



Recruitment and Retention of Health Care Providers in School-Based Health Centers

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Keeping children healthy, in school,
and ready to learn



COLORADO ASSOCIATION FOR
SCHOOL-BASED HEALTH CARE

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Forward

School-based health centers are an efficient and effective way to deliver primary health care to medically underserved children. The number of school-based health centers continues to grow in Colorado and across the nation, creating a demand for advanced practice nurses and physician assistants who are trained to meet the health care needs of school-aged children, dedicated to forging community partnerships, and committed to serving vulnerable populations.

In early 2010, members of the Colorado Association for School-Based Health Care (CASBHC) identified the recruitment and retention of qualified health professionals as a significant barrier to improving access to care through replication and strengthening of the school-based model. Administrators of programs serving urban and rural communities reported having positions that remained unfilled for long periods. New programs reported delays in start-up because of difficulties finding the right staff.

In response to our membership, CASBHC partnered with the Colorado Health Institute to identify specific provider recruitment and retention issues and make actionable recommendations. Providers who have practiced in a school-based setting for many years, providers new to the field, and providers in training were interviewed; salary surveys were reviewed; loan repayment programs and other possible incentives were explored; and training programs that place pediatric nurse practitioners and child health associates in clinical settings were contacted. The result is this thoughtful look at factors that influence provider decision-making with recommendations for affecting their future choices.

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Introduction

In partnership with the Colorado Association for School-Based Health Care (CASBHC), the Colorado Health Institute (CHI) conducted a qualitative study of the factors that influence the recruitment and retention of nurse practitioners (NPs) and physician assistants (PAs) in Colorado's school-based health centers (SBHCs). The study design included a literature review and phone and in-person interviews with clinicians working in SBHCs, students in the University of Colorado's College of Nursing NP program, representatives of Colorado's Area Health Education Center (AHEC), the Colorado Rural Health Center and faculty and staff in the University of Colorado PA and NP programs. This report summarizes the issues identified in the interviews and provides policy options based on the interviews and literature reviewed.

What are School-based Health Centers?

The American Academy of Pediatrics' Community Access to Child Health (CATCH) program was instrumental in launching the first SBHC. This center opened in Cambridge, Massachusetts in the mid-1960s, delivering primary care to preschool and elementary school children who did not have a regular source of health care.¹ In the early 1970s, SBHCs were introduced into high schools in Saint Paul, MN and Dallas, TX to address adolescent health issues, including teen pregnancy and sexually transmitted diseases.² Funding from the Robert Wood Johnson Foundation in 1978 supported the further expansion of SBHCs.³ Colorado's first SBHC opened in Commerce City in that same year.⁴ Subsequently, the number of SBHCs has grown substantially. According to the George Washington University's Center for Health and Health Care in Schools, the number of SBHCs in the U.S. reached 1498 in 2002.⁵ A census conducted by the National Assembly on School-Based Health Care identified that there were 1909 programs connected with schools in operation during the 2007-08 school year, including school-based, school-linked and mobile clinics.⁶ In 2008-09, Colorado had 45 fixed-site SBHCs and one mobile SBHC.⁷

The mission of SBHCs is to provide readily accessible, comprehensive health care services to children and adolescents in need of a regular source of health care."⁸ As pediatric and adolescent primary care clinics, SBHCs offer a range of health care services to the students they serve, with a particular focus on students who are underserved or uninsured. Basic services include integrated preventive and primary physical and mental health care. Some clinics also provide oral health care to students, as well as health education and health promotion programs such as smoking cessation and nutrition counseling. While all SBHCs share a singular mission, they differ in several important respects. For example, while many SBHCs are physically located within schools, some are housed in a separate facility on campus. Another variation is the population served. Some SBHCs accept students only from the school in which they are located, while other SBHCs see students from designated feeder schools, the entire school district or the wider community. The age of children seen in SBHCs is also not uniform. Some SBHCs see children from birth to age 21, while others see students within a considerably narrower age range.

The primary clinical staff at SBHCs is typically a nurse practitioner (NP) or physician assistant (PA), although most SBHCs have collaborating physicians who are present at the clinic on an intermittent basis. Depending on their size and budget, SBHCs are staffed by multidisciplinary teams that may include physicians, nurse practitioners, physician assistants, nurses, mental health therapists, health educators, substance abuse counselors, social workers, dietitians, dental hygienists and medical assistants.

Both NPs and PAs are masters prepared clinicians with scopes of practice that include a broad range of primary care functions, including prescriptive authority. The coursework and clinical preparation of

NPs and PAs differ in duration and content although both professions are licensed and prepared to practice autonomously in a variety of settings. Physician supervision requirements also differ between the two professions in that PAs are under the direct supervision of a physician while NPs have a collaborating relationship with a physician. For a description of NP and PA scopes of practice, licensure and supervision requirements, see Appendix A.

All SBHCs in Colorado represent a partnership between a school district and a licensed medical provider called a “medical sponsor.” Medical sponsors can include a community hospital, federally qualified health center (FQHC), public health department, clinical training program, independent physician practice or an independent nonprofit health care organization. Medical sponsors recruit, employ and supervise the PAs and NPs who provide care at the SBHC. Medical sponsors may also employ, or sub-contract with community partners to provide additional services such as substance abuse treatment and oral health care.

Unlike school nurses who are supported through individual school or district funds, SBHCs do not receive public educational dollars. Instead, SBHCs are funded by a combination of federal, state and local grants, foundation support, patient fees and individual/corporate contributions.⁹ In addition, in-kind donations of clinical space, staff time, supplies and ancillary services (such as laboratory tests) are provided by collaborating entities such as school districts, volunteers and other community partners. Most SBHCs (80%) bill students’ health insurance companies for reimbursable services. On average, SBHC revenue in the 2008-09 school year across 44 SBHCs in Colorado was \$205,842 per center with an average of \$51,628 provided as in-kind support.¹⁰

According to the 2008-09 CASBHC/CHI Survey of School-Based Health Centers, Colorado SBHCs served 27,468 students and provided 82,294 visits.¹¹ Slightly less than half (46%) of the students were uninsured or self-pay, while another 37 percent were covered by Medicaid or the Child Health Plan Plus (CHP+) and 12 percent were covered by private insurance. Fifty-one percent of visits were for primary health care and 23 percent were related to mental health or substance abuse counseling.

Recruitment and Retention: Key Findings

To identify factors associated with successful recruitment and retention of school-based health center providers, we first reviewed the literature on recruitment, job satisfaction, hiring incentives and retention issues related to the NP and PA professions. No articles specific to SBHCs were found, suggesting that professional issues related to the staffing of SBHCs is an area in need of further study.

Phone interviews were conducted with 10 NPs and PAs working in SBHCs in Colorado. Interviewees were asked a series of questions related to their personal experiences in an SBHC and the factors that were associated with their decision to practice in an SBHC. They were asked to describe how they initially became aware of SBHCs, what influenced their decision to work in one, why they continued their work in these settings and to discuss any factors that might prompt them to leave.

On average, interviewees had worked at SBHCs for almost 9 years and had been licensed as an NP or PA for close to 20 years. At the time of the interview, half worked full-time (more than 30 hours per week) at one or more SBHCs and the half were employed on a part-time basis.

A number of themes emerged from the interviews that can inform the recruitment and retention process. The following discussion summarizes these themes.

RAISED AWARENESS

Although SBHCs recently have become more widely understood by the health professions and lay public, interviews revealed that practicing NPs and PAs had relatively little exposure to this clinical practice setting prior to their employment at an SBHC. This lack of awareness can serve as a recruitment barrier to providers who otherwise would be interested in working in a school-based setting.

Most interviewees attributed a personal or professional connection with an individual in some way affiliated with an SBHC as their primary source of information about SBHCs prior to their own experience. The majority had learned about SBHCs informally or by chance after finishing their graduate education. Often, the exposure came through a physician with whom they worked who had spent time working or volunteering at an SBHC. Only two clinicians said they were exposed to SBHCs as part of their undergraduate or graduate coursework, clinical rotations or educational curriculum, while two others mentioned learning about SBHCs through a professional organization.

This lack of knowledge about SBHCs within the clinician community was reinforced by key informant interviews with NPs in training at the University of Colorado's College of Nursing. NP students are required to complete 300 clinical hours in one or more of three school-based health centers as part of their clinical training. However, all but one reported being unaware of school-based clinics until they faced this clinical requirement. While PA students in the University of Colorado's School of Medicine are not required to complete clinical hours in an SBHC, some students choose to do so.

The information gleaned from both current practitioners and nursing students suggests that building increased awareness of SBHCs may be an important step in expanding the pool of clinicians likely to work in a school-based setting. Additionally, further engagement of CASBHC with professional organizations such as the National Association of Pediatric Nurse Practitioners should be considered as an information dissemination strategy about this clinical option as well as to advertise open positions at SBHCs.

MATCHING PROFESSIONAL INTERESTS WITH WORK SETTING OPTIONS

While we did not find published literature specific to the personal characteristics of providers who work in SBHCs, the health professions workforce literature more generally has found that matching clinicians' personal characteristics with their workplace setting and the patient populations they serve results in successful recruitments and leads to retention for a number of hard-to-recruit-for clinical settings.¹² Interviews with NPs and PAs currently working in an SBHC suggest that the likelihood of a successful SBHC recruitment could be ensured by identifying practitioners who are committed to serving underserved populations, desire to spend more time with patients than may be possible in other settings, and who have a particular desire to work with children and adolescents.

A commitment to working with underserved populations was a recurring theme among the SBHC clinicians interviewed. Many identified this as a primary reason for why they began working in an SBHC and why they have stayed. They cited the relative ease that otherwise underserved children and adolescents have in gaining access to SBHC resources as opposed to private clinics. Access to care is greatly facilitated as transportation barriers and scheduling conflicts are absent from SBHCs located in or proximate to the school students attend.

In addition, several interviewees noted that their ability to spend more time with students in an SBHC setting than in a fast-paced private practice was a positive aspect of the SBHC setting. Many described the nature of the provider-student relationship in an SBHC as one of the more satisfying professional experiences the work provided. This relationship was said to be more personal than in other clinical

settings, partly because SBHCs are integrated into the school environment and therefore clinicians are better able to monitor student progress, follow up as needed and maintain contact over time.

While some SBHCs see children from birth through early adulthood, others serve a considerably narrower age range, such as exclusively middle school or high school students. Several interviewees mentioned this as a source of professional boredom as they are unable to utilize the full range of their training and skills, particularly in the area of infant and early childhood care. It was noted that the health care needs of elementary age school children rarely require the kind of challenging or complex problem-solving upon which some thrive.

The need for more variety in the health problems encountered and the challenges that ensue from these problems is a professional issue that can adversely affect retention of clinicians in SBHCs. Some interviewees countered this “professional boredom” by working in more than one location, while others noted pursuing other professional or personal interests to achieve balance. Another strategy would be to consider broadening the job description to include health and wellness activities in the school such as physical exercise programs, initiating a school garden program or instituting a healthy cooking class.

MATCHING PERSONAL PREFERENCES WITH THE WORKPLACE ENVIRONMENT

Although some SBHCs are open year-round, most operate on an academic calendar with reduced or no hours of operation during the summer. Some SBHCs employ part-time clinicians based on the volume of students seen at the clinic.

A number of interviewees indicated that their SBHC’s academic calendar, including time off during the summer and part-time employment during the school year, was a positive factor in their decision to work in an SBHC. For several, the alignment of the academic year in an SBHC with their own children’s schedule was a particularly appealing factor in their decision to work in an SBHC.

Several interviewees indicated that they chose to work at an SBHC because the hours suited their lifestyle and work schedule preferences better than working in other health care settings. Marketing strategies that promote SBHCs as work environments that permit more flexible schedules could be used to attract individuals who are trying to balance professional and personal responsibilities.

SALARY, FUNDING AND RESOURCE ISSUES

According to the Colorado Department of Labor and Employment (CDLE), on average, a PA practicing in Colorado earns \$39 per hour.¹³ This average is inclusive of both experienced PAs and new graduates. The CDLE does not report comparable NP compensation information. However, according to the 2008 American Academy of Nurse Practitioners’ *National NP Compensation Survey*, NPs in the Rocky Mountain Region earn an average base wage of \$38 per hour.¹⁴ Interviewed SBHC providers, by comparison, reported earning \$34 per hour on average for a relatively experienced workforce. Hourly pay for the NPs and PAs interviewed ranged from \$28 to \$47 per hour.

Interviewees reported that their annual salaries were lower than NPs and PAs working in other health care settings. These lower salaries are, in part, explained by fewer hours worked and summers off. As already noted, this was an intentional tradeoff in exchange for a more flexible work schedule. Nevertheless, several interviewees noted that this pay disparity was a potential reason for changing positions in the future.

Further, a number of interviewees expressed concerns about the limited resources available to their SBHC. In particular, physical space, outdated medical and office equipment, and limited funding for procuring laboratory tests, x-rays and other ancillary services for low-income and uninsured students

were mentioned. Other frustrations included the unwillingness of private practice physicians to see students on a referral basis.

Finding ways to address the concerns related to lack of resources could improve job satisfaction and facilitate retention. One possible way to enhance the resource pool would be to more aggressively enroll low-income students in the Medicaid and CHP+ programs. Another strategy would be to increase general awareness and understanding of the role played by SBHCs as a primary health care resource co-located in a school and using this social messaging as a fund raising and community engagement strategy.

FOSTERING COLLABORATIVE MODELS OF CARE

As noted previously, the composition of clinical staff at many SBHCs includes clinicians employed by various organizations that ideally should be collaborating with school nurses who are employed by or contract with school districts. While the range of organizations involved directly or indirectly in the operation of many SBHCs is testament to the level of community interest in a clinic's success, the need for inter-organizational cooperation was an unexpected issue identified in the interviews related to SBHC staff retention.

Several interviewees reported difficulties forming and maintaining a collaborative environment both within the SBHC and with other providers attached to the school or district. In part, these difficulties were identified as hierarchical confusion which resulted in "turf wars" between the multiple employers that direct different components of school-based health care including school nurses, counselors, health clerks and SBHC staff. These inter-professional challenges that often resulted in a lack of sharing of information between providers were described as a source of job dissatisfaction among SBHC interviewees.

Clinicians working in an SBHC where one organization, such as the medical sponsor, was responsible for hiring both the SBHC staff and contracting with the school nurse did not report these issues nor did they express dissatisfaction based inter-professional jockeying. Consolidating providers under one organizational umbrella could facilitate a more positive team environment and result in higher retention rates of SBHC providers. In cases where such an integrated model is not feasible, some interviewees noted that an intentional alignment of missions of the school nurse with that of the SBHC could help to promote a higher functioning team environment. Ensuring that the school's principal and superintendent understand the value of the SBHC and the myriad roles its staff can play in the health of the students was also noted as a positive ingredient in maximizing the impact of a school's total health-related resources.

Challenges to optimizing health professional collaborations in a school setting are echoed in the literature. Calls for improved communication between school nurses and SBHC staff, clarification of respective roles and responsibilities, training in collaborative models of care and building a "shared collaborative vision rather than a territorial view" each have been proposed to reduce conflict and improve the care of children served by SBHCs.¹⁵

NAVIGATING THE SCHOOL ENVIRONMENT

Positive and ongoing interaction with school personnel was reported as being an important component of job satisfaction in an SBHC. Clinic staff reported the value of good relationships with the school and district staff. A successful orientation strategy for new SBHC personnel should include providing navigational understanding and skill-building in the school system into which they are hired. Also, in the case of new start-up SBHCs, providing orientation to teachers, school nurses and administrative

staff as to the benefits to be derived from having a health center on campus was suggested. It was noted that this increased understanding and open communication about the various functions of an SBHC could result in improved coordination of student health care resources.

BALANCING AUTONOMY AND PROFESSIONAL ISOLATION

The ability to practice autonomously was mentioned by most interviewees as a professional perquisite unique to an SBHC setting and as one reason why the SBHC was a preferred work environment. However, interviewees cautioned that this relative autonomy could also serve as a barrier in the recruitment of recent PA and NP graduates.

It was suggested that recently licensed NPs and PAs with limited work experience may feel more comfortable in a work setting where consultation with colleagues is immediate and ongoing. Interviewees felt that more autonomous practice settings like SBHCs, while appealing to more experienced clinicians, could make new graduate recruitment challenging, especially in rural communities where collaborating physicians and other NP and PA colleagues are in short supply. The students interviewed for this study reinforced this general discomfort for independent practice immediately upon graduation as new licensees.

Establishing professional support networks or mentoring relationships between SBHC providers could help alleviate graduate concerns about professional isolation and lack of backup. Ensuring that providers new to the SBHC world have the ability to be mentored by more experienced clinicians, especially those in a school-based clinical setting, could provide the reassurance and support new graduates need to hone their clinical skills.

LICENSURE REQUIREMENTS

Statutory requirements with regard to on-site supervision for recent PA graduates and hours of clinical preceptorship for NP graduates to have prescriptive authority limits the ability of new PAs and NPs to work in an SBHC setting immediately upon graduation. The Colorado Medical Practice Act, Colorado Revised Statutes, Title 12; Article 36, requires that “For the first six months of employment and a minimum of 500 patient encounters, a physician supervisor shall review the chart for every patient seen by the physician assistant no later than 7 days after the physician assistant has performed an act defined as the practice of medicine. Additionally, a primary or secondary supervising physician of a new physician assistant graduate must provide on-site supervision of the new physician assistant graduate for that physician assistant’s first 1000 working hours.”¹⁶

Recent changes to the rules governing the number of PAs a physician may supervise could have a positive impact on the recruitment of recent PA graduates to SBHCs. In June 2010, Governor Ritter signed HB10-1260 which increases the number of PAs a physician may supervise from 2 to 4 starting in 2010.¹⁷ This act holds promise for increasing the number of PAs who are able to secure a supervising physician under whose license they practice in SBHCs and other public health settings.

Like PAs, the scope of practice of new NP graduates is initially restricted. NPs who graduate on or after July 1, 2010 cannot apply for prescriptive authority until they complete a post-graduate preceptorship of not less than 1,800 documented hours. This preceptorship must occur with either a Colorado licensed physician or a physician and an advanced practice nurse (APN) who already has prescriptive authority. Upon completion of the preceptorship, NPs may then apply to the Board of Nursing for provisional prescriptive authority. To be eligible for full prescriptive authority an NP must complete an additional 1,800 hours under the mentorship of either a Colorado licensed physician or a physician and APN who has full prescriptive authority. The NP has up to 5 years to complete the second level of mentorship.¹⁸

STAFFING MODELS AS INCENTIVES /DISINCENTIVES TO RETENTION

A particularly important theme that emerged in both provider and NP student interviews was ways in which staffing models act as an incentive or disincentive for provider recruitment and retention. Both SBHC clinicians and the students interviewed expressed concern about the lack of staff support for clinical personnel. The majority of interviewees noted the need for a medical assistant or other staff to maximize the clinician's time and, consequently, the number of students seen. NP and PA students were concerned about the lack of medical assistants at their clinical rotations, thinking this to be a negative aspect of the work environment.

Additionally, several clinicians expressed dissatisfaction with the lack of administrative support available to them. Clinics without administrative coordinators, grant writers, and Medicaid outreach and enrollment technicians must perform these functions for the day-to-day operations and funding needs of the clinic. These administrative functions lie outside the training of most NPs and PAs and represent a particularly challenging aspect of their jobs. Having additional staff available to perform these administrative duties and other back office functions such as handling labs, insurance billing and other non-medical tasks was noted as an important component of job satisfaction.

Interviewees suggested that, in general, having additional staff available for administrative duties, outreach and medical assisting could increase the overall effectiveness of clinic operations. Although staff additions would increase costs, some suggested that a portion of these additional costs would be offset through the generation of greater income. An individual trained in successful grant-writing, for example, could secure funds needed and cover his or her own salary. Outreach and enrollment specialists could increase Medicaid and CHP+ reimbursements. A medical assistant could increase the efficiency of the clinical visit and potentially generate more revenue through increased visits per day.

PROFESSIONAL DEVELOPMENT AND TRAINING OPPORTUNITIES

SBHC providers' responses to questions about their professional development and ongoing training needs suggest that the provision of professional development opportunities could lead to greater levels of job satisfaction. Training needs include navigating the educational system. Inter-professional communication skill-building and working as effective members of a care team.

In addition, they noted the need for training on specific issues such as billing and revenue generation when serving predominately low-income, uninsured and Medicaid children. Additional areas of needed training included confidentiality issues specific to a school environment, managing parent concerns, balancing the need for reproductive health services with community norms and values, working with groups and communicating child health behaviors to parents and guardians.

Financial assistance to attend SBHC-related conferences and training sessions, including continuing education credits, was suggested as a way to improve job satisfaction and retention. Several interviewees indicated that travel and conference-related expenses, as well as a lack of clinic coverage when they take time off, served as barriers preventing providers from participating in conferences and training sessions.

FINANCIAL ASSISTANCE

A number of loan repayment options are available to NP and PA graduates and providers working in rural and underserved areas. Loan repayment programs are used as incentives to recruit recent health profession graduates to underserved and rural areas. Studies have shown that loan repayment recipients are more likely to complete their service requirement and continue practicing in an underserved community after their service requirement is completed when compared to scholarship recipients.¹⁹

Loan repayment programs that require a service commitment as a condition of award could be similarly effective in the recruitment of new graduates to SBHCs. School-based clinics are not currently eligible repayment sites, but CASBHC could apply on behalf of Colorado's SBHCs to become eligible sites for loan repayment. Loan repayment programs include:

The National Health Service Corps (NHSC) is federally funded and administered. Loan repayment is available to primary care providers, including primary care physicians, nurse practitioners, PAs, certified nurse midwives and certain mental health and oral health providers who commit to practice in a Health Professional Shortage Area (HPSA) for two years.

The Colorado Health Service Corps (CHSC) also known as the *Colorado Health Care Professional Loan Repayment Program* is similar to the NHSC in that it receives federal funds but also private foundation grants and is administered by the Primary Care Office in the Colorado Department of Public Health and Environment (CDPHE). Loan repayment is available for primary care providers including those listed under the NHSC who commit to practicing in a HPSA for a minimum of two years.

According to staff in the Primary Care Office at CDPHE, both NPs and PAs serving at a qualifying site and serving patients that receive public health insurance coverage or are uninsured or underinsured are eligible for both the NHSC (<http://nhsc.hrsa.gov/loanrepayment/>) and CHSC (www.coloradohealthservicecorps.org) loan repayment programs.

The anecdotal reasoning behind SBHC clinicians being ineligible for loan repayment is the 40 hour per week work requirement—32 of which must be in direct clinical care and 8 in practice-related administrative tasks. This requirement must be sustained throughout the employment commitment and because many SBHC clinicians have summers off and shorter work days, they have not been generally eligible for these programs. There has been a recent part-time option offered through the NHSC that requires 20 hours per week with 16 being in direct patient care. The application for the part-time option is currently closed but should open again in October 2010 with some new guidance for the part-time option through the Affordable Care Act. A further site requirement is that clinics accept Medicaid, Medicare and CHP+ and accept uninsured patients on a sliding fee scale.

A site application for the NHSC loan repayment program, called the NHSC R&R application, must be completed in advance to "pre qualify" a site for loan repayment. The R&R application and instructions can be found at: <http://nhsc.hrsa.gov/communities/apply.htm>. Currently there is not a site application for CHSC but one will be developed soon. In the meantime, it is necessary to use the provider application. There is a hand full of pre-qualified NHSC sites in Colorado and nearly all of them are eligible because they are part of an FQHC and the SBHC is part of the FQHC's network of clinics. According to a U. S. Department of Health and Human Services Region VIII representative, if an SBHC is operational year-round or if a clinician works at another approved site during the summer, then it may be worth exploring whether loan repayment is possible.

Establishing an SBHC Pipeline of NP and PA Students

In recent years, a number of health professions schools have had increasing success in recruiting students more likely to work in underserved areas such as the rural tracks at the University of Colorado College of Nursing and School of Medicine. No pipeline program exists to recruit providers to SBHCs. Potentially effective tools to increase the number of providers who choose an SBHC include outreach efforts that inform students of the opportunities and benefits of SBHC work, financial support for students choosing an SBHC after graduation, and increasing NP and PA student exposure to SBHC practice while in training.

Representatives from Colorado’s Area Health Education Center (AHEC), the University of Colorado’s College of Nursing and the University of Colorado Physician Assistant Program were asked their views about ways to create an SBHC pipeline and the potential role their organizations might play in creating one.

Faculty at the University of Colorado School of Medicine and College of Nursing suggested several possible strategies and first steps for implementing a pipeline program designed to recruit NPs and PAs into school-based health care. Many of their suggestions mirrored those of NPs and PAs working in SBHCs and included: reinforcing student exposure to SBHCs, particularly for those students who have expressed interest in more autonomous clinical settings; expanding the number of SBHCs that offer clinical placements; and securing funding for residency programs in SBHCs. They also stressed the need to admit applicants most likely to work with underserved populations and/or who express an interest in a pediatric population. As previously mentioned, there have been studies that identify the characteristics of health professions students who are most likely to choose working with underserved populations including minorities, women and students from low-income backgrounds.

Colorado has two PA programs, one at the University of Colorado Denver and the other at Red Rocks Community College. Four Colorado universities offer NP training programs: University of Colorado Denver, University of Colorado at Colorado Springs, Regis University and University of Northern Colorado. Currently only the University of Colorado Denver’s PA and NP programs offer clinical placements in SBHCs. CASBHC should identify those operational SBHCs that have the space and other required elements to become a clinical practice site, and then discuss potential partnerships with the other PA and NP training programs.

AHECs AS POTENTIAL PIPELINE PARTNERS

The mission of the Colorado Area Health Education Center (AHEC) System is to improve the quality and accessibility of the health care professions’ educational experiences in Colorado. One strategy for recruiting more NPs and PAs to SBHCs would be to partner with one or all of the six regional AHECs to provide students with an SBHC clinical rotation or inter-professional training experience sponsored by an AHEC.

Additionally, Colorado’s AHEC system could be a valuable partner in the development and administration of scholarships designed for students who commit to working in an SBHC upon graduation. The AHECs currently administer similar scholarships for graduate-level health professional students who agree to work or teach for two years in rural or urban underserved areas. Developing additional scholarships targeted to SBHC placements is a natural extension of the AHECs’ current efforts.

Summary of Findings

A number of key themes arose from the interviews conducted for this report which can be applied to improve the recruitment and retention of NPs and PAs in SBHCs.

- Build awareness of SBHCs as a clinical setting of choice through campaigns that are targeted at NP and PA training programs
- Strengthen relationships between CASBHC and professional organizations such as the National Association of Pediatric Nurse Practitioners
- Working with Colorado's philanthropic community, design and implement targeted recruitment programs to encourage health profession students to consider careers in an SBHC and provide scholarships and other incentives to nurture this interest
- Reward innovations in the school setting that expand the reach and influence of SBHCs into areas of student wellness and healthy living
- Provide more opportunities for professional development for clinicians employed in SBHCs. Include training on grant writing, outreach and enrollment strategies and visioning possible new roles for SBHCs as community resources

Appendix A

NP and PA Scope of Practice, Licensure and Supervision Requirements in Colorado

Listed below is scope of practice information about PAs and NPs that was provided in the *Collaborative Scopes of Care* report published in 2008 by the Colorado Health Institute.²⁰

PHYSICIAN ASSISTANT SCOPE OF PRACTICE IN COLORADO

The scope of practice of a Physician Assistant (PA) is specified in the Colorado Medical Practice Act, Colorado Revised Statutes, Title 12; Article 36.

Physician Assistant.

A person licensed to practice medicine may delegate to a licensed PA the authority to perform acts that constitute the practice of medicine, including the authority to prescribe medication, including controlled substances. Each prescription issued by a PA must be imprinted with the name of his/her supervising physician.

Definition of the practice of medicine

- The practice of medicine is defined as being able to diagnose, treat, prescribe for, palliate, or prevent any human disease, ailment, pain, injury, deformity, or physical or mental condition, whether by the use of drugs, surgery, manipulation, electricity, telemedicine, the interpretation of tests.
- In addition, the practice of medicine includes suggesting, recommending, prescribing or administering any form of treatment, operation, or healing for the intended palliation, relief or cure of any physical or mental disease, ailment, injury, condition or defect of any person with the intent of receiving any form of compensation.

A physician may personally supervise no more than four PAs.* The extent of this supervision shall be determined by the Board of Medical Examiners (BME). Additionally, the BME has adopted rules that allow experienced PAs to practice without the physical presence of a physician in a variety of practice settings.

Licensure

The BME is responsible for overseeing the licensure of PAs. Licensing requirements for PAs include:

- Completion of an education program approved by the BME
- Passing of a national certifying examination for assistants to the primary care physician
- Application to the BME and paid appropriate fees
- Attained the age of 21 years

The BME may take the same disciplinary action with respect to a PA license as it may with a physician license.

A licensed PA may not perform any act that constitutes the practice of medicine within a licensed hospital or nursing care facility without authorization from the governing board of the hospital or nursing care facility. The facility's governing board has the authority to grant, deny, or limit such authority to its own established procedures.

*2010 Legislative Changes affecting Physician Assistants

Colorado House Bill 10-1260 increased the number of physician assistants that a physician can supervise from two to four.²¹

ADVANCED PRACTICE NURSE SCOPE OF PRACTICE IN COLORADO

The scope of practice of an Advanced Practice Nurse (APN) is addressed under the Colorado Nurse Practice Act, Colorado Revised Statutes, Title 12, Article 38.²²

An "advanced practice nurse" is a professional nurse who is licensed to practice pursuant to the Nurse Practice Act and obtains specialized education or training. The Board of Nursing (BoN) has established the advanced practice registry. The BoN requires that a nurse applying for registration identify their area of specialty. A nurse who is included in the advanced practice registry has the right to use the title "advanced practice nurse" or, if authorized by the BoN, to use the title "certified nurse midwife (CNM)," "clinical nurse specialist (CNS)," "certified registered nurse anesthetist (CRNA)" or "nurse practitioner (NP)."

On and after July 1, 1995, until July 1, 2008, the requirements for the advanced practice registry include the successful completion of a nationally accredited APN education program or a passing score on a certification examination of a nationally recognized accrediting agency, or both, if applicable, as defined in rules adopted by the board.

On and after July 1, 2008, the requirements for the advanced practice registry include the successful completion of a graduate degree in the appropriate specialty. For individuals who are included in the registry as of June 30, 2008, but have not successfully completed graduate program, they may continue to be included in the registry and to use the appropriate title and abbreviation.

An APN may be granted prescriptive authority and can prescribe controlled substances or prescription drugs to provide treatment for patients requiring routine health maintenance/preventive care, acute self-limiting conditions, stabilized chronic care and terminal comfort care. It is limited to those patient conditions within the APN's scope of practice. To apply for provisional prescriptive authority, APNs must have:

- A graduate degree in a nursing specialty;
- Completed specific educational requirements in the use of controlled substances and prescription drugs;
- National certification from a nationally recognized accrediting agency in the specialty of the advanced practice nurse;
- Professional liability insurance;
- Completed a post-graduate preceptorship of not less than 1,800 documented hours within the immediately preceding five (5) years
- A written collaborative agreement with a physician whose medical education, training, experience and active practice corresponds with the APN.

To qualify for full prescriptive authority, the NP must successfully complete an additional 1,800 hours of documented experience in a structured mentorship with a physician or with a physician and advanced practice nurse who has prescriptive authority and experience in prescribing medication within five years of the granting of provisional prescriptive authority. If an NP fails to complete the addition hours of structured mentorship with the required time-frame, his/her provisional prescriptive authority will expire.

CRNAs are not required to obtain prescriptive authority to deliver anesthesia care. The Colorado Nurse Practice Act does not require supervision by a physician and APNs may use independent judgment as it pertains to their scope of practice. However, the practice act clearly states that APNs may not practice medicine independently (as defined by the Medical Practice Act).

2010 Legislative Changes affecting Advance Practice Nurses

Senate Bill 09-239 made changes to the Nurse Practice Act affecting Advance Practice Nurses.²³ These changes, effective July 1, 2010, include a requirement to register in the state's Advanced Practice Registry and a creation of two levels of prescriptive authority. The full document is available here: <http://www.dora.state.co.us/nursing/LegislativeRulesChangesEffective7-1-10.pdf>

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- ¹ Papa, Patricia, et. al. (1998). "Interdisciplinary collaborative training for school-based health professionals." *Journal of School Health*, 68(10): 415-419.
- ² Ibid.
- ³ Gustafson, EM. (2005). "History and overview of school-based health centers in the US." *Nursing Clinics of North America* 40: 595-606.
- ⁴ CASBHC. (2010). *School-based health centers: Communities working together to improve the health of Colorado children*. Available at: <http://www.casbhc.org/publications/Communities%20Working.pdf>.
- ⁵ The Center for Health and Health Care in Schools, George Washington University School of Public Health and Health Services. Retrieved August 24, 2010 from: <http://www.healthinschools.org/News-Room/Press-Releases/August-11-2003.aspx>.
- ⁶ National Assembly on School-Based Health Care. School-based health centers: national census school year 2007-2008.
- ⁷ CASBHC. School-based health centers: Communities working together to improve the health of Colorado children.
- ⁸ Gustafson. "History and overview of school-based health centers in the US."
- ⁹ National Assembly on School-based Health Care. (2005). "Funding." Retrieved August 20, 2010, from: http://www.nasbhc.org/site/c.jsJPKWPFJrH/b.3844823/k.7FCD/Basics_Funding.htm.
- ¹⁰ CASBHC. School-based health centers: Communities working together to improve the health of Colorado children.
- ¹¹ Ibid.
- ¹² Fowkes, VF, et al. (1994). Effectiveness of educational strategies preparing physician assistants, nurse practitioners, and certified nurse-midwives for underserved areas." *Public Health Reports* 109(5):673-682; Senf, JH, et al. (1997). "A systematic analysis of how medical school characteristics relate to graduates' choices of primary care specialties." *Academic Medicine*, 72(6): 524-33; Kassebaum, DG, et al. (1996) "Determinants of the generalist career intentions of 1995 graduating medical students." *Academic Medicine*, 71(2): 198-209; Owen, JA, et al. (2002). "Can medical school admission committee members predict which applicants will choose primary care careers?" *Academic Medicine*, 77(4): 344-9; Mofidi, M, et al. (2002). "Provision of care to the underserved populations by National Health Service Corps alumni dentists." *Journal of Public Health Dentistry*, 62(2): 102-108; Okunseri, CR, et al. (2008). "Racial/Ethnic Disparities in the Acceptance of Medicaid Patients in Dental Practices." *Journal of Public Health Dentistry* 68(3): 149-153.
- ¹³ Colorado Department of Labor & Employment. Retrieved August 21, 2010 from: LMI Gateway search. http://lmigateway.coworkforce.com/lmigateway/analyzer/qsoeswage.asp?session=OESWAGE&cat=HST_EMP_WAGE_OCC&subsession=3&geo=0801000000&areaname=Colorado&tableused=OESWAGE&rollgeo=&time=20090100&ratechoice=1&blnShowIndustries=False&orderby=2A.
- ¹⁴ American Academy of Nurse Practitioners. (2008). 2008 AANP National NP Compensation Survey, Office of Health Policy, Washington DC.
- ¹⁵ Hacker, Karen. (1998). "School-based health centers and school nurses: Cementing the collaboration." *Journal of School Health*. 68(10): 409-414.
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¹⁶ Colorado Medical Board Rule 400. Available at:
<http://www.dora.state.co.us/medical/rules/400.pdf>

¹⁷ Ibid.

¹⁸ Colorado Revised Statutes, Title 12, Article 38, “Nurses”. Effective July 1, 2009.

¹⁹ Heinrich, J. (2000). “Health care access: Programs for underserved populations could be improved.” Testimony before the Subcommittee on Public Health and Safety, Committee on Health, Education, Labor and Pensions, U.S. Senate, United States General Accounting Office.

²⁰ Colorado Health Institute. (2008). *Collaborative Scopes of Care: Final report of findings*. Available at: <http://www.coloradohealthinstitute.org/Publications/2009/01/Collaborative-Scopes-of-Care-Study.aspx>.

²¹ Colorado House Bill 10-1260. Retrieved August 19, 2010, from:
http://www.leg.state.co.us/CLICS/CLICS2010A/csl.nsf/fsbillcont3/345E25A20A5897F2872576BE00567E08?Open&file=1260_enr.pdf.

²² Colorado Health Institute. Collaborative Scopes of Care: Final report findings.

²³ Legislative rule/changes affecting advance practice and prescriptive authority effective 7/1/2010. Department of Regulatory Agencies, (Retrieved August 19, 2010, from:
<http://www.dora.state.co.us/nursing/LegislativeRulesChangesEffective7-1-10.pdf>).