Preventive Medicine and Community Health

Research Article

ISSN: 2516-7073

How partnerships for community-based health professions training were affected by national changes in funding

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Abstract

Background: Area Health Education Centers (AHEC) have contributed to U.S. healthcare workforce training since 1971. National funders recently refocused efforts from K-12 students to matriculated health profession students, which reduced annual funding by $75,000 (25%) per year per Center.

Objectives: To describe how community partnership changed due to funding reductions.

Methods: Key informant interviews were conducted with all four regional center directors with community partnerships.

Lessons learned: Hosted regional centers navigated partnerships in ways that did not significantly change programs because the host institutions supported continuing the partnerships. Independent centers experienced significant changes in partnerships by ending well-established programs and starting new programs with new partners. Both hosted and independent centers took salary cuts, downsized staff, and applied for grants and contracts to fill the funding gap. Improved communication with the Oregon AHEC program office was reported as needed.

Conclusions: Navigating partnerships differed according to host status.

Introduction

Area Health Education Centers (AHEC) have been an important part of health professions workforce training ranging from healthcare providers (physicians, nurse practitioners, physician assistants) to office staff (medical assistants, scribes and other administrative staff) training across the U.S. since legislatively approved in 1971 [1]. The primary purpose of AHEC is to recruit, train, and retain health professionals devoted to underserved populations, such as the rural and urban poor, and under-resourced communities [1], including rural or frontier communities where the population is very small. The National AHEC Organization (NAO), which represents over 300 program offices and regional centers, serves more than 85% of counties across the U.S. Approximately 120 medical schools as well as 600 nursing and allied health schools, such as dentistry and pharmacy, work collaboratively with AHECs to address the mission of improving health for underserved and underrepresented populations [2].

Oregon's AHEC serves the entire state of Oregon, which spans 98,381 square miles and has a population of 4.1 million. One hundred and fifty-four Federally Qualified Health Centers (FQHCs), 120 Primary Care Health Professions Shortage Areas (HPSA), and 25 Critical Access Hospitals [3] provide patient care to under-resourced communities in Oregon. The Oregon AHEC Program Office coordinates educational activities with five regional centers. They have collaborated for 25 years to implement a variety of education and outreach programs designed to develop a well-prepared health care workforce that could ultimately improve the health of underserved communities in Oregon. In previous years, many of the educational programs focused on youth, typically middle and high school students, and provided continuing education programs for practicing clinicians.

In 2019, the NAO reported that 90.2% of the total number of AHEC program participants included youth, while health professions students represented less than 10% [4]. To address this issue, the Health Resources and Services Administration (HRSA), national funders of the AHEC program, changed their focus to emphasize training experiences for students currently enrolled in health professions programs through the AHEC Scholars Program. Additional changes made by HRSA for state AHECs included a focus on interprofessional education, a required rapid cycle quality improvement program, and implementation of a state-wide evaluation program, all of which represented new activities for regional centers and new or existing community partners. Because

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Key words: *Community-based health professions education, Interprofessional teamwork; health professions education, healthcare workforce*

Received: December 04, 2020; **Accepted:** December 15, 2020; **Published:** December 21, 2020

many of these newly required activities were operated out of the OR AHEC Program Office, the distribution of funding changed such that a reduction of available funds occurred for the regional centers. Such changes in funding could affect existing or new partnerships, which are important for successful development of this unique workforce. After undertaking a planning year, Oregon AHEC implemented HRSA's newly required educational approaches. The purpose of this paper is to describe how funding changes affected our community partnerships, the solutions that emerged, and what we learned from the process.

Methods

Oregon AHEC central and regional centers and funding models

The Oregon (OR) AHEC Program Office is based at Oregon Health & Science University (OHSU). Located in Portland, OR, OHSU has schools of dentistry, medicine, nursing, pharmacy, and public health. The Program Office oversees the activities of five regional centers, four of which worked with community partners to undertake AHEC educational activities during the time of this study. Three distinct funding sources support OR AHEC, which include grant funding from HRSA, state legislative funds dispersed through OHSU, and, lastly, each AHEC grant recipient, in this case OHSU, is required to come up with matching funds for a 1:1 ratio to HRSA funding, so for every dollar received from HRSA, OHSU contributes a dollar from its general funds. For several years OHSU's matching ratio was higher than the 1:1 matching ratio required of the HRSA grant. Prior to the funding initiative change, the OR AHEC Program Office received 25% of AHEC funding, and the regional centers received the remaining 75%, with each regional center receiving the same amount of funding.

For purposes of our study, four of OR AHEC's five regional center directors participated (Figure 1). One center was excluded (Oregon Healthcare Workforce Institute) because the nature of its work did not include community partners during the time this study was conducted.

Figure 1 also shows the regional coverage of the AHEC regional centers across the state. Two of the AHEC regional centers (Cascades East AHEC and Oregon Pacific AHEC) are hosted centers, which means they are based in and sponsored by a community organization in their region. Because hosted centers are synergistic with the host institution's mission/activities, additional resources are available for overall operations, such as office space, computers, printers and other office supplies, to supplement their educational activities. Cascades East AHEC is hosted by a health system in its region, and the Oregon Pacific AHEC office is hosted by a community hospital, also in its region. Two regional centers, Northeast Oregon AHEC and AHEC of Southwest Oregon, are un-hosted or independent 501(c)3 organizations, which means they typically use OR AHEC resources to cover rental space and other office infrastructure costs (computers, printers and office supplies) that hosted centers do not incur. The difference in these funding models is significant because they affect available funds for programs, partnership development, and can create challenges for independent centers' viability. Alternatively, this funding model can allow independent centers to have more flexibility in program and partnership development than may occur in hosted centers.

The newly implemented required activities: The AHEC scholars program

AHEC Scholars, now a national program run in every state with AHEC funding [4], was a new requirement for OR AHEC. This program is made up of interprofessional health professions students who have declared an interest in rural and/or underserved care. In Oregon, cohorts of students from four different universities and eight separate health profession schools or programs, joined together to create the first statewide interprofessional and multi-institutional "rural and underserved track" for health professions students. Participating health professions include Medicine (MD and DO), Physician Assistant (PA), Graduate Nursing (FNP/DNP), Undergraduate Nursing (BSN), Dental (DMD), and Pharmacy (PharmD). In the 2018/2019 academic year, 88 AHEC

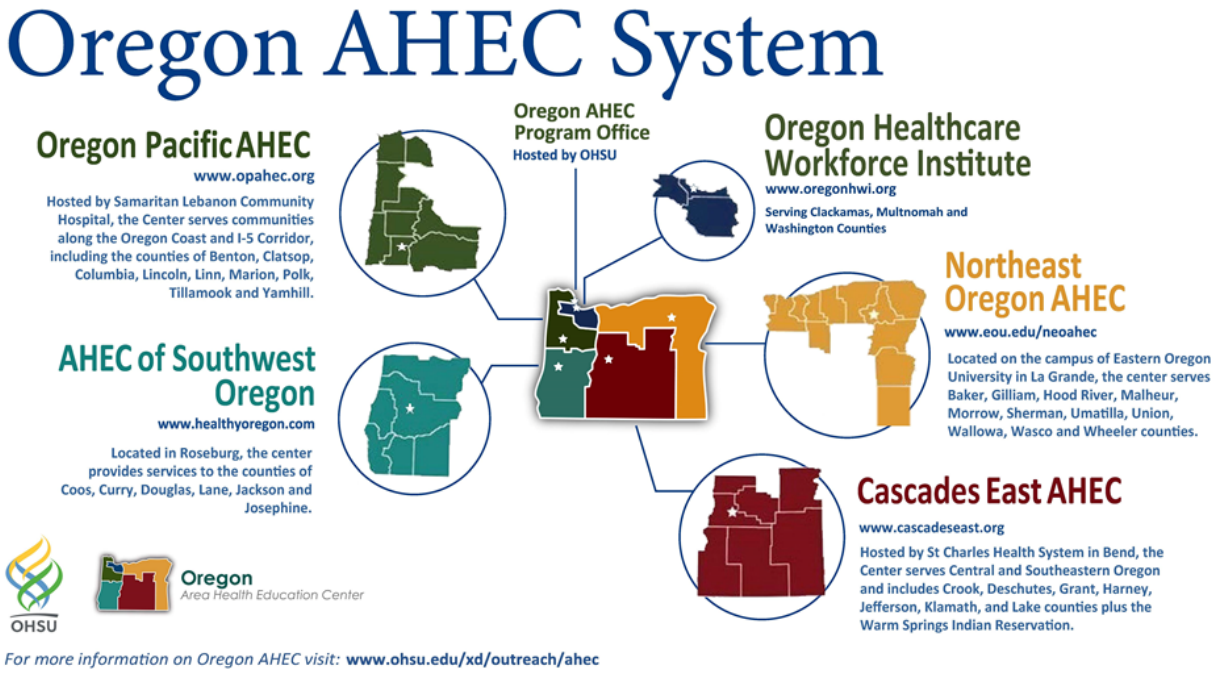

Figure 1. Organizational structure of the Oregon AHEC

Scholars enrolled, including 47 medical students, 29 physician assistant students, seven dental students, three nurse practitioner students, and two pharmacy students. In the 2019/2020 academic year, 76 AHEC Scholars enrolled, including 15 medical students, 37 physician assistant students, five undergraduate nursing students, seven nurse practitioner students, five dental students and seven pharmacy students.

During their time in the program, AHEC Scholars receive additional education in Interprofessional Education (IPE), social determinants of health, behavioural health integration, cultural competency, practice transformation, and current/emerging health issues in a series of in-person and/or web-based didactic sessions designed to enhance their understanding of rural and underserved health care. Additionally, AHEC Scholars complete 4-12 weeks of community-based experiential training at team-based clinics in rural and urban underserved areas with an underserved patient focus. Thus, the AHEC Scholars program presents a unique way for health professions students to fulfil their education requirements while focusing on rural and/or underserved care.

The AHEC Scholars program was designed to help learners gain confidence and skills in caring for rural and underserved patients and communities and graduate ready to serve these patient populations. Implementing AHEC Scholars was required to occur through the Program Office, which resulted in changes for a funding model that had been in place for decades. As a result, HRSA funding for AHEC regional centers dropped from an estimated $302,000 annually to $227,000, a decrease of $75,000 per center per year. In addition, only 10% of HRSA funding could be dedicated to K-12 programs, and only 10% of HRSA funding could go to continuing professional development programs for practicing clinicians.

Study participants

Each of the four regional center directors whose work involves interactions with community partners consented to participate in a key informant interview conducted by telephone and facilitated by author PAC. Each interview lasted between 47 and 60 minutes and field notes were taken by two independent recorders to document participants' detailed responses to interview questions, which are included in table 1 along with the probes we planned to use. All study activities were approved by Oregon Health & Science University's Institutional Review Board (IRB #18471). Three participants were female, and one was male. They had served in their roles as AHEC Center Directors for an average of 6.5 years (range 4-11 years).

Data analyses

A single composite document was created from field notes recorded during the key informant interviews. A classical content analysis approach [5] was undertaken by authors (PAC and CT) with consensus meetings to finalize the identification of emergent themes and a summary analysis across regional centers.

Table 1. Key informant interview questions and planned probes

1. When the most recent funding cycle for OR AHEC occurred and the shift in focus moved from your established programs to AHEC Scholars and programs for other health professions students, how did your partnerships change?
Planned Probe: How did you navigate the changes in relationships with your well-established partners?
2. How were finances different for your center as a result of this change?
Planned Probes: Did you have to end programs? How did you navigate the financial changes in relationships with your well-established partners?
3. How are the programs supported under the new financial model going?
Planned Probes: What is going well? What would you like to see changed?

Results

Community partnerships in hosted regional centers did not change significantly (Table 2) as a result of funding changes. However, these center directors raised concerns about the changes leading to transitions away from well-established programs, which were perceived as being better aligned with the missions of the host institutions. Other concerns included communication challenges or lack of transparency with the AHEC Program Office and the need to be responsive to the well-established partners' missions. Partnerships in the independent regional centers changed considerably, where new partnerships and programs were being established to align better with new National AHEC initiatives. In these cases, inclusion of partnership board members was essential in planning and implementation. Because of these Centers' independence, there was more perceived flexibility regarding change.

Changes in hosted centers included considerable downsizing in program services provided, reductions in FTE (full time equivalent) of staff members and/or Center directors (Table 3) and seeking additional funds via grants to fill the funding gap that occurred because of funding changes. Funding losses in hosted centers were perceived as reducing the centers' credibility in their communities, which are already very under-resourced and vulnerable. Independent centers also had to cut salaries, reduce benefits for staff and downsize rental space. Independent centers also used "warm handoffs" to other organizations to take on K-12 programs that they could no longer support. They also applied for grants and contracts to fill the funding gap.

Table 4 illustrates how OR AHEC programs are supported under the new financial model. Hosted centers are committed to continuing programs that have existed for decades, even though OR AHEC funds can no longer fully support the program costs. Thus, they had to reallocate funds to continue to support those programs when needed. Independent centers wanted to expand their community partnership advisory boards to include representation from healthcare partners that were new to them. In addition, independent centers' standing is more precarious when funding changes occur because they lack the support and resources of a host organization and grant awards are uncertain. One independent center is looking for a host institution and is developing new relationships and opportunities toward this end.

Discussion

This paper fills an important gap in existing literature in that it describes how changes in a national healthcare workforce initiative affected partnerships across the entire state of Oregon. Oregon experiences dramatic health disparities and healthcare workforce shortages, especially in its rural areas. In such areas, there is inadequate distribution of health professionals and the health care workforce does not adequately reflect Oregon's increasingly diverse population [6]. To address these challenges, we successfully implemented the AHEC Scholars program. To date, the majority of AHEC Scholars are physician assistant students (39.8%) or medical students (37.4%), which is important as these professions are of greatest need in rural areas. The shift in focus toward programs for health professional trainees rather than the well-established school-based programs resulted in an annual loss of $75,000 for each regional center, representing a 24.8% drop in funding. However, the focus on health professions students is a much better investment in these dollars because they have already chosen to work in the health professions and have an interest in rural practice.

Table 2. How partnerships changed as a result of shifts in national AHEC focus

Interview Question	Emergent Themes	Summary Analyses
When the most recent funding cycle for OR AHEC occurred and the shift in focus moved from your established programs to AHEC Scholars and other health professions students, how did your partnerships change? *Probe:* How did you navigate the changes in relationships with your well-established partners?	*RCD1-Hosted Center* • The partnerships did not end or really change very much, mainly because the partnerships and planned activities were so well aligned with the hosting organization. • However, the partnership board for this regional center was concerned about the lack of support for middle and high school pipeline programs that have been in place for 15 years. • Changes in funding were perceived as being not well communicated with a lack of transparency. *RCD4 – Hosted Center* • This Regional Director found that the goals in the new National AHEC initiative did not align as well with their hosting organization's mission as the prior National AHEC goals. It was easier to fit the prior school-based activities with their work with community partners. They don't have the same relationships with clinics where AHEC Scholars have their rotations. • This regional center is 100% responsible to their partner's missions and now have to be very careful about funding as the majority goes to support salaries, so changes here can result in reduced programs. • This regional center director perceived a lack of transparency about support to be received from the OR AHEC Program Office, which resulted in a lack of trust. *RCD2 – Independent Center* • This partnership board decided to align more with National AHEC's new mission because it was infeasible to keep both the new and old programs going. • The changes in funding were difficult, and the initial hope was that they would be temporary. They now understand this is not the case. • As a result of the shift in focus, this center created new network partners, including a partnership to develop a medical assistant entry program. *RCD3 – Independent Center* • This Regional Director included their partnership board very early in the planning process, prior to the end of the old grant cycle, so they were involved all along regarding the shift in focus. • This Regional Director was new in their role and as a result, worked very closely with partners as a way to get to know them. This helped solidify important relationships.	• Partnerships in hosted regional centers did not change significantly, though concerns were voiced about transitioning away from well-established programs, which were perceived as being better aligned with the mission of the hosting institution, to more unknown programs and partners, such as the clinical sites that AHEC scholars rotate to as part of their medical, dentistry, nursing or pharmacy training. Other concerns included communication challenges or lack of transparency and the need to be responsive to the well-established partners' missions. • Partnerships in the independent regional centers changed considerably, where new partnerships and programs were or are being established to align better with National AHEC initiatives. In these cases, inclusion of partnership board members was very important in planning and implementation. Because of the independent centers' independence, there was more perceived flexibility regarding change.

Table 3. How Changes in Finances were Managed as a Result of Shifts in National AHEC Focus

Interview Question	Emergent Themes	Summary Analyses
How were finances different for your Center as a result of this change? *Probes:* • Did you have to end programs? • How did you navigate the financial changes in relationships with your well established partners?	*RCD1-Hosted Center* • This center had to cut staff FTE and reduce the number of visits to school-based partners. • Conveying both losses and changes in sources of funding is hard because the rural and tribal schools are already under-resourced and vulnerable. • This center did not end programs but either reduced services offered as part of the program or wrote other grants to fill the funding gap. *RCD4 – Hosted Center* • This regional director also believes that bringing support in the form of money for community partners equates to increased credibility and effectiveness as a partner. Ideas without support are perceived by community partners as less valuable. • The change in funding resulted in a significant slowdown in partnership work. They did not end programs but did find different ways to fund them, such as using OR Prop 48 to pay for school-based programs. • They decreased staffing and did not fill available positions to make their funding model work and they identified more volunteers to help with their programs. • Recently started to apply for mini-grants to help fill funding gap. They have not had to write sizable grants to support their work in the past. *RCD2 – Independent Center* • This center director and the operations director both took salary cuts and they had to drop health insurance for staff. Because this is an independent center, their funds are needed to cover overhead, including staffing, benefits, space rental and software purchases, which differs from hosted sites. They adapted to the funding change by downsizing, though they have also applied for program specific grant funding. • This center had to diminish their high school programs in alignment with the new AHEC mission. They handed it off to a county-based educational services district; however, the scope was greatly reduced due to funding shortages. *RCD3 – Independent Center* • This Director and her board looked carefully at their budget to determine what they could keep and what they couldn't keep. They rebalanced both the budget and the programs – they did this before the planning year, so they were ready to hit the ground running. • Because they are independent, their available funds are needed for infrastructure costs. • They dropped one middle school program because of low impact and kept one that is funded using a tuition model, so it funds itself. They also worked with another local university to take on one popular program, which they were able to do. • They also cut staff positions. • Receipt of a regional contract helped to fill the funding gap. • They have been writing grants to generate more program specific activities. This is very time consuming and whether the grants will be funded is always uncertain.	• Changes in hosted centers' included some downsizing in program services provided, reductions in FTE of staff members and/or center directors and seeking additional funds to fill the funding gap that occurred because of funding changes. • Funding losses in hosted centers felt to reduce credibility in the community, which are already very under-resourced and vulnerable. • Independent centers also involved salary cuts, reduced benefits for staff and downsizing in terms of rental space. They also used warm handoffs to other organizations to take on school-based programs. They also applied for grants and contracts to fill the funding gap.

Table 4. How programs are supported under the new financial model

How are the programs supported under the new financial model going? *Probes:* • What is going well? • What would you like to see changed?	*RCD1-Hosted Center* • Programs were modified due to COVID-19 but all are moving forward with supplemental grant funding. Hope is that they will be able to build services offered back to the level that existed before AHEC funding changed. • Maintaining staff with funding uncertainty is incredibly challenging. • Would like to see changes in communication with the OR AHEC Program Office to develop transparency and trust. *RCD4 – Hosted Center* • This regional director feels very fortunate to be supported by the organization that hosts them because it provides synergistic activities, such as continuing medical education that aligns with AHEC's desired activities. • In terms of change, this regional director would like to expand representation on her community partnership board to include healthcare representation, education representation and community group representation. *RCD2 – Independent Center* • New opportunities are developing with a local hospital and a federally qualified health center (FQHC), which is going well. These include a gap year medical scribe program and work with a new family medicine residency program at the FQHC. • In terms of changes, they would like to become hosted because they are too under-resourced to be as effective as they could be. • They would also like to have intentional integration of AHEC scholars into their new programs. *RCD3 – Independent Center* • They understood that bringing health professions students to their communities and clinical rotations was a good investment and so felt this change was a positive one. • They feel their work is now better organized. • They wonder what future support from OHSU will look like. • This regional director feels fortunate to be independent, even though it does create financial challenges. She believes it allows them more freedom to innovate. • Would like to see OR AHEC program office create a more unified vision that works well across all the regional centers toward more effectively working together	• Hosted centers are committed to continuing programs that have existed for decades, even though OR AHEC funds can't be used for them. They also want to expand their community partnership board to include representation from healthcare partners. • Independent centers are in more vicarious standing when funding changes because they don't have the support of a hosting organization and grant awards are uncertain. This has one center looking for a host institution and are developing new relationships and opportunities toward this end. • Both hosted and independent centers would like to see communication and integration of activities occur between the OR AHEC Program Office and the regional centers.

We found that reductions in funding that occurred as a result of HRSA's initiative change had varying impact on the regional centers and their partnerships. Independent centers were especially affected because they simply did not have the funding or institutional support to maintain school-based programs that had been in place for decades, given they were required to undertake new programs related to the AHEC Scholars program. Funding losses in hosted centers, caused by shifts in funding to the Program Office, were perceived by center directors as reducing credibility in their already under-resourced and vulnerable communities. However, these impacts were mitigated somewhat because their host institutions' missions were aligned with the centers' well-established programs. This alignment allowed center directors to find ways of maintaining their established programs with some adjustments, including drops in FTE, underscoring the level of commitment regional hosting institutions have for their communities. Though the same funding reduction occurred across all sites, the impacts were especially felt by the independent centers who use the funding resources to support infrastructure as well as their programs. This issue was not present in the hosted centers because space, computers/software, printers, and other office supplies are provided by the hosting institution.

A recent systematic review on community-academic partnerships (CAP) (7) underscored that communities, funding agencies and institutions are increasing involving community stakeholders to provide first-hand knowledge and insights that affect their populations served. This review also revealed, among its findings, that factors facilitating partnerships include: 1) trust and respect between partners; 2) shared vision, goals and/or mission; 3) effective and/or frequent communication; 4) well-structured meetings that facilitate productivity, satisfaction, and opportunities to interact; and 5) a sustainable CAP infrastructure (7). While conducting the interviews, we learned that better communication was desired between the regional centers and OR AHEC Program Office, which should focus on creating a shared mission, improving trust and transparency, and creating a sustainable infrastructure. Thus, our findings are in alignment with the results reported in this review.

To address center directors' concerns about interactions with the program office, we developed and administered a survey to identify ways to improve communication. We learned that the program office needs to share more data on its efforts with the regional centers and include more information from the regional centers in its publications and outreach to better profile the important work they are doing. Monthly OR AHEC calls need to be better organized and should consider face to face or web conferencing to help develop and maintain relationships. It is also clear that we need to distribute information more equitably and transparently, all of which we are working on toward improving these crucial relationships.

AHEC Scholars, now a national program across the country, is the flagship program for AHEC centers. It will, therefore, be even more important for community partners to include those providing healthcare in these underserved regions, which may be a challenge for regional directors who have focused on developing K-12 school-based partnerships. However, if students in the AHEC Scholars program are to undertake the kind of clinical experiences that will influence their return to practice in rural and under-resourced communities, creating and nurturing these new partnerships will be vitally important.

Unfortunately, there is a paucity of literature on the impact AHEC programs have on career decisions. We found three such papers, one of which involved a study that surveyed 1,138 medical students who completed an AHEC sponsored four-week family medicine clerkship [8]. After adjusting for gender, race, and ethnicity, these medical students were significantly more likely to report an intention to practice primary care in a medically underserved setting upon graduation. Female students were 1.2 to 3.4 times as likely to report increased intent compared to male students (95 % CI 1.241-3.394) [8]. A weakness of

this study was that no follow-up was conducted to determine how many students actually pursued this career path.

A second paper described the reorganization that California AHEC undertook to align their training programs with community health center (CHC) workforce priorities [9]. Eight of 12 centers merged into CHC consortia while others established close partnerships with CHCs in their respective regions. The authors discuss the issues associated with implementing these changes, including collaborative processes needed with program leadership, staff and center directors regarding revising missions, developing training objectives and alignment of these with an evaluation plan. Unfortunately, no outcomes were reported in this paper [9]. The third paper described a program designed to improve medical students' leadership knowledge and skills toward enhancing their self-awareness and motivation for community service and described models for students to integrate into community service opportunities in their medical careers [10].

Our work is just starting, as more rigorous evaluations are needed on actual career choices. In addition, a much better understanding is needed regarding population-based health metrics and the community partnerships that support students' choices. We plan to build a comprehensive database that will include these elements so we can contribute to filling these existing gaps in health professions education and community health literature. It would be invaluable to create a network of AHECs across the country to share data and learn from each other, as has been described in a recent publication [11].

Our assessment plans will allow much more detailed longitudinal tracking on OR AHEC program outcomes than has ever existed before. The quality improvement programs will help us understand what is needed to ensure our programs and assessment tools are as strong as they can be. We plan to use the data we are collecting to inform existing literature on community-based workforce and education programming on important outcomes, as our comprehensive database grows. Though follow-up with graduated students can be challenging, the evaluation team has extensive experience in this area with primary care physician response rates for graduate surveys topping 80% [12].

The strengths of this paper include detailed data describing the impacts of funding changes on regional AHEC centers and their community partners as well as how the regional centers adjusted to maintain and/or further develop crucial connections within their communities to support their work and the AHEC Scholars program. Understanding how regional centers manage sometimes limited resources while continuing to cultivate community partnerships is key to the success of the AHEC Scholars program. Limitations include that there is still much more to be learned from all our activities, which will be presented in future work. Also, by necessity, this paper reports on what occurred within a single state.

In conclusion, hosted regional centers were able to navigate their partnerships in ways that did not significantly alter them or their programs because their host institution's mission remained in alignment with their partnerships. Independent regional centers experienced significant changes in partnerships toward ending well-established programs and starting new partnerships and programs ones. Both hosted and independent regional centers took FTE or salary cuts, downsized and applied for other grants and contracts to help fill the funding gap. Improved communication with the OR AHEC program office was also identified as an important need.

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