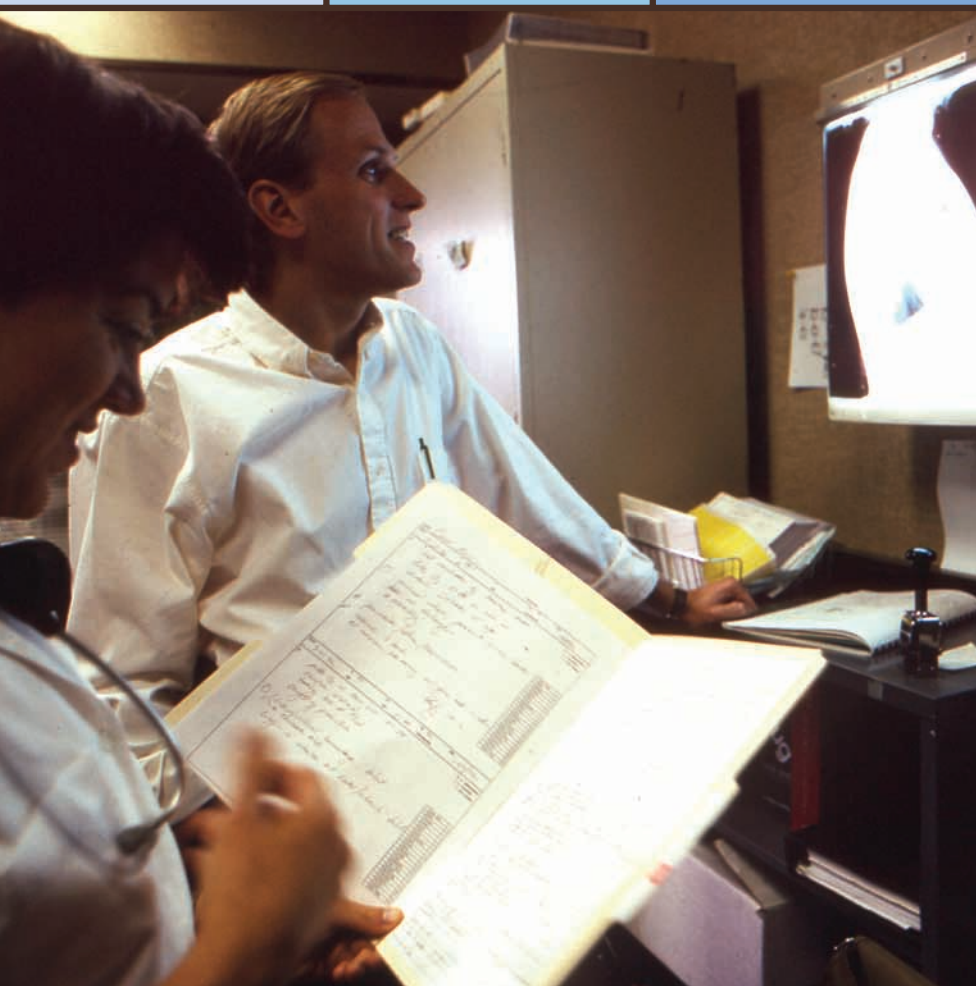




# SOLVING COLORADO'S HEALTH PROFESSIONALS SHORTAGE

*Initial Lessons Learned from the Health Professions Initiative Evaluation*



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## INTRODUCTION

As a high growth industry, the health care field is expected to increase by 28% between 2002 and 2012, adding 3.5 million jobs to the U.S. economy.<sup>1</sup> Similar growth is projected for Colorado's health care system where the number of available health professionals is not expected to be sufficient to meet the growing need. Over the next decade, Colorado will likely face shortages in physicians, nurses, physical therapists, physician assistants and occupational therapists.<sup>2</sup>

The Colorado Trust's Health Professions Initiative (HPI), a three-year (2005-2008), \$10.2 million effort, provides funding to increase the number of health professionals in Colorado in all disciplines, including primary, mental and dental health care, as well as pharmacy. Further, the initiative aims to stimulate partnerships among training programs, community-based organizations and health professionals to strengthen a training infrastructure and meet the long-term need for health professionals across the state.

The Trust made grants to 22 organizations across Colorado – including hospitals, clinics, universities, colleges and community health care foundations – to support and expand existing programs and to develop new programs that increase education, training and advancement opportunities, especially for individuals from disadvantaged backgrounds and in rural areas. The grantees receive training and technical assistance from Colorado's Area Health Education Centers (AHEC), and participate in networking opportunities to share strategies and identify opportunities for collaboration. In addition, The Trust awarded funds to the Colorado Rural Health Center (CRHC) to support a variety of rural health career programs, including their Colorado Rural Outreach Program (CROP), which focuses on recruitment and retention of primary health care practitioners in rural Colorado communities. A list of grantees with information about their programs can be found on page 29.

## HEALTH PROFESSIONS INITIATIVE EVALUATION

An independent evaluation of the initiative is being conducted by the Center for Research Strategies to help The Trust understand the impact of the collective work of the grantees, as well as to inform the health professions training field. The evaluation is designed to answer the following questions:

- ♦ Is the number of health professionals in Colorado increasing as a result of this initiative?
- ♦ What are the barriers and facilitators to increasing the numbers of health professionals in Colorado communities?

While these questions may be answered at the level of individual grantee programs, the intent of the evaluation is to explore the questions across programs by aggregating data from all of the grantees. To do so, evaluators are collecting data primarily from four sources:

- ♦ A student tracking system that collects the age, gender, race and ethnicity, and status of individual health professions students advancing their careers through HPI-funded programs.
- ♦ Student surveys at the start and at the end of their training programs. Survey questions ask students about the factors that have influenced their choice of a health career, program selection factors and future career plans.



- ♦ Semi-annual grantee progress reports that detail individual program successes and challenges.
- ♦ Annual evaluation data collection at each program site to determine the full scope of program activities underway and the ways in which community partners are supporting the program.

Additionally, the Center for Research Strategies is conducting a comprehensive literature review on issues related to health professional recruitment, training, placement and retention. Although the initiative ends in March 2008, the evaluation will follow grantees for another year. Evaluators will assess whether grantees sustained their programs and what lessons they offer about strengthening the overall training infrastructure in Colorado.

## SUMMARY OF IMPACTS OF THE HEALTH PROFESSIONS INITIATIVE

**Impact on Students.** HPI funding is having a direct impact on the numbers and types of health professionals being trained in Colorado. Grantees have broadened the opportunities for health careers to many who would not otherwise have access to such training:

- ♦ As of summer 2007, over 1,500 health professions students are advancing their careers through programs funded by this initiative.
- ♦ Three-quarters of the programs sponsored by HPI grantees are located in rural areas, or are focused on training professionals who will work in rural areas.
- ♦ The average age of HPI students is 33 years. Over three-quarters of these students are women and one-quarter are people of color.
- ♦ Over half of HPI students (53%) grew up in rural, underserved areas and 39% intend to work in a rural area when they complete their training.

**Impact on Health Professions Training Capacity.** In addition to training more health professionals, grantees are increasing the capacity of their training programs to meet future demand for health care providers in a variety of ways:

- ♦ Grantees have increased their ability to accommodate a growing number of students across 32 health professions including physicians, dentists, pharmacists, nurses and allied health personnel.
- ♦ Promising grantee approaches include creating scholarship programs, providing faculty development opportunities, expanding training sites, improving curricula, expanding class size and reaching out to new types of students, such as youth and workers from other industries. Many of these approaches are long-term program changes designed to increase capacity into the future.

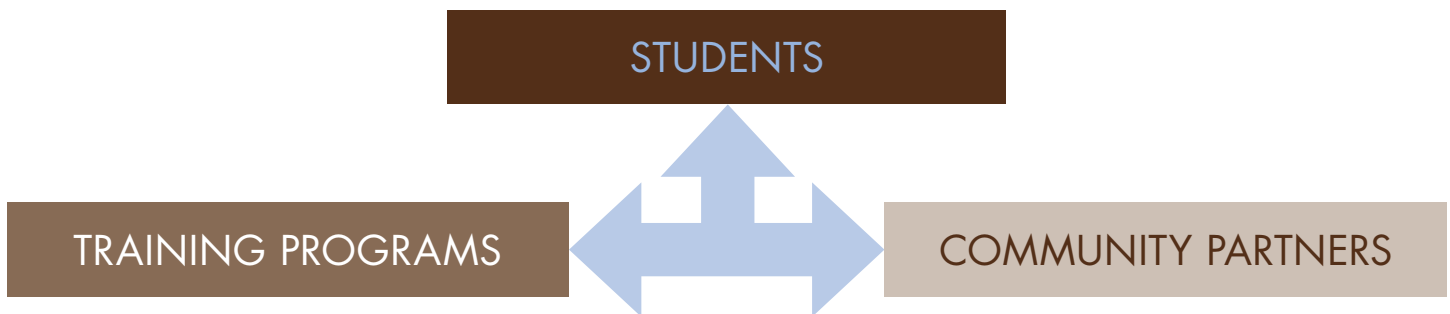
Preliminary evaluation data show that an important facilitator to increasing the number of health professionals is cross-sector cooperation that moves students through the “pipeline” of health career development, from the earliest exposure through comprehensive training opportunities and career placement. The health professions training infrastructure – the network of programs and stakeholders that recruit, train and place health professionals – must extend beyond traditional training programs to include other academic institutions, employers, local and state government, and the communities in which health professionals train and work. These lessons are only beginning to emerge; for the next 15 months evaluators will continue to track the barriers and facilitators to building the network of partners that a training infrastructure requires.



## HEALTH PROFESSIONS TRAINING INFRASTRUCTURE

An examination of grantee activities and lessons from the wider health professions training field provides a sense of the complex infrastructure required to recruit, train and place an adequate number of health professionals. Collectively, the 22 grantees are demonstrating that increasing the training capacity in Colorado requires multiple strategies, as well as cooperation with stakeholders that traditionally have not been part of health professions training. Grantees provide examples of promising strategies aimed at strengthening three components of the health professions training infrastructure: health professions students, health professions training programs and community partners engaged to train, recruit and retain health professions students.

These components of the training infrastructure are interconnected, and any intervention aimed at one component alone is insufficient to create a long-term solution to health professional shortages. Because communities are beginning to recognize this interdependence, communities that are experiencing shortages are proactively stimulating the training cycle by promoting health care career awareness programs among local residents, subsidizing students who have an interest in health careers, offering locally-based training and clinical rotation experiences, and developing active recruitment and retention programs for health professionals.

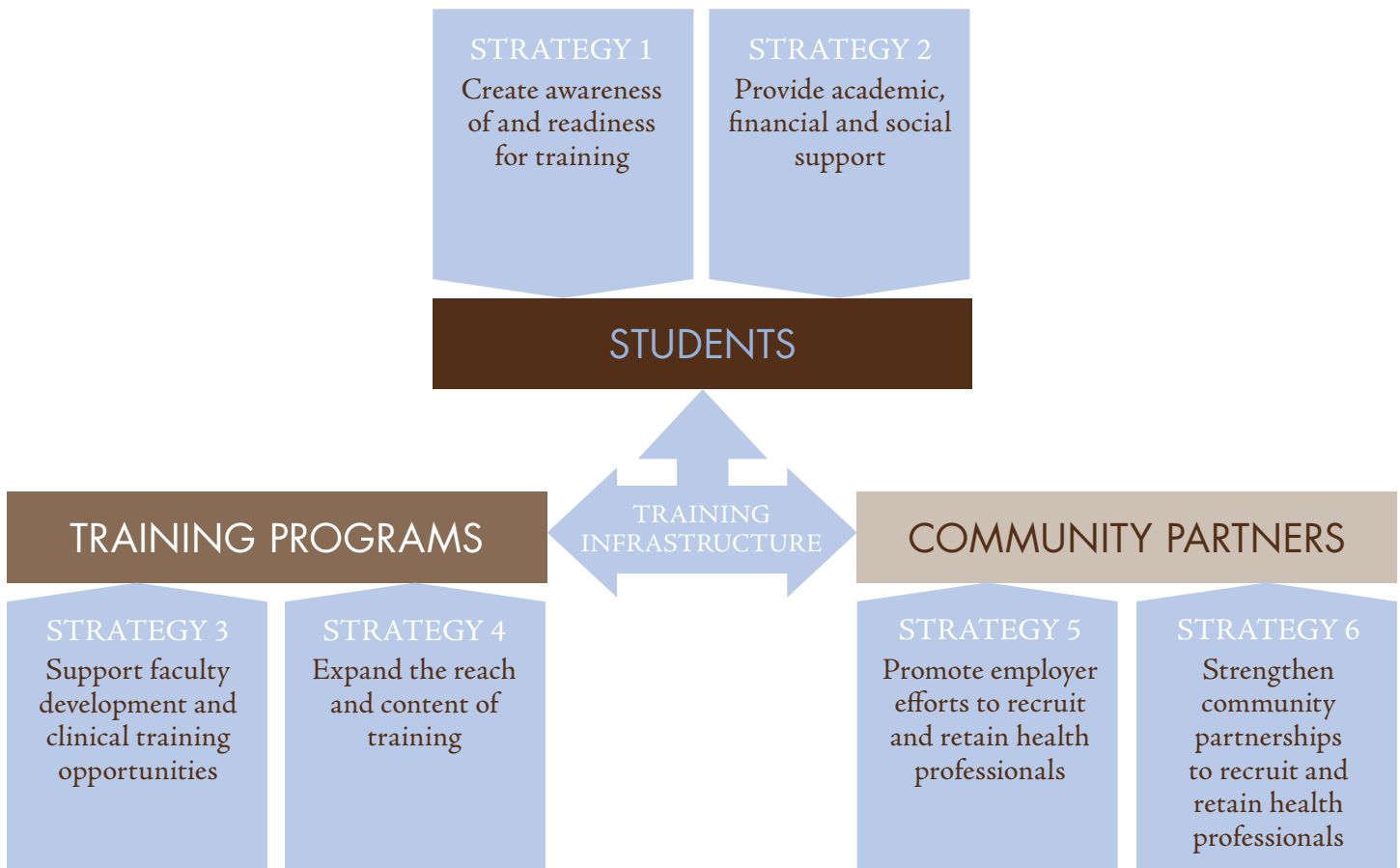


# STRATEGIES TO STRENGTHEN THE HEALTH PROFESSIONS TRAINING INFRASTRUCTURE

The grantees’ work and lessons from the broader health training field can be distilled into a framework of six broad strategies that show promise for strengthening the components of the training infrastructure. Several grantees have creative program approaches that address more than one strategy and, in some cases, more than one infrastructure component. For example, training programs are addressing student needs through flexible program formatting, while simultaneously working

with community partners to create clinical rotation experiences. Community partners are financing “grow-your-own” programs to stimulate interest in health careers among local students, as well as hosting distance learning sites for health professions training schools.

The remainder of this report explores the broad array of approaches to these strategies taken by grantees and by the larger health professions training field. The six-strategy framework, which captures lessons about cross-sector cooperation, can guide a more comprehensive perspective – rather than a program- or sector-specific view – to facilitate development of a sustainable health professions training infrastructure.



# STUDENTS

## STRATEGY 1: CREATING AWARENESS AND READINESS FOR HEALTH PROFESSIONS TRAINING

Students are motivated to enter health care careers through positive experiences in the health care system, health-related school activities, school staff, mentors and role models.<sup>3</sup> Factors that discourage health career choices include student concerns about academic course demands, educational costs, a lack of school staff support, limited professional health care role models or mentors, negative experiences or media portrayal of health care occupation, and a lack of information about the variety of health career opportunities.<sup>3</sup>

When students are interested in a health career, they require appropriate academic preparation in science, mathematics and technology. They also benefit from exposure to varying career opportunities in the health care field. Partnerships between K-12 schools and institutions of higher education can help students transition into health care training programs. Mentoring and academic enrichment can also assist students from disadvantaged backgrounds. A variety of programmatic approaches, detailed below, have been developed to respond to the challenge of creating awareness of and supporting student readiness for health professions training.

### Promising Practices From the Field

#### *Health Career Awareness Programs*

A variety of program models help students become more aware of health career opportunities including health fairs, career mentoring, shadowing programs and health career exposure programs. These programs can vary in

length and intensity, but share a common goal of engaging students in health careers. MASH camps (Medical Academies of Science and Health) are one career awareness model that exposes high school juniors and seniors to health careers. Students shadow health care providers in their work settings and learn basic medical procedures. In particular, MASH camps show promise for developing a rural health care workforce.<sup>4</sup>

#### *Health Career Preparation Programs*

Programs focused on academic preparation of students increase students' likelihood of becoming interested in health care careers by providing the background learning and support they need to succeed academically in a health professions training program. This preparation should be intensive and should persist throughout the primary and secondary school years. Such programs can include tutoring, summer science-immersion programs and programs to improve test-taking skills.<sup>5</sup>

To help students transition into health career training programs, institutions of higher education and employer-based health professions programs can assist students with college applications, program entrance requirements, study skills, financial support and flexible work schedules. In some cases, such as at the Biomedical Careers Program and the Science Enrichment Program at the University of Medicine and Dentistry within the New Jersey-based Robert Wood Johnson Medical School, faculty serve as mentors and tutors for underprivileged students of diverse backgrounds.<sup>6</sup>



## Additional Approaches by Grantees

Close to 500 students participating in The Colorado Trust's Health Professions Initiative responded to a survey regarding the factors that influenced their choice of a health care career. Their responses confirm the previously-mentioned influences as guiding prospective students into the health professions field.

**TABLE 1: CAREER CHOICE INFLUENCES CITED BY HEALTH PROFESSIONS STUDENTS PARTICIPATING IN THE HEALTH PROFESSIONS INITIATIVE**

### Who is influential in steering students toward health care careers?

- ♦ Health care providers
- ♦ Relatives
- ♦ High school teacher/counselor/coach
- ♦ Friends/others in community who chose occupation

### What types of exposure have students had to the health care field?

- ♦ Previous employment in field
- ♦ Talking to relatives/friends who work in the field
- ♦ Personal experience with medical services
- ♦ Athletics/athletic training

### What influenced students to seek a health care career?

- ♦ General interest in field
- ♦ Skill in science and math
- ♦ Illness of a family member
- ♦ Wanting to help others
- ♦ Opportunity (income/availability of jobs)
- ♦ Flexibility
- ♦ Job security



Almost half (10 of 22) grantee programs have career awareness and transition programs in place. As detailed in Table 2, grantee efforts are focused on three types of approaches: creating awareness among students, academic preparation/enrichment and helping students transition into health care training.

**TABLE 2: CREATING AWARENESS AND READINESS FOR HEALTH PROFESSIONS TRAINING**

Grantee	Career Exposure	Academic Preparation/Enrichment	Transition Students into Health Care Training
<b>Aims Community College Foundation</b>	<ul style="list-style-type: none"> <li>♦ Health care fair</li> <li>♦ High school health career camps</li> </ul>	<ul style="list-style-type: none"> <li>♦ Dual credit for high school and college</li> <li>♦ Tutoring support</li> </ul>	<ul style="list-style-type: none"> <li>♦ Scholarship support</li> </ul>
<b>Arapahoe Community College</b>	<ul style="list-style-type: none"> <li>♦ Health career fairs, high school tours, presentations to high school science classes, Med Prep and other groups</li> </ul>	<ul style="list-style-type: none"> <li>♦ Dual credit for high school and college</li> </ul>	
<b>Colorado Rural Health Center</b>	<ul style="list-style-type: none"> <li>♦ MASH camps in rural areas</li> </ul>		
<b>Heart of the Rockies Regional Medical Center Foundation</b>	<ul style="list-style-type: none"> <li>♦ High school health professions program</li> </ul>		<ul style="list-style-type: none"> <li>♦ Advanced Placement and college credit courses</li> </ul>
<b>Kiowa County Hospital District</b>	<ul style="list-style-type: none"> <li>♦ High school career fairs</li> <li>♦ First aid and CPR training in schools</li> <li>♦ High school work study positions at hospital and nursing home</li> </ul>	<ul style="list-style-type: none"> <li>♦ Anatomy and physiology course offered at high school</li> </ul>	<ul style="list-style-type: none"> <li>♦ CNA training for high school students</li> <li>♦ Scholarship support for work commitment</li> </ul>
<b>Mesa State College</b>	<ul style="list-style-type: none"> <li>♦ MASH camps for middle and high school students</li> </ul>		
<b>Morgan Community College</b>	<ul style="list-style-type: none"> <li>♦ High school health career exposure camps</li> </ul>	<ul style="list-style-type: none"> <li>♦ College medical terminology class in English and Spanish</li> </ul>	<ul style="list-style-type: none"> <li>♦ Med Prep classes for dual high school and college credit</li> </ul>
<b>Red Rocks Community College Foundation</b>	<ul style="list-style-type: none"> <li>♦ Job shadowing for high school students at a local medical center</li> </ul>		
<b>CU-School of Pharmacy</b>	<ul style="list-style-type: none"> <li>♦ Outreach visits to minority, disadvantaged and rural students</li> <li>♦ Pharmacy camp for high school and undergraduate students</li> </ul>	<ul style="list-style-type: none"> <li>♦ English as a Second Language (ESL) and academic enrichment summer programs</li> </ul>	<ul style="list-style-type: none"> <li>♦ Mini-pharmacy school for middle and high school science teachers and guidance counselors</li> </ul>
<b>Southeastern Colorado AHEC</b>	<ul style="list-style-type: none"> <li>♦ Career fairs</li> </ul>	<ul style="list-style-type: none"> <li>♦ Tutoring and academic enrichment programs</li> </ul>	<ul style="list-style-type: none"> <li>♦ Certificate training to high school students</li> <li>♦ Scholarship support</li> </ul>

## STRATEGY 2: PROVIDING ACADEMIC, FINANCIAL AND SOCIAL SUPPORT FOR STUDENTS

Because health care is now one of the fastest growing industries in the United States, the demand for health professions training has accelerated, particularly among older students who are returning to school. The average nursing graduate is now 30.9 years old, seven years older than 10 years ago. Almost three-quarters of nursing trainees are considered “nontraditional” because they are older and have work and family responsibilities that compete with their training obligations.<sup>7</sup> Similarly, students in HPI-funded training programs average 33 years of age across all health professions categories. Given that many of their students are older, health professions schools are finding a need to offer academic, financial and social support programs. Students report that these types of supports are an increasingly important consideration in their program selection process.

### Promising Practices From the Field

#### *Student Self-Assessment Tools*

Health professions training programs are academically rigorous. One valuable tool used by numerous Colorado health professions training programs is the SPHERE assessment tool.<sup>8</sup> The tool helps students anticipate the personal commitment and skills, as well as academic, financial and social support they will need to succeed in a health professions training program. In addition to life planning tools such as SPHERE, health professional schools are using other types of pre-requisite and enrollment testing to ensure that students are academically prepared for the programs they will be entering.

#### *Academic Guidance and Support*

Once students are enrolled, they may require additional academic assistance through tutoring, mentorship and other types of academic support, particularly if they have been out of school, are not fully prepared academically

or if they are English language learners. In one study, student nurses expressed a need for more guidance in basic study skills, suggesting that existing student support programs do not adequately address academic needs.<sup>9</sup> Another performance tracking tool enables students to monitor their knowledge gained relative to professional licensure standards as they progress through their health professions training programs. Students also report that health professions curricula that include self-assessment norms improve morale, motivation and communication among learners and faculty. The broader benefits of these self-assessment programs include improvements in knowledge, performance and self-analysis of performance.<sup>10</sup>

#### *Financial Assistance*

For students seeking financial assistance for their health professions training, various resources are available, including federal loans, state loans, scholarship awards and salary support. By one estimate, over \$35 million in financial support is currently available nationally for health career training.<sup>11</sup> A survey conducted with students participating in this initiative showed that nearly half (48%) had selected their health professions training program based on the availability of financial support. Flexible training schedules, salary support and convenient program locations help students who are advancing their training mid-career and want to continue working while pursuing their studies.

#### *Life Coaching and Social Support*

Finally, two programs within the initiative have achieved nearly 100% retention of their students by using a “life coach” to provide students with social support. Life coaches support and encourage their clients in areas such as relationships, careers, fitness, work-life balance and self-confidence.<sup>12</sup> Within the context of a health

professions training program, life coaches address issues such as child care, work-study burdens, transportation and more general counseling of students.

### Additional Approaches by Grantees

Before they began their training programs, students were surveyed about what program characteristics influenced the health professions training program they had selected. Table 3 highlights the importance students

place on key program features. Access to financial support was particularly important for nearly half of the respondents. Over a third of the students valued having access to mentors, while nearly a quarter anticipated needing the help of a tutor. Social support options were less commonly selected as important, yet over 10% of the respondents noted that the availability of these services had a strong or very strong influence on their program choice.

**TABLE 3: PROGRAM CHARACTERISTICS INFLUENCING STUDENT CHOICES OF HEALTH PROFESSIONS TRAINING PROGRAMS**

	N	No Influence	Some to Moderate Influence	Strong or Very Strong Influence
<b>ACADEMIC SUPPORT</b>				
Availability of mentorships	440	32%	34%	34%
Availability of tutoring	444	36%	36%	28%
<b>FINANCIAL SUPPORT</b>				
Cost of program	445	10%	27%	63%
Availability of financial aid/support	444	23%	29%	48%
Availability of debt payback program	437	39%	28%	33%
<b>SOCIAL SUPPORT</b>				
Flexibility of class time	443	18%	35%	47%
Availability of counseling	443	40%	33%	27%
Availability of child care	440	73%	14%	13%
Availability of ESL services	441	78%	11%	11%

Nineteen of the 22 grantee programs have student support programs in place. As detailed in Table 4, these efforts provide various types of assistance to students including academic, financial and social support. Among the three areas of support, financial assistance

is the most common, followed by academic enrichment. Grantees have found that social support programs, while less common, have been effective in increasing student retention rates.





# TRAINING PROGRAMS

## STRATEGY 3: SUPPORTING FACULTY DEVELOPMENT AND CLINICAL TRAINING OPPORTUNITIES

Financial support for Colorado's higher education system trails behind that of other states. Colorado's education leaders have called for the state to redress fiscal constraints of the past, reform education financing to more fairly support the costs of health care and nursing programs, and more generally to recognize education as a transforming force for the state.<sup>13</sup>

Training health professionals is expensive due to the requirements for low faculty-to-student ratios, laboratory space, equipment, clinical faculty costs and program accreditation guidelines. The University of Colorado Medical School receives only two percent of its budget from the state of Colorado, and state funding per student in Colorado is lower than all but four of the nation's 79 medical schools.<sup>14</sup> According to a report commissioned by the Colorado Community College System in 2001, the costs incurred by nursing programs exceeded the revenue received by \$2,100 per student.<sup>15</sup> Another looming challenge facing nursing programs is accreditation standards requiring small student-faculty ratios and stricter faculty qualifications by 2009. Masters degrees in nursing, or plans to acquire this degree, are required for full-time faculty of Bachelor-level degree programs.<sup>16</sup> These enhanced requirements and funding problems contribute to the statewide shortage of faculty who can provide both classroom and clinical training.

### Promising Practices From the Field

To prepare students for their future health provider occupations, training programs must have credentialed

faculty with both didactic and clinical training skills, coupled with broad clinical training opportunities, as shown in Table 5.

### *Strengthening Faculty Credentials*

Enabling nursing programs to recruit and retain Masters-trained instructors has been a high priority within Colorado's health professions training system. The Colorado Center for Nursing Excellence has recommended that access to graduate-level nurse education programs be expanded through distance learning and cooperative education programs. Streamlined graduate-level nursing curriculum, program entrance and graduation requirements are other strategies for increasing the numbers of nurses with advanced degrees.<sup>16</sup>

### *Strengthening the Use of Clinical Preceptors and Clinical Scholars*

Substantial literature supports the role of the clinical preceptor in training physicians and pharmacists.<sup>17</sup> Within rural settings, preceptors offer hands-on training in community settings and provide a critical clinical experience to those students who are planning to work in rural or underserved areas.<sup>18</sup> Preceptors can also help integrate physicians and other health professionals into local communities, facilitating the retention of these professionals.<sup>19</sup>

Within the context of nursing education, the clinical scholar model has been recommended as one way to expand the range of clinical experiences available to student nurses while simultaneously addressing the

shortage of nursing faculty.<sup>20</sup> In contrast with clinical preceptors who train health professionals one-on-one, clinical scholars are employed in a clinical setting but also serve as faculty members in educational institutions.

### Strengthening Community Training Opportunities

Partnerships between institutions of higher education, school districts, health facilities and community-based organizations are another way that health professions training programs can broaden didactic and clinical training opportunities for their students.<sup>21</sup> Community-based health care and human service providers can substantially increase the number of health professionals who are trained in different locations.<sup>5</sup> Within Colorado,

AHECs support health professional training in over 61 rural sites, extending the level of professional preparation and continued training to remote areas throughout the state.<sup>22</sup> Partnerships between academic institutions and community health centers provide another option for expanded clinical training opportunities for health professions students.<sup>23</sup>

### Additional Approaches by Grantees

Several grantees have used their funding to improve training programs by strengthening their faculty's credentials, networks of clinical preceptors and scholars, and community-based training programs.

TABLE 5: SUPPORTING FACULTY DEVELOPMENT AND CLINICAL TRAINING OPPORTUNITIES

Grantee	Faculty Credentials	Clinical Preceptors/ Scholars	Community-Based Training Sites
Adams State College	<ul style="list-style-type: none"> <li>Sharing faculty with Trinidad State Junior College to facilitate student transition to more advanced degrees</li> <li>Mentoring new faculty</li> <li>Flexible leave time for faculty pursuing advanced degrees</li> </ul>		
Commission on Family Medicine		<ul style="list-style-type: none"> <li>Annual Rural Preceptor and Residency Director Forum to foster collaboration</li> </ul>	<ul style="list-style-type: none"> <li>Funding available for clinic improvements</li> </ul>
Front Range Community College	<ul style="list-style-type: none"> <li>Faculty scholarship program for pursuit of advanced degrees</li> </ul>	<ul style="list-style-type: none"> <li>Online nursing preceptor course to foster preceptor training in clinical settings</li> </ul>	
Heart of the Rockies Regional Medical Center Foundation			<ul style="list-style-type: none"> <li>Clinical training opportunities for nurses and others willing to serve in rural Colorado</li> </ul>
Mesa State College		<ul style="list-style-type: none"> <li>Clinical Scholar model</li> <li>Conference for nurses interested in clinical education and serving as preceptors</li> </ul>	



TABLE 5: CONTINUED

Grantee	Faculty Credentials	Clinical Preceptors/ Scholars	Community-Based Training Sites
Otero Junior College		♦ Collaboration with Center for Nursing Excellence and others to revise local clinical scholar training	
Red Rocks Community College Foundation			♦ Rural clinical rotation experience in community health center
CU-School of Dentistry			♦ Increased clinical training sites in community-based settings

## STRATEGY 4: EXPANDING THE REACH AND CONTENT OF TRAINING PROGRAMS

According to the Western Interstate Commission on Higher Education, Colorado is expected to experience an increased demand for professionals in a number of different health-related fields over the next decade, including a 26% increase in demand for physicians and nurses, 48% for physician assistants, 34% for physical therapists and 41% for occupational therapists.<sup>24</sup> The aging of the Baby Boomer generation, combined with the retirement of Boomer-aged health professionals, are largely fueling this projected increase.<sup>25</sup> Despite demand projections, the capacity of training programs to accommodate enough students is limited. According to the American Association of Colleges of Nurses, nationally nearly 43,000 qualified students were denied admissions into health care programs in 2006 primarily because professional schools lacked the capacity to train them.<sup>26</sup> Factors reportedly limiting the capacity of health professions schools to meet student demand include a lack of state funding, limited numbers of trained instructors and insufficient space for clinical training.<sup>27</sup>

### Promising Practices From the Field

Recognizing looming shortages within the health care industry, the U.S. Department of Labor is funding innovative strategies to address health care labor

shortages, including expanding health professions training opportunities to new categories of workers such as youth, alternative labor pools and workers from other industries, and developing alternative training strategies, such as apprenticeships, distance learning and accelerated training.<sup>28</sup> A critical component of expanding health career opportunities entails making these programs more accessible and flexible to accommodate the needs of new categories of students.

### *Flexible Program Design to Accommodate Student Requirements*

Health professions training programs are now actively reorganizing the format of their programs to respond to the large number of non-traditional students. Nursing schools in particular have been experimenting with several flexible design features to meet student needs including flexible course schedules,<sup>29</sup> as well as flexible clinical rotations at night and during the weekends.<sup>20</sup> Otero Junior College, an HPI grantee, has extended its training period from one year to 18 months so nurses can complete their training while maintaining work and family responsibilities.

### *Flexible Program Formats for Distance Education and Educational Technology*

An increasing number of institutions of higher education are now embracing distance learning technologies. According to the National Center for Education Statistics, distance education courses were offered in over half (56%) of the nation's two- and four-year degree-granting institutions in the 2000-2001 academic year.<sup>30</sup> Local community colleges in particular are emerging as leaders in distance education.<sup>31</sup> Recognizing the promise in new technologies, the American Association of Colleges of Nursing is promoting research into distance learning technologies to advance the field of nursing, focusing on infrastructure development, resource allocation and faculty training associated with distance learning.<sup>32</sup> Health training programs that incorporate distance learning must also develop educationally sound clinical experiences, which can be challenging in rural settings.<sup>33</sup> Innovative strategies being used to meet the demand for clinical training include the use of simulation manikins<sup>34</sup> and clinical instructors who can act as community-based preceptors to students.<sup>20</sup>

### *New Curriculum Development and Experiences*

The content of health professions training programs is also being expanded and revised to respond to unmet health care needs. Nearly 90% of all primary care rural physicians are typically the only source of medical care in many remote communities.<sup>35</sup> Training physicians to serve in rural settings requires exposure to medical

training competencies such as routine and high-risk obstetric care, surgery procedures, fracture care and gastrointestinal endoscopies. Rural residency tracks can prepare students for rural primary care. Among the 474 family medicine residency programs throughout the United States, 29 have established separately accredited rural training tracks and 143 programs offer a fellowship in rural medicine.<sup>35</sup> In one such program, 76% of the rural residency track graduates entered rural practice after graduation.<sup>36</sup> Within HPI, this concept has been expanded to create a rural track program for medical students at the University of Colorado Health Sciences Center. Similarly, the University of Colorado's Health Sciences Center School of Pharmacy is expanding the traditional role of pharmacists to conduct patient clinics for diabetes, and to address associated lipid and blood pressure disorders education and management.

### **Additional Approaches by Grantees**

Grantees have responded to the increased demand for health professions training by expanding access to training programs to nontraditional students, creating new training programs and developing new curricula. Student tracking data provided by the grantees show that 1,568 students have benefited from the HPI-supported programs over the past two-and-one-half years; half of grantees' programs did not exist prior to this initiative.

TABLE 6: EXPANDING THE REACH AND CONTENT OF TRAINING PROGRAMS

Grantee	Expanded Student Pool	New Programs Created	New Curricula Developed
Adams State College		<ul style="list-style-type: none"> <li>♦ Rural health education campus established by the College and partners</li> <li>♦ Instructional television classes for distance students</li> </ul>	
Aims Community College Foundation	♦ Expanded certificate programs to reach disadvantaged students	♦ Four new certificate programs	
Arapahoe Community College			♦ Introductory medical lab technology preparation course for high schools, Med Prep and others
Denver Health and Hospital Foundation	♦ Basic skills and ESL in career lattice program, increasing number of eligible participants		
Front Range Community College		♦ Online nursing and Spanish courses for health professionals	
Mesa State College		♦ Distance nursing education program with new simulation lab	
Morgan Community College		♦ Distance LPN-ADN learning program with clinical nursing lab	
North Range Behavioral Health		♦ Collaborative effort for advanced Masters degrees in social work or counseling with cultural competence training	♦ New internship created for bilingual, bicultural Masters-level social work and counseling students
Otero Junior College	♦ Flexible 18-month program for part-time students to complete nursing training program		
Pueblo Community College		♦ Specialized sonography training program	
Southeastern Colorado Area Health Education Center		♦ Health Academy trains high school students for health careers	
CU-Dental School	♦ Accelerated accreditation program for foreign-trained dentists		
CU-School of Medicine			♦ Rural track curriculum for first-year medical students, including rural immersion rotations



# COMMUNITY PARTNERS

## STRATEGY 5: PROMOTING EMPLOYER EFFORTS TO RECRUIT AND RETAIN HEALTH PROFESSIONALS

Health care employers are increasingly facing workforce shortages caused by factors such as aging and subsequently high retirement rates within certain health care professions, competition from other jobs, the expansion of career opportunities for women into traditionally male-dominated occupations, and ineffective recruitment of health professionals into rural and medically-underserved areas.<sup>37-40</sup> Employers are challenged not only to recruit an adequate number of health care employees, but also to find those with sufficient academic credentials. For example, hospitals are now seeking Bachelor-degree nurses (as compared to Associate-degree nurses) to achieve “magnet status,”<sup>41</sup> a designation awarded by the American Nurses Credentialing Center for excellence in nursing care. New categories of specialists and technicians are now required to manage patients with diabetes, congestive heart failure, cancer and other long-term health conditions.<sup>42</sup>

### Promising Practices From the Field

Effective employer efforts to recruit and retain employees in health professions generally entail evidence-based strategies. The provision of ongoing training opportunities for current and prospective employees is a core strategy supporting both recruitment and retention efforts.

#### *Recruitment Strategies*

Effective strategies to recruit employees to work in a health facility, agency or medically underserved community are similar to those used in other employment sectors. Having a competitive employee

benefits package – including competitive salaries, health insurance, retirement plans, job bonuses and merit scale systems – is a critical factor in recruiting qualified health professionals.<sup>43</sup> Utilizing a placement service to hire providers is a cost-effective strategy. The Colorado Rural Health Center offers a provider recruitment service that charges a fee once a professional has been successfully recruited. The program includes multi-pronged advertising efforts, matching services, and advice to employers on how to attract and retain candidates. This service has successfully placed 69 health professionals in underserved areas of Colorado since 2001.

Employers also use incentive programs such as loan-repayment, salary guarantees and other financial benefits to attract new employees. With grant support from HPI, CRHC is sustaining one such program: the CROP loan repayment program helps rural employers reimburse tuition expenses for health professionals who commit to stay within a community for a specified period of time.

Partnerships between employers and academic institutions are another mechanism for developing future employees and strengthening existing workforce resources.<sup>44</sup> Employers provide salary support to employees seeking to advance their skills, offer scholarships to underwrite employee training costs and permit flexible work schedules to accommodate employees who are working while going to school. Academic institutions, in turn, utilize health care agencies and institutions to provide on-the-job training to their students. Collaborations between health professions

training programs and community-based health agencies are particularly important in rural and underserved areas where students can be exposed to health care delivery patterns that are unique to these settings.

An effective strategy that is becoming more common in the health professions field involves “grow-your-own” efforts among health care employers. Rather than recruiting new employees, employers are finding that they can provide incentives to current employees to advance their skills, or disincentives to employees who do not seek further training. One HPI grantee, Delta Memorial Hospital Foundation, freezes the salaries of licensed practical nurses (LPNs) who do not seek an Associate degree in nursing, and offers incentives to LPNs who pursue advanced training. Positive incentives for advanced education include scholarships, stipends, salary support, tuition reimbursement and flexible work schedules. Career ladder programs are a similar strategy that clearly defines a job advancement path for individuals already working in health facilities. Employees are offered incentives to advance their skills as well as financial support to pursue further training.

### *Retention Strategies*

Effective strategies to retain employees in a health facility or medically underserved community include advanced training and promotion, flexible work schedules to accommodate educational training programs and provide family support, incentives for advanced training and healthy work environments that promote employee loyalty with supervisor support.<sup>44-46</sup> Career advancement programs identify and publicize opportunities for entry-level employees to advance within an organization. They encourage people with less training to enter public health professions and provide the educational

and financial support necessary for these employees to advance, for example, from a paraprofessional to professional health career.

Other employee retention strategies include educational loan forgiveness or scholarship programs, flexible scheduling for employees who are pursuing advanced educational degrees or training, recognition and rewards for high performance and merit increases. Some employers also engage long-term employees and retirees to help teach and mentor new workers. Effective employee recruitment and retention efforts in the health professions can lead to reduced costs from employee training, employee turnover and traveling health professionals.<sup>45,47</sup>

### **Additional Approaches by Grantees**

Thirteen of the 22 grantee programs are either employer programs or institutions of higher education that collaborate with employer programs to enable employees to advance their health professional credentials. Other partnerships between employers and health training programs include the use of local health care provider settings such as community health clinics for clinical rotation and training sites. Grantee approaches, summarized in Table 7, are: employer-based career ladder (grow your own programs), financial incentive programs sponsored by employers and employer partnerships with health training programs.

**TABLE 7: PROMOTING EMPLOYER EFFORTS TO RECRUIT AND RETAIN HEALTH PROFESSIONS EMPLOYEES**

Grantee	Employer-Based Career Ladder/Grow-Your-Own Programs	Employer-Based Financial Incentives Programs	Employer Partnerships with Health Training Programs
Adams State College			♦ Partnership with Trinidad State Junior College and two employers to establish a rural health education campus
Aims Community College Foundation		♦ Area health care providers are solicited to offer scholarships for entry-level health certificate programs	♦ Local employers fill open positions with training program graduates
Arapahoe Community College			♦ Career-ladder training for employees of local health care providers
Colorado Community Health Network	♦ Scholarship support encourages employees to advance careers	♦ Scholarships to community health center employees promote employee retention	
Colorado Rural Health Center	♦ Scholarships awarded to community health care organizations to support local residents for health professions training	♦ Loan repayment program ♦ Emergency Medical Services training grants	
Delta County Memorial Hospital Foundation	♦ Strong incentives for employees to advance skills	♦ Employer salary support for training	
Denver Health and Hospital Foundation	♦ Career lattice training program for employees	♦ Flexible work schedules for advanced training	♦ Partnership with Community College of Denver to facilitate employees' educational needs
Front Range Community College	♦ Faculty scholarship program for pursuit of advanced degrees		♦ Online Spanish language courses for health professionals ♦ Online preceptor training developed with the Nursing Center for Excellence to train clinical preceptors in community
Heart of the Rockies Regional Medical Center Foundation	♦ Scholarships and salary support for local students ♦ Onsite nursing training		♦ Partnership with Regis University to develop MSN program for nursing faculty
Kiowa County Hospital District	♦ Staff support for advanced career training	♦ Financial support for local students to pursue health care careers ♦ Financial support for advanced training of staff	♦ Hospital partners with high school to offer CNA training to students and community members
Mesa State College	♦ Local health facilities provide employee incentives for career training	♦ Local health facilities provide salary subsidies for employees in training programs	♦ Clinical rotations through local facilities to support employee recruitment



TABLE 7: CONTINUED

Grantee	Employer-Based Career Ladder/Grow-Your-Own Programs	Employer-Based Financial Incentives Programs	Employer Partnerships with Health Training Programs
Morgan Community College	♦ Local health facilities underwrite student expenses	♦ Local health care facilities provide student scholarships	♦ Local health care facilities offer employment opportunities
North Range Behavioral Health			♦ Student rotations to support employee recruitment
Otero Junior College			♦ Clinical placements of students with local providers to aid employee recruitment
Pueblo Community College			♦ Graduates work with their employers to provide new clinical placement sites for students
Shalom Park	♦ Onsite nursing training and job placement opportunities		
CU-School of Medicine			♦ Partnership with Western Stock Show Association for student scholarship

## STRATEGY 6: STRENGTHENING COMMUNITY PARTNERSHIPS TO RECRUIT AND RETAIN HEALTH PROFESSIONALS

Communities have an economic and social interest in ensuring that their residents have access to health care sites staffed by well-trained health care professionals. Adequately staffed health care systems provide local community residents with needed health care, while also serving as a vital employment resource, by one estimate representing up to 20% of a community's economy.<sup>48</sup> Many community leaders are not aware of the ways in which they can collaborate to ensure an adequate supply of health professionals, yet community involvement is critical to successful recruitment and retention efforts.<sup>49</sup> Efforts to recruit health care providers are reportedly less successful when there is a lack of communication, cooperation and coordination among local community-based agencies and stakeholders.<sup>50</sup>

### Promising Practices From the Field

Community leaders must be actively involved, provide leadership and help integrate health professionals and their families into the community for the successful recruitment and retention of health professionals.<sup>51</sup> Surveys conducted by CRHC have found three factors common to project success:

1. Extensive community involvement, including outreach to educate community members, efforts to obtain full community support and strategies to involve community members in identifying needs and proposing solutions
2. Dedicated and committed leaders who assist in securing the funds, staff and facilities to enable a project to succeed

3. Collaborative partnerships among local businesses, community-based organizations and other diverse community groups to create programs and facilities that fill a community's specific health needs.<sup>52</sup>

Community partnerships addressing health workforce issues need to be broad-based and diverse. Local government, major employers, chambers of commerce and grassroots community leaders all have a role to play, as do business, education and health care leaders.<sup>53</sup> The involvement of these partners is critical at all phases of the health professionals training pipeline.<sup>54</sup>

### *Community Partnerships Related to Educational Support*

Research has consistently shown that those physicians who are most likely to locate in a rural area come from a rural background.<sup>38,39,55-57</sup> In light of this, community leaders and health agencies can connect with primary and secondary education systems to ensure that career awareness opportunities are widely available to local students. Similarly, communities can sponsor and coordinate academic support and health professions trainings with the goal of increasing the number of students who complete such trainings, especially underrepresented minority populations.<sup>58</sup>

### *Community Partnerships Related to Rural Health Professions Training*

Training programs are more successful in graduating health professionals who will practice in rural settings when they have a mission to train rural practitioners.<sup>56</sup> Additionally, rural rotations and a rurally-oriented curriculum are critical to sustaining the interest of students in rural practice.<sup>38</sup> One study of 456 randomly selected rural physicians found that those who stayed longer in rural communities were those who felt better prepared, both medically and socially, for this type of practice.<sup>39</sup>

HPI grantees offer several examples of promising partnerships between community-based groups and rural-based training programs with an emphasis on rural practice.<sup>59</sup> Community-based physician preceptors and nurse clinical scholars who serve as role models for health professions students are a common feature within many of their training programs. In addition to training students, these rural practitioners benefit by obtaining clinical assistance in their practices, experiencing greater career satisfaction, developing increased collaboration with academic medical centers and increasing the attractiveness of their practices to physicians who are being recruited. Factors found to contribute to the success of these collaborative training programs include committed leadership, effective communication and genuine community involvement.<sup>60</sup>

### *Community Partnerships Related to the Financing of Health Professions Training*

The cost of health professions education can be overwhelming for many students. In 2006, the average physician graduated from medical school with a debt of \$109,000.<sup>61</sup> Typically, two types of financial assistance are available to health professionals: scholarships tied to a pay-back service obligation in specific locations and loan repayment programs that require one year of service for each year of training-cost support received. Loan repayment programs tend to have better service completion rates and retention outcomes than scholarship programs, but the key to success in both programs is a successful match between a physician's interests and opportunities at the community site. Physicians are more likely to remain in well-run practices in communities that fit their needs, where they can be professionally fulfilled and their families can be happy.<sup>61</sup> Community leaders can help in the recruitment process by ensuring that candidates recognize the advantages of locating in a particular community.



*Community Partnerships Related to the Delivery of Health Care by Health Professions Training Programs*

Several exemplary programs demonstrate the opportunities available for academic training programs to become providers of health care within local communities.<sup>62</sup> Through one such program—Partners in Action, developed by the University of Delaware—nurses provide health education and disease screenings within medically underserved areas.<sup>63</sup>

community, the education sector and/or health care providers. Their collective experiences demonstrate the broad array of collaborations possible within local communities, whether through training health professions students, financing their education or creating partnerships where health care is delivered as part of health professions training programs. These are examples of a comprehensive, long-term approach to health professions workforce development tailored to meet the needs of individual communities.

**Additional Approaches by Grantees**

All HPI grantees have some type of community partnership as a core component of their programs. Their community partnerships involve the business

**TABLE 8: STRENGTHENING COMMUNITY PARTNERSHIPS TO RECRUIT AND RETAIN HEALTH PROFESSIONALS**

Grantee	Partnerships Involving the Business Community	Partnerships Involving the Education Sector	Partnerships Involving Health Care Providers
Adams State College	<ul style="list-style-type: none"> <li>Local foundation-provided nursing scholarships for students likely to remain in the area</li> </ul>	<ul style="list-style-type: none"> <li>Partnership with Trinidad State Junior College and two employers are establishing a rural health education campus</li> </ul>	
Aims Community College Foundation			<ul style="list-style-type: none"> <li>Local health providers advertise certificate programs, provide financial support for students and offer clinical rotation sites</li> </ul>
Arapahoe Community College		<ul style="list-style-type: none"> <li>Career awareness promoted to high schools, Med Prep and other groups</li> </ul>	<ul style="list-style-type: none"> <li>Local clinic donated laboratory equipment</li> <li>Local health care foundation donated career ladder scholarship money for employees to complete Med Lab Tech program</li> </ul>
Colorado Community Health Network		<ul style="list-style-type: none"> <li>Partnership with Front Range Community College to provide prerequisite and community health courses to health center employees</li> </ul>	<ul style="list-style-type: none"> <li>Workforce Advisory Committee of Community Health Centers oversees scholarship program</li> </ul>



TABLE 8: CONTINUED

Grantee	Partnerships Involving the Business Community	Partnerships Involving the Education Sector	Partnerships Involving Health Care Providers
Commission on Family Medicine			<ul style="list-style-type: none"> <li>♦ Clinical preceptor training offered at rural and underserved sites</li> <li>♦ Community houses and supports rotating residents</li> </ul>
Colorado Rural Health Center	<ul style="list-style-type: none"> <li>♦ Communities required to match student scholarship and loan repayment incentives</li> </ul>		
Delta County Memorial Hospital Foundation	<ul style="list-style-type: none"> <li>♦ County businesses donate money to support scholarship program</li> </ul>		<ul style="list-style-type: none"> <li>♦ Hospital nurses and volunteers donate to scholarship program</li> </ul>
Denver Health and Hospital Foundation		<ul style="list-style-type: none"> <li>♦ Relationship with local college allows employees to take classes onsite at the hospital</li> </ul>	
Front Range Community College			<ul style="list-style-type: none"> <li>♦ Preceptor training is aligned with Clinical Scholar program at Center for Nursing Excellence</li> </ul>
Heart of the Rockies Regional Medical Center Foundation		<ul style="list-style-type: none"> <li>♦ Partnership with Regis University to develop an MSN program</li> <li>♦ Partnership with local colleges allows high school students to take nursing program prerequisite courses</li> </ul>	
Kiowa County Hospital District		<ul style="list-style-type: none"> <li>♦ Partnership with school to promote career awareness through career fairs and work-study rotations</li> </ul>	
Mesa State College	<ul style="list-style-type: none"> <li>♦ Community created three LPN scholarships</li> </ul>		<ul style="list-style-type: none"> <li>♦ Clinical Scholar model used with local nurses as clinical instructors</li> </ul>
Morgan Community College			<ul style="list-style-type: none"> <li>♦ Nursing program developed successful distant clinical affiliations</li> </ul>
North Range Behavioral Health	<ul style="list-style-type: none"> <li>♦ Community-based alliance integrates health care training program</li> </ul>	<ul style="list-style-type: none"> <li>♦ Partnership with local training programs allows students to satisfy internship requirements</li> </ul>	
Otero Junior College			<ul style="list-style-type: none"> <li>♦ Collaboration with Center for Nursing Excellence and others to revise local Clinical Scholar training</li> </ul>
Pueblo Community College	<ul style="list-style-type: none"> <li>♦ Partnership with local workforce program to attract underrepresented populations into training program</li> </ul>	<ul style="list-style-type: none"> <li>♦ Partnership with another community college to share instructors</li> </ul>	<ul style="list-style-type: none"> <li>♦ Local health care providers offer clinical training sites</li> </ul>



TABLE 8: CONTINUED

Grantee	Partnerships Involving the Business Community	Partnerships Involving the Education Sector	Partnerships Involving Health Care Providers
Red Rocks Community College Foundation			♦ Community health center serves as a training site while meeting the health needs of local residents
Shalom Park		♦ Partnership with local community college to offer LPN degree to employees	
Southeastern Colorado Area Health Education Center		♦ Partnership with local high schools to offer enrichment and certificate programs	
CU-School of Dentistry			♦ Students treat diverse patients in community-based settings
CU-School of Medicine	<ul style="list-style-type: none"> <li>♦ Scholarship support solicited from local employers</li> <li>♦ Partnership with local communities to “adopt a rural track student” in exchange for service</li> </ul>		
CU-School of Pharmacy			♦ Partnerships with local health care facilities to offer clinical training and pharmacy-run health programs

## CONCLUSIONS

The initial data show the preliminary impacts of the Health Professions Initiative to be promising. The 22 grantees have collectively assisted over 1,500 health professions students to advance their training. Over half of these students are from rural underserved areas, and 39% intend to work in a rural area when they complete their training. The capacity of training programs has increased across 47 professional categories, including physicians, nurses, pharmacists, dentists and allied health personnel.

On the level of individual programs, the grantees' work shows the importance of career exposure and student support programs that enable diverse students from both urban and rural settings to pursue health careers. Technological advances in health care are creating a wide array of job opportunities, and students need to be exposed to and academically prepared for these options. Mentor programs, scholarships and other forms of support help students from varied backgrounds enter and succeed in health professions. Support for faculty, expanded training sites, advanced curricula and clinical training opportunities ensure that optimal education is available to all health professions students.

Across programs, the evaluation shows that a key strategy for facilitating an increase in health professionals is the development of an infrastructure that can support enough students at all stages of the training pipeline. Importantly, many of the approaches that grantees are testing also

cross programmatic and geographic boundaries to strengthen this larger training infrastructure. Close partnerships between health professions training programs and community partners are imperative to support local students, provide community-based training sites, and offer leadership in the recruitment and retention of health professionals. The remaining 15 months of the evaluation will focus on identifying which grantee strategies prove most effective for strengthening all three components of the training infrastructure: students, training programs and community partners.

One unanswered question is the extent to which existing training capacity is sufficient to meet the future need for health professionals, particularly within underserved communities. Projections of the long-term supply of health professionals are invariably complex and difficult to derive. The Colorado Health Institute is developing data collection systems and analyses that monitor trends in the supply of specific categories of health professionals. Their data can be a useful resource for assessing needs and progress toward developing training capacity along the entire pipeline. Regardless, current shortages suggest that more focused attention must be directed toward ensuring that health care delivery sites across the state are adequately staffed in all professional categories. Lessons emerging from HPI grantees highlight the need for health workforce leaders to adopt a broad, cross-sector perspective to strengthen the infrastructure through which health professionals are recruited, trained and placed in Colorado.

## HEALTH PROFESSIONS INITIATIVE GRANTEES

### **Adams State College** (*Las Animas and Huerfano counties*)

This program aims to increase the number of nursing students admitted to and graduating from Adams State College and Trinidad State Junior College, and enhance the competency of nursing instructors and the quality of nursing care provided to persons in the surrounding communities.

Name: Aida Sahud

Phone: 719-587-8134 Fax: 719-587-7522

E-mail: aidasahud@adams.edu

Address: 208 Edgemont, Alamosa, CO 81102

### **Aims Community College Foundation** (*Larimer and Weld counties*)

The Alcanzar Med-Prep program is designed to increase student enrollment on the Aims Fort Lupton campus and replicate the program at the Aims Greeley campus.

Name: Brenda Rask

Phone: 970-339-6332 Fax: 970-506-6929

E-mail: brenda.rask@aims.edu

Address: 5401 West 20th Street, Greeley, CO 80634

### **Arapahoe Community College Foundation, Inc.** (*Arapahoe County*)

This program seeks to increase access to – and the number of students enrolled in – the Medical or Clinical Laboratory Technician program, particularly for conventional college-age students.

Name: Linda F. Comeaux

Phone: 303-797-5796 Fax: 303-797-5935

E-mail: linda.comeaux@arapahoe.edu

Address: 5900 South Santa Fe Drive, Littleton, CO 80160

### **Colorado Rural Health Center** (*City and County of Denver*)

Through its Colorado Rural Outreach Program (CROP), the Colorado Rural Health Center strengthens the ability of rural communities statewide to recruit and retain health care workers, and includes payment of educational loans.

Name: Clint Cresawn

E-mail: ccreswan@coruralhealth.org

Phone: 303-407-2031 Fax: 303-832-7496

Address: 225 East 16th Avenue, Suite 1050, Denver, CO 80203

### **Colorado Community Health Network** (*Colorado statewide*)

This program is designed to increase the number of health professions support staff or allied health professionals, including medical and dental assistants, lab technicians, nursing aides and pharmacy technicians who provide services to CCHN patients.

Name: Amber Galloway

Phone: 303-861-5165 ext. 234 Fax: 303-861-5315

E-mail: amber@cchn.org

Address: 600 Grant Street, Suite 800, Denver, CO 80203

### **Commission on Family Medicine** (*Colorado statewide*)

This program includes incentives to family medicine residents to train, work and live in one of the commission's rural training sites, as well as supports recruitment and retention activities created by these communities, and establishes an exchange program between the residents' home faculty and rural family physicians.

Name: Antonio Prado-Gutierrez

Phone: 303-724-9727 Fax: 303-724-7952

E-mail: tony.prado-gutierrez@UCHSC.edu

Address: P.O. Box 6508, Mail Stop F496, Aurora, CO 80045-0508

### **Delta County Memorial Hospital Foundation** (*Delta, Mesa and Montrose counties*)

This program provides scholarships to nursing and EMT students.

Name: Kathy Sramek

Phone: 970-874-2291 Fax: 970-874-2204

E-mail: ksramek@deltahospital.org

Address: P.O. Box 10100, Delta, CO 81416-5003

### **Denver Health and Hospital Foundation** (*Denver Metro area*)

"Career Lattice" is a comprehensive employee development program designed to meet organizational needs resulting from a limited supply of clinical workers, as well as to increase retention and career advancement opportunities of Denver Health employees especially those of diverse populations.

Name: Wendy Alexander

Phone: 303-436-4107 Fax: 303-436-5131

E-mail: wendy.alexander@dhha.org

Address: 777 Bannock Street, MC0278, Denver, CO 80204-4507

### **Front Range Community College Foundation** (*Adams, Boulder, Jefferson and Larimer counties*)

The program employs new online training opportunities for both students and preceptors, and addresses the shortage of faculty through a revised credentialing program and a scholarship program.

Name: Tammy Vercauteren

Phone: 303-404-5000 Fax: 303-466-1623

E-mail: Tammy.vercauteren@frontrange.edu

Address: 3645 West 112th Avenue, Westminster, CO 80031

### **Heart of the Rockies Regional Medical Center Foundation** (*Chaffee County*)

This program provides local students from Chaffee, Lake, Western Fremont, Saguache and Park counties with nursing scholarships to increase retention of health care providers at HRRMC.

Name: Brian D. Fowler

Phone: 719-530-8267 Fax: 719-530-8240

E-mail: foundationdir@HRRMC.net

Address: 448 East First Street, Salida, CO 81201



**Kiowa County Hospital District** (*Kiowa County*)

This program encourages youth to choose the medical field, and helps young adults to achieve their goals by supporting their tuition, books and travel costs.

Name: Warren Yule

Phone: 719-438-5401 Fax: 719-438-5391

E-mail: warren2yule@yahoo.com

Address: d/b/a Weisbrod Memorial Hospital & N.H.,  
P.O. Box 817, 1208 Luther Street, Eads, CO 81036

**Mesa State College** (*Delta, Mesa, Montrose and Ouray counties*)

This nursing education program is designed to offer an LPN to AAS-RN program to residents of Montrose, Delta and Ouray counties through Mesa State's Montrose campus.

Name: Kristine Reuss

Phone: 970-248-1129 Fax: 970-248-1133

E-mail: kreuss@mesastate.edu

Address: 1100 North Avenue, Grand Junction, CO 81501-3122

**Morgan Community College** (*Morgan County*)

This program increases the number of students taking RN classes at Morgan Community College both on campus in Fort Morgan and in Wray via distance learning.

Name: Kathy Frisbie

Phone: 970-542-3240 Fax: 970-867-3082

E-mail: kathie.frisbie@MorganCC.edu

Address: 920 Barlow Road, Fort Morgan, CO 80701

**North Range Behavioral Health** (*Weld County*)

In collaboration with faculty at the University of Northern Colorado's community counseling program and Colorado State University's School of Social Work, this program recruits, identifies, educates and trains bilingual/bicultural persons to become mental health professionals in the Weld County area.

Name: Rebecca Marrujo

Phone: 970-353-3686 Fax: 970-392-1354

E-mail: becky.marrujo@northrange.org

Address: 1306 11th Avenue, Greeley, CO 80631

**Otero Junior College** (*Bent, Crowley and Otero counties*)

This part-time nursing program better accomodates a variety of students by offering a nontraditional format, including evening and weekend hours and year-round courses over a longer period of time.

Name: Denise Root

Phone: 719-384-6800 Fax: 719-384-6920

E-mail: denise.root@ojc.edu

Address: 1802 Colorado Avenue, La Junta, CO 81050

**Pueblo Community College** (*Pueblo County*)

This program seeks to improve the distribution and retention of Diagnostic Medical Sonographers in southeastern Colorado, increase the representation of minorities and disadvantaged populations in all health disciplines, and address the health care needs of underserved communities and populations.

Name: Cindy Mihelich

Phone: 719-549-3280 Fax: 719-549-3381

E-mail: Cindy.Mihelich@pueblocc.edu

Address: 900 West Orman, Pueblo, CO 81004

**Red Rocks Community College** (*Clear Creek, Gilpin and Jefferson counties*)

This program is designed to increase the number of physician/medical assistant students in rural areas, provide health care services to uninsured and underinsured residents of Clear Creek County, expose disadvantaged persons to health care career opportunities and replicate a model for delivery of health care services in a rural community.

Name: Joan W. Smith

Phone: 303-914-6276 Fax: 303-914-6806

E-mail: joan.smith@rrcc.edu

Address: Office of Child Care and Family Resources  
13300 West 6th Avenue, Campus Box 22B  
Lakewood, CO 80401

**Shalom Park** (*Arapahoe County*)

This program provides education for Certified Nursing Assistants currently employed at Shalom Park to become Licensed Practical Nurses.

Name: Marilyn Bogan

Phone: 303-680-5000 Fax: 303-699-4300

E-mail: marilyn.bogan@shalompark.net

Address: 14800 East Belleview Drive, Aurora, CO 80015

**Southeastern Colorado Area Health Education Center** (*Huerfano and Pueblo counties*)

SECAHEC is collaborating with the community of Walsenburg to develop a "health academy" in Huerfano County. The program includes exposing students and community members to health career opportunities and training students for entry-level health care positions; preparing students to pursue secondary education; offering "grow-your-own" programs and creating opportunities for citizens to attain meaningful employment; developing a "promising practice" for replication in other rural communities; providing a library to promote health career development; increasing awareness of relationships between personal health, healthy choices and career success; and teaching, mentoring and modeling by local health care professionals.

Name: Randy Evetts

Phone: 719-544-7833 Fax: 719-544-7955

E-mail: randy.evetts@secahec.org

Address: 503 North Main Street, Suite 422, Pueblo, CO 81003

### University of Colorado, School of Dentistry (Colorado statewide)

This program offers international students who are qualified graduates of foreign dental programs the opportunity to earn the Doctor of Dental Surgery degree.

Name: Denise K. Kassebaum  
Phone: 303-315-8893 Fax: 303-315-0472  
E-mail: denise.kassebaum@UCHSC.edu  
Address: 4200 East 9th Avenue, Box C284, Denver, CO 80262

### University of Colorado, School of Medicine (Colorado statewide)

The rural health track program includes identification of appropriate students for the program, an integrated curriculum during the basic science years of medical school, focused clinical experiences, and active mentoring and advising throughout the four years of medical school.

Name: John M. Westfall  
Phone: 303-724-0090 Fax: 303-724-0814  
E-mail: jack.westfall@uchsc.edu  
Address: P.O. Box 6508, Mail Stop F496, Aurora, CO 80045-0508

### University of Colorado, School of Pharmacy (Colorado statewide)

This program is designed to increase the number of pharmacists, especially minorities, practicing in rural, underserved and disadvantaged Colorado communities.

Name: Christopher Turner  
Phone: 303-315-3867 Fax: 303-315-8983  
E-mail: christopher.turner@uchsc.edu  
Address: Campus Box C-238, 4200 East 9th Avenue, Denver, CO 80262-0238

## ENDNOTES

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