



A Texas-Sized TB Program

Jennifer A. Shuford, MD, MPH

April 2, 2024

New Directions in TB

April 1 – 2, 2024

Houston, Texas

Jennifer A. Shuford, MD, MPH has the following disclosures to make:

- No conflict of interests
- No relevant financial relationships with any commercial companies pertaining to this educational activity





TEXAS
Health and Human
Services

Texas Department of State
Health Services

A Texas-Sized TB Program

April 2, 2024

Jennifer A. Shuford, M.D., M.P.H.
Commissioner

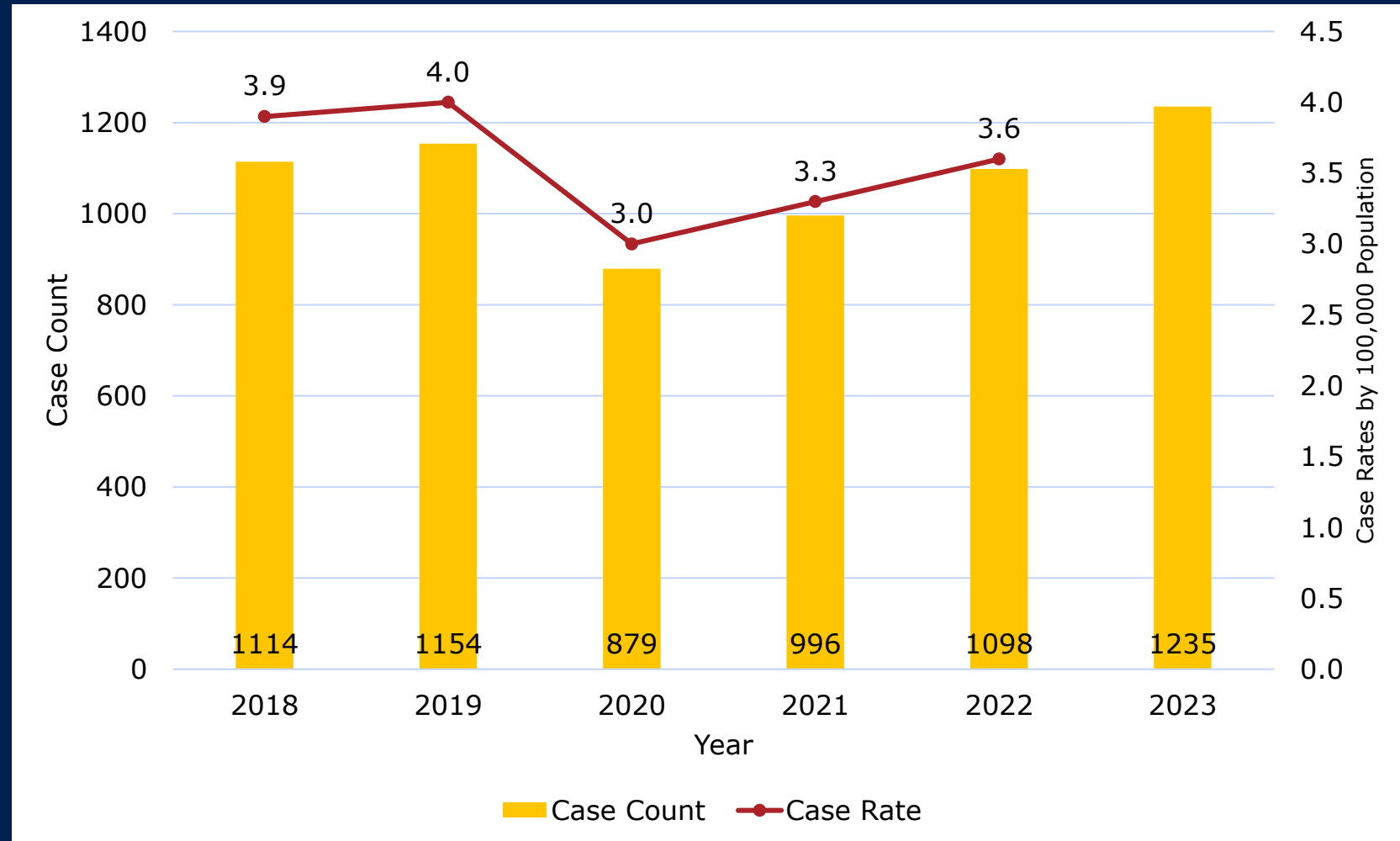
Texas Department of State Health Services

TB Case Counts and Rates in Texas, 2018-2023*



TEXAS
Health and Human Services

Texas Department of State
Health Services



*2023 data are provisional and subject to change

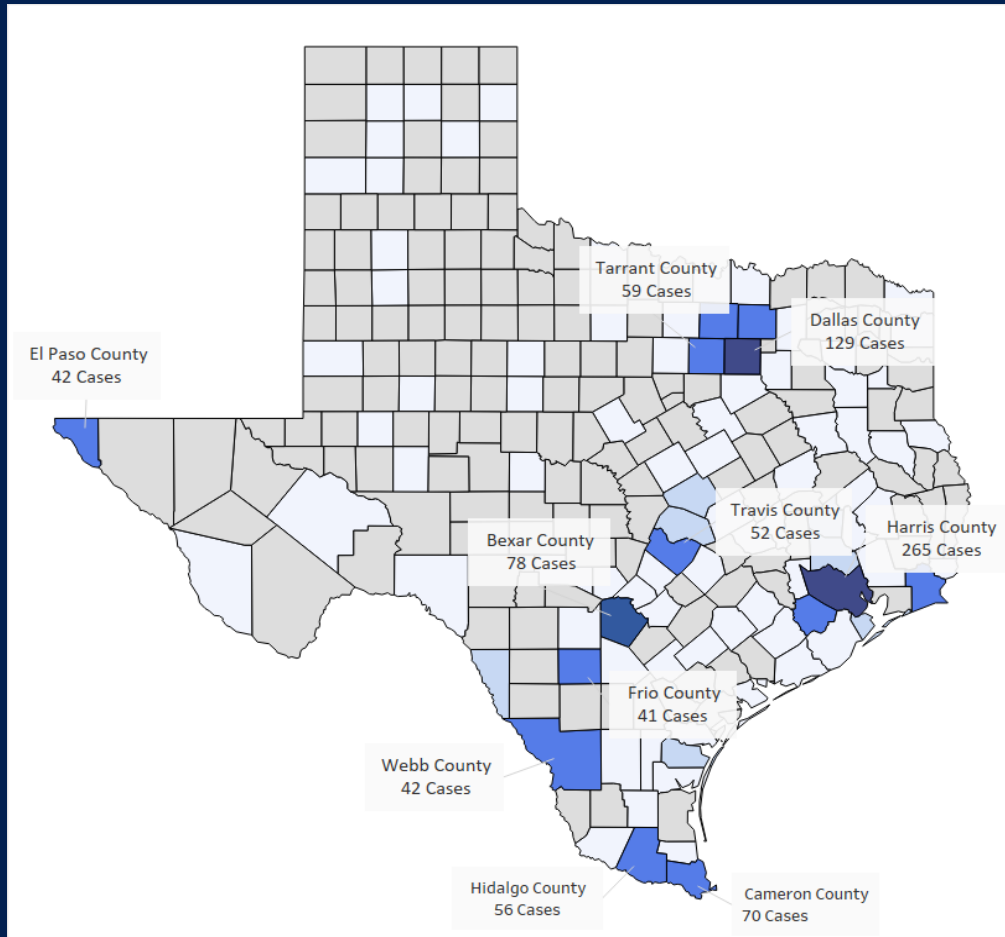
Distribution of TB in Texas, 2023



TEXAS

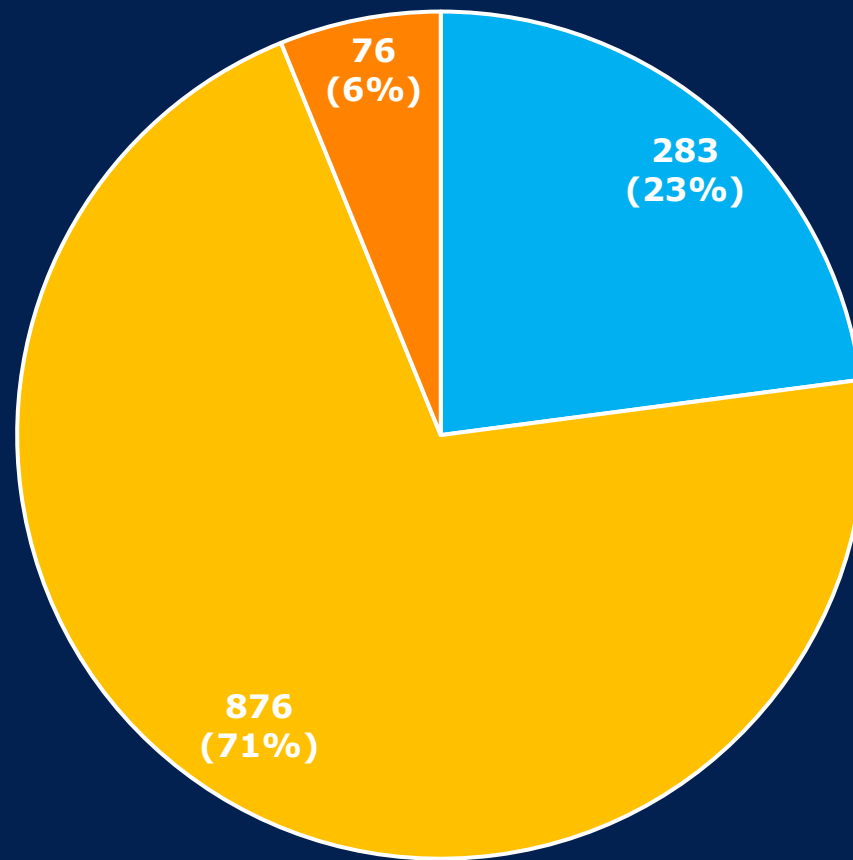
Health and Human Services

Texas Department of State Health Services



County	Reported Cases	Percent of All Cases
Harris	265	21.5%
Dallas	129	10.5%
Bexar	78	6.3%
Cameron	70	5.7%
Tarrant	59	4.8%
Hidalgo	56	4.5%
Travis	52	4.2%
El Paso	42	3.4%
Webb	42	3.4%
Frio	41	3.3%
Total	834	67.5%

Geographic Distribution of TB in Texas Communities, 2023*



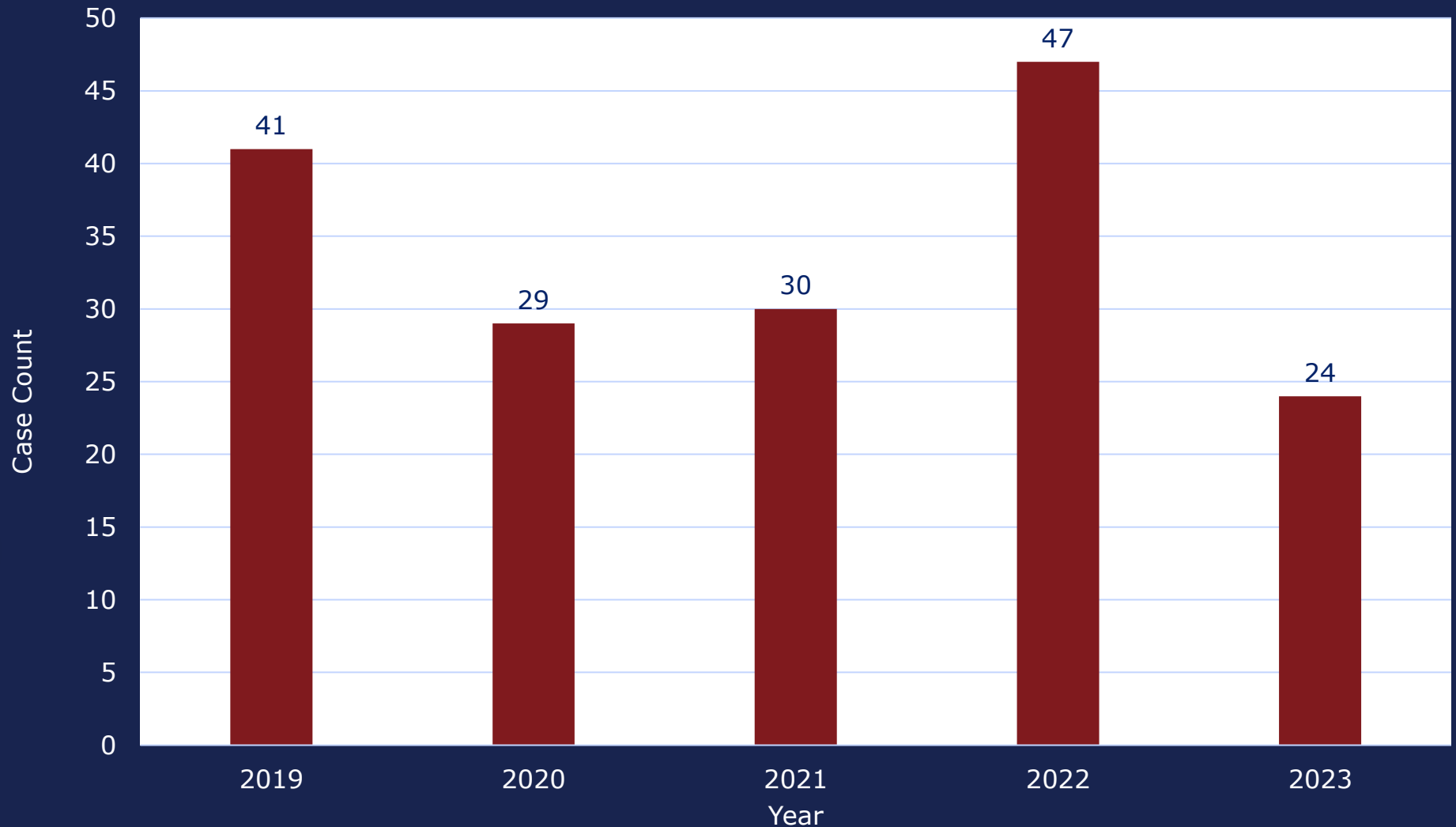
■ Border ■ Metropolitan (Non-Border) ■ Non-Metropolitan (Non-Border)



TEXAS
Health and Human Services

Texas Department of State
Health Services

TB-Related Mortalities in Texas, 2019-2023*



*2023 data are provisional and subject to change



TEXAS
Health and Human Services

Texas Department of State
Health Services

Statewide TB Infrastructure



TEXAS

Health and Human Services

Texas Department of State Health Services

- 30 local health department (LHD) contracts for TB services
- Non-contracted LHDs report TB to the PHR

Local Health Departments



- Eight public health regions (PHRs)

Public Health Regions



- Four binational TB programs (BNTB) in border counties serving Texas/Mexico

Binational TB Programs



- Austin DSHS laboratory
- South Texas laboratory, Harlingen

Laboratory Support



- Repackaging and relabeling
- Directly observed therapy (DOT) packs
- Compounding services

DSHS Pharmacy Unit



- Medical consultation, training, education
- Two board certified MDs
- Three RNs
- Two training specialists

Heartland National TB Center (HNTC)



- Dr. Seaworth, Dr. Armitige - HNTC
- Dr. Cruz, Dr. Starke - Texas Children's Hospital
- All are board-certified and nationally recognized

DSHS-Recognized TB Medical Consults



- Last free-standing TB hospital
- Data entry of admissions/discharges entered into NEDSS

Texas Center for Infectious Disease (TCID)





TEXAS

Health and Human Services

Texas Department of State
Health Services

About the TB Program



Administers and evaluates TB program services statewide



Allocates funding to support program activities



Prepares and maintains standards of care



Provides ancillary and consultation services to funded TB programs



Monitors and analyzes statewide TB data for state and national reporting

DSHS TB Trainings and Presentations

- In-person: LHD New Staff Orientation, Quarterly
- Webinar: National Electronic Disease Surveillance System (NEDSS)
 - Data Entry Contractors
 - Funded TB Programs
- Webinar: Bone Allograft Product Multi-state Outbreak Investigation – March 2024



TEXAS
Health and Human Services

Texas Department of State
Health Services



DSHS Regional Structure



TEXAS

Health and Human Services

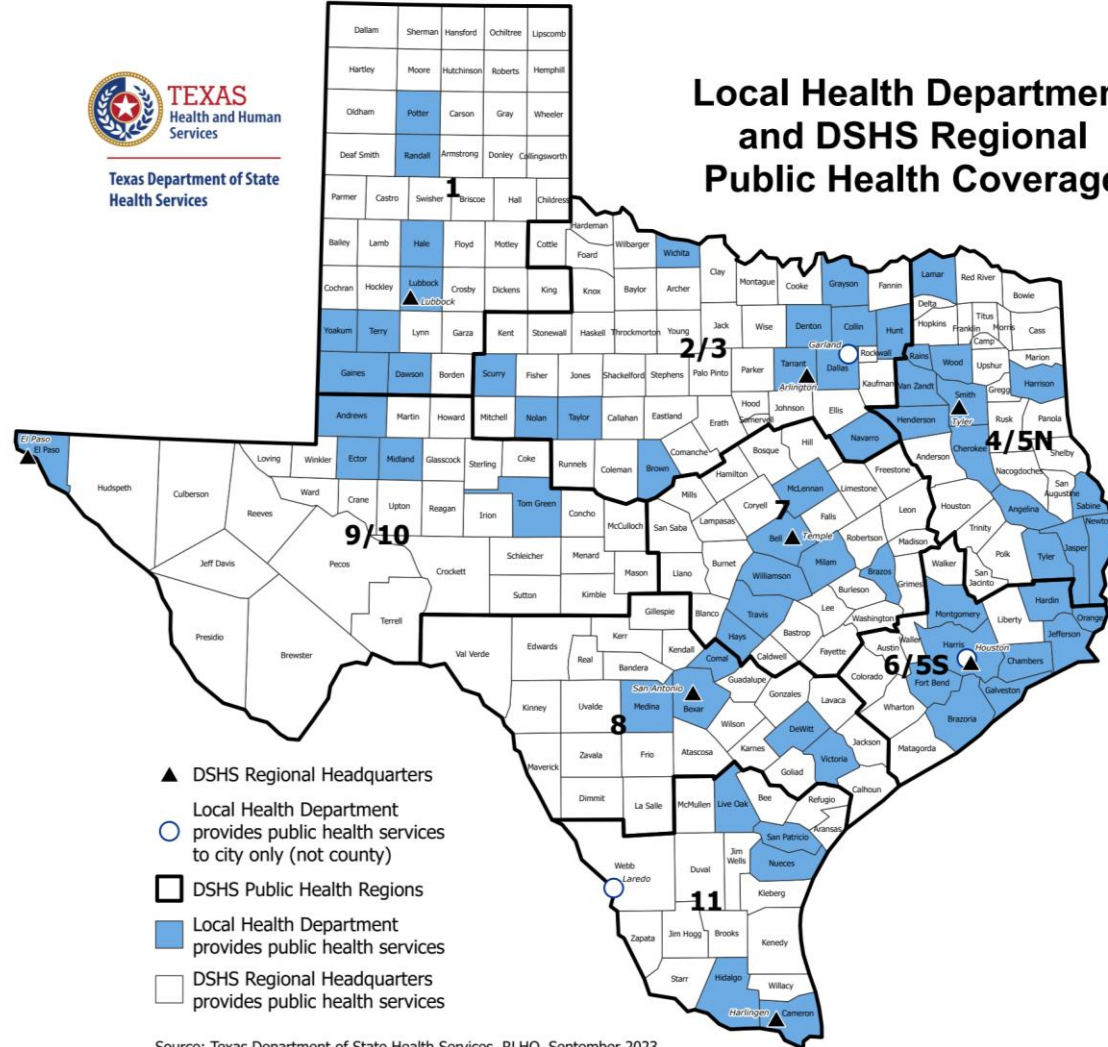
Texas Department of State Health Services



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Local Health Department and DSHS Regional Public Health Coverage



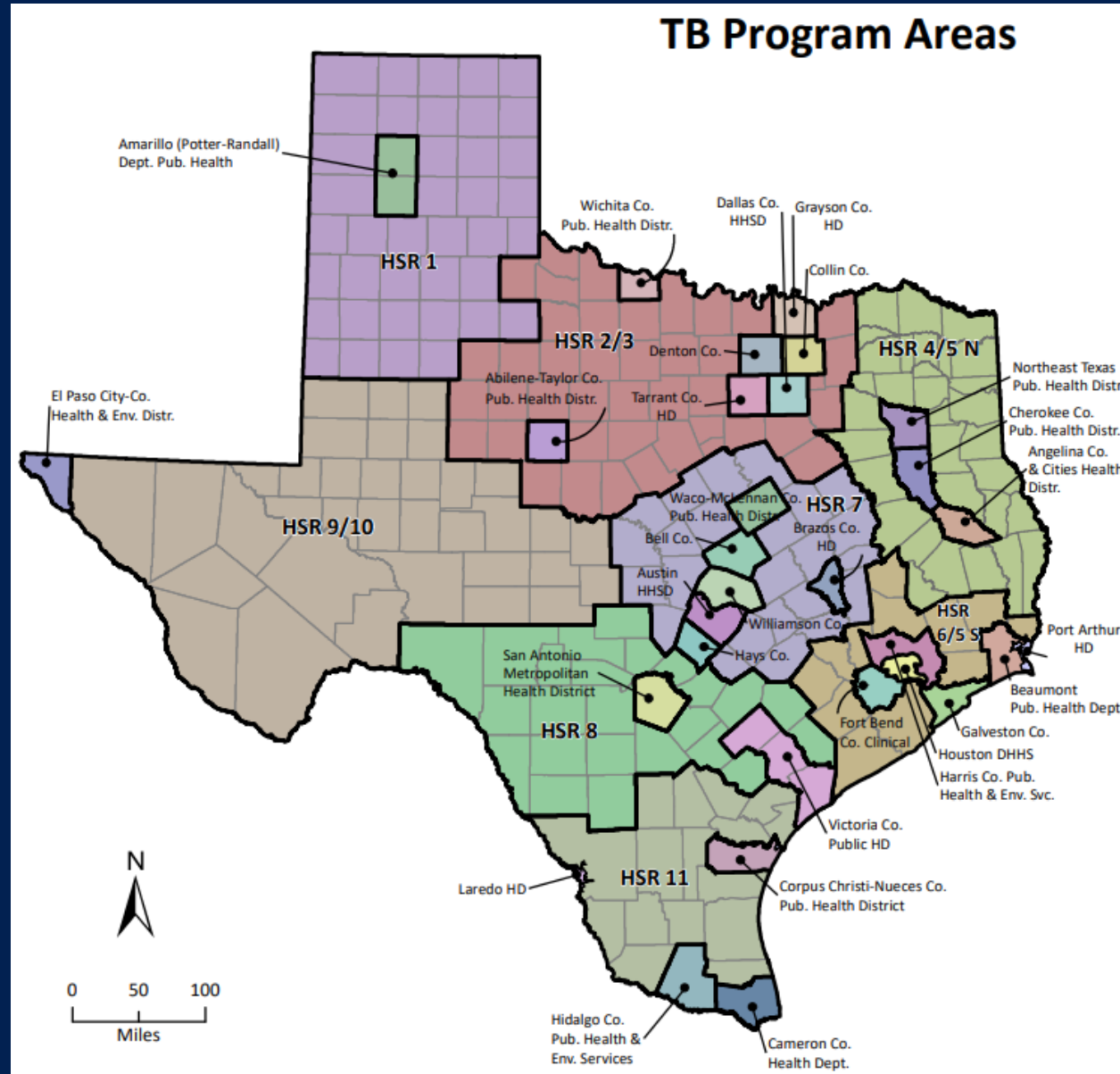
Texas TB Program Areas



TEXAS

Health and Human Services

Texas Department of State Health Services





TEXAS

Health and Human Services

Texas Department of State
Health Services

PHR	# of Cases in 2023 (per TB Program)	# of Counties for which PHR Provides Direct TB Services	# of Counties for which PHR Provides TB Support to LHE	# of Binational TB Program Organizations with which PHR Coordinates
1	18	42	0	0
2/3	279	38	6	0
4/5N	23	32	3	0
6/5S	369	7	5	0
7	116	24	6	0
8	162	24	3	2
9/10	53	32	0	1
11	201	16	6	3

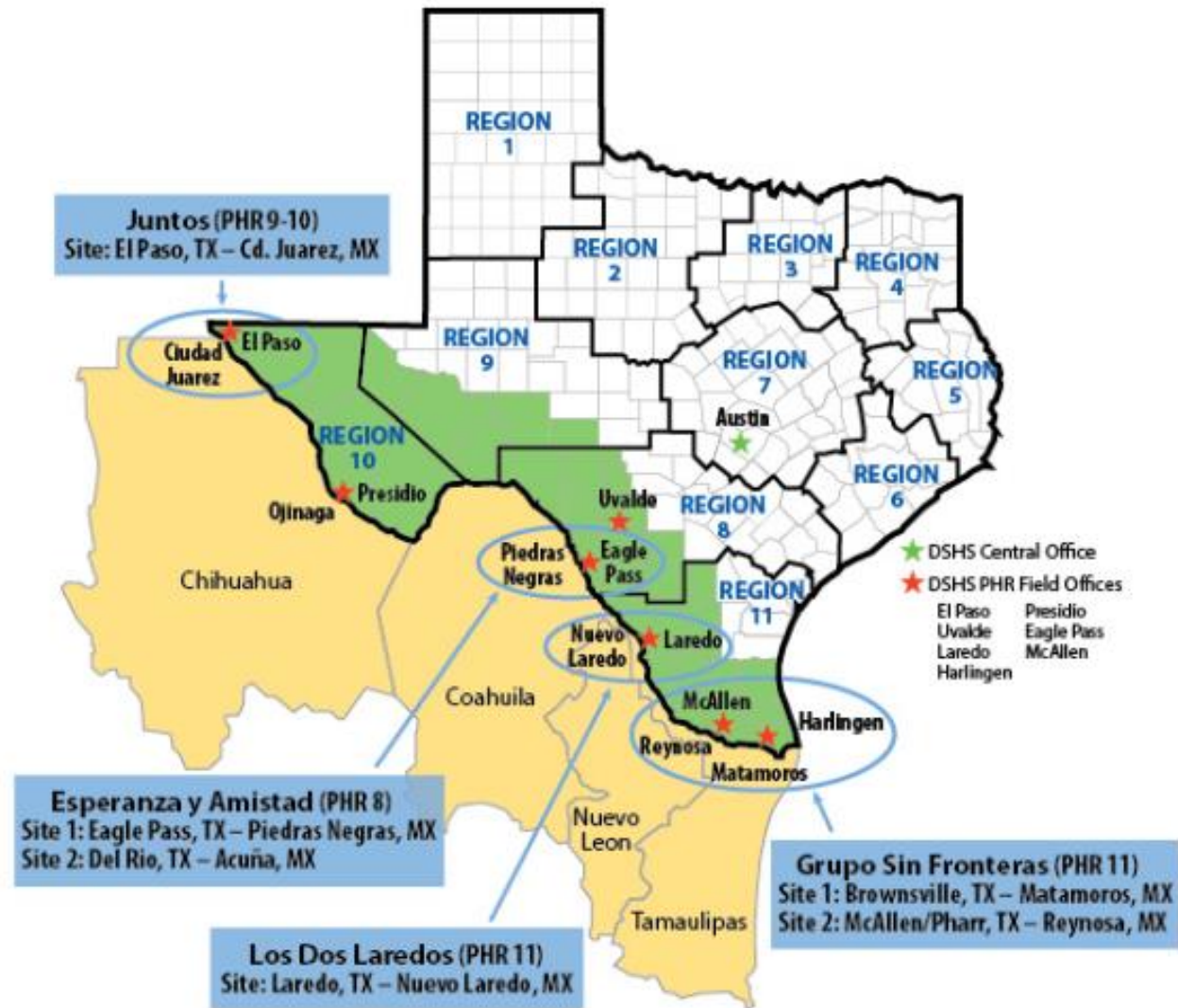
DSHS Binational TB Program



TEXAS

Health and Human Services

Texas Department of State
Health Services



Statewide TB Infrastructure



TEXAS

Health and Human Services

Texas Department of State Health Services

- 30 local health department (LHD) contracts for TB services
- Non-contracted LHDs report TB to the PHR

Local Health Departments



- Eight public health regions (PHRs)

Public Health Regions



- Four binational TB programs (BNTB) in border counties serving Texas/Mexico

Binational TB Programs



- Austin DSHS laboratory
- South Texas laboratory, Harlingen

Laboratory Support



- Repackaging and relabeling
- Directly observed therapy (DOT) packs
- Compounding services

DSHS Pharmacy Unit



- Medical consultation, training, education
- Two board certified MDs
- Three RNs
- Two training specialists

Heartland National TB Center (HNTC)



- Dr. Seaworth, Dr. Armitige - HNTC
- Dr. Cruz, Dr. Starke - Texas Children's Hospital
- All are board-certified and nationally recognized

DSHS-Recognized TB Medical Consults



- Last free-standing TB hospital
- Data entry of admissions/discharges entered into NEDSS

Texas Center for Infectious Disease (TCID)



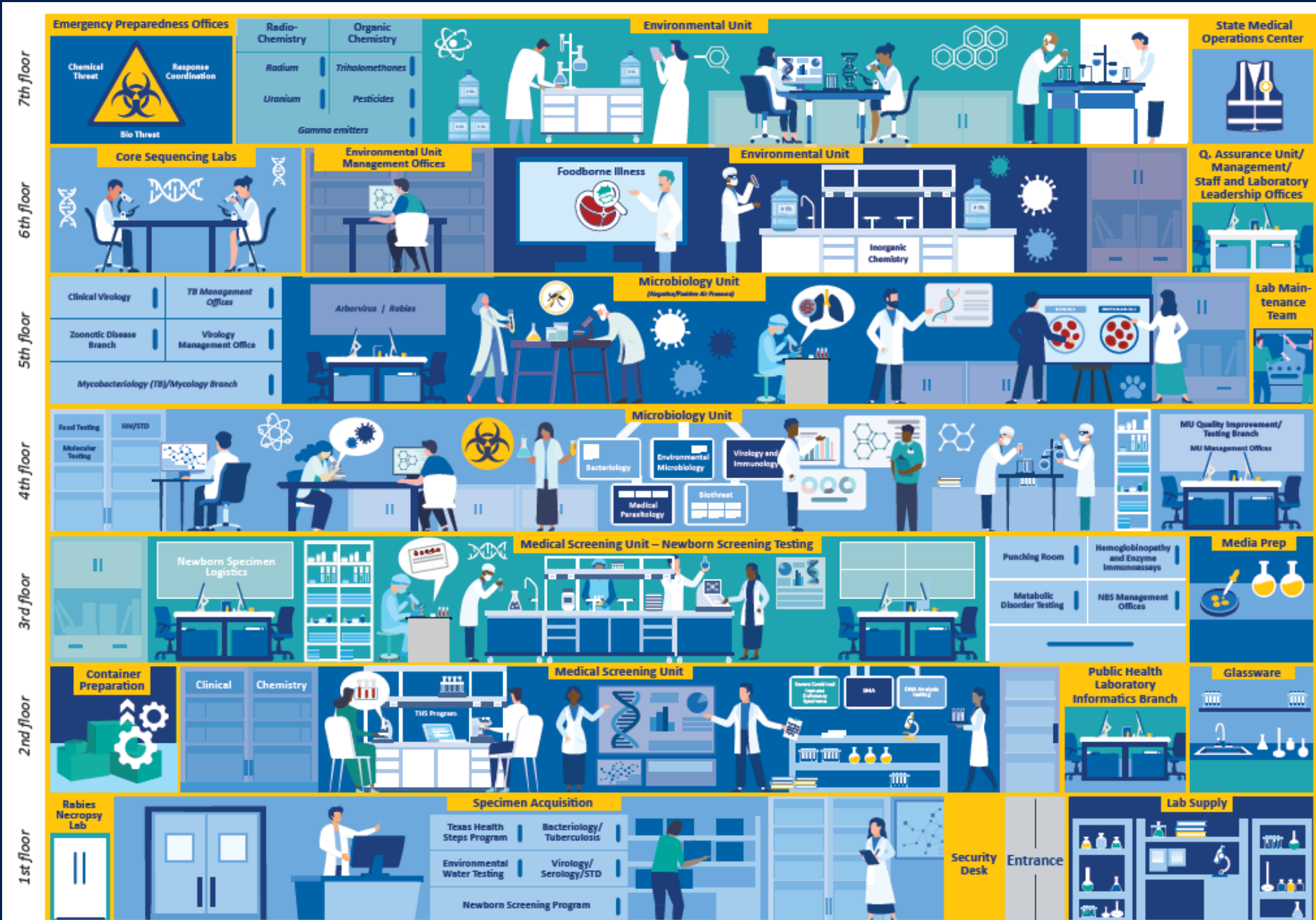
DSHS Austin Lab Building Overview



TEXAS

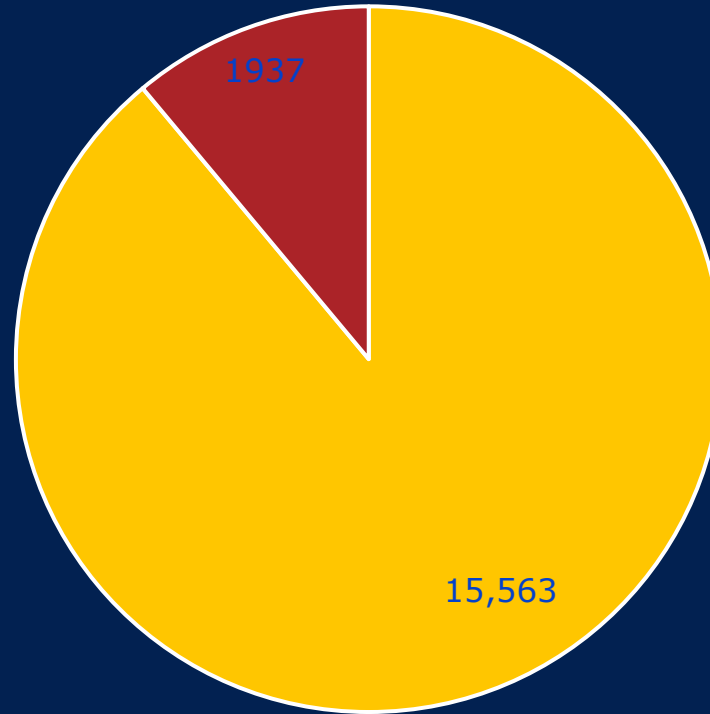
Health and Human Services

Texas Department of State Health Services



DSHS Lab TB Testing, 2022

DSHS TB Tests, 2022
(Total 17,500 tests)



■ Austin ■ South Texas



TEXAS
Health and Human Services

Texas Department of State
Health Services

DSHS Pharmacy Unit

- The DSHS Pharmacy serves specific DSHS program areas:
 - TB
 - Hansen's Disease
 - Immunizations
 - Zoonosis Control (Rabies Vaccination Program)
 - HIV/STD
 - Emergency Preparedness



TEXAS
Health and Human Services

Texas Department of State
Health Services

Medication and Supply Challenges

Medication & Supply Shortages

- 2023 – Isoniazid Shortage
- 2022 – Rifampin Shortage
- 2020 – Rifabutin Shortage
- 2013 – Purified Protein Derivative (PPD) Shortage

Response to Shortages

- Frequent inventory monitoring - weekly
- Increase pharmacy inventory from three to six months
- Prepare alternative treatment regimen options in collaboration with Heartland National TB Center



TEXAS
Health and Human Services

Texas Department of State
Health Services

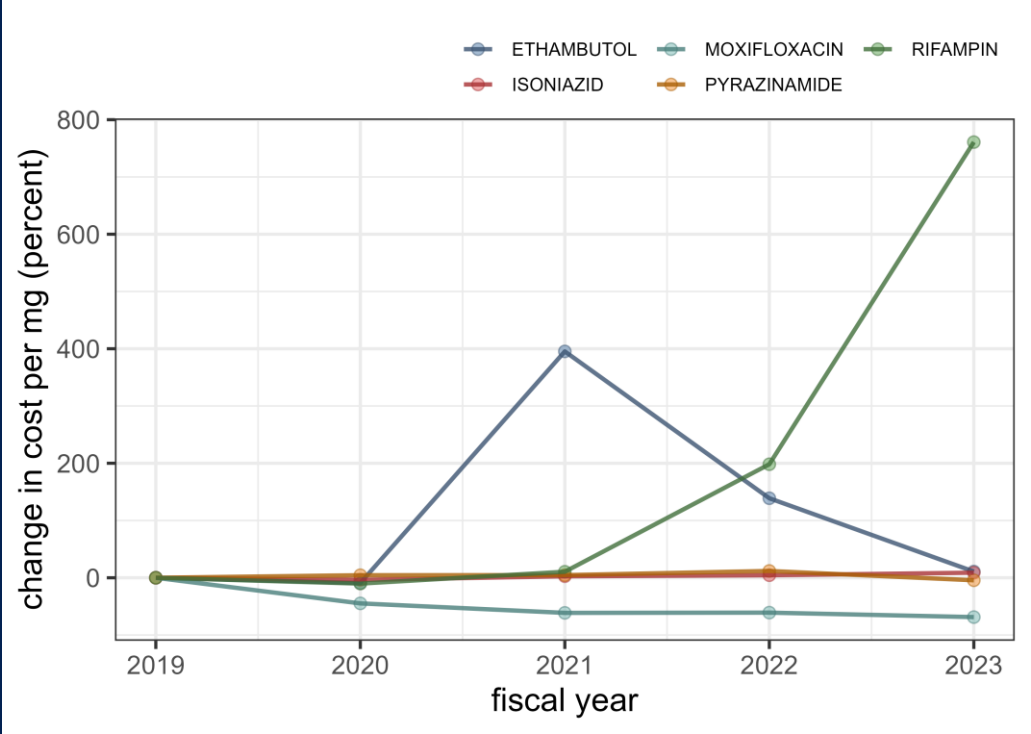
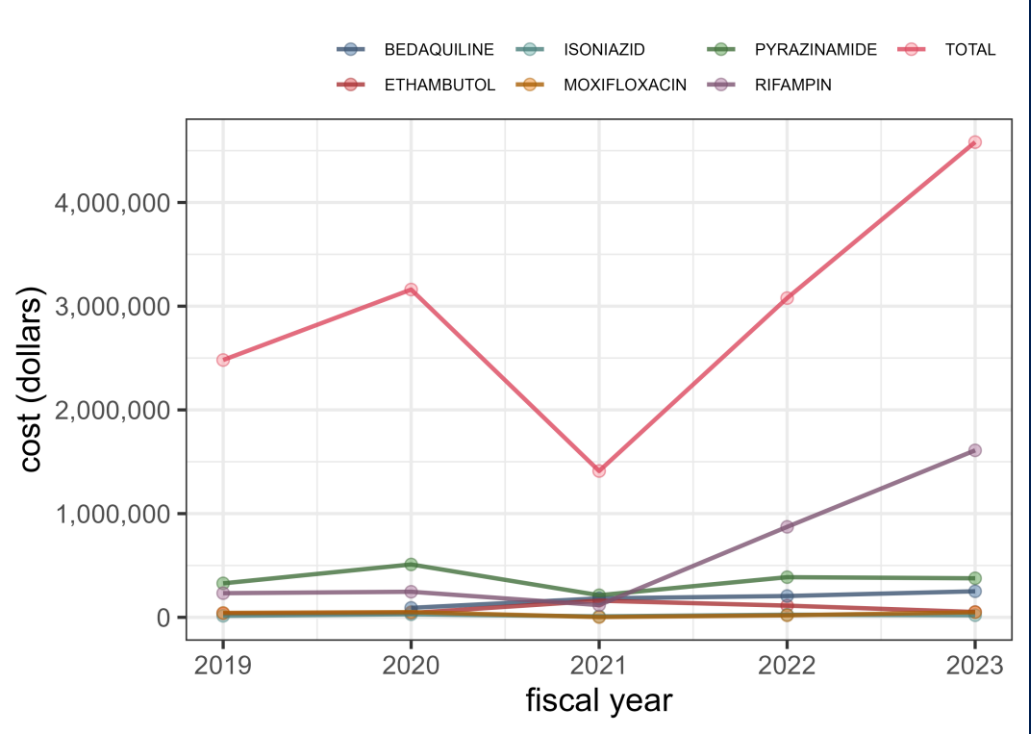
Medication Cost Increase



TEXAS

Health and Human Services

Texas Department of State Health Services



Tuberculosis Consultations - Heartland



TEXAS

Health and Human Services

Texas Department of State
Health Services

Year	Medical Consults for All Heartland States	Medical Consults for Texas	Percent (%)
2018	1256	947	75%
2019	1214	910	75%
2020	1229	951	77%
2021	1271	1073	84%
2022	1639	1089	66%
2023	1671 (Solely Texas)	1671	100%

Heartland National TB Center Training Events

- FY2023
 - World TB Day
 - Introduction to TB NCM Online
 - Essentials of TB NCM Online
 - TST Train the Trainer with Practicum
 - SHINE: A 4-Month Regimen for Non-Severe TB in Children Webcast
- FY2024
 - Bridges to Build: TB in the Asian American Community
 - TB Intensive
 - TB Contact Investigation (PILOT)
 - Introduction to TB Nurse Case Management Online – Thursday @ 12:00 – 1:30 pm
 - Screening and Treating TB Infection



TEXAS
Health and Human Services

Texas Department of State
Health Services



TEXAS
Health and Human
Services

**Texas Department of State
Health Services**

TCID

Texas Center for Infectious Disease



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Texas Center for Infectious Disease

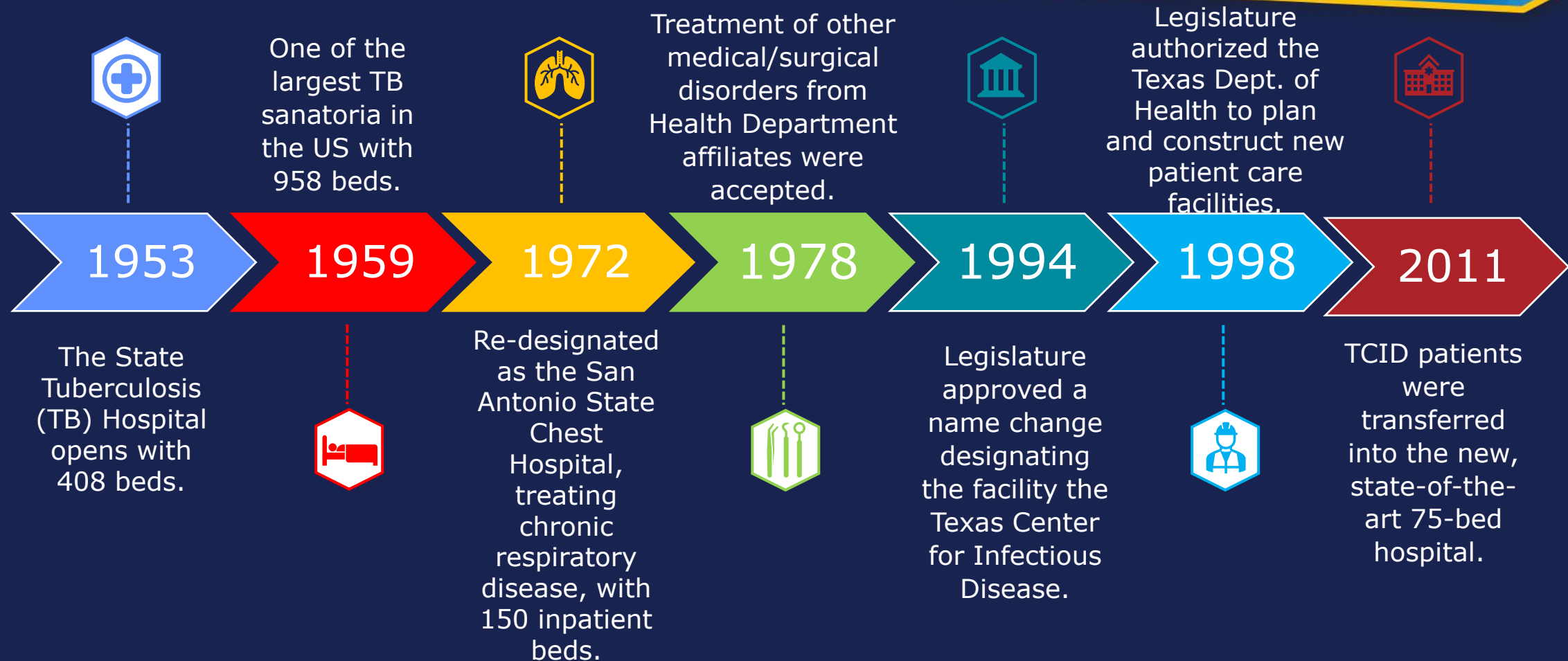
- Only specialty hospital in the US for complex cases of TB and Hansen's disease
- Hosts the Heartland National Tuberculosis Center and San Antonio Metro Health's TB Program on its campus

TCID's mission is to medically, behaviorally, and socially treat tuberculosis and Hansen's disease patients and advance the nation's prevention and treatment of infectious disease through person-centered care, collaboration, research, and education.

TCID's vision is to be the premier state and national destination for the treatment of tuberculosis and Hansen's disease.



History of TCID





TEXAS
Health and Human
Services

Texas Department of State
Health Services

Our Work

- Treating patients from Texas and across the US with complex cases of TB unable to be treated in the community
- Includes cases with drug resistance, drug side effects, concerns of drug and alcohol abuse, liver disease, and more
- Providing court-ordered TB treatment when non-adherence to a TB medication regimen is a threat to public health or safety

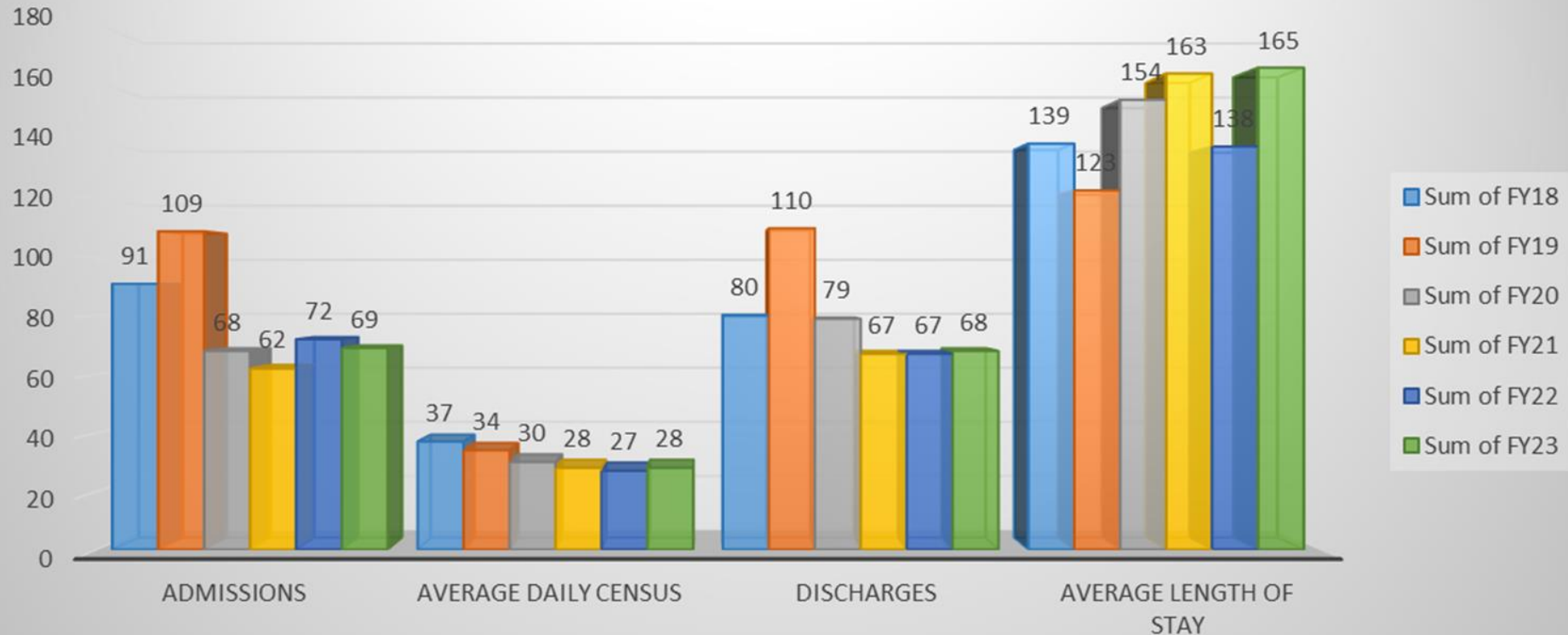


Texas Center for Infectious Disease (TCID)



TCID Hospital Trends, FY18-FY23

TCID Statistical Data





TCID Hospital Statistics, FY1-FY23

TCID INPATIENTS	FY18	FY19	FY20	FY21	FY22	FY23
ADMISSIONS	91	109	68	62	72	69
COURT ORDERED	8	7	5	2	8	3
OUT-OF-STATE	0	2	4	1	0	0
DISCHARGES	80	110	79	67	67	68
AVERAGE LENGTH OF STAY	139	123	154	163	138	165
INPATIENT DAYS	13,580	12,561	11,135	10,282	9,939	10,267
AVERAGE DAILY CENSUS	37	34	30	28	27	28
DEATHS*	0	3	4	1	1	3

* Deaths are included in the number of Discharges



Discharge Status

Discharge Status	FY20	FY20 (%)	FY21	FY21 (%)	FY22	FY22 (%)	FY23	FY23 (%)
Treated to Completion	31	39.24%	24	35.82%	14	20.90%	30	44.12%
Directly Observed Therapy	40	50.63%	36	53.73%	44	65.67%	24	35.29%
Expired other hospital	2	2.53%	0	0.00%	1	1.49%	3	4.41%
Expired at TCID	2	2.53%	1	1.49%	0	0.00%	0	0.00%
Against Medical Advice	4	5.06%	6	8.96%	8	11.94%	10	14.71%
Non-TB Patient	0	0.00%	0	0.00%	0	0.00%	1	1.47%
Total	79	100.00%	67	100.00%	67	100.00%	68	100.00%

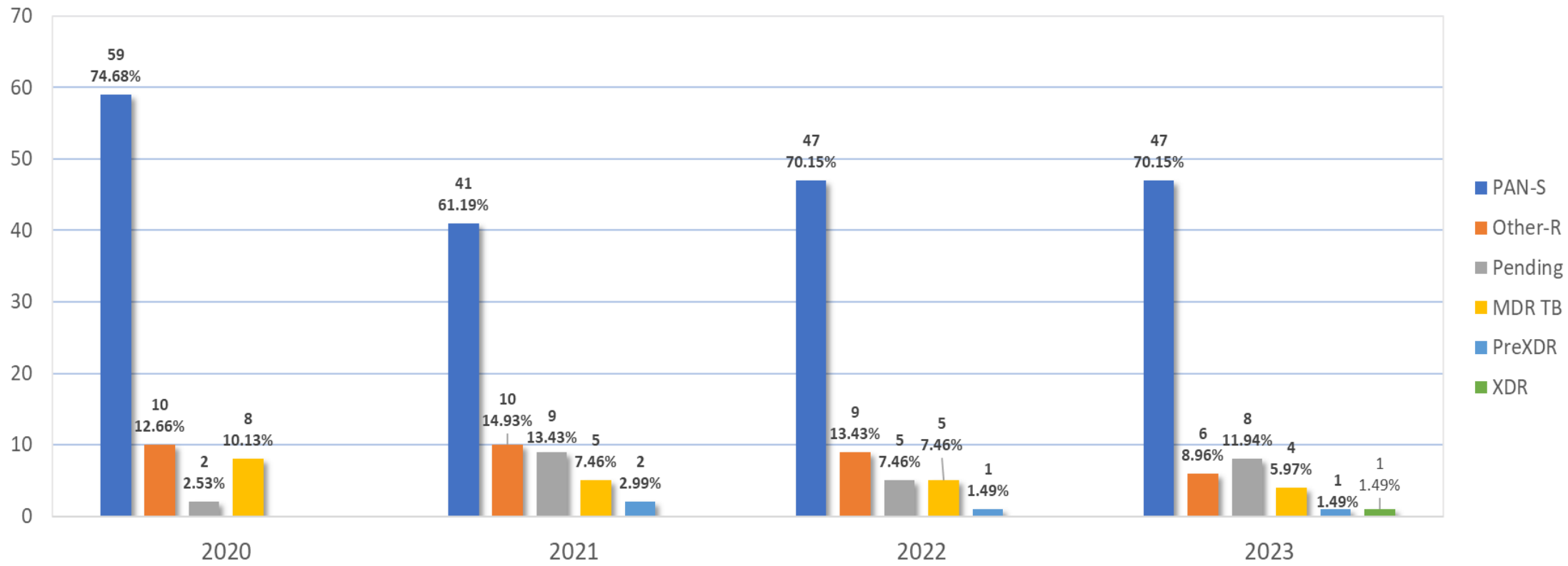


TEXAS
Health and Human Services

Texas Department of State
Health Services

TCID Work – Complex TB Comorbidities and Barriers

TCID Drug Sensitivity at Discharge per FY



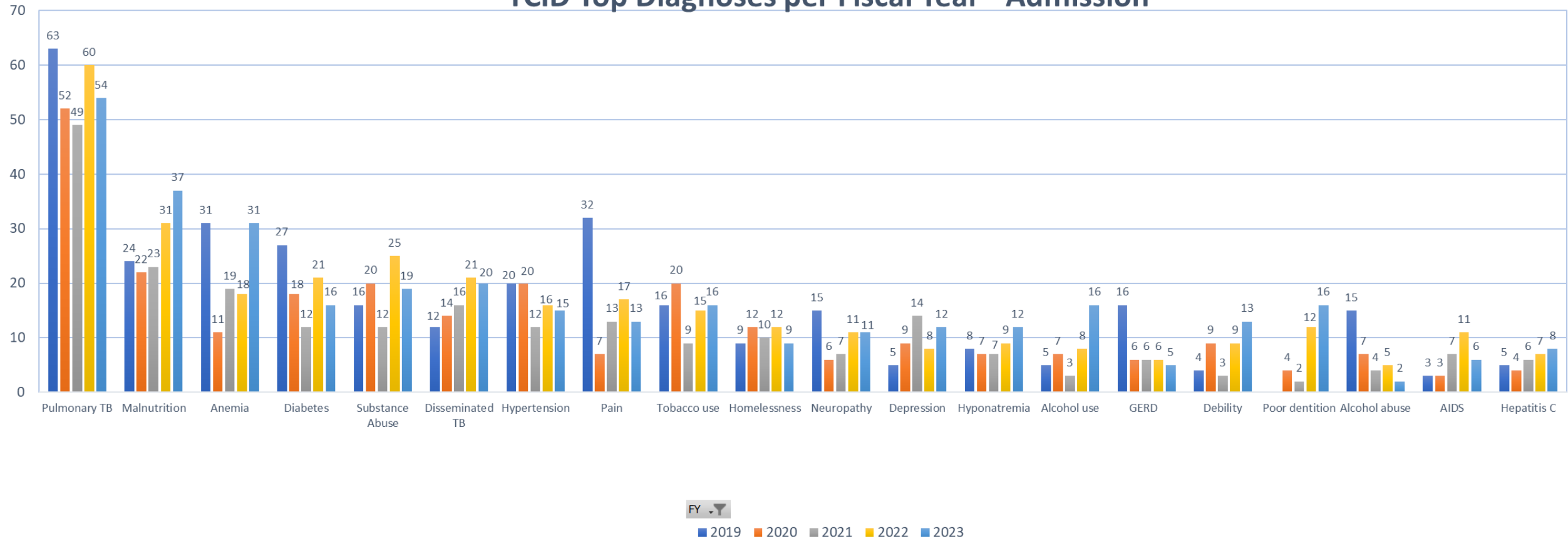
TCID Work – Complex TB Comorbidities and Barriers



TEXAS
Health and Human
Services

Texas Department of State
Health Services

TCID Top Diagnoses per Fiscal Year - Admission



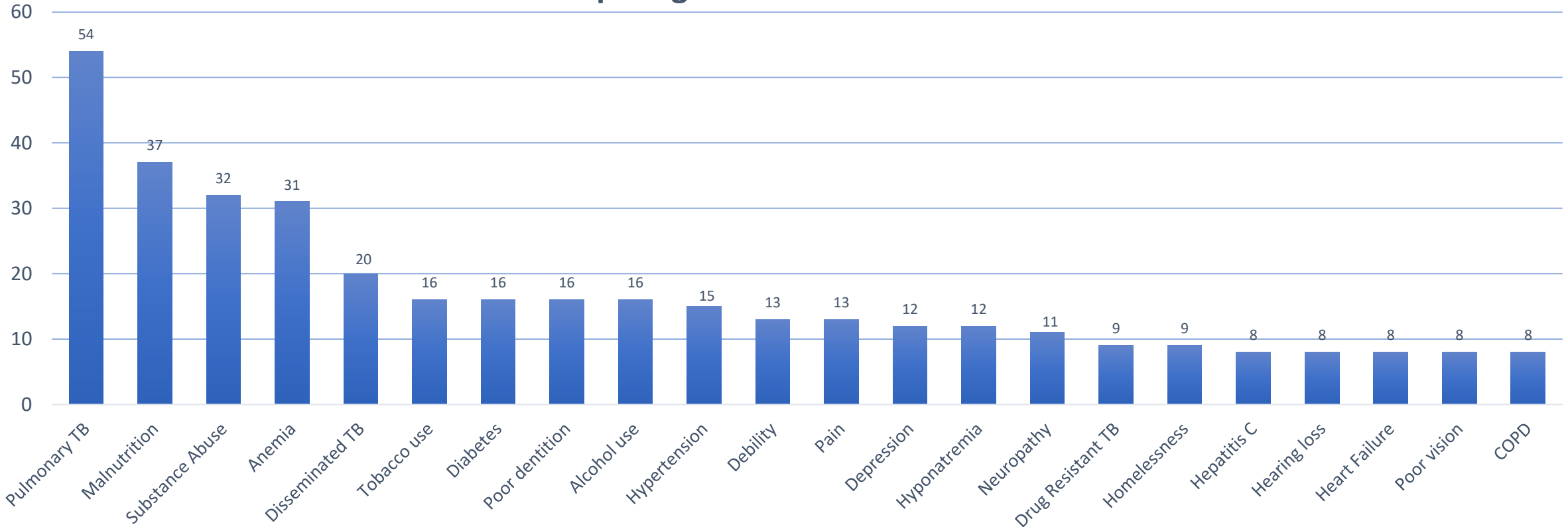
TCID Work – Complex TB Comorbidities and Barriers



TEXAS
Health and Human
Services

Texas Department of State
Health Services

TCID Top Diagnoses for Fiscal Year 2023



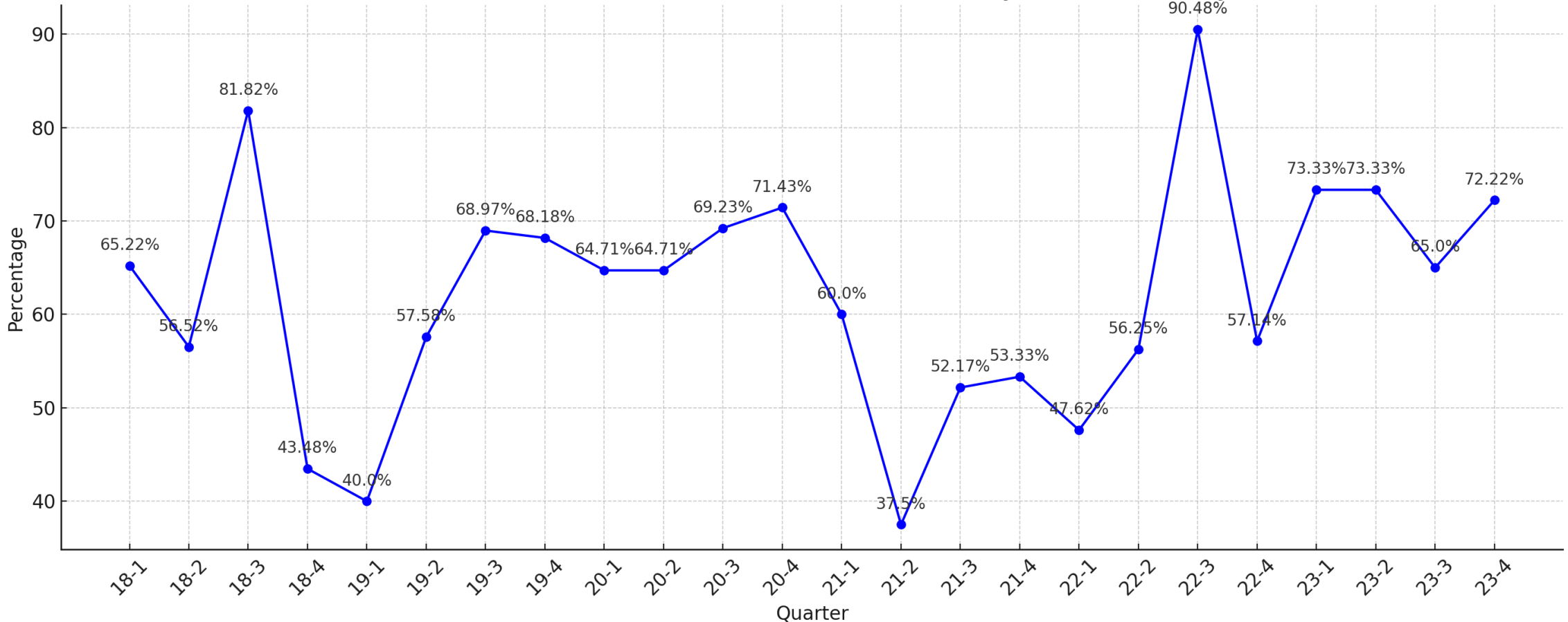
TCID Work – Complex TB Comorbidities and Barriers



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Patients with Mental Health and/or Substance Use History FY2018-2023 by Quarter



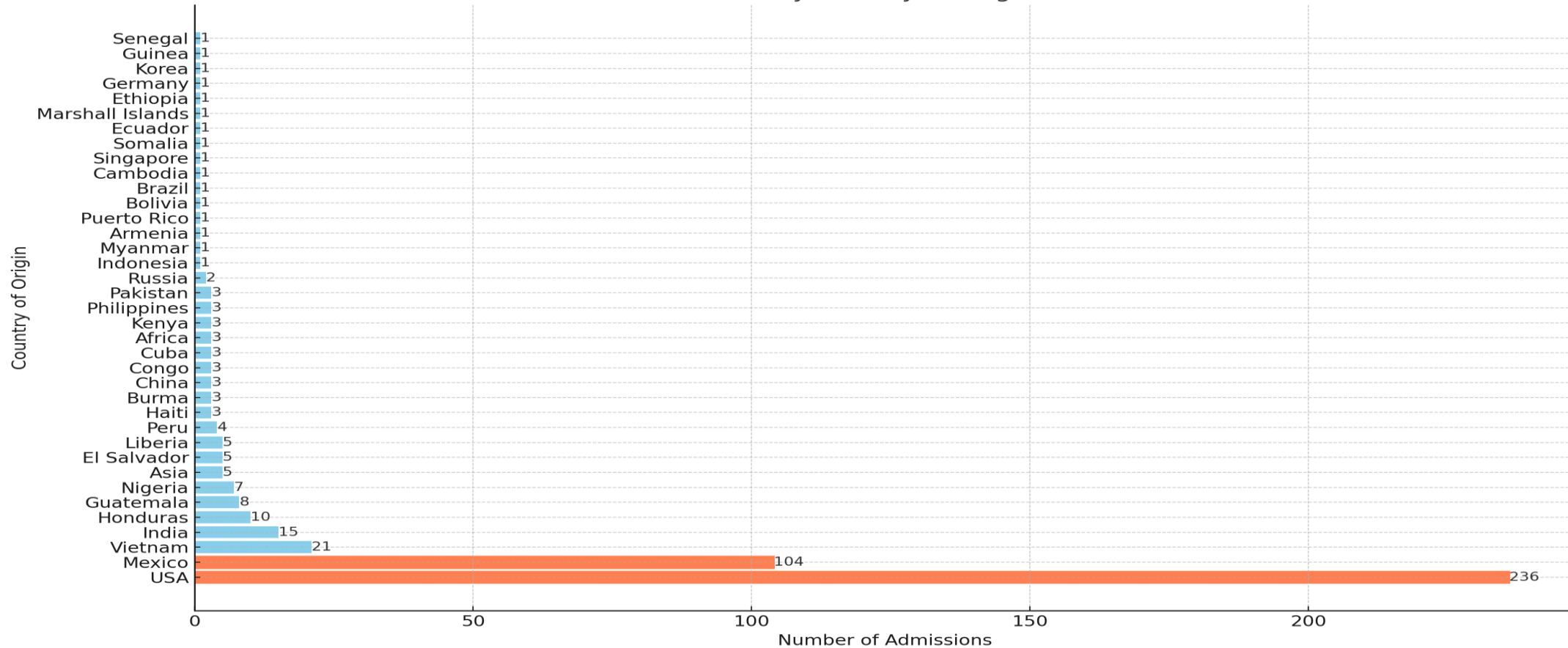
TCID Work – Complex TB Comorbidities and Barriers



TEXAS
Health and Human
Services

Texas Department of State
Health Services

TCID Admissions by Country of Origin FY2018-2023



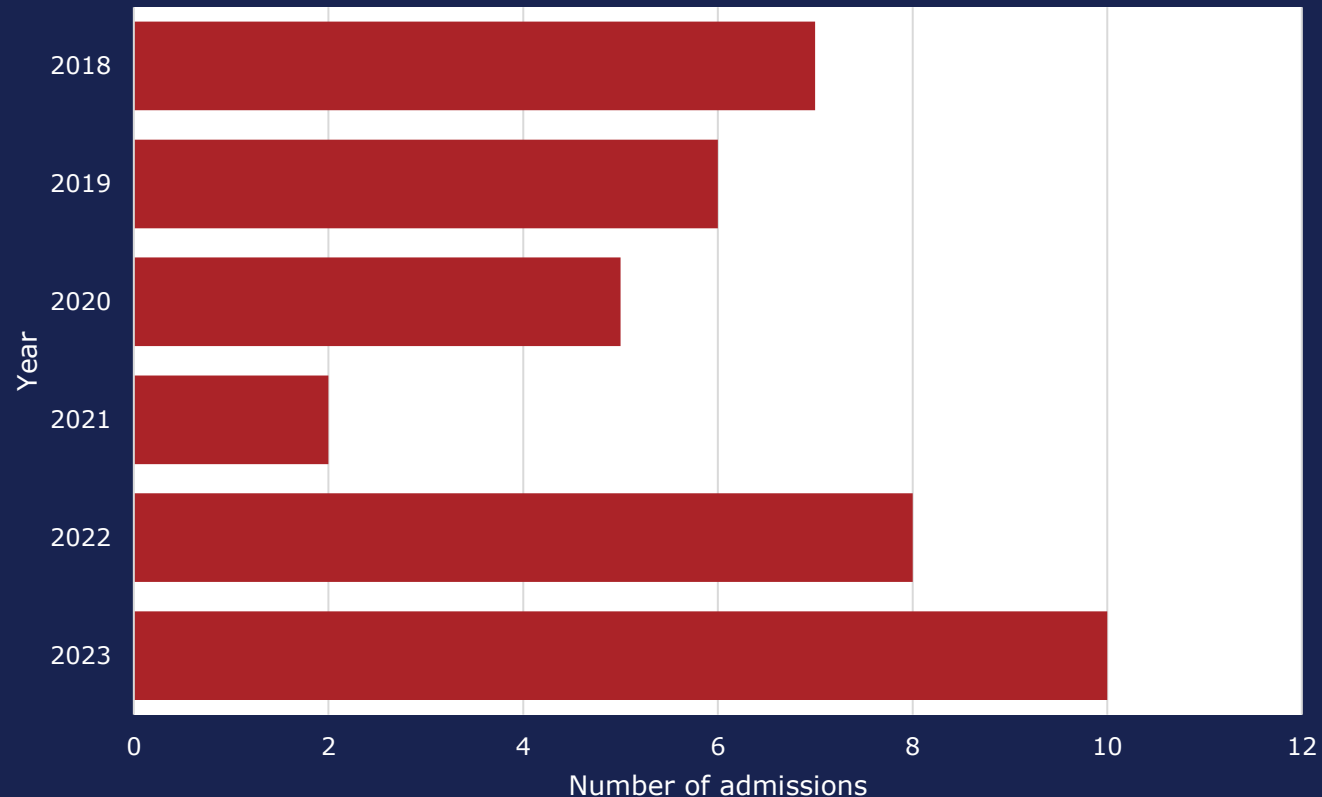
TCID Work – Complex TB Comorbidities and Barriers



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Court Ordered Admissions to TCID by Year



In 2023, TCID saw the highest number of court-ordered patients admitted in the past six years.



TCID - A Comprehensive System

A virtual-interdisciplinary hospital concept

- TCID follows a patient-centered, culturally responsive, multi-disciplinary model.
- TCID provides dental, optical, and hearing care, as well as social service support, through networking systems of over 100 contracts and approximately 25 shared programs.

Specialized TB
Physicians

24/7 Patient Care
Nursing

Behavioral Health
Team

Social Work Services

Chaplain Services

Physical Therapy

Nutrition Services

Quality Management



TCID Work – Addressing Barriers

Since 1/1/2023 TCID Social Workers have provided the following to the 83 patients admitted:

- ID Recovery Services – 33 out of 83 admissions (40%)
- Healthcare Benefits – 27 out of 83 admissions (33%)
- Housing – 10 out of 83 admissions (12%)
- Income Source – 28 out of 83 admissions (34%)
- Legal Representation – 18 out of 83 admissions (22%)
- Advance Directive – 11 out of 83 admissions (13%)
- Patient Work Program – 14 out of 83 admissions (17%)

The TCID Patient Outreach Coordinator and the Community Relations Team have provided:

- Resume Building Courses
- Job Interview Training
- English as a Second Language



TEXAS
Health and Human
Services

Texas Department of State
Health Services

TCID Work as a Training Facility

As the only free-standing TB hospital in the nation, TCID has an opportunity to educate the next generation of community health workers, nurses, physicians, and other public health professionals. This has added thousands of crucial teaching hours to future public health professionals.

In FY2024, TCID has trained:

- 2 DSHS public health fellows
- 4 Nursing Students
- 7 Public Health Interns
- 6 Dietary Interns
- 16 Physician Fellows/Residents



Conclusion

- Texas has a large and complex infrastructure to address TB
- Ongoing challenges
 - Increasing TB cases, with flat funding
 - Medication shortages
 - Increasing medication costs
 - Alternative regimens
 - Difficulty finding, recruiting, and retaining trained staff
- DSHS Goals
 - Quantify benefit to Texas that results from our TB infrastructure
 - Make progress towards TB elimination
 - Finding resources and gaining efficiencies, where we can



TEXAS
Health and Human
Services

**Texas Department of State
Health Services**

Thank you!
