

*Public Health's Role
with
Infants of Substance Abusing Mothers*
Mini Symposium Oct. 25, 2008

METRO HEALTH
SAN ANTONIO'S PUBLIC HEALTH TEAM

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

Overview

- Education is one of the strongest predictors of health*
- Some important Health problems associated with dropping out of school are pregnancy, substance abuse, mental illness and behavioral problems.*
- Infants of Substance Abusing Mothers are at higher risk for low birth weight, prematurity and child abuse/neglect.

* Freudenberg N, Ruglis J. Reframing school dropout as a public health issue. *Prev Chronic Dis* 2007;4(4). www.cdc.gov/pcd/issues/2007/oct/07_0063.htm

Public Health's Role

- Generations ago, the public relied on public health to stop the spread of disease, improve sanitation and act as a safety net.*
- This generation needs public health to address social health determinants and to maintain the success of past generations.*
- Public Health Approach: define the problem, collect and analyze the data, determine the causes of the problem, take necessary action.*
- Public Health's role is to call attention to health disparities and poor outcomes.*

* The Public Health Approach to the Elimination of Disparities in Health, David Satcher, M.D., Ph.D.

Educational Attainment Is An Important Public Health Measure

- An adequate education is critical for reducing disparities.*
- In Bexar County, among Hispanic students the high school dropout rate is 43%, African Americans 37%, and Non Hispanic Whites 23%.**
- Population growth is fastest among minorities.

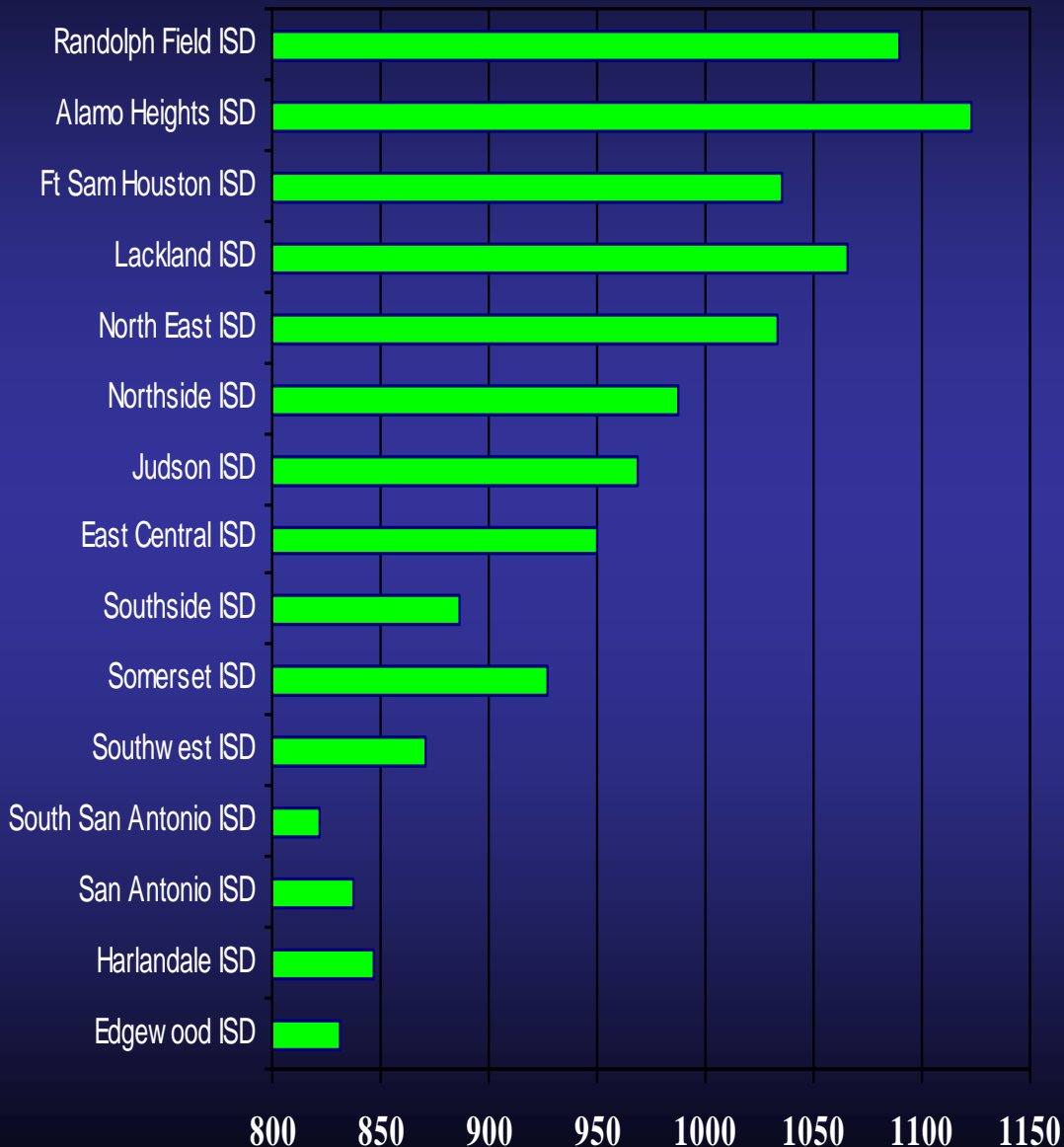
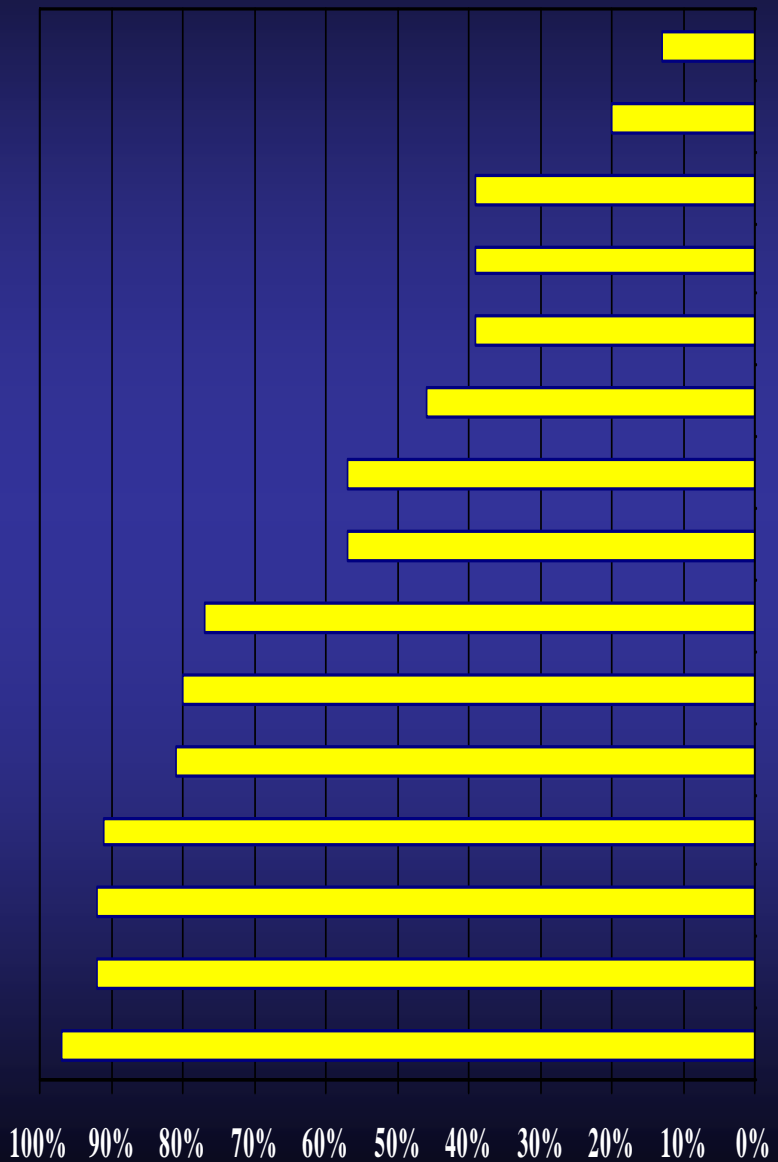


•* David Satcher, M.D., Ph.D.

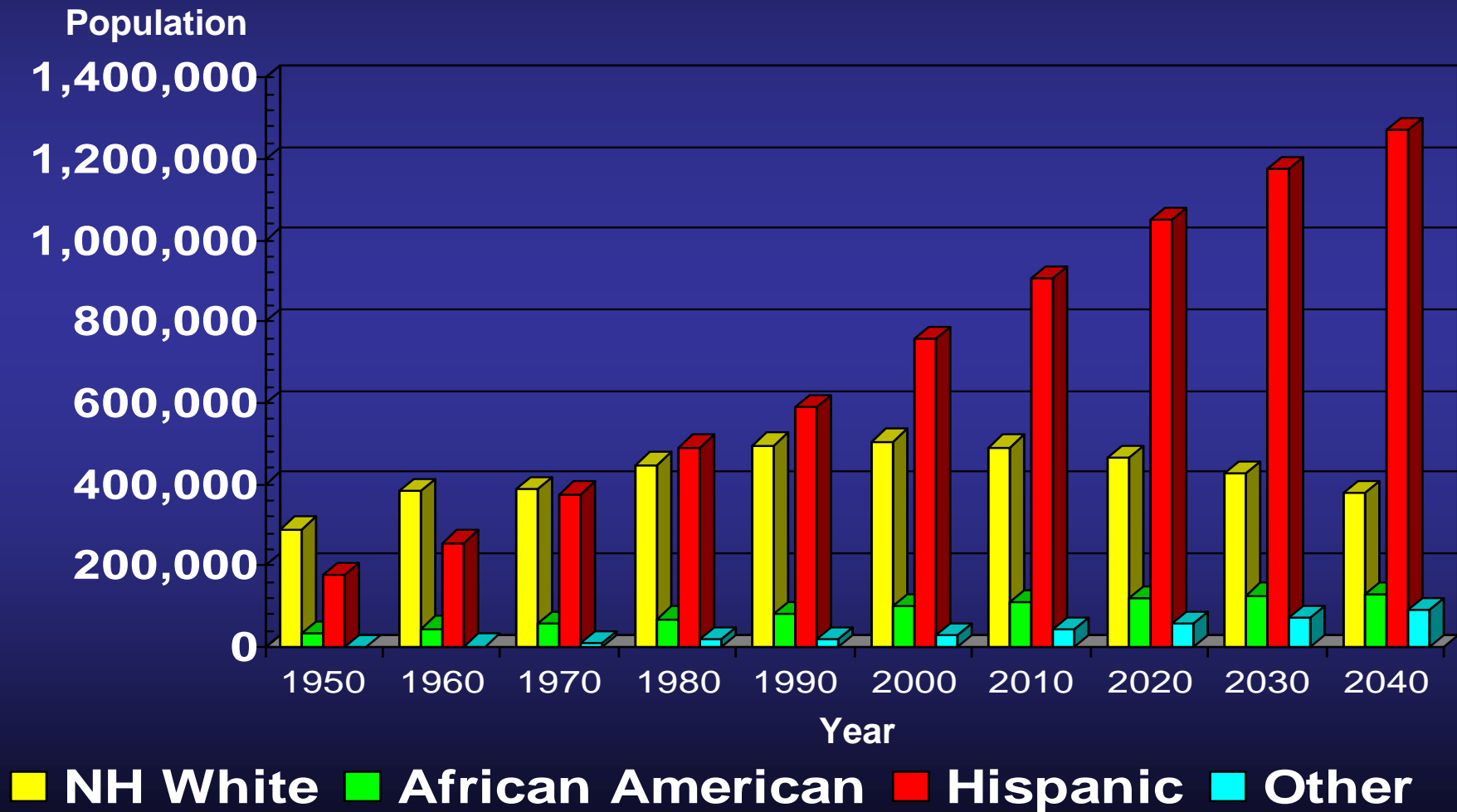
•** Intercultural Development Research Association 06 /07 school year

% Economically Disadvantaged Children by School District 2007-2008

SAT Mean Total Score by School District 2007-2008

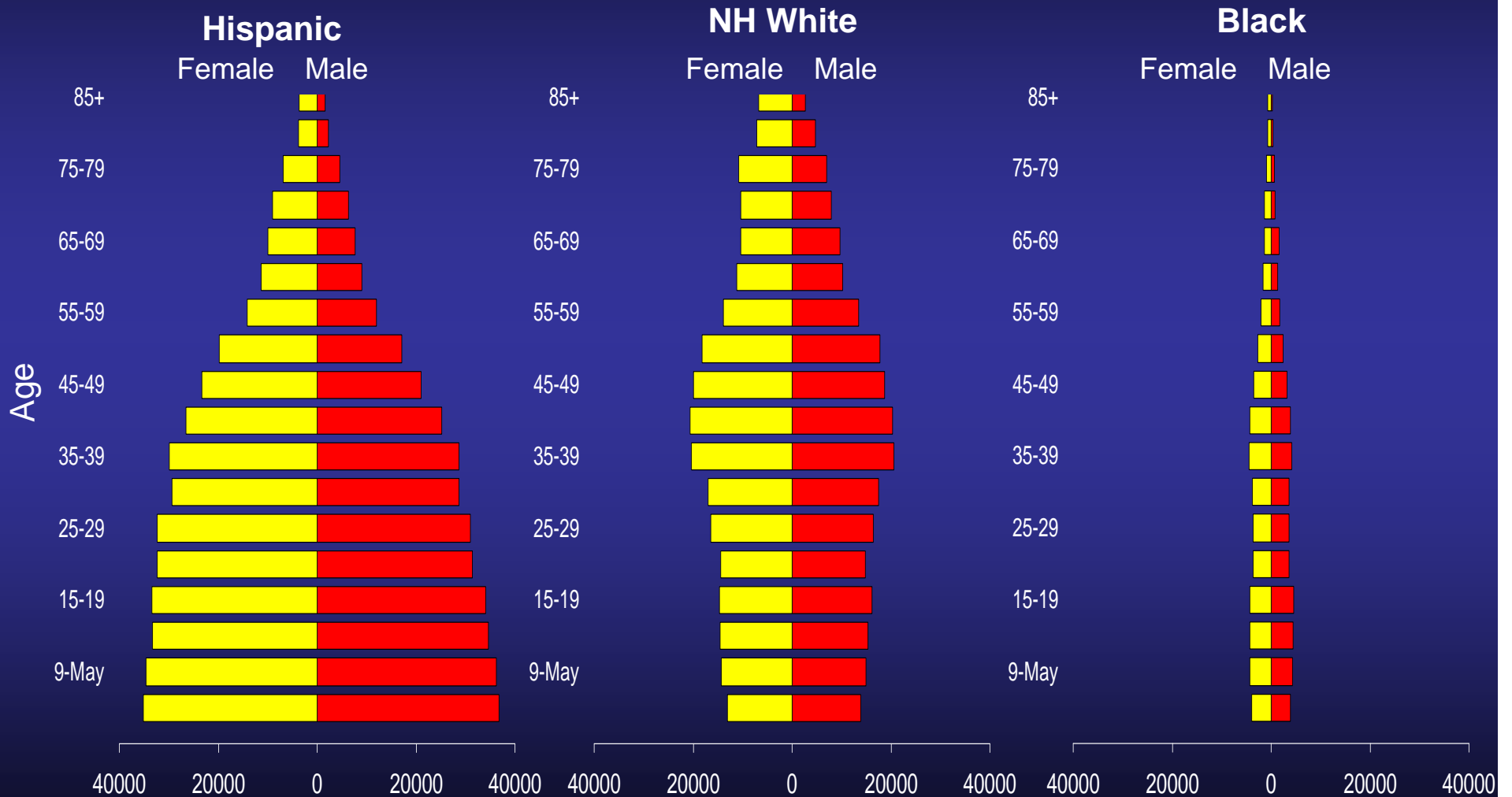


Projected Population of Bexar County by Race and Ethnicity, 1950-2040



Source: U.S. Census and Texas State Data Center

Bexar County Age Distribution (Hispanic, NH White & African American)



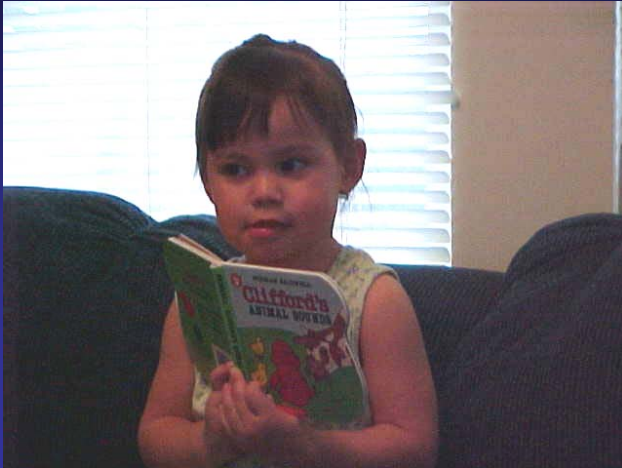
Source: 2000 Census

Preconception Health, Prenatal Care, Pregnancy Outcomes

- What occurs before or during pregnancy, some of the most powerful influences on outcomes are among the following:
 - Nutrition
 - Social Connectedness
 - Infection
 - Environmental Exposures
 - Substance Abuse
 - Unplanned Childbearing*
 - Financial Security
 - Mental Health
 - Domestic Violence





*Based on 2007 clinic data conducted in San Antonio, among 400 survey participants, 72% of mothers claimed they did not plan to get pregnant

Substance Abuse



- Mothers who use tobacco, caffeine or alcohol are at-higher risk for a premature birth and can impact the developing fetus.
- Substance abusing mothers are less likely to seek early prenatal care
- Substance abusing mothers are more likely to have pregnancy and delivery complications.

Bexar County Scorecard – Maternal Health

Maternal Indicators	YR 2007	HP 2010	Status
Total Births	27,156		
Mother's Age <18	1,393 5.1%	5%	
Low Birth Weight <2500g	2,546 9.4%	< 5%	
Late Prenatal Care > 1st Trimester	7,421 27.3%	<10%	
Births to Single Mothers	11,836 43.6%		
Premature <37 Weeks	3,465 12.8%	7.6%	
Medicaid Births	13,619 50.2%		
Births to mothers BMI 30 & above before pregnancy	6,797 25.0%		
Births occurring < 24 mos previous birth	4,745 17.5%		
Births to mothers with < high school / GED education	7,513 27.6%		

* Preliminary data subject to change.

Bexar County 2007 Births to Mothers <22 Yrs. by Birth Order and Age

Birth Order	1	2	3	4	5	6	not given	Total
Age of Mother								
12	-	-	-	-	-	-	-	-
13	10	-	-	-	-	-	-	10
14	62	1	-	-	-	-	-	63
15	196	9	-	-	-	-	-	205
16	372	42	3	-	-	-	-	417
17	552	130	11	3	1	-	1*	698
18	742	227	58	3	-	-	-	1,030
19	874	346	102	17	1	-	-	1,340
20	807	484	192	41	9	-	-	1,533
21	646	527	234	83	25	3	-	1,518
Total	4,261	1,766	600	147	36	3	1	6,814

* Birth order of infant not given in birth record

Infants of Substance Abusing Mothers

- Unfortunately, many women use drugs and alcohol before they know they are pregnant.
- Others continue to abuse drugs while pregnant as a result of addictions or mental problems.
- Abuse of alcohol or drugs during pregnancy can lead to severe health problems, eg., prematurity, LBW, infection, FAS.
- Babies born to substance abusing mothers may have withdrawal symptoms that vary from mild to significant (Neonatal Abstinence Syndrome (NAS))

Births That Occurred In Bexar County 2005

	White NH		African American		Hispanic With a SSN		Hispanic Without SSN	
Total Births	8,078		1,527		16,679		2,067	
Mothers Age <22	1,051	13%	448	29%	5,214	31%	508	25%
Single Mother Births	1,695	21%	933	61%	7,952	48%	760	37%
Late Prenatal Care > 3	1,545	19%	561	37%	4,550	27%	687	33%
No Prenatal care	333	4%	87	6%	719	4%	319	15%
Medicaid Births*	2,349	29%	936	61%	11,029	66%	78	4%
Mothers Ed Years < 12	601	7%	325	21%	5,166	31%	1,206	58%
Cigarette use before preg	4,641	57%	620	41%	2,087	13%	88	4%
Premature <37 Weeks	932	12%	281	18%	1,606	10%	200	10%
LBW Infants (<2500 grams)	668	8%	267	17%	1,606	10%	144	7%
Diabetes - Gestational	255	3%	47	3%	720	4%	147	7%
Breast Fed	6,466	80%	715	47%	9,407	56%	1,820	88%
% of women receiving 4 or fewer prenatal visits	258	3%	164	11%	1,228	7%	406	20%

*We used a lack of a SSN as an indicator of undocumented status

Babies at Risk for Withdrawal Symptoms Born to Substance Abusing Mothers Neonatal Abstinence Syndrome (NAS)

- 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 NAS newborns was **24 days**.
- **30%** of NAS newborns were premature.

Babies at Risk for Withdrawal Symptoms Born to Substance Abusing Mothers Neonatal Abstinence Syndrome (NAS) cont.

- Approximately **8% newborns** who are infants of substance abusing mothers have slow fetal growth and fetal malnutrition.
- **On average \$1,500** a day is spent on each infant.
- Infants of substance abusing mothers were hospitalized for an **average of 23.6 days per year**.
- **The average cumulative annual direct medical cost for initial hospital stay was \$4.3 million.**

San Antonio Hospital Discharge Data

Year	Total	Length of Stay (days)	Average	Slow fetal growth & fetal Malnutrition 764	Disorders relating to short gestation & low Birth weight 765	% Premature
2006	138	3,621	26.2	13	52	38%
2005	128	3,511	27.4	10	48	38%
2004	123	2,619	21.3	8	35	28%
2003	112	2,660	23.8	6	33	29%
2002	105	2,023	19.2	13	15	14%
Total	606	14,393	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

- Lack of public health resources to study substance-exposed infants
- Lack of hospital data on type of substance abuse and cost
- Training standards to reduce inter-observer variability on Finnegan scores on infants.
- Legal problems linking hospital data with Vital Statistics
- Lack of consistent standards in substance abuse treatment programs that treat pregnant women.

Substance Abuse

- Consider making NAS a reportable condition to allow for capturing the scope of the problem and facilitate research and effective interventions
- Domestic and family violence: Half 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*
- San Antonio needs a harm reduction program to help prevent infectious diseases (i.e. needle exchange program)
- Where A Child Lives May Be One Of The Most Powerful Predictors Of Child Health Outcomes**

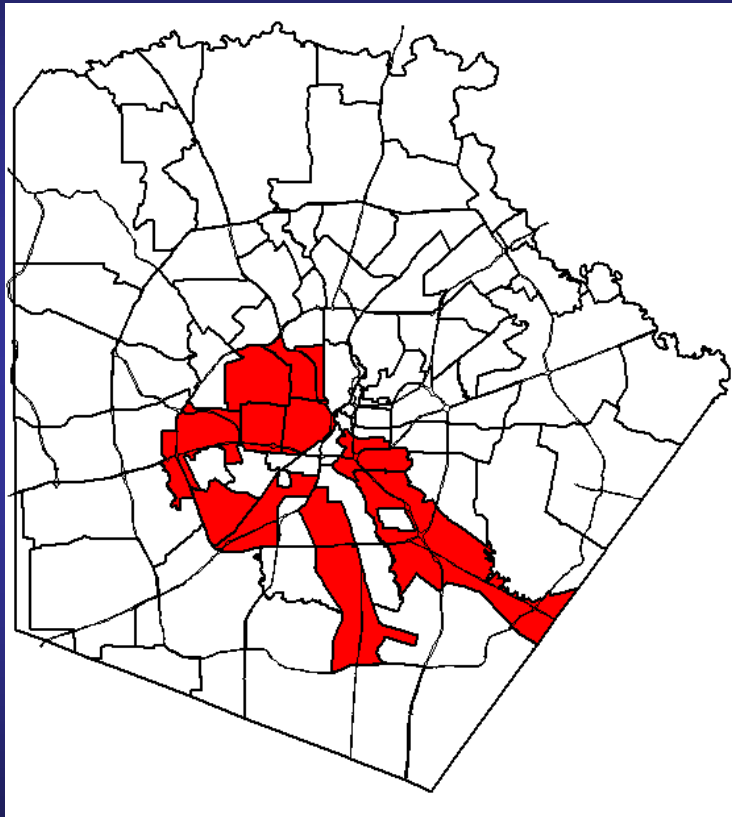
* U.S. Department of Health & Human Services *Integrating Pediatrics and Public Health, Jeffrey Goldhagen, MD, MPH ,PEDIATRICS Vol. 115 No. 4 April 2005, pp. 1202-1208**

Place Matters

- Place matters because it determines what kind of physical or chemical agents you might be exposed to.
- It matters what kind of social environment you are exposed to.
- It matters if there's a lot of violence or crime in your neighborhood.
- It matters if it's easy to go for a walk in your neighborhood or find healthy foods.
- Health disparities may arise as a result of land use policies or the absence of policies.

Disparity Indicators

10 Zip Codes of 72 (area in Red), account for 30% of population,
% of Bexar County Totals



		% of County
High School Dropouts*	4,954	51%
Homicide	58	48%
Liver Cancer Deaths	68	48%
Child Abuse Cases	2,033	44%
Domestic Violence Cases	5,160	42%
Juvenile Probation	4,130	41%
Diabetes listed as primary or contributing cause	546	40%

Zip Codes selected for high numbers of single and teen mothers

*2000 Census & 2006 indicators

82% Hispanic, 3% African American
Median Household Income \$26,824

2007 Maternal Health Disparities

10 Zip Codes of 72 (area in Red), account for 30% of population,
% of Bexar County Totals

		% of County
Total Births	8,665	
Births to mothers with < high school / GED	3,770	50.2%
Births To Mothers Age <18	694	49.9%
Medicaid Births	5,922	43.5%
Single Mother Births	5,034	42.6%
Births To Mothers BMI 30 Before Pregnancy	3,045	38.7%
Births Occurring < 24 Months of Previous Birth	1,827	38.6%
Late Prenatal Care Births	2,826	38.1%
Premature Births <37 Weeks	1,260	36.4%
Low Birth Weight Births	887	34.8%

Recommendations

- San Antonio needs a comprehensive system for physical and mental health & substance abuse especially as it relates to mothers, infants, and children.
- Monitor the health system, outcomes, and impact on the community.
- Develop community-based management strategies for chronic illnesses.
- Integrate data from various sources for public health surveillance, reporting, policy-making, and allocation of resources.
- Social Justice considerations: to call attention to populations at risk and address disparities.

QUESTIONS?

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

<http://www.sanantonio.gov/health>

If you have any questions call John Berlanga 210-207-6976