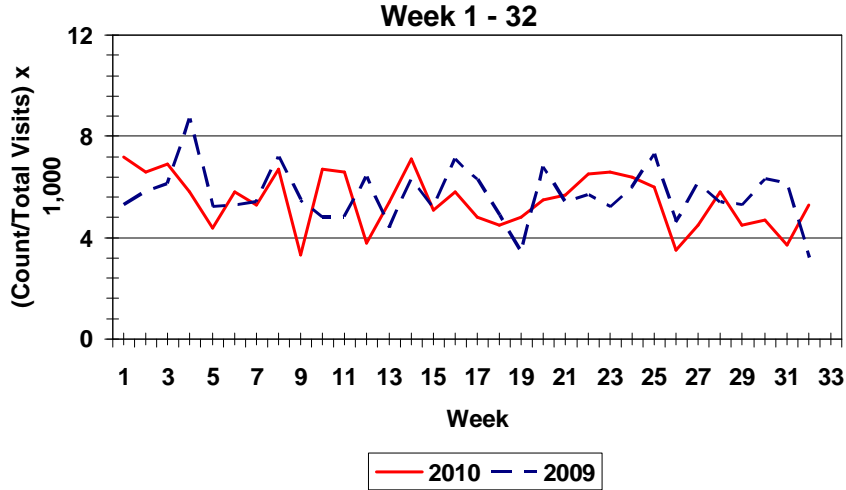


Weekly Respiratory Related Illness Visits
VA Facilities, Panhandle Counties (BioSense)
Week 1 - 32

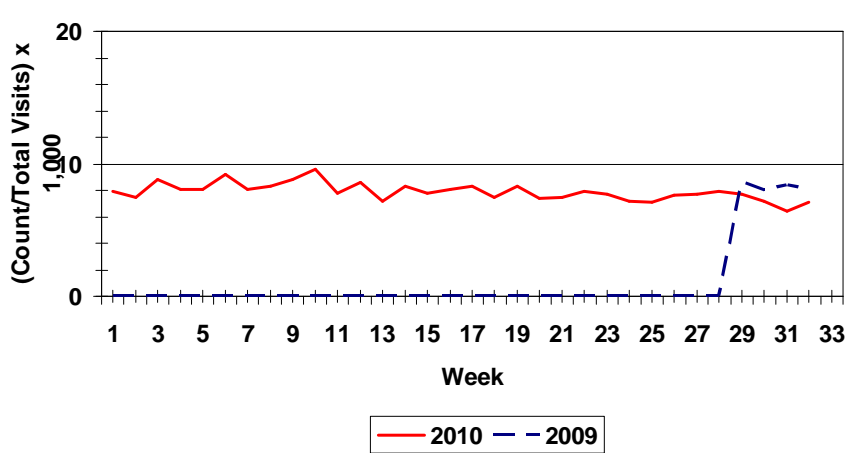


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**Weekly Rash Related Illness Visits
 VA Facilities, Panhandle Counties (BioSense)**

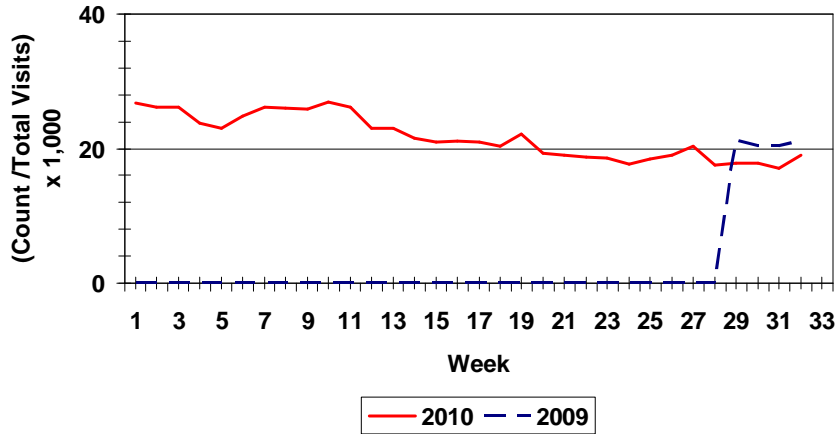


**Weekly GI Related Illness Visits
 VA Facilities, Gulf Coast Counties (BioSense)**



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**Weekly Respiratory Related Illness Visits
 VA Facilities, Gulf Coast Counties (BioSense)
 Week 1 - 32**



**Weekly Rash Related Illness Visits
 VA Facilities, Gulf Coast Counties (BioSense)
 Week 1 - 32**

