

**OCCURRENCE OF BIRTH DEFECTS IN THE SAN JACINTO RIVER WASTE PIT
AREA
COMPARED TO THE STATE OF TEXAS**

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OBJECTIVE

Compare occurrence of birth defects among deliveries to residents of the designated San Jacinto River Waste Pit (SJRWP) area with their occurrence in the state of Texas, both crude and adjusted for maternal age, maternal race/ethnicity, and sex of infant.

WHAT WE DID (METHODS)

Data Sources

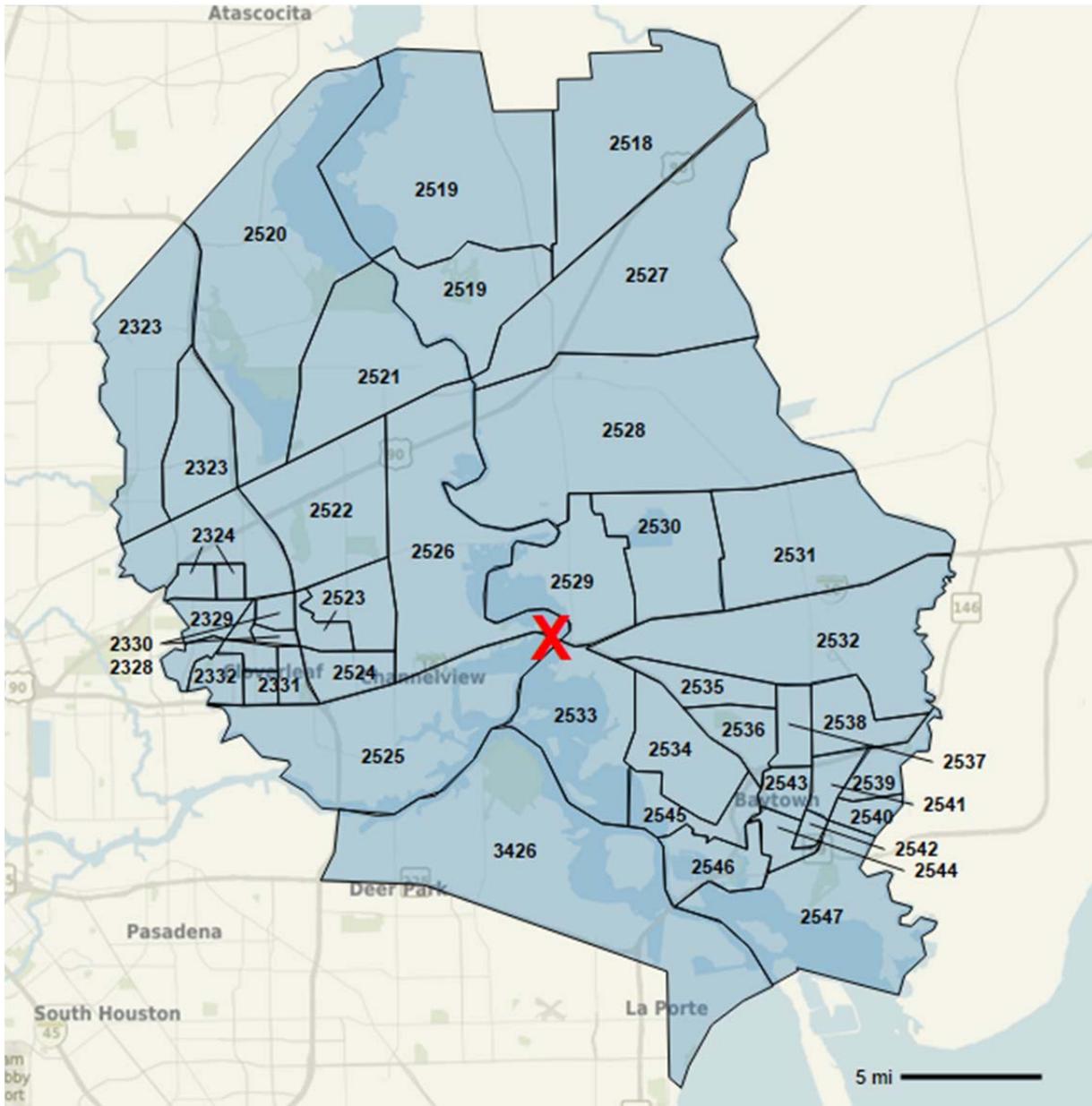
We analyzed data on children and pregnancies affected by birth defects from the Texas Birth Defects Registry (TBDR). This is an active surveillance system, which means staff regularly visit health care facilities to examine medical records instead of relying on facilities to report cases. We looked at data from 1999 (the first year the Registry was statewide) to 2011 (the most recent year of complete cleaned data).

We examined all categories of birth defects with at least five cases among deliveries to residents of the SJRWP area; this approach acknowledged that we do not know what causes most birth defects, and was a balance between trying to be comprehensive but limiting to at least five cases in order to have statistical precision. The result was 100 categories of birth defects, including one category for infants and fetuses with one or more birth defects of any kind.

Data on live births were also taken from 1999-2011, and were originally provided by the Center for Health Statistics.

From consultation with the community, the SJRWP area was defined as the area within the census tracts pictured in Figure 1. Whether a mother lived inside this area was based on her residence at the time of delivery. Because of how the area was defined, we only included records for which the mother's residence at delivery had been successfully assigned to a census tract (90.3% of TBDR data and 92.4% of birth data).

Figure 1. Census tracts (2000) selected for the San Jacinto River Waste Pits Superfund site birth defects investigation for the years 1999-2011.



Some census tracts were subdivided in the 2010 census; these subdivision boundaries are shown. X Indicates waste pits site.

Data Analysis

For each of the 100 categories of birth defects examined, occurrence in the SJRWP area was compared with occurrence in the entire state of Texas using Poisson regression. This approach is commonly used for rare events such as birth defects. The result is called a birth prevalence ratio, which is equivalent to comparing the birth prevalence (the number of cases per

10,000 live births) in the SJRWP area with the birth prevalence in the state of Texas. If there is no difference, the ratio is 1.00. If a birth defect occurs more frequently among births in the SJRWP area than in Texas overall, the ratio is higher than 1.00; if less frequently, the ratio is less than 1.00.

We also calculated the 95% confidence interval (CI) for each birth prevalence ratio. The 95% CI gives the range within which we would expect the true underlying ratio (which we can only estimate from the data) to fall 95% of the time. If the 95% CI does not include 1.00, then we conclude that the birth prevalence ratio is “statistically significantly” different from 1.00; in other words, the occurrence of that birth defect in the SJRWP area differs from Texas more than we would expect due to chance alone.

Birth prevalence ratios were calculated both crude (unadjusted) and adjusted for three characteristics that might differ in the two areas and that might explain a difference in birth defect occurrence: mother’s age, mother’s race/ethnicity, and sex of infant.

WHAT WE FOUND (RESULTS)

During 1999-2011, there were 53,899 live births to residents of the SJRWP area, which was 1.17% of the total live births to Texas residents for which census tract was known (4,591,616). Among deliveries to residents of the SJRWP area, there were 1,826 infants and fetuses with one or more birth defects, giving a birth prevalence of 338.8 cases per 10,000 live births. The whole state had 192,181 infants or fetuses with one or more birth defects, yielding a birth prevalence of 418.5 cases per 10,000 live births.

Dividing 338.8 by 418.5 resulted in a birth prevalence ratio of 0.81 (95% CI 0.77-0.85). This means that birth defects occurred less frequently among births to residents of the SJRWP area than in Texas overall; the birth prevalence of infants and fetuses with one or more birth defects in the SJRWP area was 81% of the birth prevalence for Texas as a whole, but the percentage could have ranged from 77% to 85%. Because the ratio (0.81) was less than 1.00 and the 95% CI did not include 1.00, the occurrence of birth defects in the SJRWP area was lower than in Texas, to a statistically significant extent.

After adjusting for mother’s age, mother’s race/ethnicity, and sex of infant, the birth prevalence ratio for infants and fetuses with one or more birth defects was 0.82 (95% CI 0.74-0.90), still significantly lower in the SJRWP area than in Texas.

After adjustment, there were two categories of birth defects that occurred more frequently among births in the SJRWP area than in Texas as a whole (Table 1).

Table 1. Birth defects with statistically significantly higher occurrence in the SJRWP area than in the state of Texas, 1999-2011, adjusted for maternal age, maternal race/ethnicity, and sex of infant.

BIRTH DEFECT	NUMBER ADJUSTED BIRTH PREVALENCE		
	OF CASES*	RATIO	95% CONF INTERVAL
Unspecified anomalies of heart	34	1.61	1.16 - 2.17
Other hamartoses, not elsewhere classified	6	2.09	1.06 - 3.63

* Total number in the SJRWP area, before adjustment.

There were 36 categories of birth defects with statistically significantly lower occurrence in the SJRWP area (Table 2).

Table 2. Birth defects with statistically significantly lower occurrence in the SJRWP area than in the state of Texas, 1999-2011, adjusted for maternal age, maternal race/ethnicity, and sex of infant.

BIRTH DEFECT	NUMBER ADJUSTED BIRTH PREVALENCE		
	OF CASES*	RATIO	95% CONF INTERVAL
Hemangioma, of unspecified site	33	0.56	0.38 - 0.79
Abnormalities of jaw size - micro/macrognaethia	46	0.67	0.47 - 0.94
Congenital hydrocephalus	24	0.64	0.42 - 0.92
Other specified anomalies of brain	42	0.57	0.37 - 0.82
Coloboma, other anomalies of anterior segments	6	0.41	0.17 - 0.80
Cong anom of eyelids, lacrimal system, and orbit	23	0.64	0.38 - 0.98
Anomalies of ear causing impairment of hearing	8	0.43	0.20 - 0.77
Other specified anomalies of ear	54	0.42	0.29 - 0.57
Other specified anomalies of face and neck	17	0.57	0.34 - 0.90
Ventricular septal defect	237	0.80	0.68 - 0.94
Ostium secundum type atrial septal defect	437	0.78	0.67 - 0.89
Patent ductus arteriosus (PDA)	204	0.71	0.58 - 0.85
Anomalies of pulmonary artery	81	0.66	0.50 - 0.86
Anomalies of great veins	18	0.59	0.35 - 0.91
Other anomalies of peripheral vascular system	6	0.43	0.19 - 0.81
Other specified anomalies of mouth and pharynx	16	0.55	0.32 - 0.87
Atresia and stenosis of small intestine	7	0.40	0.16 - 0.82
Anomalies of intestinal fixation	9	0.49	0.26 - 0.83
Anom of cervix, vagina, ext female genitalia	25	0.52	0.37 - 0.69
Other specified anomalies of male genital organs	61	0.77	0.61 - 0.95
Other specified anomalies of bladder and urethra	7	0.52	0.23 - 0.98
Certain anomalies of skull, face, and jaw	81	0.38	0.28 - 0.49
Varus (inward) deformities of feet	33	0.65	0.46 - 0.88
Valgus (outward) deformities of feet	10	0.37	0.20 - 0.62
Other specified cong musculoskeletal deformities	24	0.48	0.28 - 0.76
Other anom of upper limb, inc shoulder girdle	16	0.50	0.29 - 0.79
Other anom of lower limb, inc pelvic girdle	39	0.44	0.29 - 0.62
Other specified anomalies of unspecified limb	18	0.58	0.38 - 0.83
Anomalies of skull and face bones	86	0.69	0.52 - 0.89
Anomalies of spine	15	0.51	0.30 - 0.80
Other anomalies of ribs and sternum	8	0.35	0.16 - 0.67
Other spec anom of muscle, tendon, conn tissue	27	0.39	0.25 - 0.57
Other specified anomalies of skin	12	0.25	0.14 - 0.41
Specified anomalies of nails	9	0.50	0.22 - 0.97
Down syndrome	44	0.68	0.49 - 0.92
Infants and fetuses with one or more birth defects	1826	0.82	0.74 - 0.90

* Total number in the SJRWP area, before adjustment.

Birth defects not shown in Tables 1 or 2 were not statistically significantly different in the SJRWP area than in Texas. More detailed results can be found in the appendices.

CONCLUSIONS

One hundred categories of birth defects had at least five cases delivered to mothers residing in the SJRWP area, and their occurrence in that area was compared with their occurrence in the state of Texas.

The occurrence of infants and fetuses with one or more birth defects was lower in the SJRWP area than in Texas as a whole, to a statistically significant extent.

Two birth defect categories were significantly higher in the area. One of these categories, “unspecified anomalies of heart” is a heterogeneous collection of unspecified heart defects. “Other hamartoses, not elsewhere classified” include congenital syndromes and conditions, the primary feature of which is hamartomata (disorganized benign masses of the cells and tissue normally found at the site of growth). This birth defect category is also a heterogeneous collection of conditions. Because both of these categories are heterogeneous collections of conditions, it would not be productive to investigate them further.

Thirty-five specific categories of birth defects (other than the category “infants and fetuses with one or more birth defects”) were significantly lower in the area, as compared to Texas as a whole.

ACKNOWLEDGEMENTS

Thanks to Mary Ethen, MPH, for help in designing the analysis and reviewing the report.

Appendix 1. Occurrence of birth defects in the San Jacinto River Waste Pit (SJRWP) area compared to the state of Texas, 1999-2011: Crude birth prevalence ratios with 95% confidence limits.

defect	cases ¹	prevratio ²	LCL ³	UCL ³ sig ⁴
228.0 Hemangioma, of unspecified site	33	0.54	0.38	0.75 Low
228.1 Cystic hygroma, lymphangioma any site	5	0.56	0.20	1.21
426.7 Congenital Wolfe-Parkinson-White syndrome	5	1.93	0.69	4.20
524.0 Abnormalities of jaw size - micro/macrogathia	46	0.67	0.49	0.88 Low
550.9 Inguinal hernia with no obstruction, no gangrene	23	0.99	0.64	1.46
740.0 Anencephalus	5	0.59	0.21	1.27
741 Spina bifida	26	1.40	0.92	2.01
742.1 Microcephalus	48	0.88	0.66	1.16
742.2 Reduction deformities of brain	29	0.74	0.50	1.04
742.3 Congenital hydrocephalus	24	0.65	0.42	0.95 Low
742.4 Other specified anomalies of brain	42	0.55	0.40	0.74 Low
742.5 Other specified anomalies of spinal cord	12	0.98	0.52	1.65
743.1 Microphthalmos	10	0.69	0.34	1.21
743.3 Congenital cataract and lens anomalies	9	0.85	0.41	1.53
743.4 Coloboma, other anomalies of anterior segments	6	0.42	0.17	0.84 Low
743.5 Cong anom of posterior segment	6	0.58	0.23	1.18
743.6 Cong anom of eyelids, lacrimal system, and orbit	23	0.62	0.40	0.91 Low
744.0 Anomalies of ear causing impairment of hearing	8	0.42	0.19	0.78 Low
744.2 Other specified anomalies of ear	54	0.41	0.31	0.53 Low
744.8 Other specified anomalies of face and neck	17	0.56	0.33	0.87 Low
744.9 Unspecified anomalies of face and neck	35	0.71	0.50	0.97 Low
745.1 Transposition of great vessels	26	0.97	0.64	1.39
745.2 Tetralogy of Fallot	16	0.84	0.49	1.33
745.4 Ventricular septal defect	237	0.80	0.70	0.91 Low
745.5 Ostium secundum type atrial septal defect	437	0.77	0.70	0.85 Low
745.6 Endocardial cushion defects	21	0.94	0.59	1.41
746.0 Anomalies of pulmonary valve	50	0.85	0.64	1.11
746.1 Tricuspid atresia and stenosis	14	0.84	0.47	1.36
746.2 Ebsteins anomaly	5	1.34	0.48	2.90
746.3 Congenital stenosis of aortic valve	9	0.71	0.34	1.28
746.4 Congenital insufficiency of aortic valve	13	0.72	0.40	1.19
746.5 Congenital mitral stenosis	25	1.27	0.83	1.84
746.7 Hypoplastic left heart syndrome	12	1.08	0.58	1.83
746.8 Other specified anomalies of the heart	157	0.99	0.84	1.16
746.9 Unspecified anomalies of heart	34	1.58	1.10	2.18 High
747.0 Patent ductus arteriosus (PDA)	204	0.71	0.62	0.81 Low
747.1 Coarctation of aorta	25	0.96	0.63	1.39
747.2 Other anomalies of aorta	49	0.77	0.57	1.01
747.3 Anomalies of pulmonary artery	81	0.68	0.55	0.85 Low
747.4 Anomalies of great veins	18	0.59	0.36	0.91 Low
747.6 Other anomalies of peripheral vascular system	6	0.43	0.17	0.87 Low
748.0 Choanal atresia	7	1.09	0.47	2.11
748.3 Other anomalies of larynx, trachea, and bronchus	11	0.90	0.47	1.55
748.4 Congenital cystic lung	5	1.16	0.42	2.52
748.5 Agenesis or aplasia of lung	14	0.78	0.44	1.27
749.0 Cleft palate alone	30	0.96	0.66	1.35
749.1 Cleft lip alone with/without cleft palate	51	0.92	0.69	1.20
750.1 Other anomalies of tongue	16	0.85	0.49	1.33
750.2 Other specified anomalies of mouth and pharynx	16	0.56	0.33	0.88 Low

Appendix 1 (continued). Occurrence of birth defects in the San Jacinto River Waste Pit (SJRWP) area compared to the state of Texas, 1999-2011: Crude birth prevalence ratios with 95% confidence limits.

defect	cases ¹	prevratio ²	LCL ³	UCL ³ sig ⁴
750.3 T-E fistula, esophageal atresia and stenosis	6	0.54	0.21	1.09
750.5 Congenital hypertrophic pyloric stenosis	121	1.24	1.03	1.47 High
751.1 Atresia and stenosis of small intestine	7	0.41	0.17	0.79 Low
751.2 Atr/sten of lg intestine, rectum and anal canal	28	1.02	0.69	1.45
751.4 Anomalies of intestinal fixation	9	0.49	0.23	0.88 Low

751.5	Other anomalies of intestine	18	0.80	0.49	1.24
751.6	Anomalies of gallbladder, bile ducts, and liver	7	0.86	0.37	1.67
752.0	Anomalies of ovaries	7	1.06	0.46	2.07
752.4	Anom of cervix, vagina, ext female genitalia	25	0.55	0.36	0.80 Low
752.5	Undescended testicle	104	1.02	0.83	1.23
752.6	Hypospadias and epispadias	187	0.99	0.85	1.14
752.8	Other specified anomalies of male genital organs	61	0.73	0.56	0.93 Low
753.0	Renal agenesis and dysgenesis	28	0.94	0.63	1.34
753.1	Cystic kidney disease	30	0.91	0.62	1.28
753.2	Obstructive defects of renal pelvis and ureter	211	1.00	0.87	1.14
753.3	Other specified anomalies of kidney	22	0.66	0.42	0.97 Low
753.4	Other specified anomalies of ureter	32	0.64	0.45	0.90 Low
753.6	Atresia and stenosis of urethra and bladder neck	5	0.62	0.22	1.34
753.8	Other specified anomalies of bladder and urethra	7	0.51	0.22	0.99 Low
754.0	Certain anomalies of skull, face, and jaw	81	0.36	0.29	0.44 Low
754.3	Congenital dislocation of hip	19	0.78	0.48	1.19
754.4	Congenital genu recurvatum, bowing of leg bones	10	0.81	0.41	1.43
754.5	Varus (inward) deformities of feet	33	0.67	0.46	0.92 Low
754.6	Valgus (outward) deformities of feet	10	0.37	0.18	0.65 Low
754.7	Other deformities of feet	84	1.09	0.87	1.34
754.8	Other specified cong musculoskeletal deformities	24	0.47	0.31	0.69 Low
755.0	Polydactyly	121	1.17	0.97	1.39
755.1	Syndactyly	38	0.91	0.65	1.23
755.2	Reduction defects of upper limb	16	0.75	0.44	1.19
755.3	Reduction defects of lower limb	5	0.51	0.18	1.10
755.5	Other anom of upper limb, inc shoulder girdle	16	0.49	0.29	0.77 Low
755.6	Other anom of lower limb, inc pelvic girdle	39	0.43	0.31	0.57 Low
755.8	Other specified anomalies of unspecified limb	18	0.60	0.36	0.93 Low
756.0	Anomalies of skull and face bones	86	0.68	0.55	0.84 Low
756.1	Anomalies of spine	15	0.51	0.29	0.81 Low
756.3	Other anomalies of ribs and sternum	8	0.36	0.16	0.66 Low
756.6	Anomalies of diaphragm	15	0.83	0.48	1.32
756.70	Omphalocele	10	1.05	0.52	1.85
756.71	Gastroschisis	30	1.15	0.78	1.61
756.8	Other spec anom of muscle, tendon, conn tissue	27	0.36	0.24	0.51 Low
757.3	Other specified anomalies of skin	12	0.26	0.14	0.43 Low
757.5	Specified anomalies of nails	9	0.49	0.24	0.89 Low
758.0	Down syndrome	44	0.64	0.47	0.85 Low
758.2	Edwards syndrome	7	0.69	0.30	1.34
758.3	Autosomal deletion syndromes	14	1.04	0.59	1.70
758.5	Other conditions due to autosomal anomalies	15	1.14	0.66	1.83
759.0	Anomalies of spleen	6	0.88	0.35	1.79
759.3	Situs inversus	9	1.22	0.58	2.20
759.6	Other hamartoses, not elsewhere classified	6	2.02	0.80	4.14
759.8	Other specified anomalies and syndromes	15	0.67	0.39	1.08
888.8	Any monitored congenital anomaly ⁵	1826	0.81	0.77	0.85 Low

Appendix 1 footnotes:

1. Cases: Number of infants and fetuses with the specified birth defect in the SJRWP area
2. Prevratio: Crude (unadjusted) birth prevalence ratio (birth prevalence in the SJRWP area divided by birth prevalence for Texas)
3. LCL = Lower 95% confidence limit for the crude birth prevalence ratio; UCL = Upper 95% confidence limit for the crude birth prevalence ratio. The interval from the LCL to the UCL is the 95% confidence interval for the crude birth prevalence ratio.
4. Sig: Low = Crude birth prevalence is statistically significantly lower in the SJRWP area than in Texas as a whole; High = Crude birth prevalence is statistically significantly higher in the SJRWP area than in Texas as a whole.
5. Infants and fetuses with one or more birth defects

Appendix 2. Occurrence of birth defects in the San Jacinto River Waste Pit (SJRWP) area compared to the state of Texas, 1999-2011: Birth prevalence ratios adjusted for maternal age, maternal race/ethnicity, and sex of infant, with 95% confidence limits

defect	prevratio ¹	LCL ²	UCL ²	sig ³
228.0 Hemangioma, of unspecified site	0.56	0.38	0.79	Low
228.1 Cystic hygroma, lymphangioma any site	0.57	0.23	1.14	
426.7 Congenital Wolfe-Parkinson-White syndrome	2.03	0.83	4.07	
524.0 Abnormalities of jaw size - micro/macrogathia	0.67	0.47	0.94	Low
550.9 Inguinal hernia with no obstruction, no gangrene	0.98	0.61	1.49	
740.0 Anencephalus	0.57	0.12	1.61	
741 Spina bifida	1.38	0.94	1.94	
742.1 Microcephalus	0.85	0.59	1.18	
742.2 Reduction deformities of brain	0.73	0.49	1.04	
742.3 Congenital hydrocephalus	0.64	0.42	0.92	Low
742.4 Other specified anomalies of brain	0.57	0.37	0.82	Low
742.5 Other specified anomalies of spinal cord	0.99	0.54	1.63	
743.1 Microphthalmos	0.70	0.37	1.20	
743.3 Congenital cataract and lens anomalies	0.84	0.42	1.50	
743.4 Coloboma, other anomalies of anterior segments	0.41	0.17	0.80	Low
743.5 Cong anom of posterior segment	0.58	0.26	1.10	
743.6 Cong anom of eyelids, lacrimal system, and orbit	0.64	0.38	0.98	Low
744.0 Anomalies of ear causing impairment of hearing	0.43	0.20	0.77	Low
744.2 Other specified anomalies of ear	0.42	0.29	0.57	Low
744.8 Other specified anomalies of face and neck	0.57	0.34	0.90	Low
744.9 Unspecified anomalies of face and neck	0.72	0.48	1.04	
745.1 Transposition of great vessels	0.98	0.64	1.44	
745.2 Tetralogy of Fallot	0.86	0.44	1.48	
745.4 Ventricular septal defect	0.80	0.68	0.94	Low
745.5 Ostium secundum type atrial septal defect	0.78	0.67	0.89	Low
745.6 Endocardial cushion defects	0.98	0.62	1.48	
746.0 Anomalies of pulmonary valve	0.83	0.58	1.15	
746.1 Tricuspid atresia and stenosis	0.84	0.38	1.59	
746.2 Ebsteins anomaly	1.37	0.54	2.83	
746.3 Congenital stenosis of aortic valve	0.65	0.27	1.27	
746.4 Congenital insufficiency of aortic valve	0.71	0.43	1.10	
746.5 Congenital mitral stenosis	1.29	0.85	1.86	
746.7 Hypoplastic left heart syndrome	1.09	0.66	1.68	
746.8 Other specified anomalies of the heart	0.99	0.79	1.22	
746.9 Unspecified anomalies of heart	1.61	1.16	2.17	High
747.0 Patent ductus arteriosus (PDA)	0.71	0.58	0.85	Low
747.1 Coarctation of aorta	0.98	0.67	1.38	
747.2 Other anomalies of aorta	0.78	0.53	1.09	
747.3 Anomalies of pulmonary artery	0.66	0.50	0.86	Low
747.4 Anomalies of great veins	0.59	0.35	0.91	Low
747.6 Other anomalies of peripheral vascular system	0.43	0.19	0.81	Low
748.0 Choanal atresia	1.11	0.52	2.05	
748.3 Other anomalies of larynx, trachea, and bronchus	0.91	0.48	1.53	
748.4 Congenital cystic lung	1.17	0.49	2.32	
748.5 Agenesis or aplasia of lung	0.77	0.41	1.32	
749.0 Cleft palate alone	0.99	0.65	1.45	
749.1 Cleft lip alone with/without cleft palate	0.93	0.65	1.29	
750.1 Other anomalies of tongue	0.86	0.47	1.44	
750.2 Other specified anomalies of mouth and pharynx	0.55	0.32	0.87	Low
750.3 T-E fistula, esophageal atresia and stenosis	0.56	0.23	1.12	
750.5 Congenital hypertrophic pyloric stenosis	1.23	0.98	1.51	
751.1 Atresia and stenosis of small intestine	0.40	0.16	0.82	Low
751.2 Atr/sten of lg intestine, rectum and anal canal	1.04	0.73	1.44	
751.4 Anomalies of intestinal fixation	0.49	0.26	0.83	Low
751.5 Other anomalies of intestine	0.77	0.45	1.21	
751.6 Anomalies of gallbladder, bile ducts, and liver	0.86	0.40	1.59	
752.0 Anomalies of ovaries	1.09	0.50	2.01	
752.4 Anom of cervix, vagina, ext female genitalia	0.52	0.37	0.69	Low
752.5 Undescended testicle	1.01	0.81	1.24	
752.6 Hypospadias and epispadias	1.04	0.92	1.17	
752.8 Other specified anomalies of male genital organs	0.77	0.61	0.95	Low
753.0 Renal agenesis and dysgenesis	0.94	0.64	1.34	
753.1 Cystic kidney disease	0.91	0.57	1.36	
753.2 Obstructive defects of renal pelvis and ureter	1.01	0.87	1.18	

defect	prevratio ¹	LCL ²	UCL ²	sig ³	
753.3	Other specified anomalies of kidney	0.66	0.36	1.09	
753.4	Other specified anomalies of ureter	0.68	0.43	1.01	
753.6	Atresia and stenosis of urethra and bladder neck	0.64	0.26	1.31	
753.8	Other specified anomalies of bladder and urethra	0.52	0.23	0.98	Low
754.0	Certain anomalies of skull, face, and jaw	0.38	0.28	0.49	Low
754.3	Congenital dislocation of hip	0.82	0.49	1.26	
754.4	Congenital genu recurvatum, bowing of leg bones	0.76	0.31	1.52	
754.5	Varus (inward) deformities of feet	0.65	0.46	0.88	Low
754.6	Valgus (outward) deformities of feet	0.37	0.20	0.62	Low
754.7	Other deformities of feet	1.09	0.86	1.36	
754.8	Other specified cong musculoskeletal deformities	0.48	0.28	0.76	Low
755.0	Polydactyly	1.08	0.84	1.35	
755.1	Syndactyly	0.90	0.54	1.39	
755.2	Reduction defects of upper limb	0.71	0.40	1.15	
755.3	Reduction defects of lower limb	0.51	0.12	1.34	
755.5	Other anom of upper limb, inc shoulder girdle	0.50	0.29	0.79	Low
755.6	Other anom of lower limb, inc pelvic girdle	0.44	0.29	0.62	Low
755.8	Other specified anomalies of unspecified limb	0.58	0.38	0.83	Low
756.0	Anomalies of skull and face bones	0.69	0.52	0.89	Low
756.1	Anomalies of spine	0.51	0.30	0.80	Low
756.3	Other anomalies of ribs and sternum	0.35	0.16	0.67	Low
756.6	Anomalies of diaphragm	0.82	0.41	1.46	
756.70	Omphalocele	1.08	0.57	1.82	
756.71	Gastroschisis	1.07	0.79	1.42	
756.8	Other spec anom of muscle, tendon, conn tissue	0.39	0.25	0.57	Low
757.3	Other specified anomalies of skin	0.25	0.14	0.41	Low
757.5	Specified anomalies of nails	0.50	0.22	0.97	Low
758.0	Down syndrome	0.68	0.49	0.92	Low
758.2	Edwards syndrome	0.73	0.34	1.35	
758.3	Autosomal deletion syndromes	1.05	0.64	1.62	
758.5	Other conditions due to autosomal anomalies	1.18	0.71	1.84	
759.0	Anomalies of spleen	0.87	0.36	1.70	
759.3	Situs inversus	1.18	0.57	2.11	
759.6	Other hamartoses, not elsewhere classified	2.09	1.06	3.63	High
759.8	Other specified anomalies and syndromes	0.70	0.38	1.15	
888.8	Any monitored congenital anomaly ⁴	0.82	0.74	0.90	Low

Appendix 2 footnotes:

1. Prevratio: Adjusted birth prevalence ratio (birth prevalence in the SJRWP area divided by birth prevalence for Texas, adjusted for maternal age, maternal race/ethnicity, and sex of infant)

2. LCL = Lower 95% confidence limit for the adjusted birth prevalence ratio; UCL = Upper 95% confidence limit for the adjusted birth prevalence ratio. The interval from the LCL to the UCL is the 95% confidence interval for the adjusted birth prevalence ratio.

3. Sig: Low = Adjusted birth prevalence is statistically significantly lower in the SJRWP area than in Texas as a whole; High = Adjusted birth prevalence is statistically significantly higher in the SJRWP area than in Texas as a whole.

4. Infants and fetuses with one or more birth defects