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Texas Department of State
Health Services

HAI-Lights of Texas

Our Presenters:

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 Sonya Ajani, MPH Katy Glazebrook, MS, CWP
 Annie Nutt, MPH, CIC, FAPIC

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Housekeeping Items



Chat function is open for discussion and connection among virtual attendees



In person Questions:
Step up to the mic

Online Questions:
Submit through chat function



Accessibility features and closed captioning are available through settings feature

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Agenda

- Overview of Texas Healthcare Safety Unit (HSU)
- Antibiotic Resistance (AR)/Antimicrobial Resistance Laboratory Network (ARLN)/Multidrug Resistant Organisms (MDROs)
- Healthcare Safety (HCS) Investigations Group
- Antimicrobial Stewardship (AS)
- Training Team
- Data Validation Initiatives
- Texas Healthcare Safety Network (TxHSN) 2.0 and Preventable Adverse Events (PAEs)
- Summary of National Conferences
- Questions



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Learning Objectives

- Understand Texas HSU's initiatives to increase Infection Prevention and Control (IPC) capacity and reduce Healthcare Associated Infections (HAIs) in the state
- Discuss importance of promptly detecting AR threats in healthcare facilities
- Describe public health strategies to contain novel or targeted AR organisms

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Overview of HSU

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HSU

Mission

- Promoting safe and quality healthcare through awareness, education, transparency, monitoring, and response

Values

- Helping to achieve safe, quality, healthcare that improves the well being of everyone in Texas

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MDRO and AR

Our Team:

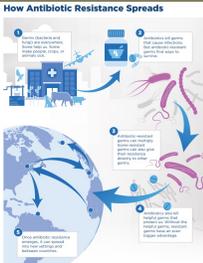
Sonya Ajani, MPH	Espe Kabran, MPH
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AR in the United States

How Antibiotic Resistance Spreads



- MDROs are microorganisms resistant to one or more classes of antimicrobial agents
- Affects >three million people per year
- Kills at least 48,000 people each year
- >\$20 billion/year in healthcare costs
- Threatens modern medicine
- Need to act now or even drugs of last resort will soon be ineffective

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Texas Reportable MDROs

Four (4) Reportable MDROs in Texas

<i>C. auris</i> : <i>Candida auris</i>
CRE: Carbapenem-Resistant <i>Enterobacterales</i> • <i>Klebsiella species</i> and <i>Escherichia coli</i>
VISA: Vancomycin-Intermediate <i>Staphylococcus aureus</i>
VRSA: Vancomycin-Resistant <i>Staphylococcus aureus</i>

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Texas Reportable MDROs

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Texas Notifiable Conditions - 2023

Report all Confirmed and Suspected cases

24/7 Number for Immediately Reportable – 1-800-705-8868

Unless noted by *, report to your local or regional health department using number above or find contact information at <http://www.dshs.texas.gov/dcu/investigation/conditions/contacts/>

A – L	When to Report	L – Y	When to Report
*Acquired immune deficiency syndrome (AIDS) ¹	Within 1 week	Legionellosis ²	Within 1 week
Amebic meningitis and encephalitis ²	Within 1 week	Leishmaniasis ¹	Within 1 week
Anaplasmosis ²	Within 1 week	Listeriosis ^{2, 3}	Within 1 week
Anthrax ^{2, 3, 25}	Call Immediately	Lyme disease ²	Within 1 week

Access List Online

Contact Information

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MDROs in Texas

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Condition	2020	2021	2022
<i>Candida auris</i> (C. auris)	NR*	275	570
Carbapenem-resistant <i>Enterobacterales</i> (CRE)	755	871	1124
Vancomycin-intermediate <i>Staphylococcus aureus</i> (VISA)	3	4	5
Vancomycin-resistant <i>Staphylococcus aureus</i> (VRSA)	0	0	0

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ARLN

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ARLN

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Purpose: Provide public health laboratories with comprehensive testing capacity for AR targeted organisms.

- Goal #1: Enhance outbreak detection and response support
- Goal #2: Create a surveillance system to detect unusual and novel resistance
- Goal #3: Produce real-time, actionable data to prevent and combat current and future antimicrobial resistance threats

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CDC's Containment Strategy

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Healthcare facilities, health departments, and CDC are on alert for antibiotic resistance.

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Notifiable Conditions and ARLN Alerts

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Organism	Notifiable condition	ARLN alert	Isolate submission
CRE	Yes, but only <i>Klebsiella</i> species and <i>Escherichia coli</i>	CRE that produces a carbapenemase or is found to be pan non-susceptible or pan-resistant	Voluntary to the AR Lab Network
CRAB	No	CRAB that produces a carbapenemase or is found to be pan non-susceptible or pan-resistant	Voluntary to the AR Lab Network
CRPA	No	CRPA that produces a carbapenemase or is found to be pan non-susceptible or pan-resistant	Voluntary to the AR Lab Network
<i>C. auris</i>	Yes	All <i>C. auris</i>	Required by the Texas Administrative Code (TAC)

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HCS Investigations Group

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What are HAIs?

- HAIs are infections that patients develop while receiving treatment for other conditions at a healthcare facility

687K
people in the US develop
infections during a hospital stay
1 in every 31 patients

72K
people die each year as a
result of hospital infections

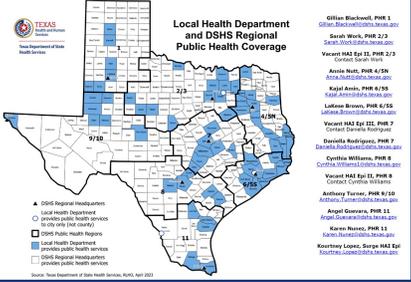
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Texas' HAI Epidemiologists

Local Health Department and DSHS Regional Public Health Coverage



4. DSHS Regional Headquarters
 Local Health Department
 DSHS Regional Health Services
 DSHS VPH (not county)
 DSHS Public Health Regions
 Local Health Department
 DSHS Regional Health Services
 DSHS Regional Headquarters
 DSHS VPH (not county)

Gillian Mackwell, PHR 1
 Sarah Wark, PHR 2/3
 Verena HAI Exp 12, PHR 2/3
 Anika Nash, PHR 4/5/6
 Kariel Acker, PHR 6/7/8
 Lauren Brown, PHR 6/5/8
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 Cynthia Williams, PHR 9
 Verena HAI Exp 12, PHR 8
 Anthony Turner, PHR 10/10
 Angel Goveas, PHR 11
 Karan Mehta, PHR 11
 Kourtney Lopez, Surge HAI Exp

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HAI Epidemiologists: Primary Roles



- Healthcare IPC expert
- Respond to investigations and outbreaks in healthcare facilities
- Conduct Infection Control Assessments (ICARs) in healthcare facilities
- Provide support for outbreak investigations to LHDs and healthcare facilities
- Collaborate with stakeholders in IPC activities

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Summary of 2022 Activities




- 1,142 ICARs
- 1,645 HAI/AR outbreak responses
- 216 responses to ARLN alerts

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Interfacility Communication Form



INTER-FACILITY INFECTION PREVENTION TRANSFER FORM

This form must be completed for transfer of a patient to the receiving facility. Information should be communicated prior to and during the transfer.

[Fix patient label here or complete patient information below.]

Patient Name: _____
 DOB: _____ MRN: _____

TRANSFER INFORMATION:

Transfer Date: _____ Sending Facility Name, City/State: _____
 Sending Facility Point of Contact and Phone Number (for follow up questions): _____
 Receiving Facility Name, City/State: _____

ISOLATION STATUS:

Currently in Isolation? Yes No (standard precautions only)
 If Yes, Check Type(s) of Isolation:

Contact Contact plus Hand Hygiene with Soap/Water Droplet Airborne



<https://www.dhs.texas.gov/sites/default/files/IDPH/health/Healthcare-Safety/Interfacility-Transfer-Form-Final-Updated-11-17-22.pdf>

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New Initiative: Dialysis Clinics

- Collaborate with End Stage Renal Disease (ESRD) Network
- Perform Landscape Analysis
- Create annual report using data reported to NHSN data
- Deploy infection control survey
- Conduct ICARs



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Facilities Working Together

Facilities work together to protect patients.

Common Approach *(not enough)*

- Patients can be transferred back and forth from facilities for treatment without all the comprehensive and necessary infection control outside in place.

Independent Efforts *(not enough)*

- Some facilities work independently to enhance infection control that are not often shared to antibiotic resistant or C. difficile germs coming from other facilities or outbreaks in the area.
- Lack of shared information from other facilities means that necessary infection control actions are not taken taken and germs are spread to other patients.

Coordinated Approach *(needed)*

- Public health departments track and alert health care facilities to antibiotic resistant or C. difficile germs coming from other facilities and outbreaks in the area.
- Facilities and public health authorities share information and implement shared infection control actions to stop spread of germs from facility to facility.



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Fungal Meningitis Outbreak

Investigators:

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Angel Guevara, MS, MPH, CIC	Kourtney Lopez, MPH
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How It Started

- May 7, 2023 a provider in Cameron County notified CDC of two patients with Central Nervous System (CNS) infections following liposuction in Mexico

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    graph TD
      P1[Patient 1] --- RP1[Relative of Patient 1]
      P1 --- FP1[Friend of Patient 1]
      RP1 --- OF[Online Friend]
      FP1 --- OF
      OF --- PSM[Patient identified through social media]
  
```

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Clinical Picture

- Patients presented with symptoms of meningitis
- Lumbar Punctures (LPs) showed signs of infection:
 - Elevated white blood cells (WBCs), high protein, low glucose
- Fungal organism suspected based on elevated β d glucan test results in Cerebral Spinal Fluid (CSF) specimens
- Five (5) patients (all hospitalized), One (1) death
 - Had at least one of the following procedures: liposuction, breast augmentation, or gluteal augmentation
- Two (2) clinics involved: River Side Surgical Clinic and Clinic K 3 in Matamoros

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What Organism Are We Dealing With?

- Possible connection to a previous fungal meningitis outbreak in 2022 in Durango, Mexico with 79 cases
- CDC recommended specimens be forwarded to the University of Washington (UW) or University of California San Francisco (UCSF) Laboratory for Fungal Polymerase Chain Reaction (PCR) testing

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Potential Risk Factors

- Cross border situation
 - Surgical clinics are in Mexico
 - Link to previous Mexico fungal meningitis outbreak?
- Poor infection control practices?
 - Anesthesiologists bring their own medications and prepare
- Medicines used in epidural anesthesia?
 - Anesthetic unlikely source as widely distributed and no other cases
 - Morphine added, shortage currently and maybe black market

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Travel Notice and Health Alerts Issued

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Additional Case Finding

- May 20, 2023 Texas Department of State Health Services (DSHS) received a line list from CDC and Mexico with 181 exposed Texas residents
- The line list was forwarded to Regional and Local Health Departments with a phone script and patient letter to start notifying patients of exposure and recommended evaluations

→ Big question: Are we really recommending patients to undergo an LP and MRI of the brain even if they are asymptomatic?
→ Answer: Yes!

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Patient Notification

Sample notification letter

Dear [PUI name],

This letter is to follow up about a procedure that you recently had in Matamoros, Mexico, and to provide some urgent information and steps to take for your health.

Public health officials have learned that some patients who had epidural anesthesia, a procedure sometimes used during surgery, at River Side Surgical Center or Clinica K-3, from January through May 2023 have developed meningitis likely caused by a fungus. Meningitis is an inflammation (swelling) of the protective membranes covering the brain and spinal cord. Common symptoms of meningitis include fever, headache, stiff neck, nausea, vomiting, sensitivity to light, and confusion. It can take days to weeks for symptoms to start but illness can quickly become severe and can lead to death.

If you did not have epidural anesthesia at River Side Surgical Center or Clinica K-3, then you are not at risk for fungal meningitis and no further steps are necessary.

If you had epidural anesthesia at River Side Surgical Center or Clinica K-3 from January through May 2023 immediate testing and treatment, even if you do not have any symptoms, may prevent severe illness and be lifesaving.

We are contacting you because clinical records reported that you had a procedure within the timeframe that may put you at risk for meningitis. **It is urgent that you seek evaluation at an emergency department, even if you do not have symptoms. The emergency department should perform a lumbar puncture (spinal tap) to evaluate you for possible fungal meningitis.** We are committed to providing you with support through every step of this process.

We are notifying all people who might have had a procedure under epidural anesthesia from January 1, 2023 through May 18, 2023.

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Mexico Identifies an Organism

On May 22, 2023, CDC reported three (3) out of five (5) CSF specimens tested positive for *Fusarium solani* on a PCR test in Mexico.



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U.S. Identifies an Organism

On May 30 and May 31, 2023, UCSF Laboratory and UW Laboratory (respectively) reported *Fusarium solani* from fungal PCR testing of CSF.

Fungal PCR: Detection, ITS rDNA
Detected

Fungal PCR: ITS Identification
Fusarium solani species complex Results from highly sensitive nested ITS PCR should be correlated with clinical findings.

Source: UCSF Laboratory

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Texas Case Counts

As of August 1, 2023

Persons under investigation (Had surgery in Matamoros in 2023 but have no known symptoms)	122
Suspected cases (Symptoms consistent with meningitis; test results pending or unknown)	4
Probable cases (Test results suggest meningitis; fungus not isolated)	12
Confirmed cases (Fungus detected in samples)	8

Ten (10) Texas residents who were part of the outbreak have died as a result of their illnesses – two (2) probable cases and eight (8) confirmed cases.

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Case Characteristics

As of August 1, 2023

Age

23 years — 52 years

Average age is 32 years

Gender

Female	22	92%
Male	2	8%

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Something Grew in Culture!

On July 5, 2023, it was reported to HSU that a lab was able to grow *Fusarium solani*.

- Now Whole Genome Sequencing (WGS) can be conducted to determine relatedness to Durango outbreak
- Antifungal susceptibility testing was able to be performed.
 - Treatment recommendations were updated on July 18, 2023, after the results showed high resistance to commonly used anti fungals



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Still Watching

Last possible exposure date was 5/18/2023.

- DSHS and other public health partners will be following exposed patients until 9/15/2023.



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References

- Centers for Disease Control and Prevention. Fungal Meningitis Outbreak Associated with Procedures Performed under Epidural Anesthesia in Matamoros, Mexico. <https://www.cdc.gov/hai/outbreaks/meningitis-epidural-anesthesia.html>. Accessed July 7, 2023.
- Pan American Health Organization. Technical Note: Meningitis of unknown origin Mexico. <https://www.paho.org/en/documents/technical-note-meningitis-unknown-origin-mexico>.
- Pulice, C. Death toll from mysterious meningitis outbreak in Mexico at 35. Reuters. <https://www.reuters.com/business/healthcare-pharmaceuticals/death-toll-mysterious-meningitis-outbreak-mexico-35-2023-02-06/>. February 6, 2023.
- Interim Recommendations for Diagnosis and Management of Cases of Fungal Meningitis Associated with Epidural Anesthesia Administered in Matamoros, Mexico. <https://funuseducationhub.org/interim-guidance-matamoros-fm-outbreak-5-20-23/>. Accessed July 29, 2023.



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Our Team:
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Maria Hernandez, BS

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Definition: Interventions to improve and measure appropriate use of antimicrobials by promoting optimal antimicrobial drug therapy.

Goals:

- Achieve best clinical outcomes
- Minimize toxicity and other adverse events
- Reduce healthcare costs
- Limit antimicrobial resistant strains

Summary of Core Elements for Antibiotic Stewardship in Nursing Homes

- Leadership commitment**
Antimicrobial stewardship is a commitment to safe and effective antimicrobial use in your facility.
- Accountability**
Healthcare providers, nursing and pharmacy teams are held accountable for promoting and ensuring antimicrobial stewardship practices in your facility.
- Drug expertise**
Facilities should have a pharmacist or pharmacist-in-charge or other individuals with experience or training in antimicrobial stewardship.
- Action**
Promotion of best use policy or practice by clinical guidelines.
- Tracking**
Monitor at least one primary indicator of antibiotic use and at least one outcome from antibiotic use (e.g., mortality).
- Reporting**
Facilities should establish an antibiotic use and resistance by prescribing clinicians, nursing staff and other relevant staff.
- Education**
Facilities should have an education, training and competency plan for antibiotic resistance and opportunities for ongoing antibiotic use.

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Antimicrobial Use and Best Practices

- Use antibiotics **only** when needed
- Use evidence based guidelines regarding treatment indication, antimicrobial selection and dose, and antimicrobial therapy duration and de-escalation



Each year in the U.S., at least 2.8 million people become infected with an antimicrobial-resistant infection and more than 35,000 people die.

Learn more at cdc.gov/antibiotic-use.

THE ANTIBIOTICS PARTNER
AMERICAN SOCIETY FOR INFECTION CONTROL
CDC

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The Five (5) D's of AS

The Five (5) D's of AS:

1. **Diagnosis** (Reduce or prevent inappropriate diagnosis)
2. **Drug Choice** (Empirical therapy)
3. **Dose** (Drug of choice treats the organism that is present)
4. **Duration** (Is within the current dosing)
5. **De escalation** (The organism is no longer present and drug therapy can be reduced or stopped, preventing excess antimicrobial therapy)

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AS Regional Advisory Committees, Part 1

Texas Health and Safety Code Sec. 81.015, H.B. 1848.

A) The department shall establish a regional advisory committee in each public health region designated under Section 121.007 (Public Health Regions) to address antimicrobial stewardship in long term care facilities and to improve antimicrobial stewardship through collaborative action

Added by Acts 2019, 86th Leg., R.S., Ch.786 (H.B. 1848), Sec. 2, eff. September 1, 2019

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AS Regional Advisory Committees, Part 2

Texas Health and Safety Code Sec. 81.015, H.B. 1848.

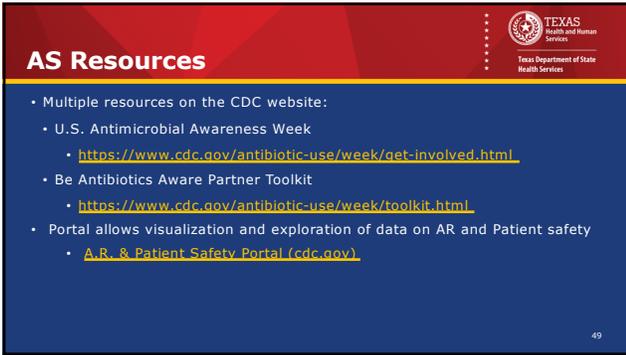
B) A regional advisory committee established under this section must include:

- a) Physicians
- b) Directors of nursing or equivalent consultants in long term care facilities
- c) Public health officials knowledgeable about antimicrobial stewardship
- d) Other interested parties

Added by Acts 2019, 86th Leg., R.S., Ch.786 (H.B. 1848), Sec. 2, eff. September 1, 2019

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AS Resources

- Multiple resources on the CDC website:
- U.S. Antimicrobial Awareness Week
 - <https://www.cdc.gov/antibiotic-use/week/get-involved.html>
- Be Antibiotics Aware Partner Toolkit
 - <https://www.cdc.gov/antibiotic-use/week/toolkit.html>
- Portal allows visualization and exploration of data on AR and Patient safety
 - [A.R. & Patient Safety Portal \(cdc.gov\)](#)

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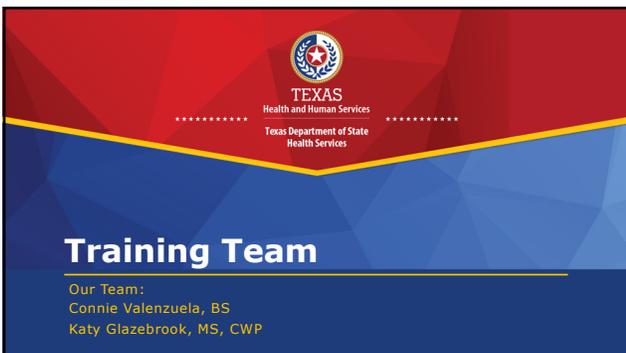


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Data & Training Group

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Training Team

Our Team:
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Katy Glazebrook, MS, CWP

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Project Firstline

**Project Firstline:
The power to stop
infections. Together.**

**PROJECT
FIRSTLINE
IS FOR
YOU**

<https://www.cdc.gov/infectioncontrol/resources/firstline/>

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Newsletters

HSU Newsletter

Healthcare Safety Newsletter
Healthcare Safety Unit: Protecting Texans | Spring 2023

HAI Lights Newsletter

HAI-Lights Newsletter
An infection prevention and control resource
May/June 2023
Volume 11, Number 2

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Accessibility Workgroup Committee

HHS Accessibility Workgroup

Background/Purpose

The HHSC Accessibility Workgroup is an informal workgroup that was created in February 2023. The workgroup's purpose is to identify areas of opportunity with accessibility across HHS, DSHS, and OTG with four goals:

1. Increase awareness (highest priority)
2. Improve education
3. Develop supporting materials
4. Research what other agencies are doing

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Infection Control Trainings

Past Trainings:

Infection Prevention and Management Associates (IP&MA):

- Essentials of Infection Control February 2023
- CIC Exam Prep Course March 2023

HCS Investigations Group & Training Team:

- Conducting an ICAR February 2023
- HAI Outbreak Management July 2023

EXPAND YOUR INFECTION CONTROL KNOWLEDGE.

PROJECT FIRSTLINE The Power To Stop Infections, Together.

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Upcoming Trainings

Upcoming Trainings:

<https://www.dshs.state.tx.us/IDCU/health/Healthcare-Safety-Training.aspx>

Email:
To learn more about Project Firstline, IPC Trainings, and more, connect with us at HAITexas@dshs.texas.gov.

Healthcare Safety Training

PROJECT FIRSTLINE IS FOR YOU

SCAN THE QR CODE TO VIEW TRAINING VIDEOS

LEARN UP WITH PROJECT FIRSTLINE

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Data Validation Team

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HAI Data Validation Activities

HAI's required to be reported by hospitals in Texas:

- Central Line Associated Bloodstream Infections (CLABSIs)
- Catheter Associated Urinary Tract Infections (CAUTIs)
- Surgical Site Infections (SSIs) following Colon & Abd Hysterectomy
- *Clostridioides difficile* Infections (CDI) Lab ID events
- *Methicillin Resistant Staphylococcus aureus* (MRSA) Bacteremia Lab ID events

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Texas Antibiograms

- **Antibiograms** tables that show the overall profile of an organism's antimicrobial susceptibility
- Developed from isolates that were reported in 2020-2021 to DSHS via NHSN as part of the HAI Reporting Requirements
- Include isolates reported from designated general hospitals in Texas
 - They do not include isolates collected from long-term care facilities, outpatient clinics, dialysis facilities, or other types of healthcare facilities
- For more information about HAI Reporting Requirements in Texas visit: https://www.dshs.texas.gov/IDCU/health/infection_control/hai/Healthcare-Associated-Infections.aspx
- For more information about Texas DSHS Public Health Region (PHRs) visit: <https://www.dshs.texas.gov/regions/default.shtm>

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TxHSN 2.0 and PAEs

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Chapter 98 Texas Health and Safety Code

- State mandate requires reporting of HAIs and PAEs data to Texas
- All general hospitals and Ambulatory Surgical Centers (ASCs) report PAEs directly in TxHSN
- All general hospitals report HAI data to NHSN
- TxHSN Administrators download specific HAI data from NHSN and export to TxHSN for general hospitals
 - ASCs no longer required to report HAIs to Texas, effective January 2020

HEALTH AND SAFETY CODE CHAPTER 98. REPORTING OF HEALTH CARE ASSOCIATED INFECTIONS AND PREVENTABLE ADVERSE EVENTS. [texas.gov](https://www.texas.gov).

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June 2023 New TxHSN 2.0!

- Completion of two year project to build new TxHSN reporting system
- Legacy TxHSN included only HAI and PAE data
- New TxHSN 2.0 additional features:
 - ICAR assessments
 - Training and training tracker
 - Surveys
 - HAI data audits



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Resources

- For questions or assistance with TxHSN 2.0, contact PAETexas@dshs.texas.gov or HAITexas@dshs.texas.gov
- For access to NHSN, contact HAITexas@dshs.texas.gov
- To schedule a facility ICAR or set up TxHSN 2.0 access to complete an ICAR, contact HAITexas@dshs.texas.gov
- To view PAE and HAI healthcare safety reports posted twice a year to public website, visit <http://txhsn.dshs.texas.gov/hcsreports/>

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