

Texas Birth Defects Monitor

Texas Birth Defects Monitoring Division

Texas Department of Health

Vol. 3, No. 2, December 1997

From the Director

Research Center: The Texas Birth Defects Monitoring Division has been awarded \$750,000 by the Centers for Disease Control and Prevention to continue activities of the Texas Birth Defects Research Center in fiscal year 1998. This Texas "Center of Excellence" includes research with collaborators from within the Department, The University of Texas Houston School of Public Health, and Texas A&M University. Staff and collaborators from the Texas Birth Defects Research Center recently met in California with the research centers from seven other states and the Centers for Disease Control and Prevention. The group focused on further planning of national collaborative studies, refining methods, describing local studies, and possibilities for partnering with other states on multi-center studies.



News from the National Birth Defects Prevention Network: The second meeting of the National Birth Defects Prevention Network (NBDPN) was held December 7 and 8, 1997, in Atlanta. Mark Canfield, Ph.D., participated on a "legislation" panel; Peter Langlois, Ph.D., presented on a "clusters" panel. The Network's mission is to establish and maintain a national network of state and population-based programs for birth defects surveillance and research to assess the impact of birth defects upon children, families, and health care; to identify factors that can be used to develop primary prevention strategies; and to assist families and their providers with secondary disabilities prevention. Membership is open to persons with an interest in and commitment to this mission, including staff from state birth defect programs, university researchers, and the general public. Seven standing committees have been formed.

In This Issue

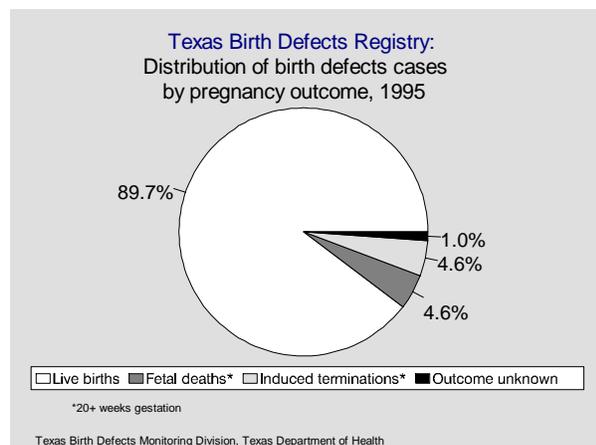
- C More Registry Data Highlights
- C Birth Defects Prevention Month
- C Genetic Services
- C Infant and Childhood Mortality
- C News from the Regions
- C Hypospadias Rate Increasing
- C Vitamin A Consumption OK
- C For Your Information
- C Addresses and Phone Numbers

For more information, contact Mark Canfield, Chair of the Membership, Bylaws, and Nominations Committee at (512) 458-7232 or mcanfield@epi.tdh.state.tx.us.

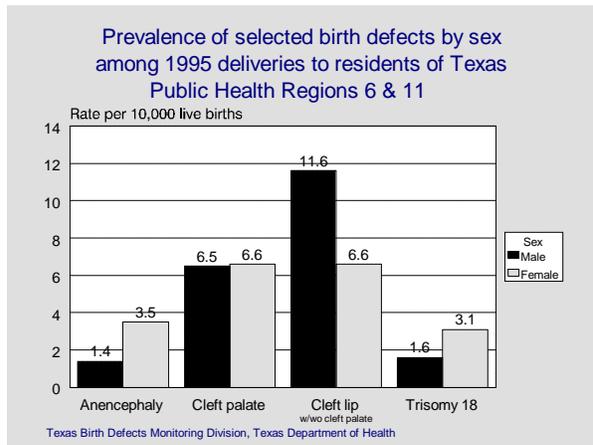
More Highlights from the First Texas Birth Defects Registry Report

The last issue of the **Texas Birth Defects Monitor** (Vol.3, No.1, August 1997), announced the first official Texas Birth Defects Registry report would soon be issued and provided some initial data from the report. Since that time, the report has been issued. Following are some more highlights from the report.

Overall Birth Prevalence: In 1995, there were 111,902 live births to residents of Public Health Regions 6 and 11, the pilot regions for the Texas Birth Defects Registry. A total of 865 cases were detected with one or more structural malformations in 1995. Of these, 776 (89.7% of total cases) were live born, corresponding to 0.7% of all live births (see figure below), which is lower than the 3% rate commonly quoted for the U.S. (i.e., that 3% of all live births result in one or more major structural defects). The difference is due primarily to the reduced case definition for 1995, which was limited to only 23 selected major categories of malformations. The number of conditions monitored will expand in subsequent years.



In addition to live birth cases, 40 cases (4.6%) were detected among later fetal deaths (20+ weeks gestation) and 40 cases among induced pregnancy terminations that did not end in live births (also 20+ weeks). There were 9 other cases (1.0%) with other or unspecified pregnancy outcomes.



Sex Patterns: The rate of anencephaly was 2 ½ times higher among female infants and fetuses than among males (see figure next column). The higher proportion of female anencephaly cases has been consistently documented in the literature and in other surveillance systems. Females had 54% higher rates for spina bifida (with and without hydrocephalus combined). Three spina bifida cases were of indeterminate sex. The rate of encephalocele, the other listed neural tube defect, was 49% higher among females than males.

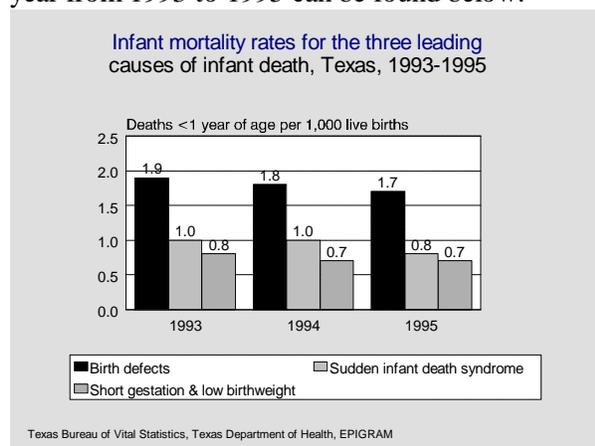
For oral clefts, different sex patterns were seen, depending on the cleft category. Males and females had similar rates of cleft palate alone, but males were 76% more likely to have cleft lip with or without cleft palate.

The rate of trisomy 18 (Edwards syndrome) among females was nearly twice the rate among males. In contrast, females and males experienced similar rates for trisomy 21 (Down syndrome).

If you would like to receive a copy of the report, please contact Sandy Wicker at (512) 458-7232 or swicker@epi.tdh.state.tx.us.

Birth Defects Impact on Infant and Childhood Mortality

Infant Mortality: Analysis of 1993-1995 Texas Bureau of Vital Statistics death certificate data has shown that congenital anomalies account for approximately 550-600 infant deaths each year. This makes birth defects the most common cause of infant mortality in the state those years, accounting for approximately 25% of all infant deaths for each of the three years. A graph of the three leading causes of infant mortality for each year from 1993 to 1995 can be found below.



Mortality patterns were examined over the three-year period for four distinct racial/ethnic groups (white, African American, Hispanic, other). Birth defects accounted for a smaller proportion of total infant deaths for African Americans than for whites or Hispanics (data not shown). Among African Americans, however, congenital anomalies increased in rank over the three-year period (third place in 1993, second in 1994, first in 1995). This is due in part to declining infant death rates from short gestation

and low birthweight in this racial/ethnic group over the same time period.

This analysis was based on an external data source. In the future, the Texas Birth Defects Monitoring Division anticipates using Texas Birth Defects Registry data to examine the impact of specific birth defects in isolation and in combination on infant mortality in the state. The Division will also explore how mortality rates for specific anomalies change over time and with the age of the infant.

Childhood Mortality: Congenital anomalies continue to be a major cause of death beyond infancy. According to data from the Texas Bureau of Vital Statistics, 82 children over one year of age died from birth defects in Texas in 1995.

Birth defects were the third most common cause of death among children aged 1-4 years and fourth among children 5-9 years and 10-14 years (see table on next page). The death rates and proportions in each age group caused by congenital anomalies declined with increasing age, from 9.4% in 1-4 year olds to 3.9% for ages 10-14 years. This trend was observed for all racial/ethnic groups, although African Americans exhibited a slightly higher percentage in the 10-14 year age group than the 5-9 year age group.

In all three age groups, birth defects ranked higher as the cause of death for whites than for African Americans or Hispanics. Although the actual numbers of deaths due to congenital anomalies are small, the total number of deaths for these age groups is likewise small.

For more information, contact Matt Forrester at mforrester@epi.tdh.state.tx.us or (512) 458-7232. We would like to thank Dan Driggers, Quality Control Manager, for his assistance in this analysis.

**Childhood deaths due to congenital anomalies
for various age and racial/ethnic groups, Texas, 1995**

Race/ethnicity	1-4 years				5-9 years				10-14 years			
	Rank	Deaths	Rate*	%**	Rank	Deaths	Rate*	%**	Rank	Deaths	Rate*	%**
White	2	19	3.2	9.3	3	10	1.3	7.4	3	8	1.1	3.9
African American	3	7	4.1	7.3	4	3	1.5	4.2	4	4	2.1	5.6
Hispanic	4	18	3.5	10.2	4	6	1.2	6.6	4	4	0.8	3.1
Other	3	2	6.1	16.7	2	1	3.0	14.3	-	0	0.0	0.0
Total	3	46	3.5	9.4	4	20	1.3	6.6	4	16	1.1	3.9

*per 100,000 population in the age and racial/ethnic group.

**percent of total deaths for the age and racial/ethnic group.

Source: Texas Bureau of Vital Statistics, EPIGRAM

***News from the Regions
(see map page 7)***

Registry Expands to Region 7/4 (Temple):

A new regional office has opened in Temple. This represents the final expansion phase of the Texas Birth Defects Registry. Core staff have been hired to set up this new region, which will cover central Texas (Temple, Austin, Waco, Bryan, College Station) and Northeast Texas (Tyler, Texarkana, Sulphur Springs, Nacogdoches). Hopefully, the field staff will be on board by January. With this activity and the expansion of the Registry into the Texas Panhandle (Region 1: Lubbock, Amarillo, Canyon) and Southeast Texas (Region 5: Beaumont), the Registry will be statewide beginning with 1998 deliveries.

Focus on Community and Managed Care in Region 8 (San Antonio): The Texas Birth Defects Monitoring Division has been operating in Region 8 since early 1997. In addition to surveillance activities, the Region 8 team has served as an integral part of a concerted regional effort to enhance public health infrastructure, to assess the public health condition of

communities, and to promote birth defects prevention measures and messages.

Periodically, Region 8 evaluates its twenty-eight counties and twenty-six programs, including the Texas Birth Defects Monitoring Division, in order to tailor its public health programs to be most effective to the community. At every opportunity, Region 8 Texas Birth Defects Monitoring Program staff emphasize birth defects prevention through various media. The Region is also involved in the development of birth defects prevention language to be included in memoranda of understanding with Medicaid managed care contracts. This allows the inclusion of birth defects prevention specifics and expectations for managed care organizations providing prevention and clinical services for Medicaid patients, a significant percentage of the Region's population. Conversely, this will clarify and document our role in assisting managed care organizations with public health matters.

Prepared by William Moore, Region 8 Regional Manager.

Fetal Alcohol Syndrome Speakers Bureau Provides Community Outreach in Region 1/9/10 (El Paso):

Fetal Alcohol Syndrome (FAS) is the leading known non-genetic cause of mental retardation in the U.S. and one of the leading known causes of birth defects. Through a special project entitled "What Every Citizen Needs to Know," the Texas Office for Prevention of Developmental Disabilities and the Texas Birth Defects Monitoring Division, through a grant from the Centers for Disease Control and Prevention, are helping to educate and increase awareness in the general public on FAS and Fetal Alcohol Effects (FAE). As a result of this initiative, twelve health care professionals from El Paso were trained in July 1997 to make educational presentations on FAS in the community. The training was developed and conducted by Ms. Kappie Bliss, M.Ed., L.P.C., L.C.D.C., a professional trainer and expert in issues related to substance abuse and its impact on women and children.

The participants have organized themselves into an El Paso FAS Speakers Bureau whose members can be contacted to make educational presentations. The goals of the speakers bureau are to increase public awareness of FAS and how every person can have a positive impact for the prevention of FAS/FAE.

The FAS Speakers Bureau consists of health care professionals from the Child Crisis Center; the El Paso City-County WIC Program; Family Services of El Paso; the Texas Department of Health, the Texas Birth Defects Monitoring Division; the Texas Tech Health Science Center; William Beaumont Army Medical Center; and the Tigua Indian Reservation at the Ysleta Del Sur Pueblo. On a volunteer basis, these health care professionals are available to give educational presentations. A flyer with the names and contact information on the speakers has been produced in an effort to "spread the word" on FAS/FAE. Since July 1997, presentations have

been made to a variety of audiences.

The impact of FAS/FAE goes far beyond the children and families directly involved. The loss of human potential and the emotional and economic costs of raising a child affected by FAS or FAE are costs to society at large that can be prevented and reduced significantly. *Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE) are 100% preventable!*

Prepared by Terri Hernando, Region 1/9/10 Regional Manager.

Hypospadias Rate Increasing

A recent Centers for Disease Control and Prevention study has found the rate of hypospadias, a birth defect almost solely restricted to males where the urinary opening is misplaced, has doubled between 1968 and 1993. The increase was most prominent among the more severe types of this defect. This increase has also been noted in five European countries.

The increase is not believed to result from increased identification of hypospadias by surveillance systems or diagnosis by physicians, because the increase would then have been most noted among mild cases. One tentative explanation offered for this increase is the release of synthetic chemicals which mimic hormones into the environment. The Centers for Disease control and Prevention recommended further research.

Vitamin A Not Linked To Birth Defects

Previous studies have linked high dose consumption of vitamin A and use of isotretinoin,

an acne drug marketed as Accutane, which is chemically similar to vitamin A, during pregnancy to increased risk of having a baby with a birth defect. National Institute of Child Health and Human Development researchers and others have determined that typical levels of consumption of vitamin A do not increase the risk of birth defects. No increased risk was found for levels of consumption two-three times the Recommended Dietary Allowance. Vitamin A can be obtained through supplements or through eating foods high in vitamin A, like fortified cereal, liver, and carrots.

For Your Information

At the November 4, 1997, meeting of the **Scientific Advisory Committee** on Birth Defects in Texas, elections were held and Rick Finnell, Ph.D., was elected Committee Chair and Kim Waller, Ph.D., Vice-Chair for 1998. Many thanks to Dr. Celia Kaye and Dr. Finnell for serving as Chair and Vice-Chair, respectively, since the inception of this Committee in January 1995. Following is a list of Scientific Advisory Committee members:

Helene Botsonis, B.S.N.
Dianna Burns, M.D.
Miguel Cintron, M.D.
Larry Edmonds, M.S.P.H.
Rick Finnell, Ph.D., Chair
Frances Gardner, R.N.C., M.S.
Antonio Jesurun, M.D.
Michael Katz, M.D.
Celia Kaye, M.D., Ph.D.
Lowell Sever, Ph.D.
Kim Waller, Ph.D., Vice-Chair

January is **Birth Defects Prevention Month**. The Texas Birth Defects Monitoring Division has created a flyer which will be included in all letters to employment applicants sent out by the

Texas Department of Health Bureau of Human Resources during the month of January 1998. A copy of the flyer is included in this newsletter. Other activities are planned as well.

The Texas Department of Health Genetic Services has a flyer which helps people determine whether a child might need genetics services. A copy of the flyer is included in this newsletter.

The Director recently worked with the Communications Division at TDH on a video news release relating to the fortification of all cereal grains with folic acid, effective January 1, 1998. The news release describes that this is the first national fortification of enriched grain products in over 50 years, and also the **first time that food fortification has been undertaken to prevent a birth defect**. The focus of this news release is that the food fortification, although good, will not help as much as hoped, because of the low fortification level chosen by the Food and Drug Administration for cereal grains. We emphasize that all women of reproductive potential should take multivitamin supplements or eat highly fortified breakfast cereals daily, regardless of this grain fortification or good dietary habits, to ensure adequate intake of folic acid. The "story," which includes a tie-in with Birth Defects Prevention Month, was scheduled to be released to Texas TV stations on December 29, 1997.

The Texas Birth Defects Monitoring Division will participate on a "Registries" panel at the **Texas Public Health Association** Public Health Presentations Annual Conference in Galveston, Texas, on February 8-10, 1998.

Thanks to Angela Scheuerle, M.D., and Margaret Drummond-Borg, M.D., for their invaluable assistance as Clinical Reviewers. These clinical geneticists advise and consult with our Division on clinical issues.

Useful Addresses and Phone Numbers

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
 swicker@epi.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
 lgonzalez@r10.tdh.state.tx.us

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) 264-4420
 cbolton@r03.tdh.state.tx.us

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
 warriaga@r06.tdh.state.tx.us

Public Health Region 7/4:

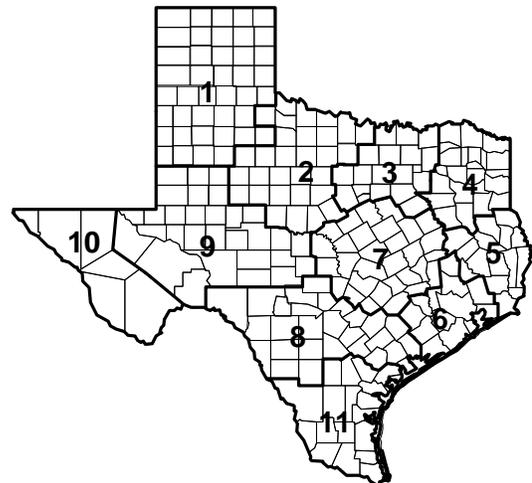
Texas Birth Defects Monitoring Division
 Texas Department of Health
 2408 South 37th Street
 Temple, Texas 76504-7168
 (254) 778-6744
 FAX (254) 778-4066
 ewalker@r07.tdh.state.tx.us

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
 rmfarias@r08.tdh.state.tx.us

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
 mgarza@r11.tdh.state.tx.us



The *Texas Birth Defects Monitor* is published by the Texas Department of Health.

Walter Wilkerson, Jr., M.D.
Chair, Texas Board of Health

William R. Archer III, M.D.
Commissioner of Health

Patti Patterson, M.D.
Executive Deputy Commissioner

Diane Simpson, Ph.D., M.D.
State Epidemiologist and
Associate Commissioner,
Disease Control and Prevention

Dennis Perrotta, Ph.D., C.I.C.
Chief, Bureau of Epidemiology

Mark A. Canfield, Ph.D.
Director, Texas Birth Defects
Monitoring Division

Editor: Mark A. Canfield, Ph.D., Director
Associate Editors: Matt Forrester,
Epidemiologist; and Rob Wilson, Systems
Support Specialist

To be added to the mailing list for this or other free publications from the Division, please contact us at (512) 458-7232 or swicker@epi.tdh.state.tx.us.

How to reach us:

Austin:	(512) 458-7232
Arlington:	(817) 264-4416
Houston:	(713) 767-3310
Temple	(254) 778-6744
San Antonio:	(210) 949-2076
El Paso:	(915) 783-1186
Harlingen:	(956) 444-3204



January is Birth Defects Prevention Month

Birth defects are the leading cause of infant death in the United States. Though we don't yet know the causes of all birth defects, we do know several things women can do to help insure a healthy pregnancy.

- C Folic acid is a vitamin that helps prevent very serious birth defects of the brain and spine. These defects occur before most women even know they're pregnant. All women who can become pregnant, even if they're not planning a pregnancy, should take a multivitamin containing 0.4 milligrams of folic acid every day. Most multivitamins contain this amount.

- C Drinking alcohol during pregnancy can cause birth defects. If you're pregnant or planning a pregnancy, your safest choice is not to drink at all. It's something good you can do to give your baby the best possible start in life.

- C See your health care provider for a preconception visit before you become pregnant. Preconception care and care during pregnancy (prenatal care) are both vitally important. Your health care professional can provide crucial information to help you have a healthy baby.

For more information contact your health care provider
or the Texas Birth Defects Monitoring Division
at the Texas Department of Health
(512) 458-7232

When Does A Child Need Genetic Services?

If one or more of the following applies to a child you know, he or she might need genetic services. Please contact your local genetic service provider for more information about referrals or 1-800-422-2956 or 1-800-4BABYLOVE for referral to a genetic service provider.

Birth Defects

- Cataracts
- Cleft lip and/or Cleft palate
- Congenital heart disease
- Contractures
- Diaphragmatic hernia
- Genital malformations
- Glaucoma
- Misshapen skull
- Missing fingers or toes
- Missing or incomplete limbs
- Spina bifida
- Other congenital anomalies

Chronic Disease

- Bleeding disorders
- Childhood cancers
- Kidney or urinary tract disease
- Slow growth or short stature
- Cystic fibrosis
- Sickle cell disease
- Thalassemia
- Other chronic disease

Developmental Problems

- Autism
- Attention deficit/hyperactivity
- Developmental delay
- Failure to thrive
- Learning disability
- Low muscle tone
- Mental illness
- Mental retardation
- Regression
- Speech problems

Sensory Deficits

- Extreme farsightedness
- Extreme nearsightedness
- Hearing loss
- Retinal problems

Unusual Physical Features

Ears

- Ear pits or tags
- Unusually shaped ears

Eyes

- Different colored eyes
- Downslanting eyes
- Epicanthal folds
- Upslanting eyes
- Wide-spaced eyes

Face

- Facial asymmetry

Hair

- Brittle or sparse hair
- Excessive body hair
- White patch of hair

Mouth

- Large or small tongue
- Misshapen teeth
- Missing or extra teeth
- Smooth philtrum
- Thin upper lip

Skeletal

- Loose joints
- Unusually tall or short stature
- Webbing between fingers or toes

Skin

- ! *Excessive skin*
- ! *Increased or decreased sweating*
- ! *Many birthmarks*
- ! *Any other unusual features*

When Does A Child Need Genetic Services?

If one or more of the following applies to a child you know, he or she might need genetic services. Please contact your local genetic service provider for more information about referrals or 1-800-422-2956 or 1-800-4BABYLOVE for referral to a genetic service provider.

Birth Defects

- Cataracts
- Cleft lip and/or Cleft palate
- Congenital heart disease
- Contractures
- Diaphragmatic hernia
- Genital malformations
- Glaucoma
- Misshapen skull
- Missing fingers or toes
- Missing or incomplete limbs
- Spina bifida
- Other congenital anomalies

Chronic Disease

- Bleeding disorders
- Childhood cancers
- Kidney or urinary tract disease
- Slow growth or short stature
- Cystic fibrosis
- Sickle cell disease
- Thalassemia
- Other chronic disease

Developmental Problems

- Autism
- Attention deficit/hyperactivity
- Developmental delay
- Failure to thrive
- Learning disability
- Low muscle tone
- Mental illness
- Mental retardation
- Regression
- Speech problems

Sensory Deficits

- Extreme farsightedness
- Extreme nearsightedness
- Hearing loss
- Retinal problems

Unusual Physical Features

Ears

- Ear pits or tags
- Unusually shaped ears

Eyes

- Different colored eyes
- Downslanting eyes
- Epicanthal folds
- Upslanting eyes
- Wide-spaced eyes

Face

- Facial asymmetry

Hair

- Brittle or sparse hair
- Excessive body hair
- White patch of hair

Mouth

- Large or small tongue
- Misshapen teeth
- Missing or extra teeth
- Smooth philtrum
- Thin upper lip

Skeletal

- Loose joints
- Unusually tall or short stature
- Webbing between fingers or toes

Skin

- ! *Excessive skin*
- ! *Increased or decreased sweating*
- ! *Many birthmarks*
- ! *Any other unusual features*



January is Birth Defects Prevention Month

Birth defects are the leading cause of infant death in the United States. Though we don't yet know the causes of all birth defects, we do know several things women can do to help insure a healthy pregnancy.

- C Folic acid is a vitamin that helps prevent very serious birth defects of the brain and spine. These defects occur before most women even know they're pregnant. All women who can become pregnant, even if they're not planning a pregnancy, should take a multivitamin containing 0.4 milligrams of folic acid every day. Most multivitamins contain this amount.

- C Drinking alcohol during pregnancy can cause birth defects. If you're pregnant or planning a pregnancy, your safest choice is not to drink at all. It's something good you can do to give your baby the best possible start in life.

- C See your health care provider for a preconception visit before you become pregnant. Preconception care and care during pregnancy (prenatal care) are both vitally important. Your health care professional can provide crucial information to help you have a healthy baby.

For more information contact your health care provider
or the Texas Birth Defects Monitoring Division
at the Texas Department of Health
(512) 458-7232