Introduction

The Maternal and Child Health (MCH) population in Colorado includes women of reproductive age (15 to 44 years), children and youth (birth to 25 years), and children and youth with special health care needs (birth to 21 years). The health and health equity of these three populations is influenced by the social determinants of health such as geographical, social and economic factors. This snapshot includes an overview of key factors as they relate to the MCH population in Colorado in order to provide state-specific context for considering the health of the MCH population described in the twelve MCH epidemiologic issue briefs that follow.

In addition to this snapshot, the Colorado Department of Public Health and Environment (CDPHE) released the 2013 Colorado Health and Environmental Assessment. This report provides detailed data on Colorado’s overall population, key health and environmental issues, and the social determinants of health. The assessment presents indicators that align with Colorado’s Health Equity Model. The Health Equity Model is a visual model for conceptualizing the broad, complex and interrelated determinants of health that was developed at the CDPHE and is being promoted by the Association of State and Territorial Health Officials (see Figure 1). Because the statewide health assessment was recently conducted and published, this MCH snapshot is a subset of social determinant indicators that specifically relate to the MCH population.

Figure 1. Colorado’s health equity model.

Health Equity
An Explanatory Model for Conceptualizing the Social Determinants of Health

Public Health’s Role in Addressing the Social Determinants of Health
• Advocating for and defining public policy to achieve health equity
• Coordinated interagency efforts
• Creating organizational environments that enable change

Source: Colorado Department of Public Health & Environment.
Geography

Colorado is located in the Rocky Mountain region of the United States. Colorado has the highest mean elevation of any state with more than a thousand mountain peaks over 10,000 feet high including 58 that are over 14,000 feet. The Continental Divide runs from north to south through west central Colorado and bisects the state into the eastern and western slopes.

The state is further divided into five regions: the Front Range, the Western Slope, the Eastern Plains, the Central Mountains, and the San Luis Valley. Eighty-six percent of the state’s population lives along the Front Range, which includes the metropolitan areas of Denver, Boulder, Fort Collins, Greeley, Colorado Springs and Pueblo, and Grand Junction on the Western Slope. In total, there are 64 counties in the state with 16 designated as urban, 27 rural, and 21 frontier counties. Frontier counties are defined as six or fewer persons per square mile (Figure 2). Colorado’s geography can make access to resources and travel difficult for residents living outside of the Front Range communities.

Figure 2. Colorado population density per square mile, Colorado 2010-2014 five-year average, 2010.

Population and Demographics

Colorado ranks 22nd among states in population size. The total state population in 2016 was 5,538,581. In terms of Colorado’s MCH population, 20 percent of the state’s population is females ages 15-44; 29 percent are children and youth ages 0-21, and approximately 217,000 are children and youth with special health care needs. Children and youth with special health care needs (CYSHCN) are those children and youth who have one or more chronic physical, developmental, behavioral or emotional condition for which they require health and related services of a type or amount beyond that required by children generally. For more information on Colorado’s CYSHCN population, see the CYSHCN Issue Brief.

Another important consideration about Colorado’s youth is that among the high school population, 9.4 percent identify themselves as gay, lesbian or bi-sexual. Among adults in Colorado, 4.3 percent identify themselves as gay, lesbian, or bisexual.
The two major racial and ethnic groups in Colorado are composed of White non-Hispanic persons and persons of any race who are of Hispanic origin or ethnicity. Estimates from the American Community Survey (2014) of the U.S. Census Bureau show that 69.4 percent of Coloradans ethnically identify as White non-Hispanic and 20.9 percent identify their ethnicity as Hispanic. Categories by race include White (84.0 percent), Black/African-American (4.0 percent), Asian and Native Hawaiian/Pacific Islander (2.9 percent), American Indian and Alaska Native (1.0 percent), and people who report another race (4.6 percent) or more than one race (3.5 percent). The Hispanic population has grown rapidly in recent years; from 735,601 in 2000 to an estimated 1,135,107 in 2014 according to the most recent one-year estimate available from the American Community Survey. The vast majority of the Hispanic population is of Mexican descent, while the remainder of the population is mostly from Central and South America. Seventy-five percent of the Hispanic population in Colorado was born in the United States; twenty-five percent was not. Among the Hispanic population born outside the U.S. close to one-quarter are naturalized citizens.

Approximately 17 percent of Colorado residents ages five and older speak a language other than English at home; 70 percent of those speaking another language in the home speak Spanish. Three percent of households in Colorado are estimated to be linguistically isolated, i.e., all members 14 years and older have at least some difficulty with English.

Colorado has a small refugee population. Between 2009 and 2013, an average of 1,750 refugees resettled into Colorado each year. (This number does not include overseas and domestic asylees, special immigrant visas, unaccompanied minors, parolees or victims of trafficking.) Resettled refugees in Colorado come from approximately 50 countries around the world. In recent years, the majority of refugees have been from Iraq, Myanmar, Somalia and Bhutan. Between 2009 and 2013, the largest number of refugees resettled in the state were ages 25-44, followed by children ages 0-14 and youth ages 19-24. The majority of refugees are resettled in the Denver metro area (Arapahoe, Adams, Denver and Jefferson counties). El Paso, Weld and Morgan counties receive an average of 200 refugees per year. Other Colorado counties with resettled refugees between 2009 and 2013 include Archuleta, Boulder, Broomfield, Douglas, Eagle, Garfield, Gunnison, Larimer, Mesa, Phillips, Pueblo, Summit and Teller.

Although Colorado is a mid-sized state, it has had one of the fastest growth rates of all states and migration continues to be an important factor in the state’s population growth. Between 2015 and 2020, Colorado’s population is expected to grow from 5,443,612 to 5,935,912. While natural increase (births minus deaths) will contribute 170,700 persons, net migration is expected to supply nearly twice as many people, contributing 321,600 to the total increase of 492,300.

The number of births in 2015 was 66,566, similar to the number recorded in each of the previous five years. Total births began to drop after 2007 when a high of 70,804 births were recorded. Since then large drops in births among women under the age of 25 have been observed: from 23,005 in 2007 to 15,877 in 2015. While increases in the number of births among older women have taken place, they have not equaled the declines among younger women. A large statewide initiative to address unintended pregnancy, particularly among young women, has been credited with the downward trend. The initiative resulted in over 40,000 long-acting reversible contraceptives (IUDs and implants) being used by women who received family planning at the state’s Title X clinics between 2009 and 2015. Because these methods are virtually 100 percent effective, birth rates have fallen dramatically, especially among young women. The Behavioral Risk Factor Surveillance System determined in 2015 that 21 percent of all women in Colorado between the ages of 18 and 44 were using a long-acting method of contraception, indicating that the use of these methods is now widespread.

It is instrumental for Colorado’s Title V program to understand who lives in Colorado and what the needs and disparities are among the state’s population groups so that we can best optimize the health and well-being of the MCH population and promote health equity. These data are a starting point for this public health work.

Economy

Employment

Employment, income and housing are all closely linked to health and wellness and should be considered in understanding the overall health status of the MCH population in Colorado. As of March 2016, Colorado’s unemployment rate was 2.9 percent. This was lower than the national unemployment rate for the same time period, 5.0 percent. Colorado’s unemployment ranking was the 3rd lowest in the nation. The state unemployment rate has been on the decline since reaching a high of 9.1 percent in October 2010.

Income and Poverty

Colorado has an income advantage. In 2014, the median household income in Colorado was $61,303, higher than the national median of $53,657 which was the 12th highest among all 50 states. However, the median household income does fluctuate significantly among Colorado’s counties. Douglas County, located just south of Denver along the Front Range, had the highest median household income at $102,626. While Crowley County, located in Colorado’s Southern Plains, had the lowest at $31,534.

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While Colorado is a wealthy state, racial and ethnic inequities certainly do exist by income. Median household incomes for Hispanic, Black and American Indian populations are significantly lower than those for the White and Asian populations.25

The percentage of Colorado residents in poverty has been decreasing since 2012. In 2014, 29 percent of Coloradoans lived in low-income families (below 200 percent of the Federal Poverty Level (FPL)).26 This is down 5 percent from 30.6 percent in 2012. Among children younger than 18 years of age, 36.9 percent were living in families with incomes below 200 percent of the Federal Poverty Level27 ($47,700 for a family of four).28 Racial and ethnic minorities have much higher rates of children who live in low-income families than the majority population. In 2014, 60 percent of Black, 62 percent of Hispanic, 61 percent of American Indian, and 26 percent of Asian children lived in low-income families versus 25 percent of their White and 26 percent of their Asian counterparts.29

When ranking the states by the percentage of persons living below 100 percent of the federal poverty level, Colorado had the 13th lowest child poverty rate in the nation in 2014.30 Poverty among children in Colorado decreased from 2012. Colorado went from being tied for the 17th lowest child poverty rate in the nation in 2012 to being tied for the 5th lowest child poverty rate in the nation in 2014.31 When looking at children living in families with incomes below 100 percent of the FPL, 15 percent of children in Colorado lived in poverty in 2014, compared to 18 percent in 2012. This is lower than the national rate of 22 percent.32 In 2014, 28.3 percent of Hispanic, 27.0 percent of Black, 6.2 percent of Asian, and 8.5 percent of White non-Hispanic children lived in poverty.33 The majority of children living in low-income families live in families where the parents are married (55 percent) and have at least one parent who has full-time year-round employment (52 percent), indicating that many of these families are having trouble meeting expenses because they are working in low-wage jobs.34 Additionally, 14 percent of children in low-income families have no employed parents compared to 2 percent in above low-income families.35

Housing and Built Environment

Among occupied housing units in Colorado, 36.1 percent are rented. In renter-occupied units, 51 percent pay 30 percent or more of the household income to rent. In 2014 the median home value for owner-occupied units in Colorado was $255,200 compared to $234,900 in 2012. Of these units, 72.8 percent have a mortgage.36

The built environment influences access to recreational activities, alternative transportation and healthy food. The majority of Colorado adults (78.1 percent) report that they have access to public exercise facilities in their neighborhood. Related to transportation, 82.7 percent of adults report that the sidewalk or shoulders in their neighborhoods are sufficient to safely walk, run or bike. Almost nine in ten (86.6 percent) adults report that they can easily purchase healthy foods in their neighborhood.37 Almost all (96.0 percent) Colorado parents feel that their children are safe in their community or neighborhood. Safety and violence varies however with socioeconomic factors in the area. For example, perceived neighborhood safety increases with income. Compared to children living above 200 percent of the poverty level, significantly fewer children living at or below 200 percent of the poverty level are perceived by their parent to be usually or always safe in their neighborhood or community (97.0 percent versus 91.9 percent).38

Education

Education is critical to the health and well-being of the MCH population. Education leads to greater employment opportunity and increased income along with reduced illness, increased longevity, and improved health and educational opportunity for future generations.39 Overall, Colorado has a highly educated population. Over one-third (38.4 percent) of all Coloradans age 25 and older have a college degree or more, and Colorado is ranked 2nd among all states and the District of Columbia in the percentage of the population with a college degree.40

Inequities in educational attainment exist however among different racial and ethnic groups in Colorado. Over half (51.5 percent) of Asians have a college degree or higher, as do 40.0 percent of White, non-Hispanics. One in four (23.2 percent) Black/African Americans, and 13.7 percent of Hispanics have a college degree or higher.41 While the prevalence of college graduates in Colorado is high among Asian and White, non-Hispanics, the percentage of high school students who graduate overall is relatively low (35 states have higher high school graduation rates)42 in 2013. This dynamic exists because many highly educated people migrate to Colorado after completing their education; the majority of migrants move to Colorado after they have completed at least high school elsewhere. The on-time high school graduation rate (graduation within four years) in Colorado was 72.4 percent in 2010 and increased to 77.3 percent in 2014.43

Disparities in graduation rates mimic the disparities in college graduation attainment among adult Coloradans, with American Indians or Alaska Natives having the lowest high school graduation rate and Asians having the highest. Other groups that are consistently at risk of not graduating from high school include homeless children, students with disabilities and students who are not proficient in English (Table 1).

While college completion rates are an important measure of educational opportunity, national research shows that quality early childhood care and education contributes to the development of cognitive skills, social-emotional skills and character skills including attentiveness, persistence, motivation,
Table 1. Colorado high school graduation rates by race/ethnicity, sex and special groups, 2014.

<table>
<thead>
<tr>
<th>Student Groups</th>
<th>Graduation Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>84.7</td>
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<tr>
<td>White non-Hispanic</td>
<td>83.2</td>
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<tr>
<td>Two or More Races</td>
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<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
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<tr>
<td>Black/African American</td>
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<tr>
<td>Hispanic</td>
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<tr>
<td>American Indian or Alaska Native</td>
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<tr>
<td><strong>Sex</strong></td>
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<tr>
<td>Female</td>
<td>81.0</td>
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<tr>
<td>Male</td>
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<tr>
<td><strong>Special Groups</strong></td>
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<tr>
<td>Gifted &amp; Talented</td>
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<td>Economically Disadvantaged</td>
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<tr>
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<td>Limited English Proficiency</td>
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<tr>
<td>Students with Disabilities</td>
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<tr>
<td>Title 1 (at disadvantaged schools)</td>
<td>52.4</td>
</tr>
<tr>
<td>Homeless</td>
<td>52.7</td>
</tr>
<tr>
<td>State Total (all students)</td>
<td>77.3</td>
</tr>
</tbody>
</table>

Source: Colorado Department of Education.

self-control and teamwork. We know that when children are ready for school before kindergarten, they are more likely to be successful students, read at grade level by the end of third grade and graduate from high school on time.

In Colorado, between 2011 and 2013, 49 percent of three- and four-year-old children were enrolled in a preschool program. Among the 41 states with state-supported preschool programs, Colorado ranks 37th in spending, 22nd in access to preschool for 4-year-olds, and 10th in access for 3-year-olds. Although Colorado’s state spending on preschool is low by comparison, the Colorado Preschool Program (CPP) is an effective program that meets six out of 10 quality standards of the National Institute for Early Education and Research and consistently shows school readiness gains for Colorado’s most at-risk children.

Children who are read to regularly at an early age have improved school readiness and long-term success outcomes. Six in ten (59.5 percent) Colorado children ages one to five years are read to daily. Social Factors

Social Engagement and Civic Engagement

Social factors are highlighted in the social determinants of health framework as contributing to the overall health of individuals and communities. In particular, participation in civic life or religious organizations has been shown to positively impact individual longevity and well-being. In Colorado, 52.3 percent of adults report volunteering without pay on behalf of a group or an organization in the past year. This includes help provided to schools, organizations, sports, community associations, citizen groups or churches. Almost seven in ten (69.3 percent) high school students participated in extracurricular activities. Four in ten (42.7 percent) high school students participated in organized community services as a non-paid volunteer during the past 30 days.
Social and Emotional Support

Social support can help improve quality of life and decrease emotional distress, but it varies by race/ethnicity and income. Over eight in ten (83.3 percent) White adults report getting the emotional or social support they need, but this is true for significantly fewer Hispanic adults, Black adults and adults in other racial/ethnic groups (74.1 percent, 73.8 percent and 78.3 percent, respectively). Adults with an annual household income less than $15,000 were significantly less likely to get the emotional support they needed compared to adults of all other household incomes. Conversely, adults in households with annual incomes of $50,000 or more were significantly more likely to report getting the social support they needed compared to all others.\(^\text{51}\) Overall, 23.5 percent of Colorado family households are headed by a single adult and may lack needed support systems, which is significantly less than the national estimate of 27.3 percent.\(^\text{52}\)

Racism

Racism and discrimination are two other social determinants of health that deserve attention, though the data describing these issues in Colorado is limited. Adults have reported that within the past 30 days, 6.3 percent have felt emotionally upset, for example angry, sad or frustrated, as a result of how they were treated based on their race and/or ethnicity.\(^\text{53}\) Among high school students, 14.4 percent have been a victim of teasing or name calling because of their race or ethnic background in the past year.\(^\text{54}\)

As MCH professionals consider health-specific data, it is important to consider other indicators that describe the MCH population’s experience such as social factors. Research supports the link between civic engagement, social and emotional support, racism, and overall health and well-being.

Insurance, Utilization and Medical Home

Health Insurance

Based on 2014 data, Colorado was ranked 25th among all states and the District of Columbia based on the percentage without health insurance coverage.\(^\text{55}\) In Colorado, the uninsured rate dropped by more than 50 percent from 14.3 percent in 2013 to 6.7 percent in 2015. The highest rate of uninsured was among Coloradans ages 30-39 years at 13.4 percent followed by Coloradans ages 19-29 years at 12.9 percent. Only 2.5 percent of children ages 0-18 years were uninsured in 2015. The highest rate of health insurance coverage was among White non-Hispanics with 5.0 percent uninsured in 2015. By contrast, 11.0 percent of Hispanics in Colorado were uninsured in the same year. The uninsured rate was highest among Coloradans with incomes at or below 100 percent of the federal poverty level (10.6 percent) and those with incomes between 101 to 200 percent of the federal poverty level (7.8 percent).\(^\text{56}\)

Several programs are available to reach low-income families and those without health insurance. Pregnant women and children living in households at or below 260 percent of the federal poverty level (FPL) are eligible for health insurance coverage either through Child Health Plan Plus (CHP+) or Medicaid. As of April 2016, 553,887 children were enrolled in Medicaid and 54,838 children were enrolled in CHP+.\(^\text{57}\) Other health care services available to low-income and uninsured persons in Colorado include 20 Community Health Centers (CHCs) that operate 186 clinic sites in 40 counties and provide care to patients living in 61 of the 64 counties. Colorado CHCs provide care to more than 650,000 of their community members (1 in 8 Coloradans). Ninety-three percent of patients at CHCs have family incomes below 200 percent of the FPL.\(^\text{58}\)

With the opening of Connect for Health Colorado in October 2013, the state’s new health insurance marketplace, came the opportunity for many more state residents to obtain insurance. Enrollment in the marketplace jumped from 52,783 individual enrollments in 2013 to 152,470 in 2015. The marketplace also provided coverage to 472 small businesses covering a total of 2,598 employees. The majority of enrollees are ages 55-64 years (28 percent). Approximately 13 percent of all enrollees are children ages 0-17 years and 7 percent are youth ages 18-25 years. Over half (55 percent) of the enrollees received financial assistance in 2015.\(^\text{59}\)

Colorado’s insurance coverage rates have increased in recent years. This increase, attributable to the Affordable Care Act, provides health insurance and access to care to Colorado’s most disparate populations. It is unknown how many of those who are insured are underinsured because deductibles and co-payments act as barriers to receiving care.

Utilization and Medical Home

Two important health care quality indicators for the child population are receipt of standardized health screenings and provision of medical care that meets medical home criteria. Regular developmental and behavioral screening of infants and young children helps enable early identification of health concerns, which is important for following up with appropriate care, referrals and promoting healthy development. As such, standardized developmental and behavioral screening is recommended in the pediatric primary care setting by the American Academy of Pediatrics. Most validated screening instruments are parent-reported and can lead to referrals for early intervention opportunities. However, in 2015, 56.3 percent of children ages 1-5 years had a health care provider who asked their parent to fill out a questionnaire about the child’s
development, communication or social behavior.\textsuperscript{60}

The medical home is considered one of the most promising approaches to delivering high-quality and cost-effective health care. It is a philosophy of healthcare that is patient- or family-centered, comprehensive, coordinated, accessible, continuous and culturally effective. In 2015, 61.3 percent of children age 1-14 years in Colorado received care that met medical home criteria.\textsuperscript{61} Colorado has a long history of supporting a family-centered medical home approach for all children.

The Colorado Medical Home Initiative began in 2001 in response to the Title V / Maternal and Child Health (MCH) national outcome measure; all children will receive comprehensive coordinated care within a medical home. The Colorado Medical Home Initiative is a systems-building effort to promote health and high quality health care for all children in Colorado through the development of state and local infrastructure that supports a medical home team approach for all children. Coordinated by the Colorado Departments of Public Health and Environment and Health Care Policy and Financing, the Colorado Medical Home Initiative partners with government agencies, families, health providers, non-governmental organizations and policy-makers to identify and promote solutions to state and local barriers to developing a quality-based system of health care that supports a medical home team approach for all children.

In 2007, the Colorado Legislature passed Senate Bill 130, Concerning Medical Homes for Children.\textsuperscript{62} Signed by Governor Ritter in 2007, Senate Bill 130 designates the Department of Health Care Policy and Financing to take the lead in ensuring an increase in number of medical homes for children eligible for Medicaid and CHP+ in Colorado. The Department of Health Care Policy and Financing is responsible for collaborating with the Colorado Medical Home Initiative to implement the requirements of the bill. Much of this work is now being accomplished with close collaboration with the Accountable Care Collaborative and the key partners associated with the Colorado Medical Home Initiative.

The state Medicaid program, located within the Department of Health Care Policy and Financing, implemented the Accountable Care Collaborative (ACC) in 2011 to build a comprehensive statewide program to support a medical home infrastructure for all populations. This program includes seven Regional Care Collaborative Organizations (RCCOs) to support community-based solutions to care. The responsibility of each RCCO is to develop a comprehensive network of primary care medical providers, enhance the network of specialty providers, collect and analyze data to support population health, and most importantly provide care coordination for members. As of June 2015, 899,596 Medicaid recipients were enrolled in the ACC program, approximately 70 percent of all Colorado Medicaid clients.\textsuperscript{63}

**Conclusion**

Although Colorado ranks well in health compared to other states (overall ranking of 8 in 2015),\textsuperscript{64} women, infants, children and youth, including those with special health care needs, continue to face health challenges as demonstrated throughout the following 12 MCH Issue Briefs. In addition, there are notable inequities among those women, infants, children and youth who experience lower incomes, unstable housing, racism and/or have limited educational attainment and a lack of social support. This snapshot aims to provide important data on the social determinants of health that are so critical when considering the MCH Issue Briefs.

*Updated June 2016*
References


13. Ibid


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