SUPPLEMENTAL TABLE 1 Birth defects counts, prevalence (per 10,000 live births), and 95% confidence intervals by maternal age (years), 13 population-based programs, 2016-2020

	Maternal age groups													
	<20		20-24		25-29		30-34		35-39		40+		Total*	
Birth defects	**Count**	**Prevalence (95% CI)**	**Count**	**Prevalence (95% CI)**	**Count**	**Prevalence (95% CI)**	**Count**	**Prevalence (95% CI)**	**Count**	**Prevalence (95% CI)**	**Count**	**Prevalence (95% CI)**	**Count**	**Prevalence (95% CI)**
Central Nervous System														
Anencephaly	73	**3.01 ↑ (2.36-3.79)**	212	2.42 (2.10-2.77)	265	2.18 (1.93-2.46)	229	2.04 (1.78-2.32)	138	2.48 (2.08-2.93)	23	1.86 (1.18-2.79)	944	2.28 (2.14-2.43)
Encephalocele	55	**2.27 ↑ (1.71-2.96)**	101	1.15 (0.94-1.40)	118	0.97 (0.80-1.16)	80	**0.71 ↓ (0.56-0.89)**	60	1.08 (0.82-1.39)	17	1.38 (0.80-2.20)	432	1.04 (0.95-1.15)
Spina bifida without anencephaly	85	3.51 (2.80-4.34)	307	3.50 (3.12-3.91)	450	3.71 (3.37-4.07)	403	3.59 (3.25-3.96)	184	3.30 (2.84-3.82)	74	**5.99 ↑ (4.71-7.52)**	1,510	3.65 (3.47-3.84)
Eye														
Anophthalmia/microphthalmia	60	2.48 (1.89-3.19)	164	1.87 (1.59-2.18)	233	1.92 (1.68-2.18)	215	1.91 (1.67-2.19)	119	2.14 (1.77-2.56)	69	**5.59 ↑ (4.35-7.07)**	860	2.08 (1.94-2.22)
Cardiovascular														
Atrioventricular septal defect (Endocardial cushion defect)	122	5.04 (4.18-6.01)	383	4.37 (3.94-4.83)	509	4.19 (3.84-4.58)	546	**4.86 ↑ (4.46-5.29)**	563	**10.11 ↑ (9.29-10.98)**	287	**23.24 ↑ (20.63-26.09)**	2,414	5.83 (5.60-6.07)
Coarctation of the aorta	118	4.87 (4.03-5.83)	467	5.32 (4.85-5.83)	704	5.80 (5.38-6.25)	645	5.74 (5.31-6.20)	370	**6.64 ↑ (5.98-7.36)**	94	**7.61 ↑ (6.15-9.32)**	2,399	5.80 (5.57-6.04)
Common truncus (truncus arteriosus or TA)	14	0.58 (0.32-0.97)	56	0.64 (0.48-0.83)	80	0.66 (0.52-0.82)	64	0.57 (0.44-0.73)	43	0.77 (0.56-1.04)	10	0.81 (0.39-1.49)	267	0.65 (0.57-0.73)
Double outlet right ventricle (DORV)	53	2.19 (1.64-2.86)	201	2.29 (1.99-2.63)	289	2.38 (2.12-2.67)	247	2.20 (1.93-2.49)	143	2.57 (2.16-3.02)	69	**5.59 ↑ (4.35-7.07)**	1,008	2.44 (2.29-2.59)
Ebstein anomaly	13	0.54 (0.29-0.92)	74	0.84 (0.66-1.06)	97	0.80 (0.65-0.98)	80	0.71 (0.56-0.89)	54	0.97 (0.73-1.26)	16	1.30 (0.74-2.10)	334	0.81 (0.72-0.90)

Hypoplastic left heart syndrome	64	2.64 (2.03-3.37)	222	2.53 (2.21-2.89)	328	2.70 (2.42-3.01)	265	2.36 (2.08-2.66)	142	2.55 (2.15-3.00)	49	**3.97 ↑ (2.94-5.25)**	1,073	2.59 (2.44-2.75)
Interrupted aortic arch (IAA)	29	1.20 (0.80-1.72)	92	1.05 (0.85-1.29)	115	0.95 (0.78-1.14)	100	0.89 (0.72-1.08)	56	1.01 (0.76-1.31)	14	1.13 (0.62-1.90)	406	0.98 (0.89-1.08)
Pulmonary valve atresia and stenosis[c]	217	9.70 (8.46-11.08)	816	10.08 (9.40-10.80)	1,091	9.73 (9.16-10.32)	1,060	10.12 (9.52-10.75)	608	**11.69 ↑ (10.78-12.66)**	199	**17.42 ↑ (15.08-20.02)**	3,996	10.41 (10.09-10.74)
Pulmonary valve atresia[d]	36	1.49 (1.04-2.06)	144	**1.64 ↑ (1.38-1.93)**	132	1.09 (0.91-1.29)	169	**1.50 ↑ (1.29-1.75)**	104	**1.87 ↑ (1.53-2.26)**	30	**2.43 ↑ (1.64-3.47)**	617	1.49 (1.38-1.61)
Single Ventricle	17	0.70 (0.41-1.12)	56	0.64 (0.48-0.83)	86	0.71 (0.57-0.88)	70	0.62 (0.49-0.79)	38	0.68 (0.48-0.94)	13	1.05 (0.56-1.80)	283	0.68 (0.61-0.77)
Tetralogy of Fallot (TOF)	104	4.29 (3.51-5.20)	354	**4.04 ↓ (3.63-4.48)**	562	4.63 (4.26-5.03)	489	4.35 (3.98-4.76)	358	**6.43 ↑ (5.78-7.13)**	156	**12.63 ↑ (10.73-14.78)**	2,025	4.89 (4.68-5.11)
Total anomalous pulmonary venous connection (TAPVC)	31	1.28 (0.87-1.82)	138	1.57 (1.32-1.86)	174	1.43 (1.23-1.66)	148	1.32 (1.11-1.55)	66	1.18 (0.92-1.51)	16	1.30 (0.74-2.10)	573	1.38 (1.27-1.50)
Transposition of the great arteries (TGA)[c]	64	2.86 (2.20-3.65)	242	2.99 (2.63-3.39)	322	2.87 (2.57-3.20)	317	3.03 (2.70-3.38)	151	2.90 (2.46-3.41)	43	3.76 (2.72-5.07)	1,141	2.97 (2.80-3.15)
Dextro-transposition of great arteries(d-TGA)[d,e]	50	2.22 (1.64-2.92)	200	2.45 (2.12-2.81)	265	2.34 (2.07-2.64)	280	2.65 (2.35-2.98)	123	2.34 (1.94-2.79)	44	**3.75 ↑ (2.73-5.04)**	962	2.48 (2.33-2.65)
Tricuspid valve atresia and stenosis[c]	42	1.88 (1.35-2.54)	145	1.79 (1.51-2.11)	181	1.61 (1.39-1.87)	183	1.75 (1.50-2.02)	110	**2.12 ↑ (1.74-2.55)**	42	**3.68 ↑ (2.65-4.97)**	703	1.83 (1.70-1.97)
Tricuspid valve atresia[d,e]	21	0.93 (0.58-1.42)	73	0.89 (0.70-1.12)	97	0.86 (0.69-1.05)	89	0.84 (0.68-1.04)	51	0.97 (0.72-1.28)	17	1.45 (0.84-2.32)	348	0.90 (0.81-1.00)
Orofacial														
Cleft lip with and without cleft palate[f]	233	9.62 (8.42-10.94)	931	**10.61 ↑ (9.94-11.32)**	1,159	9.55 (9.01-10.12)	1,016	9.04 (8.50-9.62)	573	10.29 (9.46-11.17)	197	**15.95 ↑ (13.80-18.34)**	4,114	9.94 (9.64-10.25)

Cleft lip with cleft palate[f]	153	6.32 (5.35-7.40)	604	6.89 (6.35-7.46)	781	6.44 (5.99-6.90)	658	5.86 (5.42-6.32)	378	6.79 (6.12-7.51)	126	**10.20 ↑ (8.50-12.15)**	2,704	6.54 (6.29-6.79)
Cleft lip alone[f]	80	3.30 (2.62-4.11)	327	**3.73 ↑ (3.34-4.16)**	378	3.12 (2.81-3.45)	358	3.19 (2.87-3.53)	195	3.50 (3.03-4.03)	71	**5.75 ↑ (4.49-7.25)**	1,410	3.41 (3.23-3.59)
Cleft palate alone	145	5.99 (5.05-7.04)	521	5.94 (5.44-6.47)	753	6.21 (5.77-6.67)	679	6.04 (5.60-6.52)	384	6.89 (6.22-7.62)	104	**8.42 ↑ (6.88-10.20)**	2,590	6.26 (6.02-6.51)
Gastrointestinal														
Esophageal atresia/tracheoesophageal fistula[g]	60	2.60 (1.98-3.35)	175	2.08 (1.78-2.41)	237	2.01 (1.76-2.28)	253	2.29 (2.02-2.60)	171	**3.13 ↑ (2.68-3.64)**	54	**4.47 ↑ (3.36-5.83)**	950	2.36 (2.21-2.52)
Rectal and large intestinal atresia/stenosis[g]	117	5.07 (4.19-6.08)	385	4.58 (4.13-5.06)	507	4.29 (3.93-4.68)	463	4.20 (3.83-4.60)	290	**5.31 ↑ (4.72-5.96)**	81	**6.70 ↑ (5.32-8.33)**	1,845	4.59 (4.38-4.80)
Musculoskeletal														
Clubfoot[h]	427	**21.46 ↑ (19.47-23.59)**	1,359	19.43 (18.41-20.49)	1,785	18.61 (17.76-19.49)	1,601	17.48 (16.63-18.35)	856	18.65 (17.42-19.94)	257	**25.24 ↑ (22.25-28.52)**	6,292	18.87 (18.41-19.34)
Diaphragmatic hernia	79	3.26 (2.58-4.06)	267	3.04 (2.69-3.43)	370	3.05 (2.75-3.38)	323	2.88 (2.57-3.21)	194	3.48 (3.01-4.01)	74	**5.99 ↑ (4.71-7.52)**	1,311	3.17 (3.00-3.35)
Gastroschisis	410	**16.93 ↑ (15.33-18.65)**	723	**8.24 ↑ (7.65-8.87)**	407	3.35 (3.04-3.70)	168	**1.50 ↓ (1.28-1.74)**	46	**0.83 ↓ (0.60-1.10)**	9	**0.73 ↓ (0.33-1.38)**	1,765	4.27 (4.07-4.47)
Limb deficiencies (reduction defects)	175	**7.22 ↑ (6.19-8.38)**	451	5.14 (4.68-5.64)	597	4.92 (4.53-5.33)	510	4.54 (4.15-4.95)	276	4.96 (4.39-5.58)	83	**6.72 ↑ (5.35-8.33)**	2,098	5.07 (4.86-5.29)
Omphalocele	64	2.64 (2.03-3.37)	203	2.31 (2.01-2.66)	268	2.21 (1.95-2.49)	295	**2.63 ↑ (2.33-2.94)**	175	**3.14 ↑ (2.69-3.64)**	80	**6.48 ↑ (5.14-8.06)**	1,090	2.63 (2.48-2.80)
Chromosomal														

Trisomy 13	16	0.66 (0.38-1.07)	84	0.96 (0.76-1.19)	103	0.85 (0.69-1.03)	157	**1.40 ↑ (1.19-1.63)**	169	**3.03 ↑ (2.59-3.53)**	106	**8.58 ↑ (7.03-10.38)**	642	1.55 (1.43-1.68)
Trisomy 18	29	1.20 (0.80-1.72)	111	1.27 (1.04-1.52)	189	1.56 (1.34-1.80)	263	**2.34 ↑ (2.07-2.64)**	399	**7.16 ↑ (6.48-7.90)**	353	**28.59 ↑ (25.68-31.73)**	1,353	3.27 (3.10-3.45)
Trisomy 21 (Down syndrome)	185	7.64 (6.58-8.82)	563	**6.42 ↓ (5.90-6.97)**	934	7.70 (7.21-8.21)	1,388	**12.36 ↑ (11.71-13.02)**	2,171	**38.98 ↑ (37.35-40.65)**	1,491	**120.74 ↑ (114.69-127.03)**	6,756	16.33 (15.94-16.72)

Abbreviations: CI=Confidence Interval calculated using exact Poisson methodology.

Note: Program inclusion criteria: Programs that used active case-finding or a combination of active and passive case-finding for their methodology. Programs had to collect all outcomes of pregnancy to be included. Birth defect surveillance programs and delivery years that are included in the table: California (ten counties), Delaware, Hawaii (2016-2017), Iowa, Massachusetts, Metropolitan Atlanta (three counties), North Carolina, Oklahoma, Puerto Rico, Rhode Island, South Carolina, Texas (2016-2019), Utah (total live births covered= 4,141,961).

a. For each individual birth defect the maternal age ranges at delivery <20 years, 20-24 years, 30-34 years, 35-39 years, 40+ years (i.e., comparison categories) were compared to 25-29 years (i.e., referent category). Two methods were used to compare the comparison category to the referent category. Method 1: When the count in either the comparison category or the referent category was less than 30 then the confidence intervals around the two prevalences were compared to see if they overlapped. Method 2: If counts in the comparison category and the referent category were 30 or greater then a prevalence difference and confidence interval were calculated. For method 1 if the confidence intervals did not overlap and for method 2 if the confidence interval around the prevalence difference did not cross zero then the comparison suggest that there could be a difference in the prevalence of the comparison category versus the referent category. This is indicated in the table by bolded text and an arrow indicating whether the comparison category prevalence was higher or lower than the referent category.

b. Total includes other/unknown.

c. Excludes California.

d. Select birth defect categories (pulmonary valve atresia, dextro-transposition of the great arteries, and tricuspid valve atresia) are subsets of other birth defects reported in the table (pulmonary valve atresia and stenosis, transposition of the great arteries, and tricuspid valve atresia and stenosis). These subsets are reported in addition to the larger categories because they are considered critical congenital heart defects.

e. Excludes South Carolina.

f. The NBDPN list of birth defects was modified in 2014. The category cleft lip with and without cleft palate was subdivided into cleft lip with cleft palate and cleft lip alone. In order to compare across time periods, the case counts for cleft lip with cleft palate and cleft lip alone are summed to replicate the category cleft lip with and without cleft palate. The resulting prevalence for cleft lip with and without cleft palate is used when doing direct adjustment.

g. Excludes Puerto Rico.

h. Excludes California, South Carolina, and Utah.