



Colorado Preterm Birth Recommendations

Safe Deliveries: Reducing the Risk of Preterm Birth
April 9, 2016 – Denver, CO

This activity is jointly-provided by
SynAptiv and the Colorado
Hospital Association

- Safe Deliveries Project Partnership**
- Colorado Hospital Association
 - Anthem Blue Cross and Blue Shield Foundation
 - March of Dimes Colorado/Wyoming Chapter
 - Colorado Perinatal Care Quality Collaborative

Overview & Disclosure

Safe Deliveries Colorado is a statewide initiative with the aim of reducing the incidence of preterm births and low-birthweight deliveries. This conference will present evidence-based strategies to support these goals.

I have no conflicts of interest to disclose.

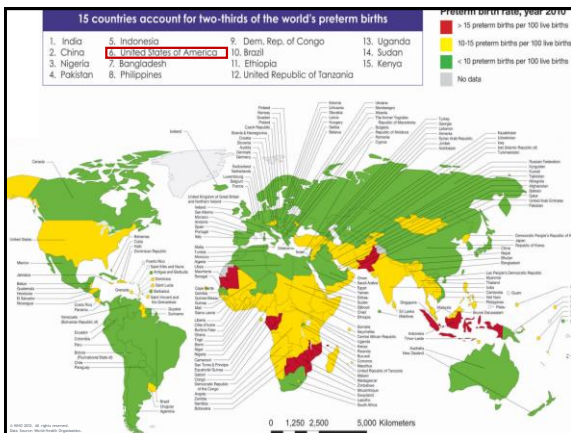
Objectives

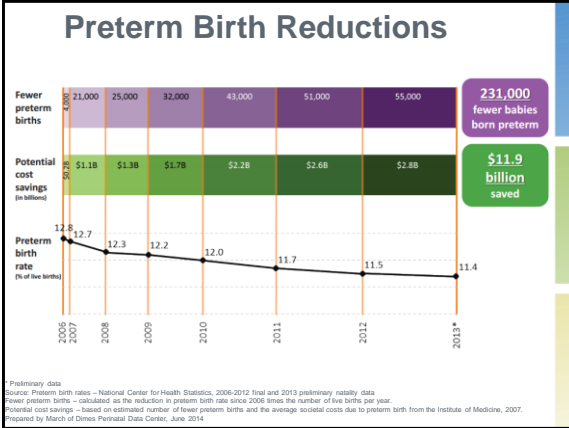
Increased knowledge of the problem of preterm birth in Colorado.

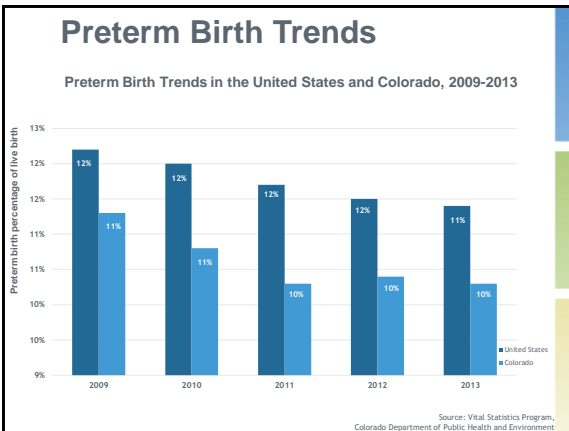


Increased understanding of Colorado-specific recommendations for preterm birth, including:

- The process
- The results
- What now?





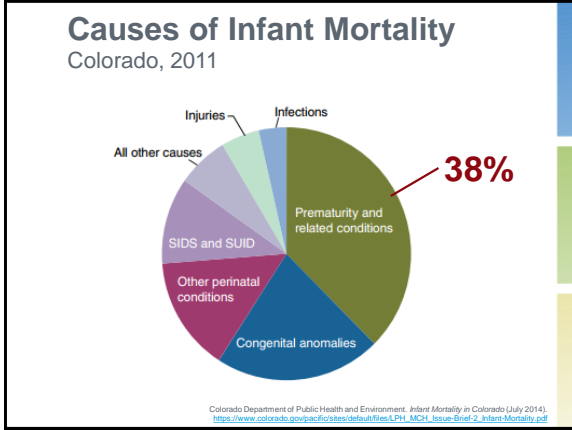


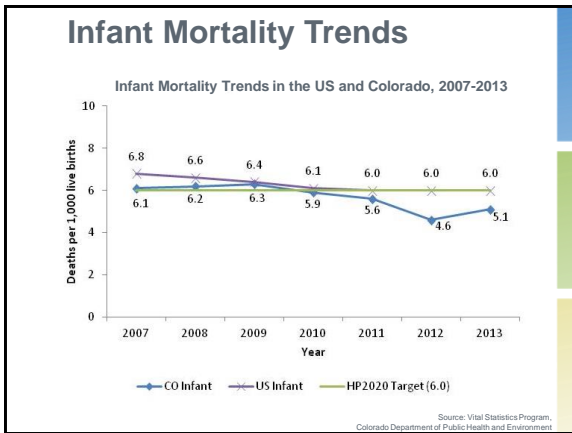
Premature Births in 2014

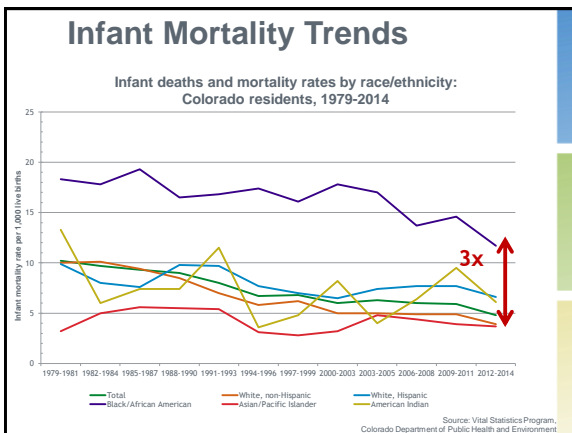
8.4% of live births – Colorado
One in 12 Colorado babies are born too soon

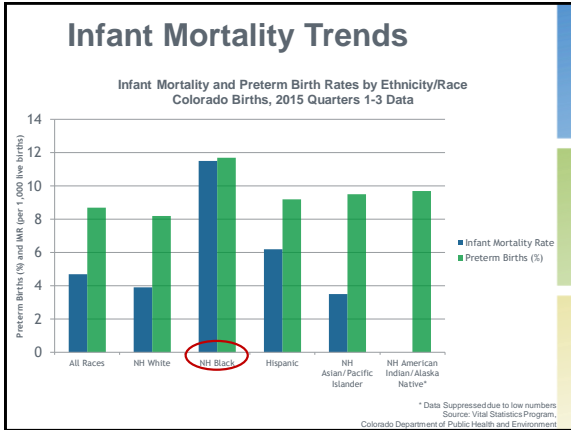
9.6% of live births – United States
One in 10 U.S. babies are born too soon

March of Dimes, 2015 Premature Birth Report Card
<http://www.marchofdimes.org/materials/premature-birth-report-card-colorado.pdf>







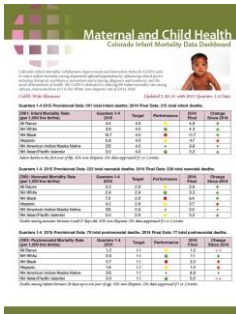


Colorado's Collaborative Improvement & Innovation Network (CoIIN)

- Through data collection and communication, increase the awareness of:
 - The burden of infant mortality on the African American population, and
 - The status and effectiveness of current efforts.
- Develop statewide preterm birth prevention and reduction recommendations and work with providers to ensure implementation.



Infant Mortality Data Dashboard



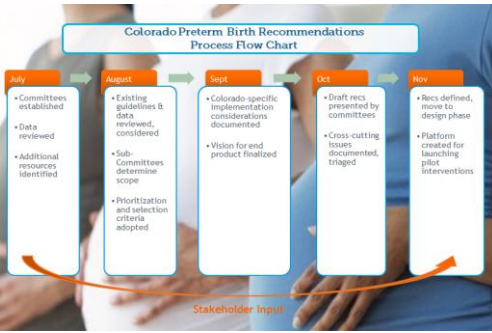
https://www.colorado.gov/pacific/sites/default/files/LPH_MCH_Infant-Mortality-Data-Dashboard-2015.pdf

Work Group Members

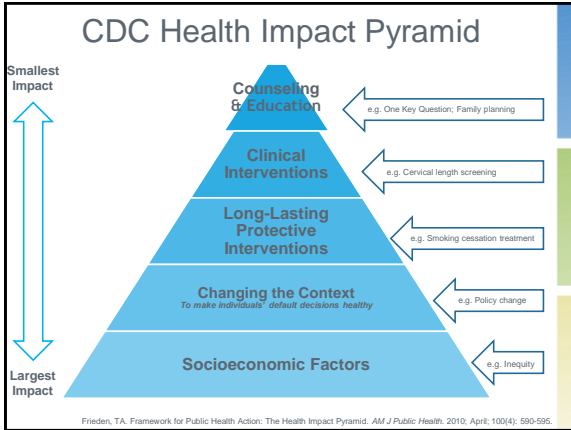
Included representation from...

- Doctors (e.g. Maternal-Fetal Medicine, Neonatology)
- Pharmacists
- Nurses (e.g. Perinatal Clinical Nurse Specialist; Serviceline Director)
- Midwives
- Medicaid
- Local and state public health professionals
- March of Dimes
- Colorado Rural Health Association
- Colorado Hospital Association
- Community programs (e.g. Families Forward, Healthy Start Program)

Process







Chronic stress Reduce root causes of chronic stress, including institutional racism, poverty, trauma, and violence.

When African women immigrate to the U.S., **within one generation**, their daughters are at risk of having premature babies at a significantly higher rate and with poorer birth outcomes.

The vast majority (70%) of health disparities are driven by factors related to social determinants of health such as education, labor and housing markets, government regulation, and health care systems (WHO 2008).

World Health Organization [WHO] 2008. Commission on Social Determinant of Health. PBS. National Minority Consortia. Public Engagement Campaign in Association with the Joint Center for Political and Economic Studies Health Policy Institute.
Lu et al. (2010). Closing The Black-White Gap in Birth Outcomes: A Life-Course Approach. *Ethnicity & Disease*, Winter 2010; 20:62-76.

Chronic stress Reduce root causes of chronic stress, including institutional racism, poverty, trauma, and violence.

Recommended Strategies

- Raise awareness of the effects racism and marginalization have on health outcomes.
- Invest in communities through job-skills training, adequate housing, access to nutritional food sources, and family-centered support services.
- Support policies that improve access to a livable wage, parental leave, and sick leave for working families.
- Connect women to support systems.
- Support preconception, prenatal and inter-conception programs that address coping strategies and support mechanisms.

Access to services Ensure access to culturally relevant and needed healthcare services, with emphasis on high risk populations.


Recommended Strategies

- Link families to additional social support and community resources.
- Expand availability of group prenatal care programs, such as CenteringPregnancy®. (Ickovics, et al; 2007)
- Increase access to language translation services in healthcare settings.
- Identify and implement provider education opportunities to enhance cultural competency.

Ickovics JR, Kershaw T, Westdahl C, Magriples U, Massey Z, Reynolds H, Rising, S. (2007) Group Prenatal Care and Perinatal Outcomes: A randomized controlled trial. Obstetrics and Gynecology, 110(2), Part 1: 330-39.

Preventive care Provide preventive care for women of reproductive age before, during, and after pregnancy to address modifiable risk factors for preterm birth.

Recommended Strategies



- Implement "The One Key Question."
- Discuss and counsel women on risks for preterm birth.
- Counsel on ways to reduce the risk of a preterm birth in future pregnancies (e.g. 17P, birth spacing and contraceptives).
- Screen for food insecurity, tobacco and substance use, and interpersonal violence.
- Continue to disseminate the [Guideline for Preconception and Interconception Care](#) as a tool for providers.

"It is not a question of whether you provide preconception care, rather it's a question of what kind of preconception care you are providing."

- Joseph Stanford and Debra Hobbins, Family Practice Obstetrics, 2nd ed. 2001

Planned pregnancy Promote planned pregnancy.



In 2013, 42.8% of women in Colorado reported their pregnancies were unintended. (PRAMS, 2013)

Women with inter-pregnancy intervals of less than 18 months are 14-47% more likely to have premature infants than those who waited longer to conceive. For each month that the inter-pregnancy interval was less than 18 months...

- Preterm births ↑ 1.9%
- Low birthweight ↑ 3.3%
- Poor intrauterine growth ↑ 1.5%

Chandra et al. (2005). National Center for Health Statistics. Vital Health Statistics. 2005. 23(25).
Gennell & Lindberg (2013). Obstet Gynecol. 2012; 122(1):84-71.

Planned pregnancy Promote planned pregnancy.

Recommended Strategies

- Support preconception planning across the reproductive life course, including patient and provider understanding of contraceptive methods.
- Support and educate women and men on their ability to plan the number and timing of children.
- Promote standard educational messages for women and men, including youth, regarding pregnancy planning and appropriate birth spacing through use of educational websites, phone applications and other resources.

Planned pregnancy Promote planned pregnancy.


Recommended Strategies to reduce the incidence of teen births

- Educate youth about available contraceptive methods and their effectiveness, including emergency contraception and long-acting reversible contraceptives (LARC).
- Educate providers around the statutes regarding parental consent for administration of birth control methods to those younger than 18 years.
- Expand the availability of school-based health centers and use of them as platforms for education.

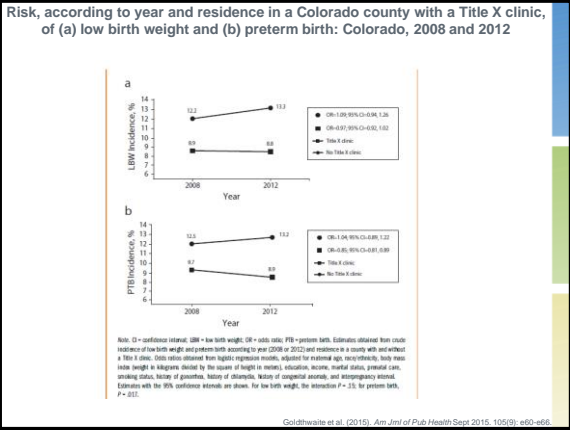
Teen mothers are more likely to have an unintended pregnancy and deliver preterm. In Colorado, the overall preterm birth rate is **8.4%** compared to **9.7%** for women under the age of 20. (Colorado Vital Statistics, 2013-2014).

Contraceptive use Increase access to and uptake of long-acting reversible contraceptives (LARCs).

Use of highly effective methods of contraception have a significant impact on rates of unintended pregnancy.



Long-acting reversible contraceptive (LARC) methods – namely intrauterine devices (IUD) and implants – are the most effective forms of reversible contraception currently available. ([ACOG practice bulletin No. 121](#))



Contraceptive use Increase access to and uptake of long-acting reversible contraceptives (LARCs).

Recommended Strategies

- Expand LARC administration during the in-patient postpartum period to prevent rapid repeat pregnancies.
- Publicize the cost and societal benefits of LARC to reduce preterm birth, especially among youth.
- Increase provider education regarding LARC, especially regarding reimbursement and billing.

ART Risks Increase provider and patient knowledge regarding the risks of Assisted Reproductive Technology (ART).

In 2012, rates of prematurely born infants were **almost 4 times (38%)** higher among infants born through use of ART techniques than in the general population (**10.4%**).
(Sunderman et al. *CDC MMWR*, Aug 2015)

Prematurity and Multiple Births		
Type of Pregnancy	Average Gestational Age at Time of Delivery	Average Birth Weight
Singleton	40 weeks	7 lbs. (3,300 grams)
Twin	35 weeks	5.5 lbs. (2,500 grams)
Triplet	33 weeks	4 lbs. (1,800 grams)
Quadruplets	29 weeks	3 lbs. (1,400 grams)

American Society of Reproductive Medicine, 2004

ART Risks Increase provider and patient knowledge regarding the risks of Assisted Reproductive Technology (ART).

Almost half (48.8%) of Colorado mothers who received ART conceived twins or multiples. Compared with ART singletons, ART twins are approximately 4.5 times more likely to be born preterm and approximately 6 times more likely to be born at a low birthweight.

Location and number of assisted reproductive technology clinics, by state – United States & Puerto Rico, 2012

In Colorado, 2.5%, or 3,262 women, received infertility treatment between 2013 and 2014. (CDPHE Vital Statistics, 2013-2014)

Sunderman et al. CDC MMWR Surveill Summ Aug 2015; 64(8):1-29.

ART Risks Increase provider and patient knowledge regarding the risks of Assisted Reproductive Technology (ART).

Recommended Strategies

- Encourage single embryo transfer, especially among women under the age of 35.
- Develop materials to assist providers in counseling women on the risks of ART, especially increased chance of having multiples and preterm birth.
- Identify and advocate for effective policies regarding infertility coverage among health plans.
- Encourage providers to follow the American College of Obstetricians and Gynecologists recommendations regarding ART.

Tobacco use Encourage cessation of tobacco and other substances.

The percent of mothers who reported smoking during their pregnancy has declined in Colorado, from 9% in 2007 to 7% in 2013. (PRAMS)

Babies Born to Women Who Smoked During Pregnancy, Colorado 2013

In Colorado, almost 1 out of every 10 babies (9.9%) born between 2013 & 2014 to mothers who smoked during pregnancy was premature. (PRAMS)

2015 Kids COUNT in Colorado! Colorado Children's Campaign.

Tobacco use Encourage cessation of tobacco and other substances.

Alcohol consumption during pregnancy negatively impacts fetal development and has been linked to an increased risk of preterm birth.

Cocaine users experience an approximately two-fold increased risk of preterm birth compared with non-users.


Emerging substances, like e-cigarettes, also pose a risk to the fetus.

- These contain nicotine, and because they are not regulated, there is no way of knowing what other chemicals are being inhaled.
- Exposure to nicotine can result in a preterm delivery.
- A study in Maryland found that only 57% of pregnant women knew that e-cigarettes contained nicotine.

Institute of Medicine (US) Committee on Understanding Premature Birth and Assuring Healthy Outcomes, Behrman RE, Butler AS, editors. Preterm Birth: Causes, Consequences, and Prevention. Washington (DC): National Academies Press (US); 2007. 3. Behavioral and Psychosocial Contributors to Preterm Birth. Reiberg S (2015) Many Pregnant Women Think E-Cigarettes 'Safer' Than Regular Cigarettes. April 30, 2015. Available from <http://consumer.healthday.com/pregnancy/information-23/pregnancy-news-543/may-pregnant-women-think-e-cigarettes-safer-than-regular-cigarettes-68908.html>

Tobacco use Encourage cessation of tobacco and other substances.

More than three quarters (77.4%) of Colorado women reported their prenatal care provider advised them to stop smoking during pregnancy. However...



- Less than half (47%) of women who smoked during the 3 months before pregnancy discussed with their provider *how to quit smoking*;
- Only 17.7% were referred to counseling for help quitting; and
- Only 19.9% of women reported that their provider suggested they set a specific date to quit.

Colorado PRAMS, 2013.

Tobacco use Encourage cessation of tobacco and other substances.

Recommended Strategies

- Increase public awareness of the risks emerging substances present, like e-cigarettes.
- Screen and educate patients about the risks of substance use and abuse, including tobacco.
- Educate providers about the available Medicaid tobacco cessation benefits for pregnant women who smoke.
- Ensure smoking cessation services are available, particularly in areas of high smoking prevalence.
- Provide pregnancy-tailored tobacco cessation counseling through continued implementation of the Colorado QuitLine's pregnancy protocol.

Mental health Improve access to and information on mental health and well-being.

A growing body of research suggests that maternal psychological stress is associated with an increased risk of preterm delivery.

Since 2003, the number of Colorado women reporting poor mental health (stress, depression, and anxiety) has not improved. In 2012, **nearly 1 in 5 (18.7%) Colorado women** of reproductive age experienced 8 or more days of poor mental health in the last 30. (BRFSS)


Nearly 1 in 10 Colorado women (10.5%) who gave birth between 2009 and 2011 experienced postpartum depressive symptoms since their new baby was born. (PRAMS)

↑ In 2015, **61 of 64 Colorado counties were designated as a mental health shortage professional area**, which is an increase from 55 in 2012. (HRSA 2015).

Mental health Improve access to and information on mental health and well-being.

Recommended Strategies

- > Screen, assess, and address maternal mental health and well-being prenatal and postpartum visits.
- > Support behavioral health integration in prenatal and postpartum settings.
- > Identify co-occurring substance abuse issues through standardized, combined screening.
- > Improve access to and information on mental health services, including education and understanding of mental health issues.




Medical interventions Support medical interventions to identify risk and prevent preterm birth.

Pregnant women with a previous preterm birth or with a short cervix in their current pregnancy are at a higher risk of delivering preterm.

Women with a prior preterm birth are 5 to 6 times more likely to have another preterm birth.


Recommended Strategies

- > Adopt standard education and credentials for persons who perform ultrasound examination of the cervix in pregnancy, like the Cervical Length Education and Review (CLEAR) Certification.
- > Encourage providers to follow established American Congress of Obstetricians and Gynecologists (ACOG) and Society of Maternal-Fetal Medicine (SMFM) guidelines to prevent preterm birth.



Laughon SK, Albert PS, Leshar K, Mendola P (2014). The NICHD Consecutive Pregnancies Study: recurrent preterm delivery by subtype. Am J Obstet Gynecol. 2014 Feb;210(2):151.e1-6.

Access to 17P Promote appropriate access and use of 17 α -hydroxyprogesterone (17P) to prevent preterm birth.

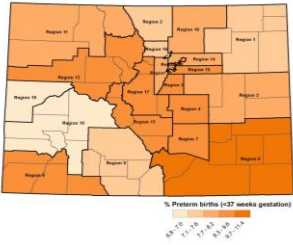


Recommended Strategies

- Encourage providers to follow the American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine, and American College of Nurse-Midwives guidelines regarding administration of 17P.
- Increase insurance coverage for 17P and educate patients and providers on the eligibility and coverage.
- Review potential or known barriers to 17P to identify additional policy or process updates necessary to minimize these.

Innovative technology Promote use of technology to help healthcare providers optimally manage preterm birth risks.

Preterm births, <37 weeks gestation, by region of residence, 2014



73%
of Colorado's 64 counties are rural; 17 are urban, 24 are rural, and 23 frontier.


3/4
of Colorado's landmass (77%) is rural.

Source: Vital Statistics Program, Colorado Department of Public Health and Environment

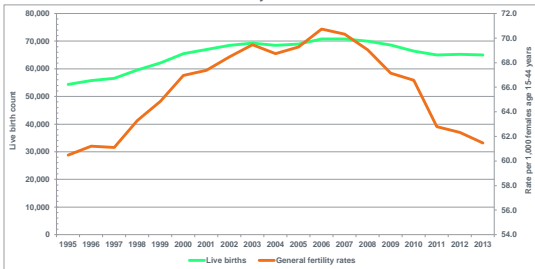
Innovative technology Promote use of technology to help healthcare providers optimally manage preterm birth risks.

Recommended Strategies

- Use technology to support outreach, education, and training for providers and patients.
- Use telemedicine platforms to overcome geographic barriers to continued education for providers in rural areas.
- Develop a support line staffed by nurses with an established referring physician as backup to offer rural healthcare providers non-acute consultation.



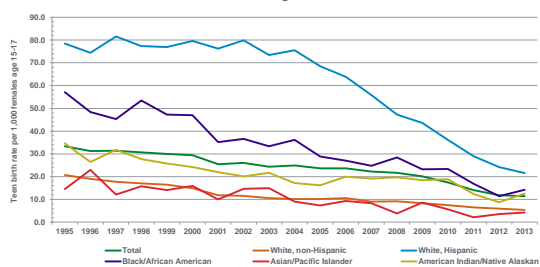
Live births among Colorado residents, 1995-2013



Source: Vital Statistics Program, Colorado Department of Public Health and Environment



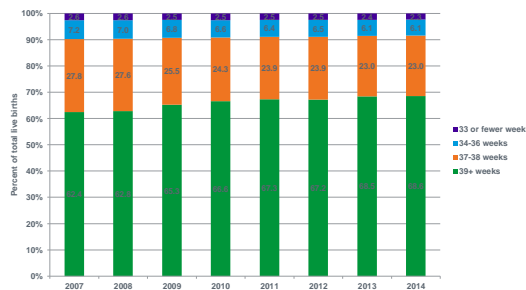
Teen births, age 15-17, by mother's race/ethnicity, 1995-2013



Source: Vital Statistics Program, Colorado Department of Public Health and Environment



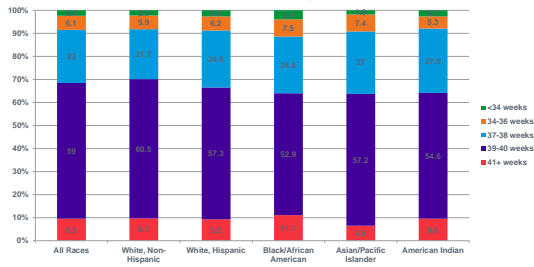
Live births by estimated gestation, 2007-2014



Source: Vital Statistics Program, Colorado Department of Public Health and Environment



Live births by estimated gestation and race/ethnicity, 2013



Source: Vital Statistics Program, Colorado Department of Public Health and Environment
