



Arkansas Reproductive Health Monitoring System

Summary of Selected Birth Defects in Arkansas For Birth Year of 2016-2020

The Arkansas Reproductive Health Monitoring System (ARHMS) is an active population-based surveillance system for monitoring birth defects. Specially trained 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 as well as stillbirth cases. Cases diagnosed prenatally and up to two years old are included and followed up to five years of age. ARHMS surveys births to residents in all 75 counties of Arkansas. Modified British Pediatric Association (BPA) codes (which is based on ICD-9-CM) and ICD-10-CM coding systems are used to identify and code diagnoses in the database. This report focuses on the results of the latest five years of data available. This report presents the prevalence per 10 000 live births and 95% confidence intervals (95%CI) on selected birth defects in the state of Arkansas.

Yearly averages in Arkansas for 2016-2020

37,540

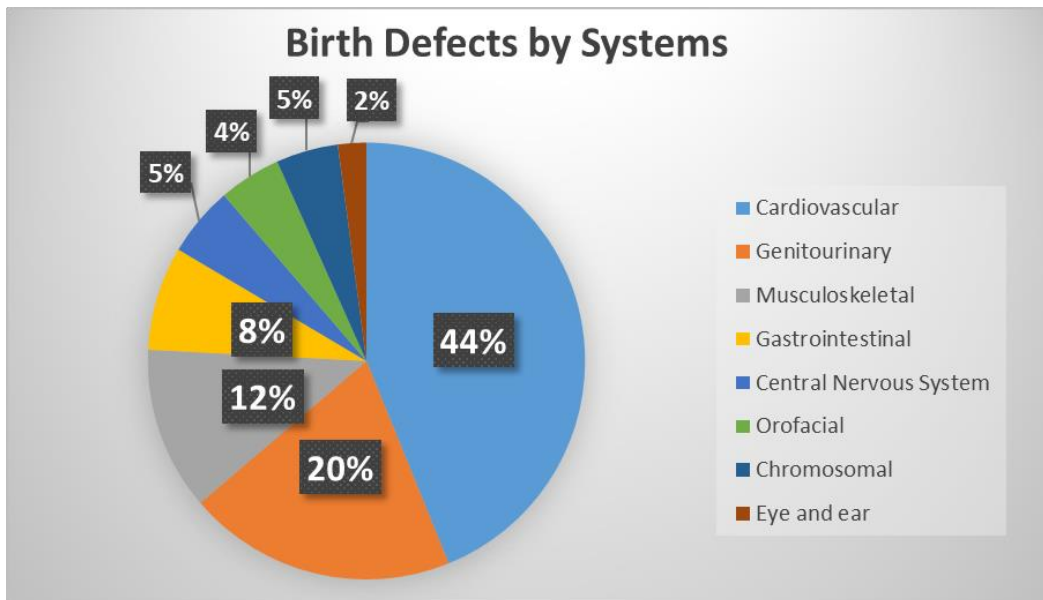
babies are born

1,380

babies born with major birth defect(s)

3.6%

births with major birth defects



Prevalence of Selected Birth Defects by Diagnosis and Year of Birth in Arkansas, 2016-2020

Defects by Diagnostic Category	2016	2017	2018	2019	2020	2016-20
	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	91 23.8 (19.2-29.2)	90 24.1 (19.3-29.6)	80 21.7 (17.2-27)	77 21.1 (16.7-26.4)	79 22.5 (17.8-28)	417 22.6 (20.5-24.9)
Anencephalus	6 1.6 (0.6-3.4)	7 1.9 (0.8-3.9)	8 2.2 (0.9-4.3)	7 1.9 (0.8-4)	7 2 (0.8-4.1)	35 1.9 (1.3-2.6)
Spina bifida without anencephalus	14 3.7 (2-6.1)	12 3.2 (1.7-5.6)	15 4.1 (2.3-6.7)	13 3.6 (1.9-6.1)	18 5.1 (3-8.1)	72 3.9 (3.1-4.9)
Hydrocephalus without Spina Bifida	22 5.8 (3.6-8.7)	33 8.8 (6.1-12.4)	25 6.8 (4.4-10)	24 6.6 (4.2-9.8)	21 6 (3.7-9.1)	125 6.8 (5.6-8.1)
Encephalocele	4 1 (0.3-2.7)	3 0.8 (0.2-2.3)	4 1.1 (0.3-2.8)	3 0.8 (0.2-2.4)	1 0.3 (0-1.6)	15 0.8 (0.5-1.3)
Microcephalus	42 11 (7.9-14.8)	31 8.3 (5.6-11.8)	25 6.8 (4.4-10)	24 6.6 (4.2-9.8)	27 7.7 (5.1-11.2)	149 8.1 (6.8-9.5)
Holoprosencephaly	3 0.8 (0.2-2.3)	4 1.1 (0.3-2.7)	3 0.8 (0.2-2.4)	6 1.6 (0.6-3.6)	5 1.4 (0.5-3.3)	21 1.1 (0.7-1.7)
Eye	19 5 (3-7.8)	18 4.8 (2.9-7.6)	16 4.3 (2.5-7)	18 4.9 (2.9-7.8)	7 2 (0.8-4.1)	78 4.2 (3.3-5.3)
Anophthalmia/micropthalmia	9 2.4 (1.1-4.5)	8 2.1 (0.9-4.2)	5 1.4 (0.4-3.2)	5 1.4 (0.4-3.2)	2 0.6 (0.1-2.1)	29 1.6 (1.1-2.3)
Congenital cataract	10 2.6 (1.3-4.8)	8 2.1 (0.9-4.2)	10 2.7 (1.3-5)	12 3.3 (1.7-5.8)	5 1.4 (0.5-3.3)	45 2.4 (1.8-3.3)
Aniridia	0 -	2 0.5 (0.1-1.9)	1 0.3 (0-1.5)	1 0.3 (0-1.5)	0 -	4 0.2 (0.1-0.6)
Ear						
Anotia/microtia	11 2.9 (1.4-5.1)	13 3.5 (1.9-5.9)	7 1.9 (0.8-3.9)	15 4.1 (2.3-6.8)	11 3.1 (1.6-5.6)	57 3.1 (2.3-4)

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

Defects	2016	2017	2018	2019	2020	2016-20
	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	622 162.7 (150.2-176)	636 170 (157.1-183.8)	691 187.3 (173.6-201.8)	693 190.1 (176.2-204.8)	555 157.7 (144.9-171.4)	3197 173.6 (167.6-179.7)
Common truncus (truncus arteriosus)	1 0.3 (0-1.5)	3 0.8 (0.2-2.3)	0 -	4 1.1 (0.3-2.8)	1 0.3 (0-1.6)	9 0.5 (0.2-0.9)
Transposition of the great arteries (TGA)	12 3.1 (1.6-5.5)	8 2.1 (0.9-4.2)	19 5.1 (3.1-8)	6 1.6 (0.6-3.6)	10 2.8 (1.4-5.2)	55 3 (2.2-3.9)
Tetralogy of Fallot	25 6.5 (4.2-9.7)	16 4.3 (2.4-6.9)	19 5.1 (3.1-8)	28 7.7 (5.1-11.1)	18 5.1 (3-8.1)	106 5.8 (4.7-7)
Ventricular septal defect	219 57.3 (49.9-65.4)	227 60.7 (53-69.1)	251 68 (59.9-77)	246 67.5 (59.3-76.5)	208 59.1 (51.4-67.7)	1151 62.5 (58.9-66.2)
Atrial septal defect	150 39.2 (33.2-46)	134 35.8 (30-42.4)	137 37.1 (31.2-43.9)	140 38.4 (32.3-45.3)	133 37.8 (31.6-44.8)	694 37.7 (34.9-40.6)
Atrioventricular septal defect (Endocardial cushion defect)	32 8.4 (5.7-11.8)	24 6.4 (4.1-9.5)	32 8.7 (5.9-12.2)	38 10.4 (7.4-14.3)	29 8.2 (5.5-11.8)	155 8.4 (7.1-9.9)
Pulmonary valve atresia and stenosis	40 10.5 (7.5-14.2)	44 11.8 (8.5-15.8)	46 12.5 (9.1-16.6)	44 12.1 (8.8-16.2)	56 15.9 (12-20.7)	230 12.5 (10.9-14.2)
Tricuspid valve atresia and stenosis	5 1.3 (0.4-3.1)	1 0.3 (0-1.5)	2 0.5 (0.1-2)	4 1.1 (0.3-2.8)	4 1.1 (0.3-2.9)	16 0.9 (0.5-1.4)
Ebstein anomaly	3 0.8 (0.2-2.3)	7 1.9 (0.8-3.9)	4 1.1 (0.3-2.8)	3 0.8 (0.2-2.4)	3 0.9 (0.2-2.5)	20 1.1 (0.7-1.7)
Aortic valve stenosis	10 2.6 (1.3-4.8)	11 2.9 (1.5-5.3)	9 2.4 (1.1-4.6)	7 1.9 (0.8-4)	6 1.7 (0.6-3.7)	43 2.3 (1.7-3.1)
Hypoplastic left heart syndrome	16 4.2 (2.4-6.8)	12 3.2 (1.7-5.6)	10 2.7 (1.3-5)	11 3 (1.5-5.4)	7 2 (0.8-4.1)	56 3 (2.3-3.9)
Patent ductus arteriosus	76 19.9 (15.7-24.9)	111 29.7 (24.4-35.7)	121 32.8 (27.2-39.2)	99 27.2 (22.1-33.1)	51 14.5 (10.8-19.1)	458 24.9 (22.6-27.3)
Coarctation of the aorta	16 4.2 (2.4-6.8)	20 5.3 (3.3-8.3)	18 4.9 (2.9-7.7)	30 8.2 (5.6-11.8)	11 3.1 (1.6-5.6)	95 5.2 (4.2-6.3)

Defects	2016	2017	2018	2019	2020	2016-20
	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	6 1.6 (0.6-3.4)	4 1.1 (0.3-2.7)	5 1.4 (0.4-3.2)	9 2.5 (1.1-4.7)	5 1.4 (0.5-3.3)	29 1.6 (1.1-2.3)
Single ventricle	1 0.3 (0-1.5)	1 0.3 (0-1.5)	3 0.8 (0.2-2.4)	3 0.8 (0.2-2.4)	3 0.9 (0.2-2.5)	11 0.6 (0.3-1.1)
Interrupted aortic arch	2 0.5 (0.1-1.9)	8 2.1 (0.9-4.2)	3 0.8 (0.2-2.4)	5 1.4 (0.4-3.2)	3 0.9 (0.2-2.5)	21 1.1 (0.7-1.7)
Double outlet right ventricle	8 2.1 (0.9-4.1)	5 1.3 (0.4-3.1)	12 3.3 (1.7-5.7)	16 4.4 (2.5-7.1)	7 2 (0.8-4.1)	48 2.6 (1.9-3.5)
Orofacial	71 18.6 (14.5-23.4)	69 18.4 (14.4-23.3)	72 19.5 (15.3-24.6)	54 14.8 (11.1-19.3)	59 16.8 (12.8-21.6)	325 17.6 (15.8-19.7)
Cleft palate alone	24 6.3 (4-9.3)	28 7.5 (5-10.8)	20 5.4 (3.3-8.4)	19 5.2 (3.1-8.1)	17 4.8 (2.8-7.7)	108 5.9 (4.8-7.1)
Cleft lip alone	14 3.7 (2-6.1)	13 3.5 (1.9-5.9)	20 5.4 (3.3-8.4)	12 3.3 (1.7-5.8)	16 4.5 (2.6-7.4)	75 4.1 (3.2-5.1)
Cleft lip with cleft palate	28 7.3 (4.9-10.6)	25 6.7 (4.3-9.9)	29 7.9 (5.3-11.3)	23 6.3 (4-9.5)	25 7.1 (4.6-10.5)	130 7.1 (5.9-8.4)
Choanal atresia	5 1.3 (0.4-3.1)	3 0.8 (0.2-2.3)	3 0.8 (0.2-2.4)	0 -	1 0.3 (0-1.6)	12 0.7 (0.3-1.1)
Gastrointestinal	126 33 (27.5-39.2)	118 31.5 (26.1-37.8)	91 24.7 (19.9-30.3)	81 22.2 (17.6-27.6)	73 20.7 (16.3-26.1)	489 26.6 (24.3-29)
Esophageal atresia / tracheoesophageal fistula	11 2.9 (1.4-5.1)	7 1.9 (0.8-3.9)	12 3.3 (1.7-5.7)	5 1.4 (0.4-3.2)	4 1.1 (0.3-2.9)	39 2.1 (1.5-2.9)
Rectal and large intestinal atresia/stenosis	13 3.4 (1.8-5.8)	17 4.5 (2.6-7.3)	17 4.6 (2.7-7.4)	13 3.6 (1.9-6.1)	9 2.6 (1.2-4.9)	69 3.7 (2.9-4.7)
Pyloric stenosis	75 19.6 (15.4-24.6)	68 18.2 (14.1-23)	36 9.8 (6.8-13.5)	42 11.5 (8.3-15.6)	36 10.2 (7.2-14.2)	257 14 (12.3-15.8)

Defects	2016	2017	2018	2019	2020	2016-20
	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	11 2.9 (1.4-5.1)	10 2.7 (1.3-4.9)	9 2.4 (1.1-4.6)	4 1.1 (0.3-2.8)	7 2 (0.8-4.1)	41 2.2 (1.6-3)
Biliary atresia	1 0.3 (0-1.5)	2 0.5 (0.1-1.9)	3 0.8 (0.2-2.4)	2 0.5 (0.1-2)	2 0.6 (0.1-2.1)	10 0.5 (0.3-1)
Small intestinal atresia/stenosis	15 3.9 (2.2-6.5)	14 3.7 (2-6.3)	14 3.8 (2.1-6.4)	15 4.1 (2.3-6.8)	15 4.3 (2.4-7)	73 4 (3.1-5)
Genitourinary	327 85.5 (76.5-95.3)	317 84.7 (75.7-94.6)	298 80.8 (71.9-90.5)	353 96.9 (87-107.5)	313 89 (79.4-99.4)	1608 87.3 (83.1-91.7)
Renal agenesis/hypoplasia	8 2.1 (0.9-4.1)	5 1.3 (0.4-3.1)	3 0.8 (0.2-2.4)	4 1.1 (0.3-2.8)	7 2 (0.8-4.1)	27 1.5 (1-2.1)
Bladder exstrophy	1 0.3 (0-1.5)	1 0.3 (0-1.5)	0 -	0 -	1 0.3 (0-1.6)	3 0.2 (0-0.5)
Obstructive genitourinary defect	128 33.5 (27.9-39.8)	101 27 (22-32.8)	111 30.1 (24.8-36.2)	128 35.1 (29.3-41.8)	110 31.3 (25.7-37.7)	578 31.4 (28.9-34.1)
Hypospadias ^a	166 84 (71.7-97.8)	184 96.5 (83.1-111.5)	167 89 (76-103.6)	200 107 (92.7-122.9)	176 97.8 (83.9-113.4)	893 94.7 (88.6-101.2)
Epispadias	0 -	1 0.3 (0-1.5)	2 0.5 (0.1-2)	4 1.1 (0.3-2.8)	1 0.3 (0-1.6)	8 0.4 (0.2-0.9)
Congenital posterior urethral valves	2 0.5 (0.1-1.9)	8 2.1 (0.9-4.2)	6 1.6 (0.6-3.5)	5 1.4 (0.4-3.2)	5 1.4 (0.5-3.3)	26 1.4 (0.9-2.1)
Cloacal exstrophy	1 0.3 (0-1.5)	1 0.3 (0-1.5)	0 -	1 0.3 (0-1.5)	1 0.3 (0-1.6)	4 0.2 (0.1-0.6)
Indeterminate sex	6 1.6 (0.6-3.4)	8 2.1 (0.9-4.2)	3 0.8 (0.2-2.4)	5 1.4 (0.4-3.2)	7 2 (0.8-4.1)	29 1.6 (1.1-2.3)
Cystic kidney	15 3.9 (2.2-6.5)	8 2.1 (0.9-4.2)	6 1.6 (0.6-3.5)	6 1.6 (0.6-3.6)	5 1.4 (0.5-3.3)	40 2.2 (1.6-3)

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

Defects	2016	2017	2018	2019	2020	2016-20
	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)	Cases Prev. (95% CI)
Musculoskeletal	197 51.5 (44.6-59.2)	210 56.1 (48.8-64.3)	172 46.6 (39.9-54.1)	170 46.6 (39.9-54.2)	179 50.9 (43.7-58.9)	928 50.4 (47.2-53.7)
Gastroschisis	24 6.3 (4-9.3)	24 6.4 (4.1-9.5)	22 6 (3.7-9)	21 5.8 (3.6-8.8)	25 7.1 (4.6-10.5)	116 6.3 (5.2-7.6)
Omphalocele	11 2.9 (1.4-5.1)	5 1.3 (0.4-3.1)	11 3 (1.5-5.3)	6 1.6 (0.6-3.6)	7 2 (0.8-4.1)	40 2.2 (1.6-3)
Congenital hip dislocation	5 1.3 (0.4-3.1)	4 1.1 (0.3-2.7)	8 2.2 (0.9-4.3)	2 0.5 (0.1-2)	8 2.3 (1-4.5)	27 1.5 (1-2.1)
Diaphragmatic hernia	19 5 (3-7.8)	21 5.6 (3.5-8.6)	8 2.2 (0.9-4.3)	13 3.6 (1.9-6.1)	9 2.6 (1.2-4.9)	70 3.8 (3-4.8)
Limb deficiencies (reduction defects)	15 3.9 (2.2-6.5)	21 5.6 (3.5-8.6)	16 4.3 (2.5-7)	16 4.4 (2.5-7.1)	18 5.1 (3-8.1)	86 4.7 (3.7-5.8)
Craniosynostosis	38 9.9 (7-13.6)	47 12.6 (9.2-16.7)	24 6.5 (4.2-9.7)	40 11 (7.8-14.9)	55 15.6 (11.8-20.3)	204 11.1 (9.6-12.7)
Clubfoot	71 18.6 (14.5-23.4)	77 20.6 (16.2-25.7)	63 17.1 (13.1-21.8)	55 15.1 (11.4-19.6)	47 13.4 (9.8-17.8)	313 17 (15.2-19)
Polydactyly	14 3.7 (2-6.1)	11 2.9 (1.5-5.3)	18 4.9 (2.9-7.7)	15 4.1 (2.3-6.8)	10 2.8 (1.4-5.2)	68 3.7 (2.9-4.7)
Prune Belly	0 -	0 -	2 0.5 (0.1-2)	2 0.5 (0.1-2)	0 -	4 0.2 (0.1-0.6)
Chromosomal	82 21.4 (17.1-26.6)	69 18.4 (14.4-23.3)	70 19 (14.8-24)	76 20.9 (16.4-26.1)	63 17.9 (13.8-22.9)	360 19.5 (17.6-21.7)
Trisomy 13	1 0.3 (0-1.5)	2 0.5 (0.1-1.9)	0 -	5 1.4 (0.4-3.2)	1 0.3 (0-1.6)	9 0.5 (0.2-0.9)
Trisomy 21 (Down syndrome)	69 18 (14-22.8)	54 14.4 (10.8-18.8)	52 14.1 (10.5-18.5)	51 14 (10.4-18.4)	46 13.1 (9.6-17.4)	272 14.8 (13.1-16.6)
Trisomy 18	11 2.9 (1.4-5.1)	8 2.1 (0.9-4.2)	12 3.3 (1.7-5.7)	10 2.7 (1.3-5)	5 1.4 (0.5-3.3)	46 2.5 (1.8-3.3)

Defects	2016	2017	2018	2019	2020	2016-20
	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	1 0.5 (0-3)	4 2.2 (0.6-5.6)	5 2.8 (0.9-6.4)	7 3.9 (1.6-8.1)	10 5.8 (2.8-10.7)	27 3 (2-4.4)
Deletion 22q11.2	0 -	1 0.3 (0-1.5)	1 0.3 (0-1.5)	3 0.8 (0.2-2.4)	1 0.3 (0-1.6)	6 0.3 (0.1-0.7)
Other	15 3.9 (2.2-6.5)	8 2.1 (0.9-4.2)	14 3.8 (2.1-6.4)	6 1.6 (0.6-3.6)	4 1.1 (0.3-2.9)	47 2.6 (1.9-3.4)
Affected by maternal alcohol use	1 0.3 (0-1.5)	1 0.3 (0-1.5)	3 0.8 (0.2-2.4)	0 -	1 0.3 (0-1.6)	6 0.3 (0.1-0.7)
Amniotic bands	9 2.4 (1.1-4.5)	5 1.3 (0.4-3.1)	8 2.2 (0.9-4.3)	3 0.8 (0.2-2.4)	2 0.6 (0.1-2.1)	27 1.5 (1-2.1)
Achondroplastic dwarfism	5 1.3 (0.4-3.1)	2 0.5 (0.1-1.9)	2 0.5 (0.1-2)	2 0.5 (0.1-2)	0 -	11 0.6 (0.3-1.1)
Lung agenesis or aplasia	0 -	0 -	1 0.3 (0-1.5)	1 0.3 (0-1.5)	1 0.3 (0-1.6)	3 0.2 (0-0.5)

^bTurner syndrome prevalence per 10,000 female live births