



“Please be kind...report on time!”

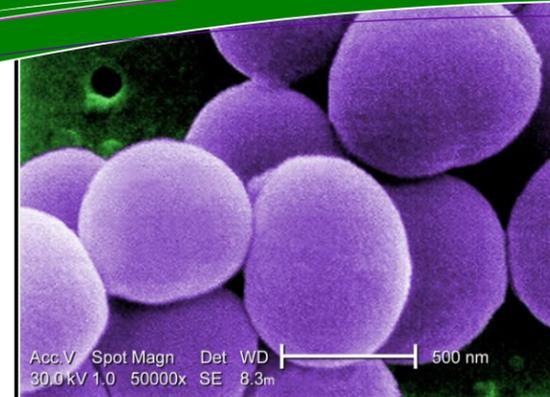
Reporters Corner:

Submission of Antibiotic Resistant Isolates

In 2009, DSHS- Infectious Disease Control Unit (IDCU), reported four Vancomycin Intermediate Staphylococcus aureus (VISA) and currently in 2010, five VISA have been confirmed. Also, a total of five Vancomycin Intermediate and Resistant Staphylococcus aureus (VRSA) have been tested and/or reported to DSHS which have not been confirmed. Additionally, the CDC recently confirmed the eleventh case of VRSA in the United States

Several Texas laws (Tex. Health & Safety Code, Chapters 81, 84 and 87) require specific information regarding notifiable conditions be provided to the Texas Department of State Health Services (DSHS). Under current reporting guidelines, DSHS requires laboratories and hospital facilities to promptly report isolates of VISA and VRSA.

When reporting VISA and VRSA the following informa-



Under a very high magnification of 50,000x, this scanning electron micrograph (SEM) shows a strain of *Staphylococcus aureus* bacteria taken from a vancomycin intermediate resistant culture (VISA).

Courtesy: CDC/Janice Haney Carr/, 2001

isolate: patient name; date of birth or age; sex; city of submitter; anatomic site of culture; date of culture; and minimum inhibitory concentration (MIC) if available. DSHS-IDCU is currently in the process of creating a reporting form that captures the necessary information for reporting VISA and VRSA.

Please report VISA and VRSA to DSHS-IDCU by calling 1-(800)-252-8239 or you may send a fax to 1-(512)-458-7616. Also, isolates of VISA and VRSA should be sent to DSHS-Laboratory Services Section at the following address: 110 West 49th Street, Austin, Texas, 78756-3199.

If more guidance is needed please call us, your Health Services Region 1-Epidemiology Response Team, at the numbers provided on the back of this newsletter.

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Listed below are the standard minimum inhibitory concentration (MIC) breakpoints used to determine vancomycin susceptibility in *Staphylococcus* species published by CSLI, the Clinical and Laboratory Standards Institute (formally NCCLS, the National Committee for Clinical Laboratory Standards .)

Vancomycin MIC Breakpoints for *Staphylococcus aureus*:

≤2 Susceptible
4-8 Intermediate resistance
≥16 Resistant

Vancomycin MIC Breakpoints for Coagulase negative staphylococci:

≤4 Susceptible
8-16 Intermediate resistance
≥32 Resistant

Texas Department of State Health Services
Health Service Region 1
Epidemiology
6302 Iola Avenue
Lubbock, TX 79424

EPI + Tōme Newsletter

Texas Department of State Health Services, Health Service Region 1, Epidemiology Response Team

Contact Information



Name	Position	Phone	Email
Donnie Diaz	Epidemiologist I	(806) 783-6467	donnie.diaz@dshs.state.tx.us



Kevin McClaran	Epidemiologist I	(806) 783-6463	kevin.mcclaran@dshs.state.tx.us
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Cindy Hernandez	Public Health Technician II	(806) 783-6448	cindy.hernandez@dshs.state.tx.us
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24/7 telephone number: (806) 778-7391

FAX number: (806) 783-6466

Physical/Mailing Address: 6302 Iola Avenue, Lubbock, TX 79424

‘A Bug’s Life’: With summer wrapping up, physicians and infection control practitioners may have seen increases in gastrointestinal illness (GI) related to consumption of contaminated/mishandled food and recreational water exposures. Below, we included a table that describes four reportable conditions that are usual suspects, when it comes to summertime GI illnesses. Please, take the time to review the table or you may even cut-it out and hang it up for reference. For more information regarding these reportable conditions, please visit: www.dshs.state.tx.us/idcu/.



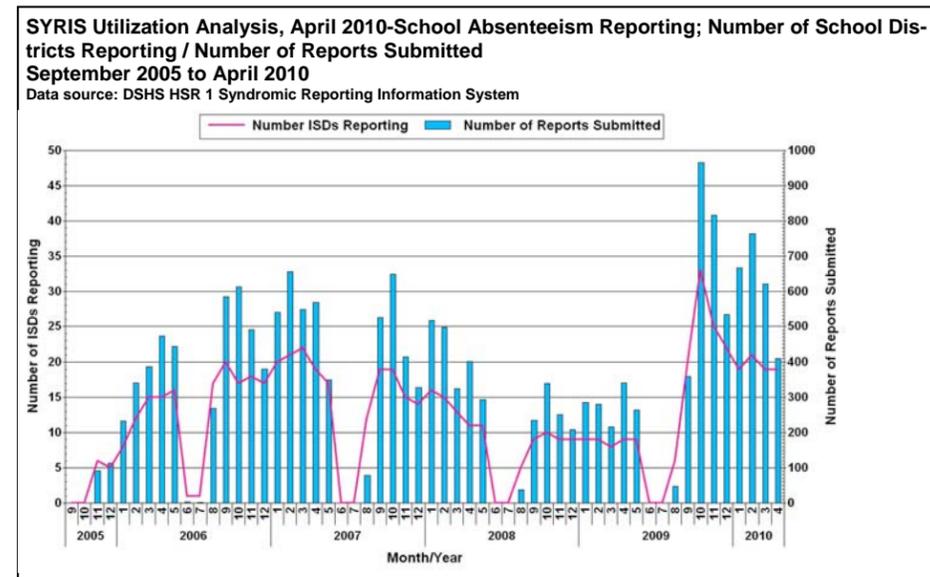
Condition Info.	<i>Shiga Toxin producing E coli</i>	<i>Salmonella</i>	<i>Cryptosporidium</i>	<i>Campylobacter</i>
Epidemiology	Transmission of most diarrhea-associated <i>E coli</i> strains is from food or water contaminated with human or animal feces or from infected symptomatic people or carriers. STEC, especially <i>E coli</i> O157:H7, is shed in feces of cattle.	The principal reservoirs for nontyphoidal <i>Salmonella</i> organisms include poultry, livestock, reptiles, and pets. The major vehicle of transmission is food of animal origin, such as poultry, beef, eggs, and dairy products.	Transmission to humans can occur from animal. Person-to-person transmission occurs and waterborne outbreaks have been associated with contamination of municipal water and exposure to contaminated swimming pools.	Transmission occurs by ingestion of contaminated food or by direct contact with fecal material from infected animals or people. Improperly cooked poultry, untreated water, and unpasteurized milk have been the main vehicles of transmission.
Incubation Period	For most <i>E coli</i> strains is 10 hours to 6 days; for <i>E coli</i> O157:H7, the incubation period usually is 3 to 4 days (range from 1 to 8 days).	Gastroenteritis usually is 12 to 36 hours (range, 6-72 hours). For enteric fever, the incubation period usually is 7 to 14 days (range, 3-60 days).	The range is 2 to 14 days. In most people, shedding of <i>C parvum</i> stops within 2 weeks. In immunocompromised people, shedding can continue for 2 months.	2 to 5 days but can be longer.
Diagnostic Tests	Screening for STEC can be done using direct EIA tests (stool samples). Methods of definitive identification of STEC that are used in reference or research laboratories include DNA probes, polymerase chain reaction assay, enzyme immunoassay, and phenotypic testing of strains or stool specimens for Shiga toxin.	Isolation of <i>Salmonella</i> organisms from cultures of stool, blood, and urine is diagnostic. Gastroenteritis is diagnosed by stool culture. If enteric fever is suspected, blood or bone marrow culture is diagnostic since organisms often are absent from stool.	The detection of oocysts on microscopic examination of stool specimens is diagnostic.	<i>C jejuni</i> and <i>C coli</i> can be cultured from feces, and <i>Campylobacter</i> species, including <i>C fetus</i> , can be cultured from blood.
Treatment	Orally administered solutions usually are adequate to prevent or treat dehydration and electrolyte abnormalities. Whenever possible, selection of an antimicrobial agent should be based on results of susceptibility testing of the isolate.	If antimicrobial therapy is initiated in people with gastroenteritis, ampicillin, amoxicillin, or trimethoprim-sulfamethoxazole is recommended for susceptible strains.	Generally, immunocompetent people need no specific therapy. A 3-day course of nitazoxanide oral suspension has been approved by the US FDA for treatment of immunocompetent children at 12 months of age and adults with diarrhea associated cryptosporidiosis.	Rehydration is the mainstay for all children with diarrhea. Treatment with azithromycin or erythromycin usually eradicates the organism from stool within 2 or 3 days.
Control Measures	Cook ground beef thoroughly, and raw milk should not be ingested. Because <i>E coli</i> O157:H7 potentially is waterborne, people with diarrhea caused by <i>E coli</i> O157:H7 should not use recreational water venues for 2 weeks after symptoms resolve. Exercise hand hygiene.	Proper sanitation methods for food preparation, sanitary water supplies, proper hand hygiene, sanitary sewage disposal, exclusion of infected people from handling food or providing health care. Exercise hand hygiene.	People with diarrhea should not use public recreational waters, and people with a diagnosis of cryptosporidiosis should not use recreational waters for 2 weeks after symptoms resolve. Exercise hand hygiene.	Exercise hand hygiene after handling raw poultry, disinfect work area after contact with raw poultry, avoid contact of fruits and vegetables with juices of raw poultry, and cook poultry thoroughly. Also, contact with feces of dogs and cats and people with diarrhea should be excluded from food handling.

Source: Red Book: 2009 Report of the Committee on Infectious Diseases - 28th Edition.; Heymann DL. Control of Communicable Disease Manual- 18th Edition

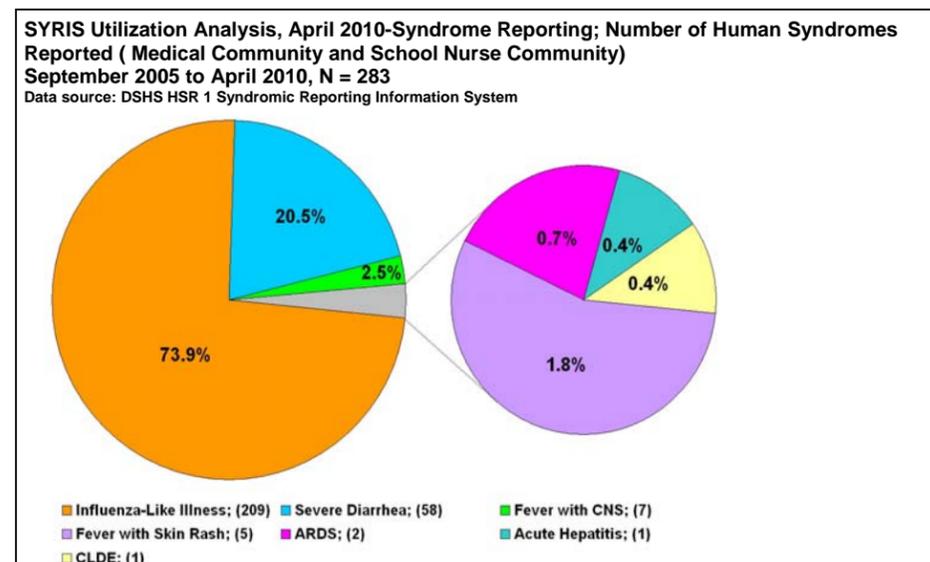
Syndromic Reporting Information System (SYRIS) - By the Numbers

Success of SYRIS as an early detection system for disease outbreaks is dependent on clinicians’ and school nurses’ acceptance and use of the program in a timely manner. Earlier this year, DSHS HSR 1 Epidemiology examined SYRIS use and reporting from time of implementation of the system in September 2005 through mid-April 2010. The purpose of this evaluation was to identify successes and shortfalls of components within the surveillance system. Below are a couple of charts generated from the analysis.

Since implementation, 48 of 110 school districts in HSR 1 (excluding school districts within local health department jurisdictions) have participated in SYRIS at one time or another, submitting approximately 18,700 reports. The graph below delineates the number of reports submitted and number of school districts reporting by month and year.



Medical and school nurse communities have reported a total of 283 syndromes in the reporting system. The following pie chart illustrates syndromes reported by type and number. Influenza-Like-Illness and Severe diarrhea syndromes comprise the majority of syndromes reported.



BIOTERRORISM:

An Overview on the Most Terrifying Public Health Threat

What is Bioterrorism?

A bioterrorism attack is the deliberate release of viruses, bacteria, or other germs (agents) used to cause illness or death in people, animals, or plants. These agents are typically found in nature, but it is possible that they could be changed to increase their ability to cause disease, make them resistant to current medicines, or to increase their ability to be spread into the environment. Biological agents can be spread through the air, through water, or in food. Terrorists may use biological agents because they can be extremely difficult to detect and do not cause illness for several hours to several days. Some bioterrorism agents, like the smallpox virus, can be spread from person to person and some, like anthrax, can not. For information on which bioterrorism agents can be spread from person to person, please go to <http://emergency.cdc.gov/agent/agentlist-category.asp>.

Bioterrorism Agent Categories:

Bioterrorism agents can be separated into three categories, depending on how easily they can be spread and the severity of illness or death they cause. Category A agents are considered the highest risk and Category C agents are those that are considered emerging threats for disease.

Category A: (Anthrax, Botulism, Plague, Smallpox, Tularemia, Viral hemorrhagic fevers)

These high-priority agents include organisms or toxins that pose the highest risk to the public and national security because:

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

Category B: (Brucellosis, Epsilon Toxin of Clostridium perfringes, Food safety threats (e.g., Salmonella species, E.coli O157:H7, Shigella), Glanders, Melioidosis, Psittacosis, Q fever, Ricin Toxin from Ricinus communis, Staphylococcal enterotoxin B, Typhus fever, Viral encephalitis (alphaviruses [e.g., Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis]), Water safety threats (e.g., Vibrio Cholera, Cryptosporidium parvum)

These agents are the second highest priority because:

- They are moderately easy to spread
- They result in moderate illness rates and low death rates
- They require specific enhancements of CDC's laboratory capacity and enhanced disease monitoring.

Category C: Emerging infectious diseases such as Nipah virus and hantavirus

These third highest priority agents include emerging pathogens that could be engineered for mass spread in the future because:

- They are easily available
- They are easily produced and spread
- They have potential for high morbidity and mortality rates and major health impact.



Source: <http://emergency.cdc.gov/bioterrorism/>

Take the bite out of Rabies

Article by: Karen McDonald, HSR 1 Zoonosis Control

The Department of State Health Services (DSHS) is mandated in the Texas Administrative Code, Chapter 97, Subchapter E, to maintain a supply of human rabies biologicals, and to distribute the drugs as needed in the event of a known or suspected human exposure to the rabies virus based on a physician's written prescription. Although the wide availability of rabies post-exposure prophylaxis in the U.S. has resulted in an average of fewer than three human rabies deaths per year, as opposed to the tens of thousands of cases in other parts of the world, many of our physicians have never administered the drugs. Therefore, many Texas physicians rely on DSHS to deal with the stocking and storage of the drugs.



However, DSHS is faced with the issue of the steadily increasing cost of the biologics. Increasing insurance premiums, a reduction in the number of Medicaid/Medicare providers, an inability to consistently utilize the Patient-Assistance-Programs, and the projected increases in the price of the drugs, all add to the State's problem with obtaining reimbursement for the products. Yet, no one goes without treatment if truly needed. The financial hit is certainly more palatable than the consequences of dealing with a human rabies case and the related exposures.

Rabies post-exposure prophylaxis (PXP) requires the administration of two drugs: the human rabies immune globulin (HRIG), dosed at 0.06 ml/lb, infiltrated in and around the bite wounds, and four 1 ml doses of rabies vaccine in the deltoid muscle. (Prior to April 2010 the protocol was for five vials.) Compare the cost of PXP in 1997 with five vials to the cost today: (See chart Below)

COST YEAR	Cost of HRIG 2ml Vial	Cost of vaccine 1ml vial	Total Cost 6 vials HRIG+Vaccine
1997	\$52.00	101.01 HDCV*	\$817.05
2010	\$280.14	176.36 PCEC**	\$2386.28

*HDCV is Human Diploid Cell Vaccine
**PCEC is Purified Chick Embryo Cell Culture Vaccine

Consider too that these prices are at the reduced “state contracted price” negotiated with the pharmaceutical companies. Private physicians and hospitals pay more. In addition, the obesity issue in America is increasing the average amount of HRIG used per person.

In May 2010, a horse, a steer and a cat in Gray County were reported with rabies and exposed nine people. The PXP cost was \$13,165.92. (Two individuals with pre-exposure immunization only needed two vials of vaccine each, and three received part of their drugs from another source.) This illustrates that **prevention is the key**. Rabies vaccinations for domestic pets and the horse, and the use of proper protective gear (gloves) could have prevented some of the exposures.

Adherence to rabies vaccination laws for domestic pets, reliance on animal control to handle injured and stray animals, and the use of proper protective gear (gloves) when dealing with sick animals is necessary to prevent exposures. PSAs via television and news articles can spread the word about responsible pet ownership, a big hurdle for communities to overcome. Pediatricians can help spread a simple bite prevention message during office visits, “If it's a stray, I will not play.” Lastly, emergency room staff can report bites immediately to animal control agencies for prompt investigation. Simply locating the offending animal can prevent the need for prophylaxis.

Did you know?

Rabies Specimen Submission

1. Submit only the animal head unless it's a bat or small rodent
2. If submitting the brain only, the minimum tissue requirements are a complete transverse cross section of the brain stem and tissue from the cerebellum and/or hippocampus.
3. Immediately chill the specimen to between 32° and 45° F. **Do Not Freeze.**
4. Make sure that the ID number or name on the outside of the bagged specimen matches the ID # on the accompanying submission form (G-9).
5. Use sufficient *absorbent* packing material, such as newspaper.
6. Place enough gel packs/refrigerant in with the specimen to keep it cool for at least 48 hours. **NO DRY ICE.**
7. Call the toll-free hotline to alert the lab to the specimen's arrival: **1-800-252-8163**
8. Note the changes to the shipping label:

Texas Department of State Health Services
Laboratory Services Section
1100 W 49th Street, MC-1947
Austin TX 79756-3199

ATTN: Letha Zuckero
Rabies Identification Team
512-458-7595

BIOLOGICAL SUBSTANCE
CATEGORY B REFRIGERATE ON ARRIVAL



For a copy of the G-9 and the complete instructions on head removal, packing and shipping of specimens, go to the Zoonosis Control Branch website, <http://www.dshs.state.tx.us/idcu/disease/rabies/testing/lab/>

Table 1: Select reportable conditions (probable and confirmed), DSHS HSR 1, all public health jurisdictions, Semi-Annual / Annual Comparison, January 01, 2008 through June 30th, 2010
Data source: Texas NEDSS Database. 2010 data is preliminary and is subject to change.

Condition	2008 - 1st Six Months							2009 - 1st Six Months							2010 - 1st Six Months						2008 Total	2009 Total
	Jan	Feb	Mar	Apr	May	Jun	Total	Jan	Feb	Mar	Apr	May	Jun	Total	Jan	Feb	Mar	Apr	May	Jun		
Aseptic meningitis	2	1	5	4		2	14	2	1	8	4	8	14	37	4	3	6	2	3	9	27	96
Bacterial meningitis, other	1						1				4		1	6	1	1	3	3			8	15
Campylobacteriosis	8	1	5	4	14	8	40	5	2	5	9	16	18	55	5	7	5	6	12	6	41	122
Cryptosporidiosis						3	3	4		3		1	8	16	1	1	1	1	2		6	163
Escherichia coli, Shiga toxin-producing	1					2	3				1	1	2	5					2	1	4	6
Group A Streptococcus, invasive	5	4	4	2	3	1	19	3	5	2		1	2	13	4	1	3	1		2	11	20
Group B Streptococcus, invasive	3	6	6	3	1	1	20	7	1	2	1	2	4	17	3	6	4	4	3	4	24	29
Hepatitis A, acute	1	1					2	1		2		1	1	5					2		2	11
Hepatitis B, acute	1	1			1	1	4					1		1	1	1	2				4	4
Hepatitis C, acute	1				1		2	1	1	2				4					1		1	4
Legionellosis							0							0							1	3
Listeriosis					1	1	2							0								2
Lyme disease						0	0	1		2				3				1			1	4
Malaria						0	0	1						1	1					1	2	2
Mumps						0	0	1						1							1	1
Neisseria meningitidis, invasive					1		1							0							1	1
Pertussis		1		1			2	1	1	1	4	3	1	11	2	6	10	5	6	3	32	35
Q fever, Acute					1	2	5							0							8	8
Salmonellosis	5	7	8	2	21	123	166	7	8	5	9	8	17	54	7	10	7	10	8	12	54	133
Shigellosis	4					8	12	57	36	43	41	48	17	242	6	3	12	7	26	25	79	264
Streptococcus pneumoniae, invasive (IPD)	14	22	20	4	9	4	73	14	22	16	16	15	2	85	6	8	10	4	2	6	36	
Varicella (Chickenpox)	45	60	33	22	42		202	12	14	18	18	44	4	110	17	8	2	18	8	4	57	157
Yersiniosis							0							1							1	1

"Please Be Kind...Report on Time"

Chart 1: Select reportable conditions (probable and confirmed, DSHS HSR 1, all public health jurisdictions January 01 2008 through June 30th, 2010, by Month.
Data source: Texas NEDSS Database. 2010 data is preliminary and subject to change.

