Colorado Health Institute

Rural Health Clinics:

An Assessment of Data Capacity

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INTRODUCTION

It is not uncommon for discussions about rural health care in Colorado to elicit a wide-ranging set of opinions. Conspicuously absent from many of these discussions are reliable, objective data by which to test long-held assumptions. Despite numerous data collection efforts at the community level and grant initiatives whose reach extends to rural areas of Colorado, there is an inverse relationship between health care providers' distance from Denver and the amount and quality of data available from these providers. This is especially the case with regard to federally designated Rural Health Clinics (RHCs).

The collection, analysis and dissemination of uniform data from RHCs could serve the clinics well and better inform health policy decisionmaking at both the state and local levels. A uniformly collected RHC dataset should include information about clinics' physical infrastructure, staffing configuration and their data collection and reporting capabilities. Knowledge about these dimensions of RHC operations would inform the development of public and private funding criteria that depend on clinic-level data for resource allocation purposes. For RHC administrators, the ability to collect uniform program and patient data would greatly enhance overall data quality and reduce the redundancy of data requests made by various public programs and private philanthropy.

This report is the culmination of a data assessment effort conducted by the Colorado Health Institute (CHI) whose goal was to begin the process of improving RHCs' data reporting capabilities. In cooperation with the Colorado Rural Health Center, MGMA Inc. and The Colorado Health Foundation, CHI staff conducted in-person interviews and collected test data from Colorado's RHCs to provide baseline information about the state of rural health care delivery in Colorado. We hope readers will find the findings from these interviews useful and that they will contribute to a more informed dialogue about rural health care policy issues in the state.

Pamela Hanes

Pamela P. Hanes, PhD
President and CEO

ACKNOWLEDGMENTS

As with our earlier ClinicNet report, various members of the Colorado Health Institute (CHI) staff were involved in carrying out this project. Erik Nesse, 2005 Colorado College Fellow, served as the team leader and interviewer. Over a period of several months in 2006, Erik traveled more than 6,000 miles to interview officials at 39 of Colorado's 44 Rural Health Clinics (RHCs). When his interviews were completed, and before leaving CHI in fall 2006 for a year of teaching in France, he created a database of information about RHCs and wrote the first draft of this report. Erik also supplied CHI with a portfolio of his photos of rural landscapes and health clinics, some of which appear in this report.

Michael Boyson, CHI director of health information; Pamela Hanes, president and CEO; and Sherry Freeland Walker, director of communications edited the report. Kindle Fahlenkamp-Morell, senior communications specialist, provided graphic design.

CHI would especially like to thank the Colorado Rural Health Center staff for assisting with interview logistics and The Colorado Health Foundation and MGMA for use of their information technology survey. In addition, we would like to thank all of the individual clinic representatives who participated in the data collection process. Without their time commitment and willingness to take part, this important information analysis and dissemination project would not have occurred.

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EXECUTIVE SUMMARY

In the summer of 2006, staff of the Colorado Health Institute (CHI) conducted interviews with clinic staff of 39 of the state's 44 Rural Health Clinics (RHC). The interviews were designed to assess each clinic's capacity to collect and report uniform patient-level data.

Interviewees were asked about their ability to collect and report two specific types of data: (1) those required by the federal Health Services and Resource Administration (HRSA) of all community health centers receiving federal grants; and (2) data required to apply for monies from the Primary Care Fund (PCF) established by the tobacco tax increase mandated in Amendment 35 to Colorado's constitution. Clinic staff representatives also were asked to take part in an information technology assessment survey developed by The Colorado Health Foundation and MGMA, Inc.

The overall assessment found that no RHC could track or report on all of the data elements requested. Lack of staff resources and/or time and technological barriers were cited as the primary reasons. Because many RHCs are the only medical provider in a geographic area sometimes exceeding 50 square miles, and because staff resources are limited, collecting data for purposes other than those required for reimbursement purposes is not a high priority.

FINDINGS: PATIENT DEMOGRAPHIC DATA

Interviewees were asked whether their clinic routinely collects and can report demographic information about its patients including age, gender, ZIP Code, county of residence, race/ethnicity, primary language spoken at home, income and source of payment. The study found that certain types of data are more likely to be collected than others and that it is easier for clinics to collect than to report data.

- All clinics collect age, gender and ZIP Code data on their patients, but a significant number cannot or did not know whether they could produce a data report and fewer still could produce a HRSA compatible report of these data.
- The majority of clinics can produce a report on full-time equivalent staffing and clinical encounters by provider type.
- Most clinics collect patient income data, although fewer do so specifically for their self-pay patients or those with high-deductible health plans (both reporting requirements for PCF funding).
- While all clinics collect information on payer source, few could produce a report on the number of patients by payer source and only half of those could do so by unduplicated patient count.
- Patients' race/ethnicity and primary language spoken are most often not collected and few clinics have the ability to report these patient characteristics. Ten clinics reported collecting race and ethnicity data on at least some of their patients, but only half of these could produce a report. Seven clinics reported that they collect patient information on primary language spoken.

FINDINGS: TECHNOLOGY ASSESSMENT

The technology assessment survey was completed by only 28 clinics, a smaller participation rate than the larger project. Nevertheless, the responses provide a snapshot of the IT status of Colorado's RHCs.

The interviews would suggest that few resources are available to RHCs for IT purposes. For example, only one clinic reported having dedicated IT staff support, while 15 reported sharing their IT function with a parent organization. The average technology-related expenditure was about one percent of a clinic's total budget. Seven clinics reported having electronic medical record (EMR) software. Staff from 19 clinics said they could produce summary statistics on a patient at the time of visit in spite of not having this technology.

When asked what their priorities would be if they could enhance their IT functions over the next couple of years, interviewees most often cited a referral authorization and tracking system, followed closely by a chronic disease management and/or immunization tracking system and purchase of EMR software. Interviewees listed lack of capital to purchase new health IT or upgrade an existing system as the biggest barrier in their efforts to implement a fully functional IT system. The data suggest that clinics would increase their IT use were they not limited by capacity, time and resource constraints.

AMENDMENT 35

CHI examined the data reporting requirements of the PCF to understand whether RHCs were generally "data ready" to apply for these funds. The assessment found that most clinics were not ready at the time the interviews were conducted.

Only four clinics reported having all the data and documents needed to be eligible to apply for funding. The average clinic had many reporting issues to resolve, ranging from small issues such as having a signed agreement with another provider to larger ones such as implementing a quality assurance plan.

Specific data reporting requirements and clinic readiness factors include:

- 25 of the 39 clinics use a sliding-fee schedule for self-pay patients.
- 18 have a process in place to evaluate patient eligibility for Medicaid, the Colorado Indigent Care Program (CICP) and the Child Health Plan Plus (CHP+).
- 10 clinics were able to produce an unduplicated patient count, and 23 said they could produce such a report.
- Few clinics were able to verify that at least 50 percent of their unduplicated patients were self-pay or uninsured with incomes below 200 percent of the federal poverty level (FPL).

OPTIONS AND OPPORTUNITIES

Findings from the CHI data assessment project suggest a number of options that could be made available to RHCs to assist them in improving their data collection and reporting systems. These options include:

- *Targeted funding for IT infrastructure* – Current foundation funding initiatives are available to provide financial support to clinics for the purchase and implementation of an IT infrastructure.

- *Circuit-riding regional IT specialists* – Mobile IT support staff could work with a group of RHCs in a geographic region, thus maximizing the limited resources available for IT adoption and technical assistance, especially in sparsely populated rural communities.

- *Centralized data warehouse/clearinghouse* – Establishing a data warehouse or clearinghouse capable of storing data and retrieving patient-level data for reporting and quality improvement purposes would benefit individual clinics as well as the network of RHCs around the state.

- *Formation of an RHC Association* – A Rural Health Clinic Association could serve as the sponsor of a data clearinghouse as well as advocate for the IT needs of its members.

PROJECT DESCRIPTION

In pursuit of a uniform Rural Health Clinic (RHC) database, the Colorado Health Institute (CHI) in the summer of 2006 completed an assessment of the data collection and reporting capabilities of RHCs and documented these efforts for 39 of the state's 44 RHCs. The study's overarching goal was to assess RHCs' ability to collect and report uniform patient-level data. The CHI study had three primary objectives:

1. Gather basic information about RHCs' data collection and reporting capabilities, particularly their ability to collect data that conform to those collected by Federally Qualified Health Centers (FQHCs) as part of the federally mandated Uniform Data System (UDS). A subset of UDS data has been identified by CHI to serve as benchmark data for all safety net clinics participating in the Safety Net Indicators and Monitoring System currently under development.

2. Solicit RHC participation in an information technology (IT) assessment survey developed by The Colorado Health Foundation and MGMA, Inc. The IT survey included questions about each clinic's management information system and its information technology capacity (both hardware and software). In addition, information was gathered related to each clinic's IT system needs.

3. Assess RHCs' capacity to meet the data reporting requirements of the Amendment 35 Primary Care Fund (PCF). Each RHC was asked a series of questions to determine its current ability to meet the data collection and documentation requirements established in the enabling legislation and regulations governing the disbursement of primary care funds. The PCF is a new source of state funding designed to offset a portion of the uncompensated health care costs incurred by primary care providers for whom at least 50 percent of their patients are uninsured, medically indigent or enrolled in the Medicaid or CHP+ programs.

STUDY METHODS

The study was conducted over the course of 13 weeks during which CHI staff completed key informant interviews with representatives from 39 Colorado RHCs. Interviews predominately were conducted on-site at each clinic location, resulting in approximately 6,042 miles traveled and more than 90 hours of one-on-one interviews. Three interviews were conducted over the telephone. Each interview consisted of a standardized interview protocol. In addition, clinic representatives were asked to fill out one or more questionnaires and return them to CHI after the interview.

Interviewees participating in the study consisted primarily of clinic administrators or office managers, although an occasional chief financial officer, medical director or other clinic personnel participated. The IT questionnaire usually was filled out by the individual interviewed, but in some cases it was delegated to another member of the clinic staff. Interview responses were electronically entered into a database at the time of the interview. CHI staff also entered information provided on the written questionnaires into the database.

All data were self-reported. Frequency distributions, averages and cross-tabulations were used to analyze and display the findings. The data were not weighted.

Most data were entered in a numeric format, e.g., 1=yes and 0=no. It should be noted that numeric codes do not fully account for the range of responses provided to each question and that some specificity is lost when converting responses into a numeric format. In addition, some interviewees provided "educated guesses" as opposed to exact counts in response to certain data-based questions, either because the data did not exist or they were not currently being reported.

WHAT IS A RURAL HEALTH CLINIC?

Rural Health Clinic (RHC) is a federal designation that applies to a primary care clinic located in a non-urbanized area that has been designated as such by the federal government. An RHC can be a freestanding, independent clinic or one owned and operated by a hospital, hospital district or other institutional entity; likewise, it can be operated as a for-profit or nonprofit organization. RHCs are not required to adhere to a particular organizational structure in the same way as Federally Qualified Health Centers (FQHCs).[1]

In general, an RHC:

- Must be located in a non-urbanized area, usually a county wholly designated as rural or frontier
- Must operate in a designated medically underserved area (MUA), health professional shortage area (HPSA) or a governor-designated shortage area[2]
- Must employ a mid-level provider (nurse practitioner or physician's assistant) for at least 50 percent of the time the clinic is open
- Must provide outpatient primary care services
- Must have a physician providing medical direction at least once in every two-week period

Clinics designated as RHCs receive cost-based reimbursement for services rendered to Medicare and Medicaid patients. In the absence of cost-based reimbursement, a primary care clinic is reimbursed on a fee-for-service basis using a schedule established by the Centers for Medicare and Medicaid Services (CMS).

As an alternative to this fee-for-service schedule, RHCs and FQHCs receive an *all-inclusive reimbursement rate* (AIRR) for each face-to-face patient encounter. This fixed amount applies whether an encounter involves one or 10 billable services. Each clinic's AIRR is calculated based on its actual historic costs and includes such expenses as rent, electricity and other fixed expenses. Cost-based reimbursement can be advantageous to clinics because they often are not able to cover their costs under CMS' geographically based fee-for-service schedule.

RHCs are often the only source of medical care available in a community. In some cases, they are the only medical provider in a 50-mile or greater geographic radius. In other cases, an RHC may be located in close proximity to other primary care providers such as community health centers, local public health departments, private practices or other primary health care resources. Viewed in the aggregate, RHCs make up a highly heterogeneous group in terms of organizational structure and affiliation.

Twenty-four of Colorado's RHCs are owned or operated by a hospital or hospital district. These hospital-based clinics (also called "provider-based") often have a close relationship with their parent organization and share resources, including IT resources. Some RHCs enjoy state-of-the-art telecommunications and facilities, while others endure cramped space and aging structures that beg for renovation. Services vary by RHC as does each clinic's operating philosophy and policies. In short, no two RHCs are alike.

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[1] For a description of FQHC organizational requirements, see *Comparison of the Rural Health Clinic and Federally Qualified Health Center Programs*; U.S. Department of Health and Human Services Health Resources and Services Administration, revised June 2006. http://www.ask.hrsa.gov/downloads/fqhc-rhccomparison.pdf.
[2] These shortage area designations are defined at http://ruralhealth.hrsa.gov/RHC/Jordan05text.htm (accessed from the Web, March 13, 2007)

RHC FACTS AND FIGURES

A snapshot of Colorado's RHC budgets, patients and staff reveals:

- The average total budget is $675,000 with a range of $48,595 to $2,501,957.
- The average RHC sees approximately 2,500 patients annually, accounting for around 8,500 visits. Patient counts range from 213 to 6,982 and annual clinic visits range from 540 to 20,807.
- In the aggregate, RHCs saw an estimated 111,000 patients in 2005, accounting for 374,000 visits.
- The average RHC employs 10 full-time staff equivalents (FTEs) with hospital-based clinics being more likely to have in excess of 10 FTEs and free-standing clinics having less. In total, FTEs across the clinics range from 0.87 to 28.16.
- Of the average 10 FTEs, four are administrators or administrative staff and six are medical providers (a combination of physicians, nurses and medical assistants).
- Patients averaged 3.4 visits per year in 2005.
- The average caseload is 3,000 annual visits per each FTE medical provider (excluding registered nurses, licensed practical nurses and medical assistants).

RHC DATA COLLECTION CAPABILITIES

To better understand RHCs' ability to be eligible for public and private funding opportunities, it is helpful first to understand the clinics' current data collection and reporting capacities. This information can serve as a baseline for developing future uniform data collection tools that encompass the range of safety net providers in the state.

Each interviewee indicated that he or she could not track or report at least one of the data elements requested, citing technical hurdles or a lack of available staff time. Because many RHCs are the only medical provider in their area and staff resources are quite limited, data collection activities beyond those required for reimbursement purposes are not typically a high priority.

To assess data collection and reporting capabilities across RHCs, CHI staff asked interviewees a series of questions about the patient and clinical information they routinely collect. Interviewees also were asked whether patient and provider information was stored electronically, was queriable for generating reports, and whether the format of reportable data was compatible with that contained in the Uniform Data System (UDS). The UDS is an integrated reporting system maintained by FQHCs and submitted annually to the Bureau of Primary Health Care within the Health Resources and Services Administration for the purpose of monitoring clinic performance.

Both RHCs and FQHCs are required to fill out an annual cost report that is submitted to CMS to receive cost-based reimbursement for their Medicare and Medicaid patients. Unlike the UDS, which is based on patient counts, the cost report contains aggregated information on the number of patient encounters (visits) by Medicare and Medicaid beneficiaries in the previous year.

DATA COLLECTED

Each interviewee was asked whether his or her clinic routinely collects and can report the following demographic characteristics of its patients:

- Age
- Gender

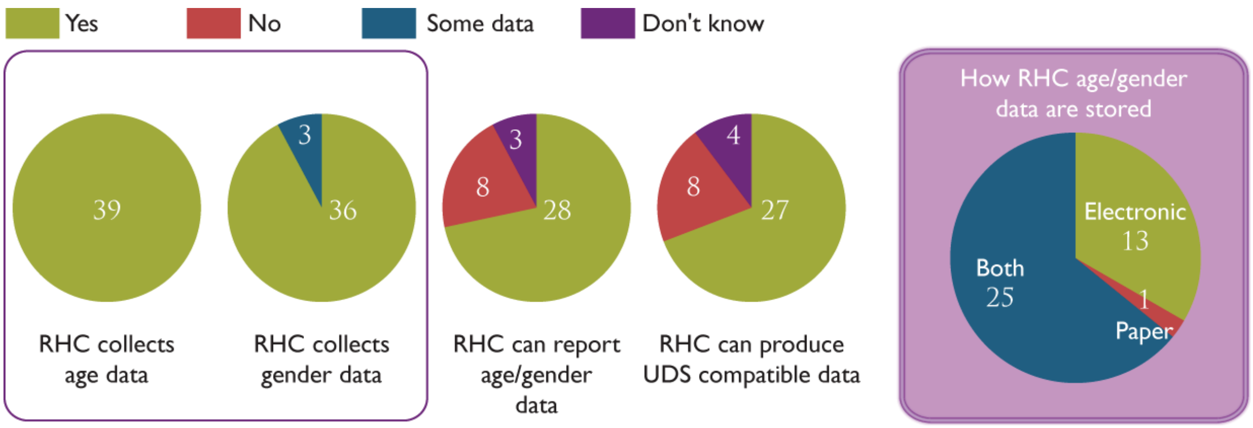
- Geographic information including ZIP Code, county of residence
- Race/ethnicity
- Primary language spoken at home
- Income
- Source of payment, e.g., private insurance, Medicaid, Medicare or self-pay

In addition, clinic interviewees were asked whether they could report FTE staff information by type of staff, clinical encounter by type of staff and other data elements required to qualify for Primary Care Fund (PCF) monies. They were further queried about whether data collected were in electronic format, paper-based or both. Finally, they were asked to produce a sample data report including patient's ZIP Code, payer mix, FTE staffing ratio and other information required for PCF eligibility.

INTERPRETING THE CHARTS

Throughout the report, the pie charts in the outlined box show the number of clinics that collect the specified data. The pie charts outside the box illustrate the number of clinics that can "report" the data in some way, including producing UDS compatible data. The pie chart in the purple box displays the formats in which the data are stored by reporting clinics.

AGE AND GENDER

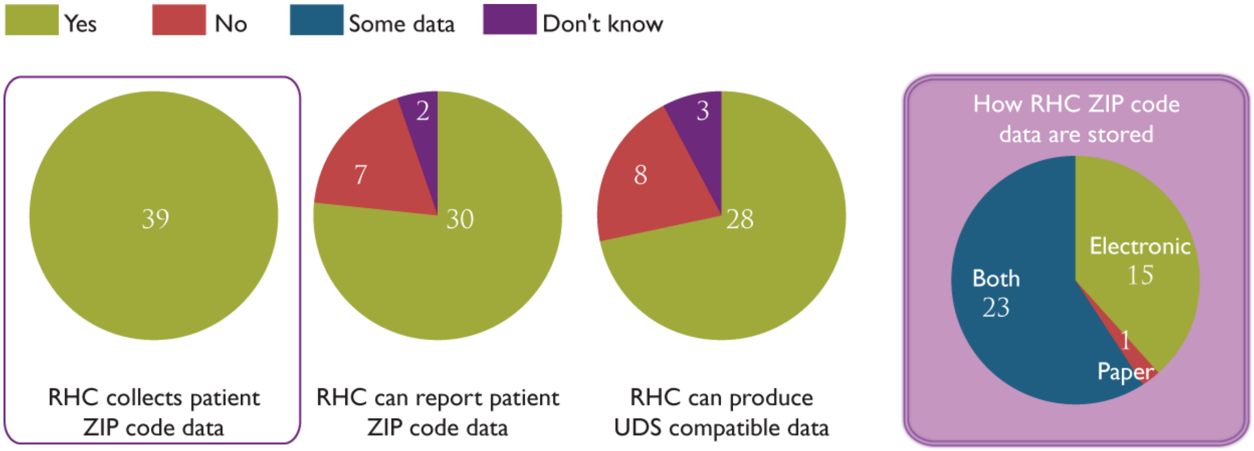


Reasons provided by clinic interviewees for not being able to generate a report on age and gender or being unable to do so in the UDS format included:

- Difficulty in reporting RHC patient information separately from the sponsoring organization's patient records
- Too much time required to learn how to use their software's reporting capabilities
- Lack of software capacity to run a report at the level of detail that the UDS requires

Almost all clinics store data in an electronic format. While it is not surprising that all clinics collect age and gender information on their patients, it is notable that 28 percent of staff interviewed reported they *could not* or *did not know* whether they could generate a report of the information collected.

ZIP CODE



RHC collects patient ZIP code data

RHC can report patient ZIP code data

RHC can produce UDS compatible data

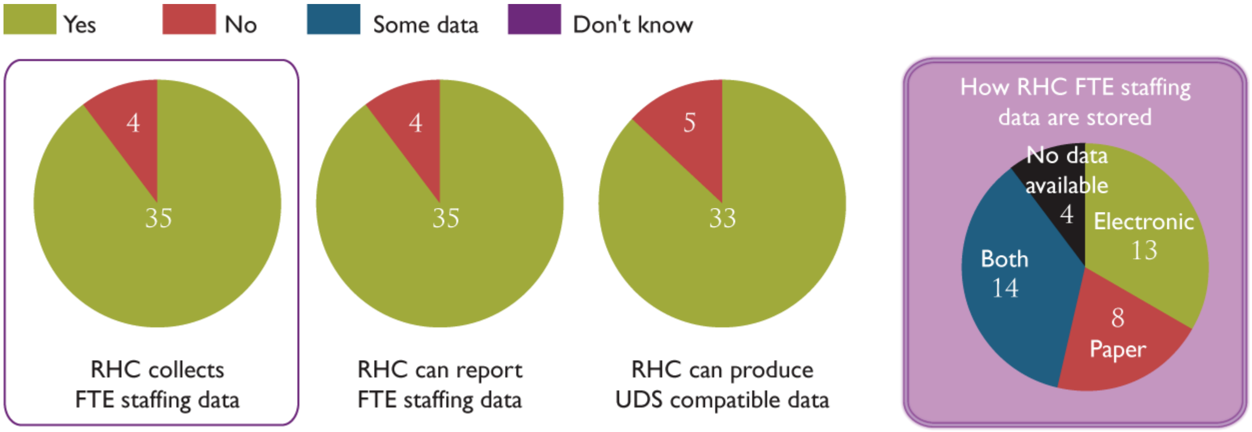
How RHC ZIP code data are stored

As with age and gender, all clinics interviewed collect patient-level ZIP Code data for billing purposes.

A number of reasons were provided as to why clinics were unable to report this information. First, interviewees were asked to provide an *unduplicated* patient count by patients' ZIP Code of residence. RHCs have not needed to track unduplicated patients for reimbursement purposes because year-end cost reports to CMS are based on *visits*, not *patients*. Twenty-eight clinics indicated they could report unduplicated patients' ZIP Codes in a UDS format, while 11 were unable to do so or didn't know whether they could produce such a report.

Other reasons cited for being unable to report patient ZIP Codes included lack of staff time or resources to run the report or lack of software capacity.

FTE STAFFING



RHC collects FTE staffing data

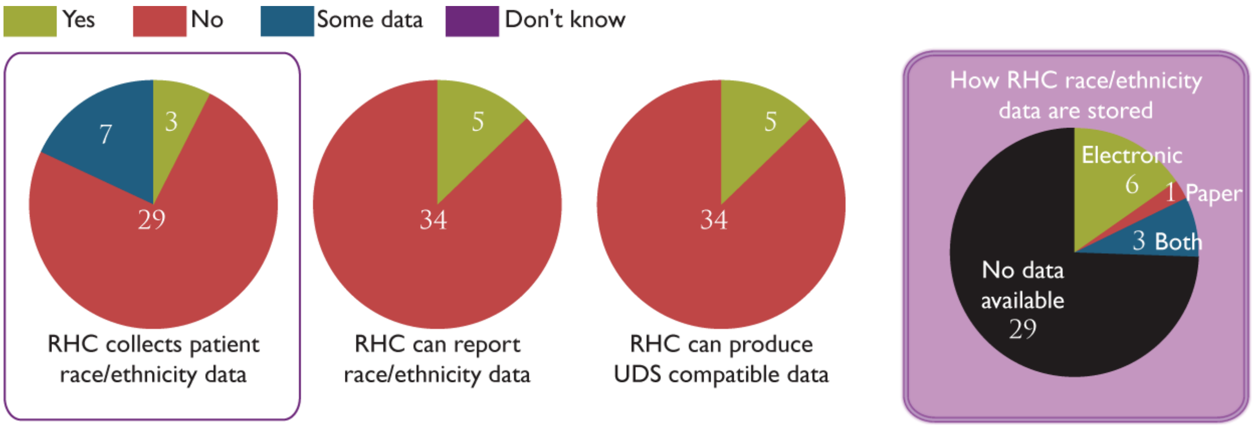
RHC can report FTE staffing data

RHC can produce UDS compatible data

How RHC FTE staffing data are stored

Four of 39 clinics indicated they do not systematically collect or report FTE staff data. While they reported currently not having staffing information in FTE format, they would be able to report FTEs either by estimating staff work effort or by converting paid hours worked into an FTE format. Collecting FTE information from RHCs appears to be a relatively easy task.

ETHNICITY



RHC collects patient race/ethnicity data

RHC can report race/ethnicity data

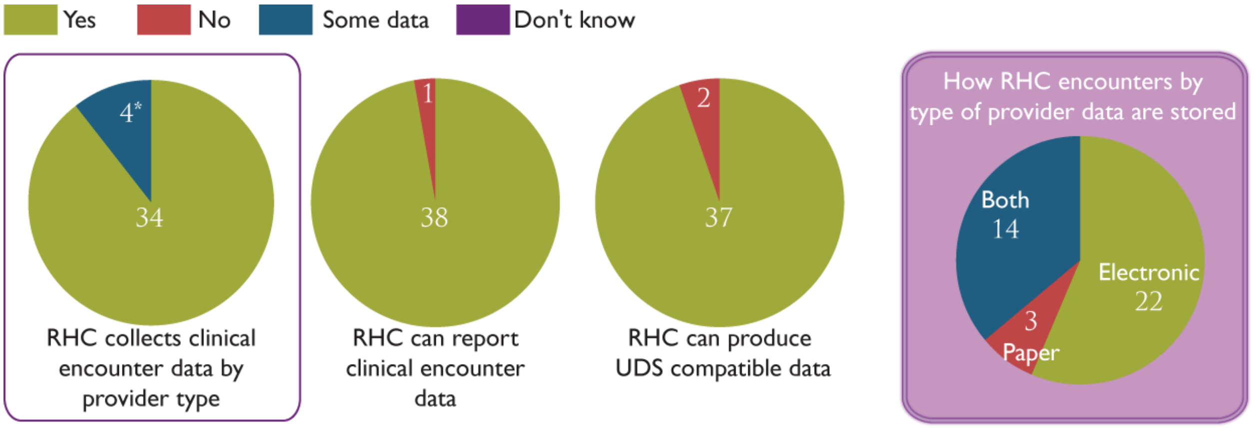
RHC can produce UDS compatible data

Patient race and ethnicity information was the second least reportable data element queried. Only three of 39 clinics reported that they maintain race/ethnicity data on their entire patient population. Seven clinics reported having this information on some patients and five reported that it would be possible to create a data report on patients' race/ethnicity. Among the most common reasons provided for not collecting race/ethnicity data were:

- There is no need to collect race and ethnicity data, therefore they have not committed resources to doing so (most common reason provided).
- Non-discrimination policies discourage the collection of patients' race and ethnicity.
- The mere collection of race and ethnicity data could be perceived as a discriminatory practice and therefore is not done.

A number of interviewees noted that their software systems have the capacity to store race/ethnicity data in patient records but currently there is no compelling reason to do so.

CLINICAL ENCOUNTERS BY TYPE OF PROVIDER



RHC collects clinical encounter data by provider type

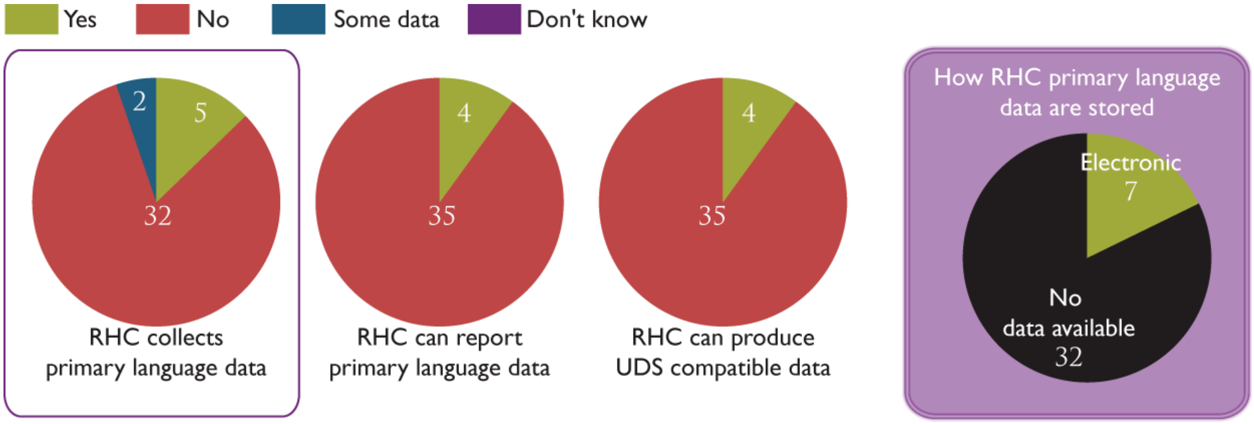
RHC can report clinical encounter data

RHC can produce UDS compatible data

*One clinic did not respond to this item

Virtually all interviewees reported that they collect data on clinical encounters by provider type in electronic format and that these numbers could be reported in a UDS format. Most interviewees indicated that this type of information is kept on an ongoing basis in one of several ways – daily log books, electronically or some combination of the two.

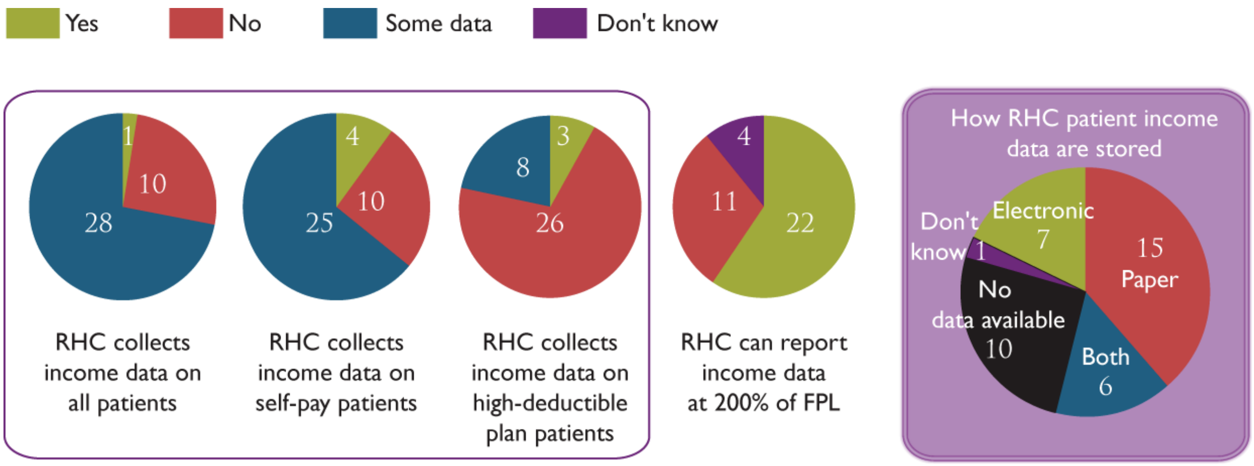
PATIENT PRIMARY LANGUAGE SPOKEN



Primary language spoken was the least available patient-level data element collected by RHCs. In the case of UDS reportable data, "primary language" refers to patients who would best be served in a language other than English. The vast majority of clinics (32) reported that no language data are collected. Three of seven reported keeping track of some primary language information but noted they couldn't produce a report of such information. Reasons that patient language data are not routinely collected include:

- There is no need to collect or report.
- Clinics that see a significant number of non-English-speaking patients typically have interpreters on staff.
- Some clinics see virtually no non-English-speaking patients, therefore collecting language data would not be an efficient use of resources.
- Most clinic staff is already informally aware of those individuals in their community that need interpretation services, thus data collection would be perceived as an inefficient use of limited resources.

PATIENT INCOME INFORMATION



The pie charts above display clinics' current capacity to collect and report patient income information. The first three charts display the number of clinics that collect income information in general and for self-pay and high-deductible plan patients (requirements of the PCF) in particular.

While a majority of clinics collect patient income data, fewer report collecting income data on privately insured patients with high-deductible health plans or on self-pay patients. This finding suggests that a small number of clinics would currently qualify for PCF dollars based on their current income data collection practices.

The most common reason provided for why income data are not available in PCF-required formats is that many patients do not provide this level of financial information because of privacy concerns. Most RHCs are located in small communities where there is little distinction between being a patient and a neighbor. Other reasons provided for limited availability of income data include:

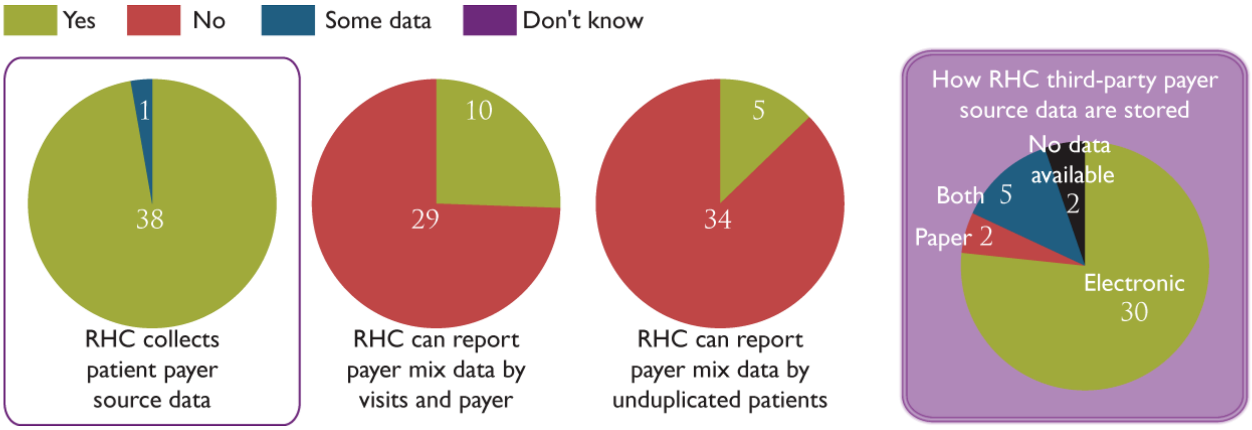
- There is no perceived need to collect income information on privately insured patients.
- Producing patient income reports would be too time-consuming and resource intensive.
- Many clinics use a code for income ranges based on their sliding-fee schedule, which may or may not be equivalent to 200 percent of federal poverty level (FPL) as specified in PCF data reporting requirements.
- Some clinics would have to manually go through patient records to produce the income report needed for PCF purposes.

Although income data are collected more frequently than race, ethnicity or language data, it was nonetheless difficult for CHI to obtain specific patient income data as required for PCF reporting purposes. Many clinics could provide a rough estimate of the number of patients believed to be below 200 percent of FPL, but only one clinic was able to produce a solid number. The 29 clinics that maintain at least some income data on patients report it at the family level as opposed to the individual patient level.

Some clinics were unable to report income data because their management information systems (MIS) are incapable of producing a report of unduplicated patients. In addition, several RHC interviewees were unsure whether the tiers in their sliding-fee schedule match the 200 percent of FPL standard.

The majority of clinics reported they would prefer to collect more complete patient income information but are limited by the capacity of their existing MIS.

PATIENT PAYER SOURCE



All clinics reported collecting payer source information on their patients. Most clinics store this information in an electronic format and a significant majority of interviewees thought that creating a payer mix report would be possible. However, only 10 clinics were able to produce a payer mix report based on actual visits by payer category. Of these, only half were able to produce a payer mix report by *unduplicated* patients.

The most common reason why clinics were unable to provide a payer mix report was a lack of time and/or available resources. It is likely that most RHCs participating in the assessment are currently capable of producing a payer mix report since they must do so for their annual cost reports to CMS, although those reports are in the aggregate rather than the individual patient level.

When the data from the interviews and questionnaires are viewed holistically, an interesting trend can be observed. In each series of pie charts as one's eye moves from left to right, a greater proportion of red (unavailability of data) fills the pie. This illustrates the practical reality that it is currently much harder for RHCs to report data than it is to collect them.

In those cases where preparing certain data reports such as the income and payer mix of unduplicated patients provides an opportunity for additional funding via the PCF or the Colorado Indigent Care Program (CICP), it is unfortunate that only a fraction of RHCs are able to produce these numbers.

Among the clinics where unduplicated patient count reports were thought possible, many interviewees indicated it would likely involve staff training or creating new reports not previously prepared with existing software. Again, the lack of staff time or staff availability pose significant barriers to reporting much of the data required to be eligible for public funds. Addressing these issues through information technology (IT) support, training and funding of the purchase of new or upgraded software would greatly enhance clinics' data reporting capacity. Responses to several data availability questions provided useful insight into what RHCs might need to begin collecting patient-level data or invest in systems that would produce reliable reports of such data.

INFORMATION TECHNOLOGY SURVEY RESULTS

As part of its exploratory study of RHCs' data reporting capacity, CHI agreed to administer a survey developed by The Colorado Health Foundation and MGMA, Inc. regarding RHCs' current and future IT capacity and needs. The response rate to the IT survey was lower (28 clinics) than that for the larger study (39); nonetheless, a sufficient number of clinics responded to provide a snapshot of the IT status of RHCs in Colorado.

Most respondents (25) to the IT survey reported that they are involved with IT decisionmaking at their clinic. In these cases, that person was the same person interviewed by CHI. Very few interviewees however, appear to be totally dedicated to the IT function. Typically, interviewees play multiple roles at their clinic.

IT INFRASTRUCTURE

Only one RHC participating in the IT survey reported having dedicated IT staff support. A number of others, mostly provider-based clinics, reported that their parent organization has IT support that includes the RHC. Only one respondent indicated having an IT person that could be considered on the clinic staff and whose time is allocated specifically to the clinic by the parent organization.

Fifteen of the 28 interviewees reported sharing their IT function with a parent organization, while 16 clinics reported having a management arrangement with another entity. Sharing the IT function with a parent organization usually entailed an arrangement in which hardware and software were purchased by the parent organization and shared with the RHC.

IT FINANCIAL RESOURCES

Most RHCs spend a relatively low percent of their overall budget on IT with the average being around one percent. The average total RHC budget in 2005 was between $675,000 and $750,000 (19 clinics). For clinics that reported both a total budget and a specific dollar amount spent on IT, the average spending on IT was two percent of their overall budget (an average of $12,000 a year).

When asked to indicate the level of influence each of the following factors had on the organization's IT spending, RHCs rated the following factors as influential:

Influence on IT spending	Average	Rank
Clinical needs	4.0	1
Business needs	4.0	2
Compliance with government regulations	3.6	3
Availability of IT grant funding	3.5	4
Service and maintenance requirements	3.4	5
Organizational expansion	3.0	6

[Responses on a scale of 1 to 5 with 1 being *very little influence* and 5 being *large influence*]

When asked the kind of Internet connectivity the clinic utilized, 24 RHC interviewees reported having a DSL or other broadband connection and three of these use a dial-up modem.

When asked whether the clinic has teleradiology (ability to transfer digital images of x-rays from one location to another), telepathology (ability to transfer digital images of pathology slides) or two-way conferencing capabilities:

- 13 RHCs reported having teleradiology
- No clinic reported having telepathology capacity
- 3 clinics have two-way conferencing, with one of them also having what they describe as tele-wound or tele-psych capabilities
- 20 clinics reported having a shared internal network

When asked whether the clinic's computers were purchased in the past two years:

- 11 clinics responded "a few"
- 8 clinics noted "some"
- 7 clinics reported "most"
- 1 clinic reported "all"

SOFTWARE CAPACITY

Twenty-three clinics reported having an accounting and/or financial management software system. When asked whether the clinic had practice management software, 26 interviewees said they did. Conversely, only seven clinics reported using an EMR. One clinic described its efforts to obtain an EMR, noting that up-front costs exceeded $100,000 and that the yearly licensing fee was $12,000, an amount deemed cost-prohibitive for the clinic. Two clinics reported using a lower-cost EMR.

Interviewees were asked whether their clinic could produce summary statistics on patients such as medication profiles and other basic health status indicators and whether these data were contained in an IT system. Nineteen interviewees reported that such information was available to their providers at the time of a patient visit, while seven reported that their IT system generated this patient information at the time of service.

IT-RELATED TRAINING

When asked if clinic staff are provided IT training, most interviewees reported that staff had multiple training opportunities available.

- 22 interviewees noted that staff dedicated to the IT function was self-taught and nine reported using written documentation provided by the IT system.
- 17 noted that more experienced staff provide training on an ad-hoc basis.
- 7 reported that staff attended a formal external training session and/or have curriculum provided by in-house staff.
- 9 reported that staff attended an in-house training conducted by a consultant or third-party vendor.
- 5 reported that staff participate in a user group.
- 12 clinics reported that IT staff have had no formal training on their IT software.

CLINIC IT NEEDS

When asked about their interest in electronic health information exchange with other organizations such as insurers, other health care providers and government, 14 clinics reported a very high level of interest, six clinics reported a high level and eight clinics reported a moderate level of interest.

When asked if new funds were made available to rate the level of need for enhanced IT functions over the next 24 months, interviewees responded:

Clinic IT Need	Average	Rank
Referral authorization and tracking system	4.2	1
Chronic disease management and/or an immunization tracking system	4.1	2
Electronic medical record software	4.1	2
Drug interaction warning system	3.8	3
IT training and technical support	3.8	3
Laboratory, radiology/imaging and/or pharmacy tracking system	3.8	3
Benchmarking with other clinics or national standards	3.6	4
Patient demographic tracking system (for government reports or grants)	3.5	5
Patient insurance coverage/public program eligibility system	3.5	5
Interconnectivity (different programs “talking” to each other)	3.4	6
Patient appointment system	3.3	7
Access to the Internet and network files	2.9	8
Budgeting/accounting system	2.8	9
Claims/billing submission system	2.8	9
Hospital admissions system	2.0	10

Clinic interviewees were asked to rate a list of barriers that have slowed or prevented them from implementing IT systems in their organization. The barriers included:

Barrier	Average	Rank
Lack of capital to implement new technologies or upgrade existing systems	4.6	1
Insufficient time to select, contract, install and implement a new IT system	3.5	2
Insufficient return on investment from IT	3.4	3
Staff lacking skills/training to use IT system	2.8	4
Inability to integrate IT components (e.g., EMR with claims/billing system)	2.8	4
Available software does not meet organizational needs	2.8	4
Lack of support from physicians and clinical staff	2.4	5
Lack of support from administrative staff	2.2	6
Security and privacy concerns	2.0	7

In sum, lack of capital, lack of time and insufficient return on investment ranked as the top three IT barriers—both on the IT survey and in respondent interviews. Security and privacy concerns ranked lowest among perceived barriers in spite of the enormity of this issue as eHealth initiatives come of age.

AMENDMENT 35 PRIMARY CARE FUND: ISSUES AND OPTIONS

Understanding RHCs' ability to report patient-level data is a useful first step in assessing their capacity to respond to funding opportunities that contribute to future financial stability and growth. For this reason, CHI chose to examine the PCF eligibility requirements as a case in point.

A primary criterion for applying for PCF money is documenting the number of unduplicated uninsured patients under 200 percent of the FPL—in 2007 this is $41,300 for a family of four. Among the RHCs interviewed for this project, limited reliable data currently are available on patient income levels. Twenty-four clinics provided either an estimate or exact count of self-pay and uninsured patients seen in 2005, but only one of these clinics was able to calculate the number under 200 percent of FPL.

PRIMARY CARE FUND DATA REPORTING REQUIREMENTS

Each clinic interviewee was asked a set of questions related to the basic data reporting requirements governing eligibility for the PCF. The time period used was calendar year 2005. Only four clinics appeared to have all documents in place for PCF eligibility. The average clinic had many data reporting issues to resolve, ranging from something as simple as having a signed agreement with another provider to documenting a rural exemption to implementing a quality assurance plan.

For this exercise, interviewees were asked about the following requirements:

- Documentation of comprehensive primary care availability
- Period of operations, i.e., year-round operations

- CHP+, Medicaid and CICP screening capacity
- Operational for a full year prior to application for funding
- Medically Underserved Area/Medically Underserved Population status
- Use of a sliding-fee schedule
- Ability to collect and report patient income and payer mix information, documenting the 50 percent threshold

For a full discussion of the PCF eligibility requirements, see the most recent PCF application document at http://chcpf.state.co.us/HCPF/primary_care_fund.asp.

Documentation of comprehensive primary care (CPC) availability

- 4 clinics reported meeting all the terms of this requirement.
- 13 clinics reported needing to put one additional agreement in place, seven clinics needed to add two, 10 clinics needed to add three agreements and five clinics needed to add four or more signed referral agreements to assure the availability of comprehensive primary care.

Of the eight types of comprehensive primary care agreements required for PCF funding, pharmacy, maternity care and lab/radiology were the most commonly identified partnerships not yet in place. More specifically:

- 30 clinics reported they could not or were unsure whether they could meet the PCF definition of adequate pharmacy coverage.
- 24 reported that their maternity care coverage likely would not meet the required standard.
- 13 clinics reported their lab and/or radiology coverage might not meet the PCF requirement.

Pharmacy coverage

Slightly more than 75 percent of clinics reported that their pharmacy arrangement likely would not meet the PCF requirement. The rules are not clear about whether it is sufficient for a clinic to provide sample medications, get patients on reduced drug-pricing programs and/or refer patients to other organizations that could assist them in obtaining needed prescriptions. Most RHCs engage in one or more of these strategies for prescription assistance.

The pharmacy coverage requirement is a major concern because of the ambiguity of the rules. Pharmacy coverage was the most mentioned and worrisome coverage agreement mentioned by interviewees. None of the RHCs in this study appear to have a signed established referral relationship with a pharmacy in their area. In many cases, this is because local pharmacists tend to be located in chain stores such as Wal-Mart and City Market where it was noted that it was unlikely that the chain would sign a reduced price or sliding-fee schedule agreement for low-income, uninsured patients. This was particularly problematic given the limited resources available in most rural areas.

It is possible for an RHC to invoke a rural exemption in this regard. Nine interviewees reported no pharmacies in their community. An additional 13 felt that they could be exempted from the sliding-fee schedule requirement because the pharmacies in their community were unlikely to agree to reduce prices for low-income patients. The rules do not provide a definition of “community” with regard to a rural exemption; therefore, the clinics' ability to qualify for such an exemption depends on their ability to document circumstances in their community.

Maternity care

Sixty-two percent of RHCs interviewed did not appear to have an agreement in place to meet the maternity care requirement under the PCF rule. The reasons were more varied than for pharmacy agreements. The greatest concern was whether there are sufficient maternity services available in the community. Some RHCs need to make a change as simple as adding a signature to a referral agreement or documenting an existing referral relationship with a local OB/GYN.

Most clinics reported having some type of arrangement in place for their patients' prenatal care and delivery. For many RHCs, however, securing these arrangements is difficult due to the absence of an appropriate provider in the community. In some areas, no OB/GYN physician or other qualified maternity care provider is available within 80 miles of the clinic. Fourteen clinics might be eligible to claim a rural exemption for maternity coverage. For the others, effectively describing how the clinic handles maternity and prenatal care may be sufficient in lieu of a signed referral agreement where no resources exist.

Laboratory and radiology

All clinics interviewed had existing arrangements in place to meet their patients' lab and radiology needs, whether in-house or by referral. Some clinics reported that referral agreements did not include a sliding-fee schedule per se, but rather long-standing referral relationships for discounts existed in lieu of a signed agreement. Most clinics either provide lab services in-house or by sending samples to Quest, LabCorp or a similar laboratory service. Provider-based RHCs typically send lab tests to their parent organization.

Primary concerns expressed by clinics with regard to lab and radiology services were whether referral agreements needed to include a sliding-fee schedule, whether signed agreements were necessary and whether they were required to provide formal documentation of such practices. Seven interviewees believed that a rural exemption would be possible because no lab or radiology providers are located in their community. Two additional interviewees believed that an exemption from the sliding-fee schedule might be possible due to the lack of low-cost lab and radiology options in their area.

Medicaid, CHP+ and CICP screening

Clinics are required to do a basic eligibility screening for CHP+, Medicaid and CICP to qualify for PCF money. The exact method for screening patients is not prescribed in rule or statute. All RHCs have a financial incentive to do this screening and therefore all interviewees reported making efforts to refer patients to local human services departments or other appropriate agencies for eligibility determination.

A mere referral is not adequate as the rules state that clinics must "evaluate eligibility for" all three programs.[3] Eighteen of the 39 clinics reported having an evaluative process in place to screen for Medicaid eligibility, 17 for CHP+ and 12 for CICP.

Sliding-fee schedule

Twenty-five of the 39 interviewees reported using a sliding-fee schedule as required by the PCF rules. A sliding-fee schedule is defined as a payment system that discounts charges based on a patient's income.

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[3] Excerpted from: FY2006-07 Primary Care Fund Application, Qualified Provider definition, p.5 at: http://chcpf.state.co.us/HCPF/primary_care_fund.asp.

Almost all RHCs reported ensuring that their patients are seen regardless of their ability to pay. The ways in which office visits are discounted include:

- A lenient collections policy akin to a payment plan (22)
- Free care (19)
- Discounts for prompt payment, usually at the time of the visit (21)

Unduplicated patient counts

PCF applicants are required to produce an unduplicated patient count for funding. Among the RHCs interviewed, 23 noted that reporting unduplicated patient counts would be possible and 10 were able to produce for CHI an unduplicated patient count for 2005.

RHCs typically record patient visits as opposed to unduplicated patient counts since number of visits is the basis upon which CMS calculates cost-based reimbursement for Medicare and Medicaid patients. Although maintaining counts of unduplicated patients had not previously been a priority for RHCs, the establishment of the PCF now provides a financial incentive for doing so.

Reasons why clinics were unable to produce a report from 2005 patient records included:

- Software systems not able to produce report
- Clinic staff not trained to run report
- Lack of time or available staff resources
- Cost associated with IT vendor producing the report

Patient payer mix

In addition to producing an unduplicated patient count, PCF applicants were also required to report payer source for each patient. These categories include: self-pay/uninsured, self-pay/uninsured with income below 200 percent of FPL, Medicaid and CHP+, Medicare and other government programs such as CHAMPUS or TRICARE. Additionally, the reporting requirements specify a separate category for insured patients whose insurance is a high-deductible plan not covering most care provided in a primary care setting.

To meet the PCF threshold eligibility requirements, at least 50 percent of a clinic's unduplicated patient count must include self-pay or uninsured below 200 percent of FPL, CICP, Medicaid or CHP+ eligible, or underinsured through a high-deductible health plan. Few RHCs interviewed were able to verify the 50 percent threshold.

The 50 percent threshold

The 50 percent threshold is the most stringent eligibility requirement and is often the major obstacle for qualifying for PCF dollars. The current inability to report an unduplicated patient count makes it difficult to estimate the extent to which the 50 percent threshold is serving as a major barrier for RHCs to qualify. Three clinics provided an unduplicated patient count report to CHI or had the capability to produce such a report; five could not produce the report with their current software; and it was not possible to assess the reporting capability of the remaining 31 clinics. The most common barrier to meeting this requirement was the unavailability of an unduplicated patient count coupled with the lack of time and resources needed to produce the report.

CURRENT CAPACITY AND FUTURE NEED

As previously noted, the greatest barrier RHCs face in qualifying for the PCF is their inability to report unduplicated patient counts. Additionally, time constraints, limited staff resources and IT capacity (including hardware, software and staff training) also are substantial barriers.

Clinic staff members were asked to discuss IT issues beyond those specifically identified in the questionnaire. Their responses are enlightening. Consistent with earlier findings, a majority (24) of interviewees noted a need for higher reimbursement rates or increased funding for IT investments. An even stronger majority (29) indicated that hardware and/or software purchases were among the greatest needs their clinic faced. The additional factors mentioned in the interviews included:

- Capital improvements to their physical plant (13 clinics) — eight of these reported needing a new facility or more space at their existing location.
- Clinician recruitment and retention (22 clinics) — 10 of these reported having unfilled staff positions, including openings for 14 providers (medical assistants, nurses, non-physician primary care providers and physicians).
- The need for policy solutions to improve access to health care in rural areas of the state (28 clinics).

In summary, funders and policymakers evaluating how best to help clinics operating in rural areas of the state should consider grants and policy solutions that increase clinics' physical capacity, assist in the recruitment and retention of clinicians, and help to improve IT capacity for data reporting and patient care management.

OPTIONS AND OPPORTUNITIES FOR COLORADO'S RHCS

As noted previously in this report, RHCs are the only provider of health care services in a community, county or multi-county service area in many rural areas of the state. These clinics are geographically isolated with limited resources resulting from constrained budgets, shortages of qualified health care personnel and a high percentage of Medicare, Medicaid and uninsured patients.

Most RHCs reported needing additional IT and staff resources to be able to produce an unduplicated patient count as currently required by the state to qualify for PCF dollars. Although the barriers facing RHCs are varied and significant, the interviews identified a range of options that could be pursued to help clinics improve their data collection capabilities.

OPTION 1: TARGETED FUNDING FOR IT INFRASTRUCTURE

One option is for public and private funders to make resources available to upgrade and improve clinics' IT capacity. For some clinics this would involve the purchase of management information and/or billing system software, while others could increase efficiency and quality of care through the purchase and implementation of EMR software. The need for interoperability between RHCs, their parent organizations and other community resources is an equally important goal in building IT infrastructure in the rural areas of the state.

OPTION 2: CIRCUIT-RIDING REGIONAL IT SPECIALISTS

Employing IT specialists with knowledge of RHC software systems to help clinics get the most from their existing IT systems is another option that should be considered. The availability of IT support staff capable of working with various clinics and different IT systems would help smaller RHCs maximize their existing or new software capabilities. Retaining circuit-riding IT staff to support some number of smaller

RHCs might be less costly than individual consultants for each clinic, and the cost could be shared across participating clinics.

OPTION 3: CENTRALIZED DATA WAREHOUSE/CLEARINGHOUSE

A third option would be to establish a centralized data warehouse/clearinghouse capable of storing complete patient-level data (with the appropriate privacy safeguards) and producing patient-level reports for each individual RHC as well as aggregate summary statistics. A trusted entity responsible for collecting, analyzing and reporting RHC data would be an efficient and less costly alternative than 44 separate patient reporting systems. Under this option, clinics could export their patient-level data via a secured Web site in a standardized format to a centralized data storage center. The vast majority of RHC interviewees thought this could be a viable option for their clinic.

OPTION 4: RHC ASSOCIATION

The fourth option that RHCs could consider is establishing a Rural Health Clinic Association empowered to organize and advocate for its membership. Incorporating the data warehouse/ clearinghouse function into the association's core responsibilities along with a centralized claims processing program is an activity worth considering. No organization currently fills this role although some clinics believe the Colorado Rural Health Center (CRHC) is close. In reality, the CRHC focuses more globally on *rural health issues* in Colorado and does not represent the specific interests of RHCs.

The need for better information from rural providers in Colorado is felt not only by providers but also by policymakers and others who shape health and health care policies and programs in Colorado. Whatever strategies are employed to improve the flow of clinical information from RHCs, momentum deriving from efforts such as this study will serve to illuminate the way to improved availability and stability of health care services in rural Colorado.

The Colorado Health Institute (CHI) is an independent, nonprofit health policy and research organization based in Denver. It was established in 2002 by Caring for Colorado Foundation, The Colorado Trust and Rose Community Foundation. CHI's mission is to advance the overall health of the people of Colorado by serving as an independent and impartial source of reliable and relevant data for informed decision-making.

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