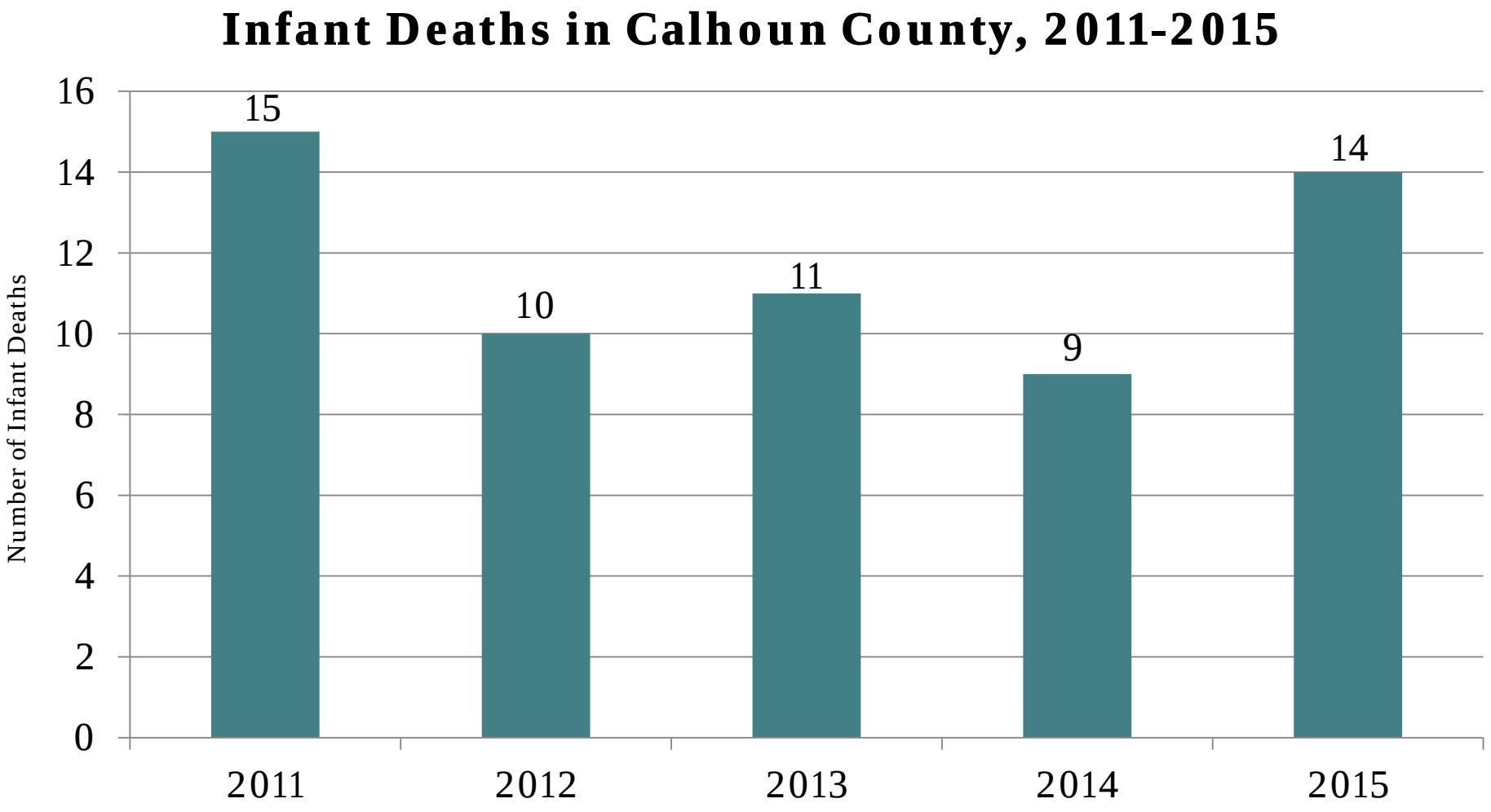
Causes and Factors of Infant Mortality Calhoun County, 2011-2015

Mary Franks September 6, 2017

Calhoun County Public Health Department

Number of Infant Deaths



Source: MDHHS Vital Records

*Total of 59 infant deaths from 2011-2015 in Calhoun County

Leading Causes of Death

ICD-10 Code	Definition of Leading Cause of Death
J209	Acute bronchitis, unspecified
J988	Other specified respiratory disorders
P010	Newborn affected by incompetent cervix
P011	Newborn affected by premature rupture of membranes
P015	Newborn affected by multiple pregnancy
P021	Newborn affected by other forms of placental separation and hemorrhage
P027	Newborn affected by chorioamnionitis
P072	Extreme immaturity of newborn, unspecified weeks of gestation
P073	Preterm newborn, unspecified weeks of gestation
P219	Birth asphyxia, unspecified
P290	Neonatal cardiac failure
P369	Bacterial sepsis of newborn, unspecified
P399	Infection specific to the perinatal period, unspecified
P523	Unspecified intraventricular (nontraumatic) hemorrhage of newborn
P916	Hypoxic ischemic encephalopathy (HIE)
P968	Other specified
Q000	Anencephaly
Q228	Other congenital malfomations of tricuspid valve
Q234	Hypoplastic left heart syndrome
Q262	Total anomalous pulmonary venous connection
Q602	Renal agenesis, unspecified
Q872	Congenital malformation syndromes predominantly involving limbs
Q897	Multiple congenital malformations not elsewhere classified
Q899	Congential malformation, unspecified
Q913	Trisomy 18, unspecified
R95	SIDS
R99	Ill-defined nad unknown cause of mortality
W75	Suffocation (unintentional fatal injuries)
W83	Other specified threats to breathing
Y09	Assault by unspecified means

Leading Causes of Infant Death by ICD-10 Code in Calhoun County, 2011-2015:

- Extreme immaturity of newborn (P072)
- Preterm newborn(P073)
- Sudden infant death syndrome (R95)
- Suffocation (W75)

Associations Analyzed

- Infant gender
- Birthweight
- Prematurity
- Plurality
- Infant race
- Maternal race
- Infant ethnicity
- Maternal ethnicity
- Maternal age
- Maternal marital status
- Maternal education
- Tobacco use
- Prenatal care (Kessner Index)
- Maternal BMI
- Maternal weight gain

Statistically Significant Associations

- Birthweight
- Prematurity
- Plurality
- Infant race
- Maternal marital status (unmarried)
- Maternal education level (less than HS degree)
- Maternal tobacco use during pregnancy
- Maternal weight gain (below recommended)
- Tobacco use and low birth weight

Birthweight and Infant Mortality

Low Birth Weight (LBW)

- The LBW mortality rate was 3.0 times higher than healthy birth weight mortality rate
- Among infants born at a LBW, 66.7% of deaths are attributable to low birth weight
- Elimination of birth at a LBW would reduce the infant mortality by 14.6% in Calhoun County

Very Low Birth Weight (VLBW)

- The VLBW mortality rate was 69.7 times higher than the healthy birth weight mortality rate
- Among infants born at a VLBW, 98.6% of deaths are attributable to very low birth weight
- Elimination of birth at a VLBW would reduce the infant mortality by 51.2% in Calhoun County

Strongest Risk Factors for Infant Mortality (based on population attributable risk percent)

- Prematurity – 51.6%
- Very low birth weight – 51.2%
- Maternal education level (Less than HS degree) – 43.7%
- Maternal marital status (unwed) – 39.6%
- Tobacco use during pregnancy – 28.0%
- Below recommended maternal weight gain – 18.3%
- Infant race – 14.9%
- Low birth weight – 14.6%
- Plurality – 13.9%

Causes and Factors of Low Birth Weight and Prematurity Calhoun County, 2011-2015

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Analysis Definitions

- Low birth weight and very low birth weight are combined in the following analysis
- Pre-term refers to <37 weeks gestation

Associations Analyzed

- Maternal age
- Maternal marital status
- Maternal education
- Tobacco use
- Presence of STI
- Prenatal care (Kessner Index)
- Maternal weight gain
- Inter-Pregnancy Interval

Strongest Modifiable Risk Factors for LBW (based on population attributable risk percent)

- Below recommended maternal weight gain – 27.6%
- Tobacco use during pregnancy – 17.5%
- Inadequate Prenatal Care-15.9%

Strongest Modifiable Risk Factors for Prematurity (based on population attributable risk percent)

- Below recommended maternal weight gain – 19.5%
- Inadequate Prenatal Care – 18.7%
- Tobacco use during pregnancy – 14.5%