



# Assessing the Need for School-Based Health Center Services in Colorado, 2015



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### Special thanks:

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### Our Funders



# Assessing the Need for School-Based Health Center Services in Colorado, 2015

A Report Prepared by the Colorado  
Health Institute for the Colorado  
Association for School-Based Health  
Care and the Colorado Department of  
Public Health and Environment

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## Background

*School-based health centers (SBHCs) represent an innovative model of care with the potential to improve access to health care for many of Colorado's most vulnerable children. The health centers serve students with limited access to care, often because they are low-income, uninsured or live in isolated areas.*

Colorado lawmakers, the federal government and the state's philanthropic health foundations have recognized the value of SBHCs. With their support, SBHCs have expanded and multiplied in recent years. An infusion of funds from the Colorado legislature — nearly \$5.3 million beginning in fiscal year (FY) 2013-14 — positions stakeholders to examine potential growth of SBHCs in the state.<sup>1</sup>

The Colorado Association for School-Based Health Care (CASBHC) and the Colorado Department of Public Health and Environment (CDPHE) partnered with the Colorado Health Institute to identify Colorado schools and school districts that could most benefit from the addition of a SBHC.

This report summarizes the findings from the needs assessment and outlines the criteria that were used to determine need.

### Research Questions

The needs assessment addresses two key questions:

- What data are most useful in estimating the need for SBHCs?

- Based on an analysis of these data, which urban schools and rural school districts in Colorado have the greatest need for SBHCs?

### What Did the Analysis Find?

The findings identify schools and districts that may benefit the most from the addition of a SBHC. Among the highlights:

- Urban schools with the highest need are primarily in Denver and Adams counties. Of the top 100 highest-need urban schools, 61 are in these two counties. The other 39 schools are in Arapahoe, El Paso, Mesa, Pueblo and Weld counties.
- Of the 21 rural school districts identified as having high need, most are on the Western Slope or in the San Luis Valley. There is a pocket of four very high-need districts in the San Luis Valley, none of which has an existing SBHC. Most of the high-need districts on the Western Slope already have a SBHC.
- Only 18 of the top 100 high-need urban schools and seven of the 21 high-need rural districts already have established SBHCs, suggesting that there is a shortage of SBHCs in the places that need them the most.

## How Was the Analysis Done?

The Colorado Health Institute evaluated urban schools and rural school districts using 12 key indicators of need that fall within four categories:

- Health outcomes
- Access and utilization of care
- Health insurance coverage
- Youth risk factors

The Colorado Health Institute conducted two parallel analyses: urban and rural. Rural and urban schools have an important difference — the size of their student bodies — which could have skewed the results had they been included in the same analysis. A minimum student body of 600 was required for schools or districts to be considered in the analysis.

The map on page 18 illustrates the rural and urban classifications used. Additional information about the methodology is available in the appendix.

## Results

### Urban Schools

The 100 highest-need urban schools are broken into three groups — Tier 1, Tier 2 and Tier 3 — to demonstrate variation within the highest-need schools. Tier 1 represents the highest level of need, though schools in all three categories face significant challenges and could benefit from a SBHC. Schools are listed alphabetically within each tier in Table 1.

High-need schools scored a minimum of 34 on the scale used for the analysis. A score of 57 was the maximum possible score, but the highest score actually achieved was 52. Higher numbers demonstrate greater need. Map 1 on page 13 shows the locations of the 100 schools identified as having high needs.

## What is a SBHC?

SBHCs are an important component of Colorado's health care safety net. They are located inside a school or on school grounds and are staffed by care providers from a variety of disciplines. Each SBHC is unique and offers a variety of services, which may include:

- Well-child and well-adolescent exams
- Immunizations
- Prevention programs, including smoking cessation
- Violence, pregnancy and substance use counseling
- Nutrition counseling
- Chronic conditions management
- Illness and injury treatment
- Mental health assessment and treatment
- Dental exams and sealants
- Health insurance enrollment assistance

### Rural School Districts

The 21 highest-need rural school districts also are broken into three groups — Tier 1, Tier 2 and Tier 3 — to demonstrate variation within the highest need districts. Tier 1 represents the highest level of need, though districts in all three categories have significant need and could benefit from a SBHC. Districts are listed in alphabetical order within each tier in Table 2.

A score of 57 was the maximum possible score, but the highest score actually achieved was 48. Districts with a score of 34 or higher are included in Table 2, consistent with the urban analysis. Map 2 on page 14 shows the locations of these high-need districts.

**Table 1. Colorado's 100 Highest-Need Urban Schools**

Tier 1 – Highest Level of Need			
School	District	County	Student Body
Abraham Lincoln High School	Denver County 1	Denver	1,509
Adams City High School	Adams County 14	Adams	1,749
Adams City Middle School	Adams County 14	Adams	774
Bruce Randolph School	Denver County 1	Denver	870
Castro Elementary School	Denver County 1	Denver	603
Crawford Elementary School	Adams-Arapahoe 28J	Adams	754
DCIS At Ford	Denver County 1	Denver	637
DCIS At Montbello	Denver County 1	Denver	723
Dupont Elementary School	Adams County 14	Adams	699
Farrell B. Howell ECE-8 School	Denver County 1	Denver	829
Florida Pitt-Waller ECE-8 School	Denver County 1	Denver	916
Global Leadership Academy	Mapleton 1	Adams	600
Godsman Elementary School	Denver County 1	Denver	607
Goldrick Elementary School	Denver County 1	Denver	617
Gust Elementary School	Denver County 1	Denver	774
Henry World School Grades 6-8	Denver County 1	Denver	787
Holm Elementary School	Denver County 1	Denver	600
Iver C. Ranum Middle School	Westminster 50	Adams	772
John F Kennedy High School	Denver County 1	Denver	1,260
Kearney Middle School	Adams County 14	Adams	783
Kepner Middle School	Denver County 1	Denver	796
Knapp Elementary School	Denver County 1	Denver	676
Kunsmiller Creative Arts Academy	Denver County 1	Denver	939
Lena Archuleta Elementary School	Denver County 1	Denver	628
Marie L. Greenwood Academy	Denver County 1	Denver	666
Marrama Elementary School	Denver County 1	Denver	617
Martin Luther King Jr. Early College	Denver County 1	Denver	1,152
McGlone Elementary School	Denver County 1	Denver	686
Munroe Elementary School	Denver County 1	Denver	646
North High School	Denver County 1	Denver	769
North Middle School Health Sciences And Technology Campus	Adams-Arapahoe 28J	Adams	879
Place Bridge Academy	Denver County 1	Denver	1,054
South High School	Denver County 1	Denver	1,370
Westminster High School	Westminster 50	Adams	2,388

Rows highlighted in purple indicate schools that already have a SBHC.

**Table 1. Colorado's 100 Highest-Need Urban Schools (continued)**

<b>Tier 2 – Second Highest Level of Need</b>			
<b>School</b>	<b>District</b>	<b>County</b>	<b>Student Body</b>
Atlas Preparatory School	Harrison 2	El Paso	677
Aurora Central High School	Adams-Arapahoe 28J	Arapahoe	2,120
Aurora West College Prep. Academy	Adams-Arapahoe 28J	Arapahoe	1,241
Bella Romero Academy of Applied Technology	Greeley 6	Weld	722
Centennial Elementary School	Greeley 6	Weld	623
Chavez/Huerta K-12 Prep. Academy	Pueblo City 60	Pueblo	1,115
Denver Center for International Studies	Denver County 1	Denver	774
East High School	Denver County 1	Denver	2,435
East High School	Pueblo City 60	Pueblo	1,024
Franklin Middle School	Greeley 6	Weld	784
George Washington High School	Denver County 1	Denver	1,424
Greeley Central High School	Greeley 6	Weld	1,421
Greeley West High School	Greeley 6	Weld	1,518
Green Valley Elementary School	Denver County 1	Denver	721
Hamilton Middle School	Denver County 1	Denver	875
Josephine Hodgkins Elementary School	Westminster 50	Adams	659
Mapleton Expeditionary School of the Arts	Mapleton 1	Adams	616
Maplewood Elementary School	Greeley 6	Weld	650
Martinez Elementary School	Greeley 6	Weld	613
Northglenn High School	Adams 12 Five Star Schools	Adams	1,784
Northglenn Middle School	Adams 12 Five Star Schools	Adams	806
Northridge High School	Greeley 6	Weld	1,051
Omar D. Blair Charter School	Denver County 1	Denver	800
Roosevelt-Edison Charter School	Colorado Springs 11	El Paso	693
Sabin World School	Denver County 1	Denver	698
Shaw Heights Middle School	Westminster 50	Adams	615
Stem Launch	Adams 12 Five Star Schools	Adams	773
The International School at Thornton Middle	Adams 12 Five Star Schools	Adams	849
The Pinnacle Charter School Elementary	Charter School Institute	Adams	1,053
Thomas Jefferson High School	Denver County 1	Denver	1,083
Thornton High School	Adams 12 Five Star Schools	Adams	1,774

Rows highlighted in purple indicate schools that already have a SBHC.

**Table 1. Colorado's 100 Highest-Need Urban Schools (continued)**

Tier 3 - Third Highest Level of Need			
School	District	County	Student Body
Aurora Hills Middle School	Adams-Arapahoe 28J	Arapahoe	930
Brighton High School	School District 27J	Adams	1,843
Centennial High School	Pueblo City 60	Pueblo	1,254
Central High School	Mesa County Valley 51	Mesa	1,462
Central High School	Pueblo City 60	Pueblo	826
East Middle School	Adams-Arapahoe 28J	Arapahoe	1,045
Frederick Senior High School	St. Vrain Valley Re 1J	Weld	977
Gateway High School	Adams-Arapahoe 28J	Arapahoe	1,690
Grand Junction High School	Mesa County Valley 51	Mesa	1,715
Grant Ranch ECE-8 School	Denver County 1	Denver	811
Harrison High School	Harrison 2	El Paso	862
Heath Middle School	Greeley 6	Weld	654
High Point Academy	Charter School Institute	Adams	818
Hill Campus of Arts and Sciences	Denver County 1	Denver	786
Hinkley High School	Adams-Arapahoe 28J	Arapahoe	2,094
John Evans Middle School	Greeley 6	Weld	625
Leo William Butler Elementary School	Weld County S/D Re-8	Weld	732
Mitchell High School	Colorado Springs 11	El Paso	1,317
Mountain Range High School	Adams 12 Five Star Schools	Adams	1,962
Mountain Vista Community School	Harrison 2	El Paso	726
Mrachek Middle School	Adams-Arapahoe 28J	Arapahoe	909
North Middle School	Colorado Springs 11	El Paso	660
Overland Trail Middle School	School District 27J	Adams	650
Palisade High School	Mesa County Valley 51	Mesa	1,054
Prairie View High School	School District 27J	Adams	1,795
Prairie View Middle School	School District 27J	Adams	821
Sierra High School	Harrison 2	El Paso	864
Silver Hills Middle School	Adams 12 Five Star Schools	Adams	1,089
Sixth Avenue Elementary School	Adams-Arapahoe 28J	Arapahoe	659
South High School	Pueblo City 60	Pueblo	1,355
South Middle School	Adams-Arapahoe 28J	Arapahoe	743
Thunder Valley PK-8	St. Vrain Valley Re 1J	Weld	744
Twombly Elementary School	Weld County S/D Re-8	Weld	606
W H Heaton Middle School	Pueblo City 60	Pueblo	735
York International	Mapleton 1	Adams	748

Rows highlighted in purple indicate schools that already have a SBHC.

**Table 2. Colorado's 21 Highest-Need Rural School Districts**

<b>Tier 1 – Highest Level of Need</b>		
<b>District</b>	<b>County</b>	<b>Students in District</b>
Alamosa Re-11J	Alamosa	2,046
Center 26 Jt	Saguache	657
Garfield 16	Garfield	1,050
Garfield Re-2	Garfield	4,818
Lake County R-1	Lake	1,110
Moffat County Re: No 1	Moffat	2,241
Monte Vista C-8	Rio Grande	1,128
Montrose County Re-1J	Montrose	6,200
<b>Tier 2 – Second Highest Level of Need</b>		
Fort Morgan Re-3	Morgan	3,205
Fremont Re-2	Fremont	1,450
Montezuma-Cortez Re-1	Montezuma	2,837
North Conejos Re-1J	Conejos	1,005
Roaring Fork Re-1	Garfield	5,628
Rocky Ford R-2	Otero	805
Trinidad 1	Las Animas	1,019
<b>Tier 3 - Third Highest Level of Need</b>		
Archuleta County 50 Jt	Archuleta	1,323
Burlington Re-6J	Kit Carson	828
Canon City Re-1	Fremont	3,650
Eagle County Re 50	Eagle	6,520
Lamar Re-2	Prowers	1,664
Summit Re-1	Summit	3,287

*Rows highlighted in purple indicate districts that already have a SBHC.*



## Considerations

### Size of Student Body

This analysis focuses on the need for SBHCs and does not take into account many potential sustainability factors, such as community buy-in or revenue mix, that can contribute to the longevity of a SBHC. CDPHE and the Colorado Health Foundation are undertaking the next step by collaborating on a sustainability study.

The only sustainability measure applied to the needs assessment was the student body size of a school or district. It is important that schools are large enough to maintain an adequate patient panel. A minimum student body size of 600 was applied to schools and districts in this analysis, a criterion that is consistent with recommendations from those working in the field. Some schools and districts that were identified as having very high needs hover at or near this threshold. Because student enrollment can change from year to year, this could impact a school's eligibility for a SBHC in the future. Student body size was also one of the 12 core metrics used to assess need for a SBHC.

### Why are Some Existing SBHCs Not on the List?

Of the urban Colorado schools that already have SBHCs, about half are represented on the list of high needs. Most other schools with existing health centers were not scored because they did not have at least 600 students.

Some of these smaller schools are able to sustain a SBHC by opening their doors to children in the community. Most programs provide services to children beyond the host school, according to a 2013-14 school year survey of Colorado SBHCs. In fact, only 10 SBHCs report that students enrolled in the host school are the only group eligible for care. In some cases, students from feeder schools are

eligible, while other clinics offer services to any child in the district. Ten SBHCs provide services to any child from birth to age 21, regardless of where they live or, in the case of school-age children, which school they attend.<sup>2</sup> Note that some urban schools identified as high need may already be in close proximity to a SBHC, or may be a feeder school to a school with an existing SBHC.

### What About High-Need Schools in Lower-Need Regions?

Several urban schools known to have high concentrations of low-income students show only moderate need under this analysis. This is contrary to what might be expected. One reason is that many of the 12 metrics used in the analysis are not available at the school-level; instead, they are available at the district, county or regional level. A weight was applied to the school-level youth risk factor metrics to help account for this.<sup>3</sup>

A closer look at those three school-level indicators — percentage of students on free and reduced price lunch, percentage of students who are English language learners and truancy rates — yields important findings. Focusing solely on these data shows several schools with very high-need student bodies that are in lower-need counties.

Schools in Aurora, in particular, present a unique case. Aurora is Colorado's third largest city and straddles multiple counties and school districts.

Aurora West College Preparatory Academy, for example, is ranked in the highest-need categories for all three school-level indicators. However, because the school is in Arapahoe County, it adopts the relatively low-need

**Table 3. Schools With Very High Needs That Do Not Appear in Tier 1**

School	District	County
Alameda International High School	Jefferson County R-1	Jefferson
Atlas Preparatory School	Harrison 2	El Paso
Aurora Central High School	Adams-Arapahoe 28J	Arapahoe
Aurora West College Preparatory Academy	Adams-Arapahoe 28J	Arapahoe
Gateway High School	Adams-Arapahoe 28J	Arapahoe
Greeley Central High School	Greeley 6	Weld
Greeley West High School	Greeley 6	Weld
Hinkley High School	Adams-Arapahoe 28J	Arapahoe
Mapleton Expeditionary School Of The Arts	Mapleton 1	Adams
Northridge High School	Greeley 6	Weld
Roosevelt Edison Charter School	Colorado Springs 11	El Paso
South Middle School	Adams-Arapahoe 28J	Arapahoe
Stein Elementary School	Jefferson County R-1	Jefferson

Rows highlighted in purple indicate schools that already have a SBHC.

characteristics of that county, since many of the 12 indicators used for the analysis are available only at the county or Health Statistics Region (HSR) level.<sup>4</sup> Table 3 shows the schools with very high needs at the school-level that do not appear in Tier 1 due to the county-level data. Three of the schools are not listed in any of the tiers because they had composite scores below 34.

## The Data Are Part of a Larger Health Landscape

This report uses data-driven methods to identify schools and districts that may have the most to gain from a new SBHC. Though the analysis provides important findings, it is important to consider each community individually because there can be additional needs, or support systems, that are not captured in the data.

Existing safety net clinics, for example, are an

important piece of the health care puzzle, yet they are not directly reflected in the analysis. Map 3 and Map 4 in the appendix display schools and districts identified as having high need in the context of their greater community. Schools and districts are shown alongside federally qualified health centers (FQHCs), community safety net clinics, community mental health centers and rural health clinics.

These two maps also illuminate which high-need schools and districts are not located close to existing safety net facilities. Map 4, for example, shows that Moffat County RE: 1 is a very high-need school district, yet there are no FQHCs, community safety net clinics or rural health clinics within its boundaries. An interactive map of all safety net clinics is available at [www.coloradohealthinstitute.org/key-issues/detail/safety-net-1/colorados-health-care-safety-net](http://www.coloradohealthinstitute.org/key-issues/detail/safety-net-1/colorados-health-care-safety-net).

Safety net clinics, too, must be interpreted in

the context of the larger health landscape. Community clinics may vary in their capacity, and families may face barriers to accessing care even through those clinics with existing capacity. Transportation, inability to take time

off from work or limited clinic hours may be challenges for low-income families. These barriers to care could be alleviated by having a SBHC on school grounds.



## Conclusion

Colorado has experienced steady growth in the number and reach of its SBHCs over the past decade. A recent injection of state dollars and continued interest in the SBHC model positions stakeholders to further develop the SBHC network.

Using a core set of indicators, the Colorado Health Institute identified urban schools and rural school districts with the greatest potential to benefit from new SBHCs or the expansion of an existing SBHC.

The urban schools with the highest need are in Denver and Adams counties. The highest-

need rural districts without existing SBHCs are primarily located in the San Luis Valley.

The analysis identified several schools and districts with existing SBHCs as having high needs. However, most schools and districts that were identified as being high need do not yet have a SBHC.

This report serves as a launching point for communities to further engage and dig deeper. Assessing other factors — such as the sustainability of potential SBHC sites — will contribute to the long-term success of new SBHCs.

# Appendix: Methods

## Geographic Crosswalks

The Colorado Health Institute conducted two parallel analyses for this needs assessment: an urban analysis that measured need among urban schools and a rural analysis that measured need among rural school districts.

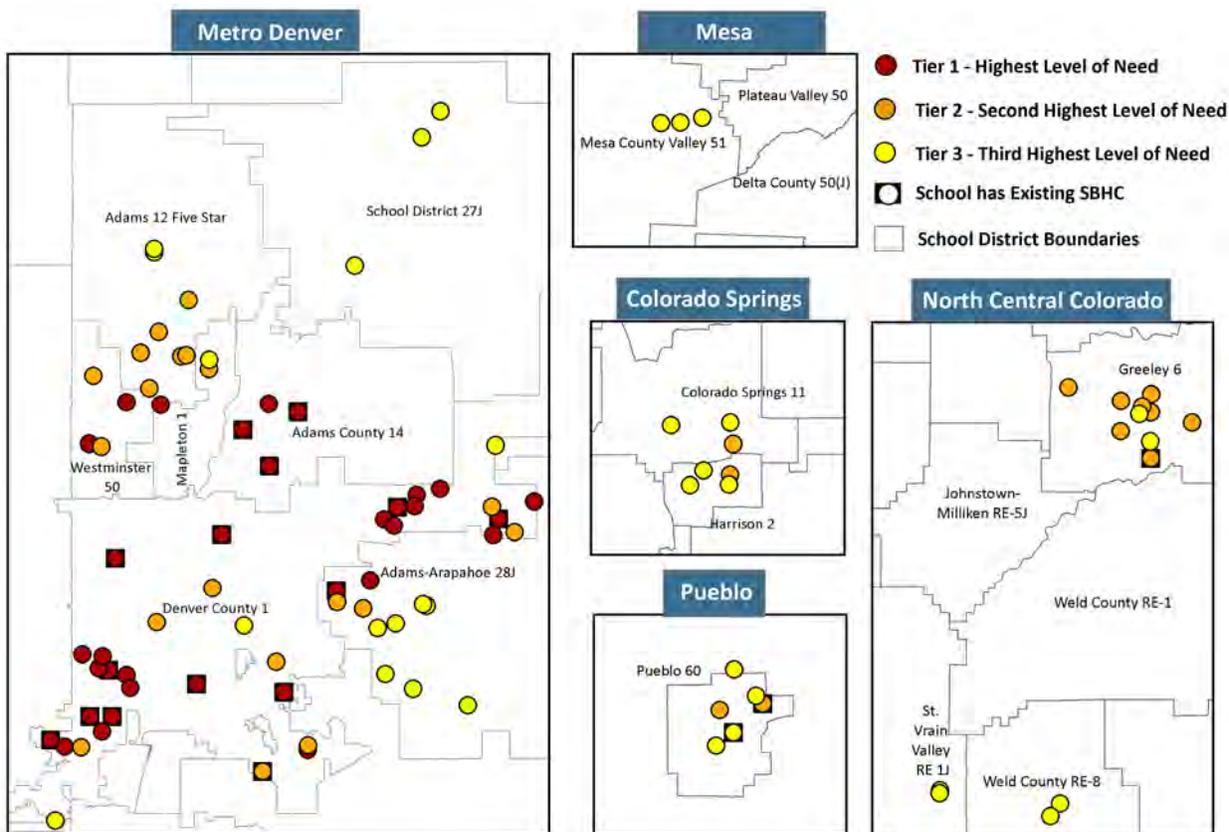
To identify whether schools and districts would be included in the rural or urban analysis, the Colorado Health Institute used rural and urban county designations created by the Office of

Management and Budget. These designations are consistent with those used in 2014 by the Colorado Rural Health Center.<sup>5</sup> The Colorado Health Institute did not differentiate between rural and frontier counties. Map 5 illustrates the rural and urban classifications used for this analysis.

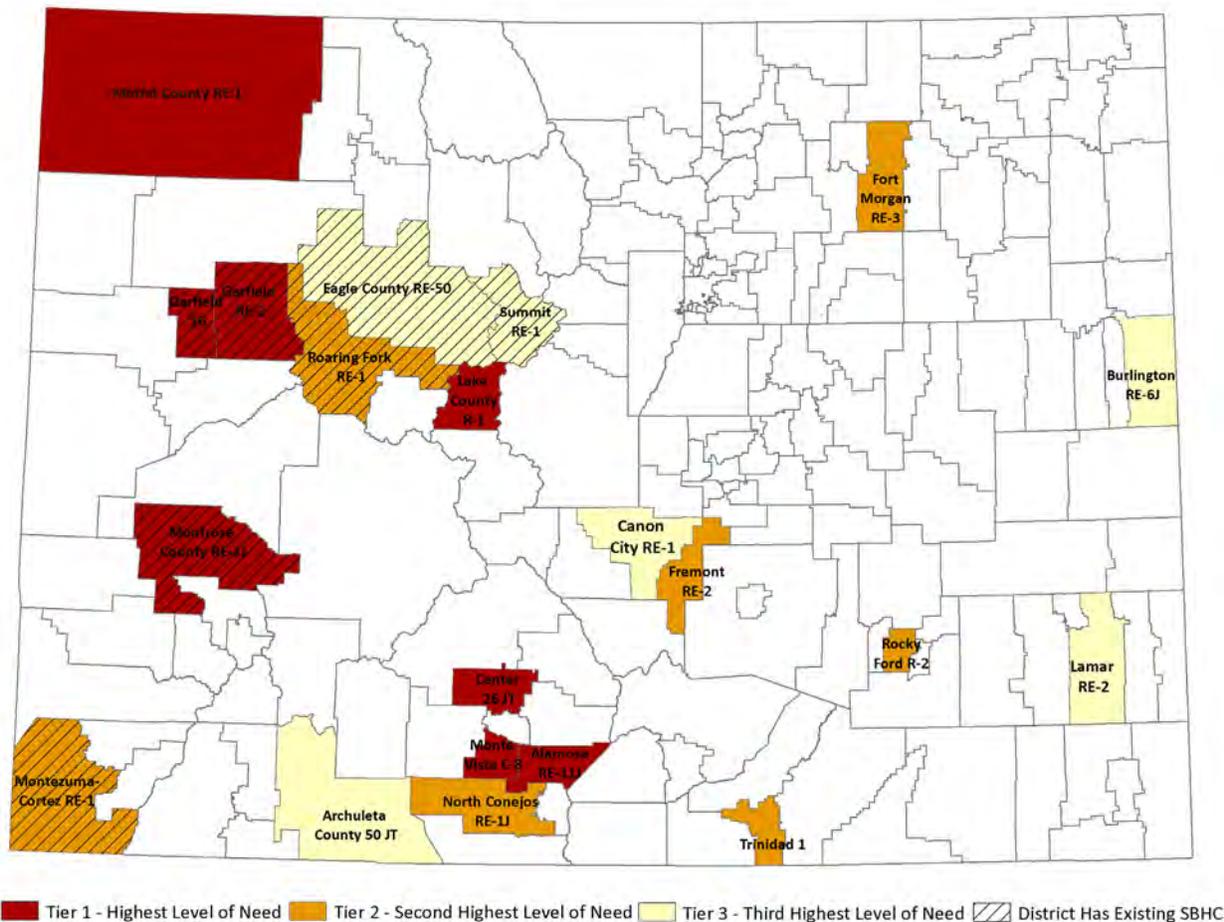
### Urban Analysis

School-level data were used whenever possible. When this level of data was not available, school

**Map 1. Colorado's 100 Highest-Need Urban Schools, 2015**



Map 2. Colorado's 21 Highest-Need Rural School Districts, 2015



district, county or HSR-level data were used. Schools were then assigned the value for the region where they are located. For example, uninsured estimates are not available at the school-level, so all schools within the Denver Public School (DPS) district were assigned the DPS uninsured rate.

### Rural Analysis

Similarly, school district-level data were used whenever possible for the rural analysis. When district-level data were not available, county or HSR-level data were used. Schools districts were assigned the value for the region where they are located.

Because some school district boundaries do not

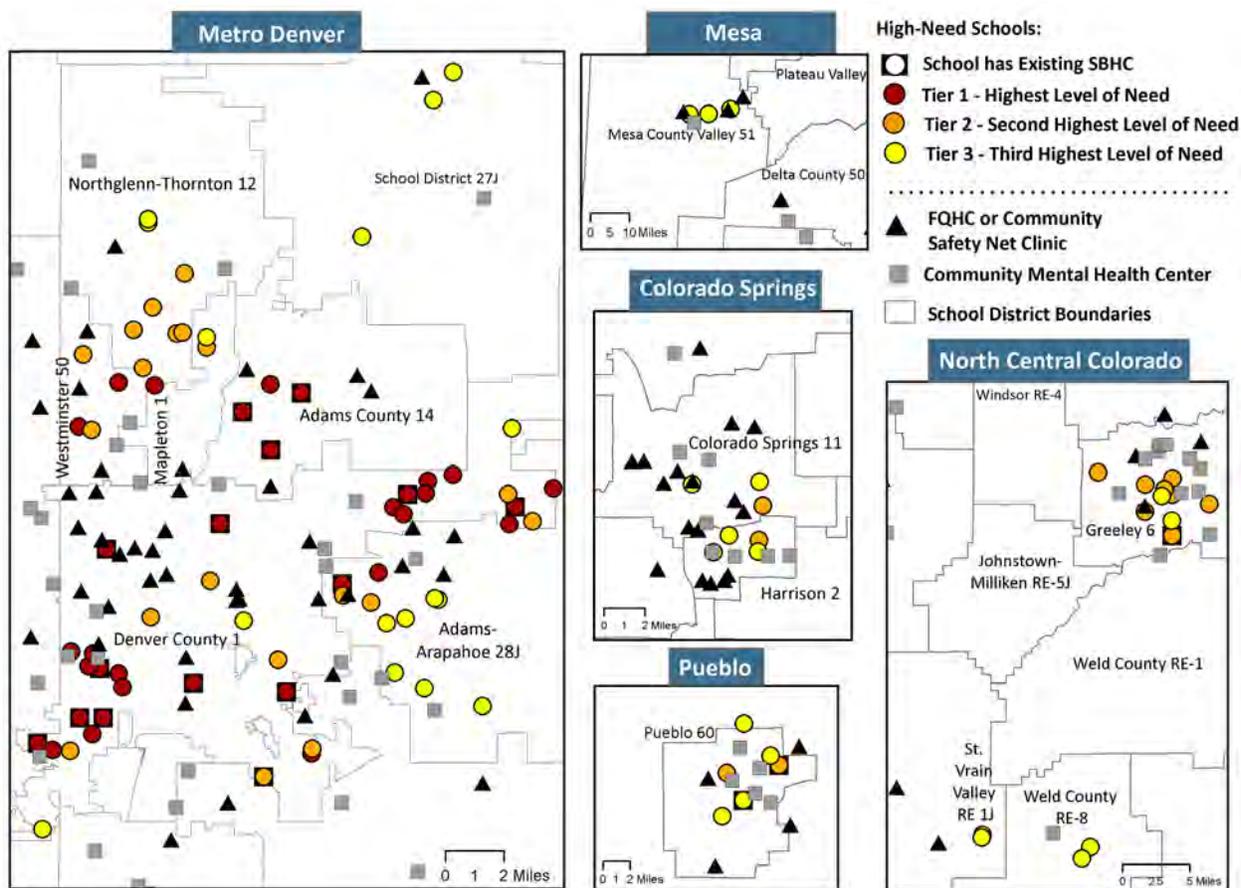
align with county or HSR boundaries, CHI used a school district-to-county crosswalk from the Colorado Department of Education (CDE).<sup>6</sup>

For data available only at the county-level, CHI was able to calculate a synthetic district estimate by allocating a portion of the county population to a school district's boundaries. The population allocation methodology was obtained from the Census Center at the University of Missouri.<sup>7</sup> CHI used this methodology for the rural analysis to estimate district-level teen fertility rates and the percentage of children covered by Medicaid.

### Minimum Criteria

**School Type:** All elementary, middle and high schools that are represented in CDE's statistics,

**Map 3. Colorado's 100 Highest-Need Urban Schools and Neighboring Safety Net Clinics, 2015**



including both public and charter schools, were considered in the needs assessment. Online schools were not considered.

**Student Body Size:** Schools need enough students to maximize the impact of a SBHC and maintain a caseload that is cost-effective. Schools and districts were considered only if they had at least 600 students. This criteria is frequently cited as the minimum number of students needed to sustain a SBHC. Student body size was also one of the 12 core indicators used for the analysis.

**Free and Reduced Price Lunch:** Schools and districts were excluded from the analysis if fewer than 300 students were enrolled in the free and

reduced price lunch program. The percentage of students on free and reduced price lunch was also one of the core indicators used for the analysis.

## Defining Need

Twelve indicators were selected for the needs assessment. The indicators were chosen based on a review of potential measures that capture need, as defined by the literature and the mission of SBHCs, as well as our experience with data and analytical work related to SBHCs.

Measures of need for SBHCs were grouped into four categories:

1. Health outcomes
2. Access and use of health care
3. Health insurance coverage
4. Youth risk factors

The Colorado Health Institute identified indicators that illustrate need within each of these categories, using these principles to guide our choices:

- **Salience:** Only indicators that suggest high need for health services among children were considered. Adults were not included in this analysis.
- **Nonduplicative:** In cases where more than one indicator addresses the same issue — for example, usual source of care and medical home — the Colorado Health Institute used what it considered the strongest option.
- **Geographic Granularity:** The Colorado Health Institute sought indicators that are available at the school, school district or county levels. We aimed to minimize HSR-level indicators, because the data are less precise.
- **Timeliness:** Indicators that reflect the most current data available were chosen.
- **Trusted Data Sources:** Data from trusted and publicly available sources were selected.

Figure 1 summarizes the 12 indicators used for the analysis.

Other indicators were considered for this analysis but were ultimately not used.<sup>8</sup>

## Scoring Criteria

Schools and districts were ranked based on their composite score. Quartiles were used as the primary scoring method for each indicator. For example, schools and districts that fell within the highest quartile for an indicator were assigned the highest score for that indicator. The scores for all 12 indicators were summed to calculate a composite score for each school

**Figure 1. Indicators Representing Need**

### Health Outcomes

- a. Percentage of Children Ages 0-18 Reporting Fair or Poor General Health<sup>9</sup>
- b. Percentage of High School Students Reporting Depression<sup>10</sup>
- c. Teen Birth Rate per 1,000 Females Ages 15-19<sup>11</sup>

### Health Insurance Coverage

- a. Percentage of Children Ages 0-17 Who Are Uninsured<sup>12</sup>
- b. Percentage of Children Ages 0-21 Who Are Insured by Medicaid<sup>13</sup>

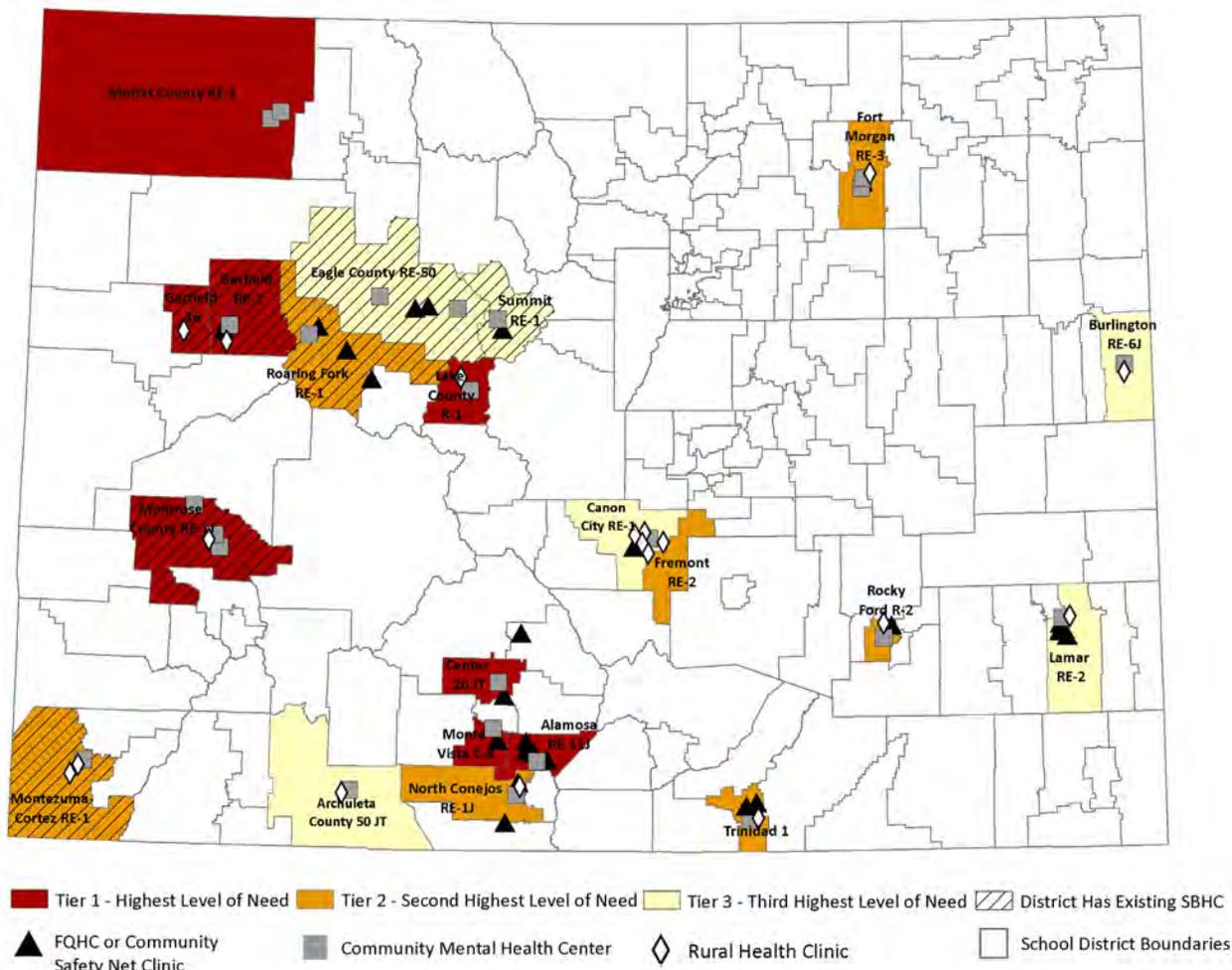
### Access and Use of Health Care

- a. Percentage of Children Ages 1-14 Without a Medical Home<sup>14</sup>
- b. Percentage of Children Ages 0-18 Who Did Not Have a Dental Visit in the Past Year<sup>15</sup>
- c. Medically Underserved Area or Medically Underserved Population (MUA/MUP)<sup>16</sup>
- d. Student Body Size<sup>17</sup>

### Youth Risk Factors

- a. Percentage of Students in a School/District Who Receive Free and Reduced Price Lunch<sup>18</sup>
- b. Percentage of Students in a School/District Who Are English Language Learners<sup>19</sup>
- c. Truancy Rate Among Students in a School/District<sup>20</sup>

**Map 4. Colorado's 21 Highest-Need Rural School Districts and Neighboring Safety Net Clinics, 2015**



or school district. Those with the highest composite scores were identified as having the highest need.

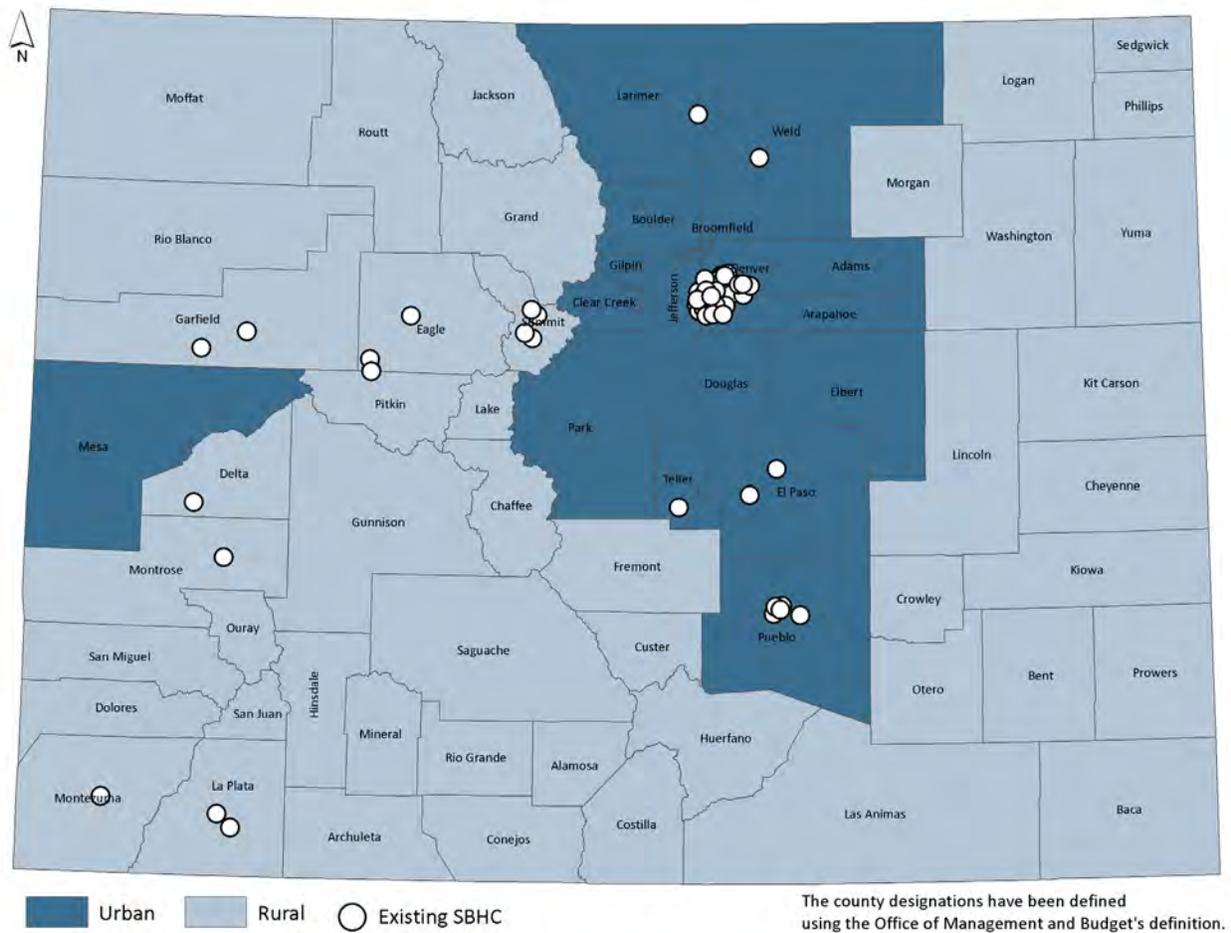
A different scoring criteria was used for the Medically Underserved Area/Medically Underserved Population (MUA/MUP) indicator given the nature of the data. Schools located in a census tract designated as a MUA or MUP and districts that have a MUA/MUP within their boundaries were given a score of one. Those not located in a MUA or a MUP were given a score of zero.

**Table 4. Score Ranges for Each High-Need Tier**

	Tier 1	Tier 2	Tier 3
<b>Urban Schools</b>	52-45	44-39	38-34
<b>Rural School Districts</b>	48-41	40-36	35-34

Once the scoring was complete, the Colorado Health Institute narrowed the list to only those urban schools and rural school districts that met the minimum criteria of 600 members of the student body and 300 enrolled in free or

**Map 5. Urban and Rural County Designations and Existing SBHCs, 2014**



reduced-price lunch. We further narrowed the focus to schools and school districts scoring in the top fiftieth percentile of need. This resulted in a list of 100 urban schools. Urban schools in the top fiftieth percentile had a minimum score of 34.

To maintain consistency between urban and rural, the Colorado Health Institute narrowed the rural school district list to those with a score of at least 34. This resulted in a list of 21 school districts — approximately the top fiftieth percentile of scores for the rural school districts as well.

We then tiered the top 100 high-need schools

and 21 districts into roughly equal-sized groups based on their level of need and distribution of scores. Schools and districts with the highest scores were placed in the first tier and represent the highest level of need. Table 4 illustrates the tiers broken out by score.

The high-need urban schools in Tiers 1-3 are displayed in Table 1 and Map 1. The high-need rural school districts are displayed in Table 2 and Map 2.

Questions about the analysis may be directed to Natalie Triedman at [TriedmanN@ColoradoHealthInstitute.org](mailto:TriedmanN@ColoradoHealthInstitute.org).



## End Notes

<sup>1</sup> SB13- 230. (2013). FY 13-14 Budget for the Colorado Department of Public Health and Environment.

<sup>2</sup> Survey data from the 2013-14 school year will be published later in 2015. Survey data from the 2012-13 school year are available in the Colorado Health Institute's *The Evolving Role of School-Based Health Centers in Colorado* (2014). <http://bit.ly/19nsmwy>.

<sup>3</sup> We did not apply a weight to the student body size metric, given that school size is not a youth risk factor.

<sup>4</sup> A map of Colorado's 21 HSRs can be found at <http://www.chd.dphe.state.co.us/HealthDisparitiesProfiles/dispHealthProfiles.aspx>.

<sup>5</sup> Colorado Rural Health Center. Colorado: County Designations, 2014. <https://coruralhealth.org/wp-content/uploads/2013/10/2014.Colorado-County-Designations.pdf>

<sup>6</sup> Colorado Department of Education. Pupil Membership by County, District, Race/Ethnicity, and Percent Minority. (2013). <http://www.cde.state.co.us/cdereval/pupilcurrentdistrict>

<sup>7</sup> Missouri Census Data Center. Geographic Correspondence Engine. <http://mcdc.missouri.edu/websas/geocorr12.html>

<sup>8</sup> Contact the Colorado Health Institute for a detailed explanation of the measures that were considered but ultimately omitted from the analysis.

<sup>9</sup> Colorado Health Institute analysis of the 2013 Colorado Health Access Survey.

<sup>10</sup> Healthy Kids Colorado Survey, 2013. [http://www.chd.dphe.state.co.us/topics.aspx?q=Adolescent\\_Health\\_Data](http://www.chd.dphe.state.co.us/topics.aspx?q=Adolescent_Health_Data).

<sup>11</sup> Colorado Certificates of Live Birth compiled by the Colorado Department of Public Health and Environment, 2000-2013. <http://www.cohid.dphe.state.co.us/scripts/htmsql.exe/NativityPub.hsrl>.

<sup>12</sup> U.S. Census Bureau. American Community Survey, 2009-2013. <http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>.

<sup>13</sup> Colorado Health Institute analysis of data from the Colorado Department of Health Care Policy and Financing and the Colorado Demography Office, 2014.

<sup>14</sup> Colorado Department of Public Health and Environment. Colorado Child Health Survey, 2013.

<sup>15</sup> Colorado Health Institute analysis of the 2013 Colorado Health Access Survey.

<sup>16</sup> U.S. Health Resources and Services Administration, 2014. <http://muafind.hrsa.gov/>.

<sup>17</sup> Colorado Department of Education, 2013.

<sup>18</sup> Colorado Department of Education, Fall 2013.

<sup>19</sup> Colorado Department of Education, October 2013.

<sup>20</sup> Colorado Department of Education, School-Year 2013-2014. <http://www.cde.state.co.us/cdereval/truancystatistics>.



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