

Texas

Texas Birth Defects Epidemiology and Surveillance Branch (TBDES)

Purpose: Surveillance, Research, Referral to Services, Referral to Prevention/Intervention Services

Partner: Local Health Departments, Hospitals, Environmental Agencies/Organizations, Advocacy Groups, Universities, Early Childhood Prevention Programs, Legislators, Researchers (NBDPN, NBDPS, ICBDSR)

Program status: Currently collecting data

Start year: 1994

Earliest year of available data: 1996

Organizational location: Department of Health (Epidemiology/Environment)

Population covered annually: 390,877 in 2017

Statewide: Yes

Current legislation or rule: Health and Safety Code, Title 2, Subtitle D, Section 1, Chapter 87

Legislation year enacted: 1993

Case Definition

Outcomes covered: All major structural birth defects and fetal alcohol syndrome.

Pregnancy outcome: Livebirths (All gestational ages and birth weights), Fetal deaths - stillbirths, spontaneous abortions, etc. (All gestational ages), Elective terminations (All gestational ages)

Age: Up to one year after delivery and up to 6 years for FAS, special studies and childhood genetic disorders diagnosed after infancy.

Residence: In and out of state births to state residents

Surveillance Methods

Case ascertainment: Active Case Finding, Population-based, includes entire state

Vital records: Fetal death certificates for delivery year 2009 to present

Delivery hospitals: Disease index or discharge index, Discharge summaries, Obstetrics logs (i.e., labor & delivery), Regular nursery logs, ICU/NICU logs or charts, Pediatric logs, Postmortem/pathology logs, Surgery logs, Cardiac catheterization laboratories, Specialty outpatient clinics, Genetics, stillbirths and radiology logs

Pediatric & tertiary care hospitals: Disease index or discharge index, Discharge summaries, ICU/NICU logs or charts, Pediatric logs, Postmortem/pathology logs, Surgery logs, Laboratory logs, Cardiac catheterization laboratories, Specialty outpatient clinics, genetics, stillbirths and radiology logs

Other sources: Midwifery Facilities, Licensed birthing centers

Case Ascertainment

Conditions warranting chart review in newborn period: Any chart with an ICD-9-CM code 740-759/ICD-10-CM code Q00-Q99, Any chart with a selected list of ICD-9-CM codes outside 740-759/ICD-10-CM codes outside Q00-Q99, Any chart with selected defects or medical conditions (i.e. abnormal facies, congenital heart disease), Infants with low birth weight or low gestation (<34 weeks gestational age), All stillborn infants

Conditions warranting chart review beyond the newborn period: CNS condition (e.g. seizure), GI condition (e.g. intestinal blockage), GU condition (e.g. recurrent infections), Cardiovascular condition, Any infant with a codable defect

Coding: CDC coding system based on BPA

Data Collected

Infant/fetus: Identification information (name, address, date-of-birth, etc.), Demographic information (race/ethnicity, sex, etc.), Birth measurements (weight, gestation, Apgars, etc.), Tests and procedures, Infant complications, Birth defect diagnostic information

Mother: Identification information (name, address, date-of-birth, etc.), Demographic information (race/ethnicity, sex, etc.), Gravidity/parity, Illnesses/conditions, Prenatal care, Prenatal diagnostic information, Pregnancy/delivery complications, Family history

Father: Identification information (name, address, date-of-birth, etc.), Demographic information (race/ethnicity, sex, etc.), Family history

Data Collection Methods and Storage

Data collection: Printed abstract/report filled out by staff, Electronic file/report filled out by staff at facility (laptop, web-based, etc.)

Database collection and storage: Oracle

Data Analysis

Data analysis software: SAS, Access

Quality assurance: Validity checks, Re-abstraction of cases, Double-checking of assigned codes, Comparison/verification between multiple data sources, Clinical review, Timeliness, Re-casefinding, re-review of medical records

Data use and analysis: Routine statistical monitoring, Public health program evaluation, Baseline rates, Rates by demographic and other variables, Monitoring outbreaks and cluster investigations, Time trends, Time-space cluster analyses, Capture-recapture analyses, Observed vs. expected analyses, Epidemiological studies (using only program data), Identification of potential cases for other epidemiologic studies, Needs assessment, Service delivery, Referral, Grant proposals, Education/public awareness, Prevention projects, Link registry to vital records for demographic data, special projects linking to other files (Texas Health Data for geocodes, Newborn Screening data).

System Integration

System links: Link to other state registries/databases, Link to environmental databases, Statewide hospital discharge datasets

Funding

Funding source: 94% MCH funds, 6% CDC grant

Other

Web site: <https://www.dshs.texas.gov/birthdefects/>

Surveillance reports on file: See website for publication and surveillance reports

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DATA TABLES

Texas
Birth Defects Counts and Prevalence 2014 - 2017 (Prevalence per 10,000 Live Births)

Defect	Maternal Race/Ethnicity					Total*	Notes
	White, Non-Hispanic	Black, Non-Hispanic	Hispanic	Asian or Pacific Islander, Non-Hispanic	American Indian or Alaska Native, Non-Hispanic		
Anencephalus	93 <i>1.8</i>	35 <i>1.9</i>	202 <i>2.7</i>	15 <i>1.8</i>	0 <i>0.0</i>	358 <i>2.3</i>	
Anophthalmia/microphthalmia	132 <i>2.5</i>	54 <i>2.9</i>	222 <i>3.0</i>	20 <i>2.4</i>	0 <i>0.0</i>	437 <i>2.8</i>	
Anotia/microtia	126 <i>2.4</i>	40 <i>2.1</i>	438 <i>5.9</i>	22 <i>2.7</i>	0 <i>0.0</i>	634 <i>4.0</i>	
Aortic valve stenosis	134 <i>2.5</i>	24 <i>1.3</i>	176 <i>2.4</i>	10 <i>1.2</i>	0 <i>0.0</i>	350 <i>2.2</i>	
Atrial septal defect	4,236 <i>79.8</i>	1,758 <i>94.0</i>	7,406 <i>99.0</i>	502 <i>61.0</i>	19 <i>66.1</i>	14,137 <i>89.4</i>	
Atrioventricular septal defect (Endocardial cushion defect)	248 <i>4.7</i>	115 <i>6.1</i>	342 <i>4.6</i>	24 <i>2.9</i>	3 <i>10.4</i>	745 <i>4.7</i>	
Biliary atresia	28 <i>0.5</i>	20 <i>1.1</i>	53 <i>0.7</i>	9 <i>1.1</i>	1 <i>3.5</i>	114 <i>0.7</i>	
Bladder exstrophy	11 <i>0.2</i>	3 <i>0.2</i>	2 <i>0.0</i>	1 <i>0.1</i>	0 <i>0.0</i>	17 <i>0.1</i>	
Choanal atresia	79 <i>1.5</i>	27 <i>1.4</i>	100 <i>1.3</i>	4 <i>0.5</i>	0 <i>0.0</i>	214 <i>1.4</i>	1
Cleft lip alone	236 <i>4.4</i>	45 <i>2.4</i>	230 <i>3.1</i>	25 <i>3.0</i>	0 <i>0.0</i>	546 <i>3.5</i>	
Cleft lip with cleft palate	383 <i>7.2</i>	92 <i>4.9</i>	581 <i>7.8</i>	47 <i>5.7</i>	5 <i>17.4</i>	1,123 <i>7.1</i>	
Cleft palate alone	334 <i>6.3</i>	82 <i>4.4</i>	429 <i>5.7</i>	54 <i>6.6</i>	0 <i>0.0</i>	917 <i>5.8</i>	
Cloacal exstrophy	0 <i>0.0</i>	0 <i>0.0</i>	3 <i>0.0</i>	0 <i>0.0</i>	0 <i>0.0</i>	3 <i>0.0</i>	
Clubfoot	1,023 <i>19.3</i>	358 <i>19.1</i>	1,405 <i>18.8</i>	106 <i>12.9</i>	4 <i>13.9</i>	2,947 <i>18.6</i>	
Coarctation of the aorta	351 <i>6.6</i>	60 <i>3.2</i>	421 <i>5.6</i>	32 <i>3.9</i>	0 <i>0.0</i>	873 <i>5.5</i>	
Common truncus (truncus arteriosus)	22 <i>0.4</i>	13 <i>0.7</i>	53 <i>0.7</i>	6 <i>0.7</i>	0 <i>0.0</i>	95 <i>0.6</i>	
Congenital cataract	125 <i>2.4</i>	44 <i>2.4</i>	144 <i>1.9</i>	16 <i>1.9</i>	0 <i>0.0</i>	333 <i>2.1</i>	
Congenital posterior urethral valves	64 <i>2.4</i>	25 <i>2.6</i>	66 <i>1.7</i>	13 <i>3.1</i>	1 <i>6.8</i>	174 <i>2.2</i>	2
Craniosynostosis	428 <i>8.1</i>	69 <i>3.7</i>	445 <i>5.9</i>	28 <i>3.4</i>	3 <i>10.4</i>	986 <i>6.2</i>	
Deletion 22q11.2	49 <i>0.9</i>	23 <i>1.2</i>	75 <i>1.0</i>	5 <i>0.6</i>	0 <i>0.0</i>	156 <i>1.0</i>	
Diaphragmatic hernia	148 <i>2.8</i>	36 <i>1.9</i>	226 <i>3.0</i>	19 <i>2.3</i>	0 <i>0.0</i>	434 <i>2.7</i>	
Double outlet right ventricle	121 <i>2.3</i>	46 <i>2.5</i>	188 <i>2.5</i>	17 <i>2.1</i>	0 <i>0.0</i>	377 <i>2.4</i>	
Ebstein anomaly	34 <i>0.6</i>	8 <i>0.4</i>	71 <i>0.9</i>	7 <i>0.9</i>	0 <i>0.0</i>	122 <i>0.8</i>	
Encephalocele	39 <i>0.7</i>	34 <i>1.8</i>	65 <i>0.9</i>	1 <i>0.1</i>	0 <i>0.0</i>	143 <i>0.9</i>	
Esophageal atresia/tracheoesophageal fistula	137 <i>2.6</i>	46 <i>2.5</i>	158 <i>2.1</i>	16 <i>1.9</i>	1 <i>3.5</i>	365 <i>2.3</i>	
Gastroschisis	296 <i>5.6</i>	60 <i>3.2</i>	439 <i>5.9</i>	11 <i>1.3</i>	2 <i>7.0</i>	827 <i>5.2</i>	
Holoprosencephaly	39 <i>0.7</i>	18 <i>1.0</i>	87 <i>1.2</i>	4 <i>0.5</i>	1 <i>3.5</i>	149 <i>0.9</i>	
Hypoplastic left heart syndrome	142 <i>2.7</i>	39 <i>2.1</i>	180 <i>2.4</i>	8 <i>1.0</i>	0 <i>0.0</i>	373 <i>2.4</i>	
Hypospadias	2,601 <i>95.7</i>	862 <i>90.8</i>	1,924 <i>50.4</i>	289 <i>68.4</i>	14 <i>94.6</i>	5,815 <i>72.0</i>	2
Interrupted aortic arch	32 <i>0.6</i>	23 <i>1.2</i>	67 <i>0.9</i>	3 <i>0.4</i>	0 <i>0.0</i>	129 <i>0.8</i>	

Texas
Birth Defects Counts and Prevalence 2014 - 2017 (Prevalence per 10,000 Live Births)

Defect	Maternal Race/Ethnicity					Total*	Notes
	White, Non-Hispanic	Black, Non-Hispanic	Hispanic	Asian or Pacific Islander, Non-Hispanic	American Indian or Alaska Native, Non-Hispanic		
Limb deficiencies (reduction defects)	303 5.7	112 6.0	405 5.4	32 3.9	2 7.0	880 5.6	
Omphalocele	123 2.3	42 2.2	177 2.4	13 1.6	1 3.5	362 2.3	
Pulmonary valve atresia and stenosis	427 8.0	212 11.3	781 10.4	56 6.8	1 3.5	1,509 9.5	
Pulmonary valve atresia	64 1.2	25 1.3	110 1.5	11 1.3	0 0.0	211 1.3	3
Rectal and large intestinal atresia/stenosis	267 5.0	73 3.9	438 5.9	41 5.0	0 0.0	837 5.3	
Renal agenesis/hypoplasia	353 6.6	127 6.8	547 7.3	46 5.6	0 0.0	1,095 6.9	
Single ventricle	39 0.7	10 0.5	75 1.0	5 0.6	0 0.0	130 0.8	
Small intestinal atresia/stenosis	175 3.3	68 3.6	294 3.9	23 2.8	2 7.0	573 3.6	
Spina bifida without anencephalus	187 3.5	51 2.7	317 4.2	9 1.1	0 0.0	575 3.6	
Tetralogy of Fallot	269 5.1	114 6.1	390 5.2	38 4.6	1 3.5	831 5.3	4
Total anomalous pulmonary venous connection	70 1.3	24 1.3	153 2.0	19 2.3	1 3.5	268 1.7	
Transposition of the great arteries (TGA)	196 3.7	35 1.9	233 3.1	18 2.2	0 0.0	489 3.1	
Dextro-transposition of great arteries (d-TGA)	166 3.1	30 1.6	199 2.7	16 1.9	0 0.0	418 2.6	
Tricuspid valve atresia and stenosis	97 1.8	43 2.3	184 2.5	19 2.3	1 3.5	349 2.2	
Tricuspid valve atresia	47 0.9	13 0.7	57 0.8	10 1.2	1 3.5	130 0.8	
Trisomy 13	58 1.1	27 1.4	80 1.1	5 0.6	0 0.0	176 1.1	
Trisomy 18	106 2.0	52 2.8	206 2.8	20 2.4	2 7.0	394 2.5	
Trisomy 21 (Down syndrome)	639 12.0	219 11.7	1,219 16.3	87 10.6	3 10.4	2,210 14.0	
Turner syndrome	67 2.6	9 1.0	108 2.9	12 3.0	0 0.0	202 2.6	5
Ventricular septal defect	3,282 61.8	1,037 55.4	5,868 78.4	420 51.1	19 66.1	10,793 68.2	6
Total live births	530,929	187,095	748,409	82,269	2,873	1,581,796	
Male live births	271,922	94,948	382,069	42,274	1,480	808,162	
Female live births	259,007	92,147	366,340	39,995	1,393	773,634	

Texas
Birth Defects Counts and Prevalence 2014 - 2017 (Prevalence per 10,000 Live Births)

Defect	Maternal Age (Years)		Total*	Notes
	Less than 35	35+		
Gastroschisis	809 <i>6.0</i>	18 <i>0.8</i>	827 <i>5.2</i>	
Trisomy 13	114 <i>0.8</i>	62 <i>2.7</i>	176 <i>1.1</i>	
Trisomy 18	195 <i>1.4</i>	199 <i>8.7</i>	394 <i>2.5</i>	
Trisomy 21 (Down syndrome)	1,109 <i>8.2</i>	1,101 <i>48.2</i>	2,210 <i>14.0</i>	
Total live births	1,353,415	228,266	1,581,796	

Notes

1. Data for this condition may include stenosis.
2. Data for this condition include male and unknown gender cases only. Prevalence is calculated per 10,000 male live births.
3. Data for this condition exclude pulmonary valve atresia with co-occurring ventricular septal defect or tetralogy of Fallot.
4. Data for this condition include any pulmonary valve atresia with co-occurring ventricular septal defect.
5. Data for this condition include female and unknown gender cases only. Prevalence is calculated per 10,000 female live births.
6. Data for this condition include inlet ventricular septal defect.

General comments

*Data for totals include unknown and/or other.

-Data for conditions exclude probable and possible cases.