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## Seasonal Influenza Surveillance Continues

Influenza activity in Health Services Region 7 continues to increase. Statewide influenza activity is considered to be widespread as of mid January. Widespread activity in Texas is defined as increased influenza-like-illness activity in at least half of the regions and lab confirmed influenza in the state. Health Services Region 7 is seeing increases in both influenza-like-illness and in confirmed influenza cases. Both influenza A and B are circulating in the region. The vaccine appears to cover some but not all of the circulating strains.

There have also been 2 influenza-associated pediatric deaths reported in Texas since the start of the 2007-2008 flu season. One death occurred in Bexar County and one in Harris County.

Influenza reports are posted weekly on the Department of State Health Services website at <http://www.dshs.state.tx.us/idcu/disease/influenza/surveillance/2008/>

## Select Agent Reporting by Laboratories

Any clinical or diagnostic laboratory that identifies a 'select agent or toxin' contained in a specimen presented for diagnosis, verification or proficiency testing is required to send a report to either the Centers for Disease Control and Prevention (CDC) or the Animal and Plant Health Inspection Service (APHIS) depending on the disease. Some of the diseases are immediately reportable to the CDC while others are reportable within 7 calendar days. Information on reporting requirements, a complete list of select agents and the appropriate report form can be found on the CDC website at <http://www.cdc.gov/od/sap/> and at <http://www.selectagents.gov/index.html>.

If the specimen was for diagnostic purposes, it may also be reportable to your local health department in addition to directly reporting it to the CDC. Many of the diseases caused by select agents are specifically mentioned on the notifiable conditions list for Texas including anthrax, plague, brucellosis and viral hemorrhagic fever. Those that are not directly mentioned on the notifiable conditions list are not expected to occur in Texas and could be considered reportable as an "exotic disease ... that may be of public health concern". These diseases should be reported to your local or regional health department immediately by phone.

The CDC regulates the possession, use, and transfer of select agents and toxins that have the potential to pose a severe threat to public health and safety. The list of select agents was composed by the US Department of Health and Human Services and the US Department of Agriculture. In addition to agents that can impact human health, a number of agents that can pose a severe threat to other animals, plants or animal/plant products are also on the select agent list and are regulated by the APHIS.

Criteria for inclusion on the select agent list by the CDC included:

- The effect on human health of exposure to the agent or toxin;
- The degree of contagiousness of the agent or potency of the toxin and the methods by which the agent or toxin is transferred to humans;
- The availability and effectiveness of pharmacotherapies and immunizations to treat and prevent any illness resulting from infection by the agent or toxin.

Criteria for inclusion on the select agent list by the APHIS included:

- The effect of an agent or toxin on animal or plant health or products;
- The virulence of an agent or degree of toxicity of the toxin and the methods by which the agents or toxins are transferred to animals or plants;
- The availability and effectiveness of medicines and vaccines to treat and prevent any illness caused by an agent or toxin.

## Identifying Bioterrorism Related Infections

Family physicians, ED physicians and other front line physicians will play a key role in the initial recognition of a potential bioterrorism attack. If physicians are familiar with the infectious agents of highest priority this can not only lead to a more successful public health response but also to better treatment by expediting early diagnosis. The high-priority infection agents have not changed since the anthrax attack in 2001. Priority agents are classified as category A, B or C.

The Category A bioterrorism agents are high-priority agents that pose a risk to national security because they

- can be easily disseminated or transmitted from person to person;
- result in high mortality rates and have the potential for major public health impact;
- might cause public panic and social disruption; and
- require special action for public health preparedness.

### Category A Agents

- Anthrax (*Bacillus anthracis*)
- Botulism (*Clostridium botulinum* toxin)
- Plague (*Yersinia pestis*)
- Smallpox (*variola major*)
- Tularemia (*Francisella tularensis*)
- Viral Hemorrhagic fevers (filoviruses [e.g., Ebola, Marburg] and arenaviruses [e.g., Lassa, Machupo])

The Category B bioterrorism agents are priority agents because they

- are moderately easy to disseminate;
- result in moderate morbidity rates and low mortality rates; and
- require specific enhancements of CDC's diagnostic capacity and enhanced disease surveillance.

### Category B Agents

- Brucellosis (*Brucella species*)
- Epsilon toxin of *Clostridium perfringens*
- Food safety threats (e.g., *Salmonella species*, *Escherichia coli O157:H7*, *Shigella*)
- Glanders (*Burkholderia mallei*)
- Melioidosis (*Burkholderia pseudomallei*)
- Psittacosis (*Chlamydia psittaci*)
- Q Fever (*Coxiella burnetii*)
- Ricin toxin from *Ricinus communis* (castor beans)
- *Staphylococcal enterotoxin B*
- Typhus fever (*Rickettsia prowazekii*)
- Viral encephalitis (alphaviruses [e.g., Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis])
- Water safety threats (e.g., *Vibrio cholerae*, *Cryptosporidium parvum*)

Category C agents are considered a priority because they could be engineered for mass distribution in the future. Category C agents include emerging infectious diseases such as Nipah virus and hantavirus

So what do you do if you suspect that a patient is exhibiting signs of one of these conditions?? All of the Category A and C diseases and almost all of the Category B diseases are reportable to your local health department. Category A diseases are immediately reportable. Immediately reportable requires a phone call to your local health department (if you don't have a local health department, the regional health department acts as your local) to report the event. Immediately reportable disease can be reported to Health Services Region 7 at 254-778-6744.

If you want more information about these agents or Category B or C agents, the following websites can help you:

<http://www.bt.cdc.gov/bioterrorism/>

[http://www.dshs.state.tx.us/preparedness/bt\\_pros.shtm](http://www.dshs.state.tx.us/preparedness/bt_pros.shtm)

**Category A agents including incubation periods, modes of transmissions, mortality rates and method of diagnosis.**

Disease ( <i>pathogen</i> )	Incubation period	Mode of Transmission	Mortality rate	Method of diagnosis
Anthrax ( <i>Bacillus anthracis</i> )	Immediate to 1 day for cutaneous  Usually < week for inhalational but could take up to 60 days.  Spores can remain dormant for up to 60 days	Cutaneous Inhalation Gastrointestinal (Rare) Oropharyngeal form (least common)	Cutaneous: (5% to 20% if untreated)  Inhalational: 45%	Gram Stain, blood or wound culture  ELISA and PCR test
Botulism ( <i>Clostridium botulinum</i> )	6 hours to 14 days  <i>Inhalational botulism may have a longer incubation period.</i>	Aerosolization  Food Contamination	Treated: 5 to 10%  Untreated: up to 60%  <i>The shorter the incubation period the more severe the disease and the higher the case –fatality rate.</i>	Clinical  Serum Bioassays  The mouse bioassay is currently the only diagnostic method used for detection and identification of botulinum toxin. Other methods (see below) are still considered investigational.
Plague ( <i>Yersinia pestis</i> )	1 to 7 days  <i>For primary plague pneumonia -1 – 4 days usually short.</i>	Aerosolization  Flea	Untreated bubonic plague 50% - 60%  Pneumonic, almost 100%, if untreated	Clinical  Gram stain of sputum, blood or CSF  Wright's stain for bipolar (safety pin) staining  ELISA or fluorescent antibody test
Smallpox ( <i>variola major and minor</i> )	7 to 19 days; rash occurs within 2 to 4 days of symptoms	Aerosolization  Direct contact  Fomite exposure	Variola minor: less than 1%  Variola major: 20% - 50% or more	Clinical presentation of lesion  Electron microscopy of vesicular fluid  Virus cell culture  PCR
Tularemia ( <i>Francisella tularensis</i> )	1 to 14 days (usually 3 to 5 days)	Aerosolization  Arthropod bites  Cutaneous  Ingestion	<i>Francisella tularensis</i> subsp. <i>tularensis</i> (Jellison type A): 5% to 15% when untreated.  <i>F. tularensis</i> subsp. <i>holarctica</i> (Jellison type B): Rare	ELISA  Titer testing  Sputum or blood culture  Sputum and blood for direct fluorescent antibody or immunohistochemical stains
Viral Hemorrhagic Disease (Ebola-Marburg Viral Diseases)	2 to 21 days	Aerosolization  Direct contact with infection blood, secretion, organs or semen.  <i>Reservoir remains unknown despite extensive studies</i>	10 to 90% (depending on the virus)	ELISA or IgM antibody detection  RT-PCR  Viral Isolation

Information in the table compiled from Control of Communicable Disease Manual 18<sup>th</sup> Edition

## Confirmed Animal Rabies Cases in 2007

During 2007, rabies was confirmed in 184 bats, 94 skunks, 4 dogs, 3 cats, 3 foxes, 3 horses, 3 raccoons, **1 opossum**, and 1 coyote in Health Services Region 7.

Counties with laboratory-confirmed rabies cases include: Bastrop (2), Bell (5), Brazos (36), Burleson (5), Burnet (27), Caldwell (1), Coryell (4), Fayette (4), Freestone (5), Grimes (1), Hamilton (1), Hays (2), Lampasas (1), Lee (5), Leon (8), Limestone (2), Madison (5), McLennan (7), Milam (2), Mills (1), Travis (136), Washington (7), and Williamson (28).

The rabies data is based only on the results of animals submitted for rabies testing. There are many more animals (particularly wildlife) that die of rabies and are never tested for the disease. Rabies is endemic in Central Texas, and ALL counties have rabies risk.

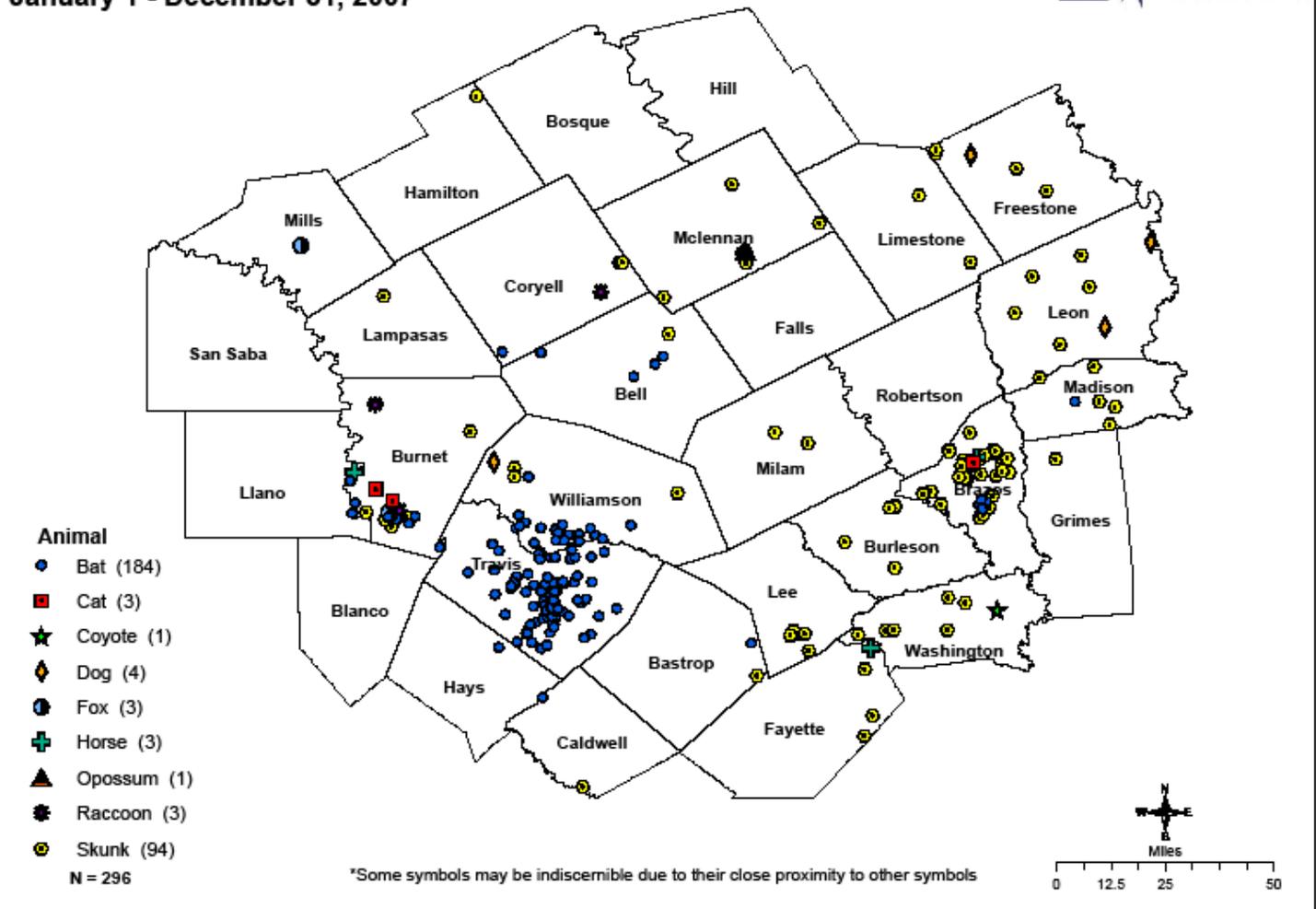
If you are concerned that a patient may have been exposed to an animal with rabies, (for example, the patient has handled a bat, or the patient found a bat in their bedroom), immediately call your local animal control agency or Health Services Region 7 Zoonosis Control at 254-778-6744.

**Please promote animal rabies vaccinations in your communities.** Remind the public that their pets must be vaccinated by 4 months of age, followed by a vaccination within the next 12 months, and then every 1 or 3 years thereafter, according to veterinary recommendations and local rabies law. Animals may become exposed to rabies in urban, suburban, and rural settings. Pets may be exposed in their yard or inside a residence. We have investigated rabid bat incidents in which pets were exposed to bats inside multi-story apartment buildings. Horses and livestock may encounter rabid animals in their pens, stalls, and pastures.

There were **296 laboratory-confirmed animal rabies cases** reported from the 30 county area of Health Service Region 7 (Central Texas) during 2007.

This is more than were confirmed for Central Texas during 2005 (N = 199) and 2006 (N = 255).

**Health Service Region 7  
Animal Rabies Cases  
January 1 - December 31, 2007**



## Select Notifiable Conditions Reported in 2006 and 2007 for Health Services Region 7

Notifiable Condition	2006 Count*	2007 Preliminary Count*
Amebiasis	30	48
Aseptic meningitis	270	277
Bacterial meningitis, other	18	19
Brucellosis	2	4
Campylobacteriosis	146	269
Cruetzfeldt-Jakob Disease	2	0
Cryptosporidiosis	109	35
Cyclosporiasis	1	0
Dengue Fever	2	6
Ehrlichiosis, Human monocytic	1	0
Enterohemorrhagic <i>E.coli</i> /O157:H7	9	0
Enterohemorrhagic <i>E.coli</i> , shiga + (not serogrouped or non-O15:H7 serogroup))	10	0
Group A Streptococcus, invasive	57	40
Group B Streptococcus, invasive	76	51
<i>Haemophilus influenzae</i> , invasive	1	0
Hepatitis, unspecified	75	25
Hepatitis A, acute	23	25
Hepatitis B Viral Infection, Perinatal ~	0	0
Hepatitis B virus infection, Chronic^	241	222
Hepatitis B, acute	55	65
Hepatitis C Virus Infection, chronic or resolved^	2025	1252
Hepatitis C, acute	3	13
Hepatitis E, acute	0	2
Legionellosis	8	5
Leishmaniasis~	0	2
Listeriosis	1	3
Lyme disease	5	12
Malaria	9	17
Mumps	15	2
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	7	9
Pertussis	337	263
Plague	1	0
Q fever	3	8
Rocky Mountain spotted fever	2	3
Salmonellosis	366	344
Shigellosis	388	246
<i>Streptococcus pneumoniae</i> , invasive	130	195
Streptococcus, other, invasive, beta-hem (non-A nonB)^	15	11
Typhoid fever ( <i>Salmonella typhi</i> )	0	1
Typhus fever	0	1
Vancomycin-Resistant Enterococcus	5	5
Varicella (Chickenpox)	1728	1203
Vibriosis	12	3
Yersiniosis	3	4
<b>Grand Total</b>	<b>6191</b>	<b>4690</b>

Includes confirmed and probable notifiable conditions reported to the Texas Department of State Health Services Region 7 that are tracked in the NEDSS database. Reports for 2007 are still being investigated and/or entered into the NEDSS database. These numbers are expected to change.

\* Data is provisional and may change as investigations are completed or updated.

^ Disease is not reportable. Note: Newly reported chronic Hepatitis C was taken off of the notifiable conditions list as of June 5, 2007.

~ Disease was added to the notifiable conditions list in 2007.

## Public Health Information Network (PHIN)

Between October and December, 3 PHIN messages were sent out to physicians, nurses and area hospitals in Region 7 counties. These messages contained information from the Centers for Disease Control and Prevention and/or the Texas Department of State Health Services regarding ongoing health investigations with the potential to impact Texans. The PHIN provides a secure format for sharing critical health information that may contain sensitive health information. PHIN messages are sent by email, phone or fax depending on the importance or time sensitive nature of the message.

### Didn't get the alerts?

Healthcare providers, school officials, emergency medical services and emergency management coordinators are eligible for PHIN access. Go to <https://texphin.dshs.state.tx.us/> to sign up to use the PHIN. In addition to getting critical health information from the Department of State Health Services, PHIN users can also access the New England Journal of Medicine through the PHIN web portal. If you have any questions about the PHIN, call 254-778-6744 and ask to speak with Carol Davis, Russ Jones or Jacque Hagerty.

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## Region 7 Outbreaks, Clusters and Other Large Investigations; Oct — Dec 2007

Austin Travis County Health and Human Services Department investigated a couple of norovirus outbreaks in long term care facilities. Norovirus can spread quickly in these facilities and will impact a large percentage of both residents and staff if appropriate infection control measures are not fully implemented in a timely manner. Furthermore, residents are highly susceptible to complications triggered by dehydration. Suspected outbreaks should be immediately reported to your local health department.

Health Services Region 7 HIV/STD Team responded to a Syphilis Morbidity increase in Burnet County, during November 2007. The team identified 5 confirmed cases (1 primary, 1 secondary and 3 early latent stage). Ages ranged from 17 to 40 years old and all were either White or Hispanic. All 5 cases were connected by the same social group; known to use crystal meth and engaging in group sex activities. Aside from the 5 confirmed cases, there were 11 other clients preventively treated. No new, connected cases have been identified in that area since the response.

Waco-McLennan County Public Health District conducted an extensive follow up on an active case of TB in a health care worker. Approximately 800 contacts were contacted for exposure assessment.

Though cases have not been identified in Region 7 yet, several patients in Texas have been diagnosed with a *Serratia marcescens* blood stream infection that may be linked with heparin flushes. Public health investigation lead to a nationwide recall of one lot of Pre-Filled Heparin Lock Flush Solution (5 ml in 12 mL Syringes), Lot # 070926H manufactured by AM2 PAT Inc. The recall has since been expanded to include all lots of heparin and normal saline pre-filled flushes from AM2 PAT. Some heparin IV flush syringes have been found to be contaminated with *Serratia marcescens*. This type of bacterial infection could present a serious adverse health consequence that could lead to life-threatening injuries and/or death. Consumers and user facilities should stop using the product immediately, quarantine the affected product, and return it to the distributor immediately. See the following website for recall information: <http://www.fda.gov/medwatch/safety/2008/safety08.htm#Heparin>

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