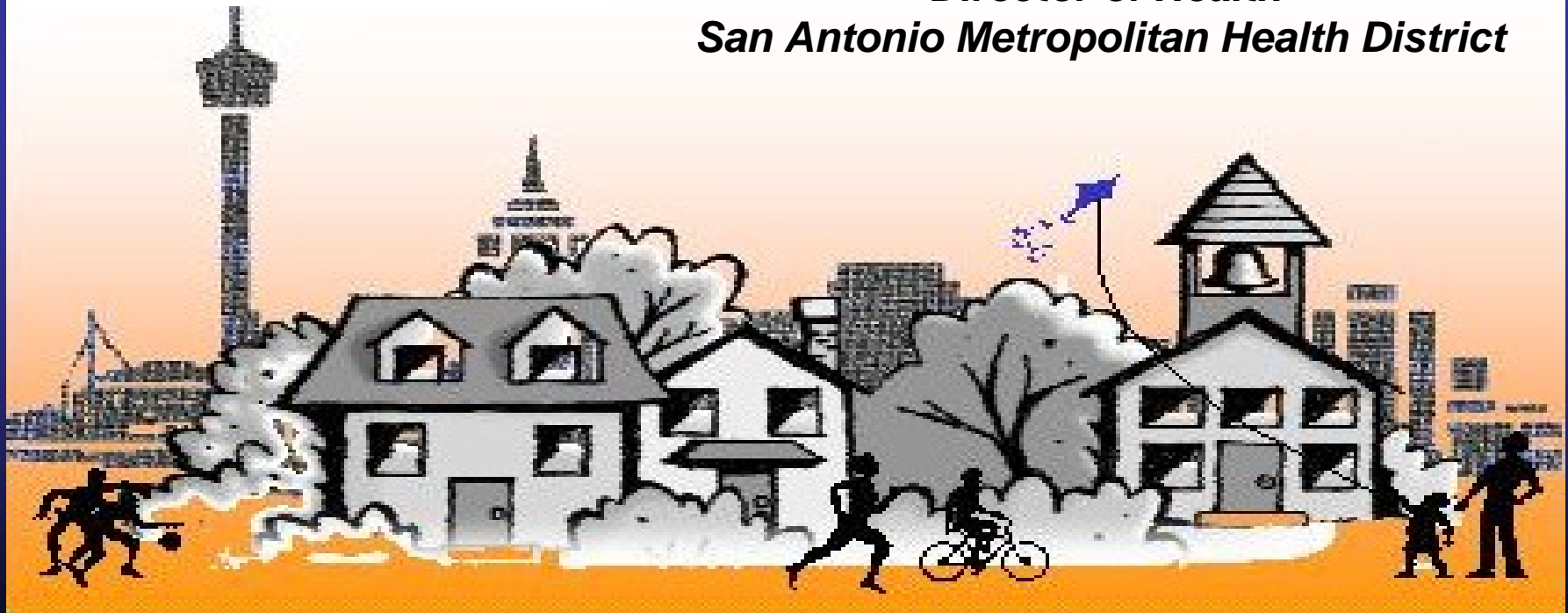


Drug Withdrawal Syndrome in Newborns "Neonatal Abstinence Syndrome"

Public Health Grand Rounds July 25, 2008



*Fernando A. Guerra, M.D., M.P.H.
Director of Health
San Antonio Metropolitan Health District*



<http://www.sanantonio.gov/health/Healthprofiles-Main.html>

Objectives

- Define Neonatal Abstinence Syndrome (NAS)
- Discuss issues of substance abuse during pregnancy and impact on families
- Describe infant demographics and morbidity associated with substance abusing mothers in San Antonio
- Discuss problems with identifying and managing substance exposed infants
- Discuss some public health recommendations regarding Neonatal Abstinence Syndrome

Neonatal Abstinence Syndrome

- Neonatal Abstinence Syndrome (NAS) refers to the constellation of signs and symptoms exhibited by infants with drug dependencies. Maternal substance abuse, the cause of prenatal NAS, has both medical and developmental consequences for the newborn.
- NAS is often a multisystem disorder that frequently involves the central nervous and gastrointestinal systems. Neonates may exhibit feeding difficulties, vomiting, excessive crying, irritability, tremors, seizures and poor sleep patterns.

Substance Abuse

- Some legal vs. illegal drugs, tobacco, caffeine or alcohol use can affect the health of a developing fetus.*
- Substance abusing mothers are less likely to seek early prenatal care and may have nutritional compromise.
- Substance abusing mothers are more likely to have pregnancy complications, and complications with delivery.
 - STD, HIV, Hepatitis B and C
 - Poly-substance abuse
 - Depression

Substance Abuse

- One long-term consequence of prenatal drug exposure is a higher incidence of learning disabilities.
- Domestic and family violence: 1/4 to 1/2 of men who commit acts of domestic violence also have substance-abuse problems.
- Child Abuse: substance abuse exhibited by 81% of families reported for child maltreatment
- Drug offenders crowd the nation's prisons & jails

Infants of Substance Abusing Mothers*

- Each year San Antonio's Hospitals withdraw on average **120 newborns**.
- From 2002 to 2006, San Antonio saw a **30% increase** in newborns to substance abusing mothers.
- Average length of stay of newborns was **23 days**.
- **30%** of newborns were premature.

Infants of Substance Abusing Mothers*

- Approximately **8% newborns** who are infants of substance abusing mothers have slow fetal growth and fetal malnutrition.
- **\$1,500** a day is spent on each infant.
- Infants of substance abusing mothers were hospitalized for a **total of 3,601 days per year.**
- The annual direct medical cost for initial hospital stay was **\$5.4 million.**

San Antonio Hospital Discharge Data

Year	Total	Average Length of Stay (days)	Slow fetal growth & fetal Malnutrition 764	Disorders relating to short gestation & low Birth weight 765	% Premature
2006	138	26.2	13	52	38%
2005	128	27.4	10	48	38%
2004	123	21.3	8	35	28%
2003	112	23.8	6	33	29%
2002	105	19.2	13	15	14%
Total	606	23.6	50	183	30%

Drug Withdrawal Syndrome In Newborn, data included a record for each patient with a ICD-9 diagnosis of 779.5 listed as primary or contributing cause

Problems Identifying & Managing Substance Exposed Infants

- A local health department has a very important role in the community, to apply surveillance, analysis and interventions. However this data is difficult to obtain:
 - Lack of public health resources to study substance-exposed infants
 - Problems linking hospital data with Vital Statistics
 - Lack of hospital data on type of substance abuse and cost
 - Lack of longitudinal outcomes for infants of substance abusing mothers

Recommendations

- San Antonio needs a comprehensive system for mental health & substance abuse treatment
- San Antonio needs a syringe safety exchange program to help prevent infectious diseases
- Training standards to reduce inter-observer variability on Finnegan scores on infants.
- Increase the number of substance abuse treatment programs that treat pregnant women.
- San Antonio needs a Maternal and Child Health research network and a consistent standard for managing mothers during pregnancy.

Recommendations

- Consider making NAS a reportable condition to allow for capturing the scope of the problem and facilitate research and effective interventions
- Social Justice: We need an approach that improves children's education, ensures affordable housing, prevents unplanned childbearing and protects against domestic violence.

If Substance Abuse Was An Infectious Disease, It Would Be An Epidemic!