

Texas Birth Defects Registry (TBDR) Annual Report

Table 3. Prevalence of Selected Birth Defects by Mother's Age, Texas, 1999–2020

Birth Defect (Body System)	Mother's Age	Cases (count)	Prevalence (rate)	Confidence Interval (95% for Prevalence)
Central Nervous System				
Anencephaly* [p<0.0001]	<20 years	300	3.12	2.77 – 3.47
	20-24 years	579	2.64	2.43 – 2.86
	25-29 years	589	2.52	2.32 – 2.73
	30-34 years	413	2.19	1.98 – 2.40
	35-39 years	176	2.00	1.71 – 2.30
	40+ years	49	2.54	1.88 – 3.36
Spina bifida without anencephaly* [p=0.0236]	<20 years	324	3.37	3.00 – 3.74
	20-24 years	789	3.60	3.35 – 3.85
	25-29 years	863	3.69	3.45 – 3.94
	30-34 years	714	3.79	3.51 – 4.07
	35-39 years	354	4.03	3.61 – 4.45
	40+ years	94	4.88	3.94 – 5.97
Encephalocele* [p=0.0021]	<20 years	117	1.22	1.00 – 1.44
	20-24 years	224	1.02	0.89 – 1.16
	25-29 years	202	0.86	0.75 – 0.98
	30-34 years	150	0.80	0.67 – 0.92
	35-39 years	95	1.08	0.88 – 1.32
	40+ years	26	1.35	0.88 – 1.98
Microcephaly, severe (head circumference <3 rd percentile)* [p<0.0001]	<20 years	624	6.49	5.98 – 7.00
	20-24 years	1,205	5.49	5.18 – 5.81
	25-29 years	1,045	4.47	4.20 – 4.75
	30-34 years	805	4.27	3.98 – 4.57
	35-39 years	452	5.15	4.67 – 5.62
	40+ years	154	7.99	6.73 – 9.26
Holoprosencephaly* [p=0.0005]	<20 years	113	1.18	0.96 – 1.39
	20-24 years	209	0.95	0.82 – 1.08
	25-29 years	224	0.96	0.83 – 1.08
	30-34 years	187	0.99	0.85 – 1.14
	35-39 years	115	1.31	1.07 – 1.55
	40+ years	37	1.92	1.35 – 2.65
Hydrocephaly without spina bifida* [p<0.0001]	<20 years	871	9.06	8.46 – 9.66
	20-24 years	1,663	7.58	7.22 – 7.95
	25-29 years	1,766	7.56	7.21 – 7.91
	30-34 years	1,447	7.68	7.29 – 8.08
	35-39 years	798	9.09	8.45 – 9.72
	40+ years	256	13.29	11.66 – 14.91
Eye and Ear				
Anophthalmia* [p=0.0001]	<20 years	50	0.52	0.39 – 0.69
	20-24 years	54	0.25	0.18 – 0.32
	25-29 years	62	0.27	0.20 – 0.34
	30-34 years	42	0.22	0.16 – 0.30
	35-39 years	26	0.30	0.19 – 0.43
	40+ years	12	0.62	0.32 – 1.09

Birth Defect (Body System)	Mother's Age	Cases (count)	Prevalence (rate)	Confidence Interval (95% for Prevalence)
Microphthalmia* [p<0.0001]	<20 years	237	2.47	2.15 – 2.78
	20-24 years	519	2.37	2.16 – 2.57
	25-29 years	555	2.38	2.18 – 2.57
	30-34 years	506	2.69	2.45 – 2.92
	35-39 years	326	3.71	3.31 – 4.11
	40+ years	163	8.46	7.16 – 9.76
Cataract* [p<0.0001]	<20 years	170	1.77	1.50 – 2.03
	20-24 years	406	1.85	1.67 – 2.03
	25-29 years	447	1.91	1.74 – 2.09
	30-34 years	344	1.83	1.63 – 2.02
	35-39 years	193	2.20	1.89 – 2.51
	40+ years	70	3.63	2.83 – 4.59
Anotia or microtia* [p<0.0001]	<20 years	290	3.02	2.67 – 3.36
	20-24 years	738	3.37	3.12 – 3.61
	25-29 years	780	3.34	3.11 – 3.57
	30-34 years	712	3.78	3.50 – 4.06
	35-39 years	375	4.27	3.84 – 4.70
	40+ years	107	5.55	4.50 – 6.61
Cardiac and Circulatory				
Common truncus* [p=0.0428]	<20 years	63	0.66	0.50 – 0.84
	20-24 years	159	0.73	0.61 – 0.84
	25-29 years	161	0.69	0.58 – 0.80
	30-34 years	160	0.85	0.72 – 0.98
	35-39 years	79	0.90	0.71 – 1.12
	40+ years	23	1.19	0.76 – 1.79
Transposition of the great vessels* [p<0.0001]	<20 years	281	2.92	2.58 – 3.27
	20-24 years	662	3.02	2.79 – 3.25
	25-29 years	803	3.44	3.20 – 3.68
	30-34 years	672	3.57	3.30 – 3.84
	35-39 years	333	3.79	3.38 – 4.20
	40+ years	91	4.72	3.80 – 5.80
Double outlet right ventricle* [p<0.0001]	<20 years	207	2.15	1.86 – 2.45
	20-24 years	439	2.00	1.81 – 2.19
	25-29 years	529	2.26	2.07 – 2.46
	30-34 years	405	2.15	1.94 – 2.36
	35-39 years	261	2.97	2.61 – 3.33
	40+ years	106	5.50	4.45 – 6.55
Tetralogy of Fallot* [p<0.0001]	<20 years	317	3.30	2.94 – 3.66
	20-24 years	758	3.46	3.21 – 3.70
	25-29 years	839	3.59	3.35 – 3.84
	30-34 years	762	4.05	3.76 – 4.33
	35-39 years	480	5.46	4.98 – 5.95
	40+ years	181	9.39	8.03 – 10.76

Birth Defect (Body System)	Mother's Age	Cases (count)	Prevalence (rate)	Confidence Interval (95% for Prevalence)
Ventricular septal defect* [p<0.0001]	<20 years	5,148	53.56	52.10 – 55.02
	20-24 years	12,148	55.40	54.41 – 56.38
	25-29 years	13,342	57.12	56.15 – 58.09
	30-34 years	11,741	62.34	61.21 – 63.47
	35-39 years	6,931	78.91	77.05 – 80.77
	40+ years	2,235	116.00	111.19 – 120.81
Atrial septal defect* [p<0.0001]	<20 years	6,219	64.70	63.10 – 66.31
	20-24 years	14,638	66.75	65.67 – 67.83
	25-29 years	15,611	66.84	65.79 – 67.88
	30-34 years	12,978	68.91	67.72 – 70.10
	35-39 years	7,799	88.79	86.82 – 90.76
	40+ years	2,745	142.47	137.14 – 147.80
Atrioventricular septal defect (endocardial cushion defect)* [p<0.0001]	<20 years	323	3.36	2.99 – 3.73
	20-24 years	721	3.29	3.05 – 3.53
	25-29 years	819	3.51	3.27 – 3.75
	30-34 years	791	4.20	3.91 – 4.49
	35-39 years	659	7.50	6.93 – 8.08
	40+ years	368	19.10	17.15 – 21.05
Pulmonary valve atresia or stenosis* [p<0.0001]	<20 years	880	9.16	8.55 – 9.76
	20-24 years	2,096	9.56	9.15 – 9.97
	25-29 years	2,143	9.17	8.79 – 9.56
	30-34 years	1,901	10.09	9.64 – 10.55
	35-39 years	1,048	11.93	11.21 – 12.65
	40+ years	332	17.23	15.38 – 19.09
Tricuspid valve atresia or stenosis* [p<0.0001]	<20 years	152	1.58	1.33 – 1.83
	20-24 years	410	1.87	1.69 – 2.05
	25-29 years	406	1.74	1.57 – 1.91
	30-34 years	353	1.87	1.68 – 2.07
	35-39 years	198	2.25	1.94 – 2.57
	40+ years	72	3.74	2.92 – 4.71
Ebstein anomaly* [p=0.0008]	<20 years	65	0.68	0.52 – 0.86
	20-24 years	142	0.65	0.54 – 0.75
	25-29 years	177	0.76	0.65 – 0.87
	30-34 years	150	0.80	0.67 – 0.92
	35-39 years	73	0.83	0.65 – 1.04
	40+ years	32	1.66	1.14 – 2.34
Aortic valve stenosis* [p<0.0001]	<20 years	171	1.78	1.51 – 2.05
	20-24 years	495	2.26	2.06 – 2.46
	25-29 years	546	2.34	2.14 – 2.53
	30-34 years	480	2.55	2.32 – 2.78
	35-39 years	276	3.14	2.77 – 3.51
	40+ years	62	3.22	2.47 – 4.13

Birth Defect (Body System)	Mother's Age	Cases (count)	Prevalence (rate)	Confidence Interval (95% for Prevalence)
Hypoplastic left heart syndrome* [p=0.006]	<20 years	199	2.07	1.78 – 2.36
	20-24 years	473	2.16	1.96 – 2.35
	25-29 years	536	2.29	2.10 – 2.49
	30-34 years	424	2.25	2.04 – 2.47
	35-39 years	195	2.22	1.91 – 2.53
	40+ years	70	3.63	2.83 – 4.59
Patent ductus arteriosus* [p<0.0001]	<20 years	4,841	50.37	48.95 – 51.79
	20-24 years	11,349	51.75	50.80 – 52.70
	25-29 years	12,598	53.94	52.99 – 54.88
	30-34 years	10,868	57.71	56.62 – 58.79
	35-39 years	6,887	78.41	76.56 – 80.26
	40+ years	2,725	141.43	136.12 – 146.74
Coarctation of the aorta* [p<0.0001]	<20 years	448	4.66	4.23 – 5.09
	20-24 years	999	4.56	4.27 – 4.84
	25-29 years	1,270	5.44	5.14 – 5.74
	30-34 years	985	5.23	4.90 – 5.56
	35-39 years	571	6.50	5.97 – 7.03
	40+ years	195	10.12	8.70 – 11.54
Respiratory				
Choanal atresia or stenosis* [p=0.0003]	<20 years	98	1.02	0.83 – 1.24
	20-24 years	256	1.17	1.02 – 1.31
	25-29 years	276	1.18	1.04 – 1.32
	30-34 years	278	1.48	1.30 – 1.65
	35-39 years	129	1.47	1.22 – 1.72
	40+ years	39	2.02	1.44 – 2.77
Agenesis, aplasia, or hypoplasia of the lung* [p=0.0005]	<20 years	328	3.41	3.04 – 3.78
	20-24 years	670	3.06	2.82 – 3.29
	25-29 years	678	2.90	2.68 – 3.12
	30-34 years	488	2.59	2.36 – 2.82
	35-39 years	276	3.14	2.77 – 3.51
	40+ years	75	3.89	3.06 – 4.88
Oral Clefts				
Cleft palate alone (without cleft lip)* [p<0.0001]	<20 years	477	4.96	4.52 – 5.41
	20-24 years	1,254	5.72	5.40 – 6.03
	25-29 years	1,392	5.96	5.65 – 6.27
	30-34 years	1,098	5.83	5.49 – 6.17
	35-39 years	610	6.94	6.39 – 7.50
	40+ years	180	9.34	7.98 – 10.71
Cleft lip with or without cleft palate* [p<0.0001]	<20 years	1,115	11.60	10.92 – 12.28
	20-24 years	2,379	10.85	10.41 – 11.28
	25-29 years	2,362	10.11	9.70 – 10.52
	30-34 years	1,921	10.20	9.74 – 10.66
	35-39 years	975	11.10	10.40 – 11.80
	40+ years	321	16.66	14.84 – 18.48

Birth Defect (Body System)	Mother's Age	Cases (count)	Prevalence (rate)	Confidence Interval (95% for Prevalence)
Gastrointestinal				
Tracheoesophageal fistula/esophageal atresia* [p<0.0001]	<20 years	217	2.26	1.96 – 2.56
	20-24 years	412	1.88	1.70 – 2.06
	25-29 years	432	1.85	1.68 – 2.02
	30-34 years	423	2.25	2.03 – 2.46
	35-39 years	255	2.90	2.55 – 3.26
	40+ years	107	5.55	4.50 – 6.61
Pyloric stenosis* [p<0.0001]	<20 years	2,153	22.40	21.45 – 23.35
	20-24 years	4,107	18.73	18.16 – 19.30
	25-29 years	3,543	15.17	14.67 – 15.67
	30-34 years	2,479	13.16	12.64 – 13.68
	35-39 years	1,102	12.55	11.81 – 13.29
	40+ years	203	10.54	9.09 – 11.99
Stenosis or atresia of the small intestine* [p<0.0001]	<20 years	406	4.22	3.81 – 4.63
	20-24 years	732	3.34	3.10 – 3.58
	25-29 years	673	2.88	2.66 – 3.10
	30-34 years	534	2.84	2.59 – 3.08
	35-39 years	363	4.13	3.71 – 4.56
	40+ years	167	8.67	7.35 – 9.98
Stenosis or atresia of large intestine, rectum, or anal canal* [p<0.0001]	<20 years	536	5.58	5.10 – 6.05
	20-24 years	1,135	5.18	4.87 – 5.48
	25-29 years	1,126	4.82	4.54 – 5.10
	30-34 years	969	5.15	4.82 – 5.47
	35-39 years	559	6.36	5.84 – 6.89
	40+ years	169	8.77	7.45 – 10.09
Hirschsprung disease* [p<0.0001]	<20 years	111	1.15	0.94 – 1.37
	20-24 years	330	1.50	1.34 – 1.67
	25-29 years	317	1.36	1.21 – 1.51
	30-34 years	241	1.28	1.12 – 1.44
	35-39 years	168	1.91	1.62 – 2.20
	40+ years	46	2.39	1.75 – 3.18
Biliary atresia	<20 years	69	0.72	0.56 – 0.91
	20-24 years	172	0.78	0.67 – 0.90
	25-29 years	158	0.68	0.57 – 0.78
	30-34 years	125	0.66	0.55 – 0.78
	35-39 years	61	0.69	0.53 – 0.89
	40+ years	18	0.93	0.55 – 1.48
Genitourinary				
Hypospadias (among males)* [p<0.0001]	<20 years	2,585	52.48	50.46 – 54.51
	20-24 years	6,170	55.13	53.76 – 56.51
	25-29 years	7,512	62.87	61.45 – 64.29
	30-34 years	6,566	68.26	66.61 – 69.91
	35-39 years	3,194	71.10	68.64 – 73.57
	40+ years	772	78.68	73.13 – 84.23

Birth Defect (Body System)	Mother's Age	Cases (count)	Prevalence (rate)	Confidence Interval (95% for Prevalence)
Epispadias	<20 years	73	0.76	0.60 – 0.95
	20-24 years	206	0.94	0.81 – 1.07
	25-29 years	247	1.06	0.93 – 1.19
	30-34 years	184	0.98	0.84 – 1.12
	35-39 years	92	1.05	0.84 – 1.28
	40+ years	18	0.93	0.55 – 1.48
Renal agenesis or dysgenesis* [p<0.0001]	<20 years	550	5.72	5.24 – 6.20
	20-24 years	1,299	5.92	5.60 – 6.25
	25-29 years	1,513	6.48	6.15 – 6.80
	30-34 years	1,226	6.51	6.15 – 6.87
	35-39 years	689	7.84	7.26 – 8.43
	40+ years	188	9.76	8.36 – 11.15
Bladder exstrophy	<20 years	19	0.20	0.12 – 0.31
	20-24 years	39	0.18	0.13 – 0.24
	25-29 years	37	0.16	0.11 – 0.22
	30-34 years	32	0.17	0.12 – 0.24
	35-39 years	18	0.20	0.12 – 0.32
	40+ years	3	0.16	0.03 – 0.46
Musculoskeletal				
Congenital hip dislocation without hip dysplasia* [p<0.0001]	<20 years	208	2.16	1.87 – 2.46
	20-24 years	507	2.31	2.11 – 2.51
	25-29 years	551	2.36	2.16 – 2.56
	30-34 years	505	2.68	2.45 – 2.92
	35-39 years	270	3.07	2.71 – 3.44
	40+ years	80	4.15	3.29 – 5.17
Talipes equinovarus/clubfoot* [p<0.0001]	<20 years	1,625	16.91	16.08 – 17.73
	20-24 years	3,688	16.82	16.27 – 17.36
	25-29 years	3,748	16.05	15.53 – 16.56
	30-34 years	2,953	15.68	15.11 – 16.25
	35-39 years	1,535	17.48	16.60 – 18.35
	40+ years	463	24.03	21.84 – 26.22
Reduction defects of the upper limbs* [p<0.0001]	<20 years	509	5.30	4.84 – 5.76
	20-24 years	912	4.16	3.89 – 4.43
	25-29 years	899	3.85	3.60 – 4.10
	30-34 years	725	3.85	3.57 – 4.13
	35-39 years	332	3.78	3.37 – 4.19
	40+ years	123	6.38	5.26 – 7.51
Reduction defects of the lower limbs* [p<0.0001]	<20 years	264	2.75	2.42 – 3.08
	20-24 years	424	1.93	1.75 – 2.12
	25-29 years	464	1.99	1.81 – 2.17
	30-34 years	322	1.71	1.52 – 1.90
	35-39 years	141	1.61	1.34 – 1.87
	40+ years	43	2.23	1.62 – 3.01

Birth Defect (Body System)	Mother's Age	Cases (count)	Prevalence (rate)	Confidence Interval (95% for Prevalence)
Craniosynostosis* [p<0.0001]	<20 years	379	3.94	3.55 – 4.34
	20-24 years	1,031	4.70	4.41 – 4.99
	25-29 years	1,309	5.60	5.30 – 5.91
	30-34 years	1,205	6.40	6.04 – 6.76
	35-39 years	619	7.05	6.49 – 7.60
	40+ years	172	8.93	7.59 – 10.26
Achondroplasia* [p<0.0001]	<20 years	14	0.15	0.08 – 0.24
	20-24 years	58	0.26	0.20 – 0.34
	25-29 years	88	0.38	0.30 – 0.46
	30-34 years	91	0.48	0.39 – 0.59
	35-39 years	38	0.43	0.31 – 0.59
	40+ years	18	0.93	0.55 – 1.48
Diaphragmatic hernia	<20 years	259	2.69	2.37 – 3.02
	20-24 years	586	2.67	2.46 – 2.89
	25-29 years	670	2.87	2.65 – 3.09
	30-34 years	505	2.68	2.45 – 2.92
	35-39 years	271	3.09	2.72 – 3.45
	40+ years	68	3.53	2.74 – 4.47
Omphalocele* [p<0.0001]	<20 years	211	2.20	1.90 – 2.49
	20-24 years	418	1.91	1.72 – 2.09
	25-29 years	451	1.93	1.75 – 2.11
	30-34 years	378	2.01	1.80 – 2.21
	35-39 years	242	2.76	2.41 – 3.10
	40+ years	121	6.28	5.16 – 7.40
Gastroschisis* [p<0.0001]	<20 years	1,559	16.22	15.41 – 17.03
	20-24 years	1,770	8.07	7.70 – 8.45
	25-29 years	672	2.88	2.66 – 3.09
	30-34 years	219	1.16	1.01 – 1.32
	35-39 years	76	0.87	0.68 – 1.08
	40+ years	19	0.99	0.59 – 1.54
Chromosomal				
Trisomy 21 (Down syndrome)* [p<0.0001]	<20 years	718	7.47	6.92 – 8.02
	20-24 years	1,506	6.87	6.52 – 7.21
	25-29 years	1,744	7.47	7.12 – 7.82
	30-34 years	2,274	12.07	11.58 – 12.57
	35-39 years	3,145	35.81	34.55 – 37.06
	40+ years	2,307	119.74	114.85 – 124.62
Trisomy 13 (Patau syndrome)* [p<0.0001]	<20 years	69	0.72	0.56 – 0.91
	20-24 years	189	0.86	0.74 – 0.98
	25-29 years	200	0.86	0.74 – 0.97
	30-34 years	199	1.06	0.91 – 1.20
	35-39 years	213	2.43	2.10 – 2.75
	40+ years	98	5.09	4.13 – 6.20

Birth Defect (Body System)	Mother's Age	Cases (count)	Prevalence (rate)	Confidence Interval (95% for Prevalence)
Trisomy 18 (Edwards syndrome)* [p<0.0001]	<20 years	126	1.31	1.08 – 1.54
	20-24 years	294	1.34	1.19 – 1.49
	25-29 years	326	1.40	1.24 – 1.55
	30-34 years	339	1.80	1.61 – 1.99
	35-39 years	561	6.39	5.86 – 6.92
	40+ years	479	24.86	22.63 – 27.09
Infants and fetuses with regular reportable birth defects* [p<0.0001]	<20 years	43,491	452.49	448.24 – 456.74
	20-24 years	101,522	462.95	460.10 – 465.79
	25-29 years	111,883	479.01	476.20 – 481.82
	30-34 years	95,913	509.27	506.05 – 512.50
	35-39 years	52,123	593.43	588.33 – 598.52
	40+ years	14,758	765.97	753.61 – 778.33

Prevalence (rate) is expressed as the number of cases per 10,000 live births.

*Statistically significant by Poisson regression [p<0.05].

Please see the Methods section of the Annual Report for additional information:

<https://www.dshs.texas.gov/sites/default/files/birthdefects/annualreport/1999-2020-TBDR-Methods.pdf>

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