THE
TEXAS BIRTH DEFECTS
MONITOR

Texas Birth Defects Monitoring Division

VOL. 4, ISSUE 2 DECEMBER 1998

Special Report: 1996 Births in the Lower Rio Grande Valley

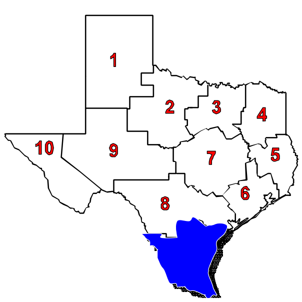
From the Director

The insert found in this issue of the Texas Birth Defects Monitor is a special report of surveillance data collected for births occurring in the Lower Rio Grande Valley (Texas Public Health Region 11). Active surveillance of birth defects in Region 11 began in 1995. Sinc

•Nearly 150,000 births have occurred in this area;

•Staff from the Texas Birth Defects Monitoring Division (TBDMD) have examined records in 83 facilities.

•Approximately 1,600 cases of birth defects have been identified and added to the Texas Birth Defects Registry for births occurring in 1995 and 1996.



Region11--the Lower Rio Grande Valley

Data collection and record abstraction efforts have also been ongoing in the other pilot area, Region 6. This Region comprises greater Houston, Galveston, and surrounding areas. Due to surveillance difficulties unique to this area, however, 1996 data for the greater Houston area will not be available until later in 1999, when the report on 1997 deliveries is published.

If you have questions or would like additional information about birth defect surveillance in Texas, please contact Mark Canfield, Ph.D., Director, at mark.canfield@tdh.state.tx.us or 512-458-7232.

Research Report

Education Plays a Major Role in Folic Acid Supplementation

Women with higher education are more likely to take a vitamin containing folic acid than those with a high school diploma or less, according to the Texas Women's Health Survey study completed by the Texas Birth Defects Research Center. (See the Texas Birth Defects Monitor, Vol. 4, Issue 1, June 1998).

The study showed that African-Americans and Hispanics reported lower daily folic acid supplement use, compared with whites. Further analyses taking education levels into account, however, reveals a somewhat different picture. Women who had not

What's Inside

graduated from high school were less likely to take folic acid than their more educated counterparts, whatever their race or ethnic group. Among women who had only completed high school, whites were more likely to take folic acid. And Hispanic women who had finished college were much more likely to report taking folic acid than their less educated counterparts.

Although there were some differences found in the responses among ethnic groups, these differences were not evident among women who had completed college.

This information will be helpful to public health officials and community groups who are developing ways to get information about preventing birth defects into the hands of those who need it most. This research indicates that health campaigns to increase the use of folic acid supplements must reach all women, but especially those who may have less education. Those with less education often include younger women and those of lower income levels. Hispanic women in these groups are also of particular concern, because Hispanics tend to have higher rates of pregnancies affected by neural tube defects (NTDs).

A bilingual public information campaign focusing on the benefits of folic acid will be running in Texas throughout January.

Surveillance Update

State Health Officials Remain Alert for Cases of CRS

The Texas Department of Health is alerting medical and hospital personnel of the possibility of babies being born with congenital rubella syndrome (CRS) in their facilities. To date, two babies have been confirmed with CRS in Texas--one in Dallas County and another in El Paso County.

CRS is by far the most important consequence of rubella, and Texas has experienced an outbreak of rubella in 1998. Up to 85% of infants born to mothers infected with rubella in their first trimester will develop CRS which can include developmental abnormalities such as heart defects (patent ductus arteriosus), cataracts, deafness, microcephaly, mental retardation and associated conditions. In addition to the birth defects, infected babies can spread the disease to others for as long as one year after birth. It is important that babies suspected at birth of having CRS be placed in isolation immediately. It is also important that all hospital and medical personnel be immune to rubella to avoid further transmission of the disease to susceptible pregnant women.

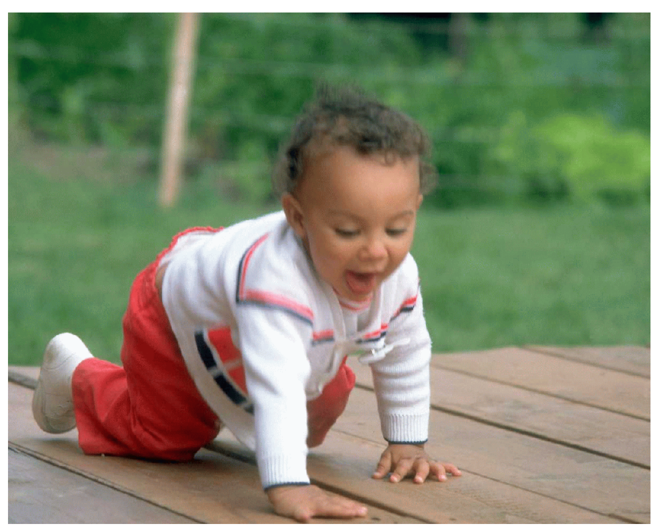
A clinical case of CRS is an illness of newborns resulting from rubella infection in utero and characterized by signs or symptoms from the following categories:

•Cataracts/congenital glaucoma, congenital heart disease (most commonly patent ductus arteriosus, peripheral pulmonary artery stenosis), hearing loss, or pigmentary retinopathy and/or

•Purpura, splenomegaly, jaundice, microcephaly, mental retardation, meningoencephalitis, or radiolucent bone disease.

In the last issue of the Texas Birth Defects Monitor, we noted concerns about increased cases of rubella in Texas. To date, 90 cases have been confirmed in Texas. This is more than seven times the total number of cases reported throughout 1997. Investigation and laboratory testing are pending on another five suspected cases. The last confirmed case of rubella in Texas occurred in Ponder (northwest of Ft. Worth), and experienced onset of symptoms September 4, 1998. All but 10 of the confirmed cases are persons of Hispanic ethnicity, and several cases are health care workers. Rubella has been confirmed in Bell, Cameron, Dallas, Denton, El Paso, Harris, Hidalgo, Jefferson, Montgomery, Nueces, Rockwall, Tarrant, Travis and Willacy counties.

Though the rubella outbreak in Texas appears to be over, concerns persist about the birth of babies with congenital rubella syndrome. Rubella peaked in March and April 1998, so women who might have been infected (and symptomatic) in March or April



during their first trimesters would be delivering babies anytime between September and January. The last reported Texas case occurred in mid-October so public health surveillance efforts will be especially alert for cases until midsummer 1999.

FAS Corner

FAS Speakers Available Around the State

Trained speakers are available in the following cities to make presentations about Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE): Corpus Christi, Austin, Dallas, San Antonio, and El Paso. These speakers have all completed the two-day seminar "What Every Citizen Needs to Know about Fetal Alcohol Syndrome," which teaches participants to make educational presentations on alcohol related birth defects and their prevention. The course is taught by FAS expert and professional trainer Kappie Bliss.

A prerequisite for FAS speaker training is the one-day seminar "Women, Children and Addiction." "Women, Children and Addiction" focuses on preventing FAS by helping health professionals identify and effectively work with women at high risk of giving birth to a child affected by alcohol or other drug abuse. During 1999, the Texas Birth Defects Monitoring Division hopes to offer these seminars in the Panhandle and northwest Texas.

Groups wishing to arrange for an FAS speaker in their community should contact Mary Ethen, Texas Birth Defects Monitoring Division, (512) 458-7232 or by email at mary.ethen@tdh.state.tx.us.

Prevention Notes

Teen Moms-to-Be Still Smoking, Other Rates Decline

While smoking during pregnancy has declined significantly in recent years, smoking by pregnant teens remains high and actually increased, according to a report released by the National Center for Health Statistics (NCHS).

According to the report, the overall rate of smoking during pregnancy dropped 26 percent between 1990 and 1996, so that in 1996 about 14 percent of all women reported smoking during their pregnancies compared with almost 20 percent in 1990. Additionally, declines in smoking were reported for all races and for Hispanic origin groups between 1990 and 1996.

However, for pregnant women ages 15-19, the smoking rate increased in 1995 and 1996 to 17.2 percent after declining for several years.

The report includes data for most states and the District of Columbia and New York City, all of which reported a drop in smoking rates from 1990 to 1996 (except New Mexico where there was no change). The District of Columbia reported the largest single decline, a 57-percent drop. **Texas**, Connecticut, Hawaii, New York City, Utah, and D.C. have the **lowest smoking rates--at or below 10 percent.** West Virginia has the highest rate with 26 percent of women smoking while pregnant.

The number of cigarettes smoked during pregnancy has also declined. Among women who smoked during pregnancy, 33 percent smoked at least half a pack a day in 1996, down from 42 percent in 1990.

Data on smoking during pregnancy are based on information reported on birth certificates filed in state vital statistics offices and reported to NCHS through the National Vital Statistics System.

Maternal smoking can have serious consequences for perinatal health. Conditions such as low birth weight, growth retardation, and infant mortality have been linked to pregnant women smoking tobacco products.

Research has also been done on smoking and certain birth defects, but the findings have not been conclusive.

Source: U.S. Department of Health and Human Services.

Folic Acid Campaign Manual

A resource manual to help in the development and implementation of folic acid promotion/NTD prevention campaigns is now available from the Centers for Disease Control and Prevention.

The manual, *Preventing Neural Tube Defects: A Prevention Model and Resource Guide* for folic acid campaigns is available by email at: flo@cdc.gov or phone 770-488-7190. In addition to the scientific background on neural tube birth defects, the manual outlines a plan for preventive action including: Mobilizing Your Community, Planning a Prevention Campaign, Using Health Communications Materials, and Tracking and Evaluating a Community Program.

"Flo"--the Folic Acid Awareness Campaign Logo

Real world examples explain how some programs have planned, implemented, and evaluated their campaigns. In addition, a wide array of useful literature, resources, and technical information is found in the appendices. Media releases, readability tests, Internet sites, sample letters, and training kits are among the materials available to use and adapt.

Living with Birth Defects

Providing Mother's Milk to Babies with Birth Defects

Breast milk is the ideal food for babies--the only infant food that helps prevent illness. Human milk is rich in antibodies thereby protecting babies from infection. Infants with birth defects are often premature and at high risk for infection and can gain tremendous health benefits from their mother's milk. In addition, the act of nursing helps improve low orofacial muscle tone often found in babies affected by birth defects.

Suckling, swallowing, and breathing are integrated under brainstem control. Neurological deficits affecting these neuromuscular functions carry the risk that the child will have feeding difficulties. These defects can create challenges in feedings--whether breast or bottle feeding. A mother of a baby with birth defects may have to pump and store her milk, working to build up an adequate supply until her baby is strong enough to feed directly at her breast. Meanwhile she may have to spoon feed or use a Supplemental Nursing System (SNS) to provide her baby with breast milk.

Infants born with a cleft lip and/or palate face special challenges. However, mothers can breastfeed these babies as well. The soft breast is ideal for the baby's mouth. The flexibility of the breast allows it to be molded to compensate for abnormalities of the baby's lip or mouth. The baby has more control over the flow of milk and the position of the breast in his/her mouth. Early practice helps baby imprint on the breast. Although choking due to milk leakage into the nose is a common problem when there is an opening in the soft or hard palate, human milk is a natural bodily fluid that is not irritating to the mucous membranes. Therefore, breastmilk is the optimal choice for feeding a baby with cleft lip or palate .

Prior to repair surgery and possibly immediately after, the mother may find that she needs to stimulate her milk supply with an electric breast pump. Pumped milk can be fed to the baby by bottle, finger feeding, cup feeding or supplementary feeding at the breast to assist in maintaining the baby's nutritional needs.

Often babies with birth defects must initially be cared for in a neonatal intensive care unit (NICU). During this time the newborn may be fed through a nasogastric tube. Obviously, this complicates establishing breastfeeding, but does not prevent it. Mothers can use a breast pump to establish an adequate milk supply, and the milk can be fed to the baby through the nasogastric tube. The baby can also be put to the breast for "non-nutritive" sucking while the breast milk is fed through the tube. This contact provides muscle development benefits as well as giving the mother an opportunity to care actively for her baby.

A congenital birth defect need not prevent infants from receiving the benefits of breast milk. Unless a rare metabolic disorder such as galactosemia precludes breastfeeding, infants should receive human milk exclusively for four to six months and continue to get human milk as their primary food for the first year of life.

With successful medical and surgical intervention, and adequate training and support for mothers, many babies with birth defects can function and fully participate in life, including being able to breastfeed. Moms who need information and support with breastfeeding may call **Mom's Place, a free hotline at 1-800-514-MOMS.**

Source: Bureau of Clinical and Nutrition Services, Texas Department of Health and Childbirth Graphics©.

Regional Bulletins

Region 2/3

Region 2/3 is winding down 1997 surveillance activities. The program expects to complete the surveillance year by February. Surveillance of 1998 births is expected to begin in January 1999 with tertiary facilities. Region 2/3 conducts active surveillance in 100 facilities.

In November, staff spoke to nurses at John Peter Smith Hospital Outreach Clinic. Information was presented about the folic acid needs of women of childbearing age and alcohol consumption during pregnancy. These nurses are making folic acid information a routine part of their patient prenatal education.

Region 8

The Texas Department of Health in Region 8 (San Antonio area) has established a cooperative relationship with the United States Air Force Residency in Aerospace Medicine. Physicians from this program visit various public health programs, including the Texas Birth Defects Monitoring Division. These physicians share information about their area of expertise with Region 8 staff, and in turn learn about public health in the region.

Region 1/9/10

Regional staff have collaborated with the March of Dimes-Permian Basin to reduce the number of low-birth-weight babies born in this area. Projects include interviewing doctors about preconception consultations and working with area employers to provide "Baby and You" classes to their employees.

Reading List

Prenatal Diagnosis of Down Syndrome: An investigation in Great Britain determined that a combination of maternal age and fetal nuchal-translucency thickness can be useful in early pregnancy to identify women at risk for a fetus with Down syndrome. [Lancet 1998;352;343-346]

Another study reports that examination of three markers on chromosome 21 in fetal cells obtained through amniocentesis identified more than 99% of all fetuses with Down syndrome in its population. There were no false-positives or false-negatives, and results were available within a day. [Lancet 1998;352;9-12]

Alcohol Use During Pregnancy: A CDC analysis of a telephone survey found that alcohol use during pregnancy was increasing. In 1995, 15.3% of pregnant women drank alcohol, compared with 9.5% of pregnant women in 1992. Frequent alcohol use and binge drinking among pregnant women rose from 0.9% in 1991 to 3.5% in 1995. [Obstet Gynecol 1998;92:187-192.

Brain Tumors and Vitamins: A study by researchers in North America, Europe, and Israel suggest that maternal vitamin use during pregnancy reduced the risk of primary brain tumors among their offspring. [Env Health Persp 1998;106:887-892]

Fetal Surgery of Spina Bifida: Researchers at the Children's Hospital of Philadelphia recently performed the first successful in utero repair of open spina bifida in an early-gestation fetus. [Lancet 1998;352:1675-1676]

Chromosome Defects and Prenatal Diagnosis: Researchers in Texas are investigating a non-invasive test to identify major chromosome anomalies involving chromosomes 13, 18, 21, X, and Y. This test, five-color fluorescent in-situ hybridization, isolates fetal blood cells from the mother's bloodstream and checks them for the chromosomal anomalies. [Am J Obstet Gynecol 1998;179:203-209]

Fetal Alcohol Exposure and Maternal Biomarkers: A study conducted by Boston researchers found that examination of four biomarkers in pregnant women was superior to self-reporting methods in identifying pregnancies at risk for alcohol-induced fetal damage. [J Pediatr 1998;133:346-352]

Birth Defects and Infant Mortality: According to a CDC report, although infant mortality has declined in the U.S. between 1980 and 1995, deaths due to birth defects declined only 34%. As a result birth defects have come to account for a greater proportion of the causes of infant mortality. The decline in birth defect mortality was attributed to increased use of prenatal diagnosis and improvements in the treatment of certain defects. [MMWR 1998;47:773-777]

Intrauterine Infection and Cerebral Palsy: Researchers in North Carolina determined that possible markers for intrauterine infection (chorio-amnionitis, antepartum maternal temperature, etc.) were associated with a diagnosis of cerebral palsy in very low-birthweight (500-1550 g) infants. [Paediatr Perinat Epidemiol 1998;12:72-83]

Another investigation found that full-term infants with cerebral palsy had significantly higher levels of certain cytokines and clotting agents in their blood than infants without cerebral palsy. This finding suggests that cerebral palsy may be linked to intra-uterine infection and allows for tests to identify infants at risk for cerebral palsy. [Ann Neuro 1998;44:665-675]

Announcements

Nominations Sought

The March of Dimes is seeking nominations for the Agnes Higgins Award. This award is presented in recognition of distinguished achievement in research, education, or clinical services in the field of maternal-fetal nutrition. For more information, contact the Education Services Department, March of Dimes, 1275 Mamaroneck Ave., White Plains, New York 10605 914-997-4456

Texas Newborn Screening Program Financing Change

The Texas Department of Health's (TDH) newborn screening program consists of laboratory testing for five conditions and a follow-up program. The five conditions are phenylketonuria (PKU), galactosemia, congenital adrenal hyperplasia (CAH), hypothyroidism and the sickle hemoglobinopathies, especially sickle cell disease.

Two screens are mandated. The first screen is required before the newborn's discharge from the hospital. The second screen is required at one to two weeks of age. The first sample is taken during the hospital stay to detect at the earliest possible opportunity those conditions in which death or disability can be prevented by timely treatment. However, some cases of some disorders may not be detected until a week after birth and so may only be detected on the second screen. Studies suggest that six to eight percent of hypothyroidism cases are detected only on the second screen.

Effective June 1, 1998, TDH fully implemented the new laboratory charges for newborn screening and other laboratory services. For more than 30 years, newborn screening test kits (a specimen collection device, a form for a demographic information and special envelope) have been provided free of charge for all Texas infants. Rising costs combined with the need to maintain an adequate laboratory infrastructure have forced TDH to change its no-charge policy.

The fee for insured children is $13.75 per test kit and is billed to the facility or person ordering the kits. TDH provides free test kits for infants who are uninsured, enrolled in Medicaid or Medicaid-eligible.

Follow-up monitoring and confirmatory serum testing will continue to be provided by TDH free of charge.

Immediate relatives of confirmed cases of abnormal hemoglobinopathies will continue to be offered testing free of charge.

For more information, contact the Texas Department of Health, Bureau of Laboratories, 1100 West 49th Street Austin, Texas 78756, 512-458-7318.

State Announces 1997 Teen Pregnancy Rates

The Texas Department of Health announced that the 1997 birth rate for teens ages 13-17 was 37.9 births per 1,000 females in this age group. This figure is down from 40.3 in 1996, continuing a downward trend for the past six years.

Happy Birthday!

On March 21 1999, the Texas Birth Defects Monitoring Division will celebrate **five years** of operations. Many thanks to the all of our staff, supporters, partners, and collaborators that have contributed over the years to identifying and ultimately preventing birth defects in Texas.

Corrections to Folic Acid Article

The average amount of folic acid in fortified bread is 20 mcg. An intake of synthetic folic acid of 5,000 mcg or more per day has been reported to worsen neuropathy in individuals who were deficient in vitamin B12.

The preceding issue of this publication misstated these figures.

Calendar

1999 Annual Clinical Genetics Meeting
March 19-21, Hyatt Regency Miami, Florida. American College of Medical Genetics, 9650 Rockville Pike, Bethesda, MD 20814-3998 301-571-1887 Fax: 301-571-1895

Human Teratogens: Environmental Factors Which Cause Birth Defects
April 11-13, Sponsored by Massachusetts General Hospital, Dr. Lewis Holmes and Associates. Contact: Harvard Medical School, Dept. of CE; 617-432-1525.

Meeting of the Teratology Society
June 28-July 4, Keystone Resort in Keystone, Colorado. Contact Nancy Dieter at 703-438-3104 for more information.

Contact Us

Central Office:
Texas Birth Defects Monitoring Division
Bureau of Epidemiology
Texas Department of Health
1100 West 49th Street
Austin, Texas 78756-3180
(512) 458-7232 FAX (512) 458-7330
amy.case@tdh.state.tx.us

Public Health Region 1/9/10:
Texas Birth Defects Monitoring Division
Texas Department of Health
6070 Gateway East, Suite 401
El Paso, Texas 79905-0428
(915) 783-1186 FAX (915) 783-1192

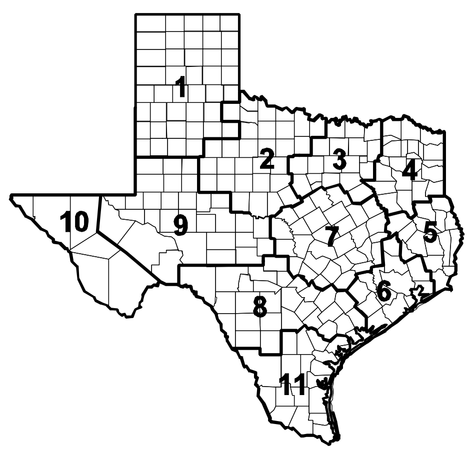
Public Health Region 2/3:
Texas Birth Defects Monitoring Division
Texas Department of Health
1351 East Bardin Road (76018)
P.O. Box 181869
Arlington, Texas 76096-1869
(817) 264-4416 FAX (817) 264-4188

Public Health Region 5/6:
Texas Birth Defects Monitoring Division
Texas Department of Health
5425 Polk Avenue, Suite J
Houston, Texas 77023-1497
(713) 767-3310 FAX (713) 767-3322

Public Health Region 7/4:
Texas Birth Defects Monitoring Division
Texas Department of Health
2408 South 37th Street
Temple, Texas 76504-7168
(254) 778-6744 FAX (254) 778-4066

Public Health Region 8:
Texas Birth Defects Monitoring Division
Texas Department of Health
7430 Louis Pasteur
San Antonio, Texas 78229
(210) 949-2076 FAX (210) 949-2104

Public Health Region 11:
Texas Birth Defects Monitoring Division
Texas Department of Health
601 West Sesame Drive
Harlingen, Texas 78550
(956) 444-3204 FAX (956) 444-3296



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Editor: Amy Case, MAHS, Texas Birth Defects Monitoring Division Information Specialist

Contributors: Mark A. Canfield, Ph.D., Mathias Forrester, Mary Ethen, MPH, Texas Birth Defects Monitoring Division; Laurie Coker, Breastfeeding Promotion Specialist, TDH Bureau of Clinical and Nutrition Services; Margaret Drummond-Borg, MD, TDH Bureau of Family Health

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Texas Birth Defects Monitoring Division
Bureau of Epidemiology
Texas Department of Health
1100 West 49th Street
Austin, Texas 78756-3180

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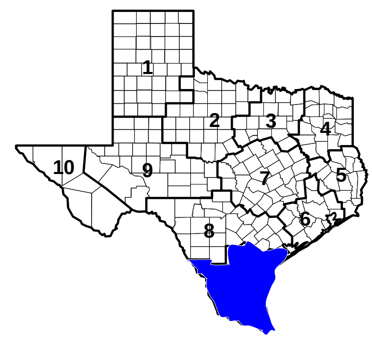
Birth Defects in the Lower Rio Grande Valley–
A Special Report of the Texas Birth Defects Monitoring Division

INTRODUCTION

This report presents information on selected birth defects among deliveries to residents of Public Health Region 11 during 1996. Public Health Region 11 encompasses the following counties: Aransas, Bee, Brooks, Cameron, Duval, Hidalgo, Jim Hogg, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, Refugio, San Patricio, Starr, Webb, Willacy, and Zapata. Major urban areas include Brownsville, McAllen, Harlingen, Laredo, and Corpus Christi.

Figure 1: Region 11--the Lower Rio Grande Valley



This report includes information in the Texas Birth Defects Registry as of December 15, 1998.

Charts and text in this report illustrate selected highlights. A glossary defining the birth defects shown in this report is available upon request. To receive a copy of the glossary, please contact Amy Case, Information Specialist, at 512-458-7232 or by email at amy.case@tdh.state.tx.us.

METHODS

Case Definition

To be included as a case in this report, all of the following must be true.

C The mother's residence at the time of delivery must be in Public Health Region 11.
C The infant or fetus must have been delivered in 1996.
C The infant or fetus must have a condition monitored by the Registry. For 1996 deliveries, over 1,000 conditions were monitored, some of which were selected for this report.
C The defect must be diagnosed or its signs or symptoms must be recognized within the first year of life. An exception is fetal alcohol syndrome, which must be diagnosed or recognized within the first six years of life.
C The infant must have been born alive, or the fetus must have a gestational age of at least 20 weeks or a birth weight of at least 500 grams.

Pregnancies that end before 20 weeks are excluded from the case definition. Since some conditions may be prenatally diagnosed and the pregnancy terminated prior to 20 weeks, the observed rates may underestimate true occurrence. This is most likely to have an impact on anencephaly, spina bifida, Down syndrome, Patau syndrome, Edwards syndrome, and hydrocephaly.

Data Collection Methods

The Texas Birth Defects Monitoring Division uses active surveillance. This means it does not require reporting by hospitals or medical professionals. Instead, trained staff of the program routinely visit medical facilities where they have the authority to review logbooks, hospital discharge lists and other records. Program staff review medical charts for each potential case identified. If the child has a birth defect covered by the Registry, detailed demographic and diagnostic information is abstracted. That information is entered into the computer and sent for processing. Quality control procedures for finding cases, abstracting information and coding defects help ensure completeness and accuracy.

Surveillance activities in Region 11 are completed through a cooperative agreement with the Texas Neural Tube Defect Project.

Data Analysis Methods

Results are presented for selected defects monitored in 1996, whether the defect occurred alone or together with others. Because a child often has more than one defect, it is not meaningful to sum over all diagnostic categories in the tables to obtain the total number of children with birth defects.

Tables include the number of cases found, the estimated prevalence per 10,000 live births, and the 95% confidence interval for the prevalence. Birth prevalence (also referred to as rate) was calculated as follows:

$$\frac{\text{cases}}{\text{total number of live births}} \times 10{,}000$$

The prevalence is only an estimate of the true prevalence, which is unknown. The confidence interval contains the true prevalence of a birth defect 95% of the time. A wide interval indicates the uncertainty stemming from small numbers. This report displays exact 95% confidence intervals based on the Poisson distribution. If one is comparing two prevalences and the 95% confidence interval of each does not include the rate of the other, the prevalences are significantly different from each other. For more information on data analysis methods used in this report, contact the Texas Birth Defects Monitoring Division at 512-458-7232.

RESULTS

Overall Prevalence at Birth

In 1996, there were 36,651 live births to residents of Public Health Region 11. A total of 1,373 cases was detected with one or more of the birth defects monitored in 1996. Of these 1,337 were live born, corresponding to 3.6 percent of all live births. In addition to live births, 16 cases were detected among later fetal deaths (20+ weeks' gestation) and 17 cases among induced pregnancy terminations that did not result in a live birth (also 20+ weeks). There were three cases with other or unspecified pregnancy outcomes.

The most common birth defect was atrial septal defect, which affected 154.7 cases per 10,000 live births (Table 1). Atrial septal defect is a heart defect in which one or more openings in the atrial septum allows mixing of oxygenated and unoxygenated blood. The five most common birth defects were all heart defects: atrial septal defect, pulmonary artery anomaly, patent ductus arteriosus, tricuspid valve stenosis and atresia, and ventricular septal defect. Rounding out the ten leading birth defects were hypospadias/epispadias, obstructive genitourinary defect, Down syndrome, cleft lip with or without cleft palate, and pyloric stenosis. The prevalence of cleft lip with or without cleft palate was twice the prevalence of cleft palate alone.

Spina bifida without anencephaly was the 13th most common birth defect, affecting 6.28 cases per 10,000 live births. Anencephaly was the 18th most common anomaly, affecting 3.55 cases per 10,000 live births. No definitive cases of fetal alcohol syndrome were detected, which is not unexpected given the difficulty of diagnosing this condition during infancy.

Data are not presented by maternal race/ethnicity, since this report includes only one year of data from a population for which 89 percent of babies are born to Hispanic mothers. Racial/ethnic patterns of birth defects will be shown in a wider-area surveillance report to be distributed later in 1999.

Table 1: Prevalence of Selected Birth Defects, Region 11, 1996

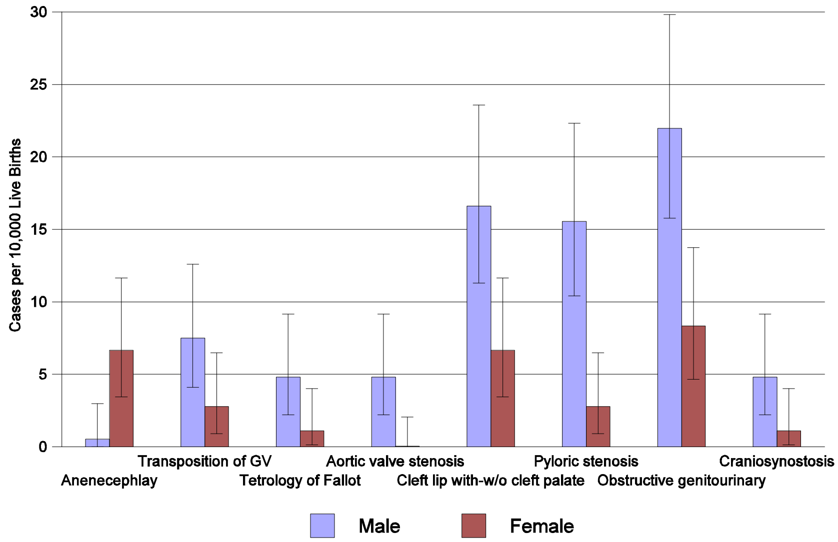
Organ System/Birth Defect	Cases	Rate*	95% Confidence Interval for Rate
CENTRAL NERVOUS SYSTEM			
Anencephaly	13	3.55	1.89 - 6.07
Spina bifida without anencephaly	23	6.28	3.98 - 9.42
Encephalocele	3	0.82	0.17 - 2.39
Microcephaly	13	3.55	1.89 - 6.07
Holoprosencephaly	6	1.64	0.60 - 3.56
Hydrocephaly	24	6.55	4.20 - 9.74
EYE OR EAR			
Anophthalmia	1	0.27	0.01 - 1.52
Microphthalmia	5	1.36	0.44 - 3.18
Cataract	3	0.82	0.17 - 2.39
Anotia/Microtia	9	2.46	1.12 - 4.66
CARDIOVASCULAR			
Common truncus	1	0.27	0.01 - 1.52
Transposition of the great vessels	19	5.18	3.12 - 8.10
Tetralogy of Fallot	11	3.00	1.50 - 5.37
Ventricular septal defect	256	69.85	61.55 - 78.95
Atrial septal defect	567	154.70	142.32 - 167.86
Endocardial cushion defect	7	1.91	0.77 - 3.94
Pulmonary valve stenosis and atresia	26	7.09	4.63 - 10.39
Tricuspid valve stenosis and atresia	281	76.67	67.97 - 86.18
Aortic valve stenosis	9	2.46	1.12 - 4.66
Hypoplastic left heart syndrome	8	2.18	0.94 - 4.30
Patent ductus arteriosus	290	79.12	70.28 - 88.78
Coarctation of aorta	21	5.73	3.55 - 8.76
Pulmonary artery anomaly	322	87.86	78.56 - 97.95
RESPIRATORY			
Choanal atresia or stenosis	3	0.82	0.17 - 2.39
Agenesis, aplasia, or hypoplasia of lung	13	3.55	1.89 - 6.07
ORAL CLEFTS			
Cleft palate alone (without cleft lip)	19	5.18	3.12 - 8.10
Cleft lip with or without cleft palate	43	11.73	8.49 - 15.80
GASTROINTESTINAL			
Tracheo-esophageal fistula/esophageal atresia	8	2.18	0.94 - 4.30
Pyloric stenosis	34	9.28	6.42 - 12.96
Stenosis or atresia of small intestine	9	2.46	1.12 - 4.66
Stenosis or atresia of large intestine, rectum, or anal canal	14	3.82	2.09 - 6.41
Hirschsprung disease	5	1.36	0.44 - 3.18
Biliary atresia	3	0.82	0.17 - 2.39
GENITOURINARY			
Hypospadias and epispadias	86	23.46	18.77 - 28.98
Renal agenesis or dysgenesis	11	3.00	1.50 - 5.37
Obstructive genitourinary defect	56	15.28	11.54 - 19.84
MUSCULOSKELETAL			
Congenital hip dislocation	6	1.64	0.60 - 3.56
Reduction deformity of the upper limbs	10	2.73	1.31 - 5.02
Reduction deformity of the lower limbs	6	1.64	0.60 - 3.56
Craniosynostosis	11	3.00	1.50 - 5.37
Diaphragmatic hernia	7	1.91	0.77 - 3.94
Omphalocele	5	1.36	0.44 - 3.18
Gastroschisis	10	2.73	1.31 - 5.02
CHROMOSOMAL			
Down syndrome (includes trisomy 21, translocations, and mosaics)	44	12.01	8.72 - 16.12
Patau syndrome (trisomy 13)	2	0.55	0.07 - 1.97
Edwards syndrome (trisomy 18)	9	2.46	1.12 - 4.66

*Cases per 10,000 live births.

Prevalence at Birth by Sex of Infant/Fetus

There were eight birth defects for which the prevalence among males was statistically significantly different from the prevalence among females (Figure 2). Of these eight conditions, anencephaly was the only condition where the prevalence was higher among females than among males. Prevalence was significantly higher among males than among females for transposition of the great vessels, tetralogy of Fallot, aortic valve stenosis, cleft lip with or without cleft palate, pyloric stenosis, obstructive genitourinary defect, and craniosynostosis. Hypospadias/epispadias was also higher among males than females; however, it is a male-specific defect.

Figure 2: Selected birth defects that differ significantly by sex



While anencephaly was dramatically higher among females than males, the prevalence of spina bifida did not statistically differ by infant sex. Cleft palate alone also did not differ according to sex, although cleft lip with or without cleft palate was higher among males than females. See also Table 2, Page 5.

Prevalence at Birth by Mother's Age

There were statistically significant differences in prevalence between maternal age groups for 21 conditions, but only a few displayed clear patterns (Figure 3). For gastroschisis and for stenosis or atresia of the large intestine, rectum or anal canal, the youngest mothers had the highest prevalence, and prevalence decreased as maternal age increased. Hypoplastic left heart syndrome and Down syndrome displayed J-shaped patterns, with highest prevalence among the oldest mothers and lowest prevalence among the middle maternal age groups. The prevalence of hydrocephaly was similar for all maternal age groups to age 34, but the prevalence among mothers 35 years or older was about four times that observed among younger mothers. See also Table 3, Pages 6-7.

Figure 3: Selected birth defects that differ by mother's age

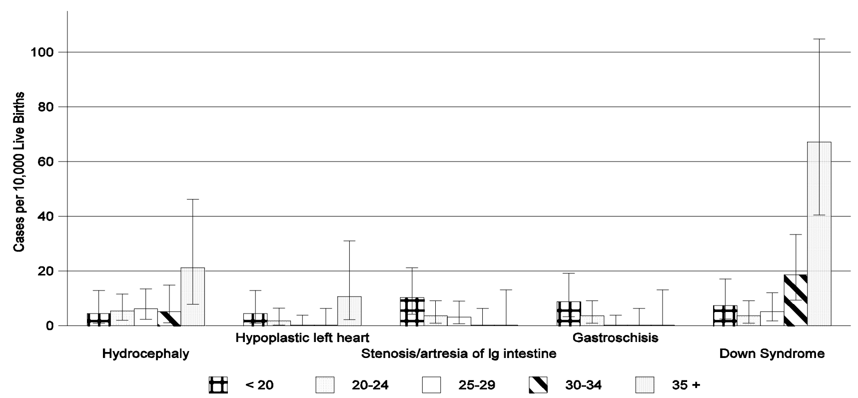


Table 2: Prevalence of Selected Birth Defects by Sex of Infant/Fetus:

Texas Birth Defects Monitoring Division, Birth Defects in the Lower Rio Grande Valley, 1996

Organ System/ Birth Defect	Male/ Female	Cases	Rate*	95% Confidence Interval for Rate
CENTRAL NERVOUS SYSTEM				
Anencephaly	M	1	0.54	0.01 - 2.99
	F	12	6.67	3.45 - 11.65
Spina bifida without anencephaly	M	9	4.82	2.21 - 9.16
	F	14	7.78	4.25 - 13.05
Encephalocele	M	1	0.54	0.01 - 2.99
	F	2	1.11	0.13 - 4.01
Microcephaly	M	4	2.14	0.58 - 5.49
	F	9	5.00	2.29 - 9.49
Holoprosencephaly	M	5	2.68	0.87 - 6.26
	F	1	0.56	0.01 - 3.10
Hydrocephaly	M	15	8.04	4.50 - 13.26
	F	9	5.00	2.29 - 9.49
EYE OR EAR				
Anophthalmia	M	1	0.54	0.01 - 2.99
	F	0	0.00	0.00 - 2.05
Microphthalmia	M	2	1.07	0.13 - 3.87
	F	3	1.67	0.34 - 4.87
Cataract	M	1	0.54	0.01 - 2.99
	F	2	1.11	0.13 - 4.01
Anotia/Microtia	M	7	3.75	1.51 - 7.73
	F	2	1.11	0.13 - 4.01
CARDIOVASCULAR				
Common truncus	M	0	0.00	0.00 - 1.98
	F	1	0.56	0.01 - 3.10
Transposition of the great vessels	M	14	7.51	4.10 - 12.59
	F	5	2.78	0.90 - 6.48
Tetralogy of Fallot	M	9	4.82	2.21 - 9.16
	F	2	1.11	0.13 - 4.01
Ventricular septal defect	M	119	63.80	52.85 - 76.34
	F	137	76.12	63.91 - 89.99
Atrial septal defect	M	301	161.37	143.78 - 180.49
	F	266	147.79	130.57 - 166.66
Endocardial cushion defect	M	5	2.68	0.87 - 6.26
	F	2	1.11	0.13 - 4.01
Pulmonary valve stenosis/atresia	M	17	9.11	5.31 - 14.59
	F	9	5.00	2.29 - 9.49
Tricuspid valve stenosis/atresia	M	152	81.49	69.05 - 95.52
	F	129	71.67	59.84 - 85.16
Aortic valve stenosis	M	9	4.82	2.21 - 9.16
	F	0	0.00	0.00 - 2.05
Hypoplastic left heart syndrome	M	3	1.61	0.33 - 4.70
	F	5	2.78	0.90 - 6.48
Patent ductus arteriosus	M	153	82.02	69.54 - 96.10
	F	137	76.12	63.91 - 89.99
Coarctation of aorta	M	14	7.51	4.10 - 12.59
	F	7	3.89	1.56 - 8.01
Pulmonary artery anomaly	M	176	94.35	80.93 - 109.37
	F	146	81.12	68.50 - 95.40
RESPIRATORY				
Choanal atresia/stenosis	M	2	1.07	0.13 - 3.87
	F	1	0.56	0.01 - 3.10
Agenesis, aplasia, or hypoplasia of lung	M	7	3.75	1.51 - 7.73
	F	6	3.33	1.22 - 7.26
ORAL CLEFTS				
Cleft palate alone (without cleft lip)	M	10	5.36	2.57 - 9.86
	F	9	5.00	2.29 - 9.49
Cleft lip with or without cleft palate	M	31	16.62	11.29 - 23.59
	F	12	6.67	3.45 - 11.65
GASTROINTESTINAL				
Tracheo-esophageal fistula/esophageal atresia	M	5	2.68	0.87 - 6.26
	F	3	1.67	0.34 - 4.87
Pyloric stenosis	M	29	15.55	10.41 - 22.33
	F	5	2.78	0.90 - 6.48
Stenosis/atresia of small intestine	M	4	2.14	0.58 5.49
	F	5	2.78	0.90 - 6.48
Stenosis/atresia of large intestine, rectum,or anal canal	M	10	5.36	2.57 - 9.86
	F	4	2.22	0.61 - 5.69
Hirschsprung disease	M	1	0.54	0.01 - 2.99
	F	4	2.22	0.61 - 5.69
Biliary atresia	M	2	1.07	0.13 - 3.87
	F	1	0.56	0.01 - 3.10
GENITOURINARY				
Hypospadias/ epispadias	M	85	45.57	36.40 - 56.35
	F	0	0.00	0.00 - 2.05
Renal agenesis/ dysgenesis	M	5	2.68	0.87 - 6.26
	F	5	2.78	0.90 - 6.48
Obstructive genitourinary defect	M	41	21.98	15.77 - 29.82
	F	15	8.33	4.66 - 13.75
MUSCULOSKELETAL				
Congenital hip dislocation	M	2	1.07	0.13 - 3.87
	F	4	2.22	0.61 - 5.69
Reduction deformity of the upper limbs	M	6	3.22	1.18 - 7.00
	F	4	2.22	0.61 - 5.69
Reduction deformity of the lower limbs	M	4	2.14	0.58 - 5.49
	F	2	1.11	0.13 - 4.01
Craniosynostosis	M	9	4.82	2.21 - 9.16
	F	2	1.11	0.13 - 4.01
Diaphragmatic hernia	M	4	2.14	0.58 - 5.49
	F	3	1.67	0.34 - 4.87
Omphalocele	M	3	1.61	0.33 - 4.70
	F	1	0.56	0.01 - 3.10
Gastroschisis	M	6	3.22	1.18 - 7.00
	F	4	2.22	0.61 - 5.69
CHROMOSOMAL				
Down syndrome (includes trisomy 21, translocations, and mosaics)	M	19	10.19	6.13 - 15.91
	F	25	13.89	8.99 - 20.51
Patau syndrome (trisomy13)	M	2	1.07	0.13 - 3.87
	F	0	0.00	0.00 - 2.05
Edwards syndrome (trisomy18)	M	7	3.75	1.51 - 7.73
	F	2	1.11	0.13 - 4.01

Note: The sum of birth defects among males and females may not exactly equal the sum of birth defects shown in other tables. This is due to deliveries of undetermined sex.

*Cases per 10,000 live births.

Table 3: Prevalence of Selected Birth Defects by Mother's Age

Texas Birth Defects Monitoring Division, Birth Defects in the Lower Rio Grande Valley, 1996

Organ System/ Birth Defect	Age	Cases	Rate*	95% Confidence Interval for Rate
CENTRAL NERVOUS SYSTEM				
Anencephaly	< 20	5	7.31	2.37 - 17.07
	20-24	3	2.65	0.55 - 7.75
	25-29	3	3.08	0.63 - 9.00
	30-34	2	3.38	0.41 - 12.21
	35+	0	0.00	0.00 - 13.03
Spina bifida without anencephaly	<20	5	7.31	2.37 - 17.07
	20-24	8	7.07	3.05 - 13.94
	25-29	7	7.18	2.89 - 14.80
	30-34	2	3.38	0.41 - 12.21
	35+	1	3.53	0.09 - 19.68
Encephalocele	<20	0	0.00	0.00 - 5.40
	20-24	2	1.77	0.21 - 6.39
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	1	3.53	0.09 - 19.68
Microcephaly	<20	2	2.93	0.35 - 10.57
	20-24	4	3.54	0.96 - 9.06
	25-29	4	4.11	1.12 - 10.51
	30-34	2	3.38	0.41 - 12.21
	35+	1	3.53	0.09 - 19.68
Holopros-encephaly	<20	0	0.00	0.00 - 5.40
	20-24	2	1.77	0.21 - 6.39
	25-29	2	2.05	0.25 - 7.41
	30-34	1	1.69	0.04 - 9.41
	35+	1	3.53	0.09 - 19.68
Hydrocephaly	<20	3	4.39	0.90 - 12.82
	20-24	6	5.31	1.95 - 11.55
	25-29	6	6.16	2.26 - 13.40
	30-34	3	5.07	1.05 - 14.81
	35+	6	21.19	7.78 - 46.13
EYE OR EAR				
Anophthalmia	<20	1	1.46	0.04 - 8.15
	20-24	0	0.00	0.00 - 3.26
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Microphthalmia	<20	1	1.46	0.04 - 8.15
	20-24	3	2.65	0.55 - 7.75
	25-29	1	1.03	0.03 - 5.72
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Cataract	<20	1	1.46	0.04 - 8.15
	20-24	1	0.88	0.02 - 4.93
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	1	3.53	0.09 - 19.68
Anotia/Microtia	<20	1	1.46	0.04 - 8.15
	20-24	3	2.65	0.55 - 7.75
	25-29	4	4.11	1.12 - 10.51
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
CARDIOVASCULAR				
Common truncus	<20	0	0.00	0.00 - 5.40
	20-24	1	0.88	0.02 - 4.93
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Transposition of the great vessels	<20	1	1.46	0.04 - 8.15
	20-24	11	9.73	4.86 - 17.40
	25-29	3	3.08	0.63 - 9.00
	30-34	3	5.07	1.05 - 14.81
	35+	1	3.53	0.09 - 19.68
Tetralogy of Fallot	<20	4	5.85	1.59 - 14.98
	20-24	2	1.77	0.21 - 6.39
	25-29	3	3.08	0.63 - 9.00
	30-34	2	3.38	0.41 - 12.21
	35+	0	0.00	0.00 - 13.03
Ventricular septal defect	<20	42	61.43	44.27 - 83.04
	20-24	73	64.54	50.59 - 81.16
	25-29	67	68.76	53.29 - 87.32
	30-34	50	84.49	62.71 -111.39
	35+	24	84.78	54.32 -126.14
Atrial septal defect	<20	97	141.88	115.05 -173.08
	20-24	167	147.66	126.11 -171.83
	25-29	135	138.55	116.16 -163.99
	30-34	110	185.87	152.77 -224.03
	35+	58	204.87	155.57 -264.85
Endocardial cushion defect	<20	0	0.00	0.00 - 5.40
	20-24	1	0.88	0.02 - 4.93
	25-29	2	2.05	0.25 - 7.41
	30-34	0	0.00	0.00 - 6.23
	35+	4	14.13	3.85 - 36.18
Pulmonary valve stenosis/atresia	<20	2	2.93	0.35 - 10.57
	20-24	8	7.07	3.05 - 13.94
	25-29	6	6.16	2.26 - 13.40
	30-34	4	6.76	1.84 - 17.31
	35+	6	21.19	7.78 - 46.13
Tricuspid valve stenosis/atresia	<20	52	76.06	56.80 - 99.74
	20-24	79	69.85	55.30 - 87.05
	25-29	68	69.79	54.19 - 88.47
	30-34	52	87.87	65.62 -115.23
	35+	30	105.97	71.50 -151.28
Aortic valve stenosis	<20	1	1.46	0.04 - 8.15
	20-24	4	3.54	0.96 - 9.06
	25-29	3	3.08	0.63 - 9.00
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
Hypoplastic left heart syndrome	<20	3	4.39	0.90 - 12.82
	20-24	2	1.77	0.21 - 6.39
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	3	10.60	2.19 - 30.97
Patent ductus arteriosus	<20	47	68.74	50.51 - 91.41
	20-24	88	77.81	62.40 - 95.86
	25-29	61	62.60	47.89 - 80.42
	30-34	64	108.14	83.28 -138.10
	35+	30	105.97	71.50 -151.28
Coarctation of aorta	<20	4	5.85	1.59 - 14.98
	20-24	7	6.19	2.49 - 12.75
	25-29	3	3.08	0.63 - 9.00
	30-34	6	10.14	3.72 - 22.07
	35+	1	3.53	0.09 - 19.68
Pulmonary artery anomaly	<20	65	95.07	73.37 -121.18
	20-24	94	83.11	67.16 -101.71
	25-29	73	74.92	58.72 - 94.20
	30-34	54	91.25	68.55 -119.06
	35+	36	127.16	89.06 -176.05

Table continues on next page.

*Cases per 10,000 live births.

Table 3 Continued: Prevalence of Selected Birth Defects by Mother's Age

Texas Birth Defects Monitoring Division, Birth Defects in the Lower Rio Grande Valley, 1996

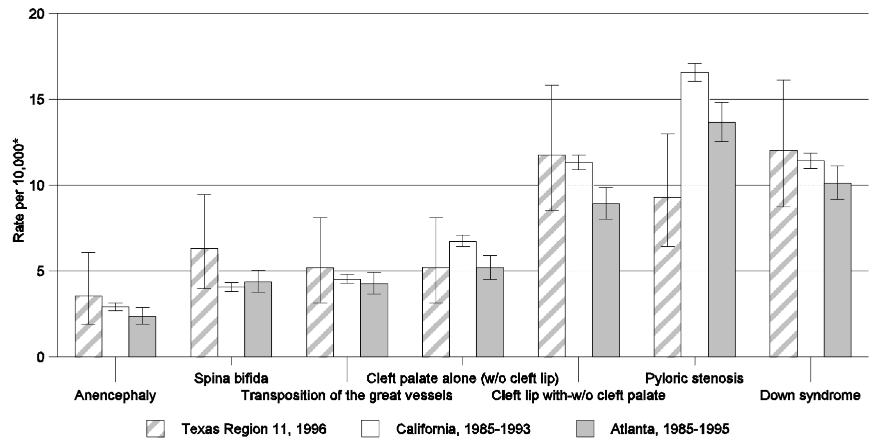
Organ System/ Birth Defect	Age	Cases	Rate*	95% Confidence Interval for Rate
RESPIRATORY				
Choanal atresia/stenosis	<20	0	0.00	0.00 - 5.40
	20-24	0	0.00	0.00 - 3.26
	25-29	0	0.00	0.00 - 3.79
	30-34	3	5.07	1.05 - 14.81
	35+	0	0.00	0.00 - 13.03
Agenesis, aplasia, or hypoplasia of lung	<20	4	5.85	1.59 - 14.98
	20-24	7	6.19	2.49 - 12.75
	25-29	1	1.03	0.03 - 5.72
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
ORAL CLEFTS				
Cleft palate alone (without cleft lip)	<20	5	7.31	2.37 - 17.07
	20-24	6	5.31	1.95 - 11.55
	25-29	2	2.05	0.25 - 7.41
	30-34	5	8.45	2.74 - 19.72
	35+	1	3.53	0.09 - 19.68
Cleft lip with or without cleft palate	<20	8	11.70	5.05 - 23.06
	20-24	13	11.49	6.12 - 19.66
	25-29	12	12.32	6.36 - 21.51
	30-34	7	11.83	4.76 - 24.37
	35+	3	10.60	2.19 - 30.97
GASTROINTESTINAL				
Tracheo-esophageal fistula/esophageal atresia	<20	1	1.46	0.04 - 8.15
	20-24	2	1.77	0.21 - 6.39
	25-29	3	3.08	0.63 - 9.00
	30-34	0	0.00	0.00 - 6.23
	35+	2	7.06	0.86 - 25.52
Pyloric stenosis	<20	5	7.31	2.37 - 17.07
	20-24	15	13.26	7.42 - 21.87
	25-29	8	8.21	3.54 - 16.18
	30-34	4	6.76	1.84 - 17.31
	35+	2	7.06	0.86 - 25.52
Stenosis/atresia of small intestine	<20	1	1.46	0.04 - 8.15
	20-24	2	1.77	0.21 - 6.39
	25-29	5	5.13	1.67 - 11.97
	30-34	0	0.00	0.00 - 6.23
	35+	1	3.53	0.09 - 19.68
Stenosis/atresia of large intestine, rectum, or anal canal	<20	7	10.24	4.12 - 21.10
	20-24	4	3.54	0.96 - 9.06
	25-29	3	3.08	0.63 - 9.00
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Hirschsprung disease	<20	0	0.00	0.00 - 5.40
	20-24	2	1.77	0.21 - 6.39
	25-29	2	2.05	0.25 - 7.41
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
Biliary atresia	<20	0	0.00	0.00 - 5.40
	20-24	0	0.00	0.00 - 3.26
	25-29	0	0.00	0.00 - 3.79
	30-34	2	3.38	0.41 - 12.21
	35+	1	3.53	0.09 - 19.68
GENITOURINARY				
Hypospadias/ Epispadias	<20	12	17.55	9.07 - 30.66
	20-24	25	22.10	14.30 - 32.63
	25-29	28	28.74	19.09 - 41.53
	30-34	18	30.42	18.03 - 48.07
	35+	3	10.60	2.19 - 30.97
Renal agenesis or dysgenesis	<20	3	4.39	0.90 - 12.82
	20-24	2	1.77	0.21 - 6.39
	25-29	6	6.16	2.26 - 13.40
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
Obstructive genitourinary defect	<20	12	17.55	9.07 - 30.66
	20-24	22	19.45	12.19 - 29.45
	25-29	10	10.26	4.92 - 18.87
	30-34	8	13.52	5.84 - 26.64
	35+	4	14.13	3.85 - 36.18
MUSCULOSKELETAL				
Congenital hip dislocation	<20	0	0.00	0.00 - 5.40
	20-24	3	2.65	0.55 - 7.75
	25-29	0	0.00	0.00 - 3.79
	30-34	1	1.69	0.04 - 9.41
	35+	2	7.06	0.86 - 25.52
Reduction/ deformity of the upper limbs	<20	5	7.31	2.37 - 17.07
	20-24	2	1.77	0.21 - 6.39
	25-29	1	1.03	0.03 - 5.72
	30-34	2	3.38	0.41 - 12.21
	35+	0	0.00	0.00 - 13.03
Reduction deformity of the lower limbs	<20	1	1.46	0.04 - 8.15
	20-24	2	1.77	0.21 - 6.39
	25-29	1	1.03	0.03 - 5.72
	30-34	0	0.00	0.00 - 6.23
	35+	2	7.06	0.86 - 25.52
Craniosynostosis	<20	0	0.00	0.00 - 5.40
	20-24	3	2.65	0.55 - 7.75
	25-29	5	5.13	1.67 - 11.97
	30-34	2	3.38	0.41 - 12.21
	35+	1	3.53	0.09 - 19.68
Diaphragmatic hernia	<20	1	1.46	0.04 - 8.15
	20-24	4	3.54	0.96 - 9.06
	25-29	0	0.00	0.00 - 3.79
	30-34	1	1.69	0.04 - 9.41
	35+	1	3.53	0.09 - 19.68
Omphalocele	<20	0	0.00	0.00 - 5.40
	20-24	3	2.65	0.55 - 7.75
	25-29	0	0.00	0.00 - 3.79
	30-34	1	1.69	0.04 - 9.41
	35+	1	3.53	0.09 - 19.68
Gastroschisis	<20	6	8.78	3.22 - 19.10
	20-24	4	3.54	0.96 - 9.06
	25-29	0	0.00	0.00 - 3.79
	30-34	0	0.00	0.00 - 6.23
	35+	0	0.00	0.00 - 13.03
CHROMOSOMAL				
Down syndrome (includes trisomy 21, translocations and mosaics)	<20	5	7.31	2.37 - 17.07
	20-24	4	3.54	0.96 - 9.06
	25-29	5	5.13	1.67 - 11.97
	30-34	11	18.59	9.28 - 33.26
	35+	19	67.11	40.41 -104.81
Patau syndrome (trisomy13)	<20	0	0.00	0.00 - 5.40
	20-24	1	0.88	0.02 - 4.93
	25-29	0	0.00	0.00 - 3.79
	30-34	1	1.69	0.04 - 9.41
	35+	0	0.00	0.00 - 13.03
Edwards syndrome (trisomy18)	<20	1	1.46	0.04 - 8.15
	20-24	2	1.77	0.21 - 6.39
	25-29	2	2.05	0.25 - 7.41
	30-34	1	1.69	0.04 - 9.41
	35+	3	10.60	2.19 - 30.97

*Cases per 10,000 live births.

Texas Data Compared to Data from Other Surveillance Systems

Texas Region 11 prevalence data for seven conditions were compared to data from two other active birth defect surveillance systems, the California Birth Defects Monitoring Program and the Metropolitan Atlanta Congenital Defects Program (Figure 4). Region 11 prevalence data were not statistically significantly different from California or Atlanta data for anencephaly, spina bifida, transposition of the great vessels, cleft palate alone, cleft lip with or without cleft palate, or Down syndrome. However, the prevalence of pyloric stenosis was lower in Region 11 than in either California or Atlanta.

Figure 4: Comparison of Texas Region 11 data to other surveillance systems



*Note: Texas and Atlanta rates are per 10,000 live births, while California rates are per 10,000 live births and fetal deaths.

Table 4: Number of Live Births and Fetal Deaths by Maternal Age, Race/Ethnic Group and Sex

		# Live Births	# Fetal Deaths
Region 11		**36,651**	**191**
By Maternal Age	<20	6,837	40
	20-24	11,310	49
	25-29	9,744	39
	30-34	5,918	32
	35+	2,831	23
	Unknown	11	8
By Race/Ethnic Group	White	3,599	26
	African American	291	7
	Hispanic	32,477	156
	Other / Unknown	284	2
By Sex of Infant or Fetus	Female	18,653	90
	Male	17,998	100
	Unknown	0	1