



Arkansas Reproductive Health Monitoring System

Summary of Selected Birth Defects in Arkansas For Birth Year of 2013-2017

The Arkansas Reproductive Health Monitoring System (ARHMS) is an active population-based surveillance system for monitoring birth defects. Specially trained, credentialed Health Information Specialists review and abstract medical records to ascertain birth defect cases. ARHMS, also known as the state's birth defect registry, collects a wide range of congenital anomalies including major structural and chromosomal defects. Cases diagnosed prenatally and up to two years old are included and followed up to five years of age. The birth defect registry covers births to residents in all 75 counties of Arkansas. Modified British Pediatric Association codes (which is based on ICD-9-CM) and ICD-10-CM coding systems are used to identify and code diagnoses in the database. At this time, the ARHMS repository is current to the birth year of 2017. This report focuses on the results of the latest five years of data available. The table in this summary reports the prevalence on selected defects from ARHMS. (Most are National Birth Defects Prevention Network (NBDPN) reportable defects).

Yearly averages in Arkansas for 2013-2017

More than 38,040

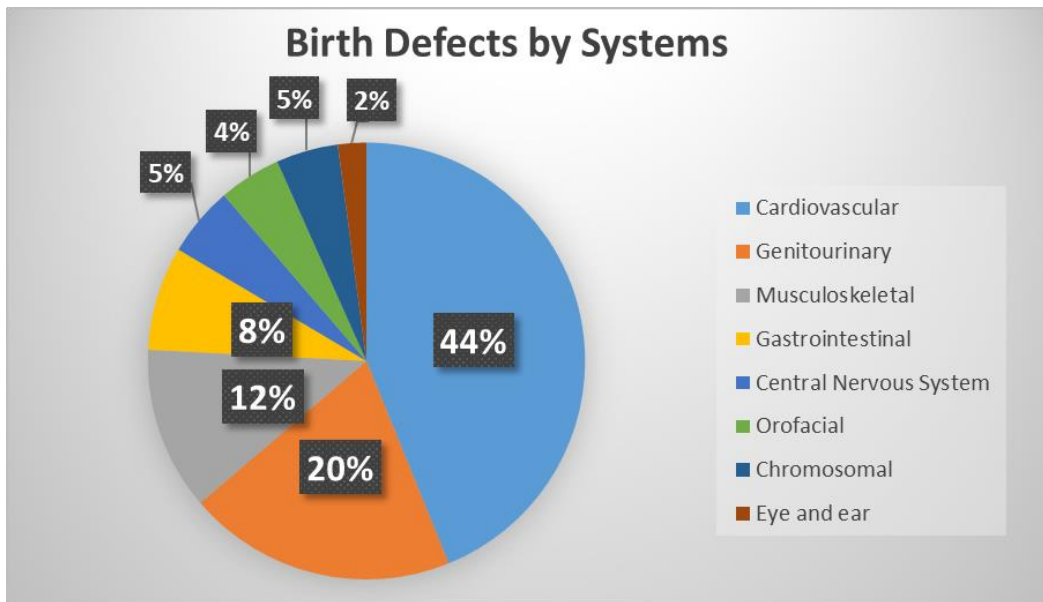
babies are born

1,380

babies born with birth defect(s)

3.6%

births with birth defects



Prevalence of Selected Birth Defects by Diagnosis and Year of Birth for Arkansas, 2013-2017

Defects by Diagnostic Category	2013	2014	2015	2016	2017	2013-17
	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)
Central Nervous System	48 12.8 (9.5, 17)	67 17.4 (13.5, 22.1)	102 26.3 (21.5, 32)	86 22.5 (18, 27.8)	78 20.9 (16.5, 26)	381 20 (18.1, 22.1)
Anencephalus	3 0.8 (0.2, 2.3)	5 1.3 (0.4, 3)	6 1.5 (0.6, 3.4)	5 1.3 (0.4, 3.1)	3 0.8 (0.2, 2.3)	22 1.2 (0.7, 1.8)
Spina bifida without anencephalus	14 3.7 (2, 6.3)	14 3.6 (2, 6.1)	13 3.4 (1.8, 5.7)	14 3.7 (2, 6.1)	11 2.9 (1.5, 5.3)	66 3.5 (2.7, 4.4)
Hydrocephalus without Spina Bifida	20 5.3 (3.3, 8.3)	27 7 (4.6, 10.2)	21 5.4 (3.4, 8.3)	21 5.5 (3.4, 8.4)	28 7.5 (5, 10.8)	117 6.2 (5.1, 7.4)
Encephalocele	2 0.5 (0.1, 1.9)	5 1.3 (0.4, 3)	6 1.5 (0.6, 3.4)	4 1 (0.3, 2.7)	3 0.8 (0.2, 2.3)	20 1.1 (0.6, 1.6)
Microcephalus	8 2.1 (0.9, 4.2)	13 3.4 (1.8, 5.8)	45 11.6 (8.5, 15.6)	39 10.2 (7.3, 13.9)	29 7.8 (5.2, 11.1)	134 7 (5.9, 8.3)
Holoprosencephaly	1 0.3 (0, 1.5)	3 0.8 (0.2, 2.3)	11 2.8 (1.4, 5.1)	3 0.8 (0.2, 2.3)	4 1.1 (0.3, 2.7)	22 1.2 (0.7, 1.8)
Eye	23 6.1 (3.9, 9.2)	16 4.2 (2.4, 6.8)	21 5.4 (3.4, 8.3)	24 6.3 (4, 9.3)	23 6.1 (3.9, 9.2)	107 5.6 (4.6, 6.8)
Anophthalmia/microphthalmia	7 1.9 (0.8, 3.9)	3 0.8 (0.2, 2.3)	8 2.1 (0.9, 4.1)	9 2.4 (1.1, 4.5)	7 1.9 (0.8, 3.9)	34 1.8 (1.2, 2.5)
Congenital cataract	15 4 (2.2, 6.6)	12 3.1 (1.6, 5.5)	12 3.1 (1.6, 5.4)	15 3.9 (2.2, 6.5)	14 3.7 (2, 6.3)	68 3.6 (2.8, 4.5)
Aniridia	1 0.3 (0, 1.5)	1 0.3 (0, 1.4)	1 0.3 (0, 1.4)	0 -	2 0.5 (0.1, 1.9)	5 0.3 (0.1, 0.6)
Ear						
Anotia/microtia	11 2.9 (1.5, 5.3)	16 4.2 (2.4, 6.8)	8 2.1 (0.9, 4.1)	11 2.9 (1.4, 5.1)	13 3.5 (1.9, 5.9)	59 3.1 (2.4, 4)

Prev. =Prevalence per 10,000 live births, 95% CI=95% Confidence Interval, calculated using the exact method.

Defects	2013	2014	2015	2016	2017	2013-17
	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)
Cardiovascular	599 160.1 (147.7, 173.4)	749 194.8 (181.2, 209.1)	709 183.2 (170, 197)	608 159 (146.7, 172.1)	585 156.4 (144.1, 169.5)	3250 170.9 (165.1, 176.8)
Common truncus (truncus arteriosus)	0 -	3 0.8 (0.2, 2.3)	0 -	1 0.3 (0, 1.5)	3 0.8 (0.2, 2.3)	7 0.4 (0.1, 0.8)
Transposition of the great arteries (TGA)	12 3.2 (1.7, 5.6)	8 2.1 (0.9, 4.1)	10 2.6 (1.2, 4.8)	14 3.7 (2, 6.1)	9 2.4 (1.1, 4.6)	53 2.8 (2.1, 3.6)
Tetralogy of Fallot	18 4.8 (2.9, 7.6)	13 3.4 (1.8, 5.8)	19 4.9 (3, 7.7)	24 6.3 (4, 9.3)	16 4.3 (2.4, 6.9)	90 4.7 (3.8, 5.8)
Ventricular septal defect	206 55.1 (47.8, 63.1)	252 65.5 (57.7, 74.1)	262 67.7 (59.8, 76.4)	214 56 (48.7, 64)	209 55.9 (48.6, 64)	1143 60.1 (56.7, 63.7)
Atrial septal defect	111 29.7 (24.4, 35.7)	186 48.4 (41.7, 55.8)	191 49.3 (42.6, 56.8)	145 37.9 (32, 44.6)	125 33.4 (27.8, 39.8)	758 39.9 (37.1, 42.8)
Atrioventricular septal defect (Endocardial cushion defect)	27 7.2 (4.8, 10.5)	27 7 (4.6, 10.2)	33 8.5 (5.9, 12)	31 8.1 (5.5, 11.5)	20 5.3 (3.3, 8.3)	138 7.3 (6.1, 8.6)
Pulmonary valve atresia and stenosis	52 13.9 (10.4, 18.2)	69 17.9 (14, 22.7)	36 9.3 (6.5, 12.9)	39 10.2 (7.3, 13.9)	40 10.7 (7.6, 14.6)	236 12.4 (10.9, 14.1)
Tricuspid valve atresia and stenosis	2 0.5 (0.1, 1.9)	2 0.5 (0.1, 1.9)	0 -	5 1.3 (0.4, 3.1)	1 0.3 (0, 1.5)	10 0.5 (0.3, 1)
Ebstein anomaly	4 1.1 (0.3, 2.7)	8 2.1 (0.9, 4.1)	2 0.5 (0.1, 1.9)	3 0.8 (0.2, 2.3)	7 1.9 (0.8, 3.9)	24 1.3 (0.8, 1.9)
Aortic valve stenosis	13 3.5 (1.9, 5.9)	17 4.4 (2.6, 7.1)	13 3.4 (1.8, 5.7)	10 2.6 (1.3, 4.8)	10 2.7 (1.3, 4.9)	63 3.3 (2.5, 4.2)
Hypoplastic left heart syndrome	13 3.5 (1.9, 5.9)	15 3.9 (2.2, 6.4)	15 3.9 (2.2, 6.4)	16 4.2 (2.4, 6.8)	12 3.2 (1.7, 5.6)	71 3.7 (2.9, 4.7)
Patent ductus arteriosus	92 24.6 (19.8, 30.2)	102 26.5 (21.6, 32.2)	87 22.5 (18, 27.7)	73 19.1 (15, 24)	97 25.9 (21, 31.6)	451 23.7 (21.6, 26)
Coarctation of the aorta	29 7.8 (5.2, 11.1)	21 5.5 (3.4, 8.3)	22 5.7 (3.6, 8.6)	16 4.2 (2.4, 6.8)	21 5.6 (3.5, 8.6)	109 5.7 (4.7, 6.9)

Defects	2013	2014	2015	2016	2017	2013-17
	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)
Total anomalous pulmonary venous connection	3 0.8 (0.2, 2.3)	13 3.4 (1.8, 5.8)	8 2.1 (0.9, 4.1)	6 1.6 (0.6, 3.4)	4 1.1 (0.3, 2.7)	34 1.8 (1.2, 2.5)
Single ventricle	2 0.5 (0.1, 1.9)	4 1 (0.3, 2.7)	1 0.3 (0, 1.4)	1 0.3 (0, 1.5)	1 0.3 (0, 1.5)	9 0.5 (0.2, 0.9)
Interrupted aortic arch	0 -	0 -	1 0.3 (0, 1.4)	2 0.5 (0.1, 1.9)	6 1.6 (0.6, 3.5)	9 0.5 (0.2, 0.9)
Double outlet right ventricle	15 4 (2.2, 6.6)	9 2.3 (1.1, 4.4)	9 2.3 (1.1, 4.4)	8 2.1 (0.9, 4.1)	4 1.1 (0.3, 2.7)	45 2.4 (1.7, 3.2)
Orofacial	75 20.1 (15.8, 25.1)	86 22.4 (17.9, 27.6)	67 17.3 (13.4, 22)	70 18.3 (14.3, 23.1)	63 16.8 (12.9, 21.5)	361 19 (17.1, 21)
Cleft palate alone	32 8.6 (5.9, 12.1)	35 9.1 (6.3, 12.7)	27 7 (4.6, 10.1)	24 6.3 (4, 9.3)	27 7.2 (4.8, 10.5)	145 7.6 (6.4, 9)
Cleft lip alone	14 3.7 (2, 6.3)	22 5.7 (3.6, 8.7)	16 4.1 (2.4, 6.7)	14 3.7 (2, 6.1)	12 3.2 (1.7, 5.6)	78 4.1 (3.2, 5.1)
Cleft lip with cleft palate	27 7.2 (4.8, 10.5)	28 7.3 (4.8, 10.5)	23 5.9 (3.8, 8.9)	27 7.1 (4.7, 10.3)	21 5.6 (3.5, 8.6)	126 6.6 (5.5, 7.9)
Choanal atresia	2 0.5 (0.1, 1.9)	1 0.3 (0, 1.4)	1 0.3 (0, 1.4)	5 1.3 (0.4, 3.1)	3 0.8 (0.2, 2.3)	12 0.6 (0.3, 1.1)
Gastrointestinal	134 35.8 (30, 42.4)	116 30.2 (24.9, 36.2)	132 34.1 (28.5, 40.4)	123 32.2 (26.7, 38.4)	106 28.3 (23.2, 34.3)	611 32.1 (29.6, 34.8)
Esophageal atresia / tracheoesophageal fistula	7 1.9 (0.8, 3.9)	5 1.3 (0.4, 3)	7 1.8 (0.7, 3.7)	11 2.9 (1.4, 5.1)	6 1.6 (0.6, 3.5)	36 1.9 (1.3, 2.6)
Rectal and large intestinal atresia/stenosis	20 5.3 (3.3, 8.3)	17 4.4 (2.6, 7.1)	13 3.4 (1.8, 5.7)	13 3.4 (1.8, 5.8)	15 4 (2.2, 6.6)	78 4.1 (3.2, 5.1)
Pyloric stenosis	72 19.2 (15.1, 24.2)	68 17.7 (13.7, 22.4)	84 21.7 (17.3, 26.9)	72 18.8 (14.7, 23.7)	60 16 (12.2, 20.6)	356 18.7 (16.8, 20.8)

Defects	2013	2014	2015	2016	2017	2013-17
	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)
Hirschsprung's disease	13 3.5 (1.9, 5.9)	8 2.1 (0.9, 4.1)	12 3.1 (1.6, 5.4)	11 2.9 (1.4, 5.1)	10 2.7 (1.3, 4.9)	54 2.8 (2.1, 3.7)
Biliary atresia	5 1.3 (0.4, 3.1)	1 0.3 (0, 1.4)	0 -	1 0.3 (0, 1.5)	2 0.5 (0.1, 1.9)	9 0.5 (0.2, 0.9)
Small intestinal atresia/stenosis	17 4.5 (2.6, 7.3)	17 4.4 (2.6, 7.1)	16 4.1 (2.4, 6.7)	15 3.9 (2.2, 6.5)	13 3.5 (1.9, 5.9)	78 4.1 (3.2, 5.1)
Genitourinary	296 79.1 (70.4, 88.6)	346 90 (80.8, 99.9)	327 84.5 (75.6, 94.1)	323 84.5 (75.6, 94.2)	293 78.3 (69.6, 87.8)	1585 83.3 (79.3, 87.5)
Renal agenesis/hypoplasia	11 2.9 (1.5, 5.3)	9 2.3 (1.1, 4.4)	13 3.4 (1.8, 5.7)	10 2.6 (1.3, 4.8)	5 1.3 (0.4, 3.1)	48 2.5 (1.9, 3.3)
Bladder exstrophy	1 0.3 (0, 1.5)	0 -	0 -	1 0.3 (0, 1.5)	1 0.3 (0, 1.5)	3 0.2 (0, 0.5)
Obstructive genitourinary defect	71 19 (14.8, 23.9)	99 25.8 (20.9, 31.3)	115 29.7 (24.5, 35.6)	128 33.5 (27.9, 39.8)	98 26.2 (21.3, 31.9)	511 26.9 (24.6, 29.3)
Hypospadias ^a	191 99.7 (86.1, 114.8)	211 107 (93.1, 122.4)	174 87.6 (75.1, 101.6)	163 82.5 (70.4, 96.1)	167 87.6 (74.9, 101.9)	906 92.9 (86.9, 99.1)
Epispadias	2 0.5 (0.1, 1.9)	4 1 (0.3, 2.7)	2 0.5 (0.1, 1.9)	0 -	1 0.3 (0, 1.5)	9 0.5 (0.2, 0.9)
Congenital posterior urethral valves	6 1.6 (0.6, 3.5)	2 0.5 (0.1, 1.9)	4 1 (0.3, 2.6)	2 0.5 (0.1, 1.9)	7 1.9 (0.8, 3.9)	21 1.1 (0.7, 1.7)
Cloacal exstrophy	1 0.3 (0, 1.5)	2 0.5 (0.1, 1.9)	1 0.3 (0, 1.4)	1 0.3 (0, 1.5)	1 0.3 (0, 1.5)	6 0.3 (0.1, 0.7)
Indeterminate sex	6 1.6 (0.6, 3.5)	10 2.6 (1.2, 4.8)	7 1.8 (0.7, 3.7)	4 1 (0.3, 2.7)	7 1.9 (0.8, 3.9)	34 1.8 (1.2, 2.5)
Cystic kidney	7 1.9 (0.8, 3.9)	9 2.3 (1.1, 4.4)	11 2.8 (1.4, 5.1)	14 3.7 (2, 6.1)	6 1.6 (0.6, 3.5)	47 2.5 (1.8, 3.3)

^a Hypospadias prevalence per 10,000 male live births.

Defects	2013	2014	2015	2016	2017	2013-17
	Cases	Cases	Cases	Cases	Cases	Cases
	Prev. (95% CI)	Prev. (95% CI)	Prev. (95% CI)	Prev. (95% CI)	Prev. (95% CI)	Prev. (95% CI)
Musculoskeletal	169	188	203	191	184	935
	45.2 (38.6, 52.5)	48.9 (42.2, 56.4)	52.4 (45.5, 60.1)	50 (43.1, 57.5)	49.2 (42.4, 56.8)	49.2 (46.1, 52.4)
Gastroschisis	22	25	22	23	24	116
	5.9 (3.7, 8.9)	6.5 (4.2, 9.6)	5.7 (3.6, 8.6)	6 (3.8, 9)	6.4 (4.1, 9.5)	6.1 (5, 7.3)
Omphalocele	11	7	10	11	5	44
	2.9 (1.5, 5.3)	1.8 (0.7, 3.8)	2.6 (1.2, 4.8)	2.9 (1.4, 5.1)	1.3 (0.4, 3.1)	2.3 (1.7, 3.1)
Congenital hip dislocation	2	6	8	5	4	25
	0.5 (0.1, 1.9)	1.6 (0.6, 3.4)	2.1 (0.9, 4.1)	1.3 (0.4, 3.1)	1.1 (0.3, 2.7)	1.3 (0.9, 1.9)
Diaphragmatic hernia	15	10	13	19	18	75
	4 (2.2, 6.6)	2.6 (1.2, 4.8)	3.4 (1.8, 5.7)	5 (3, 7.8)	4.8 (2.9, 7.6)	3.9 (3.1, 4.9)
Limb deficiencies (reduction defects)	14	17	10	15	15	71
	3.7 (2, 6.3)	4.4 (2.6, 7.1)	2.6 (1.2, 4.8)	3.9 (2.2, 6.5)	4 (2.2, 6.6)	3.7 (2.9, 4.7)
Craniosynostosis	31	25	34	36	44	170
	8.3 (5.6, 11.8)	6.5 (4.2, 9.6)	8.8 (6.1, 12.3)	9.4 (6.6, 13)	11.8 (8.5, 15.8)	8.9 (7.6, 10.4)
Clubfoot	56	82	87	69	66	360
	15 (11.3, 19.4)	21.3 (17, 26.5)	22.5 (18, 27.7)	18 (14, 22.8)	17.6 (13.6, 22.4)	18.9 (17, 21)
Polydactyly	18	15	19	13	8	73
	4.8 (2.9, 7.6)	3.9 (2.2, 6.4)	4.9 (3, 7.7)	3.4 (1.8, 5.8)	2.1 (0.9, 4.2)	3.8 (3, 4.8)
Prune Belly	0	1	0	0	0	1
	-	0.3 (0, 1.4)	-	-	-	0.1 (0, 0.3)
Chromosomal	66	57	77	86	67	353
	17.6 (13.6, 22.4)	14.8 (11.2, 19.2)	19.9 (15.7, 24.9)	22.5 (18, 27.8)	17.9 (13.9, 22.7)	18.6 (16.7, 20.6)
Trisomy 13	4	3	6	1	2	16
	1.1 (0.3, 2.7)	0.8 (0.2, 2.3)	1.5 (0.6, 3.4)	0.3 (0, 1.5)	0.5 (0.1, 1.9)	0.8 (0.5, 1.4)
Trisomy 21 (Down syndrome)	54	45	54	69	49	271
	14.4 (10.8, 18.8)	11.7 (8.5, 15.7)	13.9 (10.5, 18.2)	18 (14, 22.8)	13.1 (9.7, 17.3)	14.2 (12.6, 16)
Trisomy 18	6	8	6	10	6	36
	1.6 (0.6, 3.5)	2.1 (0.9, 4.1)	1.5 (0.6, 3.4)	2.6 (1.3, 4.8)	1.6 (0.6, 3.5)	1.9 (1.3, 2.6)

Defects	2013	2014	2015	2016	2017	2013-17
	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)
Turner syndrome ^b	0 -	1 0.5 (0, 3)	9 4.8 (2.2, 9.1)	1 0.5 (0, 3)	4 2.2 (0.6, 5.6)	15 1.6 (0.9, 2.7)
Deletion 22q11.2	2 0.5 (0.1, 1.9)	0 -	2 0.5 (0.1, 1.9)	5 1.3 (0.4, 3.1)	6 1.6 (0.6, 3.5)	15 0.8 (0.4, 1.3)
Other	7	6	12	13	6	44
Affected by maternal alcohol use	1.9 (0.8, 3.9) 2	1.6 (0.6, 3.4) 0	3.1 (1.6, 5.4) 2	3.4 (1.8, 5.8) 1	1.6 (0.6, 3.5) 0	2.3 (1.7, 3.1) 5
Amniotic bands	0.5 (0.1, 1.9) 4	- 4	0.5 (0.1, 1.9) 6	0.3 (0, 1.5) 7	- 4	0.3 (0.1, 0.6) 25
Achondroplastic dwarfism	1.1 (0.3, 2.7) 1	1 (0.3, 2.7) 2	1.5 (0.6, 3.4) 3	1.8 (0.7, 3.8) 5	1.1 (0.3, 2.7) 2	1.3 (0.9, 1.9) 13
Lung agenesis or aplasia	0.3 (0, 1.5) 0 -	0.5 (0.1, 1.9) 0 -	0.8 (0.2, 2.3) 1 0.3 (0, 1.4)	1.3 (0.4, 3.1) 0 -	0.5 (0.1, 1.9) 0 -	0.7 (0.4, 1.2) 1 0.1 (0, 0.3)

^bTurner syndrome prevalence per 10,000 female live births