The State of Colorado's Health Care Safety Net

Safety Net Indicators and Monitoring System (SNIMS) 2009 Progress Report

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Glossary

The Colorado Health Institute (CHI) has provided this glossary for easy reference to the acronyms used throughout the report.

BHO—Behavioral Health Organization
CALPHO—Colorado Association of Local Public Health Officials
CASBHC—Colorado Association for School-based Health Care
CBHC—Colorado Behavioral Healthcare Council
CCHN—Colorado Community Health Network
CHC—Community health center (Also see FQHC)
CHI—Colorado Health Institute
CHP+—Child Health Plan Plus program
CICP—Colorado Indigent Care Program
ClinicNET—a membership organization in which most family practice residency clinics, rural health clinics and other community-based clinics affiliate
CMHC—Community Mental Health Center
COHN—Colorado Oral Health Network
CRHC—Colorado Rural Health Center
DSH—Disproportionate Share Hospital
ED —emergency department
FP Residency Clinic—family practice residency clinic
FPL—federal poverty level (the table below displays the annual income associated with select percentages of FPL for CY 2009).

Percent of FPL	Individual	Family of 4
100%	$10,830	$22,050
150%	$16,245	$33,075
200%	$21,660	$44,100
250%	$27,075	$55,125
300%	$32,490	$66,150

Source: U.S. Department of Health and Human Services, 2009 Poverty Guidelines

FQHC—federally qualified health center (Also see CHC).
FTE—full-time equivalent
GME—graduate medical education
HIT—health information technology
HPSA—health professional shortage area
HRSA—Health Resources and Services Administration
IOM—Institute of Medicine
LHD—Local health department
MUA/MUP—medically underserved area/Medically underserved population
NACCHO—National Association of County and City Health Officials
NACHC—National Association of Community Health Centers
OHAC! —Oral Health Awareness Colorado!
RHC—Rural health clinic
SBHC—School-based health center
SNIMS—Safety Net Indicators and Monitoring System
UDS—Uniform Data System

Introduction

In 2000, the Institute of Medicine (IOM) released a landmark study, *America's Health Care Safety Net: Intact but Endangered* that described the nation's safety net as a highly localized and fragile patchwork of health care providers that face increasing financial stress and capacity constraints in providing health care to vulnerable populations. The rising numbers of uninsured Americans coupled with uncertain economic conditions at the community level led the IOM study group to recommend that:

> "…efforts [must] be directed to improving this nation's capacity and ability to monitor the changing structure, capacity and financial stability of the safety net to meet the health care needs of the uninsured and other vulnerable populations."[1]

Recognizing the importance of Colorado's safety net and the challenges it has faced historically, The Colorado Health Foundation provided a two-year grant to the Colorado Health Institute (CHI) in 2005 to establish a Safety Net Indicators and Monitoring System (SNIMS) for Colorado. With this support, CHI has developed a data-driven reporting system that identifies, describes and monitors Colorado's health care safety net providers and the populations they serve annually.

The goal of SNIMS is to inform local communities, health care providers, foundations, advocates and state policymakers about the nature and changing dynamics of Colorado's health care safety net. Specific objectives include describing and monitoring the characteristics of current and future safety net users as well as understanding the financial viability of safety net providers such as their physical infrastructure and the workforce challenges they face.

The SNIMS includes metrics appropriate for physical, mental and oral health care providers; it also includes metrics for an initial set of population indicators that focus on Coloradans who have family incomes below 300 percent of the federal poverty level (FPL), are uninsured or enrolled in the Medicaid and Child Health Plan Plus (CHP+) programs. As the monitoring system evolves and more data become available, the indicators will expand to include other vulnerable population groups such as low-income Medicare beneficiaries and people facing other social, cultural and geographic barriers to care.

WHAT IS THE HEALTH CARE SAFETY NET?

The health care safety net has been described as a patchwork of providers that delivers medical, oral and mental health care to low-income, uninsured and underinsured individuals and people enrolled in publicly funded health insurance programs. Making generalizations about the safety net is difficult because it is highly localized and varies from community to community. Some communities have a public hospital, certified rural health clinic, community health center and public health agency, while others have no safety net providers and few health care resources available for low-income individuals and families.

Despite the different forms they take, the IOM study defines "core safety net providers" as those that share two distinguishing characteristics: 1) either by legal mandate or an explicit mission, care is provided to patients regardless of their ability to pay; and 2) a substantial share of providers' patient mix is comprised of uninsured, Medicaid or other vulnerable patients.[2]

Although a large number of private physicians, dentists and mental health workers provide essential primary care services to low-income patients, they do not meet these two defining criteria.

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[1] Institute of Medicine. (2000). *America's Health Care Safety Net: Intact but Endangered.* p.10.
[2] Institute of Medicine. (2000). *America's Health Care Safety Net: Intact but Endangered.* pp. 3-4.

In an effort to build a statewide data reporting system to monitor the safety net, CHI has engaged a wide range of safety net providers and their representative organizations in collecting a uniform set of metrics. An overview is provided below of the core safety net providers included in the SNIMS database. In addition, Map 1 in Appendix A displays the geographic locations of safety net providers throughout Colorado that are included in the SNIMS database.

- COMMUNITY HEALTH CENTERS (CHCs), also known as federally qualified health centers (FQHCs) provide comprehensive primary care to low-income populations of all ages. CHCs are located in communities that have been designated as federal medically underserved areas (MUAs) or medically underserved populations (MUPs). CHCs provide primary physical, oral and some behavioral health care; if they do not provide a primary care service directly, they are required to arrange for needed care in the community. Each year CHCs submit data through the Uniform Data System (UDS) to the federal Health Services and Resources Administration (HRSA) as a condition of their annual 330 grant.[3] The UDS includes a wide range of information, including patient demographic characteristics, services provided, staffing levels, clinical indicators, utilization rates, costs and revenues. UDS data are collected at the grantee level and reported at the state and national levels.

  The Colorado Community Health Network (CCHN) represents Colorado's 15 CHCs which operate more than 100 clinics throughout Colorado. CHI has collaborated with CCHN over the past three years to secure data-sharing agreements with all of the CHCs in the state, collecting a limited number of variables from the UDS data to populate the SNIMS.

- LOCAL PUBLIC HEALTH DEPARTMENTS/PUBLIC NURSING SERVICES provide a limited number of primary care services. While these services vary by community, they include comprehensive health assessments and screenings for Medicaid children,[4] immunizations, family planning services, oral health care screenings and cleanings, cancer screenings and testing for sexually transmitted diseases (STDs), including the human immunodeficiency virus (HIV).

  In 2005 the National Association of County and City Health Officials (NACCHO) released its fourth National Profile of Local Health Departments in cooperation with the Centers for Disease Control and Prevention (CDC). As part of this data collection effort, the Colorado Association of Local Public Health Officials (CALPHO) collected data from 49 of 66 local health departments throughout Colorado. Information collected included data about jurisdictional auspice, services provided, local leadership roles, information technology adoption, completed community health assessments, emergency preparedness, workforce and sources of funding. The 2005 data were the most recent data available for this SNIMS report, but they are being updated with 2007 data and will appear in subsequent SNIMS reports.

- OTHER COMMUNITY-BASED CLINICS including nonprofit clinics and programs, free clinics, faith-based clinics, rural health clinics, clinics staffed by volunteer clinicians and family practice residency program clinics provide free or low-cost primary care services to low-income uninsured and underinsured families and individuals.

[3] Under Section 330 of the U.S. Public Health Service Act, the federal government provides grants to community health centers, migrant health centers and the Health Care for the Homeless and Public Housing Primary Care Programs. More information is available at: http://bphc.hrsa.gov/about/legislation/section330.htm (retrieved from the Web 4/23/09).

[4] Screening and assessments are provided through the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) requirements specified in federal Medicaid regulations.

Many of these clinics are affiliated with a nonprofit membership organization called ClinicNET which represents the interests of non-FQHC community-based clinics. Although family practice residency clinics are affiliated with ClinicNET, this paper reports their data separately from other community-based clinics because they employ different staffing and financing models. Rural health clinic data are also reported separately due to their cost-based reimbursement arrangement with the Centers for Medicare and Medicaid Services (CMS). When referred to as a group, however, all of these clinics are considered ClinicNET affiliates. To date, CHI has secured data-sharing agreements with 12 non-RHC ClinicNET members that have submitted data via a secured CHI Web site for a limited number of "UDS-lite" indicators.

- RURAL HEALTH CLINICS (RHCs) are located in non-urbanized areas of Colorado that have been federally designated as having a shortage of health care providers or a medically underserved population. RHCs are certified with one of two designations: provider-based or independent, free-standing. While the breadth of services may differ based on a clinic's designation type, both provider-based and independent RHCs provide outpatient primary care services to rural communities. RHCs serve patients with private insurance, Medicare beneficiaries, Medicaid enrollees and other vulnerable populations.

  The Colorado Rural Health Center (CRHC), an independent, nonprofit membership-based organization, serves as the state's Office of Rural Health and represents the interests of rural Coloradans and their health care providers. In partnership with CRHC, CHI staff interviewed 39 of the 46 RHCs in 2006 to assess their capacity to collect and report uniform patient-level data.[5] RHC data from the 2006 assessment are included in this report when appropriate. The CRHC is currently conducting a follow-up survey to CHI's 2006 assessment and providing on-site technical support for collecting current patient, service utilization, funding and workforce capacity data. This follow-up assessment is expected to be completed during 2009.

- SCHOOL-BASED HEALTH CENTERS (SBHCs) provide integrated preventive and primary physical and mental health services in schools (K-12) with high concentrations of low-income children. All Colorado SBHCs offer health education, immunizations, well-child checks, sports physicals, chronic disease management for conditions such as asthma and diabetes and acute care. Depending on the center, services may also include oral health care and substance abuse counseling.

  The Colorado Association for School-Based Health Care (CASBHC) is a nonprofit membership organization that advocates for SBHCs by providing policy leadership, training, technical assistance and quality assurance programs. In partnership with CASBHC, CHI has secured data-sharing agreements with all of Colorado's SBHCs and collected a limited set of "UDS-lite" indicators through a secured online survey from the 38 SBHCs that were open during the 2006-07 school year.

- COMMUNITY MENTAL HEALTH CENTERS and CLINICS (CMHCs) provide comprehensive outpatient mental health and substance abuse services to children, youth, adults and families, 24-hour emergency response, psychiatric services, day treatment, acute treatment units and partial

[5] Colorado Health Institute (2007). *Rural Health Clinics: An Assessment of Data Capacity*. Available at: http://www.coloradohealthinstitute.org/documents/sn/rhc_report.pdf (retrieved from Web 3/25/09).

hospitalization to people who are uninsured, underinsured or low-income. In some areas of the state, CMHCs are the sole providers of mental health and substance abuse treatment.

The Colorado Behavioral Healthcare Council (CBHC) is a nonprofit, membership organization that represents Colorado's statewide network of community-based behavioral health care providers. This network includes 17 CMHCs, two specialty clinics and five behavioral health organizations (BHOs).[6] Over the last several years, the CBHC has collected a uniform dataset that includes all of Colorado's CMHCs. CHI has secured a data-sharing agreement with CBHC to use a limited number of these data elements to populate the SNIMS with community mental health data from all clinical mental health clinic sites.

- COMMUNITY-BASED ORAL HEALTH CARE CLINICS provide oral health care to low-income individuals without dental insurance or to Coloradans enrolled in public programs that experience difficulty finding a dental provider. Some oral health programs are operated by other nonprofit community-based clinics, while others are stand-alone clinics or provide services with a mobile van.

  The Colorado Oral Health Network (COHN) is a collaborative of 19 nonprofit oral health providers and their supporters whose mission is to "increase access to oral health care in Colorado and improve the oral health outcomes of traditionally underserved populations."[7] In 2008 COHN became a membership organization associated with the Oral Health Awareness Colorado (OHAC!) statewide coalition. CHI has worked collaboratively with COHN staff to secure data-sharing agreements with its members and collect data that are uniform with those collected by other primary care clinics.

Although Colorado currently does not collect uniform hospital emergency department (ED) data, primary care is provided in EDs to a significant number of patients who visit an ED for non-urgent care because they lack access to primary care. Recognizing the need to capture information on these visits, the Colorado Hospital Association (CHA) is building a statewide ED database that CHI anticipates will become part of SNIMS.

WHO ARE VULNERABLE POPULATIONS?

For the purposes of SNIMS, vulnerable populations are defined as Coloradans who face economic or social barriers to securing needed primary physical, oral or mental health care services. First and foremost, vulnerability is defined as having income that is insufficient to buy health insurance in the marketplace or to pay the out-of-pocket costs for medical expenses. This income threshold has been set below 300 percent of the federal poverty level—approximately $32,500 for an individual and $66,150 for a family of four in 2009. Low-income status is coupled with other factors that increase one's risk for being medically vulnerable such as:

- Lack of health insurance coverage;
- Enrolled in a public health insurance program such as Medicaid, CHP+ or Medicare or a private health plan with high deductibles and a limited benefit package (underinsurance);
- Geographic isolation;
- No regular source of primary care; and/or
- Cultural, language or other social barriers to care.

[6] Colorado Behavioral Healthcare Council. Available at: http://cbhc.org/about-us/ (retrieved from Web 2/19/09).
[7] Colorado Oral Health Network. Available at: http://www.cchn.org/oral_health.php (retrieved from Web 1/13/09).

To some extent, most people are vulnerable because a major illness can put an individual or family one step away from bankruptcy. Individuals with low incomes (below 300% of FPL)[8] have fewer resources to provide a buffer against the costs associated with a major illness or accident. In addition to low-income status, numerous studies have identified the negative consequences of being uninsured. According to a recent IOM study, growth in the cost of health insurance has outpaced the rise in real income for the past 30 years, resulting in a purchasing gap that has added roughly one million people in the U.S. to the ranks of the uninsured each year.[9] Lack of health insurance is associated with delays in seeking needed health care, poorer health outcomes and increased medical debt.[10] A host of socio-economic factors including income, occupation, firm size, education, age, gender, race and ethnicity, immigration status and geography increase the likelihood of being uninsured.[11]

Additionally, individuals who are publicly insured (Medicaid, CHP+ and low-income Medicare beneficiaries) often face barriers to health care because a growing number of providers are unwilling to accept patients insured by these programs because of low reimbursement rates.[12] Medicaid eligibility rules are complex and categorical in nature, resulting in many Medicaid enrollees finding it difficult to identify providers willing to accept them as patients.[13]

Forty-seven of Colorado's 64 counties are designated as rural. Of these, 13 do not have a hospital, 28 have no community health center, 13 have no rural health clinic and three do not have any local health care resources.[14] In addition, six rural counties do not have a full-time primary care physician, and eight have only one full-time primary care physician to meet their health care needs as well as those of surrounding communities. Access to oral health care is even more limited as evidenced by seven counties in Colorado which have no dentists available to treat patients.[15]

MAIN FINDINGS FROM THE 2009 SNIMS PROGRESS REPORT

- Many of the findings are driven by the CHCs because they dominate the safety net market with the largest number of patients, the most revenue, and the largest and most diverse workforce.
- In 2007, three-quarters of safety net patients in Colorado were uninsured or enrolled in the Medicaid or CHP+ programs.
- Individuals and families with private health insurance coverage were also patients at safety net clinics. Of the five RHCs for which CHI had data, privately insured individuals made up the largest proportion of total patient visits.

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[8] 300% of FPL was selected as the income vulnerability threshold because research has found that large numbers of individuals in households with annual incomes below 300% of FPL do not have health coverage, suggesting that available health insurance premiums are too high for these individuals to purchase. For examples, see Blumberg, L., et al. (June 2007). "Setting a standard of affordability for health insurance coverage," *Health Affairs* p. 467.
[9] Institute of Medicine (2001). *Coverage Matters: Insurance and Health Care*.
[10] Institute of Medicine (2000). *American's Health Care Safety Net: Intact but Endangered*.
[11] Institute of Medicine (2001). *Coverage Matters: Insurance and Health Care*.
[12] The issue of adequacy of reimbursement is not limited only to patients covered by public programs. A 2008 national study from The Kaiser Commission on Medicaid and the Uninsured found that reimbursement from private insurance was often inadequate to cover the costs of privately insured patients served at community health centers. "Health centers: An overview and analysis of their experiences with private health insurance" is available at: http://www.kff.org/uninsured/upload/7738.pdf (retrieved from Web 4/14/09).
[13] Institute of Medicine. (2000). *America's Health Care Safety Net: Intact but Endangered,* p. 22.
[14] Colorado Rural Health Center. "Map of facility types in rural counties in Colorado." Available at: http://www.coruralhealth.org/crhc/resources/downloads/Rural%20Facility-types_color_12.pdf (retrieved from Web 1/27/09).
[15] Colorado Rural Health Center (2007). "Snapshot of rural health in Colorado." Available at: http://www.coruralhealth.org/crhc/resources/publications/snapshot_2007.pdf (retrieved from Web 1/27/09).

- Children under the age of 19 years accounted for approximately 32 percent of Coloradans with family incomes below 300 percent of the federal poverty level (FPL). Children, however, comprised the largest proportion of patients seen in safety net clinics (42%) in 2007.
- More than 60 percent of CHC users had incomes below 150 percent of FPL.
- A large portion of uninsured patients seen at community-based clinics had incomes below 200 percent of FPL, including 67 percent of family practice residency clinic patients and 96 percent of other community-based clinic patients.
- The two largest sources of revenue among all safety net clinics were patient-related reimbursements, largely from the Medicaid and CHP+ programs, and government grants and contracts. State funds, including Amendment 35 (the Primary Care Fund), the Colorado Indigent Care Program (CICP) and the Tobacco Master Settlement Agreement provided the largest proportion of state funds.

A Brief Guide to Interpreting the Data…

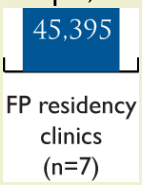
This section discusses some of the limitations of the current SNIMS dataset and this first report to the community. Because of variations in the ability of safety net providers to collect and report the full set of indicators, CHI is not yet able to generalize SNIMS data across all of Colorado's safety net providers.

What year(s) does the 2009 progress report include?

The majority of data in this report are from calendar year 2007. Because of data-reporting limitations experienced by some clinics, the data may not always cover the same 12-month period. Notable exceptions include RHCs and local public health departments where the reporting period is 2005 and SBHCs that reported data for the 2006-07 school year. The table in Appendix B summarizes the reporting period for each data element included in the report.

What does the "n" represent in the tables and graphs?

The number of clinics included in the various analyses is noted with a lower case "n" which generally indicates a sample of a larger population. For example,



In this example taken from Graph 1, the seven family practice residency clinics reported seeing a total of 45,395 patients in 2007. Multiple clinics may be owned and operated by the same organization. In family practice residency programs, for example, five of the programs operate a single clinic and one program operates two clinics. Therefore, six programs submitted data for seven *sites* (n=7).

Readers will note that the "n" may change from graph to graph. This occurs because not all clinics were able to report for all indicators of interest. For example, 10 community-based clinics reported insurance data (Graph 2), while only eight were able to report information about the age of their patients (Graph 3). Appendix B provides a summary of the total number of sites that are represented in at least one of the data indicators discussed in this paper. Likewise, the safety net locations displayed on the maps in Appendix A are also limited to providers that have data in the SNIMS database.

How does SNIMS define the number of patients seen at a safety net clinic?

CHI requested that each clinic participating in SNIMS report unduplicated counts of their patient population (in other words, each person should get counted only once). As noted earlier, a single organization such as Valley-Wide Health Systems, Inc. operates multiple clinics and reports unduplicated patient counts for all its affiliated clinics.

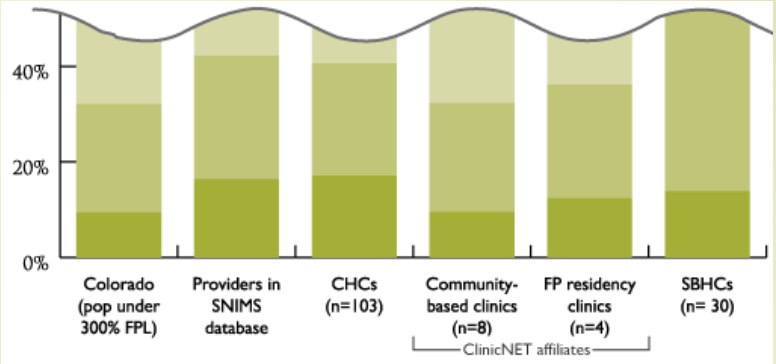
CHI is unable to estimate duplicate counts *between* clinics. For example, a person who visited both a community health center and a family practice residency clinic in 2007 would be counted twice, once for each type of clinic. One exception is among school-based health centers that are sponsored by community health centers; in this case, CHI excluded the children seen at school-based health centers from the patient counts of their sponsoring community health center.

Why are rural health clinic data reported from a different year?

At the time that CHI conducted the analyses for this paper, the most complete available data for Colorado's rural health clinics were based on a survey administered in 2006 for the calendar year 2005. The 2006 survey, however, did not include all of the patient demographic indicators collected by SNIMS (such as insurance status). The Colorado Rural Health Center is currently collecting updated data, but only limited data were available at the time of this report. Therefore, all graphs (with the exception of Graph 2) that display RHC data represent calendar year 2005. Graph 2 displays the available 2007 RHC data on individual patients by insurance source.

What does "Providers in SNIMS database" mean?

The second column on many of the graphs in this document is labeled "Providers in SNIMS database." This column displays the total across all providers displayed in the graph.



In this example taken from Graph 4, the second column reflects the total across the 103 CHCs, eight community-based clinics, four FP residency clinics and 30 SBHCs whose data are represented in the graph. Note that "Providers in SNIMS database" is limited to the types of safety net providers displayed in the graph and not **all** clinics included in the SNIMS database.

Why are CMHC, RHC and COHN data missing from the age data displayed in Graph 4?

Data provided by the Colorado Behavioral Healthcare Council represented slightly different age categories for their patient population. Approximately 49,000 of the patients treated at CMHCs were adults between the ages of 18-59 years, 28,500 were children and adolescents 17 years and younger and more than 6,000 were adults 60 years and older. RHCs did not report patient counts by age in the 2006 assessment. Data provided by COHN also showed slightly different age categories for their patient population. Half of the COHN patient population was 19 years old and younger (approximately 44,000 patients).

What is the source of the Colorado data displayed in each graph?

On tables and graphs throughout this report, CHI has included data on the demographic characteristics of the total Colorado population and Coloradans living with incomes below 300 percent of FPL (for example, the far left column in Graph 2). The purpose of providing these data is to allow a comparison between the characteristics of safety net users and the overall demographic characteristics of Coloradans with relatively low incomes. The source of these demographic estimates is CHI's analysis of 2006-08 Current Population Survey data released by the U.S. Census Bureau, which covers calendar year 2005-07.

The definitions of the safety net and health care access vulnerability (described above) guided CHI's efforts to collect consistent and timely data from new and existing sources. The results of the SNIMS data collection effort are presented in the remainder of this report in four sections:

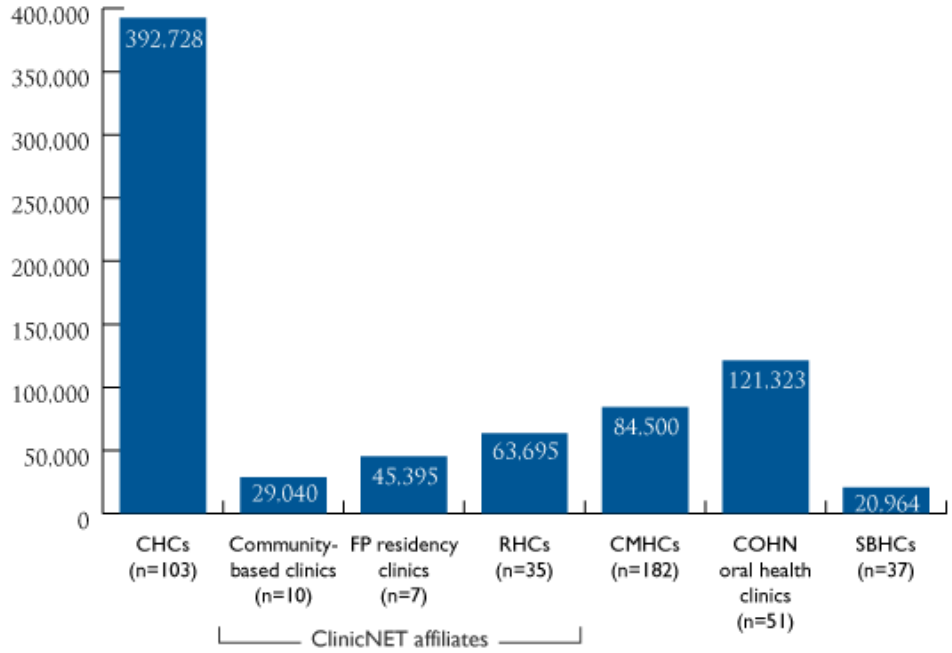
- Consumers of Colorado's safety net
- Colorado's safety net workforce
- Principal sources of funding for Colorado's safety net
- Estimation of unmet need

Consumers of Colorado's safety net

The following graphs, tables and maps provide an overview of the individuals who visited Colorado's health care safety net clinics in 2007. Patient-level data are provided for each major category of safety net provider as available. To provide context for these patient profiles, data are included that compare safety net users to Colorado's general population under 300 percent of FPL. User population characteristics include insurance status, age, incomes as a percent of the FPL and aggregated ZIP Codes that illustrate the dispersion of safety net patients throughout the state.

How many Coloradans visited a safety net clinic in 2007? The first graph displays counts of individual patients reported to SNIMS by safety net clinics. Summing the counts across categories of safety net providers yields a total of approximately 758,000 individuals in 2007. As discussed earlier, the degree to which individuals visited more than one safety net clinic is unknown; CHI is currently exploring methods for estimating the magnitude of this overlap.

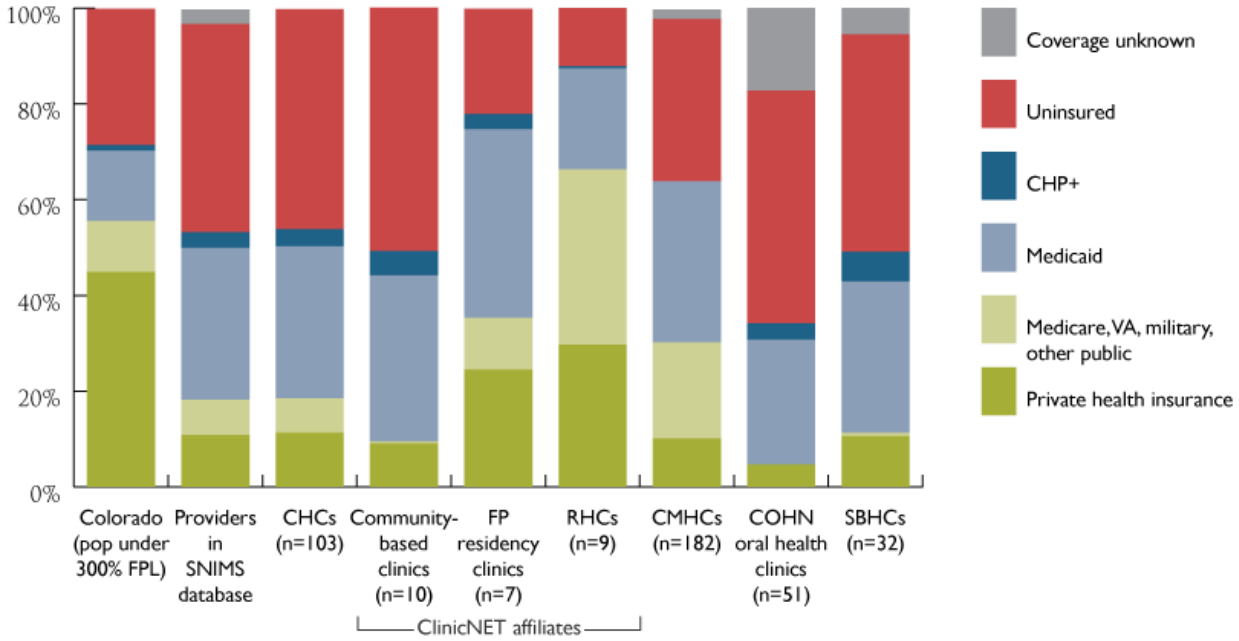
Graph 1. Total number of individual patients by type of safety net provider, Colorado, 2007[16]



[16]The rural health clinic data reported in Graph 1 were collected by CHI and cover CY 2005. For a discussion of these data and the challenges associated with collecting and reporting data from RHCs, see "Rural health clinics: An assessment of data capacity" available at: http://www.coloradohealthinstitute.org/documents/sn/rhc_report.pdf. This report included an estimate of 111,000 unduplicated patients which was adjusted to reflect rural health clinics that were unable to report data. The patient counts provided in this report reflect only those clinics that were able to report data.

Through SNIMS, CHI collected counts of patients by their insurance source. Graph 2 provides a snapshot of how safety net patients were distributed by payer source across the various types of safety net providers and how they compare to Colorado's population below 300 percent of FPL. To examine how this distribution has changed over time, Graph 3 displays available historical data, which is limited to CHCs. A more robust and inclusive SNIMS database will enable CHI to examine changes over time for other types of safety net providers as well.

Graph 2. Distribution of patients by payer source and type of clinic compared to Colorado's population below 300% of FPL, 2007



- More than 40 percent of Colorado's population with incomes below 300 percent of FPL were covered by private insurance in 2007; conversely, 75 percent of individuals using the safety net were uninsured or enrolled in Medicaid and CHP+.

- The largest proportion of the CHC user population was uninsured—46% or more than 181,000 patients, followed by Medicaid enrollees—32% or more than 125,000 patients. The uninsured population also made up the largest proportion of the user population at COHN oral health clinics— 45% or more than 54,000 patients; and community-based clinics—51% or close to 15,000 patients.

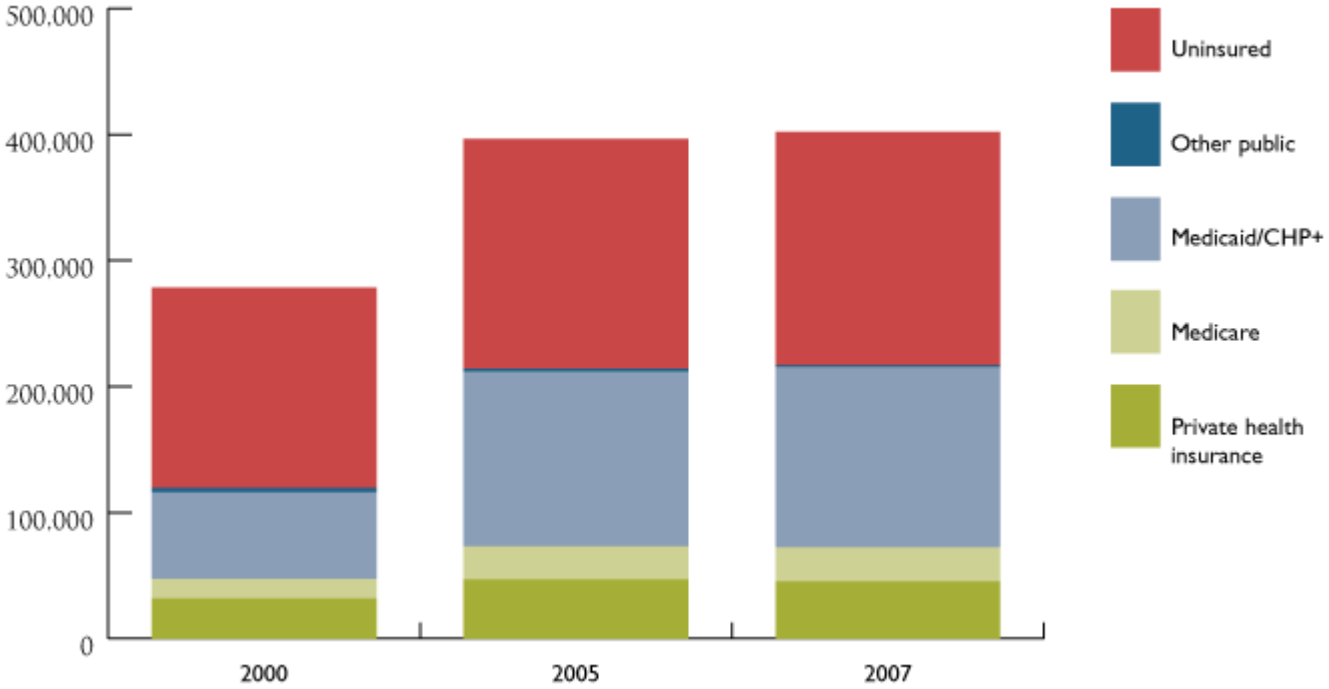
- Compared to other safety net providers, the nine RHCs for whom data were available reported having a higher proportion of patients covered by private insurance and Medicare.[17]

- The majority of patients served by oral health safety net providers were uninsured (62%), followed by children 19 years and younger enrolled in Medicaid (23%).

- The majority of CMHC patients was either self-pay or enrolled in Medicaid (67%).

[17] The proportion of Medicare patients in Graph 2 may be underestimated for some RHCs that reported data.

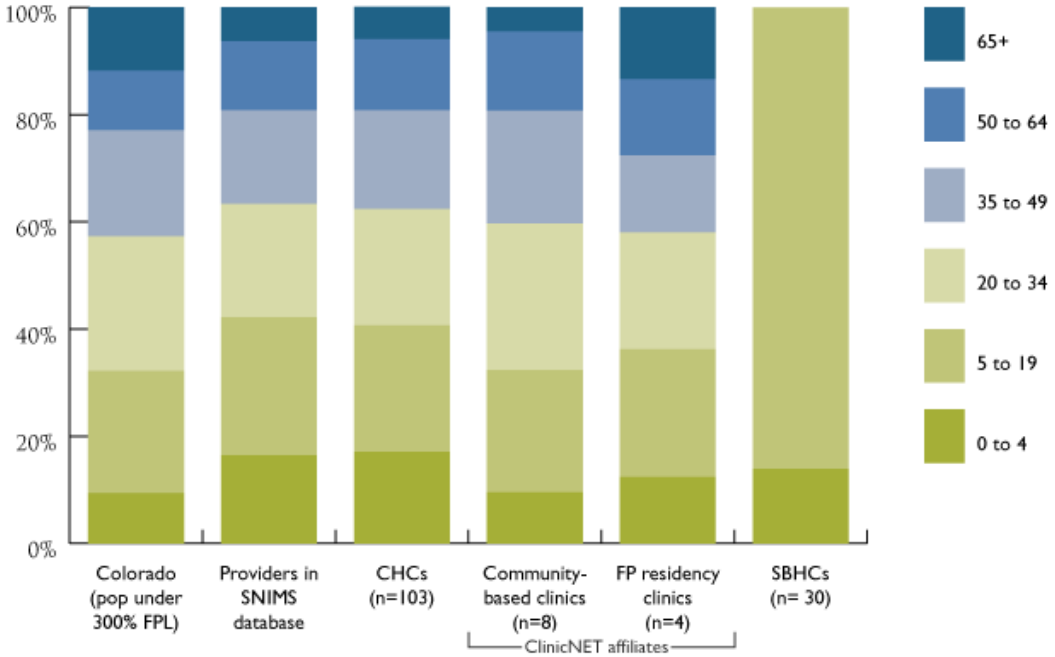
Graph 3. Number of CHC patients by source of insurance, 2000-07



- The number of patients served by CHCs grew significantly from 2000-07 (281,390 to 392,728). While patients of all payer types grew, the percentage of Medicaid and CHP+ patients grew most significantly as caseloads for Medicaid and CHP+ increased statewide.

The following graphs and table illustrate the age distribution and family incomes of safety net users. Consistent with prior analyses of the characteristics of the uninsured, CHI found that children have lower rates of uninsurance than adults and that the Medicaid and CHP+ programs have experienced increasing enrollment of children over time in Colorado. Data displayed in the following graphs suggest that safety net providers saw a large share of Medicaid and CHP+ children in 2007, also consistent with prior CHI analysis.

Graph 4. Age distribution of Colorado's safety net users by type of provider compared to Colorado's population below 300% of FPL, 2007



- Children under 19 years of age comprised approximately 32 percent of Colorado's population with family income below 300 percent of FPL in 2007; however they comprised the single largest age group of patients served by safety net clinics (42%). Research has found that in states with a larger safety net capacity, low-income uninsured children had higher rates of safety net physician visits.[18] In addition, researchers suggest that uninsured parents may be more inclined to identify a regular source of care for their uninsured children to receive well-child visits, immunizations and acute care if they are patients at a safety net clinic.[19] Nationally in 2007, approximately one in eight low-income babies had a mother who was a safety net patient.[20]

- Compared to other safety net providers reporting data to CHI, older adults (age 50 years and older) made up a large proportion of patients seen in family practice residency clinics. Family practice residency clinics are expected to serve a certain number of nursing home patients and Medicare patients under the Accreditation Council for Graduate Medical Education (ACGME) requirements. These factors, as well as the close referral relationships that these clinics have with their sponsoring hospitals, contribute to this finding. Family practice residency clinics represent a potential source of primary care for older adults living in communities with a lack of providers willing to accept new Medicare patients.

[18] Long, S. and S. Marquis. (1999). "Geographic variation in physician visits for uninsured children: The role of the safety net," *Journal of the American Medical Association,* Vol. 281(21): 2035-2040. Available at: http://jama.ama-assn.org/cgi/reprint/281/21/2035 (retrieved from Web 3/24/09).
[19] Gresenz, C. et al. (2006)."Dimensions of the local health care environment and use of care by uninsured children in rural and urban areas." *Pediatrics* Vol. 117:509-517. Available at: http://pediatrics.aappublications.org/cgi/content/full/117/3/e509 (retrieved from Web 3/24/09).
[20] Kaiser Commission on Medicaid and the Uninsured (2009). "Key facts: Community Health Centers." Available at: http://www.kff.org/uninsured/upload/7877.pdf (retrieved from Web 3/24/09).

Graph 5. Colorado's population compared to CHC patients by percent of FPL, 2007

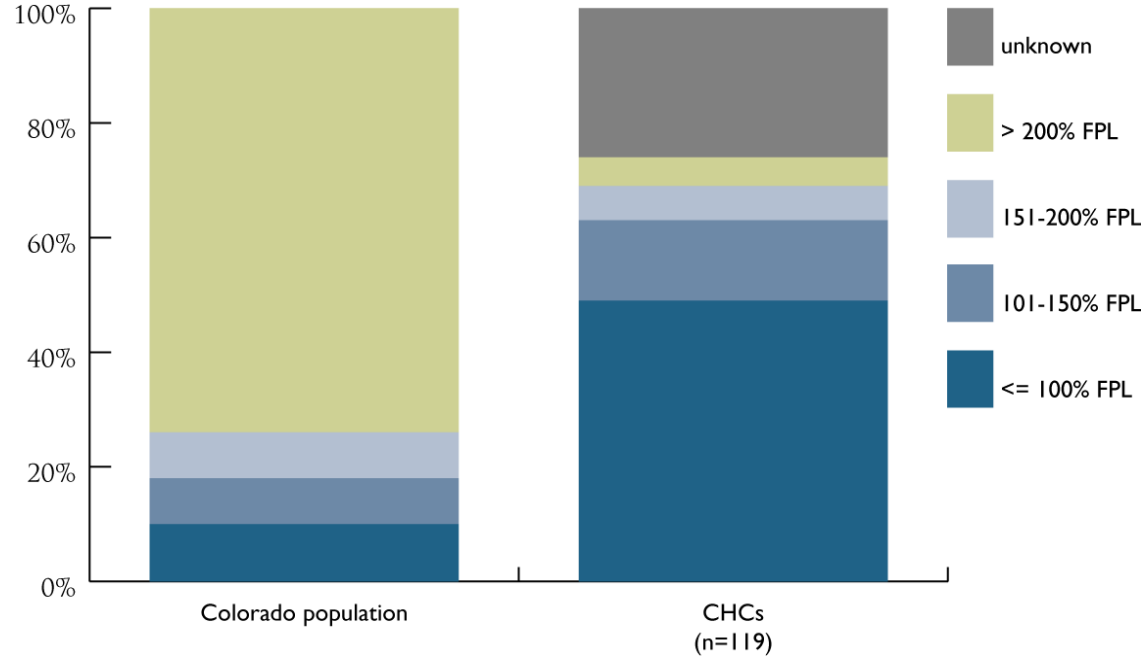


Table 1 illustrates patient counts above and below 200 percent of FPL for non-RHC ClinicNET affiliates as shown in their Primary Care Fund applications. At the time they were surveyed, only a small number of ClinicNET-affiliated clinics could report FPL thresholds for their patient population in the same way as CHCs did in Graph 5. The 10 clinics included in Table 1 represent the majority of the ClinicNET affiliates that participated in the ClinicNET survey [NOTE: the table is limited to uninsured patients].

Table 1. Colorado's uninsured population at or below 200 percent of FPL compared to family practice residency clinics and other community-based clinics, 2007[21]

	Colorado population		Family practice residency clinics (n=6)		Other community-based clinics (n=4)	
	Number	Percent	Number	Percent	Number	Percent
Uninsured below 200% of FPL	432,000	54%	5,749	67%	13,735	96%
Uninsured at or above 200% of FPL	364,000	46%	2,881	33%	586	4%
Total uninsured	796,000	100%	8,630	100%	14,321	100%

GEOGRAPHIC DISTRIBUTION OF SAFETY NET PATIENTS

In addition to insurance status, income as a percent of FPL and age characteristics, CHI collected patient counts in 2007 by patients' ZIP Code of residence. These ZIP Code data are currently available only for CHCs and non-RHC ClinicNET affiliates. Map 2 in Appendix A combines the ZIP Code data from these

[21] Data on the uninsured below 200% of FPL and at or above 200% of FPL for family practice residency clinics and other community-based clinics affiliated with ClinicNET are based on FY 08-09 Primary Care Fund application information provided by the clinics. Because the UDS does not capture income data on the uninsured, CHI was unable to include CHCs in Table 1.

two types of safety net providers and displays how their patients were distributed geographically around Colorado.

Colorado's Safety Net Workforce

The following tables and graphs display the characteristics of the safety net workforce in Colorado based on 2007 SNIMS data. Availability of a primary care workforce can be as important in many areas of the state as having a health insurance card. Table 2 provides an overview of the safety net workforce across six different types of safety net providers. Further examination of the physical, behavioral health and oral health care workforce is provided in Graphs 6, 7 and 8.

Table 2. Colorado's safety net clinical workforce by type of provider[22], 2007

	Providers in SNIMS database (n=236)	CHCs (n=103)	Community-based clinics (n=10)	LHDs/ public nursing services (n=49)	Family practice residency clinics (n=7)	RHCs (n=35)	SBHCs (n=38)
Physicians	396	206	14	22	40	59	3
Nurse practitioners	114	53	6	0	10	22	24
Physician assistants	142	101	10	0	6	18	6
Nurses[23]	663	182	5	369	33	70	3
Dentists	67	61	31*	0	0	0	0
Dental hygienists	30	25	10*	0	0	0	1
Dental assistants/ aides/ technicians	148	130	38*	0	0	0	1
Psychiatrists	5	4	0	0	0	0	0.3
Licensed social workers and psychologists	107	23	4	50	10	0	20

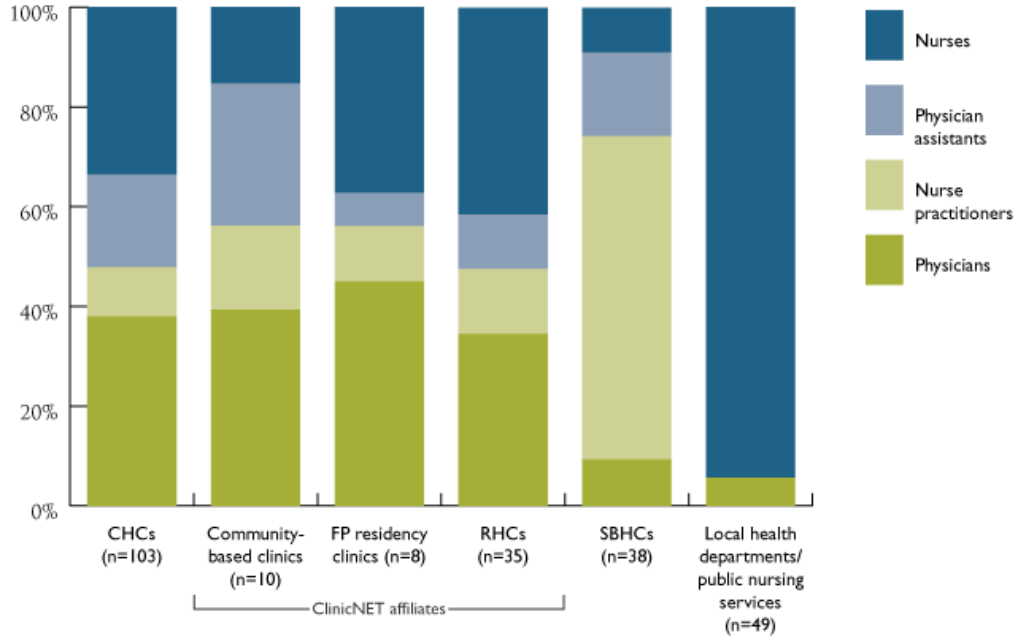
* In addition to the community-based clinics that reported FTE oral health providers in the ClinicNET survey, data are included for an additional seven organizations affiliated with COHN that were not captured in the ClinicNET survey.

[22] Number of staff is reported in full-time equivalents; numbers were rounded up for display purposes.

[23] Safety net providers were asked to report "nurses" as defined by the Uniform Data System which includes registered nurses, licensed practical and vocational nurses, home health and visiting nurses, clinical nurse specialists and public health nurses.

Graph 6 illustrates the primary health care workforce displayed in the first four rows of Table 2. For purposes of this report, health professionals who serve in a primary physical health care capacity are limited to physicians, nurse practitioners, physician assistants and nurses.

Graph 6. Colorado's safety net primary *physical* health care workforce (FTE) by provider type, 2007



- The proportion of physicians working at CHCs, community-based clinics, FP residency clinics and rural health clinics was similar in 2007. Differences in staffing models, however, were more apparent among these safety net provider types when examining the mix of non-physician clinicians and RNs. For example, community-based clinics employed proportionately more non-physician clinicians (NPs and PAs) than other types of providers.

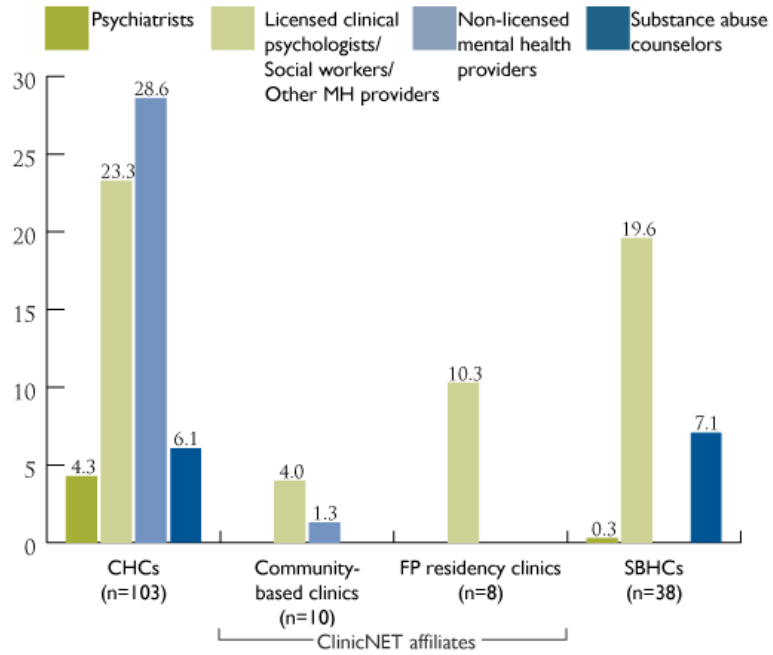
- Nurse practitioners made up the majority of the workforce in SBHCs.

- Nurses make up a much larger proportion of the RHC and local health department/public nursing service workforce when compared to other safety net provider types. Since the early 1900's nurses have played a significant role in the public health system and currently serve in a number of different roles such as providing direct patient services, project management and population-based services.[24] Nurses constitute the majority of the professional workforce in the rural local health departments and RHCs, largely because other health professionals chose not to work in rural settings.[25]

Graph 7 displays total FTE for the four primary types of behavioral health care professionals that provide mental health and substance abuse services across five types of safety net providers. Unfortunately, statewide FTE data on behavioral health care professionals were unavailable for community mental health centers.

[24] HRSA Bureau of Health Professions (January 2005). *Public Health Workforce Study.* Available at: http://bhpr.hrsa.gov/healthworkforce/reports/publichealth/default.htm#nurseworkforce (retrieved from Web 3/24/09).
[25] Rosenblatt, R. et al (2002). "Rural-urban differences in the public health workforce: Local health departments in 3 rural Western states," *American Journal of Public Health* July; 92(7): 1102-1105.

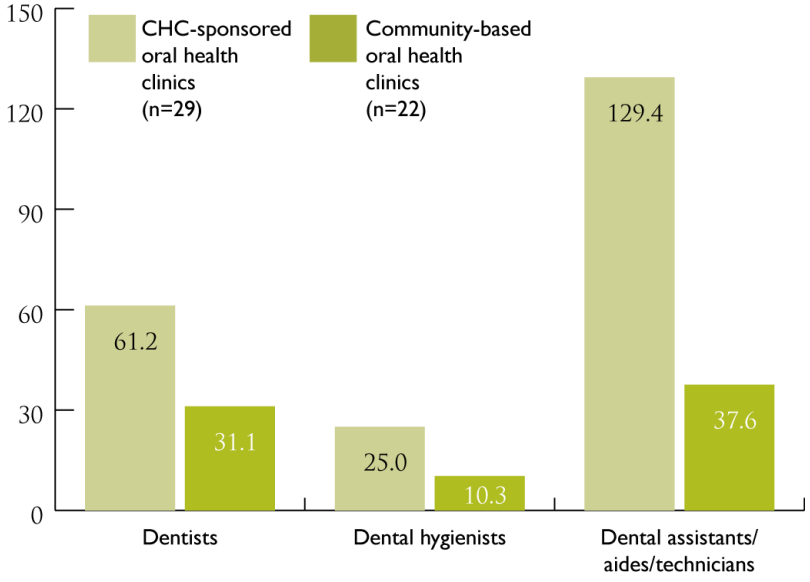
Graph 7. Behavioral health workforce (FTE) by provider type (excluding CMHCs), 2007



- The majority of the behavioral health workforce in safety net clinics is comprised of licensed psychologists and social workers.
- Compared to other safety net providers, the highest proportion of the SBHC workforce is licensed mental health professionals and substance abuse counselors.

Graph 8 provides a comparison of two types of safety net clinics that were able to provide oral health workforce data—oral health clinics operated or sponsored by CHCs and other community-based oral health clinics, such as those operating independently or by ClinicNET affiliates. The oral health workforce in Graph 8 is limited to dentists, dental hygienists, dental assistants, aides and technicians.

Graph 8. Oral health workforce (FTE) in Colorado's safety net clinics, 2007



A survey conducted by the Colorado Oral Health Network (COHN) survey in 2007 found:

- Colorado's oral health safety net included 12 CHCs that operate 29 dental programs and nine additional nonprofit clinics operating 22 dental programs. This oral health safety net of 51 clinics employed approximately 92 FTE dentists, 35 FTE dental hygienists and 167 FTE dental assistants.

- A higher proportion of the non-FQHC oral health workforce is made up of dentists (39%) than the FQHC workforce (28%). The majority of oral health providers in FQHCs is made up of dental assistants (60%) who are required to work under the supervision of a dentist. COHN members report that the national standard ratio for dentists to dental assistants is two dental assistants to each dentist. COHN data indicate that this standard is generally met in oral health safety net clinics.

The Role of Volunteers in Colorado's Safety Net Clinics

In addition to paid clinicians and staff, many safety net clinics utilize volunteer health professionals to meet demand. Table 3 displays available data from community-based clinics and family practice residency clinics on the number professionals, both paid and volunteer (estimated on an FTE basis), who provided services in 2007.

Table 3. Paid and volunteer FTE primary care workforce of ClinicNET affiliates, 2007[26]

	Community-based clinics (n=10)			Family practice residency clinics (n=7)		
	Paid	Volunteer	Total	Paid	Volunteer	Total
Physicians	14	3	17	40	6	46
Nurse practitioners	6	1	7	10	0	10
Physician assistants	10	1	11	6	0	6
Nurses	5	0	6	33	0	33
Total	35	5	41	89	6	95

Many community-based and faith-based clinics use clinician volunteers based on the origins of the clinic, clinic philosophy and resource constraints. One such safety net clinic that relies heavily on physician volunteers is *Doctors Care*. This nonprofit organization was founded in 1988 by the Arapahoe Medical Society to serve low-income families in Arapahoe, Douglas and Elbert counties. In its first year, it served 700 low-income people.

Twenty years later, *Doctors Care* has served more than 18,000 patients and reports more than 600 volunteer providers (including 125 practices and 80 specialties) and five hospitals (Swedish and Sky Ridge Medical Centers and Littleton, Porter and Parker Adventist hospitals) with their pharmacies and labs providing low-income patients with access to needed medications and specialized tests. In 2008 the five hospitals listed along with pharmacies, labs and physicians within the Doctors Care network contributed $6.3 million in care to the uninsured. Adult patients who meet established income eligibility requirements are referred to private physicians who have agreed to affiliate with the *Doctor's Care*

[26] Reported data include 17 ClinicNET affiliate sites. In addition to the volunteer FTEs included in Table 3, one ClinicNET affiliate reported they coordinate with 525 physicians who volunteer to treat patients in their private practices. These physicians are not included in the graph because the data only represent volunteer physicians that treat patients at safety net clinics. Volunteer FTE data were not available for other types of safety net providers, including rural health clinics.

network and provide a certain level of charity care. Patients seen in these private physicians' offices pay a sliding-fee based on their income.[27]

Principal Sources of Funding for Colorado's Safety Net Providers

As discussed in the introduction to this report, one of CHI's objectives in developing the SNIMS is to monitor the financial viability and sustainability of Colorado's safety net. A first step in this task is to provide a baseline description of the current financial investments in the state's safety net and the diverse sources from which safety net providers derive their operating revenue. Included among these are funds from local, state and federal governments, patient fees, fundraising and gifts and grants from foundations, corporations, individuals and faith-based organizations.

Federal revenue for Colorado's health care safety net comes in a variety of forms. The majority derives from Medicaid, CHP+ and Medicare reimbursement to safety net providers.[28] Federally designated RHCs and CHCs receive cost-based reimbursement for services provided to Medicare and Medicaid patients. Another major source of federal funds for CHCs is the annual competitive 330 grants from the Bureau of Primary Health Care within the U.S. Department of Health and Human Services. These grants are available only to federally qualified health centers (FQHCs).[29] In addition, disproportionate share hospital (commonly referred to as "DSH") payments are received from the federal government to help offset the costs of caring for medically indigent patients. These federal funds come primarily to hospitals, but in Colorado they are also distributed to safety net clinics that see a majority of indigent patients. In 2006-07, Colorado received $148 million in DSH funds that were distributed through the Colorado Indigent Care Program (CICP).[30] Other federal funds come to Colorado in the form of block grants or categorical funding that is earmarked for a particular population or type of service such as the Maternal and Child Health Services Block Grant, the Ryan White CARE Act which is earmarked for services to people living with HIV/AIDS and the Preventive Health and Health Services block grant.

In addition to the share of Medicaid and CHP+ reimbursement (matched with federal funds) provided by the state, a primary source of state-specific revenues available to safety net providers is the tobacco tax which provides nearly $30 million in grants annually through the Primary Care Fund.

Colorado's foundations have funded major initiatives to expand the safety net workforce and shore up the information infrastructure of the state's safety net clinic system. More recently, these foundations have made grants to expand access to health care for children and invested in health information technology (HIT) software and systems to improve the quality and efficiency of safety net clinics.

Based on SNIMS data, safety net clinics received total revenue of approximately $774 million in 2007. Graph 9 displays how this revenue was distributed by source, including government grants and contracts, donations, patient fees and other sources. The pie chart on the right-hand side of Graph 9 displays how the 44 percent (approximately $340 million) of patient-related fees in 2007 was distributed.

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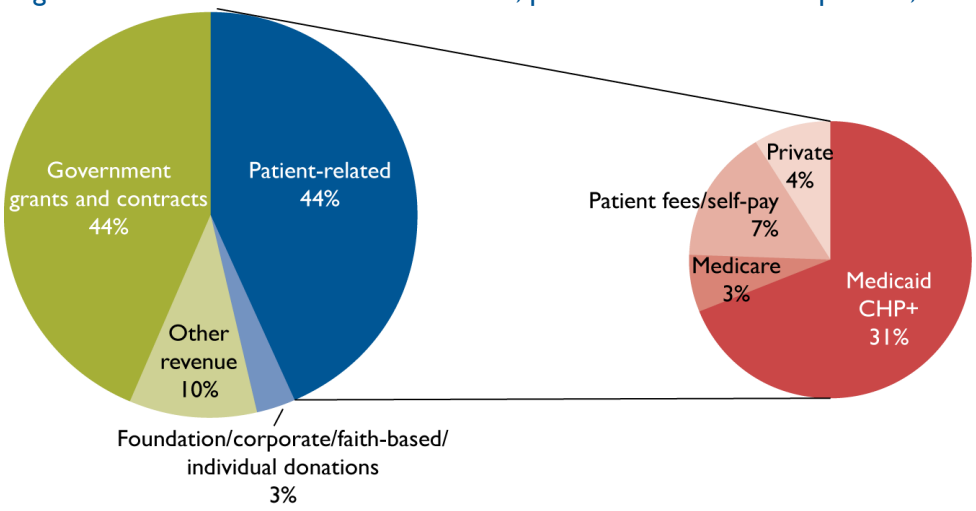
[27] Doctor's Care (2008). *A 20-Year Timeline*. Available at: http://www.drscare.org/files/0b29f9f6.pdf (retrieved from Web 3/24/09).

[28] Graphs 9 and 10 report Medicare, Medicaid and CHP+ reimbursements as patient-related revenue.

[29] Rural Assistance Center. (2008). "FQHC frequently asked questions." Available at: http://www.raconline.org/info_guides/clinics/fqhcfaq.php#whatisphs330 (retrieved from Web 1/2/09).

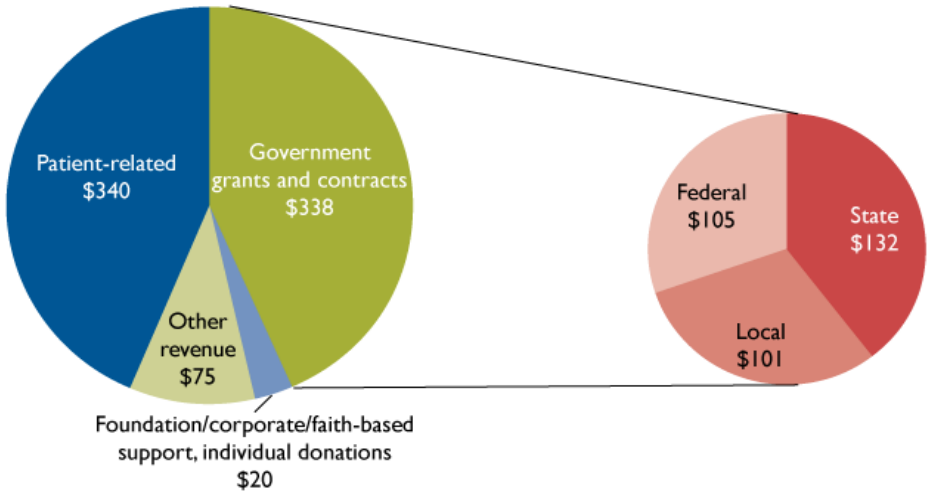
[30] For more information on the Colorado Indigent Care Program, see the *2007-08 CICP Annual Report*, available from the Colorado Department of Health Care Policy and Financing at: http://www.colorado.gov/cs/Satellite?c=Page&cid=1197969486316&pagename=HCPF%2FHCPFLayout (retrieved from Web 1/23/09).

Graph 9. Distribution of revenue sources for CHCs, ClinicNET affiliates, CMHCs, LHDs/public nursing services and SBHCs included in SNIMS, patient-related income specified, 2007[31]



The large pie in Graph 10 represents the total revenue ($774 million) that was received across five types of safety net providers in 2007. The smaller pie displays the proportion of total revenue (44%), approximately $338 million, attributable to federal, state and local government grants and contracts excluding Medicaid, CHP+ and Medicare reimbursement.

Graph10. Distribution of revenue sources for CHCs, ClinicNET affiliates, CMHCs, LHDs/public nursing services and SBHCs included in SNIMS, government grants and contracts specified, 2007 (in $ millions)



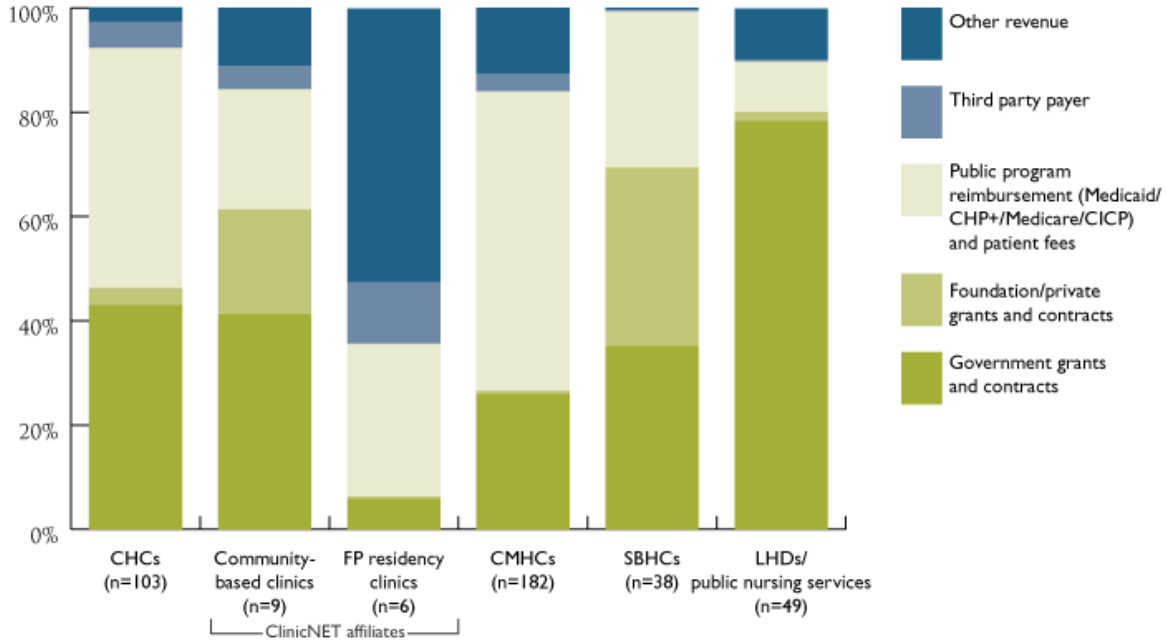
A closer look at direct governmental grants and contracts to safety net clinics in 2007 reveals that the highest proportion came from state government (close to $133 million), followed by the federal

[31] Total revenue in 2007 for community health centers, non-RHC ClinicNET affiliates, community mental health centers, local health departments and county nursing services and school-based health centers included in this SNIMS report was approximately $774 million. The "Other revenue" category in Graphs 9 and 10 includes interest income, rent from tenants and financial support from a hospital (such as for a family practice residency clinic), although it does not include Graduate Medical Education (GME) funding for family practice residency clinics. CICP revenue is included as revenue from the state. Percentages do not equal 100 percent due to rounding. Local health department revenue is not limited to safety net-related services.

government at $105 million. As noted earlier, the majority of federal and state funding for the safety net is delivered in the form of Medicaid, CHP+ and Medicare reimbursements to safety net providers which is counted as patient-related revenue in Graphs 9 and 10.

The following graph displays total 2007 revenue received by safety net providers.

Graph 11. Distribution of revenue sources by type of provider, 2007[32]



Estimating Unmet Need

CHI has adapted a method for estimating unmet need developed by the National Association for Community Health Centers (NACHC) and the Robert Graham Center in Washington D.C. This method estimates the number of additional primary care providers needed for safety net clinics to meet the health care needs of individuals classified as "medically disenfranchised." [33] CHI has used this method to estimate unmet need across all safety net providers currently in the SNIMS database.

Table 4 displays the findings of this analysis. Rows A-C include data on the number of primary care providers (expressed in full-time equivalents) employed by CHCs, community-based clinics, family practice residency programs and RHCs. In order to calculate workforce demand, the first step involved estimating the average panel size (the number of individual patients under the care of a specific provider) for each FTE primary health care clinician. Next, a patient-to-provider ratio was calculated, taking into account the number of primary care clinicians by clinic type (Row C) and the total number of patients served during 2007 (Row D). From this, a patient-to-provider panel size was calculated (Row E).

[32] The "other revenue" category includes hospital-based support and any other receipts not related to charge-based services. This may include interest income, rent from tenants, etc. although it does not include Graduate Medical Education (GME) funding for family practice residency clinics. CICP revenue is included as revenue from the state. The CHC data does not include SBHC revenues from CHC-sponsored SBHCs.

[33] NACHC, Robert Graham Center and the George Washington University School of Public Health and Health Services (2008). *Access Transformed: Building a Primary Care Workforce for the 21st Century.*

CHI provides two estimates: 1) the number of people who live in a designated Health Professional Shortage Area (HPSA) (Row F);[34] and 2) the number of Coloradans under 300 percent of FPL (Row G).[35] By applying the average patient-to-provider ratio displayed in Column E, CHI derived a range for the number of primary care providers needed to serve the potential safety net user population (Row H). Row H assumes providers who are already practicing in safety net clinics. Based on this calculation, between 358 and 1,513 *additional* primary health care providers (Row I) would be required to meet current primary care demand if everyone below 300 percent of FPL had access to a safety net or any primary care clinic provider.

This analysis has obvious limitations, perhaps most important, it was limited to three types of safety net providers (CHCs, ClinicNET clinics and RHCs) participating in the SNIMS. It does not take into account other practice settings in which low-income individuals currently receive primary health care services. The analysis also assumes a clinician-to-population ratio with similar panel sizes for physicians, nurse practitioners, physician assistants and certified nurse midwives and that the care needs of patients are similar across providers. The assumption of comparability of panel size and patient need has been challenged in workforce studies, and therefore the model requires further safety net clinic-based research.

Table 4. Colorado safety net providers' workforce characteristics, current staffing ratios and projected workforce demand, 2007

	CHCs (n=119)	Community-based clinics	Family practice residency clinics (n=6)	RHCs (n=35)	Total (n=62)
(A) MDs [FTE]	207	14	40	59	320
(B) NP, PA, CNMs [FTE]	184	14	16	41	255
(C) Total primary care providers in SNIMS database [FTE] [A+B]	391	28	56	100	575
(D)Total patient count in SNIMS database	402,641	29,040	43,395	63,695	540,771
(E) Patient-to-provider ratio [D/C]	1,030:1	1,051:1	815:1	639:1	942:1
(F) Total population living in a primary care HPSA					878,000
(G) Colorado population with family incomes below 300% FPL					1,966,508
(H) Projected demand for primary care providers [F/E and G/E]					932 to 2,087
(I) Gap between current workforce and projected workforce demand [H-C]					358 to 1,513

[34] The number of individuals living in a primary care shortage area is a conservative estimate of the number of *health care access vulnerable* individuals in Colorado who have been identified by Colorado's Primary Care Office as living in a county or part of a county that meets the criteria to qualify for a shortage designation.
[35] The target vulnerable population includes the total number of persons in Colorado who live below 300% of FPL.

Methods used for this analysis were adapted from the report, *Access Transformed,* published by NACHC and the Robert Graham Center. The report is available for download at: http://www.nachc.com/client/documents/ACCESS%20Transformed%20full%20report.PDF (retrieved 3/26/09). The newly established Northwest Colorado Community Health Center is included in these calculations. Figures may not add or divide to totals due to rounding. Row F was used to calculate the low number in the range and Row G was used for the high number.

In a separate exercise, CHI modeled the supply and demand of physicians in Colorado from CY2005-25. Results from the physician supply and demand models are not comparable to the safety net projected workforce demand displayed in Table 4. Unlike the workforce demand analysis, the physician supply and demand models estimate the demand for physicians rather than the other providers listed in Row B of Table 4. In addition, CHI's physician supply and demand model estimates are for the entire state and are not specific to vulnerable populations.

SOURCES: The estimated population living below 300% of FPL is from CHI's analysis of 2006-08 CPS data released by the U.S. Census Bureau, which covers CY2005-07; estimated population living in a primary care Health Professional Shortage Area is from the Colorado Primary Care Office; rural health clinic data are from 2006 and CHC and ClinicNET data are from CY 2007.

Next Steps…

The information included in this report represents a first step in describing the capacity of Colorado's safety net providers and the people who use them. CHI is working closely with its partners and members of the Safety Net Advisory Committee to address existing gaps in the information and to continue annual data collection efforts. Each additional year of data collection will enable CHI to examine trends in safety net dynamics over time. Staff will continue to focus on outreach efforts to safety net providers that are not currently represented in the data to increase the representation in SNIMS of rural health clinics and local public health departments.

In 2009, two significant sources of data on health insurance, access to care and demographic information will become available—the Department of Health Care Policy and Financing's 2008-09 Colorado Household Survey administered under contract by CHI and the American Community Survey sponsored by the U.S. Census Bureau. In the future, CHI is hopeful that the statewide hospital emergency department database (currently under development at the Colorado Hospital Association) will be available to include in the SNIMS.

Supplemented by other available data sources, the SNIMS will provide an increased opportunity to better understand community-level variation that explains how the state's most vulnerable residents get their primary health care needs met. It is CHI's goal that these data will be used widely to answer key policy questions about Colorado's safety net.

Thanks to all our partners!
Clinics and membership organizations participating in SNIMS include:

Membership associations	
ClinicNET	Colorado Community Health Network
Colorado Association of Local Public Health Officials	Colorado Hospital Association
Colorado Association for School-based Health Care	Colorado Oral Health Network
Colorado Behavioral Healthcare Council	Colorado Rural Health Center

Community Health Centers	
Clinica Family Health Services	Peak Vista Community Health Centers
Colorado Coalition for the Homeless	Plains Medical Center
Denver Health's Community Health Services	Pueblo Community Health Center
Dove Creek Community Health Clinic	Salud Family Health Centers
High Plains Community Health Center	Sunrise Community Health, Inc
Metro Community Provider Network	Uncompahgre Medical Center
Mountain Family Health Centers	Valley-Wide Health Systems, Inc.
Northwest Colorado Community Health Center	

School-based Health Centers	
Arrupe Jesuit High School	Kids and Teen Clinic at Jefferson High School
Bruce Randolph Middle School	Kids Clinic at Stein Elementary
Cameron Elementary	Kids' Care Clinic at Centennial Elementary
Carin' Clinic at Arvada Middle School	Kunsmiller Middle School
Carmel Middle School	Lake Middle School
Centennial High School	Lincoln High School
Central School Based Wellness Center	Montbello High School
Community Health Services (CHS) at Adams City High School	North High School
CHS at Adams City Middle School	Rachel Noel Middle School
CHS at Baker Elementary	Risley School-based Wellness Center
CHS at Hanson Elementary	Rocky Mountain Youth Clinics Ronald McDonald Care Mobile
CHS at Kearney Middle School	Sheridan Health Services at Sheridan Middle School
CHS at Lester Arnold High School	Southwest Open School-based Health Center

School-based Health Centers	
East School Based Wellness Center	South High School
Englewood High School	Summit Youth Services Center at Dillon Valley Elementary
Escuela Tlatelolco	Summit Youth Services Center at Summit High School
Freed School-based Wellness Center	Summit Youth Services Center at Summit Middle School
John F. Kennedy High School	Valdez Elementary
Kepner Middle School	West High School

Community Mental Health Centers	
Arapahoe/Douglas Mental Health Network	Midwestern Colorado Mental Health Center
Aurora Mental Health Center	North Range Behavioral Health
Centennial Mental Health Center	Pikes Peak Mental Health Center
Colorado West Regional Mental Health Center	San Luis Valley Comprehensive Community Mental Health Center
Community Reach Center	Southeast Mental Health Services
Jefferson Center for Mental Health	Southwest Colorado Mental Health Center
Larimer Center for Mental Health	Spanish Peaks Mental Health Center
Mental Health Center of Denver	West Central Mental Health Center
Mental Health Center Serving Boulder and Broomfield Counties	

Oral health providers (COHN)	
Clinica Family Health Services	Metro Community Provider Network
Colorado Coalition for the Homeless	Northwest Dental Coalition
Dental Aid	Peak Vista Community Health Centers
Denver Health Medical Center	Plains Medical Center
Dove Creek Community Health Center	Pueblo Community Health Center
Health District of Northern Larimer County	Salud Family Health Centers
High Plains Community Health Center	Summit Community Care Clinic
Howard Dental Center	Sunrise Community Health Center
Inner City Health Center	The Children's Hospital
Kids in Need of Dentistry	University of Colorado School of Dentistry
Marillac Clinic	Valley-Wide Health Systems, Inc.

Rural Health Clinics	
Battlement Mesa Medical Center	Mt. San Rafael Health Center
Bent County Rural Health Clinic	North Park Medical Clinic, Inc.
Button Family Practice	Olathe Medical Clinic
Centennial Family Health Center	Parke Health Clinic
Colorado Plains Clinic-Wiggins	Pediatric Associates of Cañon City
Conejos Medical Clinic	Prairie View Clinic
Creede Family Practice of Rio Grande Hospital	Rio Grande Hospital Clinic
Dolores Medical Center	River Valley Pediatrics
Eads Medical Clinic	Rocky Ford Family Health Center, LLC
Eastern Plains Medical Clinic	Southeast Colorado Physicians Clinic
Family Care Clinic	Stratton Medical Clinic
Family Practice of Holyoke	Surface Creek Family Practice
Fleming Family Health Center	The Pediatric Associates
Florence Medical Center	Trinidad Family Medical Center
Grand River Primary Care	Trinidad Medical Associates
Havens Family Clinic	Valley Medical Clinic
Kit Carson Clinic	Washington County Clinic
Lake City Area Medical Center	Wet Mountain Valley Community Clinic
Meeker Family Health Center	Wiley Medical Clinic
Mountain Medical Center of Buena Vista	

ClinicNET affiliates	
Banner Health (North Colorado Family Medicine)	Marillac Clinic
Chaffee Peoples Clinic	Rocky Mountain Youth Medical and Nursing Consultants Inc.
Doctors Care	Southern Colorado Family Medicine
Exempla Saint Joseph Hospital (Bruner Family Medicine)	St. Anthony Family Medicine Residency
Inner City Health Center	St. Mary's Family Medicine Center & Residency
La Clinica Tepeyac	The Fort Collins Family Medicine Center

Local Health Departments	
Alamosa County Nursing Service	Larimer County Department of Health and Environment
Baca County Public Health Nursing Service	Lincoln County Public Health Nursing Service
Bent County Public Health Nursing Service	Mesa County Health Department
Boulder County Public Health	Mineral County Public Health Nursing Service
City & County of Denver's Department of Environmental Health	Montezuma County Public Health Nursing Service
City and County of Broomfield Health and Human Services	Montrose County Health & Human Services
Clear Creek County Environmental Health Department	Northeast Colorado Health Department
Clear Creek County Public Health Nursing Service	Northwest Colorado Visiting Nurse Association and Hospice
Community Health Services, Inc.	NW Colorado VNA
Conejos County Public Health Nursing Service	Ouray County Public Health Nursing Service
Custer County Public Health Nursing Service	Park County Environmental Health Department
Delta County Department of Health & Human Services	Park County Public Health Nursing Service
Dolores County Public Health Nursing Service	Pitkin County Environmental Health Department
Eagle County Environmental Health Department	Prowers County Public Health Nursing Service
Eagle County Health & Human Services	Pueblo City-County Health Department
El Paso County Department of Health and Environment	Rio Blanco County Nursing Service
Fremont County Environmental Health Department	Saguache County Public Health Nursing Service
Garfield County Public Health Nursing Service	San Juan Basin Health Department
Gilpin County Public and Environmental Health Services	San Juan County Public Health Nursing Service
Grand County Public Health and Nursing Services	Summit County Environmental Health Department
Gunnison County Public Health	Summit County Public Health
Jefferson County Department of Health and Environment	Teller County Public Health
Kiowa County Public Health Nursing Services	Town of Vail Environmental Health
Kit Carson County Environmental Health Department	Tri-County Health Department
Kit Carson County Health & Human Services	

Appendix A: Safety net maps and shortage area designation maps

The six maps provided in Appendix A are referenced throughout the 2009 SNIMS Progress Report.

Map 1. Safety net provider sites in SNIMS database

Map 2. Colorado community health centers (CHC), ClinicNET-affiliated clinics and number of patients by ZIP Code, 2007

Map 3. Colorado safety net provider sites in SNIMS database and primary care Health Professional Shortage Areas (HPSAs)

Map 4. Colorado community mental health centers in SNIMS database and mental Health Professional Shortage Areas (HPSAs)

Map 5. Colorado community-based low-income dental clinics (COHN members) in SNIMS database and dental Health Professional Shortage Areas (HPSAs)

Map 6. Colorado safety net provider sites in SNIMS database and Medically Underserved Areas (MUA) and Populations (MUP)

ABOUT THE SHORTAGE AREA DESIGNATIONS DISPLAYED IN MAPS 3-6

Many safety net providers are located in areas where the federal government has determined that a population has significant access to care barriers because of a shortage of health care professionals. CHCs are required, in whole or part, to be designated as a medically underserved area (MUA) or a medically underserved population (MUP) as defined by the Health Resources and Services Administration (HRSA) Shortage Designation Branch in order to receive 330 grants from the federal government. Several other programs are administered by HRSA to benefit underserved areas such as Health Professions Shortage Area (HPSA) designations, the National Health Service Corps and the Exchange Visitor Program that places foreign physicians with J-1 Visas in underserved areas.[36]

Using data available from national, state and local sources and based on the criteria set forth by HRSA, communities can apply for an underserved designation through the help of the Primary Care Office within the Colorado Department of Public Health and Environment. The governor can also designate certain areas of the state to fall under special designations.

Health Professional Shortage Areas (HPSA) are designations based on a shortage of primary medical care, dental or mental health providers. HPSAs are found in urban and rural areas, with each of the three designations (primary heath, oral and mental health) having its own designation requirements—geographic area, population group or a facility component. [37]

Medically Underserved Areas (MUA) are whole counties, a group of contiguous counties, a group of county or civil divisions, or a group of urban census tracts in which residents have a shortage of personal health services. **Medically Underserved Populations (MUPs)** include groups of people who face economic, cultural or linguistic barriers to health care. Both MUAs and MUPs are determined based on an Index of Medical Underservice (IMU). The IMU involves four variables: ratio of primary care

[36] *Shortage Designation: HPSAs, MUAs and MUPS.* Health Resources and Services Administration, U.S. Department of Health and Human Services at: http://bhpr.hrsa.gov/shortage/index.htm (retrieved from Web 2/24/09).
[37] For more information on HSPA designations, see: http://bhpr.hrsa.gov/shortage/primarycare.htm.

physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the federal poverty level and percentage of the population age 65 or older.[38]

For more information on Colorado shortage designations, please contact:
Stephen L. Holloway, Director
Primary Care Office
Colorado Department of Public Health and Environment
Steve.Holloway@state.co.us
http://www.cdphe.state.co.us/pp/primarycare/index.html

[38] For more information on MUA or MUP designations, see: http://bhpr.hrsa.gov/shortage/muaguide.htm

Map 1. Colorado safety net provider sites in SNIMS database

Colorado HEALTH Institute

Safety net provider site types

- Community health centers
- Other community-based health and residency clinics (ClinicNET affiliated)
- Rural health clinics
- Local public health departments and public nursing services
- School-based health centers
- Community-based low-income dental clinics (COHN affiliated)
- Community mental health centers

Source information:

Provider addresses were collected and geocoded by the Colorado Health Institute, March 2009.

Metro Denver

MOFFAT
ROUTT
JACKSON
LARIMER
WELD
SEDGWICK
LOGAN
PHILLIPS
MORGAN
YUMA
WASHINGTON
RIO BLANCO
GRAND
BOULDER
BROOMFIELD
GILPIN
ADAMS
JEFFERSON
DENVER
CLEAR CREEK
ARAPAHOE
GARFIELD
EAGLE
SUMMIT
DOUGLAS
ELBERT
KIT CARSON
PITKIN
LAKE
PARK
MESA
DELTA
TELLER
EL PASO
LINCOLN
CHEYENNE
GUNNISON
CHAFFEE
MONTROSE
FREMONT
CROWLEY
KIOWA
OURAY
PUEBLO
SAN MIGUEL
SAGUACHE
CUSTER
OTERO
BENT
PROWERS
DOLORES
SAN JUAN
HINSDALE
MINERAL
RIO GRANDE
ALAMOSA
HUERFANO
MONTEZUMA
LA PLATA
ARCHULETA
CONEJOS
COSTILLA
LAS ANIMAS
BACA

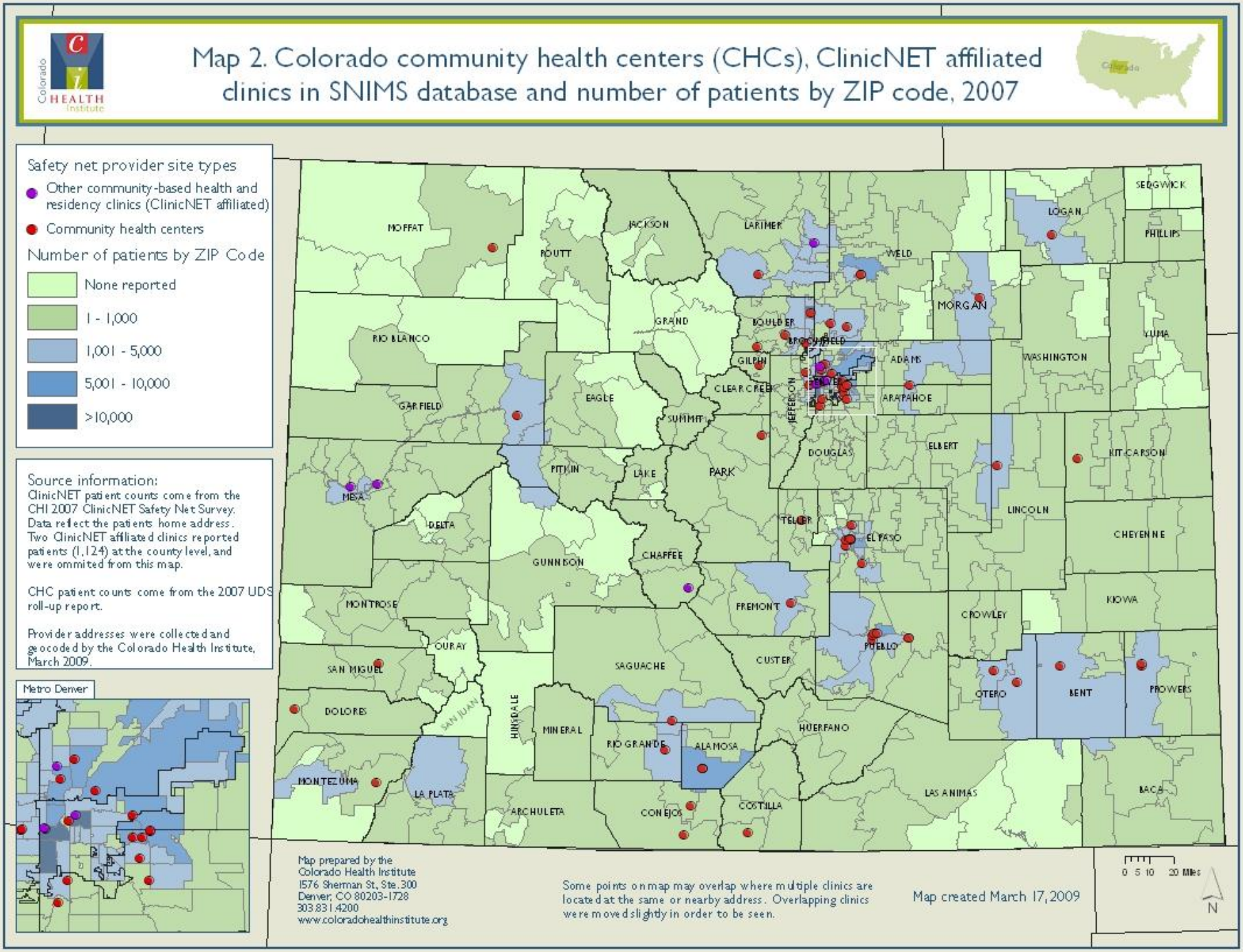
Map prepared by the
Colorado Health Institute
1576 Sherman St., Ste. 300
Denver, CO 80203-1728
303.831.4200
www.coloradohealthinstitute.org

Some points on map may overlap where multiple clinics are located at the same or nearby address. Overlapping clinics were moved slightly in order to be seen.

Map created March 17, 2009

0 5 10 20 Miles

N


Map 2. Colorado community health centers (CHCs), ClinicNET affiliated clinics in SNIMS database and number of patients by ZIP code, 2007
Colorado Health Institute
Safety net provider site types
Other community-based health and residency clinics (ClinicNET affiliated)
Community health centers
Number of patients by ZIP Code
None reported
1 - 1,000
1,001 - 5,000
5,001 - 10,000
>10,000
Source information:
ClinicNET patient counts come from the CHI 2007 ClinicNET Safety Net Survey. Data reflect the patients home address. Two ClinicNET affiliated clinics reported patients (1,124) at the county level, and were ommited from this map.
CHC patient counts come from the 2007 UDS roll-up report.
Provider addresses were collected and geocoded by the Colorado Health Institute, March 2009.
Metro Denver
MOFFAT
ROUTT
JACKSON
LARIMER
WELD
LOGAN
SEDGWICK
PHILLIPS
MORGAN
RIO BLANCO
GRAND
BOULDER
BROOMFIELD
GILPIN
ADAMS
WASHINGTON
YUMA
GARFIELD
EAGLE
CLEAR CREEK
JEFFERSON
ARAPAHOE
SUMMIT
DOUGLAS
ELBERT
KIT CARSON
PITKIN
LAKE
PARK
MESA
DELTA
TELLER
EL PASO
LINCOLN
CHEYENNE
GUNNISON
CHAFFEE
MONTROSE
FREMONT
CROWLEY
KIOWA
OURAY
SAN MIGUEL
SAGUACHE
CUSTER
PUEBLO
OTERO
BENT
PROWERS
DOLORES
SAN JUAN
HINSDALE
MINERAL
RIO GRANDE
ALAMOSA
HUERFANO
MONTEZUMA
LA PLATA
ARCHULETA
CONEJOS
COSTILLA
LAS ANIMAS
BACA
Map prepared by the
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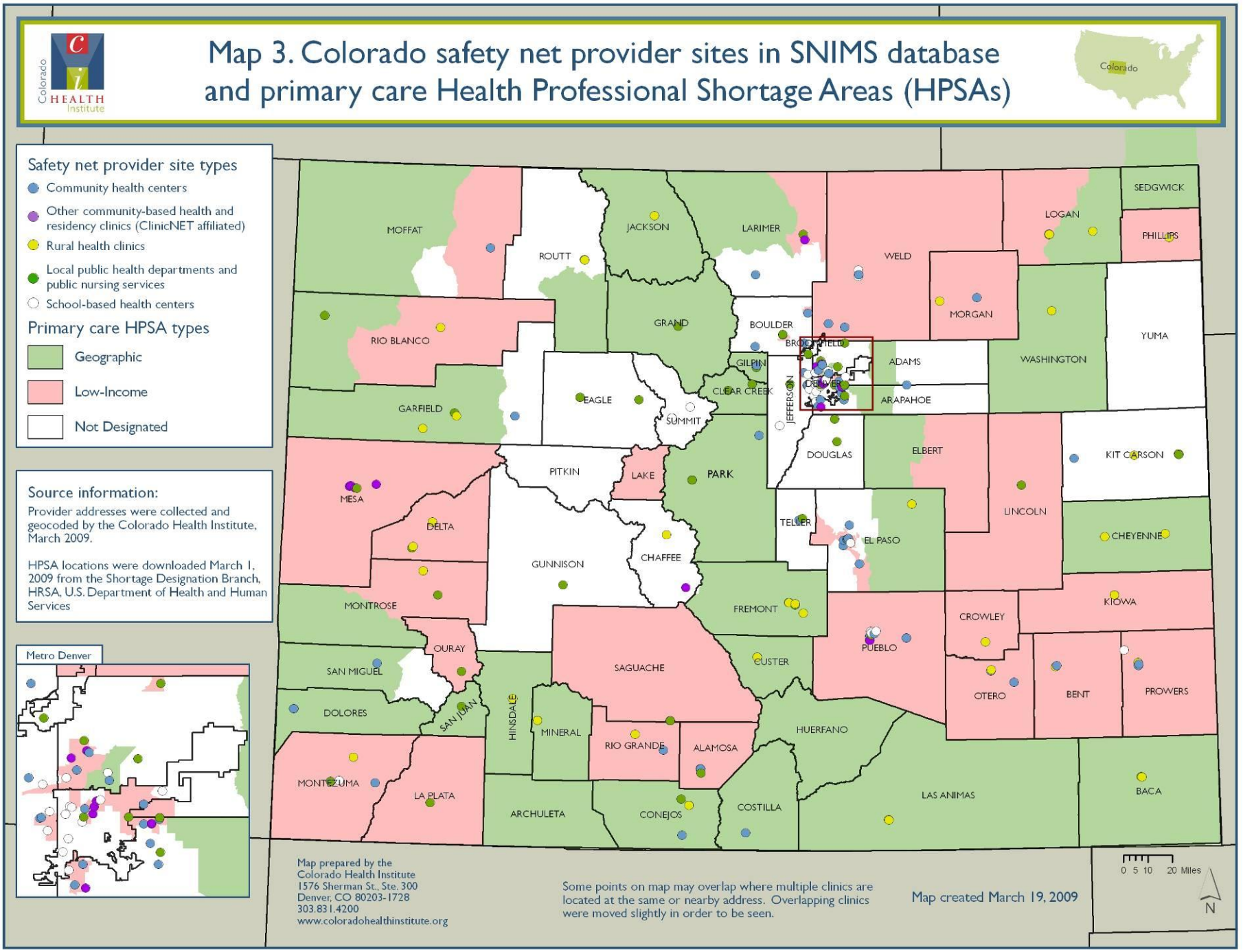
www.coloradohealthinstitute.org
Some points on map may overlap where multiple clinics are located at the same or nearby address. Overlapping clinics were moved slightly in order to be seen.
Map created March 17, 2009
0 5 10 20 Miles
N


Map 3. Colorado safety net provider sites in SNIMS database and primary care Health Professional Shortage Areas (HPSAs)
Colorado
Colorado Health Institute
Safety net provider site types
Community health centers
Other community-based health and residency clinics (ClinicNET affiliated)
Rural health clinics
Local public health departments and public nursing services
School-based health centers
Primary care HPSA types
Geographic
Low-Income
Not Designated
Source information:
Provider addresses were collected and geocoded by the Colorado Health Institute, March 2009.
HPSA locations were downloaded March 1, 2009 from the Shortage Designation Branch, HRSA, U.S. Department of Health and Human Services
Metro Denver
MOFFAT
ROUTT
JACKSON
LARIMER
WELD
LOGAN
SEDGWICK
PHILLIPS
MORGAN
RIO BLANCO
GRAND
BOULDER
BROOMFIELD
GILPIN
ADAMS
WASHINGTON
YUMA
GARFIELD
EAGLE
SUMMIT
CLEAR CREEK
JEFFERSON
DENVER
ARAPAHOE
DOUGLAS
ELBERT
KIT CARSON
PITKIN
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CUSTER
PUEBLO
OTERO
BENT
PROWERS
DOLORES
SAN JUAN
HINSDALE
MINERAL
RIO GRANDE
ALAMOSA
HUERFANO
MONTEZUMA
LA PLATA
ARCHULETA
CONEJOS
COSTILLA
LAS ANIMAS
BACA
Map prepared by the Colorado Health Institute
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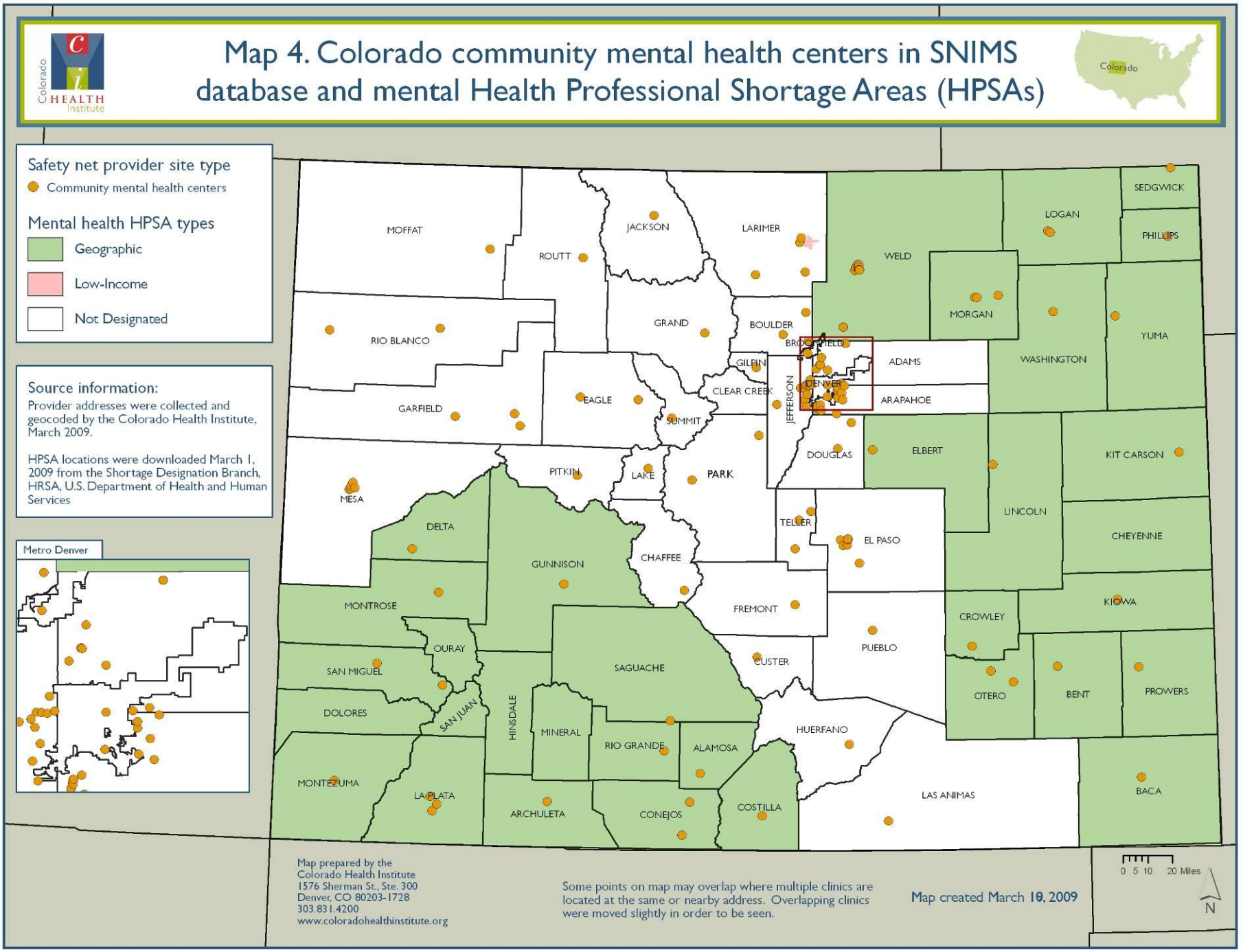
www.coloradohealthinstitute.org
Some points on map may overlap where multiple clinics are located at the same or nearby address. Overlapping clinics were moved slightly in order to be seen.
Map created March 19, 2009
0 5 10 20 Miles
N


Map 4. Colorado community mental health centers in SNIMS database and mental Health Professional Shortage Areas (HPSAs)
Colorado
Safety net provider site type
Community mental health centers
Mental health HPSA types
Geographic
Low-Income
Not Designated
Source information:
Provider addresses were collected and geocoded by the Colorado Health Institute, March 2009.
HPSA locations were downloaded March 1, 2009 from the Shortage Designation Branch, HRSA, U.S. Department of Health and Human Services
Metro Denver
MOFFAT
ROUTT
JACKSON
LARIMER
WELD
SEDGWICK
LOGAN
PHILLIPS
MORGAN
YUMA
WASHINGTON
RIO BLANCO
GRAND
BOULDER
GILPIN
ADAMS
ARAPAHOE
DENVER
JEFFERSON
CLEAR CREEK
GARFIELD
EAGLE
SUMMIT
DOUGLAS
ELBERT
KIT CARSON
LINCOLN
CHEYENNE
PITKIN
LAKE
PARK
MESA
DELTA
TELLER
EL PASO
GUNNISON
CHAFFEE
FREMONT
CROWLEY
KIOWA
MONTROSE
OURAY
SAN MIGUEL
SAGUACHE
CUSTER
PUEBLO
OTERO
BENT
PROWERS
DOLORES
SAN JUAN
HINSDALE
MINERAL
RIO GRANDE
ALAMOSA
HUERFANO
MONTEZUMA
LA PLATA
ARCHULETA
CONEJOS
COSTILLA
LAS ANIMAS
BACA
Map prepared by the Colorado Health Institute
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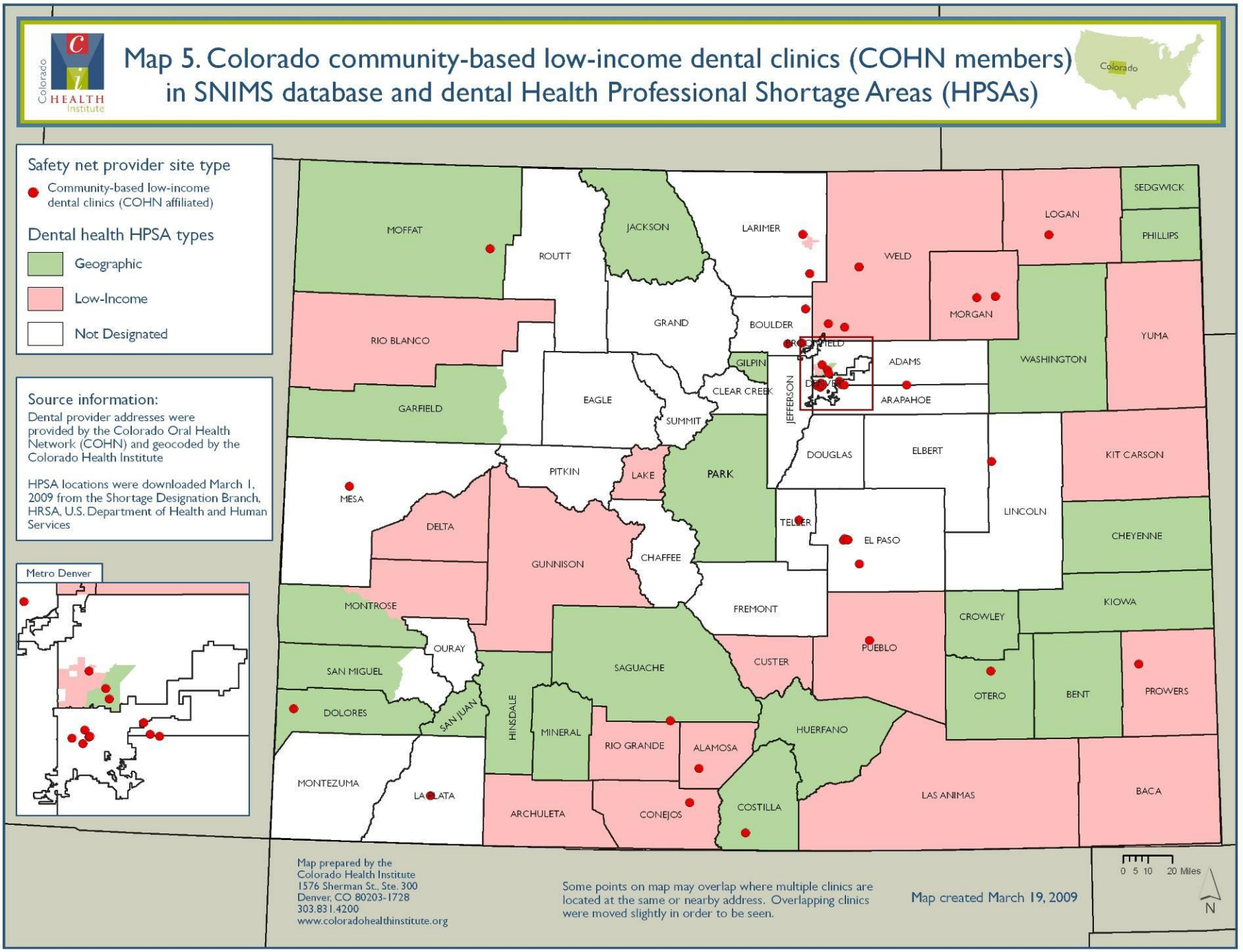
303.831.4200
www.coloradohealthinstitute.org
Some points on map may overlap where multiple clinics are located at the same or nearby address. Overlapping clinics were moved slightly in order to be seen.
Map created March 10, 2009
0 5 10 20 Miles
N


Map 5. Colorado community-based low-income dental clinics (COHN members) in SNIMS database and dental Health Professional Shortage Areas (HPSAs)
Colorado
Colorado Health Institute
Safety net provider site type
Community-based low-income dental clinics (COHN affiliated)
Dental health HPSA types
Geographic
Low-Income
Not Designated
Source information:
Dental provider addresses were provided by the Colorado Oral Health Network (COHN) and geocoded by the Colorado Health Institute
HPSA locations were downloaded March 1, 2009 from the Shortage Designation Branch, HRSA, U.S. Department of Health and Human Services
Metro Denver
MOFFAT
ROUTT
JACKSON
LARIMER
WELD
LOGAN
SEDGWICK
PHILLIPS
MORGAN
RIO BLANCO
GRAND
BOULDER
GILPIN
CLEAR CREEK
ADAMS
ARAPAHOE
JEFFERSON
DENVER
BROOMFIELD
WASHINGTON
YUMA
GARFIELD
EAGLE
SUMMIT
PARK
DOUGLAS
ELBERT
KIT CARSON
MESA
PITKIN
LAKE
DELTA
GUNNISON
CHAFFEE
TELLER
EL PASO
LINCOLN
CHEYENNE
MONTROSE
OURAY
FREMONT
CROWLEY
KIOWA
SAN MIGUEL
SAGUACHE
CUSTER
PUEBLO
OTERO
BENT
PROWERS
DOLORES
SAN JUAN
HINSDALE
MINERAL
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HUERFANO
MONTEZUMA
LA PLATA
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LAS ANIMAS
BACA
Map prepared by the Colorado Health Institute
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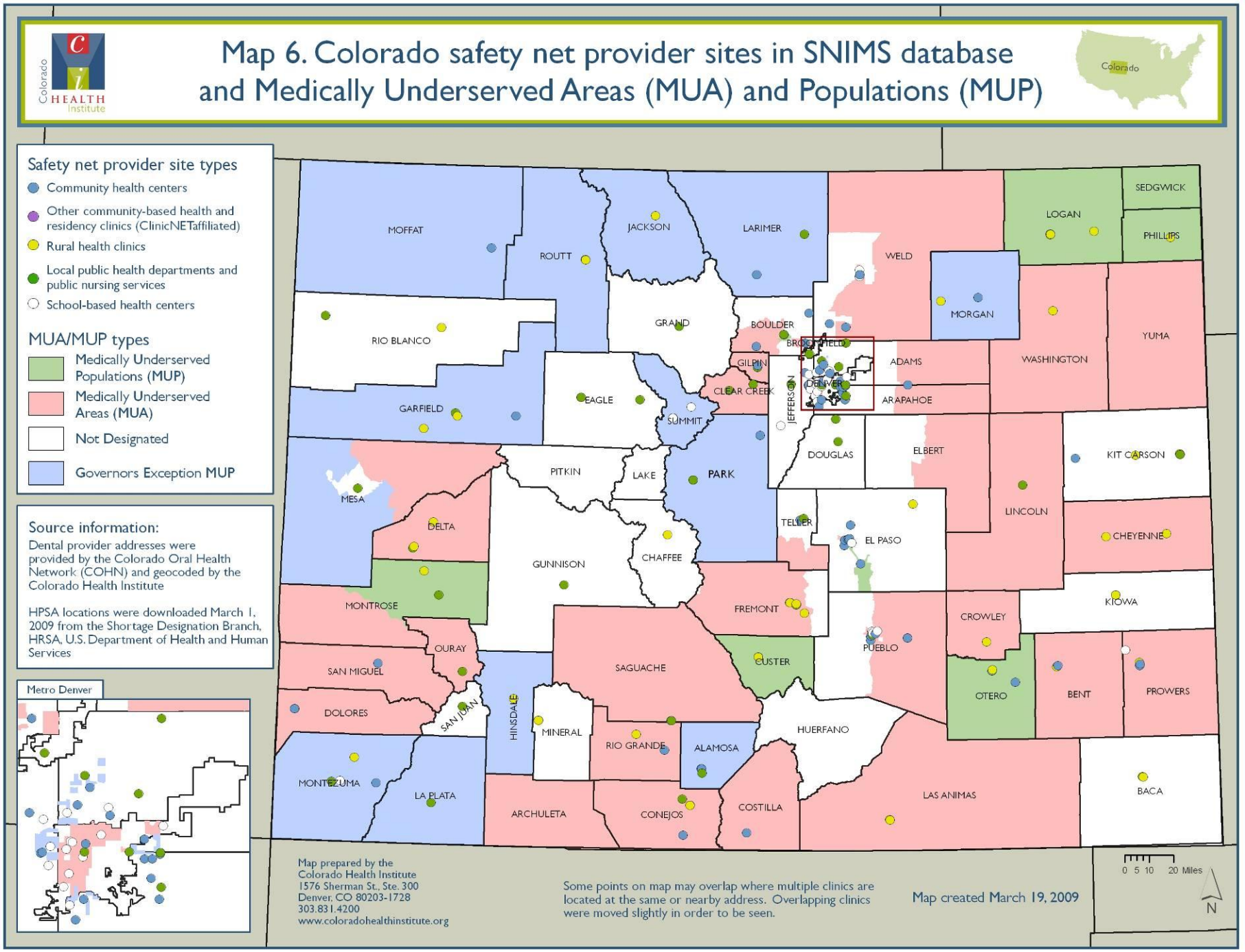
Some points on map may overlap where multiple clinics are located at the same or nearby address. Overlapping clinics were moved slightly in order to be seen.
Map created March 19, 2009
0 5 10 20 Miles
N

Map 6. Colorado safety net provider sites in SNIMS database and Medically Underserved Areas (MUA) and Populations (MUP)



Appendix B.

Table 5. Safety net clinic representation and reporting period in this report

Clinic Type	Source	Reporting period	Number of sites represented in the data (n)	Percent of sites represented in data (response rate)*
Community health centers	HRSA Roll-up Report and CCHN Access database	CY 2007	119	119/119 = 100%
Other community-based clinics	SNIMS data collected through ClinicNET survey	CY 2007 (Revenue data from FY 2006-07)	10	10/21 = 48%*
Family practice residency clinics	SNIMS data collected through ClinicNET survey	CY 2007 (Revenue data from FY 2006-07)	7	7/11 = 64%
School-based health centers	SNIMS data collected through CASBHC survey	2006-07 school year	38	38/38 = 100%
Rural health clinics	CHI rural health clinic assessment and Rural Health Center survey	2005 (insurance data available for 2007)	35	35/46 = 76%
Local public health departments and public nursing services	CALPHO data collected for NACCHO survey	2005	49	49/64 = 77%
Dental safety net clinics	COHN data	2007	51	51/52 = 98%
Community mental health centers	CBHC data	2007	182	182/182 = 100%

* Cells with an asterisk (*) represent an estimate.