"The Rhythms of Our Lives Have Been in Harmony"

John Tarr, MD

****retiring family physician after nearly 50 years practice in Gunnison, CO*

A grant report to the COPIC Foundation

"Perception of the Role of Community Engagement Skills in the Retention of the Rural Physician"

October 24, 2014

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EXECUTIVE SUMMARY

The provision of healthcare in rural Colorado communities is compromised by failure to retain physicians. Both community and physician satisfaction in the delivery of care is marginalized when physicians fail to engage in the community, do not attach to the community, and leave in rapid succession. With a generous grant of $21,775 from the COPIC Foundation, researchers from the University of Denver, the Center for People of Power, and the Colorado Rural Health Center joined with eleven rural Colorado communities and their physicians to evaluate their perception of the role of community engagement skill in the retention of rural physicians. In collaboration with the director of the rural track at the University of Colorado School of Medicine (UCSOM), the goal of this project was to identify educational opportunities to inform the curriculum for the rural track. What emerged from the research has been so much more. A wealth of knowledge and wisdom about community engagement is present in these communities. Defining the term is challenging, and varies individual to individual. However, basic beliefs and principles emerged from the conversations.

Fifty-one community stakeholders (non-physicians) and 17 physicians were interviewed in their communities, representing all four quadrants of the state. All sites are defined as either rural or frontier, and meet the criteria of federal Health Profession Shortage Areas. Population size ranged from 300 to 19,000. Collectively the stakeholders represented 1, 172 residential years in these communities! Physicians interviewed had practiced in the communities from 1 to 46 years. A gift of $200 was given to each community library as a thank you to the community for their participation in the project. A community identified liaison assisted in organizing the visit and selecting the stakeholders, who were interviewed within the community as groups by 2 of the researchers, Dr. Frederick and Mr. Ferris. Physicians were interviewed individually by Mr. Ferris, with the conversation recorded and transcribed.

The communities have driven the research process. A multitude of potential outcomes for the project were identified by the communities and formulated into final products with the researchers. These are presented in detailed in the full report. A community-informed medical school curriculum for rural track students was developed, and revisions made to the UCSOM rural curriculum, meeting the primary goal for the research. Several presentations have occurred in which the data has been presented. A final written and/or oral report will be presented to each community, if funding for a return visit can be secured. The physician stories, at their request, are being compiled into a Rural Physician Story of shared experiences. Other applications for the data are presented in the full report.

The research team has been deeply moved by the wisdom of the communities as pertains to the role of community engagement in the retention of their physicians. There is acknowledgement, on the other hand, by the physicians of a lesser knowledge about this role, and openness to discussion and further dialogue with their communities about engagement skill and practice. As we move into possible next steps there is opportunity to facilitate this dialogue. All members of the research team are poised to move forward and look forward to discussion with the Foundation about possible funding options.

On behalf of the team, most importantly the rural communities, we express our gratitude for the support of the Foundation. Thank you for making a difference to our communities.

Respectfully submitted by Irene Frederick, MD

The Preface – Why is this important?

Among the communities visited in this grant, one community has had no full-time, in town physician for 10 years. Another has lost 6 primary care physicians in the past year. Since we visited another site in May, they have reported losing 4 family physicians, in a community with previous retention rates as high as 75%. Something is wrong. For Colorado as a state, the 5 year retention rate currently stands at only 38.5% (CRHC). While no consistent comparable data exists nationally, reports from the University of North Carolina estimate that the retention rate nationally for loan repayment recipients, most of who are in rural setting, is similar at 40%. Neither of these figures is positive. The recruitment process for a physician is a costly and time consuming process, especially for the small rural community. Recruitment fees can range to more than $50,000 per physician. Lost revenue during a time without a physician and costs of locum tenens coverage add to the negative financial effect of losing a physician. Communities believe they have found the perfect match when they go through the recruitment process. The question remains: why don't the physicians stay?

There is abundant literature providing evidence about the ideal medical training, in clinical medicine, that students need to succeed rurally. Likewise, there is consensus about the general personality and demographic makeup of the ideal rural physician. Recruitment efforts focus on these two factors, believing this presents the ideal physician for their community. So again, why don't they stay? What is the missing link?

THE RESEARCH QUESTION

In 2011, the idea of looking at a possible missing link, the role of community engagement in rural retention of physicians, was first broached between the University of Denver Healthcare Leadership (HCL) Master's degree program and the University of Colorado School of Medicine (UCSOM) Department of Family Medicine. Basic medical educational goals for future rural physicians were being amply provided by the rural track of the department, led by Mark Deutchman, MD. Careful screening of the individuals entering into the track was in place. However, gaps were suspected in knowledge related to community relationship. We believed there was opportunity to engage in a conversation with the rural communities and physician preceptors in those communities to address areas for improvement in the rural track curriculum in the area of knowledge and skill on community engagement.

The research question was defined as: ***What is the perception among rural communities and their practicing physicians of the role of community engagement skills in the long term retention of the rural physician?***

THE COLLABORATORS

A collaboration of multiple partners was assembled to guide the project. Each member of the collaboration contributed expertise and opportunity to pursue the research question. A summary of the collaborators follows:

The Research Team:

- Irene Frederick, MD, FACOG - Dr. Frederick is an Ob/Gyn physician with years of experience in formal medical education at the level of medical student and resident training. In her current role as Academic Director for the Healthcare Leadership Master's and certificate programs at the University of Denver University College, she is engaged in educational programming for the working adult. This position places Dr. Frederick in a position to create programming regarding community engagement to communities and practicing physicians. Dr. Frederick is the principal investigator on the project, and conducted all the community stakeholder conversations with her husband, Mr. Ferris.
- Melissa Bosworth, MS - Ms. Bosworth is the Director of the Workforce and Outreach section of the Colorado Rural Health Center (CRHC). In this position she is directly involved in addressing physician retention issues for rural CO communities. The CRHC is well positioned to use the data from this project to assist communities in resolving retention problems. The Center also serves as the fiscal agent for the project.
- Perry Ferris, MA – Mr. Ferris is the Director of the Center of People of Power. His background in counseling, mentoring and spirituality supports his role as the primary interviewer with the rural physicians, and co-interviewer with his wife, Dr. Frederick, for the community stakeholders. In addition, credit for the photography in the report belongs to Mr. Ferris.
- The participating rural communities of Colorado – Eleven rural communities and their community members, including their physicians, participated:
    - Alamosa
    - Collbran
    - Craig
    - Del Norte
    - Delta/Paonia
    - Fort Morgan
    - Gunnison
    - Lake City
    - Las Animas
    - Montrose
    - Walsenburg

The support and enthusiasm for the project displayed by these communities cannot be underestimated. Each community contributed a single person who served as the liaison to organizing the community stakeholder meetings, identifying participants in those meetings and arranging the physician interviews. The communities have led, and continue to lead, the process of engaging the community in the research. Each community has brought their own experiences and opinions to the data, and continues to be involved in the implementation and dissemination plan for the outcomes from the project. We are extremely grateful to these communities.

Other collaborators and contributors:

- Mark Deutchman, MD – Dr. Deutchman is a professor of family medicine and Associate Dean of Rural Medicine at UCSOM, as well as director of the rural track for the medical students. He has extensive personal experience as a rural practitioner, years of research and teaching experience in rural medicine and is an active practitioner of family medicine at the medical school. As director of the rural track, he is able to directly implement recommendations. In his role as the Associate Dean, he also has access to change within the general medical school curriculum. Dr. Deutchman assisted in identifying the communities and physicians to include in the research.
- Patricia Greer, MBA - Ms. Greer is the Academic Director of the Leadership Organization and the Strategic Human Resources Management Master's and certificate programs at the University of Denver University College. Ms. Greer brings years of experience in city and county government interaction to the discussion. Her professional interest in community engagement is a valuable asset to the project, and to implementation of future educational models in University College on community engagement.
- Additional contributors to the research – we are grateful for the contributions these two students have made to the project:
    - Myntha Cuffy, MLIS – Ms. Cuffy is a pre-doctoral candidate in the Research Methods and Statistics PhD program at the Morgridge School of Education at the University of Denver. She contributed to the project by conducting the qualitative analysis of the data from the conversations and interviews, bringing a fresh and objective interpretation to the data.
    - Morgan Hungenberg, BS – Ms. Hungenberg is a second year rural track medical student at the A.T. Still University College of Osteopathic Medicine in AZ. She is the daughter of one of the community librarians with whom we visited during the project. Ms. Hungenberg volunteered her time over the 2014 summer to assist in tabulating our demographic data. In addition, she reviewed and incorporated the community and physician curriculum recommendations into a community informed template for rural curricula for medical students, from which the UCSOM rural track curriculum has been modified.

The Process – what we did

THE RESEARCH PROCESS

The project was designed to address experience, research and literature that has suggested that community engagement skill is lacking among physicians in many cases, and not emphasized as a skill set in medical education. Reader is referred to the original grant proposal for added detail on this literature. We proposed to ask the communities, and their physicians, for their opinions and experiences regarding community engagement skill. Was this a teachable skill, or not? If yes, how would that look? We also sought to gain knowledge about the communities' impression of the definition of community engagement. Our goal was to transform the data into revisions to the rural track curriculum to meet perceived deficits in training and knowledge. Lastly, we hoped to gain knowledge to share with communities to assist them in engaging physicians in their communities.

After initial discussions with Dr. Deutchman, we reached out to collaborate with the CRHC, and Ms. Bosworth. Working together, she and Dr. Frederick wrote the initial proposal in 2012-13, and presented the proposal to COPIC early in 2013. Funding was approved in spring 2013.

The proposal was submitted to the University of Denver IRB in June 2013 and approved as an exempt application.

Research design for this project is based on principles of community based participatory research (CBPR). While in this case the actual research question was proposed by the academic institution, problems around community engagement had been expressed by the communities for years previously in the context of the rural rotations by medical students to those communities. In that sense, the community did inform the research question.

As a first step, twelve communities were proposed to include in the project. All communities were related to the preceptor locations for the rural rotations for the University of Colorado School of Medicine (UCSOM) medical students. Each location was in a designated AHEC (Area Health Education Center) sector for Colorado, and all were Health Profession Shortage Areas by federal standards with either rural or frontier designations. (See Demographic section for more detail). Of the twelve initial communities, one withdrew from consideration due to other priorities. This community, Wray, is also the only one that also had a rural track residency in family medicine. It was ultimately decided that the elimination of Wray actually preserved the integrity of the data, as having a rural residency may have skewed the data. Two other communities, Delta and Paonia, on the list opted to consolidate into one site, as their service areas overlap. Montrose was then added to the list, to represent the southwest section of the state, leaving the project with eleven active communities.

Physicians for this project were selected based on locations where rural rotations occur. While the initial goal was to include only family physicians who precept for the student rotations, this

became impractical within the time constraints for the project. Therefore, we opened up selection to any primary care physician, including pediatricians.

Communities were approached by email, using contacts obtained within the research term. Each community was asked to select an individual with whom the research term would coordinate visits. The coordinator was then asked to select any individuals, ideally 6 to 8 per community, with an interest in physician retention. Any community member, other than physicians, was welcome at the community stakeholder conversation. The community chose a location for the meeting, and times were mutually agreed upon. The community was then asked to assist in identifying physicians for inclusions. Dr. Frederick and Mr. Ferris travelled to each location.

At the site visit, a group conversation was held with the community stakeholders, led by both Dr. Frederick and Mr. Ferris. Notes were taken. Each physician was interviewed individually by Mr. Ferris alone. These interviews were recorded with permission and transcribed.

Also in each location, a visit was made to the local library. A gift card of $200 was presented as a thank you to the community. These were warmly received. See the section on Libraries for additional detail.

After each site visit, the community was informed of the time frame expected to complete the project, and provide feedback. Thank you emails were sent to all participants. The first visit, to Craig, occurred at the end of September 2013, and last to Gunnison and Lake City in early June 2014. Because of the remote location of some sites, travel was limited during the winter months.

Data has been collated and analyzed. Qualitative analysis of the data created common themes that will be discussed later in this report. Demographic charts and templates for program revision and development have either been created, or are in preparation now. Presentations as a result of the project are reported below. No publications have yet been produced, but are anticipated following future presentations.

MEDICAL EDUCATION FOR RURAL MEDICINE

It is useful to understand the context in which preparation for rural practice currently occurs. Across the U.S. there are numerous rural tracks in medical schools. No standard approach exists, although programs, including UCSOM, have reported their curricula in national forums. There are currently no medical schools that devote the entire curriculum to rural preparation, thus preparation for rural practice is comingled with that which leads to other primary care and numerous specialty care careers. Teaching methods that might be ideal for the potential rural practitioner must fit into the overarching needs of a general medical education.

At the UCSOM, the rural track consists of rotations and lecture series that are added to the usual (and already extremely intense) medical educational tracks. In essence, the student interested in rural medicine is applying significantly more than the usual effort to his/her

education. This fact in itself could be viewed as a discouragement to pursuing rural medicine. Students spend approximately 100 additional lecture hours, as opposed to their cohorts, over the cross of medical school on topics unique to rural medicine.

Timing of rotations for non-rural preparation is not consistent with the ideal pattern for rural communities. For instance, a consistent belief from the communities, and echoed by Dr. Deutchman, is that the rural track student should begin medical school with a lengthy immersion in the rural setting. Currently this is impossible, and the first (one week) immersion does not occur until early summer at the end of the first year of medical school. The next immersion, during that summer, is for only one month. There is no further rural exposure until the summer between third and fourth year of medical school, in which a student may spend as long as three months. This is a compromise rotation, in that it incorporates 3 existing medical rotations, which are allowed to occur in the rural setting, but carry the same goals and objectives as a student taking those rotations in Denver at the medical school, who might be preparing for a neurosurgery residency. Because it does not exclusively focus on rural medicine, only 40% of the rural track students currently opt for this rotation, meaning 60% of the rural track students spend only 5 weeks out of four years immersed in the rural setting. Further complications arise when trying to adjust curricular restrictions while staying compliant with medical education curriculum standards of the Association of American Medical Colleges (www.aamc.org).

A significant finding of this project has been the lack of understanding of medical education at the community level. The community feels disconnected from the process, rarely knows when a student is going to be on a rotation in their community, and has had no input into or knowledge of the content of the material taught or how it is taught. There is a strong desire in the communities to become educated about the medical school process. A review of the medical school curriculum will be incorporated into the community reports (see Community section).

THE COMMUNITIES

The communities are named in the Collaborator section. Demographic data include community populations ranging in size from 300 (Collbran) to 19,000 (Montrose), with an average community population of 6,677. County populations for the involved communities ranged from 813(Lake City – Hinsdale County) to 147,554 (Collbran – Mesa County), that an average county population of 28,804. The population of all the counties involved represents 6.12% of the state.

Demographics of communities

A significant statistic to review is the size of service population, defined as the population size that relies on this site for basic medical services. For participating communities, service populations ranged from 750 (permanent residents, rising to 1000 for seasonal residents - Lake City) to 60,000 (Montrose). The average service population was 17,254. Of interest, the total service population for the eleven communities combined represents only 0.04% of the total population of Colorado. This number is significant when reviewing provision and utilization of resources in these communities.

Of the communities involved, only three had an institution of higher education. (Adam's State in Alamosa, Morgan Community College in Fort Morgan, and Western State Colorado University in Gunnison)

The average rate of practicing physicians in counties included was 143.05 per 100,000 citizens. They ranged from 15.9 physicians in Bent County (Las Animas) to 290.4 in Mesa County (Collbran).

Median household income for all communities fell lower than the state average of $55,530/year. They ranged from a lowest median household income of $30,655/year in Huerfano County (Walsenburg) to a high of $52,257/year in Moffat County (Craig).

An observation that can be made is that the smallest community, Collbran, shares a county with Grand Junction, yet access to Grand Junction can be difficult. However, Collbran has the longest consistent retention of multiple physicians in this group of communities.

Table 1 demonstrates the hospital affiliations in each community, and its level. Three of the eleven communities did not have a hospital. Bed size varied greatly from 17 to 75. Most of the hospitals are classified as critical access hospitals, and several are part of hospital districts with tax base support.

Community	Hospital Name	Beds	Level
Alamosa	San Luis Valley Health	49	IV
Collbran	none		
Craig	Craig Memorial Hospital	25	IV
Del Norte	Rio Grande Hospital	17	IV
Delta	Delta County Memorial Hospital	49	IV
Fort Morgan	Colorado Plains Medical Center	50	III
Gunnison	Gunnison Valley Hospital	24	IV
Lake City	none		
Las Animas	none		
Montrose	Montrose Memorial Hospital	75	III
Walsenburg	Spanish Peaks Regional Medical Center	20	IV

TABLE 1 – Community hospital availability and designation

Table 2 shows the number of beds per hospital ranging from 20-75, with the average number of beds per hospital at 38.625.

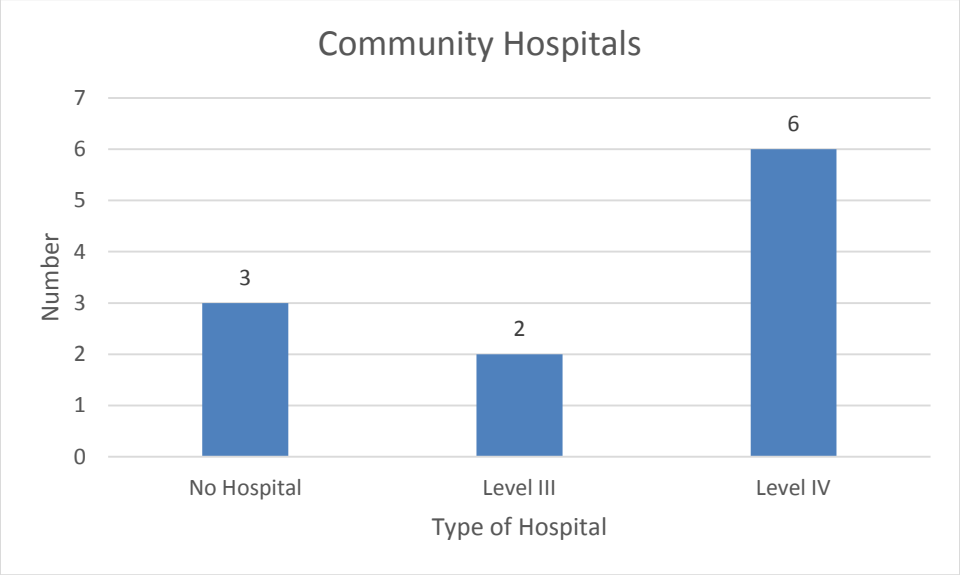

TABLE 2 – Community level and bed numbers in graph

Demographics of community stakeholders

Community conversations were generally held in hospital or government facility. Each group lasted approximately 90 minutes. Fifty-one (51) community members were included in stakeholder conversations. Among these community members, residence in that community ranged from 1 year to 83 years, with the average amount of time spent by a stakeholder in that rural community at 23.5 years. Collectively, these stakeholders represent a total of 1,172 residential years in their communities!

A range of 2 to 7 stakeholders participated in any one meeting, with an average representation of 4.45 per community. Of these, 16 were male and 35 were female. Thirty-four (34) grew up in a rural hometown, and the remainder grew up in suburban or urban areas. Twenty-four (24) were native to Colorado, and 9 of these were native to this community, one being an 83 year old rancher who lived there her entire life. Eight (8) stakeholders were retired, while 43 were actively employed. Table 3 breaks down general areas of career/employment:

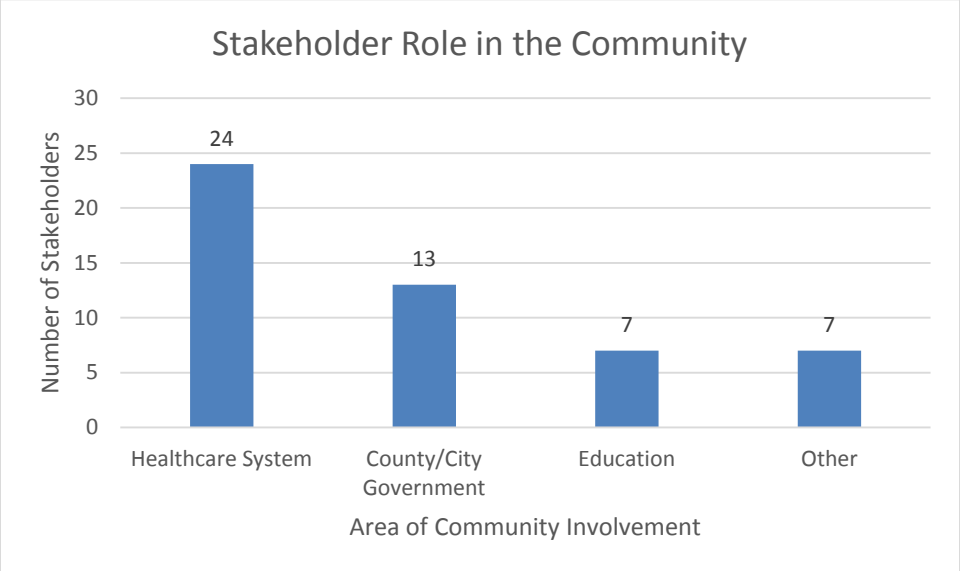

TABLE 3 – Employment/career history of stakeholders

Healthcare was represented by hospital CEO's, nurses, practice managers, public health officials, healthcare non-profits, and healthcare HR managers, hospital board members and other healthcare related careers. Government/civic affiliations included 2 county commissioners, 4 mayors, one director of Chamber of Commerce, 3 economic development directors and other civic positions. Among education, 2 are superintendents of schools, 3 town

librarians, one college president, and the other retired college professors or teachers. In the "other" category, 2 are retired ranchers, a banker, an accountant, a radio station owner, a retired gas company executive and a newspaperwoman. This broad representation reflects the community perception of who has a vested interested in healthcare. We specifically asked them not to include any physicians in the stakeholder meetings, as that may have prevented other stakeholders from stating their honest feelings about physicians.

Data analysis

Qualitative data from the project, consisting of hand written notes and demographic information, was assembled. An exhaustive qualitative analysis was performed using a technique known as "interpretive phenomenological analysis" (IPA). Characteristics of IPA include deliberately setting aside preconceived notions about the data should say in order to allows codes, or common themes to emerge, forming an idiographic stance, emphasizing the nature of data as contextual, and specific to person-in-situations. This method was chosen specifically for the persons-in-situations application and due to the widely divergent nature of the data. The notes from each community meeting were line by line categorized. Applying IPA technique, the common codes (themes) were identified.

The desired outcome was to ascertain how the community viewed or defined community engagement, and how they thought skill in community engagement could be achieved. Four distinct primary themes were identified to which the communities most commonly assigned the definition of community engagement:

- Physician role in the community/ expectations
- Physician personality
- Involvement/leadership in community activities
- Incorporation into training

Communities strongly identified participation in community activities as a definition of community engagement. However, it was clearly expressed that, in their view, engagement alone is not the answer to retention. Communities identify a process that occurs in which first the physician engages, i.e. becomes involved. This leads to building new relationships within the community. Relationship leads to trust. Lastly, trust leads to attachment. When a physician, and his/her family, feels attached to the community, the probability of a long term commitment vastly increases. See Figure 1 for a representation of this process, representing the creativity of the communities.

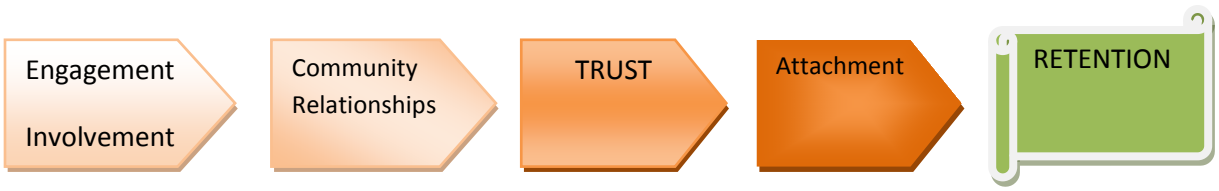

Figure 1 – THE PATH TO RETENTION

Using this model, the first skill needed is indeed community engagement. Stakeholders believed this skill was deeply embedded in personality, and thus difficult to teach. However, it is a skill that can be nurtured. No stakeholder believed this could be forced, but there was a strong belief that communities could facilitate the engagement and involvement phase of this path. They offered many suggestions, such as:

- "Don't leave your new doctor/family stranded…help them actually get involved"
- Show the physician the assets in the community and how to get involved
- Find collaborative mission between physician and community – common goals
- "Engagement can come in various ways – follow natural instincts and interest, like athletics, to engage"
- "The community must feel like your home – find your fit, build a support structure and engage with your peers"
- "Pick your passion!"

Communities also felt the physician with a sense of calling and mission was more likely to engage in the community, leading to attachment to causes and goals. In addition, it was very important to communities that "the physicians don't hate us!" Settling in to the rhythm of the town is an important concept that communities seek in their physicians. Physicians who choose not to live in the town are not felt by the community to care about the community, and thus have little chance of engaging, in their eyes.

The ideal time to begin this process of understanding engagement is during the educational phase, starting with medical school. If the path to trust begins with engagement, then educating a medical student about this path is an important skill. It is important for a student to understand that a physician must first engage, if they plan to move forward to other levels, including trust. The communities presented many ideas on how to get a medical student engaged, thus nurturing those skills. Several of these suggestions are listed here, and were incorporated into the Rural Curriculum Template, to be presented in a later section:

- At the beginning of medical school, have students pick a civic club or organization, or a board, and become fully involved over those 4 years. This activity teaches the student about community organizations at the adult level.

- During rural rotations, community members invite students to service clubs, board and council meetings, etc. and give them examples on how to get involvement…..lead by example.
- Have students do a town tour with a local realtor….they know all the nuances of living in the town and how to be involved.
- When on the initial rural rotation, have the student do a survey of resources and activities available in that town. As they go through medical school, on each standard rotation, have them pick a patient they are seeing at the University, but then pretend this patient actually lives in the small town. How would this patient's diagnosis and treatment change, and how would the physician interact within the rural community to care for this patient. In this way the student learns to be actively engaged in the choices and options available to the patient. Compare the urban and the rural experience.
- After demonstrating and facilitating skill development in engagement, just "let it happen naturally!" Support but don't force.
- Make expectations and desires of the community clear to the student. In this way, they begin to understand what "rural" truly means. Who is the community, and what is its culture …do they "wave to everyone who goes by"?

Stakeholders also held strong opinions about how education for future rural physicians should be structured. An opinion expressed in multiple locations is that immersion in a rural medical setting should occur at the very beginning of medical school. As explained in the Medical Education section above, this is not consistent with current practice, which conforms to the majority-rules training approach for medical students.

Training students in the art of listening, a skill also known as motivational interviewing was considered important. Help them learn how to show compassion, and relate to their patients. If the patient was hurt in an ATV accident, don't start the conversation with "What in the world were you doing on an ATV – don't you know that is dangerous?!" Another stakeholder said "If your patient is a rancher, ask him/her about what will happen when they move their cattle next week." Another stakeholder said "our doctor just loves to hear your story!"

We also heard many other reasons why communities believe physicians don't stay, confirming reasons supported by existing literature in areas such as spouse and family dissatisfaction, inadequate knowledge of management and business aspects of practice, and undesirable motivations for coming to the community, such inability to qualify for an urban job, or solely for loan repayment. Helping students assess these needs in advance will also help decrease rapid departure from a community.

THE RURAL PHYSICIAN

Demographics of physicians

Physician interviews were one on one with Mr. Ferris, and were held in the physician's office, with one exception. Each interview lasted approximately 45 minutes, and all but two were held over the lunch hour. Seventeen physicians are included in the physician data. Eighteen rural physicians were selected by the communities for inclusion; however one of the physicians was dropped from analysis as an outlier, due to only 5 weeks in the community. Of the physicians, 12 are family physicians, 5 are pediatricians and one is OB/GYN, represented in Table 4:

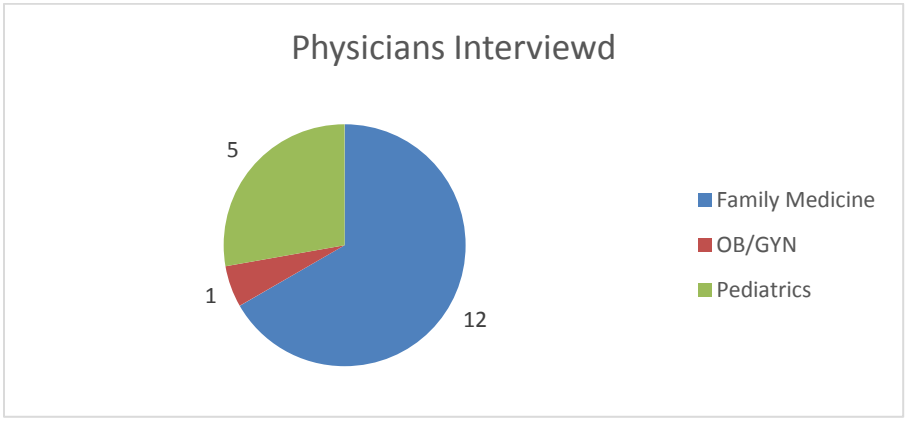

Table 4 – Physician specialty

In addition to the physicians, we were fortunate to interview one woman who embodies four generations of rural primary care, all in the same community. She is the daughter, wife and mother of family physicians. In her role of daughter, she also is knowledgeable about the earliest founding physician in this community, who began practice in 1904 and whose practice her father joined as a young physician. Her unique story will be addressed in the Rural Story.

Of the 17 physicians, length of time practicing in the community ranged from 1 year to 46 years. Twelve (12) had grown up in a rural community, and 8 in suburban or urban communities. Nine (9) physicians had a spouse who also had a career in medicine, 4 of whom are also physicians. Spouse careers included engineering, ranching, business, pharmaceuticals and

nursing. One husband/wife pair and one father/son pair is present within the physicians interviewed.

Data analysis

All interviews with physicians were audio recorded and transcribed. The same IPA method of qualitative analysis was applied to this data. Physicians were much less likely than the communities to have an immediate answer to "what is the definition of community engagement?" They tended to skirt the question by going to themes unrelated to community engagement (e.g. reasons for picking rural, finances) with which they felt comfortable. Few of them expressed any real knowledge or expertise in community engagement skills or attachment that they could articulate in any scholarly manner and most of them readily admitted that. It was interesting to watch such learned and skilled professionals stutter and stumble with the subject.

Only after considerable discussion did the physician begin to formulate an opinion about the role of community engagement. Once formulated, as opposed to the four distinct common themes of the stakeholders, the physicians had a wider range of most important themes that they use to identify community engagement:

- Community relationship
- Debts and finances
- Roles – boundaries
- Rural life and practice
- Training/preparation
- City vs. rural decision making

Physicians also clustered, but with less frequency, around these themes:

- Their path to rural medicine
- Personality type
- Peer relationships in the community
- Sense of mission/calling
- Community acceptance

A prevailing theme among physicians was either their like or dislike of living among their patients, seeing them at the grocery store, school, sports events, etc. Boundaries are a significant issue, and can affect engagement, both negatively and positively. Addressing issues of boundary in medical school rotations was felt to be very important.

Of interest, many of the physicians did not feel there was time in medical school to add education about community engagement skill. They stated that even if such classes were available, they probably would not have attended. The prevailing attitude is that there is too

much to learn already in medical school….community engagement skill can be learned "on the job".

Some physicians did, however, feel there would be value in training about grants and community programming, skills that would have adaptation to engagement in practice. One group practice has a policy of maintaining enough grant support that each of the 5 physicians can spend 1-2 days doing work within the community, outside of the office. This arrangement keeps them engaged in the community, decreases the tedious nature of daily patient visits, and provides them with opportunity to build relationship with other community groups and individuals over mutual projects.

Skilled, schooled, or not in this topic, they, at the same time, were in fact incredibly effective in the practice of community engagement and attachment. This was evident in the stories they related. However, they did not identify these practices as community engagement. Those who were not skilled and did not practice community engagement had already left the community. It could be said that these skills can be "caught" or captured in the course of living in the community. In this capturing, there are important lessons and applications for medical educators and communities to realize and implement in training and recruiting of rural providers.

It is important to note that physicians were highly desirous of knowing what the other physicians in the project had to say. They wanted to "hear those other stories". Communities in general did not make this request. We will address that request in the Rural Physician Story final product, discussed below.

THE LIBRARIES

Of extreme value to the project was the ability to include a community gift in the funding. Libraries were chosen as they represent a central gathering point in most small communities, and this gift to the library would most collectively benefit the community. In each community, a visit was made to the community library. A thank you card was presented to the head librarian in each location, along with a $200 Amazon gift card. In this way we were able to give a small token of thanks back to the community for their participation in this project. Every librarian was informed of the source of the funding, the COPIC Foundation. The response

returned was overwhelmingly positive. Three of these librarians were also present in the stakeholder meetings.

In all cases there was a warmhearted outpouring of thanks. We received thoughtful notes of thanks from the librarians. In Las Animas, the librarian called the newspaper while we were there, and got an article on the project and the gift into the paper! She later sent us a copy of this article.

A most heartfelt response was in one of the smaller communities, Del Norte. The library is a tiny house, and the librarian is the greeter to all who enter. When she was presented with the gift, tears came to her eyes. She said, "You have no idea what $200 means to this library. We need so many things, and have so little money." She came and gave us a big hug.

The ability to include the library gift was a wonderful exercise in engagement between the researchers and the communities. As a result of one visit, the librarian shared the story of the project with her daughter, who at the time was a first year medical student in a rural track, in Arizona. We received an email from this student asking if she could volunteer her time to help us over the summer. In this way, we were blessed to have Morgan Hungenberg join us. Now in her second year of medical school, she is remaining engaged in the project, and is preparing to present a poster presentation on her experience at the National Rural Health Association Meeting next spring. She also gained extensive experience in research projects, analysis and grants as a result of this association.

Lastly, we built lasting relationships with the towns via the libraries. As one of the potential outcomes of this project, we are proposing Town Meetings to report the study, using the library as the organizer of such a meeting.

The Product – what we learned and what we are doing with it

FINAL PRODUCTS

It is important to note that the data, and thus the products, from this project belong to the communities and physicians. We have catalogued the information, and formulated means of distribution. But the owner of this knowledge and data is not the research team; it is the community.

Multiple products and outcomes have emerged, and continue to emerge as the data is interpreted. As these products are completed, copies will be provided to COPIC for review. What follows is a list of these products, with a brief description.

Curriculum

An original objective of this project was to provide feedback to the UCSOM rural track to revise the curriculum. This objective was highly successful. A multitude of ideas were generated by the communities. Using their feedback, three products are in development:

A template of a Community-informed Rural Curriculum

The idea that a community would design a medical school curriculum related to community engagement is unique. What we learned is that the communities are very wise and knowledgeable in what is required, and how to deliver it. We also learned that the medical school has not shared information about the medical curriculum with the community, yet they had suggestions that are already in the curriculum. This suggests that communities really do know what needs to happen! One goal of the community reports will be to share the educational process with them. We will also present the template, as it is their work.

This template was entirely formulated by our medical student, Ms. Hungenberg. She utilized information from the UCSOM rural track, her own program in AZ, and the data from the communities. Through presentation and publication, this template will be shared with other medical schools. It is also applicable to nursing, nurse practitioner and physician assistant programs.

Revisions to the UCSOM Rural Track curriculum

Using the data, we have made recommendations for inclusion of the community ideas into the existing UCSOM Rural Track. Working with Dr. Deutchman, several new exercises will be incorporated. The most significant change will be an exercise described earlier in the report in which students create a portfolio of information about community/patient resources while on their rural rotation. Upon their return to the medical school, they will select one patient from each University based rotation. Using their portfolio, they will then "move" that urban patient to the rural setting, and compare how a patient in the rural setting would react to the same diagnosis and treatment. If possible, physicians in the rural communities will then provide feedback to the students on the comparison, providing a reality check for the students. This exercise will be called the SOAP NOTE exercise, and has been entirely designed by the communities.

It should be noted that similar ideas surfaced in multiple communities, suggesting a common wisdom about what rural communities need.

Rural Health certificate for the University of Colorado School of Public Health

An unexpected outcome is the opportunity to work with the Rural Track director to create a proposal for a new Rural Health certificate in Public Health. Dr. Deutchman would like to see the rural track students receive an additional credential upon graduation from medical school that acknowledges their extra work in rural health. Since rural health embodies public health, this is an excellent proposal. We will work with Dr. Deutchman to provide data from this study to assist in the proposal design.

Presentations and Publications

It is anticipated that numerous opportunities will arise to share this information. To date, the following have occurred:

- Newspapers – as noted above, the librarian in Las Animas facilitated an article in their local newspaper. Also, the city manager in Walsenburg initiated an article in their newspaper about the project.
- Two sessions have occurred in which we have presented the project to the UCSOM Rural Track medical students. The Academic Year 13/14 first year students are the target audience. We met with them in spring 2014, at which point we explained the program, and presented them with the same questions we asked the physicians. In September 2014, we met with this same group to hear their experience about their one month immersion rotation, in communities we had visited. We will continue to seek opportunity to track with this group of students throughout medical school.
- Area Health Education Center (AHEC)/ Colorado Clinical Science Translation Institute (CCTSI) conference, Vail CO, September 2014 – Poster presentation by Ms. Cuffy on the qualitative analysis process. Well received.
- AHEC/CCTSI conference, September 2014 Workshop by Dr. Frederick and Mr. Ferris "Stories of the Rural Physician: Those who stay and why they stay". Excellent attendance by rural physicians, academicians and practice managers. Dean of Rocky Vista medical school (former rural physician himself) present. Wonderful feedback and invitations for future presentations.
- University of Northern Colorado Doctor of Nursing Practice doctoral program – invitation to present rural physician story on December 4, 2014. This session will be recorded. This opportunity arose from the AHEC conference presentation.

Rural physician story

During the physician interviews, we encountered numerous requests to share these stories among the physicians, with comments like "I sure would like to read the other physicians' stories". Rural physicians can become professionally isolated, especially in the emotional realm. They can begin to believe that only they are experiencing a particular event or problem.

All transcripts from the physician interviews have been edited and are ready to be returned to the physicians for review. Upon return from physicians, these stories will be collected into book form (electronic and potentially hard copy), using the workshop presentation as a basis of presenting the stories. CRHC will assist in formatting the final book, and in distributing it. Our hope is that electronic copies will be viewed by all rural track medical students, and by residents and practicing rural physicians. During the workshop presentation, comments were made by rural physicians in the audience like "it is a good thing you stopped when you did or I would have cried. No one has captured my experience and challenges so well." By sharing the experiences, the isolation will be decreased and the experience validated.

One challenge of the Rural Physician Story is trying to keep some degree of confidentiality. When requesting their review of the transcripts, they will express their desire for anonymity or not. When anonymity is requested, their story will be embedded in a general narrative, as the rural physician workshop was presented, preserving confidentiality.

During the visits, Mr. Ferris took many pictures of the communities and the facilities. These will be incorporated into the stories. Some of these photos are scattered throughout this report, along with some key quotes from the communities. The content of this final story will highlight similar photos and quotes.

Community reports

Each community expressed great interest in receiving a report of the project when completed. After realizing the volume of data, and the vast amount of material to be shared, it was decided to create a final report that is specific to the communities, rather than simply share this report. In anticipation of such a report, we recently communicated with all the stakeholders and physicians to ask their opinion about best to present that report. The responses are interesting.

The options presented were:

- An electronic report that could be shared as desired. We would record this report via Camtasia or Adobe Connect, and provide a narrative text as well.
- A Skype presentation with Q&A
- A face to face presentation, possibly in a Town Meeting format, to allow any interesting community members to attend.

Without exception, all communities rejected the Skype option. The reason is very significant: their internet service is so poor that Skype is very unsatisfactory. We will share this knowledge with policymakers, as internet support is vital to correcting health services in rural areas. A current initiative that may address this issue is the Colorado Telehealth Network's work on expanding broadband across the state.

Of the other 2 options, there have been several suggestions. If we can obtain additional funding, many of the locations would very much like a face-to-face presentation. The idea has arisen to

use our library connection to organize and promote such a Town Meeting presentation. The idea is to allow the community to participate in the discussion rather than just listen to a presentation. This is the most desirable option.

If such a visit is not funded, they would like the electronic report. Some have noted that they would print such a report and place it in waiting rooms where patients can also see it. The Plateau Valley Medical Center (Collbran) uses that technique to promote materials to patients, and had many articles, pamphlets and other written material on a coffee table in the middle of the waiting room. It was a very effective means, as most everyone who walked in the office at glanced over at the table….as if to see what was new! Other communities stated they would post the report in e-Newsletters and distribute to interested parties. A few communities stated they would appreciate an electronic version even if a face to face meeting occurred.

We will make every effort to accommodate each community's specific request. Each report will contain some degree of customization to the community. A goal of these reports is to share community learning, much as the physician stories will share their experiences. Each community has a unique approach to community engagement, and retention.

We were particularly impressed with one CEO's approach to engagement, and thus retention. For years the community struggled with physicians coming, doing loan repayment, and leaving. Patients disliked having to get to know a new physician every 3-4 years. The CEO wisely recognized that young workers and professionals in general today tend to move frequently – the days of working for one entity for 30-40 years are a bygone notion. It was decided that if they could not change the situation, they could change their attitude about the situation! Hence:

"It really is okay if they come and stay 3-4 years. This generation never stays in jobs for 30 years like in the past. It is normal to move on. We chose to embrace that. We get up to date newly trained docs every 3-4 years, and we get to help them get started and become good docs. It is a win-win. We get to teach them that the calling to being a doc makes a difference in people's lives."

Since then, the community has begun to view themselves as educators of young physicians, and is learning to enjoy this role while enjoying good medical care. There are many such creative solutions and accommodations noted in the data. We will extract the key points, and unique ideas such as this one, and share them with all communities. Perhaps, like the physicians, the communities will be uplifted in knowing they are not in this alone.

CRHC applications

Ms. Bosworth will work with the CRHC staff to incorporate significant parts of the data into their reporting mechanisms, and to assist in planning for support of the rural healthcare communities. CRHC will also use the information collected to help enhance/redefine our workforce program. There are several specifics suggestions that have great potential in CRHC. One community, who maintains their services under a tax based hospital district, functions with a community board. The sole physician has developed a positive working relationship with the board and vice versa. But this was not an easy process for either side. These stakeholders strongly recommend that the CRHC develop training or mentoring programs to assist new recruits to these boards, and new physicians to such communities, in learning to work together. Offering some programming during one of the two annual CRHC conferences was recommended.

CRHC will assist in the preparation of the Rural Physician story and the Community reports. If the opportunity exists to expand distribution of the knowledge gained to all rural CO communities, we will work with CRHC to help that happen.

University of Denver/University College applications

Several interesting opportunities exist within the University to incorporate this data. We have already shared some community partners with the faculty involved another rural Colorado research project on exercise and nutrition in schools, leading to new partnerships for that grant.

University College (UCOL), home to this project's PI and Ms. Greer, is discussing several options. We believe we have adequate data to write a treatise on the "Theory of Rural Medicine". In addition, there is opportunity to work with other schools on campus to research the concept of "social identity theory" as it applies to the issues of boundary faced by all the rural physicians in these small communities. Who are you, when at 1 PM you are the physician caring for the child with a broken arm, and then at 7 PM you have dinner with that child's family, because they are also your next door neighbor? Where is "self" in this role? Physicians are taught to strongly identify with the label of physician as their true identity. But is that the best approach in a rural community? If to engage one must move into the community and involve themselves as neighbors and friends, then is "physician" still the best identity? Much could be learned from such a study to inform medical curriculum. Throughout the stakeholder conversations this concept surfaced repeatedly.

We also hope to create some online learning communities that deal with engagement that can be shared with the rural setting. Incorporating continuing medical education and other educational units into these offerings would incentivize utilization of the knowledge. We can incorporate formal coursework into the various UCOL Master's degree programs, such as Healthcare Leadership, Leadership and Organization, Organizational and Professional Communication and Strategic Human Resource Management. Consideration is underway for a

new Master's degree that is devoted to Community Engagement in general, that would contain a component on healthcare. Knowledge from this project would inform that process.

The University of Denver mission is "to be a great private university dedicated to the public good". Community engagement is a central theme for the university. The DU Center for Community Engagement and Service Learning will be publishing an internal article on this project in their campus-wide newsletter in Winter term.

Possibly most exciting of all is the opportunity to share the communities' ideas on medical education with the University of Denver (DU) administration. For some time a taskforce has been exploring the idea of a DU medical school. It is well recognized that creativity is required for such an endeavor. We will present this report, and the details of the community opinions, to this taskforce. The creation of a community-informed College of Rural Medicine would truly be the "icing on the cake" in terms of honoring the communities by using their wisdom as the basis of an innovative educational institution.

The Post-Script – What now?

CONCLUSION

We are truly honored to have had the opportunity to visit these eleven communities. The trip around the state was outstanding in its beauty, and provided the opportunity to meet many wonderful people. Every conversation was warm and welcoming. The individuals who organized each site went above and beyond in preparing for our arrival. We owe them special thanks, as without them, this project would not have occurred. Genuine interest in the project was expressed, and the stakeholders and physicians have embraced their role in this research. One stakeholder, a former mayor, left our meeting and went to the city council meeting, where he told them about the project. The next day he sent us an email saying how excited they were to hear that we were doing this. We have had several emails from him in the past year, asking for progress reports, saying he was reporting back to the council.

This project became news….in print and in conversation. There may be opportunity for CRHC, in junction with COPIC Foundation and the University of Denver, to put out a press release about the project. In spite of over 25 pages in this report, we have not begun to share with COPIC all the rich data we collected. The potential for change is huge, and we hope this project has stimulated residual discussion in the communities, leading to innovation and change in the issue of community engagement and retention. At the start of each conversation it was evident that a common definition of community engagement was lacking. One very significant outcome is that each community has now reached some common understanding of this term, and how it affects long term retention of physicians. The nice part is that the knowledge and wisdom is in the community. We didn't bring it to them; they already had it. When we contacted one community, a potential (and important!) stakeholder was hesitant. His comment was that he "didn't like people from Denver coming and telling us what to do". We are so pleased that he

agreed to participate, after we assured him that in fact we wanted the communities to tell us what to do! And they did!! By talking, they had the chance to share with one another and us, by creating a forum to express that knowledge and wisdom. It is now our task to take this wisdom and make things happen. These communities are filled with joy, history and a desire to make their communities the best possible. They are rightfully proud of their communities. As was so passionately stated by one stakeholder, all they really want is for the physicians to recognize the value of the community:

"Doctors need to be delighted to be here!"

NEXT STEPS

As outlined in Final Products, there are many options for next steps. As these products are completed, we intend to share them with the Foundation. Both CRHC and DU have continued to provide in-kind support to the outcomes of the project. The most important next step is to provide the communities and physicians with feedback, and to seek ways to share this report across the state to other communities.

The research team is extremely grateful to the Foundation for providing us the opportunity to conduct this research. We would like to request your permission to propose a second phase of funding to return to the interested communities, and to prepare a report to share with them. Such an opportunity would honor the communities by returning to them to present the findings, and sharing plans to productively utilize the research data they so generously have provided. We thank the Foundation for this support, and look forward to working with the Foundation on future projects.

"It requires a paradigm shift of how you want to spend your life – what is important to you?"

"Rural docs really make a difference."

****the rural communities of Colorado*

BUDGET

As an attachment, please find the CRHC Annual report. The expenditure report for the grant follows. Please note that variances in the expenditures were approved in advance by the Foundation. Thank you again for this generous support.

Colorado Rural Health Center				
COPIC Physician Community Engagement				
Final Budget Report				
Expense Description	**Project Budget**	**Project Expenses**	**Variance**	**% Variance**
Interview Sessions	6,000	8,850	(2,850)	-48%
Trascriptionist	3,168	1,143	2,025	64%
Statistical Analysis	1,500	1,000	500	33%
Audio Equipment	250	116	134	54%
Interview Materials	250	150	100	40%
Donations to local libarary	2,400	2,000	400	17%
Travel	5,367	5,676	(309)	-6%
Administration	2,840	2,840	(0)	0%
TOTAL	**21,775**	**21,775**	**(0)**	