Indicator: Birth Defects

Birth defects are a large public health problem and are estimated to affect over 120,000 children in America every year. It is estimated that about 3%, or one out of every 33 babies, is born with a birth defect. Birth defects are one of the leading causes of infant deaths. Babies born with birth defects have a greater chance of illness and long-term disability than babies without birth defects. Babies with birth defects are also more likely to be born preterm (before the 37th week of pregnancy) than babies without birth defects. Birth defects account for approximately 30% of all pediatric hospital admissions.

For some birth defects, doctors and public health scientists know how they happen and in some cases they can make recommendations to help prevent them. For many other birth defects, however, there are no clear causes. It is likely that most birth defects happen for many reasons, not just one reason, and one of those reasons might be the environment.

There are very few birth defects with a definite link to environmental hazards. However, being able to share data about when and where birth defects happen will help us better understand the role the environment may play before the baby is born. That is one of the main reasons why birth defects are part of the Environmental Public Health Tracking Network.

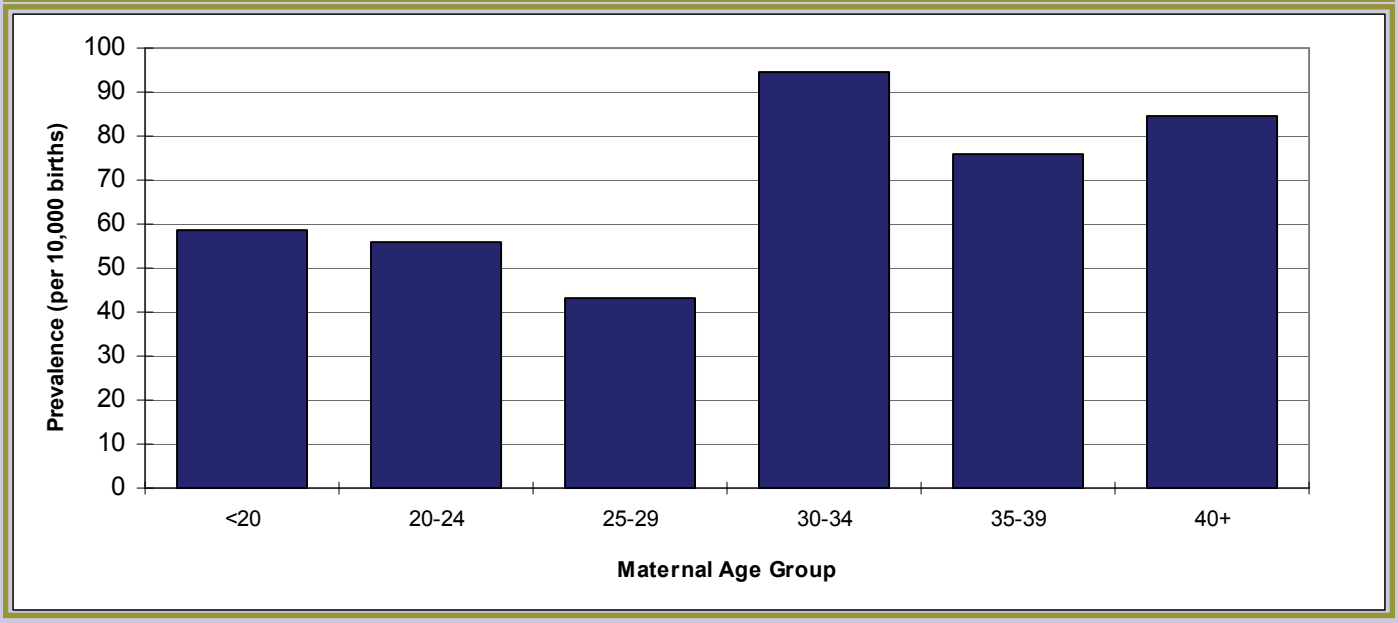
Data about twelve birth defects are reported as part of the National Environmental Public Health Tracking Program. All twelve birth defects are part of the National Birth Defects Prevention Network's (NBDPN) annual report, which means that states are already collecting and managing data about these defects. The twelve defects that are reported are: anencephaly, spina bifida, hypoplastic left heart syndrome, tetralogy of fallot, transposition of great vessels, cleft lip with or without cleft palate, cleft palate without cleft lip, hypospadias, gastroschisis, upper limb deficiencies, lower limb deficiencies, and Trisomy 21.

Birth Defect Surveillance

Not all states in the US are currently collecting birth defects data. Among the states that do collect birth defects data, not all of their surveillance systems collect data the same way so you should not compare information from one state to another.

The Connecticut Birth Defects Registry is a passive surveillance system, meaning that the Department of Public Health relies upon reports that come from doctors and hospitals. The Registry uses various sources to collect information on birth defects, including reporting from the birth facilities, electronic birth certificates, and in-patient hospital discharge data.

Annual prevalence of birth defects, by maternal age group—Connecticut, 2004

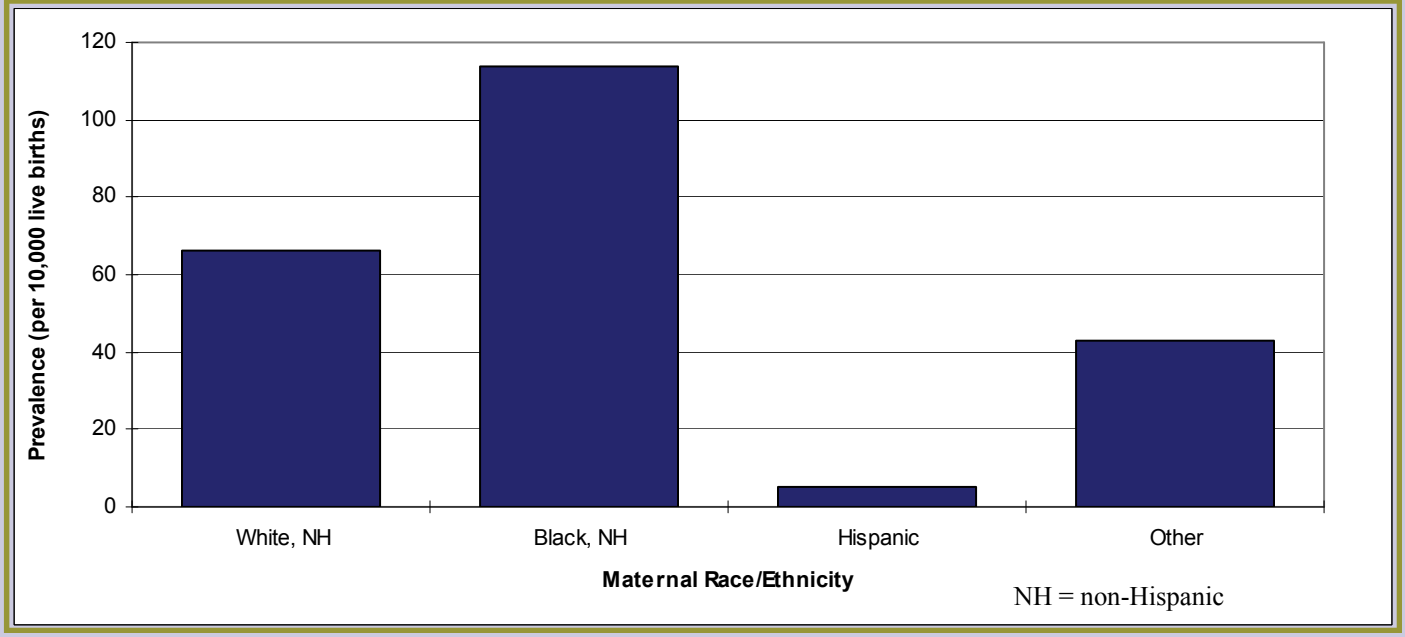


In 2004 in Connecticut, 294 children were born with one of the twelve birth defects of interest. This is equivalent to a rate of nearly 70 out of every 10,000 births.

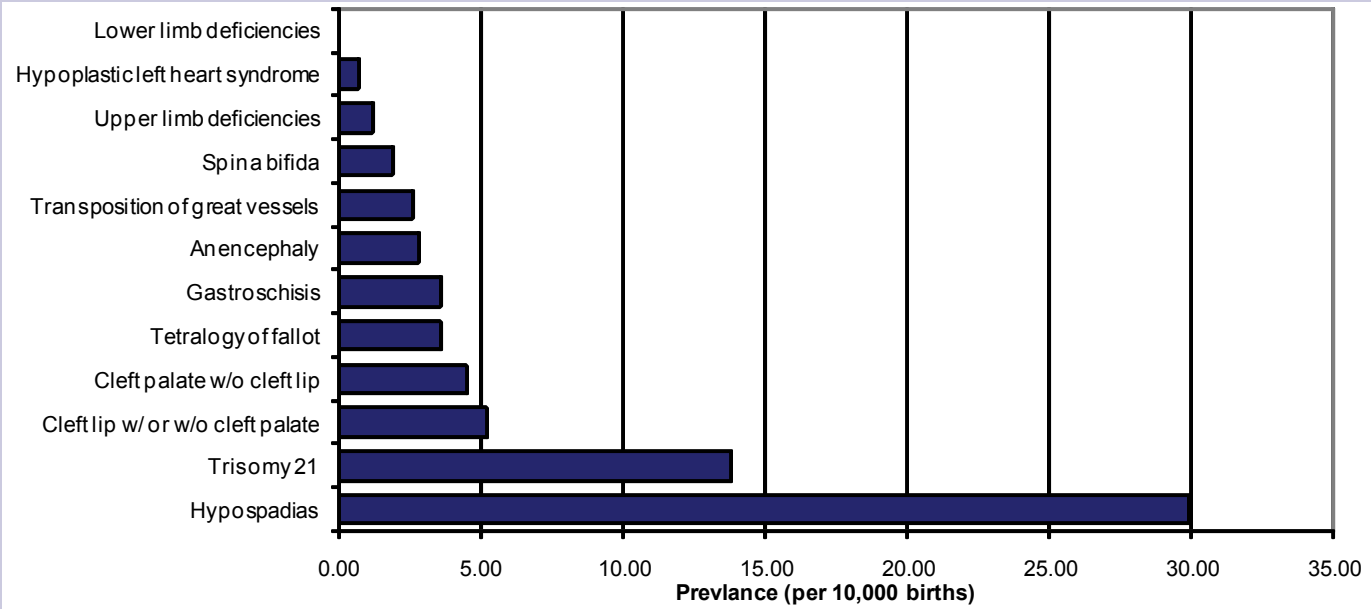
The prevalence of birth defects is higher among women in older age groups, specifically those over the age of 30. The prevalence is lowest in mothers between the ages of 25 and 29 years.

The prevalence of birth defects was highest among Black, non-Hispanic mothers and lowest among Hispanic mothers.

Prevalence of birth defects, by maternal race/ethnicity — Connecticut 2004



Prevalence (per 10,000 live births) of birth defects, by type - Connecticut 2004



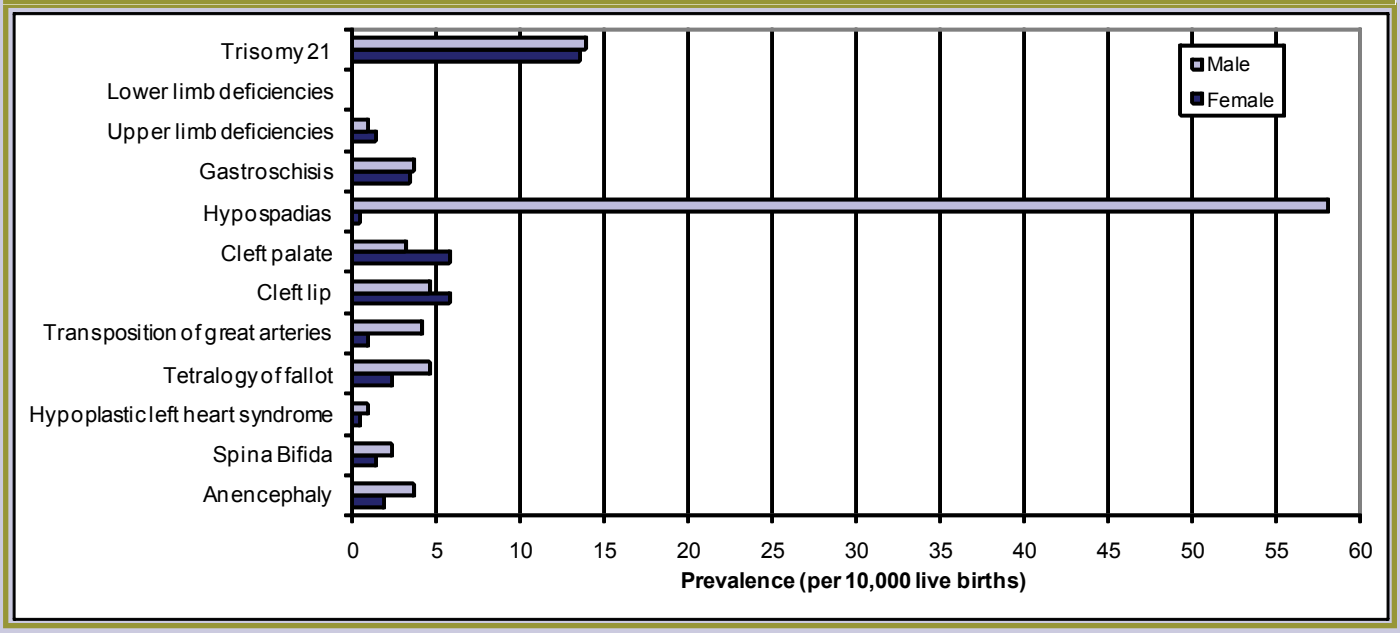
In looking at specific birth defects, the most common defect in Connecticut was hypospadias, of which there were 126 cases in 2004. This is equivalent to a rate of approximately 30 children born with hypospadias per 10,000 live births. The least commonly reported defect was hypoplastic left heart syndrome, with a prevalence of less than 1 birth with the defect per 10,000 live births.

Counts and rates at the county level are available in the data tables at the end of this document.

There are some differences seen in the prevalence of certain birth defects by the sex of the infant. Most of the birth defects included here are more common about male births compared to females. The exceptions are cleft lip, cleft palate, and upper limb deficiencies which were more common among females.

(Prevalence = number of cases per 10,000 live births)

Prevalence of birth defects, by type and infant sex — Connecticut 2004



DATA TABLES

Annual prevalence of birth defects by maternal age group and race/ethnicity—Connecticut, 2004

	Total live births	Number of births with defect	Prevalence (per 10,000 births)
Maternal Age Group			
<20 years	2,906	17	58.5
20-24 years	6,822	38	55.7
25-29 years	9,924	43	43.3
30-34 years	12,878	122	94.7
35-39 years	7,795	59	75.7
40+ years	1,770	15	84.8
All ages	42,095	294	69.8
Maternal Race/Ethnicity			
White, NH	27,234	181	66.5
Black, NH	4,928	56	113.6
Hispanic	7,600	4	5.3
Other	2,333	10	42.9
Unknown	N/A	43	—

Prevalence of specific birth defects, by type—Connecticut, 2004

	Number of cases	Prevalence of cases (per 10,000 live births)
Hypospadias	126	29.93
Trisomy 21	58	13.78
Cleft lip w/ or w/o cleft palate	22	5.23
Cleft palate w/o cleft lip	19	4.51
Tetralogy of fallot	15	3.56
Gastroschisis	15	3.56
Anencephaly	12	2.85
Transposition of great vessels	11	2.61
Spina bifida	8	1.90
Upper limb deficiencies	5	1.19
Hypoplastic left heart syndrome	3	0.71
Lower limb deficiencies	0	0.00

DATA TABLES

Annual prevalence of birth defects by infant sex — Connecticut, 2004

	Male		Female	
	# of births with defect	Prevalence	# of births with defect	Prevalence
Anencephaly	8	3.72	4	1.95
Spina bifida	5	2.32	3	1.46
Hypoplastic left heart syndrome	2	0.93	1	0.49
Tetralogy of fallot	10	4.64	5	2.43
Transposition of great vessels	9	4.18	2	0.97
Cleft lip w/ or w/o cleft palate	10	4.64	12	5.84
Cleft palate	7	3.25	12	5.84
Hypospadias	125	58.05	1	0.49
Gastroschisis	8	3.72	7	3.40
Upper limb deficiencies	2	0.93	3	1.46
Lower limb deficiencies	0	0.00	0	0.00
Trisomy 21	30	13.93	28	13.62

Annual number and prevalence of birth defects, by county—Connecticut, 2004

	Fairfield		Hartford		Litchfield		Middlesex		New Haven		New London		Tolland		Windham	
	#	Rate*	#	Rate*	#	Rate*	#	Rate*	#	Rate*	#	Rate*	#	Rate*	#	Rate*
Anencephaly	6	5.05	2	1.91	0	—	0	—	4	3.94	0	—	0	—	0	—
Spina bifida	1	0.84	4	3.81	0	—	0	—	3	2.95	0	—	0	—	0	—
Hypoplastic left heart syndrome	0	—	1	0.95	0	—	0	—	2	1.97	0	—	0	—	0	—
Tetralogy of fallot	2	1.68	1	0.95	0	—	1	5.49	9	8.86	0	—	1	7.33	1	7.99
Transposition of great vessels	2	1.68	2	1.91	1	5.14	0	—	5	4.92	0	—	1	7.33	0	—
Cleft lip w/o cleft palate	8	6.74	5	4.76	0	—	1	5.49	4	3.94	2	6.28	1	7.33	1	7.99
Cleft palate w/ or w/o cleft lip	6	5.05	3	2.86	0	—	0	—	4	3.94	2	6.28	3	21.98	1	7.99
Hypospadias	35	29.47	38	36.21	5	25.72	4	21.97	30	29.53	6	18.85	5	36.63	3	23.98
Gastroschisis	0	—	3	2.86	0	0.00	2	10.98	8	7.88	1	3.14	0	—	1	7.99
Upper limb deficiencies	1	0.84	1	0.95	1	5.14	0	—	1	0.98	1	3.14	0	—	0	—
Lower limb deficiencies	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—
Trisomy 21	15	12.63	10	9.53	5	25.72	0	—	23	22.64	3	9.43	1	7.33	1	7.99

*Prevalence per 10,000 live births

Prevalence Rate is defined as the total number of cases with a birth defect over the total number of live births in a year.

Useful Links

Connecticut Department of Public Health
http://www.ct.gov/dph

National Center for Birth Defects and Developmental Disabilities
http://www.cdc.gov/ncbddd

National Birth Defects Prevention Network
http://www.nbdpn.org

March of Dimes
http://www.marchofdimes.com