Solano County
Health and Social Services
Public Health Division

Fetal and Infant Mortality Review (FIMR) Project

2005-2009

Maternal, Child, and Adolescent Health (MCAH) Bureau

Solano County Fetal and Infant Mortality Review Project
2005-2009

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Acknowledgements:

We wish to thank the members of the Solano County FIMR Case Review Team who have invested their time and energy in reviewing cases and making recommendations to help improve the health of mothers and infants in Solano County. We also want to express our appreciation to Jennifer Doran, Public Health Nurse Manager for her intensive work summarizing FIMR medical records and interviewing mothers. Finally, thanks to Marisol Byers and other members of the vital records system for assisting with compiling all documents necessary for this report.

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Supervisor's Message

Solano County strongly supports children and families. We have many programs targeted to children, especially programs that are funded through First 5. As a former First 5 Commissioner, I know these programs that help children to be born healthy. However, there is much more work to be done. This report is a compilation of areas where we need to pay more attention if we are to continue to improve.

Since 1999, the Solano County Health and Social Services' Maternal, Child and Adolescent Health Bureau has worked closely with community members, health care providers, and many others who work with pregnant and parenting women to reduce fetal and infant deaths and to improve pregnancy outcomes. We wish to thank the over 40 individuals who regularly participated in the FIMR Case Review Team, which has done in-depth reviews of the 43 fetal and infant deaths that have occurred in Solano County from 2005 through 2009.

Although some infant deaths cannot be prevented, many more can. Many infants go home to families with multiple psychosocial and/or environmental issues with few support services in place, and inadequate linkage to follow-up care and services. As a community we need to do a better job of protecting our newborns and supporting their families. The FIMR review demonstrates the need for continued education about infant death risk factors. Just as the United States has increased awareness and social norms regarding the need for infant car seats, opportunities exist to educate families about the need for a safe sleep environment for their child, including appropriate infant bedding, back sleeping, and the risks of secondhand smoke.

An emerging area of focus for the state of California is preconception and interconception health care. Many of the maternal risk factors for poor pregnancy outcomes include chronic conditions such as obesity, diabetes, asthma, and hypertension; or risky behaviors such as smoking, alcohol use, and drug use. The best chance for a healthy pregnancy begins with addressing these factors before a woman becomes pregnant. As a community, we are called upon to design systems that support women in planning their pregnancies, and encourage women to seek out care to improve their physical, emotional, and social health throughout their reproductive years.

Finally, the review suggests areas in which the provider community can improve systems of care for pregnant women and their families. Providers need to be knowledgeable about community resources and be able to refer to appropriate agencies. Medical records should be accessible to patients and their doctors, transportation should be available to and from medical providers, and multiple providers serving an infant or pregnant woman should be able to appropriately coordinate care. Follow-up systems need to be in place to alert providers to issues such as missed appointments or incomplete linkages to referrals.

The findings and recommendations from the FIMR report should be considered an urgent call to action. Our entire community, including both public and private agencies and policy-makers, is tasked with making changes within their own organizations and collaboratively with others to institute policies, programs, and legislation that will help improve birth outcomes and the infant mortality rate in Solano County. We need to give our infants the best possible chance for a healthy future.

Sincerely,

Barbara R. Kondylis
Supervisor District 1

Nancy Calvo, MPH
FIMR/Maternal, Child & Adolescent Health Director

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Executive Summary

Since 2000, Solano County's infant mortality rate has not been statistically different from the state of California's rate. However, both rates were above the Healthy People 2010 objective of 4.5 infant deaths per 1000 live births. Although infant mortality rates in Solano County vary from year to year, overall the trend has been flat over the last decade. If we are to improve, we need new ideas and new energy brought to the task. The Fetal and Infant Mortality Case Review Team has sought to understand the data collected herein and applied knowledge of current systems in place in Solano County to make recommendations for moving forward. Some highlights of the findings of the report and key recommendations are presented below, and can be found discussed in greater detail within the report itself:

1. Preconception/Interconception Care

The health of the mother during pregnancy is a major factor in a good pregnancy outcome. But good health begins long before a woman conceives. Many chronic conditions that put pregnancies at risk take time and attention to bring under control. We must do more to educate women of reproductive years about preconception health, including the risk of drug and alcohol use. As part of preconception care, women should be encouraged to seek prenatal care as early as possible whenever a pregnancy does occur.

2. Case Management/Care Coordination

Many women face numerous life challenges which act as barriers to getting optimal care for themselves and their infants. Multiple stresses in the lives of pregnant women can also have a negative impact on health, as well as difficulties which arise from being seen by multiple providers or at multiple sites. A more holistic approach is needed for these high-risk women to help provide referrals to other needed services and improve communication between multiple providers.

3. Alcohol, Tobacco and Other Drugs/Depression/Domestic Violence

Solano County is working towards a goal of universal screening for all pregnant women for use of tobacco, alcohol, and other drugs, as well as depression and domestic violence. Results from screens performed so far through the BabyFirst Solano Perinatal Substance Abuse Project show that over 40% of women screened used tobacco, alcohol or other drugs in the month before they knew they were pregnant, potentially exposing the fetus to substances at a vulnerable time in its development. All women should be screened for substance use and referred to services to help them quit when needed. We must also work to reduce rates of substance use for all women of reproductive age, to ensure that even unplanned pregnancies get a healthy start.

4. SIDS

Since 1992 when the American Academy of Pediatrics began recommending that babies be put on their back to sleep, the number of babies who die of SIDS each year has decreased significantly. We need to continue to reach women and medical providers to educate them that babies should be put to sleep on their backs at night and for naps. Co-sleeping has also emerged as a key risk factor in Solano County for SIDS deaths. Messages about "safe sleep for babies" including the risks of co-sleeping and the need for infant safe bedding and a smoke-free environment are important.

5. Postpartum Visits

Solano County should continue its work to increase the number of women who return to their doctor after delivery for a six-week checkup. This visit is not only important for the health of the mother, but an important chance for women to hear messages about taking care of their infant and planning future pregnancies.

We encourage all parts of the community to join with us in this effort.

Solano County FIMR

In January 1999, in response to indications that the health and well being of women and newborns could be improved, Solano County Department of Health and Social Services (HSS) initiated the FIMR. FIMR is part of a statewide effort to use community members in a case-review process, to improve systems of care and community resources for women and their infants. These concerns inspired HSS to take action by implementing the FIMR model. This process brings together key members of the community to review information from individual cases of fetal and infant death in order to identify the factors associated with those deaths, determine if they represent system problems that require change, develop recommendations for change and assist in the implementation of change.

The objectives of the Solano County FIMR program are to:

- Examine significant socio-economic, safety and health-system factors that are associated with fetal and infant mortality.
- Recommend interventions and policies to improve the service system and community resources.
- Participate in the implementation of community-based interventions and policies.
- Assess the progress of the interventions.

Based on the number of deaths, the Case Review Team (CRT) examines the fetal and infant deaths that fit the criteria of a FIMR case. Records are obtained and compiled including medical, hospital, and coroner records, and an interview with the mother if possible. The CRT is comprised of members from a broad range of professional organizations and public and private agencies (health, welfare, education, and advocacy) that provide services and resources for women, infants, and families. A roster of the 2005-2009 CRT participants in Solano County FIMR can be found in the Appendix on the last page of this report.

All reviews are conducted confidentially. The CRT is **not** about fault finding or assessing blame for the deaths. Instead, the CRT identifies barriers to care and trends in service delivery to suggest ideas to improve policies that affect families. To do so, the CRT asks the following questions as it examines each case:

- Did the families receive the services or community resources they needed?
- Are there gaps in the system?
- What can this case tell us about how families can use the existing local resources?

The FIMR CRT **differs** from the Coroner's Child Death Review Team (CDRT) in that:

- The FIMR process reviews fetal death (late term pregnancy loss) and infant death up to one year after birth.
- Cases are reviewed anonymously.
- There is no objective to place blame or responsibility on any individual or institution.

The Child Death Review Team (CDRT):

- Reviews child deaths from birth to 18 years old.
- Reviews the specifics of every case, including a review of individual and institutional responsibility.
- Rules out criminal acts.

Fetal and Infant Mortality Review Process

Cases for the FIMR CRT are selected for review based on several criteria. Fetal deaths must be at or greater than 24 weeks gestation, and must weigh 500 grams or more. Of particular interest are cases which are complex or for which initial information suggests that they may have been preventable. The FIMR Review team paid especial attention to cases ruled as SIDS or SUID. In addition, Solano County's FIMR program participated in the state's BIH-FIMR program. The Black Infant Health (BIH)-FIMR Program was initiated in November 2004 through a Title V-funded FIMR expansion project to address the persistent disparity in African American fetal and infant deaths. With the completion of the three-year pilot of the Baby Abstracting System and Information NETwork database, the BIH-FIMR Program ended on June 30, 2009. For this reason, cases reviewed in the 2004-2009 period were much more likely to have been African-American than would otherwise be the case for Solano County.

Fetal and Infant Mortality Review (FIMR) is an action-oriented process for community action and change to improve the systems of care and community resources for women, infants and families. There are over 200 FIMR programs nationwide working for the same goal: to improve the chances of babies' survival past their first birthdays. Although each program is independent of each other, the process followed is similar in that each program gathers FIMR data, reviews cases, implements community action, and promotes community change.

In order to share and compare data, fetal and infant deaths have been defined as:

Fetal Death – death of a fetus at or over the 24-week gestation period. The death is indicated by the fact that, after expulsion or extraction, the fetus does not breathe or show any other evidence of life, such as a beating heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

Infant Death – any death at any time from birth up to, but not including, one year of age (364 days, 23 hours, 59 minutes from the moment of birth).

Changes that come from the FIMR Review process can benefit all babies. Many of the causes of fetal and infant mortality such as prematurity, low birth weight and substance exposure also cause ongoing health problems for the babies that do survive. Since many babies with these risk factors survive for each one that dies, fetal and infant deaths represent only the "tip of the iceberg." Children born with ongoing health problems related to the risk factors noted in this report not only face lifelong challenges, but are tremendously costly to the health care system. These children also often incur future costs in other systems such as education, social services, and the justice system. Information learned from the FIMR Review Process can lead to the implementation of systems change that will benefit generations of children and preserve health care resources.

Solano County MCAH Death Log, Fetal and Infant Deaths, 2005-2009

As part of the process of selecting cases to be reviewed by the FIMR Case Review Team, Solano County MCAH keeps its own database of fetal and infant deaths that occurred in Solano County to Solano County residents, known as the Fetal and Infant Death Log. Case information for fetal deaths comes from fetal death certificates (hard copies). Infant deaths were identified from death certificates for 2005 and 2006; since 2007 they have been identified from the EDRS death registration system. These deaths have been matched with birth certificates in the cases that the birth occurred in Solano County. In some cases, death certificates for infants residing in Solano County, but who died in another county, have been made available by the counties in which the death occurred. These cases have been added to the database and help provide a more complete data set. However, since not all out-of-county deaths were retrieved, the database cannot be said to be a total set of fetal and infant deaths to Solano county residents.

Information from both the Fetal and Infant Death Log and from the reviewed cases contributes to the understanding of fetal and infant mortality in Solano County. Since the FIMR team reviews only a small subset of fetal and infant deaths, it is better to look at the whole death log to analyze statistical questions based on birth certificate data such as the percentage of cases by ethnicity, city of residence, or incidence of premature birth. However, it is only with the details revealed by case abstraction and maternal interviews that the FIMR team can address more complex issues such as the role of drug abuse, domestic violence, unsafe infant sleeping practices, or communication failures between providers and families. For those types of questions, data from the set of reviewed cases is essential.

Solano County Background

Health Status Indicators

The total number of births in Solano County dropped from 6,669 in 1990 to 5,763 in 2001 to 5,601 in 2008. In 2008 the crude birth rate (number of births per 1,000 population) was 13.2 per 1,000 population and the general fertility rate was 64.4 per 1,000 women ages 15-44. Of the 5,601 live births to county residents in 2008, 36% were paid for by Medi-Cal, compared to 47% statewide. The 2004-2006 3-year average mortality rate for infants less than 1 year old was 5.2 per 1,000 live births. The 2005 rate of neonatal deaths (under 28 days of age) was 4.9 per 1,000 live births. The crude death rate in the county in 2008 was 633.8 per 100,000 population.

MCAH Health Status Indicators

The California State Maternal, Child and Adolescent Health Bureau requires each local health jurisdiction to evaluate 27 different health indicators for a needs assessment which is performed every five years. In the 2010-2014 needs assessment. Solano County compared unfavorably to the state and/or to the Healthy People (HP) 2010 targets in several areas. Healthy People 2010 is a set of national health objectives which can be used as a benchmark in tracking progress towards healthy communities. Solano County was also compared to the state of California as a whole, and the county's current health status was compared to its past. For 5 indicators, trend analysis shows that health status has decreased over time. A summary of the findings is shown on the following page.

Selected Health Indicators for Solano County

Solano is Worse than Healthy People 2010	Solano is Worse than California	Solano Health Status is Worsening over Time (trend)	Solano County is Better than HP 2010 and/or California
Low birth weight	Low birth weight	Low birth weight	Teen birth rate (ages 15-19)
Very low birth weight	First trimester prenatal care	Childhood overweight	Multiple births to teen mothers
Pre-term births	Adequate prenatal care	Reported cases of Chlamydia	Rate of hospitalizations for non-fatal injuries (ages 0-24)
Short inter-pregnancy interval	Reported cases of Chlamydia	Children living in Foster Care	Non-fatal Motor Vehicle Accident injuries (ages 0-14)
Perinatal deaths		Exclusive breastfeeding	Rate of hospitalization for asthma (ages 0-18)
1st trimester prenatal care			
Adequate prenatal care			
Overweight children			
Non-fatal MV accident injuries			
Exclusive breastfeeding			
Children's insurance coverage			

Problem areas for Solano County were reviewed by a Technical Advisory Group (TAG). The TAG reviewed and discussed the criteria and resulting priorities with a broad stakeholder group through a community meeting. The TAG criteria which included the incidence and prevalence of the problem, the degree of knowledge about the problem, its causes and interventions, the level of current focus from the State and/or existing coalitions or collaboratives, and the relationship of the problem to other problem areas (i.e. is the problem a precursor to other problems?)

This process resulted in a list of seven priority areas for the 2010-2014 period. These priorities are:

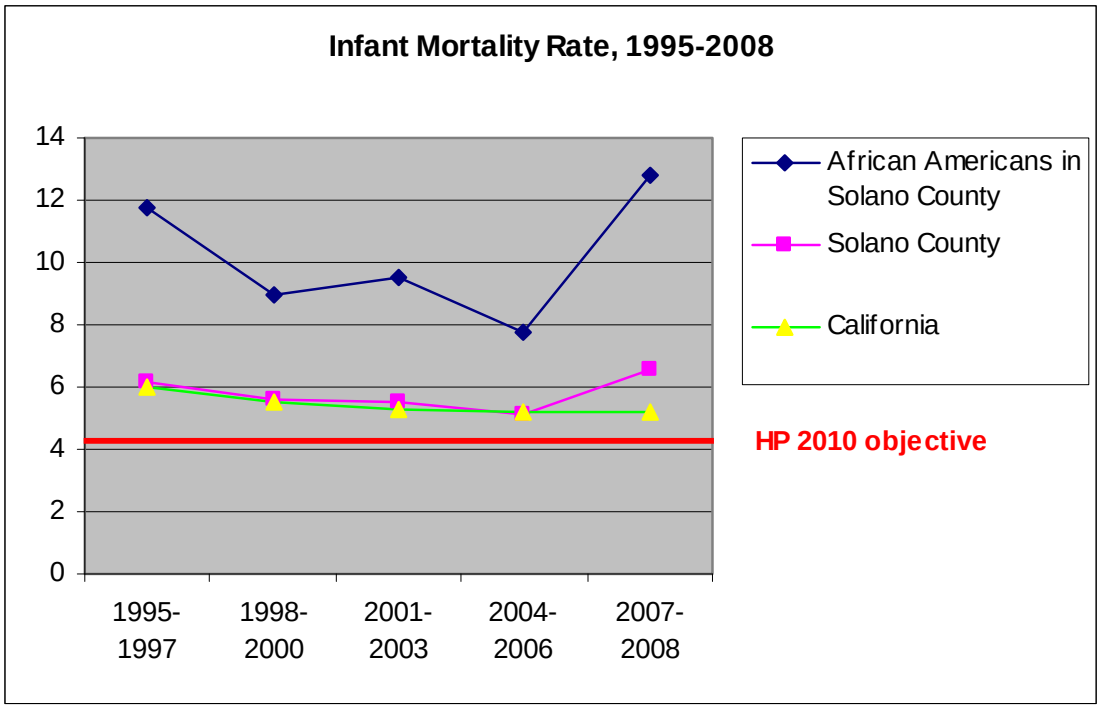
- **Substance Use/Abuse During Pregnancy**
- **Teen Substance, Tobacco and Alcohol Use**
- **Prenatal Care**
- **Chlamydia**
- **Childhood Obesity**
- **Childhood Asthma**
- **Breastfeeding**

Many of the priority areas listed represent problems identified in the FIMR cases reviewed.

Infant Mortality

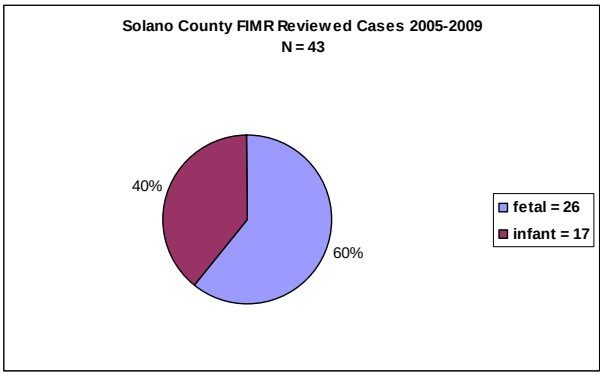
Since 2000, Solano County's infant mortality rate has not been statistically different from the state of California's rate. However, both rates were above the Healthy People 2010 objective of 4.5 infant deaths per 1000 live births. African-Americans in Solano County have the highest infant mortality rate of all ethnic groups, although it has been trending downward since 1995.

Infant mortality rates in California are currently available up to 2008.



Fetal and Infant Mortality Cases Reviewed In-Depth by the Case Review Team, 2005-2009: A Summary

From January 2005 through December 31, 2009, Solano County experienced 253 fetal and infant deaths. Of the 253 deaths, the Solano County FIMR Case Review Team reviewed 43 cases (17% of all deaths); of which 26 were fetal deaths and 17 were infant deaths.



Case Findings 2005-2009:

Infant deaths:

- "Multiple stresses during pregnancy," "multiple providers/sites," and "infant co-sleeping" were the most common problem noted in infant death cases reviewed.
- One-third of all cases of infant deaths reviewed were sleep-related deaths (SIDS, Sudden Unexplained Infant Death, or suffocation/overlay). Infants who died from sleep-related causes were more likely to have been born prematurely than other infants.
- In 100% of sleep-related deaths the infant was co-sleeping with either parents, siblings, or both. In no cases was the infant in a crib or other bedding designed for infant use.

Fetal deaths

- "Late entry into prenatal care" was the most commonly noted problem in fetal death cases reviewed. "History of multiple therapeutic or spontaneous abortions" was also commonly noted. Such a history might indicate underlying medical conditions (in the case of previous spontaneous abortions, or miscarriages) or lack of access to care, knowledge of reproductive health or other concurrent psychosocial problems (in the case of multiple previous elective abortions).
- 68% of all fetal deaths in cases reviewed by the CRT were to mothers who entered prenatal care in the second trimester or later. 40% of all infant deaths were to mothers who entered care late or had no prenatal care. Compared to all Solano County births, cases reviewed were much more likely to have had late or no prenatal care. This pattern was much less pronounced when looking at all fetal deaths (reviewed and not reviewed) for the same time period.
- 25% of all mothers in cases reviewed by the CRT were noted to have diabetes, hypertension, or both. When multiple chronic health conditions were considered, 35% of all mothers in reviewed cases had some form of chronic health condition.

All deaths

- 25% of cases noted that the mother was a smoker or had second-hand smoke exposure, and 25% noted that the mother used illicit drugs during pregnancy.

Limitations: *This reviewed case summary is a summary of findings of cases reviewed by the FIMR Case Review Team between 2005 and 2009. The results cannot be extrapolated to all cases of fetal and infant death occurring in the county and should not be compared to infant mortality rates. Cases were not randomly selected and therefore, the results may reflect selection bias and are not necessarily representative of all cases. However, the report can offer insight on preventable causes of infant and fetal death in Solano County.*

FIMR Case Review Team Noted Problems

During the FIMR Case Review meetings, the team used a tool in which over 100 problems could be noted in 17 different areas (see Appendix E). Appendix B and C show any problems that were noted by the team five in more than 10% of cases. All cases noted multiple problems.

Problems noted were grouped into six major categories, as shown below. 20% (9 cases) of all cases reviewed noted problems in all six categories.

1. **Maternal medical issues**: The most commonly noted issue was a maternal history of previous spontaneous or therapeutic abortions. Obesity was also commonly noted, followed by poor nutrition, infection during pregnancy and preterm labor. Of the cases reviewed, 95% (41 cases) had identified maternal medical risk factors.

2. **Psycho-social:** poor nutrition, frequent/recent moves, unsafe infant sleeping conditions, lack of support, and single parenthood were some of the many psychosocial risk factors noted. 65% (28 cases) of all reviewed cases identified psycho-social risk factors.

3. **Prenatal care:** Late entry into prenatal care, multiple missed appointments and clients needing to negotiate multiple providers and sites were cited frequently as problems. 56% (24 cases) of reviewed cases were noted to have risk factors related to late or inadequate prenatal care.

4. **Provision /Design of Services:** Lack of communication among providers/services, inadequate patient/client education/information, multiple providers/sites and lack of referrals to needed services were noted. 51% (22 cases) of all reviewed cases noted risk factors in this area.

5. **Substance use:** Use of illicit drugs, abuse of prescription drugs, and tobacco use were noted in many cases. Of the cases reviewed, 47% (20 cases) had some use of alcohol, tobacco, or other drugs. Drug use included use of marijuana, methamphetamines, cocaine, heroin, methadone, codeine, vicodin, and benzodiazepine. 25% of reviewed cases (11 cases) noted the use of illegal drugs, including marijuana. 25% of reviewed cases (11 cases) were also noted to use tobacco or have secondhand smoke exposure. Some women fell into both categories. Cases in which substance use was noted were highly likely to have problems noted in other categories as well.

6. **Mental health**: “Multiple stresses during pregnancy” was the most frequently noted case problem for all cases reviewed. Depression and/or mental illness during pregnancy/infancy were also noted. 40% (17 cases) of all reviewed cases noted risk factors related to stress and mental health.

In 2009 the FIMR Case Review Team found that the majority of issues of concern related to the psychosocial and health status of the mother. Issues specifically mentioned were unsafe bedding, lack of kick count information, lack of communication between client and provider, substance abuse, diabetes, obesity and hypertension of the pregnant mom. Throughout the 2005-2009 period, significant work was done to address recommendations aimed at improving service provision, including better screening for substance use, helping more women enter prenatal care early, SIDS education and creating awareness of resources to deal with fetal or infant loss. More work remains to be done in the areas of maternal preconception health and community education.

2010 Recommendations of the FIMR Community Review Team

The following five areas of focus are listed in priority order:

1. Preconception/Interconception Care

- Need for good preconception planning
- Birth control and family spacing
- Adult health/Chronic disease prevention
- Need to link women with primary care providers – address lack of primary care coverage
- Need for physical exercise to prevent chronic disease
- Increase provider awareness of importance of early prenatal care

2. Case Management/Care Coordination

- Case management for high risk families
- Encourage better systems for looking over the whole client, identification of problems and coordination of care
- Providers need updates on programs available – current resource guide, outreach to providers
- Need for centralized coordination of service/referral –phone # for providers
- Need reliable programs and systems that are long-term
- Need to address missed referrals to additional services
- Better address women's needs after a fetal/infant loss, including appropriate interconception care

3. ATOD/Depression/Domestic Violence

- Need universal screening for depression, domestic violence & ATOD among all providers
- Increase provider awareness of risks of ATOD for pregnant women
- Look for places that women at risk for substance use can receive info on infant death risk, including sleep-related death

4. SIDS

- Need to increase provider and community awareness of safe infant sleeping
- Need to increase provider and patient awareness of grief/loss resources

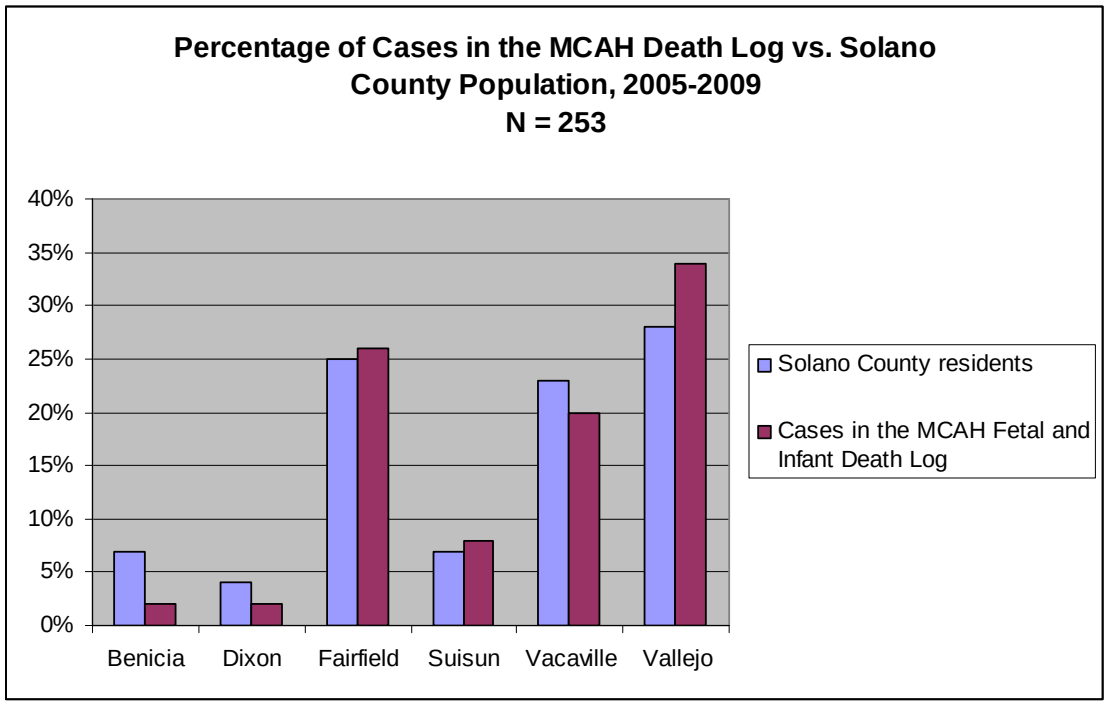
5. Postpartum Visits

- Improve return rates for postpartum visits
- Address interconception care at postpartum and pediatrician visits

Analysis of Solano County MCAH Death Log, 2005-2009

Mother's Residence

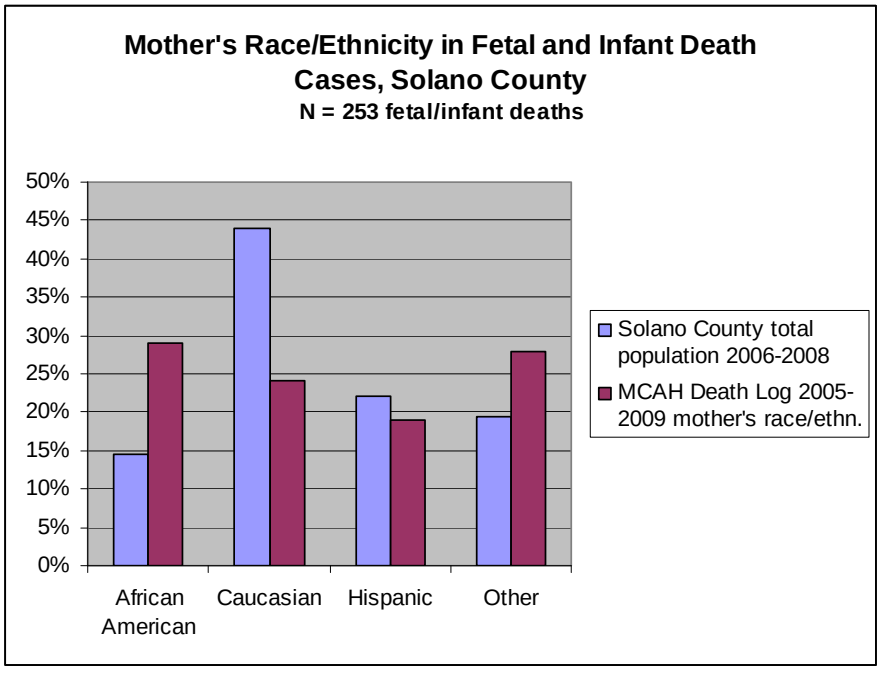
34% of the mothers in the MCAH Fetal and Infant Death Log resided in Vallejo; 26% lived in Fairfield, 20% were in Vacaville and 8% in Suisun. The percentages were in most cases were similar to the distribution of the population; however, Vallejo is noted to have a slightly higher percentage of the fetal and infant deaths than its population would suggest.



Mother's Race, Age

Of the 253 fetal/infant death cases in the MCAH Death Log 2005-2009, 29% of the mothers were African-American. 24% were Caucasian, and 19% were Hispanic. Compared to the percentage of each race/ethnicity in the total population, African-Americans were over-represented in the MCAH Death Log.

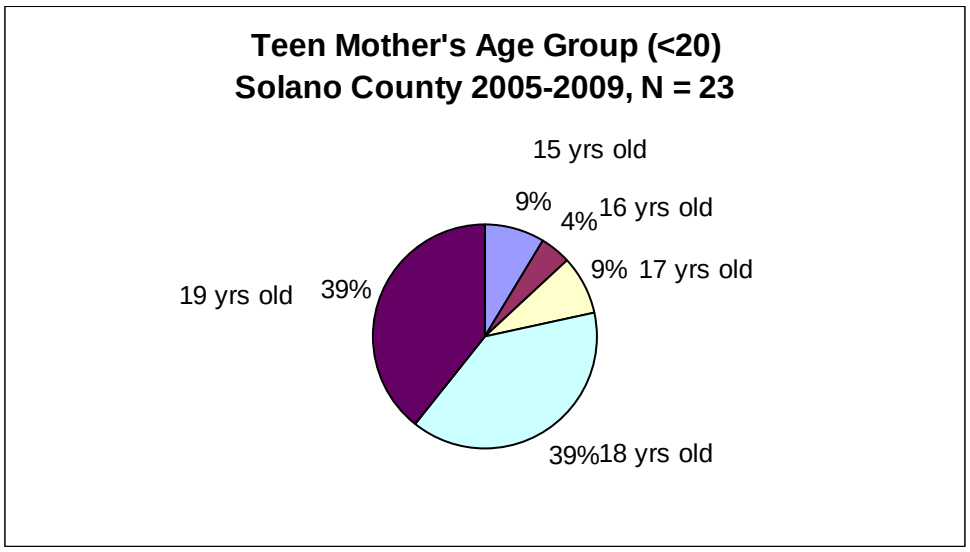
The age of mothers ranged from 15 to 44, and the median age was 28.

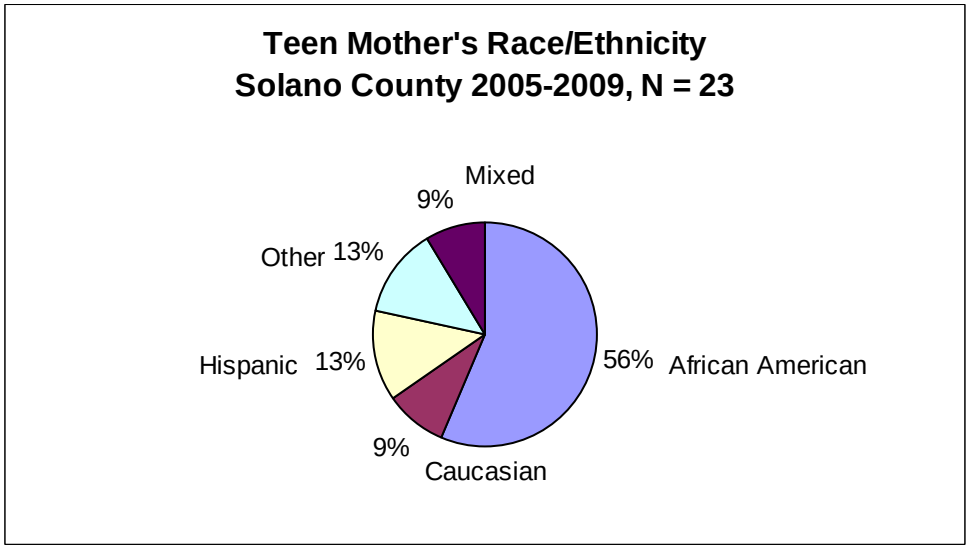


Teen Mothers

9% (23) of the mothers in the death log were at or below 19 years of age. Teen mothers also made up 9% of all live births in Solano County for the same time period. 78% of the teen mothers were 18 years old or older, while 22% were younger than 18.

Of the teen mothers, 56% were African American, 9% were Caucasian, and 13% were Hispanic. Due to the small sample size (23 cases total), only limited conclusions can be drawn about the distribution of cases by race/ethnicity.

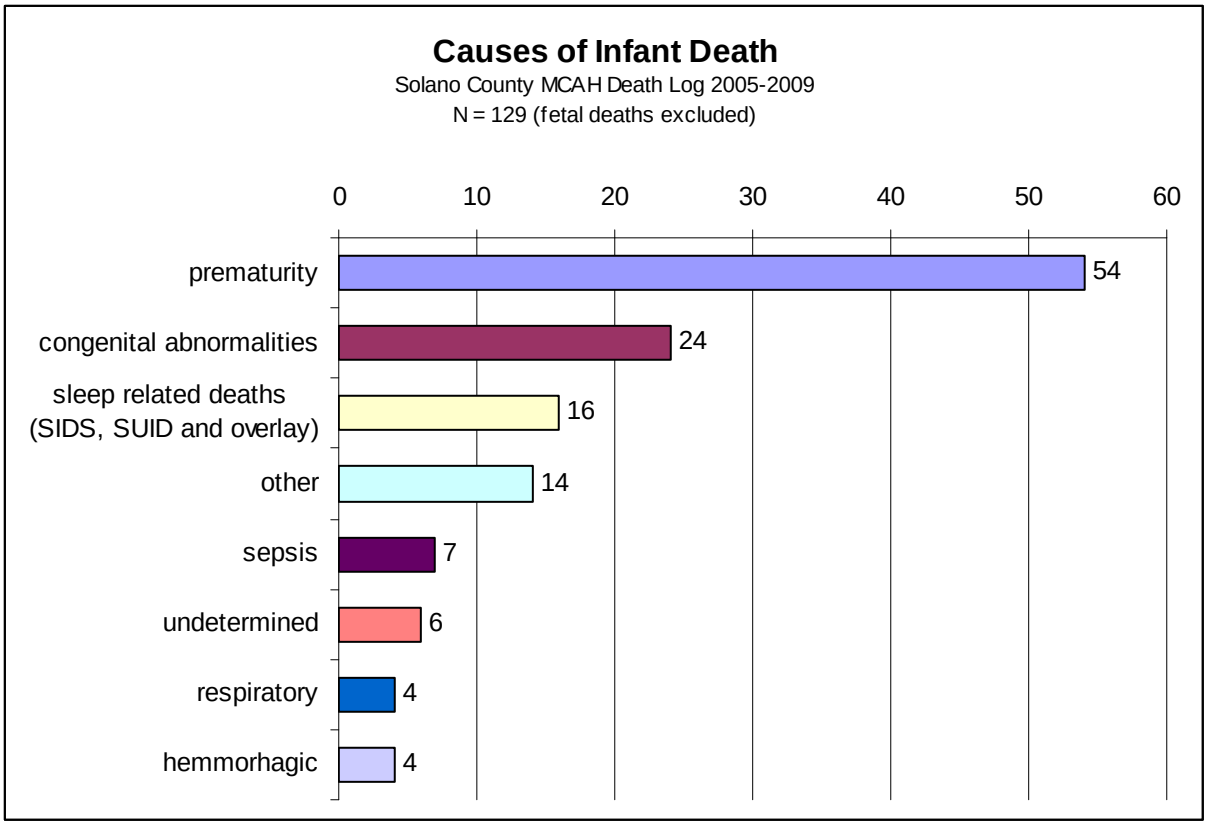




Infant Deaths – Cause of Death

129 cases of infant death were analyzed. The underlying causes of death, as listed on the death certificates, are depicted in the graph below. Both the primary and secondary causes of death listed on the death certificate were considered. Deaths which noted prematurity as either primary or secondary cause were ascribed to prematurity.

The most common cause of infant death was prematurity (including complications directly related to prematurity), followed by congenital abnormalities. Sudden Unexplained Infant Death, SIDS and "overlay" deaths were grouped together. "Undetermined" was given a separate category, however, sleep-related deaths are sometimes ruled "undetermined" if it cannot be determined if the death was the result of SIDS, SUID, or overlay. It is therefore possible that some number of undetermined deaths may also be sleep related.



SIDS/SUID

Each year about 4,600 U.S. infants died suddenly of no immediately obvious cause. SUID (also known as sudden unexplained infant death) is the sudden and unexpected death of an infant in which the manner and cause of death are not immediately obvious prior to investigation. Nearly half of these Sudden Unexpected Infant Deaths (SUID) were attributed to Sudden Infant Death Syndrome (SIDS).

How are SUID and SIDS different? SUID can be caused by metabolic disorders, hypothermia or hyperthermia, neglect or homicide, poisoning, or accidental suffocation, as well as by SIDS. SIDS is a "diagnosis of exclusion" - that is, a death can be ruled as SIDS if investigation can definitively exclude other causes. SIDS is the third leading cause of infant death in the United States and the first leading cause of death among infants aged 1–12 months. The SIDS rate

has been declining significantly since the early 1990s. However, CDC research has found that the decline in SIDS since 1999 can be explained by increasing SUID rates (e.g., deaths attributed to overlaying, suffocation, and wedging). This change in reporting or classification of SUID can be explained by changes in how investigations are conducted and how diagnoses of SUID are made. For example, more deaths may now be attributed to accidental suffocation than to SIDS. 1. http://www.cdc.gov/sids/SUID.htm

Since the last FIMR review report, coroners have become more careful about distinguishing between cases of Sudden Infant Death Syndrome (SIDS), Sudden Unexplained Infant Death (SUID) and asphyxiation by overlay.

The FIMR Case Review looked at 6 of these "sleep-related deaths" in detail. In this sample, one infant death was attributed to SIDS, one to SUID, and one to asphyxiation. Three were "undetermined" – that is, it could not definitively be said if they were SIDS, SUID, or asphyxiation by overlay. 2 were African American, 2 were Caucasian, and 2 were Asian. 66% (4 cases) were Medi-Cal, and 33% (2 cases) were private insurance.

- In all 6 cases (100%), the infant was co-sleeping with either parents, siblings, or both. In no cases was the infant in a crib or other bedding designed for infant use.

- In 4 of the cases (66%), the infant was found face down. In 1 case the infant was reported found sleeping on his back (face up), and one case was not noted.

- 3 of the cases (50%) were being breastfed (2 of the cases were noted to have been exclusively breastfed), 2 cases (33%) were bottle-fed, and 1 case (17%) was unknown.

- In 3 cases (50%), the infant had been born prematurely (prior to 37 weeks). A fourth case was born at 37 weeks.

- In 3 cases (50%) the baby had some level of tobacco exposure during or after pregnancy.

- In 2 (33%) cases the infant had known drug exposure during pregnancy.

In particular, co-sleeping has emerged as an issue of concern in Solano County. Continued efforts are needed to educate parents about the risks of and alternatives to co-sleeping. Special attention should be given to parents who are breastfeeding, as well as those having difficulty finding safe sleep space or appropriate infant bedding due to economic issues.

Prematurity (Preterm Birth) and Low Birth Weight

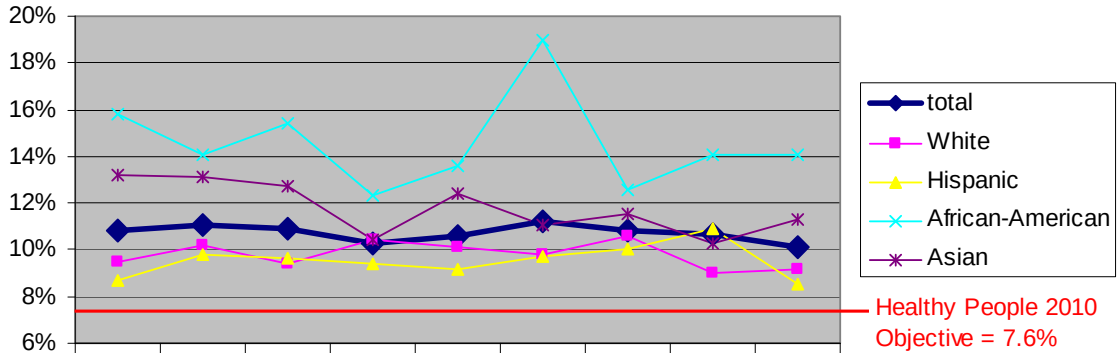
A premature baby is one born before the 37th week of pregnancy. Prematurity has been escalating steadily and alarmingly over the past two decades. One out of eight babies is born prematurely in the United States - more than 500,000 babies each year. In nearly 40 percent of premature births, the cause is unknown. Doctors know that certain women are at high risk of premature delivery, including women who have had a previous premature birth, those with multiple gestations (twins, triplets or more), and women with certain uterine malformations, but tests are not accurate in determining which of these women will deliver prematurely. Premature babies can face serious complications, such as respiratory problems, bleeding in the brain, heart defects and intestinal problems 3. http://www.marchofdimes.com/21832_5758.asp Although an infant born during the 37th week is not defined as premature, recent research indicates that an infant's survivability falls with each week the baby is born early, including the 37th week.

Prematurity is not only a direct factor in many infant deaths, it can also leave an infant more vulnerable to other causes of death throughout the first year of life. For example, of the six

sleep-related deaths reviewed by the FIMR case review team, two cases were born preterm (at 35 and 36 weeks) and two more cases were born at 37 weeks.

42% of the 124 infant death cases in the MCAH 2005-2009 death log listed prematurity as a primary or contributing cause of death. 69 of those cases had matching birth certificates available for review. Among those 69 cases, 92.2% were born before the 37th week. The overall preterm birth rate in Solano County was 10.1% in 2008. Rates of pre-term birth since 2000 are about the same as the state of California rate, and are above the Healthy People 2010 target objective of 7.6%. African-Americans have the highest rates of preterm birth.

Rates of Preterm Birth by Race/Ethnicity, 2000-2008



	2000	2001	2002	2003	2004	2005	2006	2007	2008
total	10.8%	11.1%	10.9%	10.3%	10.6%	11.2%	10.8%	10.7%	10.1%
White	9.5%	10.2%	9.4%	10.4%	10.1%	9.8%	10.6%	9.0%	9.2%
Hispanic	8.7%	9.8%	9.6%	9.4%	9.2%	9.7%	10.0%	10.9%	8.5%
African-American	15.8%	14.1%	15.4%	12.3%	13.6%	19.0%	12.6%	14.1%	14.1%
Asian	13.2%	13.1%	12.7%	10.4%	12.4%	11.1%	11.5%	10.3%	11.3%

Total rates of preterm birth were flat during the 2000-2008 period.

A baby born with low birth weight is one born weighing less than 5.5 lbs, or 2500 grams. Many of the risk factors discussed elsewhere in this report are connected to low birth weight; risk factors for low birth weight include young or old maternal age, low income, low maternal education level, race/ethnicity, short interpregnancy interval, many previous births, unintended pregnancy, tobacco use, alcohol or substance use during pregnancy, stress, late entry to prenatal care. Low birth weight is highly associated with prematurity. For the 74 infant deaths that had a matching birth certificate that provided birth weight, the median birth weight was 836 grams.

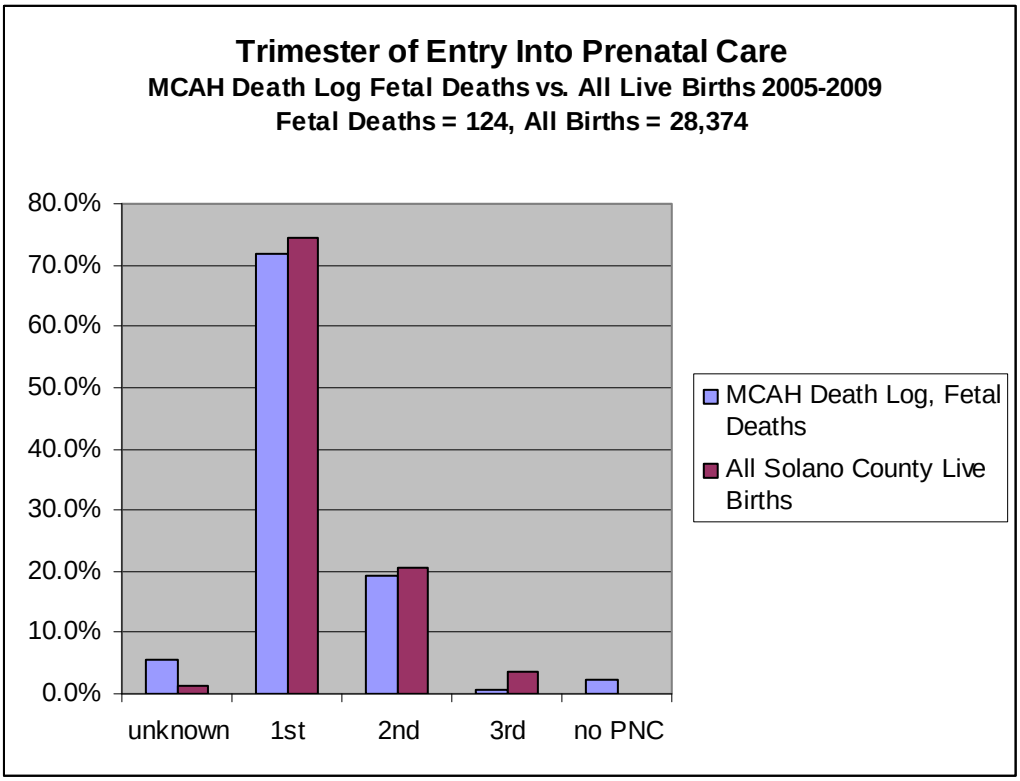
Fetal Deaths – Cause of Death

The most prevalent cause of fetal death was undetermined, followed by cord accident. Because fetal deaths occur while the fetus is still inside the mother, it can be difficult to tell exactly what went wrong for any given death. However, we do know that there are things that put women at higher risk of fetal death. Some of the risk factors examined for cases reviewed by the FIMR Case Review Team were time of entry into prenatal care, maternal obesity at time of conception, pre-existing or gestational diabetes, and maternal smoking or secondhand tobacco exposure.

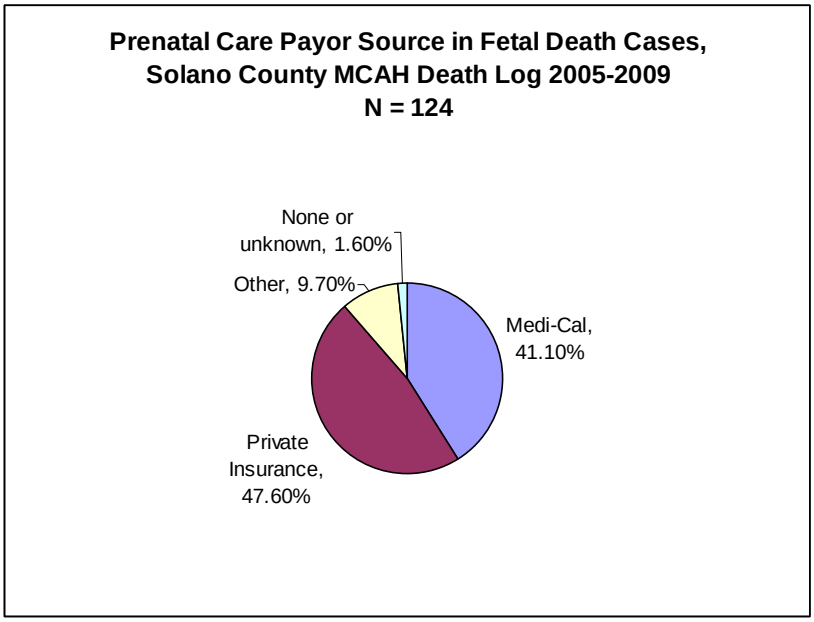
Prenatal Care

Prenatal care is considered a particular factor of interest in fetal deaths. Of the 124 cases of fetal death in the MCAH Death Log 2005-2009, 71.8% entered prenatal in the first trimester (at or before fourteen weeks of pregnancy). 19.4% entered prenatal care in the second trimester, and 0.8% entered into care in the third trimester. 2.4% had no prenatal care.

Compared to all births in Solano County for the same time period, mothers in MCAH Death Log fetal death cases were slightly less likely to have received early prenatal care.



Of the 124 women experienced a fetal death, 47.6% had prenatal care paid private insurance. Other payment sources included private insurance (41.1%) and other governmental programs (9.7%). In comparison, for all live births in Solano County over the same time period, 55% of women had prenatal care paid for by private insurance. Women experiencing a fetal death were slightly more likely to have their prenatal care paid for by Medi-Cal.



Obesity

Research has shown that obesity increases the risk of adverse outcomes, including labor and delivery complications, fetal and neonatal death, and maternal complications such as hypertension, gestational diabetes, and preeclampsia. The dramatically increasing rate of obesity and the increasing rate of preterm births have led to recent investigations of an association of maternal obesity with preterm birth. Findings suggest that while obesity may not be an independent risk factor for preterm birth, obesity does increase rates of medical complications (such as hypertension and diabetes) that have been shown to contribute to preterm birth. http://www.marchofdimes.com/files/MP_MaternalObesity040605.pdf

In 2007, fetal death certificates began listing mother's height and pre-pregnancy weight. These numbers are used to calculate body mass index (BMI). A BMI of 30 or over is considered obese, 25-29.9 is considered overweight, 18.5-24.9 is normal weight and less than 18.5 is considered underweight. Since 2007, FIMR Case Review Team reviewed 15 cases in which there was a fetal demise. Of these cases, 53% (8) were mothers who were obese, 7% (1) were overweight, 33% (5) were normal weight and 7% (1) were unknown.

There were three additional cases reviewed in which there was a live birth, but the infant died at birth. Based on a BMI calculation done by chart extraction, all three mothers were overweight or obese, and two of the three births occurred at 37 weeks or earlier.

According to the California Health Information Survey, in 2007 15.2% of all adult women (over age 18) of reproductive age were obese. 32% of all women of reproductive age surveyed in Solano County were overweight or obese.

Diabetes:

Of the 26 fetal demise cases reviewed, 4 were noted to have had preexisting or gestational diabetes, and a fifth case was noted on review of charts. A total of 19% of mothers with a fetal demise in the review had diabetes. An additional 2 cases were noted to have hyperglycemia, although they did not receive a diabetes diagnosis.

According to the 2007 California Health Information Survey, county-wide in Solano County 2.4% of adult women of reproductive age answered "yes" to the question, "have you ever been diagnosed with diabetes?"

Hypertension:

Of the 26 fetal demise cases reviewed, 5 were noted to have hypertension (19%). Hypertension was often co-existent with obesity, diabetes, or both.

According to the 2007 California Health Information Survey, county-wide in Solano County 14.4% of adult women of reproductive age answered "yes" to the question, "have you ever been diagnosed with high blood pressure?"

Chronic Health Conditions:

Of the 26 fetal demise cases reviewed, 9 mothers (35%) had some form of chronic health condition noted, including diabetes, hypertension, and asthma.

Tobacco use:

Of 43 reviewed cases, 25% (11) cases were noted to have mothers who were smokers or who had second hand smoke exposure. Smoking nearly doubles a woman's risk of having a low birth weight baby. In 2004, 11.9% of babies born to smokers in the United States were of low birth weight (less than 5 ½ pounds), compared to 7.2 % of babies of nonsmokers. Low birth weight can result from poor growth before birth, preterm delivery or a combination of both. Smoking has long been known to slow fetal growth. Smoking also increases the risk of preterm delivery (before 37 weeks of gestation). Premature and low birth weight babies face an increased risk of serious health problems during the newborn period, chronic lifelong disabilities(such as cerebral palsy, mental retardation and learning problems), and even death. http://www.marchofdimes.com/14332_1171.asp

Smoking during pregnancy has been identified as a problem for Solano County. Data from the 4PsPlus Perinatal Substance Abuse Project shows that 21.5% of women report smoking cigarettes before they knew they were pregnant, and only about half will quit once they are aware of their pregnancy. Of all substances reported in the 4PsPlus Perinatal Substance Abuse Project, pregnant women are less likely to quit tobacco than other substances.

Missed Opportunities

Baby Darshawn's Story

Baby Darshawn's mother, Janae, began prenatal care at 9 weeks. She was 21 years old. Janae's life had not been easy. She had lost two previous pregnancies, had learning disabilities and was receiving SSI. She was no longer in contact with the father of her baby. She also had asthma, lived in a home with second hand smoke, and was obese. She lived with her father in a small apartment with moldy walls. She and her father argued and fought often and she wished she had her own space so she would be less stressed. It was difficult for her to find transportation, and she missed a number of her prenatal appointments.

Although Janae hadn't planned to get pregnant, she wanted to continue this pregnancy and have a healthy baby. She took prenatal vitamins and went to prenatal care when she could get there.

One day when she was out for a walk, Janae began to have severe cramps and lower back pain. She rushed to the hospital and was told she was starting to dilate and had lost some fluid. She was sent home to be on bed rest and told to drink plenty of fluid. But Janae didn't have any support at home to help bring her food or help her to the bathroom. She stayed at home in pain for several days and then went back to the hospital. This time her membranes had ruptured and she was admitted. She went through a difficult delivery and when her tiny baby was born at 21 weeks she could see his heart was beating, but he was too premature to survive. She held baby Darshawn for 30 minutes in her arms until he died.

Since Darshawn's death, Janae says she has been grieving. She says she is frustrated because she felt she and her doctors did not communicate well. She moved into her own place and started a new job. She wants to keep working on her relationship with the baby's father and has lost some weight. She hopes to have a child in the future.

Names have been changed.

Appendix A

Solano County Community

Demographic Information

Based on data from the California Department of Finance, Solano County had a population of 426,729 in 2009, which represented an 8% increase since 2000. Some of the population growth in Solano County results from significant immigration - the 2007 American Communities Survey estimates a net annual increase of 2,965 people moving into Solano County from outside the U.S., and an additional net increase of 24,755 people moving into Solano County from other U.S. counties. Among the three large cities in the county, the highest growth rate has been seen in Vacaville.

Solano County Population Growth and Distribution

Location	2000	2009	Growth	% Growth
Solano County	394,542	426,729	32,187	8%
Benicia	26,865	27,977	1,112	4%
Dixon	16,103	17,573	1,470	9%
Fairfield	96,178	106,440	10,262	11%
Rio Vista	3,316	8,222	4,906	148%
Suisun	22,686	28,856	6170	27%
Vacaville	71,479	96,450	24,971	35%
Vallejo	109,199	121,055	11,856	11%

Source: California Department of Finance

The county population is ethnically diverse, with 55.9% of the population reported as being non-White. In 2007, 19% of the county was foreign born, and 27% of the population over 5 years of age lived in households where a language other than English was spoken at home. In 2007, the county was 50% female and 50% male. As a result of the county's high birth rate over the last decade, 21% of the county population is made up of children ages 14 and under, with 7% of the population ages four and under.

Solano County Population Demographics – 2007

Age (Years) (%)*		Race/Ethnicity (%)		Gender (%)*	
Under 5	7%	White	44.1%	Male	50%
5-17	19%	Hispanic	22.0%	Female	50%
18-64	64%	African American	14.8%		
65+	11%	Asian	13.5%		
		Other	5.7%		

*rounded
Source: U.S. Census Bureau, American Community Survey

In 2007 there were 137,704 households in the county out of which 37% had children under the age of 18 living with them, 52% were married couples living together, 15% had a female householder with no husband present, and 27% were non-families. Of all households 22% were made up of individuals and 7% had someone living alone who was 65 years of age or older. The average household size was 2.9 and the average family size was 3.4.

Economic Indicators:

According to data from the 2007 US Census American Community Survey, 9.6% of the Solano County population and 16% of children under age 6 lived at or below the Federal Poverty Level and the median family income for the county was $65,533.

According to the State of California Employment Development Department, the county unemployment rate was 10.9% in March 2009, compared to a rate of 11.5% for California and 8.5% for the nation during the same period. Unemployment rates vary across the county, from 6.8% in Benicia to 13.4% in Vallejo.

Data from the 2007 US Census American Community Survey show that there were 137,704 households in Solano County, 20.5% of which were in multi-unit structures. The home ownership rate was 67% and the median home price in the county was $472,500. The Wells Fargo Housing Opportunity Index shows that 82.3% of the homes in the Vallejo-Fairfield metro area are affordable for individuals or families at the median county income level. This index places Vallejo-Fairfield as 69th nationwide in the percent of affordable homes and 4th regionally.

Education Indicators

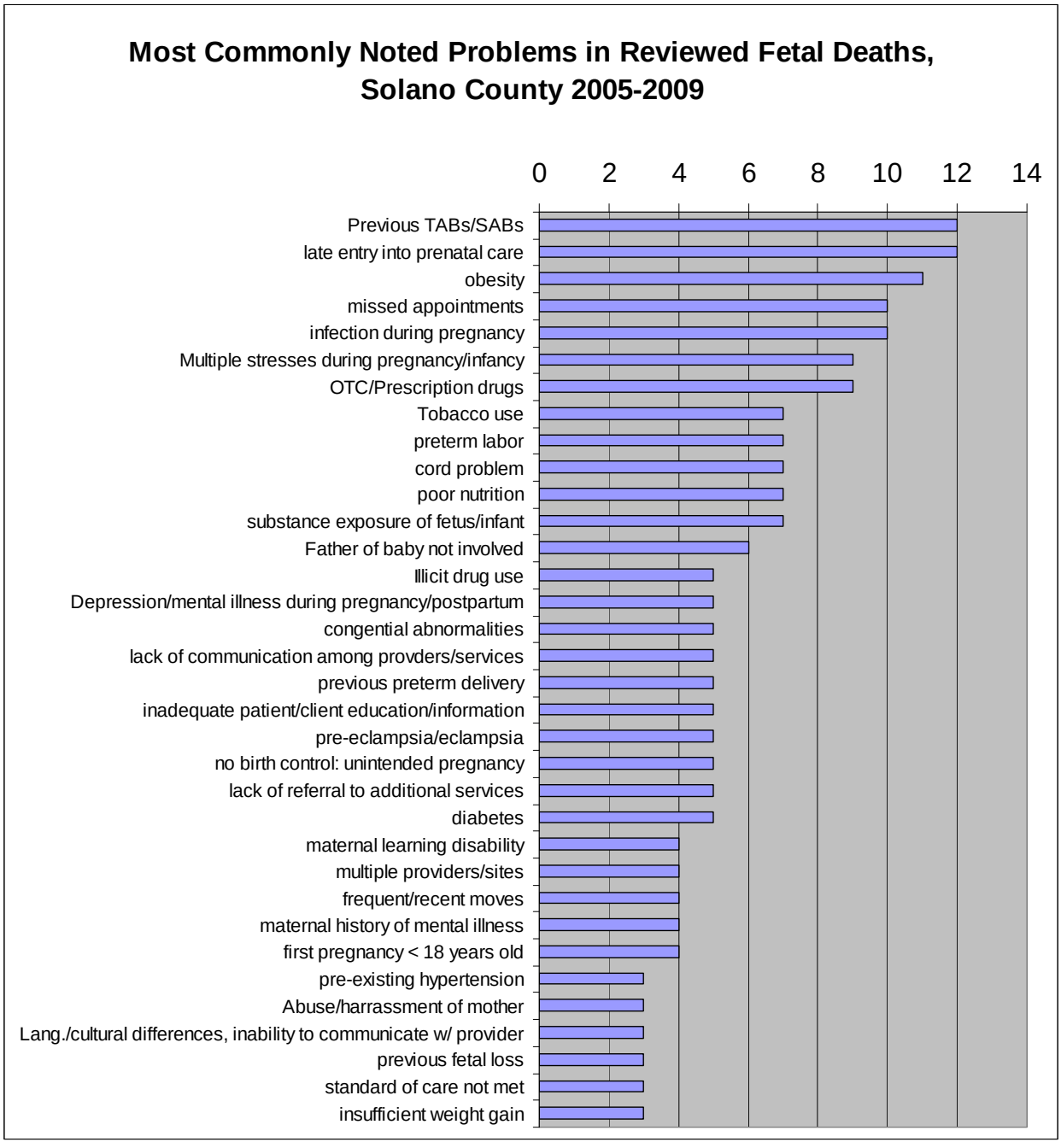
The 2007 American Community Survey found that of County residents over the age of 25, 14.5% had less than a high school education, 26.4% had only a high school education, 25.6% had some college (no degree), 11.1% had an Associate's degree, and 22.5% had a Bachelor's degree or higher education. Solano County's four-year-derived drop-out rate for 2007-2008 was 21.7%.

Health System Indicators

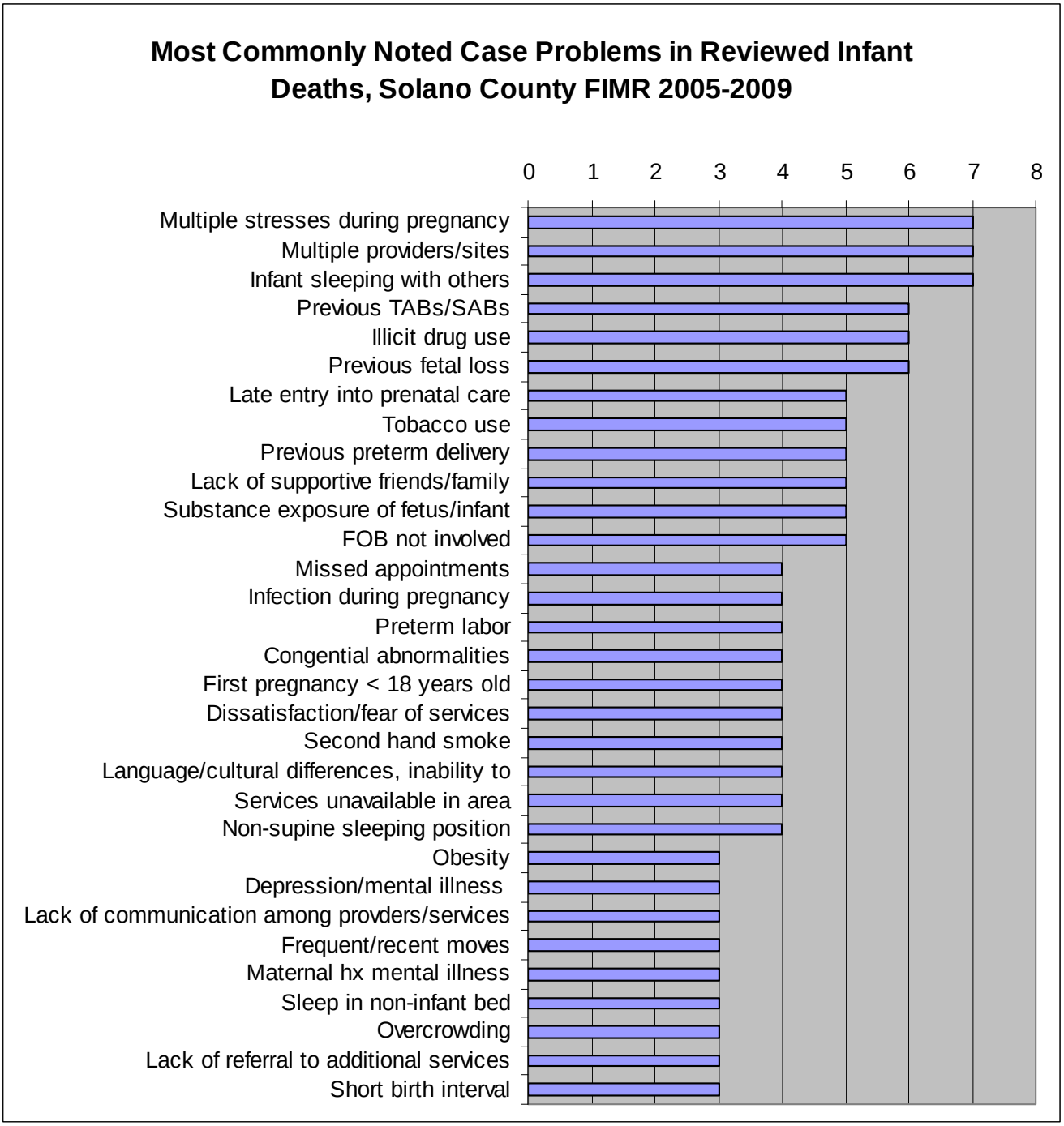
Through several collaborative efforts, including the Solano Kids Insurance Program (SKIP), Solano County made a concerted effort to expand health insurance coverage throughout the county. At the start of SKIP in 1998, about 10% of children in the County were uninsured. By 2004, fewer than 5% of children were uninsured. Despite this, rates of insurance coverage in the county have dropped in the past 5 years. The 2007 California Health Interview Survey found that 8% of children under 19 and 9% of adults age 19 – 65+ in Solano County were uninsured.

In 2007, Solano County had 824 licensed physicians; resulting in a population ratio of 515 residents per physician (California has 387 residents per physician). Based on 2008 data from the UCLA Center for Health Policy Research, there are 293 licensed dentists and 250 dentists in active practice in the County; resulting in a population ratio of 1,707 residents per active dentist (California has 1,440 residents per dentist). There are 4 general acute care hospitals in the County with a total of 559 licensed beds (1.3 per 1,000 population). The County is also home to David Grant Medical Center on the Travis Air Force Base. The general acute care hospitals are located in Vallejo (2), Fairfield (1) and Vacaville (1). People requiring tertiary care must travel out of the county to a tertiary medical center either in Sacramento or in Contra Costa, Alameda, or San Francisco Counties.

Appendix B


Most Commonly Noted Problems in Reviewed Fetal Deaths, Solano County 2005-2009
0
2
4
6
8
10
12
14
Previous TABs/SABs
late entry into prenatal care
obesity
missed appointments
infection during pregnancy
Multiple stresses during pregnancy/infancy
OTC/Prescription drugs
Tobacco use
preterm labor
cord problem
poor nutrition
substance exposure of fetus/infant
Father of baby not involved
Illicit drug use
Depression/mental illness during pregnancy/postpartum
congential abnormalities
lack of communication among provders/services
previous preterm delivery
inadequate patient/client education/information
pre-eclampsia/eclampsia
no birth control: unintended pregnancy
lack of referral to additional services
diabetes
maternal learning disability
multiple providers/sites
frequent/recent moves
maternal history of mental illness
first pregnancy < 18 years old
pre-existing hypertension
Abuse/harrassment of mother
Lang./cultural differences, inability to communicate w/ provider
previous fetal loss
standard of care not met
insufficient weight gain

Appendix C


Most Commonly Noted Case Problems in Reviewed Infant Deaths, Solano County FIMR 2005-2009
0
1
2
3
4
5
6
7
8
Multiple stresses during pregnancy
Multiple providers/sites
Infant sleeping with others
Previous TABs/SABs
Illicit drug use
Previous fetal loss
Late entry into prenatal care
Tobacco use
Previous preterm delivery
Lack of supportive friends/family
Substance exposure of fetus/infant
FOB not involved
Missed appointments
Infection during pregnancy
Preterm labor
Congential abnormalities
First pregnancy < 18 years old
Dissatisfaction/fear of services
Second hand smoke
Language/cultural differences, inability to
Services unavailable in area
Non-supine sleeping position
Obesity
Depression/mental illness
Lack of communication among provders/services
Frequent/recent moves
Maternal hx mental illness
Sleep in non-infant bed
Overcrowding
Lack of referral to additional services
Short birth interval

Appendix D

FIMR Summary of Issues Raised, 2005-2009

Maternal medical issues

- Medical risk factors: teen, pre-term labor, obesity, short pregnancy intervals, chronic disease, STD's/STI's

Psycho-social

- Co-sleeping, soft bedding
- History of CPS
- Psychosocial stressors: family members death, suicide, job lost, financial difficulties, no family support, domestic violence, mental health, and unstable home environment
- Poor parenting skills, learning disability
- Client unable to understand due to a language barrier/cultural beliefs
- No good phone contact to reach client
- Lack of knowledge about administering proper over the counter or Rx drug dosages

Prenatal care

- Clients needed closer monitoring during the prenatal period
- Needed diagnostic tests were missed
- Client was late to prenatal care

Provision/design of services

- No homebound services
- Lack of prenatal records, difficult to get records
- Gap in Medi-Cal coverage for infant between different counties, long enrollment period to become PHC member
- Difficulty scheduling clinic appointment for high risk infant
- No medical home
- Lack of referrals to county programs (PHN, AFLP, BIH and PHN) and other services (grief counseling and home health)
- Complexity of California Children Services application
- Providers not following up with previously made referrals
- Primary care provider not communicating with OB provider
- Lack of transportation to/from PNC provider
- Provider did not provide adequate health education regarding SIDS prevention
- Lack of client education at time of hospital discharge
- Medi-Cal status not established meant needed care not given
- Fragmentation of care between within institutions seeing multiple providers
- Poor communication between client and provider
- No tracking system to follow-up with client after missed appointments
- Mother's risk factors did not warrant CPS investigation
- Multiple providers at multiple sites
- Provider not aware of community resources including grief counseling

Substance use

- Second hand smoke in the home
- History of substance abuse, smoking, prescription drugs

Mental Health

- mental health issues, depression

FIMR Action Taken, 2005-2009:

- There is a monthly schedule maintained of agencies that go out to private OB offices and inform them about local programs and resources. In September 2008 a referral sources article was submitted to the Solano County Medical Society newsletter to inform providers about social services referrals and resources in Solano County.
- Developed a one page document that list grief counseling support services and distributed it to the Solano County Medical Society newsletter.
- Developed a pamphlet "When a Baby Dies" that describes what happens when a baby dies and encourages parents to call the PHN. These pamphlets were sent to the coroner for their staff to give to parents when they go out on a SIDS investigation.
- Submitted articles to local newspapers and a parenting magazine to the community about SIDS risk factors and preventative measures for keeping infants safe.
- In the process of revising the Back to Sleep brochure to incorporate new American Academy of Pediatrics recommendations.
- Implemented SIDS training on May 20, 2008 to 30 community providers and partners to educate community case management agencies on SIDS risk factors, and risk reduction recommendations.
- CPS revised their screening investigation criteria so if the Integrated Family Support Services (IFSI) Worker is not able to contact the mother, the referral will be sent to PHN for follow up.
- MCAH staff attended and provided input into Metropolitan Transportation Commission (MTC) public hearing on transportation needs for pregnant and parenting women. The BIH site in Vallejo convened site BIH clients for the MTC to conduct a focus group.
- MCAH Bureau provided staff training on LA's preconception curriculum and challenged the staff to integrate preconception health messages in their work with clients.
- Training was done with CPSP and private ob providers regarding documenting referrals and linking them to resources.
- PHC established a Performance Improvement Plan (PIP) committee to improve entry into early prenatal care and postpartum visits.
- Through BFS outreach efforts providers are encouraged to make referrals of clients who have missed their prenatal appointments to Prenatal Care Guidance for additional support services and follow up.
- Quarterly meetings are held with Medi-Cal eligibility to trouble shoot barriers OB providers and case management programs are experiencing with their clients regarding their Medi-Cal. Processing times for Medi-Cal applications for pregnant women have been significantly reduced.

Compiled Recommendations, 2005-2009:

- Improve prenatal care providers ability to track patients who missed several consecutive appointments
- Improve referrals of high-rick pregnant women from CPS to Integrated Family Services PHN for follow up
- Outreach to providers and community about safer sleeping habits
- Increase awareness about the importance of preconception-interconception care
- Improving prenatal care follow up of referrals made to social services and substance abuse programs
- Revise CPS investigation criteria based on mother's risk factors
- Improve transportation system to/from prenatal care locations
- Improve tracking system for children with missed immunizations
- Provide a place for moms to receive all services at the same location
- Outreach/provide training to private offices about county and other community services/referrals

- Submit brief article to Solano County Medical Society newsletter to inform providers about contact information for county resources
- Outreach to providers to educate about safe sleeping habits and SIDS risks during prenatal care visit and pediatric visit
- Address issues of safer co-sleeping
- Provide training about memory foam mattress (soft bedding) dangerous for infants
- CPS should elevate their investigation criteria to include mother's risk factors
- Cultural sensitivity/competency training for providers to improve communication between client and provider
- Improve communication among medical providers and community based organizations involved with the family
- Improve grief counseling support and funeral arrangements resources
- Case management for high risk moms and infants
- Streamline inter-county Medi-Cal transfer and medical care
- Teach clients to advocate for themselves
- Present findings to the Solano Children's Planning & Policy Council
- One-stop shopping facility where moms can receive services in one location

Appendix E

2005-2009 Case Review Team (CRT) participants in Solano County FIMR

Atkins, Susan	*Public Health Nurse*	*Solano County HSS*
***Barksdale, Wendy**	*Social Worker III*	*Solano County HSS*
***Becerra, Ja'Nita**	*Public Health Nurse/SIDS Coordinator*	*Solano County HSS*
Beck, Heidi	*Social Worker*	*Northbay Health Care*
Bonomo, Yolanda	*Social Services Supervisor*	*Northbay Health Care*
***Calvo, Nancy**	*MCAH Director*	*Solano County HSS*
Cammisa, Chris, MD	*Medical Director*	*Partnership HealthPlan of California*
Cannon-Dekreek, Shelli	*Health Services Manager*	*Solano County HSS*
***Chapman, Ron, MD**	*Deputy Director/Medical Director*	*Solano County HSS*
Chung, Helena	*Epidemiologist*	*Solano County HSS*
Daniels, Sylvia	*Public Health Nurse*	*Solano County HSS*
***Davis, Debbi**	*Executive Director*	*Children's Nurturing Project*
Dickey, Mary	*Director, Labor and Delivery*	*Northbay Health Care*
***Doran, Jennifer**	*Public Health Nurse Manager*	*Solano County HSS*
***Dorsey, Rhonda**	*Public Health Nurse*	*Solano County HSS*
***Gonzales, Judy**	*Nurse Practitioner/Midwife*	*Northbay Health Care*
***Gorchoff, Catherine**	*Midwife*	*LaClinica Great Beginnings*
***Griffith-Parker, Diane**	*Midwife*	*Sutter Regional Medical Center*
***Kight, Deborah**	*Labor and Delivery Nurse*	*Northbay Health Care*
***Martin, Ed, MD**	*Director of Pediatrics*	*Kaiser Vallejo*
***McDowell, Kim**	*Social Services Supervisor*	*Solano County CWS*
McGregor, Sheila	*Public Health Nurse*	*Solano County HSS*
Morris, Rebecca	*Midwife*	*LaClinica Great Beginnings*
Muterspaugh, Anel	*Sr. Health Education Specialist*	*Solano County HSS*
***Navolanic, Barbara**	*Nursing Services Director*	*Solano County HSS*
***Pay, Margaret**	*Public Health Nurse Manager*	*Solano County HSS*
Pratt, Phyllis	*Perinatal Services Coordinator*	*Partnership HealthPlan of California*
***Quiroz, Alma**	*Social Worker*	*Northbay Health Care*
***Rios-Klein, Cristina**	*Social Worker III*	*Solano County HSS*
Roper, Jason	*Deputy Sheriff*	*Solano County Sheriff*
Rosenberg, Steven, MD	*Pediatrician*	*Kaiser*
Thigpen, Norma	*Health Services Manager*	*Solano County HSS*
***Thomas-Wold, Carolyn**	*Family Violence Prevention Officer*	*Solano County Family Violence Prevention*
***Ward, Carmen**	*Staff Aide*	*Solano County Board of Supervisors*
Weitzel, Rebecca	*Social Worker*	*Northbay Health Care*
***Whalen, Susan**	*Sr. Health Education Specialist*	*Solano County HSS*
Cook, Jill	*Public Health Nurse*	*Solano County Public Health*
***Zarghami, Angeline**	*Nurse Practitioner*	*Northbay Health Care*

* indicates a member of the 2009-2010 FIMR Case Review Team

Appendix F

California Department of Public Health
Maternal, Child and Adolescent Health/Office of Family Planning Branch

Please "**x**" applicable Boxes

	1. Medical Mother		2. Medical: Fetal/Infant		4. Prenatal Care/Delivery		6. Substance Use
	Teen Pregnancy		Intrauterine growth retardation		Standard of care not met		OTC/Prescription Drugs
	Pregnancy> 35		Congenital anomalies		Inadequate assessment		Positive drug test
	Cord Problem		Prematurity/Extreme prematurity		No prenatal care		Tobacco
	Placenta abruption		Inadequate fetal monitoring		Late entry into prenatal care		Alcohol
	Diabetes		Failure to thrive		Lack of referral to additional services		Illicit drug:
	Incompetent cervix		Substance exposure		Missed appointments		Other:
	Infection during pregnancy		Feeding problems		Multiple providers/sites		Unknown
	Insufficient weight gain		Respiratory distress syndrome		Other:		Not a factor
	Multiple gestations		Inappropriate level of care facility		Unknown		
	Obesity		Other:		Not a factor		**7. Social Support**
	Poor nutrition		Unknown				Lack of supportive friends/family
	Pre-eclampsia/eclampsia		Not a factor		**5. Pediatric Care**		Negative influence friends/ family
	Preterm labor				Standard of care not met		FOB not involved
	Pre-existing hypertension		**3. Payment for Care/Services**		Inadequate assessment		Other:
	STD		Self-pay/medically indigent		No pediatric care		Unknown
	Pregnancy < 1 yr apart		Medi-Cal/ Other government program		Not/Minimally breastfed		Not a factor
	PROM		Medi-Cal Managed Care		Lack of referral to additional services		
	Previous TABs/SABs		Military payment		Missed appointments		**8. Family Transition**
	Previous fetal loss		Private Insurance - fee for service		Multiple providers/sites		Frequent/ recent moves
	Previous infant loss		Private HMO/managed care plan		Other:		Job loss
	Previous LBW delivery		Barriers related to insurance coverage		Unknown		Concern-citizenship
	Previous preterm delivery		Eligibility unclear		Not a factor		Single parent
	1st pregnancy < 18 yrs old		Other:				Married/ living together
	> 4 live births		Unknown				Divorce/separation
	Other:		Not a factor				Parent: prison/parole/probation
	Unknown						Living in Shelter/Homeless
	Not a factor						Major illness/ death in family
							Other:
							Unknown
							Not a factor

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Please "**x**" applicable Boxes

	9. Mental Health/Stress
	Maternal history-mental illness
	Depression/mental illness during pregnancy/postpartum
	Multiple stresses during pregnancy/infancy
	Other:
	Unknown
	Not a factor

	10. Family Violence-Neglect
	Abuse/harassment of mother
	Child abuse
	Child neglect
	Other:
	Unknown
	Not a factor

	11. Culture
	Language/cultural differences, inability to communicate with provider
	Cultural Beliefs- pregnancy/health
	Other:
	Unknown
	Not a Factor

	12. Transportation
	No public transportation
	Inadequate/unreliable transportation
	Other:
	Unknown
	Not a factor

	13. Provision/Design of Services
	Inadequate patient/client education/information
	Service unavailable in area
	Mother/child ineligible
	Lack of communication among providers/services
	Dissatisfaction/Fear of services
	Other:
	Unknown
	Not a factor

	14. Environment
	Substandard housing
	Overcrowding
	Exposure to toxic substance
	Second hand smoke
	Car seat none/improperly used
	Infant sleeping with others
	Sleep in non-infant bed
	Soft bedding
	Infant overheating
	Non-supine sleeping position
	Lack of adult visual supervision
	Other:
	Unknown
	Not a factor

	15. Family Planning (FP)
	Lacks knowledge of FP methods/resources
	No B/C: intended pregnancy
	No B/C: unintended pregnancy
	Failed contraceptive
	Other:
	Unknown
	Not a factor

	16. Injuries
	MV Occupant
	Suffocation
	Choking/strangulation
	Fire/burn
	Drowning/ near drown
	Poison/toxicity
	Shaken baby syndrome
	Other:
	Unknown
	Not a factor

	17. Other
	Infant in Foster Care

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"We do not need a special day..."

By Carmelle Gross

We do not need a special day
To bring you to our minds.
The days we do not think of you
Are very hard to find.
Each morning when we awake,
We know that you are gone
And no one knows the heartache
As we try to carry on.
Our heart aches with sadness
And secret tears still flow.
What it means to lose you
No one will ever know.
Our thoughts are always with you,
Your place no one can fill.
In life we loved you dearly,
In death we love you still.
There will always be a heartache,
And often a silent tear,
But always a precious memory
Of the days when you were here.
If tears could make a staircase,
And heartache make a lane,
We'd walk a path to heaven
And bring you home again.
We hold you close to our hearts,
And there you will remain,
To walk with us throughout our lives
Until we meet again.
Our family chain is broken now,
And nothing seems the same
But as God calls us one by one,
The chain will link again.