



Presentation on Infectious Disease and the Texas Response System

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Infectious Disease Burden Around the World

- Developing countries experience a large burden from infectious diseases.
 - Infectious diseases are predominant causes of death.
 - Lower respiratory infections, HIV/AIDS, diarrheal diseases, malaria, and tuberculosis account for almost one third of all deaths.
- In the U.S., infectious diseases result in less morbidity and mortality because of public health improvements like improved hygiene, safe drinking water, pasteurized milk, and routine childhood immunizations.
 - Chronic diseases are predominant causes of death.
 - Lower respiratory infections remain the only infectious leading cause of death.
- Even with public health improvements, infectious diseases continue to cause morbidity and mortality in Texas, the U.S., and around the world.
 - New diseases emerge and are carried around the world with travelers.
 - Some diseases are returning because of changes in the organism, changes in a vector, or decreased efficacy of vaccine.
 - For other diseases no effective vaccine is available.
- In the U.S., infectious disease morbidity and mortality is often potentially preventable.

Global Issues Impacting Infectious Disease

- Income disparities
 - High-income countries
 - 70% of deaths are among people 70 years or older
 - 1% of deaths are among children under 15 years
 - Low-income countries
 - 20% of deaths are among people 70 years or older
 - 40% of deaths are among children under 15 years
- Antibiotic resistance
 - Creates a challenge for public health, requiring increased understanding and global behavior change by individuals and societies.
 - When bacteria become resistant to antibiotics it can result in hard to treat infections.
 - Antibiotic resistance leads to higher medical costs, prolonged hospital stays, and increased mortality.
 - 2,049,442 illnesses and 23,000 deaths estimated due to antibiotic resistance in the U.S.

- Tuberculosis - In 2014, 9.6 M contracted and 1.5 M died from TB, with an estimated 48,000 people developing multidrug-resistant TB worldwide.
 - In 2014, the U.S. had 9,421 TB cases (2.96 per 100,000 persons).
 - In 2014, Texas had 1,269 TB cases (4.7 per 100,000 persons).
 - 55% of cases were among Hispanics.
 - TB rates are higher along the Texas-Mexico border.
- HIV/AIDS - Half of the 35 M people living with HIV today do not know they are HIV-positive.
 - An estimated 1.2 M people are living with HIV in the U.S., 12.8% are not aware they are infected.
 - In 2012, approximately 17,858 people with HIV died in the U.S.
 - There are over 80,000 people living with HIV in Texas.
 - In 2012, approximately 1,476 Texans with HIV died.

- Influenza - Estimated to result in 3 to 5 M cases of severe illness and 250,000 to 500,000 deaths annually worldwide.
 - An estimated 3,000 to 49,000 deaths occur annually as a result of the flu in the U.S.
 - About 90% of flu related deaths occur in people 65 years and older.
 - The 2014-15 flu season resulted in 19 reported pediatric deaths in Texas.
- Pertussis – Estimated to have resulted in 89,000 deaths globally in 2008.
 - Since 1980, there has been an increase in the number of reported cases in the U.S.
 - In 2013, there were 28,639 cases (9.1 per 100,000) nationally, resulting in 13 pediatric deaths.
 - In Texas, there were over 3,900 cases (15.1 per 100,000), resulting in 5 pediatric deaths in 2013.
- Measles – One of the leading causes of death among young children around the world causing 114,900 deaths in 2014.
 - In 2013, there were 187 reported cases in the U.S.
 - Texas had 27 cases reported in 2013. 21 cases related to North Texas outbreak.

- Middle Eastern Respiratory Syndrome (MERS) - Since 2012, 1,644 lab confirmed cases and 590 related deaths. Most cases have been linked to the Arabian Peninsula, but there have been confirmed cases in at least 26 countries.
 - More than 750 people in the U.S. have tested negative for MERS.
 - 2 unrelated travel-associated cases have been confirmed in the U.S., both in 2014.
 - No cases of MERS have been identified in Texas residents.
- 2014-15 Highly Pathogenic Avian Influenza (HPAI) identified in U.S. birds affecting 211 commercial flocks and 49,700,000 birds across 15 states.
 - No human cases have been detected related to the U.S. cases in birds.
 - Actively monitored 88 demobilized workers returning to Texas after depopulation of affected flocks in other states related to a 2016 outbreak.

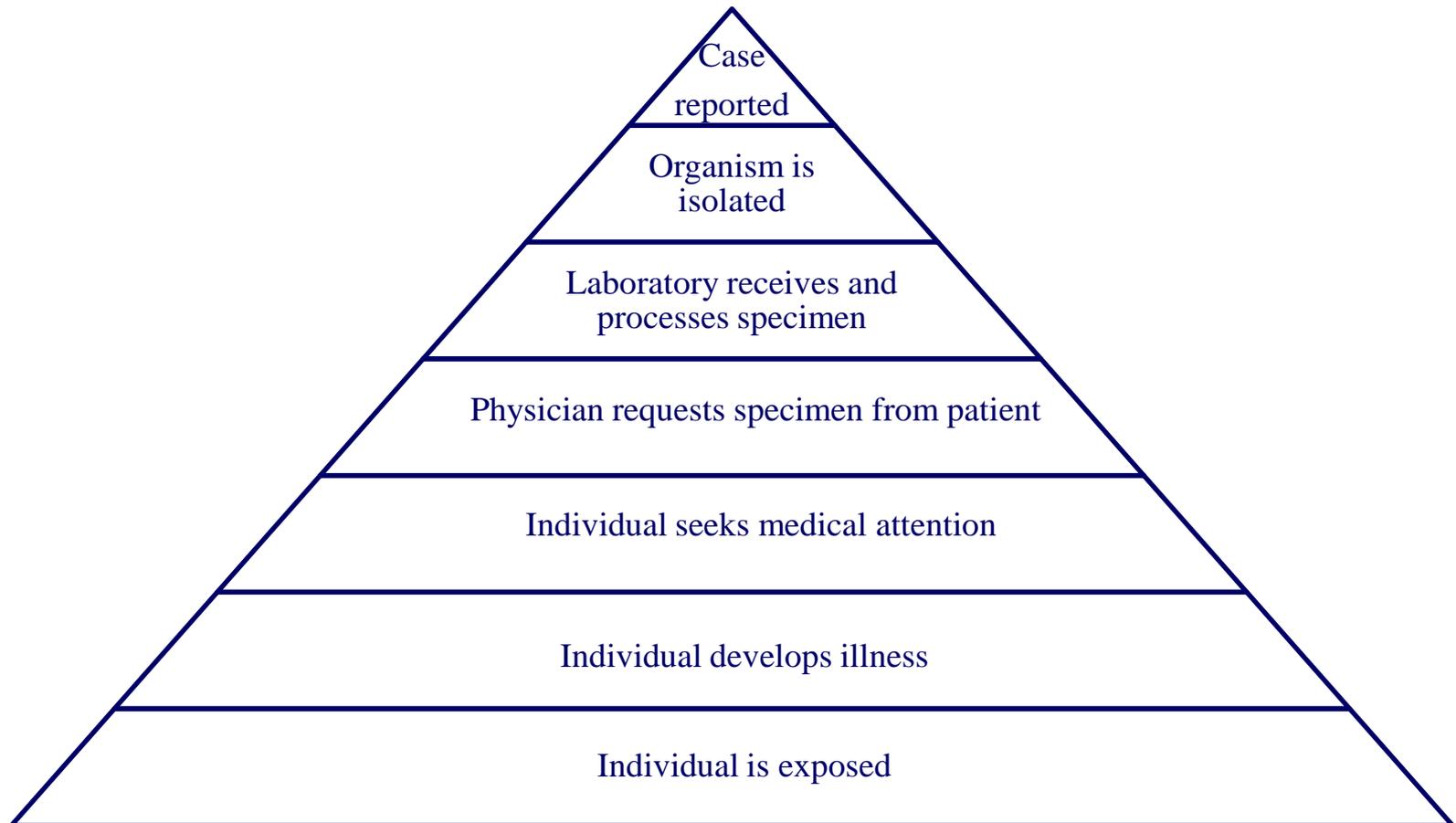
- Ebola – 2014-16 outbreak has resulted in over 28,000 cases including 11,301 deaths.
 - 1 case confirmed in a healthcare worker in New York.
 - 3 confirmed cases in Texas - 1 travel-associated, 2 healthcare workers.
 - 37 persons tested, resulting in 34 negative tests.
 - Monitored 1,511 West African travelers.
- Zika - Prior to 2015, Zika virus outbreaks occurred in areas of Africa, Southeast Asia, and the Pacific Islands. An alert regarding the first confirmed infections in Brazil was released in May 2015. Currently, outbreaks are occurring in many countries.
 - As of March 2, 2016, there were 153 travel-associated cases in the U.S. across 28 states and the District of Columbia.
 - First confirmed case in Texas was reported December 2015.
 - As of March 2, 2016, there were 15 travel-associated cases.
 - There is no evidence that Zika virus has infected Texas mosquitos.

- Dengue – No longer endemic in U.S.
 - Texas, Hawaii, and Florida have had sporadic outbreaks involving local transmission by mosquitos.
 - No local transmission reported in Texas since 2013.
 - In 2013, Texas had 53 confirmed cases, 26 cases were locally-acquired.
 - Mexico reported 679 cases along the border in 2014.
- Chikungunya – Local transmission was identified in Florida, Puerto Rico, and the U.S. Virgin Islands in 2014.
 - No local transmission reported in the U.S. in 2015.
 - Mexico reported 11,577 cases of local transmission in 2015.
 - 399 confirmed cases were in Mexican border states.
- West Nile – Significant outbreak in Texas in 2012.
 - The 2012 outbreak resulted in 1,024 confirmed cases of West Nile Fever and 844 confirmed cases of West Nile Neuroinvasive Disease.
 - That year, there were 89 deaths linked to West Nile.

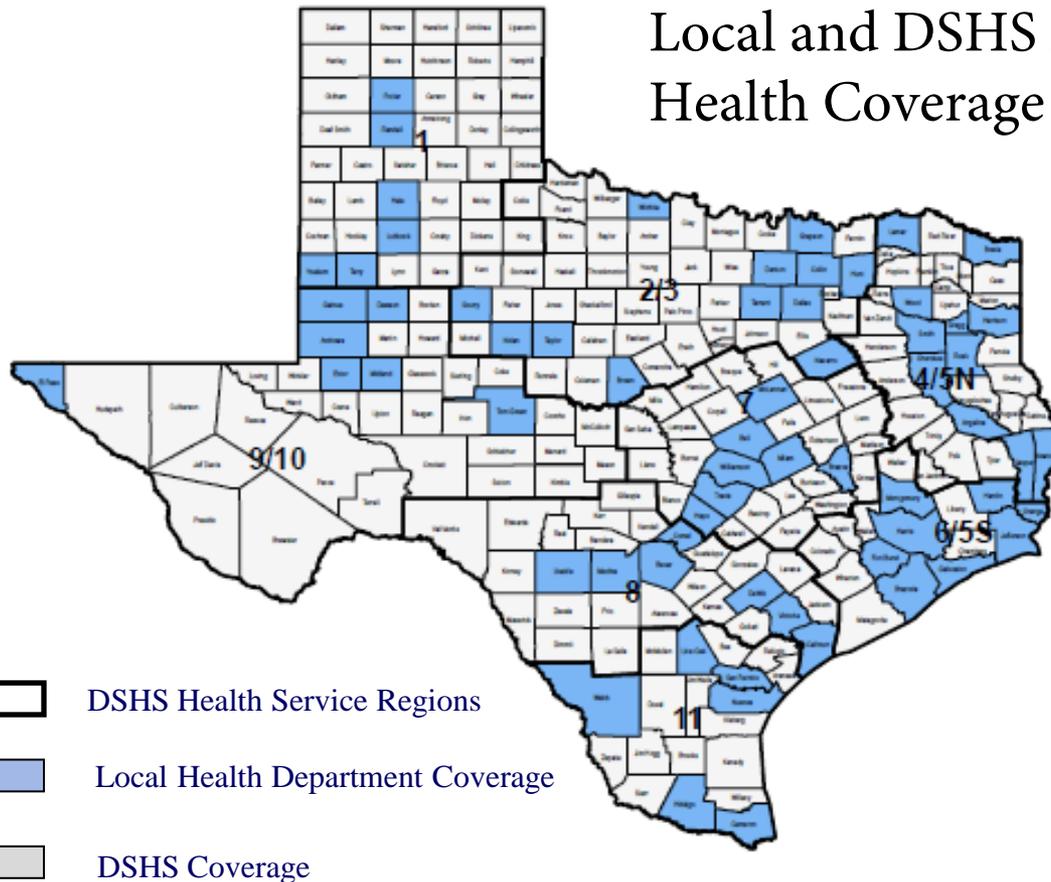
- Texas Geography
 - Binational border
 - Diverse geography and climate
- Texas Population
 - Travel
 - Density
 - Socioeconomic status
- Vaccination
 - The number and percentage of conscientious exceptions has increased every year since conscientious exemptions were allowed in 2003.
 - In the 2013-14 school year, 0.76 percent of students enrolled in Texas schools had a conscientious exemption on file.

Issues Impacting Infectious Disease

Healthcare providers are integral to good identification and reporting.



- Texas is divided into 8 health service regions (HSRs).
 - Where a local health department exists, DSHS HSR offices provide support and supplemental public health services.
 - DSHS provides local health department (LHD) services in jurisdictions where there is no LHD.
 - Where there is no local health authority (LHA), the regional medical director acts as the LHA.
- LHDs vary in size, resources, and capacity.
 - Approximately 60 health departments are “full service” and 80 health departments offer fewer services.
 - The DSHS role is to provide, as needed, core public health services not offered at the local level.



- Infectious disease surveillance and response
 - Continual and systematic collection, analysis, and interpretation of health data
 - Mandatory reporting for almost 90 conditions, including foodborne, vector-borne, respiratory, and sexually transmitted diseases
- At any given time, numerous investigations are open under DSHS or local jurisdiction.
 - Investigations involve illnesses related to health care-associated infections, foodborne transmission, sexually transmitted disease, bloodborne pathogens, zoonotic (animal-to-human) disease, or airborne contagions.
- Investigations vary widely in scale and interest.

Recent Infectious Disease Legislative Action

- **HB 2055**
 - Requires DSHS to establish a program to identify individuals infected with emerging or neglected tropical diseases using sentinel surveillance.
- **HB 2646**
 - Requires a local health department or local health authority to provide first responders with information about individuals being monitored for a communicable disease.
- **SB 1574**
 - Requires DSHS to prescribe the qualifications for an infection control officer.
- **Funding**
 - Received \$13.3 M in new state funds and \$15.5 M in one-time federal funding to support high consequence infectious disease projects.
 - Projects include regional workshops and a statewide symposium, infectious disease response units, Ebola Treatment Centers, additional allocations to local providers and HSRs, personal protective equipment, communications platforms, laboratory response, and epidemiological surveillance and response.