



ANNUAL *report* 2015

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The AHEC program was developed by Congress in 1971 and there are 56 AHEC programs and 235 centers in 48 U.S. states and territories. Arizona’s first regional center opened in Nogales in 1984. Today, five regional centers are serving Arizona by supporting health professions education, providing continuing education for health professionals, and addressing health disparities and local health workforce issues. Our programs support development of our children, our health professions students and our health professions workforce as well as recruitment and retention of a highly skilled health professions workforce. The regional centers also support many health careers programs including students in medicine (both allopathic and osteopathic medical students), nursing, pharmacy, public health, dentistry and allied health.

Arizona AHEC Program Mission Statement

To enhance access to quality healthcare, particularly primary and preventive care, by improving the supply and distribution of healthcare professionals through academic-community educational partnerships in rural and urban medically underserved areas.

Program Highlights

During the period July 1, 2014–June 30, 2015, the AzAHEC system supported the following:

Rural and Urban Underserved Clinical Rotations and Field Experiences for Health Professions Trainees

| Academic Discipline/Program | # Rotations and Experiences |
|--|-----------------------------|
| Dentistry and dental hygiene | 25 |
| Dietetics | 24 |
| Medical residency | 65 |
| Medical school | 556 |
| Nurse practitioner | 121 |
| Nursing or medical assistant | 124 |
| Other allied health | 22 |
| Pharmacy school | 99 |
| Physician assistant | 48 |
| Public health and social work | 113 |
| Registered nurse and nurse anesthetist | 54 |
| Undergraduate | 71 |
| TOTAL* | 1,322 |

**Of this total, 526 rotations/experiences were supported by the Rural Health Professions Program at the University of Arizona, Arizona State University and Northern Arizona University.*

Health Career Preparation Programs for grades K–12 in Rural and Urban Underserved Areas

TOTAL OF 5,823 K–12 STUDENTS AND 2,757 ADULT PARTICIPANTS*

**Adult participants included parents, teachers and interested community members. The adults represented joint participation. See page 37 for example activities.*

Continuing Education for Health Professionals

TOTAL OF 10,494 PARTICIPANTS

Participants included physicians, dentists, public health professionals, pharmacists, nurse practitioners, registered nurses, physician assistants and allied health professionals.

Research and Project Grants for Students, Faculty and Community Organizations

- ▶ 11 New grants
- ▶ 3 Continuing grants

Arizona AHEC is a sponsored project of the University of Arizona. The AHEC Program office is located at the University of Arizona Health Sciences (pictured).



Message from the Director



Sally J. Reel, PhD, RN, FNP, FAAN

Associate Vice President for Interprofessional Education, Collaborative Practice & Community Engagement

Director, Arizona Area Health Education Centers

University Distinguished Outreach Professor

Clinical Professor of Nursing

As the Director of the Arizona Area Health Education Centers (AzaHEC) Program, I am pleased to present the 2015 Annual Report. This report highlights accomplishments of the AzaHEC program and provides snapshots of how our academic-community partnerships prepare Arizona’s health professions workforce. AzaHEC’s mission to improve access to quality care through health workforce preparation historically has focused on rural and urban medically-underserved populations and communities, creating exposure and educational opportunities for our youth and assuring educational innovation, such as leading interprofessional education (IPE) for our health professions students as well as supporting knowledge development through research.

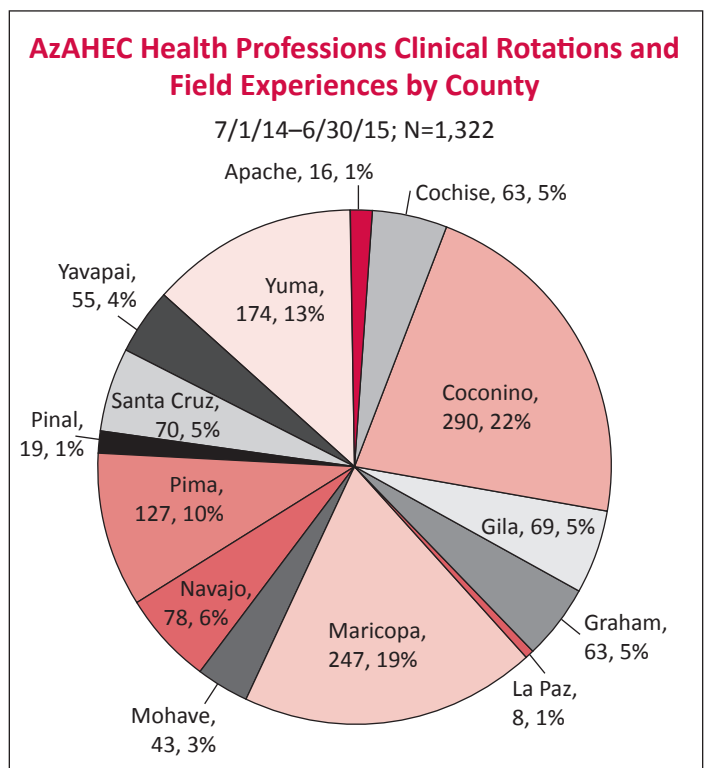
AzaHEC embraces health professions training on all levels—from pipeline through undergraduate, graduate and post-graduate health professions education to continuing professional development for practicing providers. Our outreach to Arizona’s children is essential to assure the pipeline into health careers. More than 8,000 individuals participated in career preparation programs. Moreover, knowledge about health careers is reaching diverse populations as demonstrated by 67% diversity of those who participated in these programs. AzaHEC also supported professional development and continuing education programs for more than 10,000 practicing health professionals throughout Arizona. AzaHEC supported a University of Arizona Health Sciences Career Development Awardee as a partner with career development programs of the Arizona Institute for Clinical and Translational Sciences (AZiCATS), and our centers committed their support for many of the efforts of AZiCATS too. Throughout this report, our colleges and regional centers describe many programs that underscore the impact of the AzaHEC program. Training areas specifically highlighted are our IPE programs, rural and border training programs, and K–12 career preparation programs.

The need for preparing our health-care workforce for rural and urban medically-underserved communities remains great as disparities continue to impact many Arizona residents at disproportional rates. Our rural residents and rural health

providers experience unique challenges that compound the health of rural people. Border communities experience complex, unique challenges that compound health, and these challenges are reflected in high disparities that must be eliminated. When rural, border, and diverse communities are considered collectively, too many Arizona residents experience higher rates of disease and disability, increased mortality rates, years of life lost and higher rates of chronic illness. Further, geography matters as geography alone impacts health. Fundamentally, the social determinants of health—those circumstances in which people are born, grow up, live, work and age, coupled with the systems put in place to deal with illness, and all shaped by a wider set of forces including economics, social policies and politics (World Health Organization, available http://www.who.int/social_determinants/sdh_definition/en/)—play out among Arizona’s residents. AzaHEC strategies are embedded in some of our most underserved communities—AzaHEC is located in the heart of rural and border communities, and our strategies are engaged among our diverse populations and high disparity populations as demonstrated throughout this report.

Our annual financial report demonstrates continued strong state and federal support for our programs. Additionally, as our regional centers are located throughout the state, our programs impact local economies too.

The AzaHEC program is proud of our accomplishments in 2015. I am pleased to present this report for your review.



Percentages are rounded to the nearest whole percent.

Program Overview

About the Arizona AHEC Program

1. Started in 1984 with the formation of the first regional center in the border town of Nogales, 13 years after the United States Congress developed the nationwide AHEC system to recruit, train and retain a health professions workforce committed to helping underserved populations.
2. Expanded statewide by 1989 to include five regional centers serving all 15 Arizona counties.
3. Is a sponsored project of the University of Arizona.
4. Is cited in Arizona Revised Statutes (ARS) § 15-1643, § 15-1644, § 15-1645 and § 5-572(C).
5. Operates with funds from federal and state sources.

Structure

The Arizona AHEC Program comprises five regional centers located strategically statewide and an administering “home” office based at the University of Arizona (UA). The centers carry out the program’s mission by creating, coordinating and implementing a scope of work designed to address the health professions education and training needs within their service regions.

The Arizona AHEC Program director consults regularly with two advisory committees: the Arizona Health Sciences AHEC Advisory Committee, whose members represent the UA Colleges of Medicine – Tucson and Phoenix, Nursing, Pharmacy and Zuckerman College of Public Health; and the Arizona AHEC Advisory Commission, who represent health educators, health professionals and community members serving and/or living in rural and urban medically underserved communities throughout Arizona.

In addition to these two advisory bodies, each regional center has its own governing board, comprised of healthcare providers and consumers who reflect the ethnic representation of the center’s geographic area.

Focus Areas 2014–2015

During the past year, the Arizona AHEC Program’s regional centers sustained and improved their statewide efforts to strengthen Arizona’s health professions workforce through a variety of activities targeting K–12 and post-secondary health professions students as well as health professionals across a wide range of disciplines. In addition, the regional centers supported many educational activities designed to promote health awareness throughout their communities.

Health Professions Trainee Education: Trainees pursuing careers in the health professions benefited from AzAHEC-supported clinical rotations and internships. The regional centers helped these trainees by providing them with in-depth orientations to the local communities. Some trainees also received funding support for housing, travel and related expenses. These training opportunities are possible because of the guidance of dedicated and experienced preceptors and other healthcare providers as well as strong academic partnerships with Arizona’s colleges and universities.

Youth (K–12) Health Career Programs: The regional centers supported numerous activities throughout the year to introduce Arizona’s rural and underserved youth to health careers. Personnel at each center worked with local high schools to support health career clubs and Health Occupations Students of America (HOSA) chapters.

Continuing Education for Health Professionals: The regional centers sponsored numerous continuing education opportunities throughout the year for health professionals statewide.

Community Health Promotion: In addition to helping build and support a culturally-competent health professions workforce, the regional centers coordinated and supported health education activities and events for their local communities. Each center maintains a list of collaborators.

Financial Review: Fiscal Year 2015

As in years past, the Arizona AHEC Program received funding allocations from state and federal sources (Chart F1, Table F1). The fiscal year (FY) dates vary by funding source. The federal fiscal year is September 1 to August 31, and the state fiscal year is July 1 to June 30. The FY 2015 federal allocation of \$510,000 came from the U.S. Department of Health and Human Services, Health Resources Services Administration (HRSA), Bureau of Health Professions Model AHEC grant award under grant #U77HP03034. This federal award requires the program's regional centers to receive 75 percent of the funds with the remaining 25 percent going as support for the state program. Continuation of the Model AHEC award is contingent upon matching non-federal funds.

State funds are allocated to the Arizona AHEC Program through the Arizona State Lottery (per ARS § 5-572C). State funding for FY 2015 amounted to \$16,146,911. These funds included a beginning FY 2015 balance of \$11,400,028 and \$4,746,883 received after FY 2014 closed. This represents the FY 2015 allotment from the Arizona Lottery. Total funds carried forward into FY 2016 are \$11,746,752. The program's regional centers receive their annually allotted funds via subcontracts administered through the program's business office at the University of Arizona (project period: Sep. 1 – Aug. 31). The program's state office costs are supported by federal and state dollars (see Tables F2 & F3).

Table F1. FY 2015 Arizona AHEC Program: Federal and State Funding Allocations

| Funding Source | Amount |
|--|---------------------|
| Federal Funds | |
| FY15 Federal Model AHEC Grant | \$510,000 |
| State Funds | |
| Lottery Funds (includes FY 2014 carry forward) | <u>\$16,146,911</u> |
| Total State and Federal-allocated operating funds | \$16,656,911 |

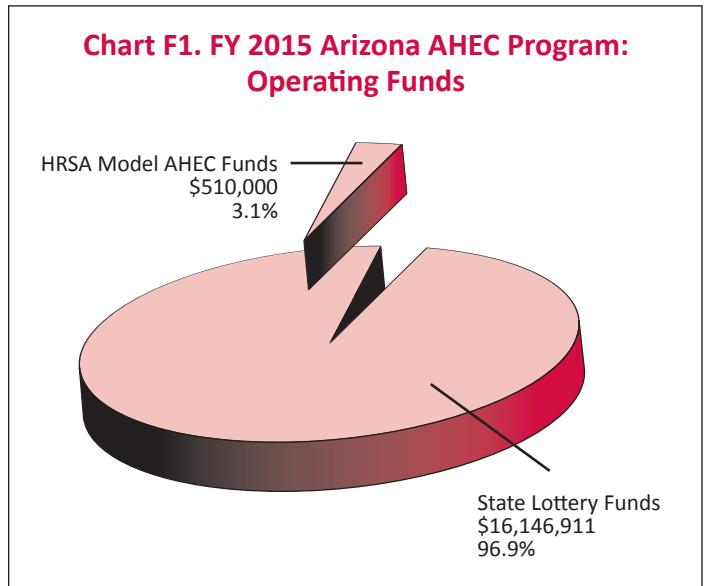


Table F2. FY 2015 Arizona AHEC Program: Actual Federal and State Funds & Expenditures

| Funding Source | Amount |
|---|---------------------|
| Federal Funds | \$520,912 |
| <i>(includes part of FY 2014 allocation distributed in FY 2015)</i> | |
| FY 2015 Lottery Funds | <u>\$16,146,911</u> |
| <i>(includes FY 2014 carry forward)</i> | |
| Sub-Total | \$16,667,823 |
| Expenditures | |
| Program Administration & Operations | \$761,560 |
| Five Regional AHEC Centers | \$2,538,533 |
| <i>(includes part of FY 2014 awards distributed in FY 2015)</i> | |
| Statewide Programming Support | <u>\$1,620,978</u> |
| Sub-Total | \$4,921,071 |
| Total carry forward of state funds to FY 2016 | \$11,746,752 |

Table F3. FY 2015 Arizona AHEC Program: Allocations to the Five Regional Centers

| Funding Source | Eastern Arizona AHEC | Greater Valley AHEC | Northern Arizona AHEC | Southeast Arizona AHEC | Western Arizona AHEC |
|----------------|----------------------|---------------------|-----------------------|------------------------|----------------------|
| Federal | | | | | |
| Model AHEC | \$76,252 | \$76,252 | \$76,252 | \$76,252 | \$76,252 |
| State | \$430,298 | \$430,298 | \$430,298 | \$430,298 | \$430,298 |
| Total | \$506,550 | \$506,550 | \$506,550 | \$506,550 | \$506,550 |

Note: FY15 Subcontract award period is from 9/1/14–8/31/15.

Interprofessional Education (IPE) and Training of Arizona's Health-Care Workforce: *Rural Health Professions Program, Academic IPE, Research and Practice*

Health-care providers of the future must be team-practice-ready regardless of context. AzaHEC supports IPE on many levels, from rural health settings to the classroom and to research. Rural and medically-underserved settings are rich contexts for IPE. Fundamentally, rural health has supported interdisciplinary training and practice for many years. Access to care for rural and underserved communities, health professional workforce shortages, populations that need comprehensive care and prevention approaches have underpinned calls for team-based care for many years. Today, many of those initial drivers for team-based, interdisciplinary care underscore the need for a collaborative-practice-ready health-care workforce: quality, safety, access with emphasis on patient-centered care, integrated, comprehensive care, care coordination, care value, population health management, and continued health workforce shortages.

Preparing the Arizona health-care workforce must consider rural, border, and diversity issues as well as and take health disparities and social determinants of health into account. The rural and urban medically-underserved community context demands ensuring that medical, nursing, pharmacy, public health, allied health, and other health-care professionals have educational experiences that prepare them for rural and underserved practice. Our participating colleges and programs have successful strategies to recruit students into rural practice preparation programs. Through the Rural Health Professions Program (RHPP)—supported by the AzaHEC program—our students are educated and trained in rural and urban medically-underserved communities. The concept of team care is not new for rural practice as rural programs have long-standing histories of interdisciplinary preparation. Greater integration and formalization underpins current IPE strategies—essential to prepare rural health providers to practice collaboratively in teams. Through partnership with our regional AzaHEC centers, we are piloting team-based rotations as well as using telehealth technologies to deliver real-time virtual simulation learning for students who are geographically dispersed. Through an all-program interprofessional approach, students are also educated to be more culturally sensitive and competent. Highlights of our annual interprofessional RHPP conference are also described. Rural training tracks are threaded across multiple opportunities including medical residency training as described too.

Participating colleges provide reports of their RHPPs, and as border health has many complex challenges, we have included a summary of the health professions who trained in border settings in 2014–2015 (see page 38). Summaries about AzaHEC-supported IPE events are included. Select IPE research projects are highlighted, including some that are in progress.



Interprofessional education (IPE) is foundational to improving health-care practice and patient care. Interprofessional education involves educators and learners from two or more health professions and their foundational disciplines who jointly create and foster a collaborative learning environment. In this environment, learners develop the competencies core to effective, collaborative, patient-centered practice that is focused on improving patient outcomes through evidence-based, quality-driven and technology-enabled methods. Interprofessional education aims to develop mutual understanding of and respect for the contributions of various professions and disciplines, thus, socializing health-care providers to work together as a team, share problem-solving and decision-making responsibilities, and improve health care for patients, families and communities. The University of Arizona Health Sciences (UAHS) seeks to become a nationally-recognized premier institution for IPE by 2020, and AzaHEC is proud to serve as a partner in developing interprofessional education and practice models that effectively train our students to practice in teams within our communities.

Arizona Rural Health Professions Program (RHPP)

The Arizona Rural Health Professions Program (RHPP) is a core program supported by AzaAHEC annually since FY 2007. The Arizona State Legislature created the RHPP in 1997 (ARS § 15-1754) to address shortages of health professionals in Arizona's rural communities. The RHPP provides rural training experiences for students from the University of Arizona (UA), Arizona State University (ASU) and Northern Arizona University (NAU). Under legislation each year, the participating schools select ten nurse practitioner (NP) students (UA=4 NP students, ASU=4 NP students and NAU=2 NP students), fifteen medical students from the UA College of Medicine and four pharmacy students from the UA College of Pharmacy to participate in the RHPP. The RHPP is voluntary for student participation but mandatory for the three participating state universities. Beyond the statute, AzaAHEC also supports public health student training experiences.

The RHPP is central to the mission of AzaAHEC to help prepare the health-care workforce for practice in rural and urban underserved communities. While the RHPP statute addresses rural Arizona communities, AzaAHEC also supports training experiences in Arizona's urban medically-underserved communities in order to address primary care provider shortages in both rural and urban areas. Since AzaAHEC initiated financial support of the RHPP, the number of participating students has significantly increased above the statutory requirement, thus exposing a greater number of health professions students to the importance, unique challenges and professional rewards of rural and underserved practice. In 2014–2015, 399 health professions students from the UA, ASU and NAU participated in one or more RHPP training experience(s). Training sites included community health centers, federally-qualified health centers, hospitals, Indian Health Service sites, pharmacies, primary care clinics, public health departments and community organizations serving border, tribal, low-income, disadvantaged, high health disparity and rural populations throughout the state. The following section provides a brief report from each participating RHPP.

The University of Arizona College of Medicine – Tucson Rural Health Professions Program

Carlos R. Gonzales, MD, FAAFP

RHPP Director

Assistant Dean, Medical Student Education

Associate Professor, Family and Community Medicine

The UA College of Medicine – Tucson RHPP offers rural and urban underserved clinical rotations in family medicine, general surgery, internal medicine, obstetrics and gynecology, and pediatrics, thanks to a dedicated network of physician preceptors throughout Arizona. Students have the opportunity to participate



UA College of Medicine – Tucson RHPP students, Rinku Skaria and Faryal Shareef, rotating at Tuba City Regional Health Care

in these community-based rotations during the summer after their first year of medical school as well as during their third and fourth years. The primary objective of the RHPP is that students have ten or more weeks of rural clinical training during their medical education. The college strives to place each RHPP student so that she/he will have a longitudinal experience in the same rural location with the same preceptor, patients and community. By doing so, the student gets to know the community, its benefits and attractions, as well as its socioeconomic and medical issues, while developing clinical skills.

The RHPP is a competitive program and admitted 22 new first-year medical students in fall 2014. In

the second-, third- and fourth-year classes, 66 RHPP students continued to participate in the longitudinal program. In addition to supporting these RHPP students, AzaAHEC funding also allows non-RHPP students, who are interested in rural medicine, to participate in clinical rotations in rural and underserved communities. During 2014–2015, the RHPP supported 176 clinical rotations for RHPP and non-RHPP students, totaling 35,000 hours of community-based training. Among these students (n=124), 37.1% have lived in a rural area, 41.1% are from Arizona, and 37.1% come from a disadvantaged background. The Class of 2015 included 17 RHPP graduates, of whom six are remaining in Arizona for residency, eight are entering primary care residency programs, and three are starting general surgery residencies. In a survey of these graduates (n=13), 100% of respondents intend to obtain further training/employment in an underserved setting, 84.6% intend to work in a rural community, and 76.9% would like to remain in/return to Arizona.

To augment the clinical component of the RHPP, the college has approved a Rural Health Distinction Track to recognize students who are dedicated to rural health care by awarding a certificate



Ponderosa Pediatrics in Prescott, Ariz., regularly precepts RHPP students

of distinction upon graduation. To earn this distinction, RHPP students must complete additional requirements, including a total of 16 clinical rotation weeks in a rural area and a capstone research project related to rural health. This distinction track is now available to students, starting with the Class of 2016.

Students are encouraged to get involved in the community during their rotations. For example, three UA medical students participated in a health fair in Nogales, Ariz. The fair was organized by one of AzaAHEC’s regional centers, Southeast Arizona AHEC.

The college is proud that many RHPP graduates now work in rural and urban underserved areas of Arizona, which contributes to AzaAHEC’s mission to increase and retain the health-care workforce in these communities. Several RHPP graduates also serve as preceptors, helping prepare today’s medical students for future practice in underserved communities. In spring 2015, the college welcomed six new preceptors who were RHPP graduates. These young physicians practice in Tuba City, Show Low, Fort Mohave, Fort Defiance and Safford, Ariz. and demonstrate the continued success of the RHPP.

| The University of Arizona College of Medicine – Tucson: Rural Health Professions Program Outcomes | | | | | | | | | | | | |
|---|------------------------------|---|---------|----------------------|---|---------|-------------------------------------|---------|---|-------------------|--------------------------------|-------------|
| Year | Total Graduates ¹ | All Grads Entering Primary Care Residency | | Total RHPP Graduates | RHPP Grads Entering Primary Care Residency ² | | RHPP Grads Entering Residency in AZ | | Current Activity of RHPP Grads ³ | | | |
| | | Number | Percent | | Number | Percent | Number | Percent | Still Training | Rural AZ Practice | Urban Under-served AZ Practice | Other state |
| 2000 | 100 | 56 | 56% | 13 | 8 | 62% | 8 | 62% | 0 | 4 | 3 | 6 |
| 2001 | 102 | 55 | 54% | 14 | 12 | 86% | 8 | 57% | 0 | 6 | 3 | 3 |
| 2002 | 101 | 62 | 61% | 15 | 12 | 80% | 9 | 60% | 0 | 4 | 3 | 3 |
| 2003 | 91 | 46 | 51% | 13 | 9 | 69% | 8 | 62% | 0 | 4 | 2 | 4 |
| 2004 | 104 | 60 | 58% | 14 | 11 | 79% | 7 | 50% | 0 | 3 | 5 | 5 |
| 2005 | 90 | 50 | 56% | 14 | 11 | 79% | 11 | 79% | 0 | 2 | 4 | 4 |
| 2006 | 86 | 51 | 59% | 11 | 9 | 82% | 3 | 27% | 0 | 2 | 3 | 6 |
| 2007 | 114 | 56 | 49% | 12 | 8 | 67% | 5 | 42% | 0 | 4 | 5 | 3 |
| 2008 | 100 | 51 | 51% | 19 | 11 | 58% | 10 | 53% | 0 | 3 | 4 | 7 |
| 2009 | 119 | 61 | 51% | 19 | 17 | 89% | 8 | 42% | 2 | 2 | 4 | 11 |
| 2010 | 106 | 63 | 59% | 13 | 10 | 77% | 8 | 62% | 2 | 2 | 6 | 2 |
| 2011 | 100 | 50 | 50% | 12 | 10 | 83% | 5 | 42% | 3 | 1 | 1 | 7 |
| 2012 | 141 | 80 | 57% | 15 | 9 | 60% | 5 | 33% | 15 | | | |
| 2013 | 157 | 79 | 50% | 20 | 15 | 75% | 8 | 40% | 20 | | | |
| 2014 | 146 | 90 | 62% | 18 | 12 | 67% | 7 | 39% | 17 | | | |
| 2015 | 119 | 52 | 44% | 11 | 6 | 55% | 6 | 55% | 11 | | | |

¹Graduates include UA College of Medicine – Phoenix 2011 through 2014, due to one RHPP for both colleges during that period.

²RHPP specialties for primary care include family medicine, internal medicine, OB/GYN, general surgery and pediatrics.

³Residency lengths vary from three to seven years.

The University of Arizona College of Medicine – Phoenix Rural Health Professions Program

Jonathan Cartsonis, MD
RHPP Director

With AzaAHEC support, the UA College of Medicine – Phoenix continues to develop its RHPP to build a pipeline of physicians

to rural residency programs and rural medical practices. The RHPP addresses physician shortages at the level of medical education. Through mentorship and rural learning experiences, the program aims to encourage interest in rural medical practice by helping students understand the rewards of rural medicine and appreciate the unique challenges faced by rural populations. Achieving these goals will go a long way toward addressing health disparities in Arizona.

Continued on page 8

UA College of Medicine – Phoenix RHPP

Continued from page 7

The RHPP offers students the opportunity to earn a Rural Health Certificate of Distinction (COD) by completing the following requirements during medical school: a rural health seminar series; a four-week rural clinical experience during the summer after students' first year; 15 weeks of rural clinical experience in family medicine, pediatrics and internal medicine during students' third year; and a rural health scholarly project. The RHPP has accepted two first-year students into its second cohort, bringing the total number of students in the COD track to five. In May 2015, the three students from the original cohort inaugurated the 15-week rural COD rotation.

Jaymus Lee, a Navajo medical student in the class of 2018, completed his first RHPP rotation at Tséhootsooí Medical Center, a tribal hospital located in Fort Defiance, Ariz. on the Navajo Nation. He described his experience as follows:

Every day I looked forward to clinic, whether I was in physical therapy, podiatry, emergency medicine, gynecology, pediatrics, medical-surgical, or family medicine—it was amazing to be surrounded by professionals who were passionate about caring for Navajos. While there are still only a few Native providers in the country, I had the great opportunity to work alongside great Navajo providers who taught me culturally-competent medicine. During my summer, I was able to see many successful culturally-



RHPP students rotating at Canyonlands Healthcare in Page, Ariz. also spend time at the Chilchinbeto Medical Clinic, a remote site on the Navajo Nation

competent initiatives meeting the needs of the community, and I was able to be part of them.

The college is focusing on developing new relationships with preceptors throughout the state in order to grow the number of rural and underserved clinical sites for student rotations. The future goal is to transition to a rural Longitudinal Integrated Curriculum (LIC) that places students in the same rural community for 24 weeks.

During 2014–2015, Jonathan Cartsonis, MD, RHPP director, and Kathleen Brite, MD, Family Community and Preventive Medicine clerkship director, served as clinical curriculum course directors for the Pathway Scholars Program, a one-year post-baccalaureate certificate program for disadvantaged Arizona students who plan to pursue a career in medicine. In its inaugural year, the program helps prepare students to succeed in medical school and guarantees matriculation into the College of Medicine – Phoenix upon successful completion of program milestones and competencies. One third of the 10-student cohort hailed from rural Arizona and have expressed interest in joining the RHPP COD track when they begin medical school.

The RHPP also supports the family medicine clerkship required of all students, and it is anticipated that during the calendar year 2015, 94% of these rotations will take place in rural and urban underserved sites. During 2014–2015, the RHPP supported 84 rotations for the COD track and for the family medicine clerkship in rural and urban underserved settings, totaling 19,720 hours of community-based training. Among these students (n=84), 54.8% are from Arizona and 21.4% come from a disadvantaged background. These rotations provide valuable opportunities to introduce all students to issues and needs in underserved communities. Students previously inexperienced in rural or urban underserved medicine now say they would consider rural or urban underserved practice in their future career.

The University of Arizona College of Pharmacy Rural Health Professions Program

Elizabeth A. Hall-Lipsy, JD, MPH

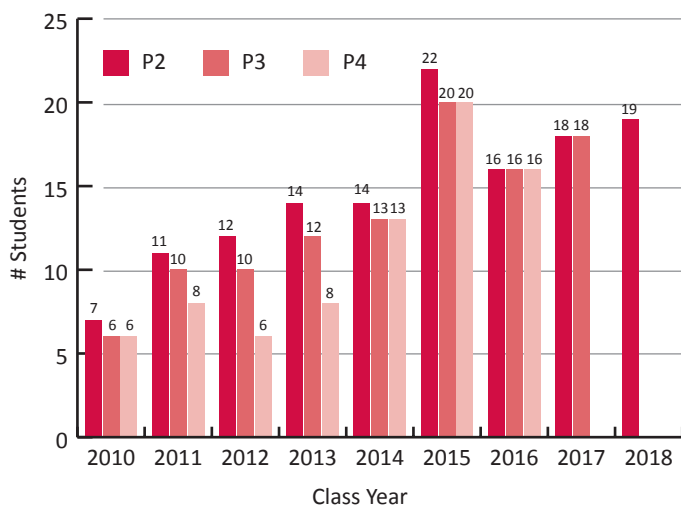
RHPP Director

Assistant Professor

*Program Manager, Health Disparities Initiatives and
Community Outreach*

The UA College of Pharmacy is committed to meeting community needs through pharmacy workforce development programs that address the access challenges of Arizona's rural and medically-underserved communities. Access to health-care services is a top priority, and how a state's health-care workforce is distributed affects access to care, particularly in rural and

UA College of Pharmacy RHPP Participation by Class Year and Year in Pharmacy Program



Note: The Class of 2011 was the first to receive AzaAHEC funding. The Class of 2014 was the first class fully under the certificate model.

remote areas. A recent survey by the UA Center for Rural Health determined that approximately 93% of Arizona pharmacists practice in urban areas, yet approximately 15% of Arizona’s population lives in rural communities. Accordingly, the college is working to address workforce distribution issues through its RHPP, which has dramatically increased students’ exposure and decision to practice in rural and underserved communities.

Students selected for the RHPP are placed in rural communities during three points in their pharmacy education: (1) the summer between first and second year for a four-week introductory community or institutional rotation, (2) the summer between second and third year for a four-week introductory community or institutional rotation, and (3) during fourth year for a six-week advanced pharmacy practice rotation. Over the last six years, the RHPP has expanded from recruiting four first-year student participants per year to an average of 18 new participants per year. Total RHPP participation represents about 20% of the college’s Doctor of Pharmacy (PharmD) student body. In 2014–2015, the RHPP supported 78 rotations in rural and urban underserved areas, totaling 15,120 hours of community-based training. Of the students (n=59) who completed these rotations, 42.4% have lived in a rural area, 45.8% come from a disadvantaged background and 23.7% are from underrepresented ethnic/racial groups.

To improve student retention and to provide additional structure and support to student participants, the RHPP was enhanced to include a Professional Certificate in Pharmacy-Related Health Disparities in 2010. In 2015, 19 graduating students earned the certificate, which is the highest number in program history. In addition to clinical rotations, the certificate requires two

classroom-based courses taught by college faculty: *Community Assessment for Pharmacy Students* and *Health Disparities in the United States*. As a result of the community assessment course, 65 students have conducted community assessments of their RHPP site communities and have presented their findings orally and in written reports. These reports have been shared with the AzaAHEC regional centers working in the communities. During rotations, students also participate in community programs and events coordinated by the regional centers.

Currently, the RHPP is assisting in a collaborative project with the college’s Medication Management Center (MMC), the Arizona Department of Health Services, Northern Arizona AHEC, Western Arizona AHEC and five rural Arizona pharmacies in San Luis, Flagstaff, Taylor, Benson and Willcox. RHPP students helped the pharmacies enroll 400 diabetic patients to receive free comprehensive medication reviews by the MMC team. All participating patients received quarterly one-on-one counseling sessions and regular follow-up consultations, conducted in cooperation with their local clinic and pharmacy staff. Program outcomes, including biometric measures, will be evaluated by the college’s Health Outcomes and Pharmacoeconomic (HOPE) Research Center and a graduate student in public health.

Among the 19 Class of 2015 RHPP graduates, 12 (63%) were selected for a post-graduate pharmacy residency. This is an impressive result given the college’s overall 25% acceptance rate to residency programs. Among the other seven students, two accepted employment at local community pharmacies, one accepted employment at a local hospital pharmacy, and four were undecided at the time of data collection. In a survey of these graduates, 68.4% reported intentions to pursue further training and/or seek employment in an underserved community, 52.6% intend to train/work in a rural setting and 84.2% plan to train/work in Arizona. Employment tracking for all RHPP alumni has revealed that since AHEC funding was awarded, 36 students have obtained post-graduate residency training, 18 have obtained rural employment and 21 became employed in underserved settings. The college is especially proud to report that 12 RHPP alumni are practicing in rural Arizona, and six of these alumni now act as preceptors for current pharmacy students.

UA Pharmacy Student and Alumna Committed to Rural Health and Underserved Practice

Julia Olson is a fourth-year pharmacy student at the UA College of Pharmacy. Julia grew up in Phoenix and also attended the UA as an undergraduate, earning a degree in nutrition and a minor in Spanish. As an RHPP student, Julia completed rotations in Benson, Kingman and Whiteriver, the latter being an Indian Health Service (IHS) site. She looks forward to upcoming rotations in Flagstaff and Fort Defiance. Julia regards participating in the RHPP as one of the best decisions she has made:

The RHPP has broadened my horizons of what health care means in the rural setting. I have been blessed with this opportunity to experience rural Arizona, with its beautiful scenery and unique challenges of rural life. Through the RHPP, I have become a more well-rounded and passionate health-care provider. The two elective courses that are required by the RHPP have provided me with a good foundation of public health and service to underserved communities.

Julia credits the RHPP with inspiring her career path toward working with the IHS and rural populations. She had a particularly influential experience while rotating in Whiteriver, where she assisted an environmental engineer with placing tick collars on feral dogs to help prevent the spread of tick-borne illnesses. This project gave her a newfound respect for the daily challenges her patients faced and helped her recognize the importance and value of public health and community-based health services. Upon graduation, she plans to apply for an IHS residency program. Her career goal is to serve in the U.S. Public Health Service Commissioned Corps and work for the IHS in Arizona.



Julia Olson, PharmD candidate 2016, placing a tick collar on a dog in Whiteriver, Ariz.

Dawne Cylwik, PharmD, participated in the RHPP as a student and graduated from the UA College of Pharmacy in 2014. Dr. Cylwik's childhood in rural Carefree, Ariz. influenced her decision to join the RHPP. As a student, she completed rotations in Flagstaff and at IHS sites in Chinle and Whiteriver. While in Whiteriver, she spent a day with a traveling public health nurse checking on community members and connecting people with resources. Dr. Cylwik remembers how this experience oriented her to the barriers patients encounter in rural communities, such as financial stressors, multi-generational households and extreme poverty:



Dawne Cylwik, PharmD, Clinical Pharmacist at El Rio Community Health Center

Awareness of the community in which you work makes you a better provider, as you are more familiar with what barriers exist to accessing health care, and you also know what resources you have to address these barriers.

After graduating, Dr. Cylwik completed a pharmacy residency at El Rio Community Health Center and now works there as a clinical pharmacist. El Rio is a federally-qualified health center serving southern Arizona. More than half of its patient population lives at or below the federal poverty level. Dr. Cylwik is passionate about working for a community-based organization that cares for a diverse patient population. She plans to continue practicing in an urban underserved setting in Arizona for the foreseeable future. She credits the RHPP with changing her outlook on patient care:

After my first rural rotation I saw firsthand how necessary providers are in medically-underserved areas. My subsequent experiences in both rural and urban underserved areas further solidified my interest to be a provider for the medically underserved. The RHPP-specific classes in health disparities and community assessments improved my understanding of patient and community-related factors that influence health. I continue to apply the knowledge from these courses every day in practice. I also feel the RHPP certificate program made me a more compassionate and empathetic provider, and I wish that more providers had similar training.

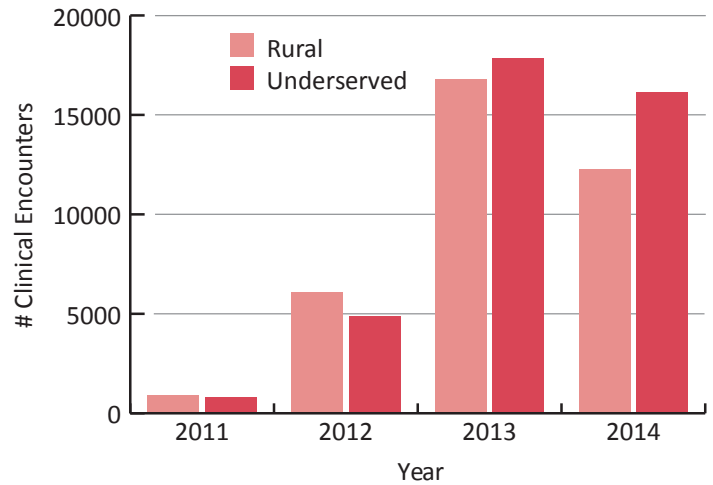
The University of Arizona College of Nursing Rural Health Professions Program

Christy Pacheco, DNP, FNP-BC
RHPP Director
Clinical Assistant Professor

Consistent with the AzaHEC mission, the UA College of Nursing RHPP aims to address the health-care workforce shortage through the preparation of doctoral-level NPs who have expertise in providing care to rural and medically-underserved populations, with a particular focus on Arizona. Every county in Arizona is experiencing a shortage of primary care providers in both rural and urban areas. NPs are uniquely positioned to provide primary care services with a focus on prevention and community/population health. The college prepares doctoral-level NP students for rural and underserved practice through a comprehensive RHPP Scholar curriculum that includes didactic and clinical components. RHPP scholars must complete rural-health-focused coursework, web-based and on-campus seminars, a practice inquiry project related to rural health, and community-based clinical rotations in rural and urban underserved areas. Students who successfully complete these requirements receive an RHPP certificate upon graduation.

The College of Nursing RHPP has experienced significant growth in participation and increased collaboration with other RHPP directors and AzaHEC regional centers. The program nearly doubled during the 2014–2015 academic year, with the acceptance of 27 new RHPP scholars, for a total of 48 RHPP scholars. Notably, fourteen (52%) of these new scholars are from rural Arizona communities and plan to return to these areas after graduation. Since the Doctor of Nursing Practice (DNP) degree is an online program, multiple on-campus meetings and

UA College of Nursing Number of Rural and Medically Underserved Clinical Encounters Over Time



presentations were conducted to bring together RHPP scholars and other DNP students interested in rural health. Virtual rural health seminars offered students additional opportunities to network with colleagues and discuss clinical rotations as well as rural health research projects and coursework. In a survey of students in their final semester, students strongly agreed that (1) coursework improved their knowledge in caring for rural and/or medically-underserved populations, (2) clinical rotations improved their expertise in caring for rural and/or medically-underserved populations, and (3) they had the support they needed to conduct their rural rotations.

In 2014–2015, the RHPP supported 43 rotations in rural and urban underserved areas, totaling 13,400 hours of community-based training. Of the students (n=30) who completed these rotations, 63.3% have lived in a rural area, 56.7% come from a disadvantaged background, 26.7% are from underrepresented ethnic/racial groups, and 40.0% are from Arizona. In a survey of 2015 graduates (n=4), 100% intend to pursue employment and/or additional training in primary care in an underserved setting, 75% would like to work/train in a rural area, and 75% would like to remain in Arizona.



UA College of Nursing RHPP students at Resident Intensive Summer Experience (RISE), a requirement for all DNP students

Arizona State University College of Nursing & Health Innovation Rural Health Professions Program

Diane E. Nuñez, DNP, RN, ANP-BC, FNAP

RHPP Director

Clinical Associate Professor

Clinical Coordinator, Adult Health

The ASU College of Nursing & Health Innovation RHPP aims to provide clinical opportunities for primary care DNP students to work in rural and urban medically-underserved areas throughout the state, while fostering interdisciplinary educational opportunities that stimulate and cultivate students' interest in careers in underserved settings. This contributes to the AzaHEC mission to develop a culturally-competent, diverse health-care workforce to help reduce health disparities and improve health outcomes for vulnerable Arizona populations. DNP students are selected as RHPP fellows based on their essay statement and interview, leadership and community involvement, scholarship activities and potential to seek employment in AzaHEC focus areas upon graduation. Participants' nursing disciplines include family nursing, adult/geriatric nursing, pediatrics and family psychiatric mental health. A clinical and an academic mentor guide RHPP fellows during the program to foster positive clinical experiences and encourage fellows to remain in an AzaHEC service area upon graduation.

In 2014–2015, the RHPP supported 24 rotations in rural and urban underserved areas, totaling 3,130 hours of community-based training. Of the students (n=12) who completed these rotations, 50.0% are from a rural area, 41.7% come from a disadvantaged background, 25.0% are from underrepresented ethnic/racial groups, and 25.0% are from Arizona. Clinical experiences are being enhanced to offer long-term rotations across two to four semesters in order to foster deeper community engagement and long-term patient care continuity. These long-term rotations are part of a pilot advanced practice nurse residency program beginning in summer 2015.

Ten RHPP students graduated in spring 2015, and 90% intend to pursue employment and/or further training in primary care in an underserved community in Arizona. In addition, 40% of these graduates intend to work/train in a rural area.

The college's academic scholarship committee fosters networking, outreach, community service and education opportunities for RHPP fellows to interact with other interprofessional groups of students. This approach assists



ASU RHPP DNP student, Jacqueline Kasnot, BSN, RN, presenting her poster about the Wesley Community Center project during the Interprofessional Rural Health Professions Conference on April 17, 2015

the students in developing interdisciplinary knowledge and expertise in the unique challenges of working in rural and urban medically-underserved areas, along with an understanding of the relevant health and access issues these populations face. Specific opportunities that arose during 2014–2015 included organizing, planning and participating in HopeFest, a large-scale community outreach event; development of new health interventions in underserved areas; and evaluation of student practice inquiry projects. For example, at Wesley Community Center, an adult/gerontology DNP student worked closely with the medical director to implement a pilot student-driven interprofessional care coordination program for complex, chronically-ill patients. The care coordination student team included the DNP student investigator and students in medicine and social work. These students held monthly team meetings, which proved to be an effective method of promoting collaboration among interprofessional student and provider team members. Wesley Community Center is a federally-qualified health center providing care for underserved patients in Phoenix.

The college remains committed to evidence-based and interprofessional education programs that have demonstrated effectiveness in reducing disparities and improving health outcomes. By providing these educational opportunities to RHPP and other students, the college aims to prepare NPs to provide quality, team-based care for Arizona's rural and medically-underserved populations.

Northern Arizona University School of Nursing Family Nurse Practitioner Program Rural Health Professions Program

Douglas Sutton, EdD, MSN, MPA, APRN, ANP-C, ACNS-BC
*RHPP Director
Associate Professor and
Coordinator of Master's Nurse Generalist Track*

With AzAHEC's support, NAU School of Nursing's RHPP provides master-level family nurse practitioner (FNP) students with didactic experiences and clinical support during their rural-focused program. The project has three goals: 1) Hold a week-long intensive "boot camp" for new FNP students to transition from registered nurse (RN) to advanced practice roles; 2) Provide FNP students with financial support for clinical training in rural and urban medically-underserved communities; and 3) Increase opportunities for students to participate in curricular and clinical interprofessional activities. The FNP curriculum emphasizes preparation for advanced nursing practice in rural, frontier and underserved areas. As core requirements, students take a rural health and policy course as well as a rural-focused family theory course. Primary care courses include diversity education and case studies with a focus on social determinants of health, which are important considerations in rural health. The didactic experience and placements in rural and underserved settings allow for the education of NPs well-suited to provide high-quality, culturally-competent care in any clinical setting. During the calendar year 2014, FNP RHPP students logged 1,800 patient visits, which included more than 400 American Indian and 100 Hispanic individuals.

During 2014–2015, the RHPP supported 40 rotations in rural and urban underserved communities, totaling 12,000 hours of community-based training. NAU's FNP students come from diverse backgrounds, and more than half come from rural communities, including the Navajo Nation. Among the students (n=20) who completed rotations this year, 80% come from disadvantaged backgrounds, 55% have lived in a rural area, and 55% are from Arizona. In a survey of spring 2015 graduates (n=20), 90% intend to remain in Arizona, 90% plan a career in primary care, 80% intend to pursue employment and/or further training in an underserved community, and 55% would like to work/train in a rural area. In the previous six graduating classes, 88–100% of FNP graduates accepted employment in rural and medically-underserved communities, demonstrating the continued success of the RHPP in contributing to the AzAHEC mission of increasing the health-care workforce in underserved areas.

In May 2015, 35 new FNP students attended "boot camp," which included lab sessions and skills development in health assessment for adult, older adult and pediatric patients; didactics on women's health and a simulated childbirth experience; suturing and advanced office procedures; and joint assessment and splinting. Classes covered essential topics, such as evidence-based practice, comprehensive lab interpretation, diagnostic testing and radiology, differential diagnosis, documentation and coding, 12-lead electrocardiogram interpretation, and management of the pregnant patient in primary care. A lecture about cost-effectiveness taught students how to manage care when financial resources are limited. Students consistently evaluate this experience as important to their future careers and clinical skills.

Students now have the opportunity to participate in interprofessional clinical rotations hosted by North Country HealthCare / Northern Arizona AHEC. Interprofessional activities include participation in grand rounds, patient medication reconciliation, disaster preparedness training, and clinical case studies. As another interprofessional opportunity, the NAU College of Health and Human Services held Family Health Day in April 2015. Faculty and students across disciplines assisted with health screenings and health education for attendees from the community.



The NAU School of Nursing RHPP welcomed **Douglas Sutton, EdD, MSN, MPA, APRN, ANP-C, ACNS-BC**, as the new director in June 2015. Dr. Sutton is an associate professor at NAU and also coordinates the master-level nurse generalist track. He is a board-certified adult health nurse practitioner and adult clinical nurse specialist. He earned a master's degree in nursing administration from the University of Florida as well as a post-graduate certificate in adult health nursing and a doctor of education degree from Florida International University. Before moving to Flagstaff in 2014, Dr. Sutton worked as an assistant nursing professor in Florida. He is dedicated to community engagement and volunteers with the Northern Arizona Council of Governments Area Agency on Aging. He looks forward to directing NAU's RHPP to continue effectively preparing future NPs for practice in underserved communities of Arizona.

The University of Arizona Mel and Enid Zuckerman College of Public Health Rural Health Professions Program

Jill Guernsey de Zapien

RHPP Director

Associate Dean, Community Programs

A strong and vibrant partnership between the UA Mel and Enid Zuckerman College of Public Health and AzaAHEC continues to be the heart of the public health RHPP, the aim of which is to increase the number of public health students who practice in rural and underserved communities in the state of Arizona. The program offers a variety of opportunities for master- and doctoral-level public health students to participate in service learning and develop creative, innovative internships that support public health in Arizona. In partnership with community organizations and the public health infrastructure throughout Arizona, faculty and students work together to build health equity in Arizona's underserved communities. The program's specific objectives include:

- ▶ Create opportunities for master of public health (MPH) and doctor of public health (DrPH) students to participate in service learning courses and field experiences that increase their knowledge and understanding of public health issues and provide them with direct exposure to and participation in public health programs that are implemented in Arizona's rural and underserved communities.
- ▶ Provide opportunities for MPH and DrPH students to have positive internship and practicum experiences in rural and underserved communities that will impact their career choices upon graduation.



Public health students visiting a local gardening cooperative, as part of the Border Health Service Learning Institute

- ▶ Develop opportunities for faculty and academic professionals to partner with community-based organizations to meet community public health needs.
- ▶ Support interprofessional service learning experiences for students from all of the health sciences.

Objectives were accomplished through five 1-unit service learning courses. Since the inception of the RHPP at the Zuckerman College of Public Health in 2007, service learning has been foundational to our program. These one-week courses are field-based immersion experiences with direct engagement of select communities and populations; integration of meaningful community service; and instruction and reflection that enriches the learning experience, teaches civic responsibility and strengthens the sense of community. The service learning courses involve strong collaboration with the five AzaAHEC regional centers.

| Course | Course Name | # Students | Course Location | Themes | Communities | Date |
|----------|---|------------|---------------------------|---|--|--------------|
| CPH 597A | Family & Child Health Issues in Urban Settings | 13 | Tucson, Ariz. | Behavioral health, health-care reform, juvenile justice, immigration reform | Refugees, immigrants, homeless, adjudicated youth, LGBT, urban American Indian communities | August 2014 |
| CPH 597B | Maternal and Child Health Programs in the Rural North | 14 | Flagstaff, Ariz. | Community-based outreach and research, chronic disease, tribal health systems, rural health, culture, sovereignty | American Indian women, youth and families; community health workers | May 2015 |
| CPH 597C | Border Health Service Learning Institute | 14 | Douglas, Ariz. | Border health, health disparities, economic development, migration | Farm workers, community health workers, low-income populations | August 2014 |
| CPH 597D | Rural Health Service Learning Institute | 11 | Thatcher & Safford, Ariz. | Health promotion, environmental health, economic security, community collaboration | Rural mining communities and San Carlos Apache tribal communities | August 2014 |
| CPH 597F | Phoenix Urban Service Learning | 13 | Phoenix, Ariz. | Urban underserved populations, community-based outreach and research | Underserved communities in Phoenix | January 2015 |

The RHPP also supported four students conducting internships and two students completing rural health policy practicums in AzaHEC regions of service. In July 2014, the first Interprofessional Border Health Activity took place in Nogales, Ariz. in collaboration with Southeast Arizona AHEC. This two-day activity focused on building healthy communities and included ten students and five faculty members from the UA



Students and faculty discussing access to health care in Nogales, Ariz. during the Interprofessional Border Health Activity

Colleges of Medicine, Nursing, Pharmacy and Zuckerman College of Public Health. Interprofessional teams examined issues of access to care in the border region within the framework of addressing health disparities and chronic disease, building local infrastructure and strengthening community programs. The RHPP plans to conduct this activity annually.

The public health RHPP is key to transforming the lives of students, faculty and community partners. The program continues to provide the mechanism for the college to partner on critical health issues in a meaningful manner and truly reinforce the passion of students to make a difference in the quality of life for underserved communities. The students (n=70) who participated in the 2014–2015 public health field experiences show great diversity: 37.1% are from underrepresented ethnic/racial groups, 42.9% come from disadvantaged backgrounds, and 24.3% have lived in a rural area. After their field experiences, students report an increased sense of responsibility to serve the community and a stronger commitment to making a difference in the community. In post-service-learning surveys (n=61), 98.4% of students reported their intention to pursue employment and/or further training in an underserved setting, and 100% intend to work in primary care, prevention, health promotion, and/or community health. In addition, 75.4% of these students would like to remain in Arizona, and 50.8% intend to work/train in a rural area.

Third Annual Interprofessional Rural Health Professions Conference

The Third Annual Interprofessional Rural Health Professions Conference was held on April 17, 2015 at UAHS with 157 participants, including health-care professionals from the community and students, faculty, and staff from the RHPPs at ASU College of Nursing & Health Innovation, NAU School of Nursing and the UA Colleges of Medicine – Tucson and Phoenix, Nursing, Pharmacy and Zuckerman College of Public Health. Fifteen participants took part in the conference through online streaming and video conferencing, and 142 participants attended in Tucson. The conference featured a keynote presentation by Roberto Dansie, PhD, who shared insights on cultural wisdom, rural health and interprofessional practice. As a Maya and ancient wisdom scholar, Dr. Dansie, a clinical psychologist and a member of the Toltec tribe of Mexico, is internationally recognized as a contemporary authority on cultural wisdom. In the afternoon, John Bormanis, PhD, and Randa Kutob, MD, PhD, from the UA College of Medicine – Tucson, presented an overview of the practice of culturally-competent care. Conference participants then completed small-group workshop activities on cultural self-awareness and culturally-competent care. Twelve faculty and other health professionals facilitated the small groups.

The conference included a poster session with 23 posters from students and researchers at ASU College of Nursing & Health Innovation, the Partnership for Native American Cancer Prevention, and the UA Colleges of Medicine – Phoenix, Nursing, Pharmacy and Zuckerman College of Public Health. Example poster topics included substance abuse and effective treatment for adult American Indian/Alaska Native populations; dietary approaches for controlling hypertension in Hispanic populations; treating lung disease in rural practice; smoking cessation for low-income adults; use of student-driven interprofessional collaboration to improve patient outcomes at a federally-qualified health center; and team care for diabetes self-management education. These posters can be viewed online at http://rhpp.azahec.org/events/pdf_2015.htm.

As a result of the conference, surveyed participants reported an increased awareness of different cultural institutions and systems, an increased level of comfort working with individuals from different cultural backgrounds, and a greater belief that cultural competency is important in the clinical care of patients. Participants also more strongly agreed that the team approach improves the quality of care to patients, that patients receiving team care are more likely to be treated as whole persons, and that the give-and-take among team members helps them make better

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Roberto Dansie, PhD, giving the conference keynote presentation



Third Annual Interprofessional RHPP Conference

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patient care decisions. Strengthening health-care providers' cultural competence is essential for addressing health disparities and improving the quality of care for diverse patient populations.

This event is sponsored in part by funds from the Division of Nursing (DN), Bureau of Health Professions (BHPr), Health Resources and Services Administration (HRSA), Department of Health and Human Services (DHHS) under grant #D09HP25031

Technology Enhanced Rural Interprofessional Primary Care FNP Education. The information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor would any endorsements be inferred by the DN, BHPr, HRSA, DHHS, or the U.S. Government. Support for this event was provided by AzaHEC, the UA College of Nursing and the UA College of Medicine Office of Diversity and Inclusion.

AzaHEC Supported Interprofessional Education for University of Arizona Health Sciences Students

The University of Arizona is an early adopter of IPE. For several years, IPE events have engaged students from medicine, nursing, pharmacy, and public health through hands-on opportunities for students to learn and practice in interprofessional, collaborative, team-based environments to provide safe and quality patient-centered care. In 2014–2015, four interprofessional training exercises brought together participants from the UA Colleges of Medicine, Nursing, Pharmacy and Zuckerman College of Public Health as well as from other disciplines and universities. These exercises blended online learning with

in-person team-learning experiences to encourage collaboration and communication across disciplines and professions. At each exercise, students worked together in interprofessional teams and interacted with interprofessional facilitators from both academia and professional practice. After each exercise, surveys indicated that more students strongly agreed that the team approach improves the quality of patient care.

In fall 2014, the first of the four exercises, *Interprofessionalism for Patient Safety*, included more than 350 health professions students in the UA Colleges of Medicine, Nursing and Pharmacy and focused on how collaborative teamwork promotes positive patient outcomes. Students learned about shared and complementary scopes of practice and how to be constructive team players. Also during the fall semester, *Pandemic: An Exercise in Disaster Preparedness* integrated video conferencing technologies between the UA Tucson and Phoenix campuses and Northern Arizona AHEC with the technical support of the Arizona Telemedicine Program. Richard Carmona, MD, MPH, FACS, 17th Surgeon General of the United States, gave the event's keynote address. Participation included more than 500 students from the UA Colleges of Law, Medicine – Phoenix, Medicine –



Student teams discussing case scenarios during an interprofessional exercise

Tucson, Nursing, Pharmacy, Zuckerman College of Public Health, and School of Journalism; ASU School of Social Work; NAU FNP and physician assistant programs; Midwestern University; and Southwest College of Naturopathic Medicine & Health Sciences. Working in interprofessional teams, students took part in a simulated pandemic flu emergency, responding to situations involving allocation of limited resources, triage of care, and ethical decision-making. Decisions required combining the unique perspectives and areas of expertise among the professions represented on each team. Students also discussed how they might address an Ebola outbreak, given recent world events.

In spring 2015, students again had the opportunity to simulate interprofessional practice during the *Interprofessional Team Behavior Simulation*. Close to 400 students from the UA Colleges of Medicine, Nursing and Pharmacy and the NAU physician assistant program were assigned to interprofessional teams of six to ten members. Teams responded to a simulation manikin having a heart attack, using the simulation lab technologies of the UA College of Medicine – Tucson’s Arizona Simulation and Technology Education Center (ASTECC), the UA College of Medicine – Phoenix’s Center for Simulation and Innovation and the UA College of Nursing’s Steele Innovative Learning Center. This exercise focused on team skills and effective communication. The final event for the academic year, *Disabilities: An Interprofessional Exercise*, involved more than 440 students from the UA Colleges of Medicine, Nursing, and Pharmacy and the ASU School of Social Work. Through a situational learning exercise and a panel discussion with members from the community,

students learned the importance of multiple communication methods, social and cultural understanding and interprofessional, team-based practice in caring for patients with disabilities.

Recognizing that many UA students are not co-located due to two UAHS campuses and online-delivered programs, new models of IPE delivery were tested in spring 2015. These models, described in the following section, demonstrated successful proof-of-concept that virtual simulations effectively deliver IPE.

Leading Edge Interprofessional Virtual Simulations—Successful Proof of Concept

In spring 2015, AzAHEC conducted two pilot interprofessional rural telemedicine simulations. For the first simulation, AzAHEC and ASTECC staff travelled to the Greater Valley AHEC in Apache Junction, Ariz. The simulation involved a morning and an afternoon session, each with two simulated cases, a pediatric cardiac arrest scenario and a birthing scenario. Both sessions involved telemedicine connections with learners at Northern Arizona AHEC and Western Arizona AHEC. These remote learners were prompted to actively participate in the simulations. In total, 17 students participated, including eight medical

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Virtual Simulations

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students, four nursing students, two pharmacy students, two public health students, and one social work student from multiple universities/colleges in Arizona. The simulation provided a realistic health-care situation where team members might be located at different sites, and it demonstrated the importance of interprofessional collaboration and communication for quality patient care.

Ten UA health sciences students participated in the second interprofessional rural telemedicine simulation, which tested a cutting-edge teaching/learning model implementing iPad technology. Four students, two each from the UA Colleges of Nursing and Pharmacy, participated in the simulation remotely from Flagstaff, Kingman, and Phoenix, Ariz. and Minneapolis, Minn. via iPad video conferencing. They provided support to a six-student, Tucson-based team delivering care to a simulation manikin experiencing a heart attack. The Tucson-based team consisted of two students each from the UA Colleges of Medicine – Tucson, Nursing and Pharmacy. The students were facilitated by an expert simulation instructor. The event was a collaborative effort between Arizona AHEC, ASTEC, and the Arizona Telemedicine Program.

This second pilot simulation achieved the outlined goals of testing the iPad video conferencing technology and determining the usefulness of such technology in expanding the reach of student learning opportunities and educational simulations. In addition, students had the opportunity to reflect on and improve their skills working as a team, implementing constructive,



Health professions students participating in a pediatric simulation at the Greater Valley AHEC



Health professions students participating in a birthing simulation at the Greater Valley AHEC



UA RHPP students treating a simulation manikin while conferring with their peers through video conferencing

interprofessional communication and self-assessing their level of clinical knowledge and comfort in a code situation. AzAHEC envisions this concept as a way to create the virtual clinic and develop teaching and learning opportunities for students located on different campuses or participating in rotations in different communities in Arizona.

This event is sponsored in part by funds from the Division of Nursing (DN), Bureau of Health Professions (BHPr), Health Resources and Services Administration (HRSA), Department of Health and Human Services (DHHS) under grant #D09HP25031 Technology Enhanced Rural Interprofessional Primary Care FNP Education. The information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor would any endorsements be inferred by the DN, BHPr, HRSA, DHHS, or the U.S. Government.

AzAHEC Supported Academic Programs

The University of Arizona College of Medicine at South Campus Family Medicine Residency and Internal Medicine Residency Rural Programs

Peter Catinella, MD, MPH

Rural Curriculum Director

Rural Primary Care Resident Rotations and Rural Community Experiences

The University of Arizona College of Medicine at South Campus family medicine and internal medicine residency programs dedicate a portion of resident training to rural areas of Arizona. This experience provides resident physicians an experience of the professional and personal benefits of living and working in these communities. During 2014–2015, AzAHEC provided funding for first-, second- and third-year family medicine residents to complete rural family medicine, obstetrical and emergency medicine rotations in Nogales, Polacca, Safford, Show Low, Tuba City and Whiteriver, Ariz., totaling 28 rotations and 5,734 hours of community-based training. Funding also supported internal medicine residents in completing 37 rotations in Arivaca, Green Valley and Marana, totaling 2,777 hours of community-based training.

Residents, early in their last year of training, receive information about available rural positions to encourage them to interview with those clinics and hospitals. A majority of the graduating residents interview with at least one rural community in Arizona. Among the seven family medicine graduates in 2015, six intend to practice in an underserved setting, four would like to practice in a rural community, and six would like to work in Arizona.



The Hopi Health Care Center regularly precepts residents and students

Among the nine internal medicine graduates in 2015, six intend to practice in an underserved setting and six would like to work in Arizona. The program is proud to report that among the 2014 family and internal medicine



Graduate Medical Education (GME), or residency education, is a period of didactic and clinical education in a medical specialty that physicians undergo after they graduate from medical school. Most residency programs last from three to seven years, and during this time residents provide patient care under the supervision of physician faculty. Upon completion of a residency program, a physician is eligible to take board certification examinations and practice independently. Residency programs are sponsored by teaching hospitals, academic medical centers, health care systems and other institutions.

graduates, seven are currently practicing in an underserved community, two are currently practicing in a rural area, and six are currently working in Arizona. Our residents truly demonstrate a long-term commitment to rural and underserved health care.

AzAHEC funding also supports courses to prepare residents for rural practice environments, including Advanced Trauma Life Support (ATLS), Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS), Neonatal Resuscitation Program (NRP) and an introduction to medical Spanish. AzAHEC funding allows for our rural supervising physicians to receive ongoing faculty development support within the rural community practice sites by Tejal Parikh, MD. This highly-praised component includes shadowing and teaching feedback regarding resident teaching models and experiences. Rural preceptors provide exceptional teaching, and residents' feedback on their rotations is very positive.

Our family medicine and internal medicine residents view their rural rotations as a key element of their training.

As a family medicine resident, spending time in the rural setting is invaluable. In the academic center, we get great education and see rare cases, but it is in the rural setting that we get to experience the full scope of our practice... Being able to work in a real world setting where in one day you can manage patients on the hospital service, see people in clinic, and deliver a baby is time well invested in terms of education.

– Joshua Clutter, MD (PGY-2)

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UA College of Medicine at South Campus

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Tuba City Regional Health Care regularly precepts residents and students

The rural rotations expand our residency experience greatly. They provide opportunities to work with different communities and expand our knowledge and appreciation for different cultures. They allow us to work in different health-care systems to gain a better appreciation for health-care delivery and how it can be done differently... Perhaps most importantly, they challenge us to function more autonomously, as the resources in rural locations tend to be fewer... I have loved my rural rotations in the past and look forward to more in the future. I really believe they are helping me to become a better doctor, and without them I would have never considered practicing in a small town. Now, I try to think of how to convince my partner to move to a small town!

– Shana Semmens, MD (PGY-2)

Mobile Health Program Obstetrics

The Mobile Health Program Obstetrics (MHP OB) continues to provide prenatal, postpartum and contraceptive counseling/ services to patients in Tucson. Family medicine preceptors, Elizabeth Moran, MD and Victoria Murrain, MD, provide supervision for obstetrical clinics at two different locations. Third-year family medicine residents rotate through the program weekly, providing direct patient care as well as teaching volunteers and students in mobile health clinical rotations. Additionally this year, first-year family medicine residents participated in MHP OB during their community medicine rotation to provide them with early hands-on training in continuity obstetrical care. MHP OB has also developed an excellent interprofessional experience for other learners, including nursing, pharmacy and undergraduate students. Dr. Murrain described the experience of one nursing student, “One student who rotated with us was elated, as the site of the clinic was also the location where she had attended elementary school, in the community where she grew up. She left the experience with hopes of returning as a nursing provider in the future.”



The UA College of Medicine at South Campus family medicine and internal medicine residency programs are pleased to announce Peter Catinella, MD, MPH as the new rural curriculum director. Dr. Catinella attended medical school at the UA College of Medicine, followed by residency at Banner Good Samaritan Medical Center (now Banner – University Medical Center Phoenix) and a faculty development fellowship with the UA Department of Family & Community Medicine/College of Medicine. He also earned his MPH from the University of South Florida. Dr. Catinella previously served as the chief medical information officer for the University of Arizona Health Network, and he is currently a medical informaticist for Banner – University Medical Center Tucson. He is an associate professor in the UA Department of Family & Community Medicine. His areas of interest include clinical informatics, teaching residents about practice management, coding and organizational development and dynamics, as well as topics in the field of public health.

NAHEC/North Country HealthCare Family Medicine Residency Program

Sean Clendaniel, MPH

NAHEC Director

Years in the making, NAHEC/North Country HealthCare is developing a family medicine residency program. The need has never been higher, the solution never clearer and the opportunity never better to develop the only residency program covering the northern third of Arizona and accredited by the Accreditation Council for Graduate Medical Education (ACGME). Unique in its location and model as the only community-health-center-owned residency in state, this program will be a bellwether health professions and medical education program for the Flagstaff community, the state of Arizona and the nation.

The physician shortage facing our nation and Arizona is a serious issue, and family medicine physicians are well-suited to meet the health-care needs in rural and frontier areas. Our new family medicine program will be one-of-a-kind in the state. It will help meet regional and statewide primary care workforce needs, increase access to care, develop a culturally-attuned physician workforce, have far-reaching economic impacts and address long-standing health disparities.

Our ACGME sponsoring institution application for the family medicine residency program is currently under review. The program will begin accepting residents in summer 2017.

The University of Arizona Mel and Enid Zuckerman College of Public Health Master of Public Health Program in Phoenix

Cecilia Rosales, MD, MS

*Assistant Dean, Phoenix Programs
Associate Professor of Public Health*

The UA Mel and Enid Zuckerman College of Public Health Phoenix campus offers a master of public health (MPH) degree program in public health practice (PHP) (established in 2010) and health services administration (HSA) (established in 2014). AzaAHEC has provided support since the program began in 2010. The PHP concentration will receive its sixth cohort of students, and the HSA concentration will have its second cohort in fall 2015. Students also have the option to complete a dual degree: doctor of medicine (MD)/MPH. A total of 79 new and continuing students are now enrolled as of fall 2015. Both the PHP and HSA concentrations combine distance and in-person teaching modalities. Core courses include epidemiology, biostatistics, environmental and occupational health, public health policy and management and socio-cultural and behavioral aspects of public health. As a culminating experience, an internship or capstone project is required of all students prior to graduating, and it allows students to integrate classroom learning in practice settings.

In 2014–2015, 15 MPH and MD/MPH students commenced internships with a variety of public health community organizations and agencies, especially in underserved communities of Arizona’s Greater Valley region. Students’ internships ranged from 270 to 540 hours and covered diverse public health topics in disease prevention/health promotion, epidemiology, health policy/management and social/behavioral science. Examples of projects include: “Evaluation of Oral Health Delivery & Accessibility in American Indian Tribes in Arizona,” “Improving Services for Medicare Patients in a Rural FQHC Setting” and “Assessment of Accessibility to Diabetes Self-Management Education (DSME) Programs.” Students worked with the Arizona Department of Health Services, Banner Health, Greater Valley AHEC, North Country HealthCare and many others. In a survey of 2015 MPH graduates (n=11), 100% reported intentions to pursue employment and/or further training in an underserved community, 63.6% were

interested in working in a rural area, and 90.9% would like to remain in Arizona.

The college’s Phoenix campus staff continues to cultivate strong relationships with community partners in order to recruit prospective students, develop internship projects, share information about college events and collaborate with community public health professionals in curricular activities. Outreach efforts have targeted state and county health departments, local hospitals, community health centers, ASU, NAU, the AzaAHEC regional centers and others. To reach both traditional and non-traditional prospective students, the college’s staff hosted multiple virtual recruitment events, in addition to in-person informational sessions and participation in multi-university career fairs. After a successful conference in 2014, the college looks forward to continued involvement in the next Health Equity Conference, planned for October 2015. The conference will highlight current health equity research and outreach in Arizona and offer opportunities for networking and collaboration among public health organizations and practitioners.

In partnership with Greater Valley AHEC and Northern Arizona AHEC, the college regularly conducts outreach workshops and presentations in local high schools and at youth events to discuss public health, specifically its importance to communities and value as an educational path and future career. Public health career workshops include team-based interactive activities, such as an outbreak investigation; discussions of public health in the media; presentations about the importance of interdisciplinary

Continued on page 22



Health Sciences Education Building, Phoenix

UA Zuckerman College of Public Health Phoenix Program

Continued from page 21

collaboration in the health sciences; and examples of how public health practitioners work at the county, state and national levels to promote health, prevent disease and protect communities. During 2014–2015, these sessions reached more than 380 students at multiple high schools and events in rural and underserved areas. According to teacher feedback, these sessions have generated student interest in public health careers.

Integrating Pharmacy Practice Residents and Student Pharmacists into Practice to Promote Innovative Pharmacy Services in Rural Arizona

Amy K. Kennedy, PharmD, BCACP, Assistant Professor;
Kathryn Matthias, PharmD, BCPS, Assistant Professor;
Elizabeth Hall-Lipsy, JD, MPH, Program Director for Health Disparities Initiatives and Community Outreach
UA College of Pharmacy

With the recent passage of national health-care reform and the documented impact of pharmacists on patient outcomes and health-care related costs, it is more important than ever to ensure that patients have access to quality pharmacy care and that our future pharmacists receive the necessary training to improve patient care and outcomes. This grant provides an interprofessional training and pharmacy workforce development program in a rural setting for pharmacy students and pharmacy residents. Additionally, this program includes expanded clinical pharmacy services for a rural, border population that suffers from significant health disparities.

We have successfully recruited a resident at North Country HealthCare and are actively recruiting for the 2016–2017 cycle at Kingman Regional Medical Center, Banner Casa Grande Medical Center, Flagstaff Medical Center and Sun Life Family Health Center. These sites were chosen based on stakeholder interviews and potential capacity for trainees. Preceptor education and residency objectives have been developed and will be disseminated to programs this fall for their review. Evaluation of the current resident is ongoing and will continue to occur through the next cycle.

At our site visits to the programs this fall, we will be assessing the current pharmacy services at each site. We are currently writing a best-practice document for rural residency training and continue to evaluate feasibility of expansion to other sites and sustainability for each program in the future.

We are developing a rotation elective that encompasses the AzaHEC regional centers as health promotion is included as part of the pharmacy residency accreditation process. We will be visiting with each practice site and regional center to determine the best schedule for this elective and how to utilize technology to engage programs from across the state.



AzaHEC Sponsorship

AzaHEC was proud to again be a platinum sponsor of the 42nd Annual Rural Health Conference in Sedona, Arizona in August 2015. This annual event is presented by the UA Mel and Enid Zuckerman College of Public Health, Center for Rural Health. The conference provides an environment to dialogue, network and attend educational activities regarding rural health. Conference information can be found at <http://crh.arizona.edu/events/annual-conference>.

Intramural Grant Program

Since 2007 the AzaHEC program has supported innovative, interprofessional education programs and research through a competitive intramural grant program. In 2014–2015, three grant programs were supported as follows:

- ▶ **Community Engagement Research Grant Program:** The purpose of this program is to foster meaningful community engagement for translating research into practice, reflective of the health needs of Arizona's communities. This pilot program aims to stimulate the development and enhance the maturation of academic-community research teams capable of performing highly innovative, extramurally-fundable, community-engaged research that will sustainably contribute to the health and well-being of Arizona's diverse populations.
- ▶ **Interprofessional Project Grant Program:** The purpose of this program is to support projects led by UAHS faculty and students in collaboration with one or more of the AzaHEC centers. Projects will address social determinants of health through a team-based practice approach.
- ▶ **2015 Research Grant Program:** The purpose of this program is to support well-defined clinical or translational research projects leading to measured outcomes, such as preliminary data for an extramural grant submission. Preference is given to junior investigators and investigators undertaking a new area of focused research related to the UAHS priorities of health disparities, population health, precision medicine and neuroscience.

New grantees from the above programs as well as continuing grantees from the 2013–2014 Research and Project Small Grant Program are listed on page 25. The following section highlights new and recently-completed projects.



AzAHEC Community Engagement Grant

Colleen Cagno, MD, with the UA College of Medicine – Tucson, Department of Family & Community Medicine, is the principal investigator of the project *Evaluating an Interdisciplinary Group Prenatal Program to Improve Health Outcomes Among Somali Refugees in Southern Arizona*, which aims to evaluate a group prenatal visit model for Somali refugees, develop a sustainable infrastructure to maintain group visits over time, and disseminate this model in Arizona to help reduce maternal-child morbidity and mortality. The project involves collaboration with Southeast Arizona AHEC and the International Rescue Committee.

Pharmacy Preceptor Perceptions of the "Educating Pharmacy Students and Pharmacists to Improve Quality" (EPIQ) Program

Joni L. Dean, MPH, RHIA, Principal Investigator

The UA College of Pharmacy requires all second-year PharmD students to enroll in a two-semester quality improvement (QI) class, involving a one-credit didactic class during the first semester and a two-credit experiential class at a pharmacy or clinical site during the second semester. The class aims to benefit quality and patient safety at each experiential site and facilitate a two-way learning environment where both students and clinical preceptors increase their knowledge of QI techniques. The main objectives of this project were to assess preceptor perceptions, attitudes and newly-gained knowledge of QI techniques; determine preceptors' value of QI projects; and evaluate if patient safety and quality were enhanced at the clinical sites.

A questionnaire was developed to assess both qualitative and quantitative measures, and the study team administered the questionnaire over the phone. Participating preceptors (n=25) were recruited from clinical sites involved in the EPIQ program. Sites included hospitals, retail community pharmacies, ambulatory care clinics and others. Most of the preceptors (84%) were pharmacists; other preceptors included clinical and administrative staff.

The results of this project indicated that preceptors perceived that student QI projects helped improve patient safety and quality at their clinical practice sites. One preceptor commented, "The students and the QI program have helped fine-tune the [clinical] algorithms." Student QI projects also served to augment sites' capacity to conduct time-intensive QI and increase preceptor awareness of the value and necessity of ongoing QI. Other health sciences colleges may find applications for similar QI programs and evaluation.

Ms. Dean is a Doctor of Public Health student at the UA Zuckerman College of Public Health.

American Indian Youth Wellness Initiative

Francine C. Gachupin, PhD, MPH, Principal Investigator

The overall goal of the American Indian Youth Wellness Initiative is to develop a comprehensive, six-month intensive program that will result in sustained healthy lifestyle choices for 150 American Indian youth ages 10–15 years. This initiative includes a one-week, camp-based intervention designed to introduce healthy lifestyle choices. The aim of the funded project was to collect pilot data to evaluate the effectiveness of the intensive residential youth wellness camp using objective measures that include anthropometrics to assess obesity risk over time. The central hypothesis is that youth who participate in the American Indian Youth Wellness Initiative will achieve and maintain healthy lifestyles, thus reducing their risk of obesity, diabetes and cardiovascular disease. This has the potential to make a sustained powerful impact on lifestyle choices in the at-risk American Indian youth population and may be generalizable to other youth at risk for obesity and related disease conditions such as diabetes and cardiovascular disease.

The 2015 American Indian Summer Medical Wellness Camp was held at Whispering Pines Campground in Prescott, Ariz. with 32 youth (6 boys and 26 girls) from four southwest American Indian tribes. The camp involved tribal partnerships with Hopi, Salt River Maricopa Indian Community, Jemez Pueblo and Pascua Yaqui, and tribal participation in the interventions was developed. Tribal health personnel and volunteers assisted at camp as counselors, exercise specialists, dieticians, nurses, physician and instructors. Campers were assessed using demographic, anthropometric and biomarker measures, including age, sex, blood pressure, hemoglobin A1c, fasting cholesterol, fasting glucose, height, waist circumference, weight, percent fat, percent lean body mass, percent fat mass, body mass index (BMI) and physical activity.

Continued on page 24



Campers participating in a yoga class

American Indian Youth Wellness Initiative

Continued from page 23

The wellness camp's daily program included structured classes with pre- and post-tests. Classes covered a variety of topics, including diabetes, heart health, physical activity, nutrition labels, food groups, hygiene, safety and injury prevention. Campers also participated in reflection time, arts and crafts, and exercise sessions. Exercise activities included walking, dancing, volleyball, basketball, traditional games and more. All physical activity and education sessions were structured so that learned skills and knowledge could be incorporated into daily life. The camp menu was created by tribal dieticians. In post-camp follow-up sessions, camp personnel intend to provide parents and guardians with information about nutrition and physical activity to help sustain healthy lifestyle choices for participating youth. Youth will also continue to receive additional education and follow-up assessment to determine whether learned skills are maintained beyond camp.

The wellness camp was established in 1991 by the Native American Research and Training Center (NARTC) through the UA and continues as an ongoing tribal-university partnership. The wellness camp is appreciative of grant and foundation funding support received from multiple organizations, including the AzAHEC 2015 Research Grant. Based on the pilot data collected during the 2015 camp, the principal investigator plans to submit an application for an extramural research grant from the National Institutes of Health (NIH) to continue her work toward improving the health of American Indians.

Dr. Gachupin is the assistant director of the UA NARTC and an assistant professor at the UA College of Medicine – Tucson, Department of Family and Community Medicine. In addition to receiving an AzAHEC 2015 Research Grant, Dr. Gachupin was the recipient of a 2014 UAHS Career Development Award, sponsored by AzAHEC. The UAHS Career Development Award program provides research training and funding opportunities for UA junior faculty members to foster an academic career in clinical and translational research.



AzAHEC Community Engagement Grant

Jennifer R. Hartmark-Hill, MD, FAAFP, with UA College of Medicine – Phoenix, Department of Family, Community & Preventive Medicine, is the principal investigator of the project *Improvement in management of chronic illness in the urban homeless population in Phoenix through interventions of a multi-institutional, interprofessional, student-run free clinic*. The Student Health Outreach for Wellness (S.H.O.W.) Clinic is a free, student-run health clinic devoted to increasing the overall health of the homeless population in Maricopa County. The project aims to demonstrate the benefits of team-based care in the management of hypertension and diabetes mellitus in a vulnerable, homeless population.

Recalibration of the Bedside Pediatric Early Warning System for Critically Ill Very Low Birth Weight Infants

Sheila Gephart, PhD, RN, Principal Investigator

The purpose of this project was to recalibrate the scoring parameters within the bedside Pediatric Early Warning System (b-PEWS) to a new population of at-risk neonates in the intensive care unit, specifically infants born weighing 501–1500 grams. The use of automated early warning systems is growing in pediatric and adult acute care settings, yet its diffusion into neonatal intensive care is slow. In adult settings, early recognition and prompt treatment of sepsis supported by the use of early warning scores has improved mortality by 20% or more. Similarly, the use of early warning scores in pediatric settings has improved timely rescue of deteriorating children, reduced cardiac arrests outside of intensive care settings and saved lives. The b-PEWS developed by Parshuram et al. in Canada and tested internationally is the most-studied early warning system. While the b-PEWS has been validated in children up to 18 years and shown to predict out-of-intensive-care-unit arrest, it has been unclear how it would perform in neonates, particularly those born premature and already in intensive care. This project aimed to describe the extent to which the neonatal b-PEWS (nBPEWS) predicts clinical deterioration in 501–1500 gram infants.

Data was collected on 144 infants using a case-matched design where each case was matched to two controls. This yielded over 10,000 time points of data, which has been entered into

an electronic system. Graduate and undergraduate students participated in the project and were mentored in the research and clinical site engagement process. The data analysis and reconstruction/calibration of the model for the b-PEWS remains ongoing. In addition, qualitative focus groups will be conducted to identify optimal decision points for clinicians as they watch for signs of infant deterioration. To support continued work on this project, the principal investigator has successfully obtained extramural funding from the U.S. Department of Health & Human Services Agency for Healthcare Research and Quality and the Robert Wood Johnson Foundation Nurse Faculty Scholar Program.

Dr. Gephart is an assistant professor at the UA College of Nursing, Community and Systems Health Science Division.



AzaHEC Interprofessional Project Grant

Jenny Chong, PhD, and Bruce Coull, MD, with the UA College of Medicine – Tucson, Department of Neurology; Sheila Parker, MS, MPH, DrPH, with the UA Zuckerman College of Public Health; and Theodore Tong, PharmD, with the UA College of Pharmacy, are co-principal investigators of the project *Community health promotion and risk factor prevention with medical, pharmacy and public health students*, which aims to engage an underserved community toward self-management of health and use an interprofessional team-based approach to provide educational experiences for community members and future providers with the ultimate goal of improving health.

New and Continuing Grant Projects

| AzaHEC Grant Program | Principal Investigator(s) | Project Title | College/Department | Amount Awarded |
|---|--|---|---|----------------|
| Community Engagement Grants | Jennifer R. Hartmark-Hill, MD, FAAFP | Improvement in management of chronic illness in the urban homeless population in Phoenix through interventions of a multi-institutional, interprofessional, student-run free clinic | UA College of Medicine – Phoenix, Department of Family, Community & Preventive Medicine | \$50,000 |
| | Colleen Cagno, MD | Evaluating an Interdisciplinary Group Prenatal Program to Improve Health Outcomes Among Somali Refugees in Southern Arizona | UA College of Medicine – Tucson, Department of Family & Community Medicine | \$50,000 |
| Interprofessional Project Grant | Jenny Chong, PhD; Bruce Coull, MD; Sheila Parker, MS, MPH, DrPH; Theodore Tong, PharmD | Community health promotion and risk factor prevention with medical, pharmacy and public health students | UA College of Medicine – Tucson, Department of Neurology; UA College of Pharmacy and Zuckerman College of Public Health | \$5,000 |
| 2015 Research Grants | Zhonglin Liu, MD | A novel molecular imaging probe for differentiating colorectal cancer lesions from inflammatory tissues | UA College of Medicine – Tucson, Department of Medical Imaging | \$10,000 |
| | Marina Martinez, PhD; Chelsea Kidwell, MD; Jenny Chong, PhD | Barriers to Stroke Prevention in Underserved Communities | UA College of Medicine – Tucson, Department of Neurology | \$9,370 |
| | Samantha Kendrick, PhD; Lisa M. Rimsza, MD | Concurrent targeting of BCL2 and MYC in diffuse large B-cell lymphoma <i>in vivo</i> | UA College of Medicine – Tucson, Department of Pathology | \$9,951 |
| | Anna Alkozei, PhD; William D. “Scott” Killgore, PhD; William R. Montfort, PhD | Effects of blue light on melatonin levels and EEG power density spectrum | UA College of Medicine – Tucson, Department of Psychiatry | \$4,373 |
| | Hong-yu Li, PhD | Selective RET Kinase and Its Mutant Inhibitors for the Treatment of Medullary Thyroid Cancer | UA College of Pharmacy, Department of Pharmacology & Toxicology; UA Cancer Center | \$10,000 |
| | Richard R. Vaillancourt, PhD | The Role of MTK1 in Breast Tumor Cell Growth | UA College of Pharmacy, Department of Pharmacology & Toxicology; UA Cancer Center | \$10,000 |
| | Francine C. Gachupin, PhD, MPH | American Indian Youth Wellness Initiative | UA Native American Research and Training Center (NARTC) | \$10,000 |
| | Samantha Sabo, DrPH, MPH; Kerstin Muller-Reinschmidt, PhD, MPH | Understanding the Role of Community Health Representatives in Building Community Resilience in Native Communities | UA Zuckerman College of Public Health, Health Promotion Sciences Department; Center for American Indian Resilience (CAIR) | \$9,999 |
| 2013–2014 Research and Project Small Grants | Bradley A. Dreifuss, MD; Phillip Hoverstadt MD, MPH | Arizona Emergency Care Staffing Survey: Finding Educational Exchange Opportunities to Enhance Rural Health Care Services | UA College of Medicine – Tucson, Department of Emergency Medicine | \$4,650 |
| | Bradley A. Dreifuss, MD | Emergency Department Recidivism and Health Care Costs: The Impact of Dispensing Antibiotics at the Time of Emergency Department Discharge | UA College of Medicine – Tucson, Department of Emergency Medicine | \$5,000 |
| | Obiyo Osuchukwu | Detection of Latent Tuberculosis Infection Among Migrant Populations, United States and Mexico Border | UA Zuckerman College of Public Health | \$5,000 |

Regional Center Director Reports

Eastern Arizona Area Health Education Center (EAHEC) Activities

Workforce Development Summary - EAHEC

| Type of Program | Participation |
|---|---------------|
| Health Careers Preparation Participants | 3,158 |
| Health Professions Trainee Rotations | 92 |
| Continuing Education for Health Professionals | 450 |
| Community Health Education Participants | 1,254 |



Jeri Byrne, BA, MS
Executive Director, Eastern Arizona Area Health Education Center

Eastern Arizona AHEC (EAHEC), based in Globe, Ariz., is celebrating 10 years of service to the rural communities of Graham, Greenlee, Gila and Pinal counties. We are proud to provide programming and support at all points of the health professions pipeline, including K-12 students, health professions students, and practicing health professionals, in support of health-care workforce development and healthy communities. The following highlights EAHEC’s programming during 2014–2015.

EAHEC continues to support the Payson High School Arizona HOSA club with educational activities, leadership opportunities and competitive event participation in order to further students’ interest in pursuing health careers. The diverse Payson group participated in a number of activities throughout the school year, including a tour of Payson Regional Medical Center, a hands-on demonstration of a patient simulator and skills lab at Payson Fire Department, CPR/First Aid certification, presentations by guest speakers, HOSA online and live competitions, public health demonstrations and leadership classes. Five students worked together to design an interactive and informative presentation on second-hand stress for teenagers. Their presentation was used in a demonstration for nurses at Payson Regional Medical Center and later at the Arizona state competition, where they placed first and qualified for the HOSA national competition. Other Payson HOSA students strengthened their networking skills by reaching out to local health providers for their assistance in sports medicine and medical photography events. One student’s photos earned second place at the state competition and qualified for the national competition. The Payson HOSA club looks forward to

the 2015–2016 school year with the HOSA theme of “Inspire, Innovate, Ignite.”

In collaboration with the other AzAHEC regional centers, EAHEC again participated in the Future Health Leaders (FHL) summer camp for high school students. This week-long camp exposes participants to college life, health careers, leadership training and public health activities.

EAHEC is also celebrating its fifth year of Girls on the Run programming in Gila County. Through programs in Payson and



Girls on the Run participants warming up before an activity



Payson AzHOSA Students at the HOSA National Leadership Conference in Anaheim, Calif.

Globe, we will have provided programming to over 200 girls in our service area by the end of 2015. Girls in third through eighth grade participate in this proven physical-activity-based positive youth development program that weaves physical activity with life lessons about nutrition, healthy habits and leadership. For the current season, EAHEC is proud to announce the introduction of a new curriculum, called Heart & Sole, designed for middle school girls (grades 6–8). The Heart & Sole curriculum addresses the whole girl—body, brain, heart, spirit and social connection—and builds important life skills, such as teamwork, developing a support system, boundary setting, decision-making, asking for and providing help and more.

EAHEC expanded its very successful Scrubs Nursing Camp program to include two summer camps: a three-day camp in the Globe-Miami area in partnership with Gila County Community College as well as a three-day camp in Thatcher, Ariz. at Eastern Arizona College (EAC). Between the two camps, EAHEC hosted approximately 70 students in sixth through eighth grade, making this the highest Scrubs Camp attendance yet. Campers learned nursing skills, such as delivering injections, starting IVs and performing adult and infant CPR. Campers also played roles in medical emergency simulations, such as an auto accident trauma scenario involving a teenager texting while driving. These simulations allowed campers to apply their new nursing knowledge to real-life situations. Tours of health-care facilities provided campers with the opportunity to learn more about the nursing profession and other health-care professions. EAHEC looks forward to continuing Scrubs Nursing Camp in 2016, with plans of expanding to Payson, Ariz.

Many health professions trainees spent several weeks immersed in eastern Arizona’s rural and frontier communities. EAHEC has provided travel stipends to more than 200 nursing and allied health students. We also have secured housing for health professions students and residents in the professions of nursing, medicine, physical therapy and podiatry. EAHEC’s commitment to health professions trainees has resulted in multiple instances of graduates returning to our communities for employment.

Professional development programming for health-care providers and other professionals in the region is a particular strength of EAHEC. Our staff members are trained and certified to provide a variety of programs covering topics such as time and stress management, cultural diversity, leadership and communication, conflict resolution, emotional intelligence and CPR. EAHEC is also committed to community involvement, continuing to provide chronic disease self-management workshops for community members living with a chronic disease. This year, through a partnership with local health-care providers, EAHEC sponsored a diabetes self-management workshop facilitated by a local diabetes educator. A new event this year was the Gila County Veterans Stand Down event, at which approximately 140 veterans and their families received information regarding veterans’ benefits and regional services.

EAHEC remains dedicated to the communities within its service area and works with schools, health-care facilities, the EAHEC Board of Directors, community leaders and local health-care providers to support, develop and implement programs tailored for the region.



Students practicing nursing skills at EAHEC’s Scrubs Nursing Camp

Regional Center Director Reports

Greater Valley Arizona Area Health Education Center (GVAHEC) Activities

Workforce Development Summary - GVAHEC

| Type of Program | Participation |
|---|---------------|
| Health Careers Preparation Participants | 1,002 |
| Health Professions Trainee Rotations | 116 |
| Continuing Education for Health Professionals | 2,269 |
| Community Health Education Participants | 5,467 |



Patti Taylor, MHA, CHES
*Director, Greater Valley Arizona Area
Health Education Center*

As I reflect back on all the great work that has taken place this year, I am most thankful for such an enthusiastic staff. They are dedicated to supporting our community partners, inspiring our high school students and mentoring our interns. The following provides a snapshot of some of our favorite programs.

As in the past, Greater Valley AHEC (GVAHEC) participated in the Future Health Leaders (FHL) camp, engaging students who are interested in health careers. The nutrition session “Chopped” was such a hit last year that we did it again for the students. The session discusses health careers in nutrition, and the students learn how to prepare meals with limited ingredients. GVAHEC interns from undergraduate programs also were camp chaperones during the week. FHL camp is a busy week but is one of our favorites.

During Primary Care Month, we hosted “Give Health Careers a Shot” for high school students. This program was a great collaboration with many different community partners. The UA College of Medicine – Phoenix medical students taught chest-compression-only CPR to the attendees for a hands-on experience. Presenters who work in primary care discussed what a typical day looks like and answered many of the attendees’ questions.

GVAHEC has been working with the Combs High School HOSA club and nursing assistant program over the past two years. During 2014–2015, we provided a skills lab with volunteer

nurses for the 13 high school seniors in the program. This skills lab was created to help the students pass their certification exam. In previous years, the pass rate for the Combs nursing assistant program was 25%. After the skills lab with GVAHEC, there was an enormous improvement in the pass rate: 83% passed the skills test and 93% passed the knowledge test! It is always great to see the impact GVAHEC has, but to see it in quantifiable measures is very impressive. Two skill labs are planned for the upcoming year.

GVAHEC continues to connect nutrition interns with the community through a network of community partners. This year we added a new community partner, St. Mary’s Food Bank. The food bank reached out to us after they discovered we supported one of their food pantries with cooking demonstrations. We are now able to provide the interns an opportunity to be at the main distribution site, Knight Center at St. Mary’s Food Bank, to provide information to food box recipients about healthy eating, cooking methods and additional health resources that might be available to them within the community. By participating in just one event at the Knight Center, students have the opportunity to reach up to 100 people!

Our GVAHEC@LifeBridge location is in a prime location in Phoenix to partner with refugee resettlement agencies aligned with the U.S. Refugee Act of 1980. For a few years, we have been partnering on smaller-scale projects to help connect our interns with the diverse populations in the area. During 2014–2015, the partnerships expanded to provide more opportunities for students as follows:

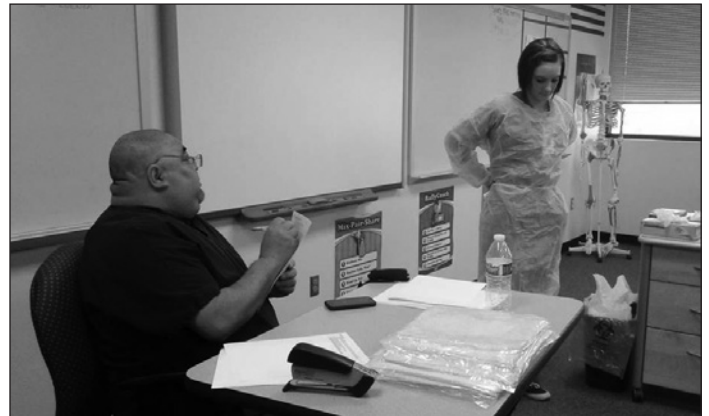


GVAHEC interns working with women refugees on nutrition education

- ▶ Refugee Focus, a division of Lutheran Social Services of the Southwest, has a women empowerment group for all new refugee women arrivals. They teach the women about five different health topics: intro to U.S. health care, hygiene, first aid, family planning and reproductive health, and nutrition and wellness.
- ▶ In partnership with ASU College of Nursing & Health Innovation and Brookline College, GVAHEC interns have been able to coordinate and facilitate classes for refugees. The long-term goal is to standardize these classes for all resettlement agencies to use.

GVAHEC students were also able to administer behavioral health screenings for new refugee arrivals at the Maricopa Integrated Health System, Women’s Center and the Children and Family Center. These screenings help track the trends of behavioral health issues that refugees are experiencing and help improve the behavioral health programming for these patients.

GVAHEC is continuing to develop partnerships to expand professional development opportunities for our health-care workforce. GVAHEC has partnered with the National AHEC Organization on a Centers for Disease Control and Prevention (CDC) grant to increase human papillomavirus (HPV) vaccination rates in 11–12-year-old boys and girls. The curriculum targets providers to make sure the message about the vaccination is about cancer prevention. The Healthy People 2020 goal is an 80% HPV vaccination rate for boys and girls by age



A Combs High school student putting on her protective gear during a skills evaluation

13–15 years. Arizona is currently at 19.5% for boys and 37.4% for girls. Our hope is the new materials we can offer providers will help increase our rates for Arizona during the next five years.

We have taken the opportunity to highlight new programs, but our long-standing programs continue to demonstrate success. If you are in the GVAHEC area, stop in and see us. We love sharing what is happening!

Regional Center Director Reports

Northern Arizona Area Health Education Center (NAHEC) Activities

Workforce Development Summary - NAHEC

| Type of Program | Participation |
|---|---------------|
| Health Careers Preparation Participants | 2,576 |
| Health Professions Trainee Rotations | 319 |
| Continuing Education for Health Professionals | 5,745 |
| Community Health Education Participants | 789 |



Sean Clendaniel, MPH
Director, Northern Arizona Area Health Education Center, North Country HealthCare

Northern Arizona AHEC (NAHEC)/North Country HealthCare is extremely proud to welcome back two of our former A.T. Still University (ATSU) medical students who just completed their residencies. These new physicians will work in the Flagstaff clinic. Brandon Abbott, DO, MPH, who will be providing pediatric primary care, had this to say about his experience at NAHEC: “The NAHEC program in conjunction with ATSU allowed me to experience first-hand the community... and understand the inner workings of community health.” Dr. Abbott’s success, and that of the many other students who have walked through the NAHEC’s doors, is a testament to the power of our health education programs, and we are overjoyed to see our goals come to fruition.

NAHEC collaborates with a multitude of partner organizations throughout the state and continues to offer a wide range of ongoing programs, including the FHL summer program, the Indigenous Pride Health Workers (IPHW) program for Hopi students, Med-Start, Skills 4 Workplace Success, HOSA clubs, In-A-Box health curricula, the Health Partners program and more. We increased our reach in health professions student rotations and continuing education courses as well as expanded our telehealth program to more populations and patients. Our research program continues to partner with a variety of colleges and institutions on workforce development and rural health initiatives. Here are a few program highlights from the past year:

Health Partners

Health Partners is an innovative program designed to decrease disparities in health outcomes that low-income communities face. Within the North Country HealthCare clinic, patients are referred to the Health Partners desk where they are connected to community resources. The desk is staffed by interns who have gone through training to learn how to interview patients and best connect them to community resources. Interns generally are pre-health or pre-behavioral sciences students who have an interest in working with underserved populations and wish to learn about managing complex patient scenarios.

Patients often experience multiple barriers to accessing resources such as transportation, language, literacy or simply knowledge of the system. Interns are trained to address and minimize these barriers. As part of the process, each patient is contacted for three weeks after the initial referral to ensure it is successful or to create a new strategy if needed.

Health Partners has helped over 200 patients since its inception in January 2015. In particular, the program has identified the lack of dental care, especially dentures for many of our clients, and is collaborating with the North Country dental clinic, private dentists and an internal fund to improve accessibility.

Eat for Life

Eat for Life is a nutritional intervention for people with hypertension, high cholesterol and/or diabetes who want to reduce or eliminate their dependence on medications. The class is based on extensive nutritional research by basic scientists and clinicians across the country and is packaged in a six-week format where information is presented by an interprofessional team of professionals. Participants are asked to complete basic

bloodwork and metabolic panels before and after the class and receive guidance in adopting a whole-food, plant-based diet. Participants cook during each class and are given recipes for use at home. Meals are designed to cost around \$3 per person to ensure that this lifestyle change is affordable. Since its inception in summer 2014, three classes have been conducted, and 30 individuals have successfully completed the class.

In-A-Box Collaboration

NAHEC has developed a partnership with the Coconino Association for Vocations, Industry and Technology (CAVIAT) to coordinate the delivery of In-A-Box health curricula as a service learning project for high school technical career students. NAHEC interns have reorganized the In-A-Box curricula (developed by Oregon AHEC) into 60–75 minute segments. In fall 2015, a NAHEC MPH intern will be developing a “trainer curriculum” for the CAVIAT students and an evaluation plan. The CAVIAT students will travel to fifth grade classrooms in Flagstaff and surrounding communities to deliver the updated curricula. Training of the CAVIAT students and their teaching in classrooms will start in spring 2016.

Girls on the Run

This is NAHEC’s fourth year of involvement with Girls on the Run. We have added six new sites for a total of 20, and more than 200 participants are expected in fall 2015, which reflects growth of nearly 100% in two years. Of the new sites, four will be using the new Heart & Sole middle school curriculum, and one is a collaborative effort with Native Americans for Community Action (NACA), which will be providing staff to serve as coaches. We were thrilled to award the inaugural Sara Morley Girls on the Run Spirit Scholarship, designed to support postsecondary educational expenses for a Girls on the Run alumna. Lia Melis, the recipient, will attend NAU this fall and plans to study environmental science and sustainability.

Health Professions Program

During 2014–2015, our health professions division has shown tremendous growth. NAHEC has served a multitude of students with a wide variety of backgrounds and vocational interests. We are able to host all of these student learners because of our dedicated team of professionals at NAHEC/North Country who serve as preceptors. The ATSU School of Osteopathic Medicine in Arizona (SOMA) program has shown new growth and development due to the hard work of Shipra Bansal, MD and Mike Seby, MD. Each year, they create new, innovative learning activities and rotations to ensure our students get the best education possible. Our fifth cohort of ATSU SOMA students graduated from the Flagstaff community campus this year. One student’s work has been published in a peer-reviewed journal, and we are excited to have two former students sign employment contracts with North Country HealthCare.

Interprofessional Education and Graduate Nursing Education

The NAHEC interprofessional education (IPE) and graduate nursing education (GNE) program has more than doubled our student learner population and IPE activities this year and has received excellent reviews by students. Some highlights from 2014–2015 include the following:

- ▶ NP and physician participation as lead facilitators has been enhanced for monthly student med-skills training. Faculty members continue to develop collaborative learning tools for enhanced IPE participation. Along with ten second-year medical students (MSII), NP students participated in ten skills labs, including lectures, case studies and hands-on learning activities.
- ▶ MSII students participated in rotations at a local long-term care (LTC) facility. Students administered mini-mental state evaluations under NP supervision, assisting the LTC staff and enhancing students’ skills in approaching frail elders.

- ▶ NAHEC collaborated with NAU on a telehealth grant for NP student education, providing 50 hours of telehealth experience with behavioral health, pharmacist and physician preceptors.
- ▶ Fifteen NP students completed full-time preceptorships at North Country sites during 2014–2015. An additional 18 NP students did specialty rotations in women’s health, pediatrics and telehealth.

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ATSU SOMA class of 2017 touring downtown Flagstaff during orientation

NAHEC

Continued from page 31



Two girls crossing the finish line at the 2014 Girls on the Run of Northern Arizona 5K Celebration

Continuing Education

Led by Sandy Thomas, MVEd, the continuing education program at NAHEC is one of our most prolific services, offering courses for health-care providers throughout Arizona and neighboring states. During 2014–2015, we had 208 continuing education workshops providing formal continuing education credit, and each quarter we conducted approximately 40 CPR/automated external defibrillator (AED) and life support trainings across the region. In fall 2015, we will add the American Heart Association's pediatric advanced life support (PALS) course to our online course offerings, along with advanced cardiac life support (ACLS). We are exploring the possibility of expanding continuing education credit offerings to psychologists, social workers, certified counselors and professional coders.



Students from the 2015 Indigenous Pride Health Workers Summer Program presenting their projects

Telehealth Programs

Led by Greg Hales, the NAHEC/North Country telehealth program currently provides clinical, educational and administrative services that improve access to care for patients in rural and medically-underserved areas. Highlights from 2014–2015 include the following:

- ▶ *Hepatitis C Primary Care Provider Training:* Weekly round-table/chart rounds involve ten North Country clinics and more than 25 primary care providers. Under the guidance of liver specialists, the project creates the capacity to treat patients in-house.
- ▶ *HIV/AIDS Treatment:* This project enables patients to receive HIV/AIDS care in their communities of residence.
- ▶ *Behavioral Health via Telemedicine:* North Country providers see patients via telemedicine for both extended-care and brief-intervention behavioral health.
- ▶ *Tele-Diabetes Care:* North Country providers have been seeing diabetic patients via telemedicine for more than five years.
- ▶ *Tele-Nutrition Counseling:* For more than two years, North Country has contracted with a provider to see patients for nutrition counseling via telemedicine.
- ▶ *Provider Mentoring:* Anne Newland, MD, MPH, Chief Medical Officer at North Country HealthCare, uses the telemedicine system for provider on-boarding and mentoring. Each new provider receives monthly training over the course of six months.

Projects under consideration for the coming year include a direct-to-home telemedicine demonstration project as well as tele-cardiology and tele-rehabilitation projects in collaboration with Flagstaff-based specialist practices.

Regional Center Director Reports

Southeast Arizona Area Health Education Center (SEAHEC) Activities

Workforce Development Summary - SEAHEC

| Type of Program | Participation |
|---|---------------|
| Health Careers Preparation Participants | 429 |
| Health Professions Trainee Rotations | 137 |
| Continuing Education for Health Professionals | 599 |
| Community Health Education Participants | 1,487 |



Gail Emrick, MPH
Executive Director, Southeast Arizona Area Health Education Center

SEAHEC Celebrates 30 Years of Growing Our Own Health Providers

In April 2015, we celebrated the Southeast Arizona AHEC's (SEAHEC) 30th birthday.

We had a memorable celebration with the Mariachi Apache, the Nogales High School mariachi band, adding flair to the festivities. Staff, board members, community members and colleagues joined us for the event marking 30 years of contributions to making southern Arizona a healthier place to live. We invite visitors to our office in Nogales, Ariz. to see our SEAHEC history display. SEAHEC was founded in 1985 in Nogales as a non-profit, growing out of emerging data and knowledge that rural areas face greater challenges in training and retaining health providers. SEAHEC was the first AHEC regional center established in Arizona.

Since 1985, we have motivated hundreds of high school students to choose health careers. During 2014–2015, 23 of 24 high school seniors in FHL clubs applied for and were accepted into college. Through our FHL clubs, we work closely with high school administrators and students to inspire students to pursue the health professions. Students have opportunities to meet and ask questions of health professionals during special presentations. We also provide tours of universities and colleges, reducing the fear of leaving home and attending college. Finally, we provide one-on-one guidance in applying for college and financial aid, a process that can otherwise be daunting. By addressing these challenges with students and their families, we have seen major successes.

Looking back over our 30 years, we have placed numerous medical, nursing, dental, pharmacy, public health and physician assistant students in community and clinical settings. SEAHEC's placements of health professions students contribute to fulfilling students' academic requirements and improve their cultural competency in serving Arizona's populations. We create



Nogales High School's Mariachi Apache performing at SEAHEC's 30th anniversary celebration. SEAHEC supports a Future Health Leaders club at Nogales High School.

meaningful community experiences, which allow students to connect with community members and participate in service learning and other hands-on activities. Students have participated in exciting studies, such as helping our community prepare its health improvement plan. Students have also assisted with clinical screenings and the design of training programs for our local emergency medical services (EMS). Students truly learn from and then give back to the community. In a 2014–2015 survey, 87% of health professions students indicated that SEAHEC had greatly influenced their decision to serve in rural and underserved areas in their future professional career.

SEAHEC continues to provide continuing education and continuing medical education credit hours for physicians, NPs, nurses, physician assistants, emergency medical technicians, social workers, behavioral health workers, community health workers, teachers and other professionals. Topics have included domestic violence, brain trauma, motivational interviewing, diabetes, medication management, adolescent development and more. SEAHEC has also provided the EMS on the Border Annual Conference for 23 consecutive years. In our continuing education evaluations, 67% of respondents reported taking our trainings to continue with their professional licensure requirements.

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SEAHEC

Continued from page 33

Since its founding, SEAHEC has been dedicated to the health of communities within the service region. SEAHEC has offered community health education through the annual Alzheimer's disease caregiver conference, health fairs, domestic violence conferences, border-region disability conferences, parent/student workshops, mental health first aid training and many other events.

SEAHEC's accomplishments over the years are the result of collaboration. Our partners have included academic institutions; local schools; health-care providers; community health centers; health researchers; community organizations and advocates; and local, state and national governmental agencies.

In 2015, SEAHEC and the Tohono O'odham Department of Human Services signed an historic memorandum of agreement



Two Nogales High School recipients of SEAHEC's Karen Halverson Scholarship, which is a college scholarship for high school seniors pursuing health professions education in Arizona

to collaborate in preparing Tohono O'odham Nation high school students for admission to and graduation from health professions colleges and universities. The goal of our combined effort is to improve the educational pipeline and encourage Tohono O'odham students to pursue health careers that will benefit the Nation and its communities. A long-term goal of the program is for students to obtain degrees and/or certificates in health-related fields that will allow them to return to their communities and to provide health services that are respectful of the Tohono O'odham way of life.

The agreement follows more

than four years of collaborative work between SEAHEC and the Tohono O'odham Nation, including the Native American Health Workforce Development program (established in 2011), the Tohono O'odham and Baboquivari high school FHL clubs (established in 2012) and the annual Tohono O'odham FHL summer camp (established in 2013).

Community Health Worker Movement Makes Great Strides

In September 2014, SEAHEC was awarded a one-year HRSA Rural Network Planning Grant, which provides funds for us to meet regularly with other organizations interested in advancing the community health worker (CHW) agenda in Arizona. Partners include the Arizona Community Health Worker Outreach Network (AzCHOW), the UA Prevention Research Center, the Inter Tribal Council of Arizona, Cochise Health and Social Services, Northern Arizona Consumers Advancing Recovery by Empowerment

(NAZCARE), Canyonlands Community Health Center and the Arizona Department of Health Services (ADHS).

Accomplishments thus far include the development of a strategic plan of action for credentialing and

certification of CHWs and the creation of a sustainability and business plan for AzCHOW. SEAHEC continues to serve on the ADHS CHW Advisory Board.



SEAHEC's staff standing in front of the SEAHEC history display

SEAHEC Partnering on Community Integrated Paramedicine

During 2014–2015, SEAHEC played a key role with the Nogales Fire Department and Rio Rico Fire and Medical District in helping design and initiate community integrated paramedicine programs. Community paramedicine programs are an innovative way to address and reduce demand on EMS and increase access to primary care services. Many frequent users of emergency services have fallen or suffer from chronic illnesses, including diabetes, coronary heart disease and chronic obstructive pulmonary disease. Paramedics are trained to provide patient-centered health care and health education as well as connect people with local resources.

In September 2014, SEAHEC and the Nogales Fire Department identified two public health students to help conduct an analysis of emergency services use over the last year. The Nogales Fire Department also conducted a community emergency needs assessment. Findings were directly applied to the design a training program for EMS personnel and the reallocation of staff and resources to improve the department's efficiency and emergency response capacity. The training program began in June 2015.

In May 2015, the Rio Rico Fire and Medical District was awarded a three-year Rural Health Services Outreach Program grant from HRSA. The program aims to improve health outcomes, reduce emergency department visits and hospital admissions and refer patients to primary care services through Mariposa Community Health Center, Carondelet clinics and other local providers. The Rio Rico Fire and Medical District is collaborating with SEAHEC, the Arizona Poison Control Center and other partners. SEAHEC is leading the training and evaluation for the initiative. So far, 86 EMS personnel (from Nogales, Rio Rico, Tubac, Patagonia and surrounding communities) have been trained in topics including motivational interviewing, CHW/community-integrated paramedic coordinated care and management of patients' chronic conditions and health behaviors.

Regional Center Director Reports

Western Arizona Area Health Education Center (WAHEC) Activities

Workforce Development Summary - WAHEC

| Type of Program | Participation |
|---|---------------|
| Health Careers Preparation Participants | 1,415 |
| Health Professions Trainee Rotations | 161 |
| Continuing Education for Health Professionals | 1,431 |
| Community Health Education Participants | 19,012 |



Ines Pampara, MBA
Director, Western Arizona Area Health Education Center

Regional Center for Border Health, Inc. (RCBH) / Western Arizona AHEC (WAHEC) is proud to provide the following 2014–2015 achievements.

Club Fit

RCBH/WAHEC, in collaboration with Yuma Family YMCA and the Somerton School District #11, launched Club Fit, a strategy through “A Healthy Somerton” to promote an active lifestyle for children. The purpose of this afterschool program is to educate Somerton middle school children about nutrition and fitness, and program materials and activities follow the theme “Eat Better, Get Moving, Be Happy.” Over six weeks, the program presents healthy information in an engaging way, as students learn how to eat properly, identify different food components and participate in physical activities. The club conducted a total of ten sessions with 27 participants.



Club Fit students participating in an exercise activity



2015 AZRHA Youth Leadership Conference

Youth Leadership Conference

RCBH/WAHEC in collaboration with the Arizona Rural Health Association (AZRHA) co-sponsored the 2015 AZRHA Youth Leadership Conference in Somerton, Ariz. Other stakeholders and sponsors included the Cocopah Indian Tribe, City of Douglas, City of San Luis, City of Somerton, Cenpatico, Legacy Foundation of Southeast Arizona, SEAHEC and Portable Practical Educational Preparation (PPEP) program in Douglas, San Luis, and Somerton, Ariz. The purpose of the Youth Leadership Conference is to inspire young Arizona residents to become future leaders, especially in the health-care field. RCBH/WAHEC invited local colleges and universities to set up informational booths for students to obtain career information. The mayors of Douglas, San Luis and Somerton as well as the chairwoman of the Cocopah Indian Tribe signed a joint declaration supporting the conference and its theme “Courage to Speak.” Students attended workshop presentations covering topics such as healthy behaviors, youth mental health first aid and community services. A total of 70 students participated in conference.

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WAHEC

Continued from page 35



Graduation ceremony for San Luis and Somerton Firefighters Paramedic Program

Fire Department Training

RCBH/WAHEC sponsored the Somerton and San Luis Firefighters Paramedic Program. Students attended a ten-month program through the Arizona Consortium for Paramedic Education and then tested for the state and national paramedic certifications. A total of six firefighters from Somerton and six firefighters from San Luis participated in the graduation certificate award ceremony with Amanda Aguirre, MA, RD, President and CEO of RCBH.

Medication Therapy Management

RCBH/WAHEC and San Luis Walk-In Clinic, Inc. collaborated with the UA College of Pharmacy to provide a comprehensive medication therapy management (MTM) program for patients at the San Luis Walk-In Clinic. The program consisted of:

1. Identification of patients who have diabetes and/or hypertension.
2. Recruitment of at least 67 patients into the program.
3. Collaboration with UA College of Pharmacy MTM providers in delivering MTM services to patients identified.
4. Follow-up with patients when appropriate throughout the program.
5. Collaboration with UA College of Pharmacy MTM providers at designated intervals to discuss status and progress of the program.
6. Coordination with participating patients' providers regarding recommended interventions.

Asthma Camp

In June 2015, RCBH/WAHEC collaborated with the Yuma County Health Department to coordinate Camp Not-A-Choo. A total of 20 participants ages 7–12 attended the full-day camp. The camp activities included kickball, relaxing/breathing exercises, animals as pets and asthma medication

classes. American Heart Association staff presented the “Open Airways Curriculum.” Camp participants learned how to control their asthma through proper inhaler use and recognition of the warning signs before an asthma attack. The major goal of the camp was to empower the participants to become more confident in engaging in physical and outdoor activities by taking control of their asthma.

Mental Health First Aid for Youth, Adults and Veterans

RCBH/WAHEC continues to work in partnership with the Northwestern Connecticut AHEC, a member of the AmeriCorps national service network. WAHEC delivers youth, adult and veteran mental health first aid trainings throughout the service area. These courses are taught in English and Spanish by WAHEC staff members who are certified instructors. In addition, RCBH/WAHEC collaborates with Cenpatico, Regional Behavioral Health Authority to provide these trainings. During 2014–2015, the trainings were provided to school counselors, law enforcement personnel and community members in Yuma and La Paz counties as well as Lake Havasu City. The total numbers of individuals who participated in trainings were as follows:

- ▶ Youth Mental Health First Aid: 165 participants
- ▶ Adult Mental Health First Aid: 47 participants
- ▶ Veteran’s Mental Health First Aid: 14 participants

HOSA Kingman High School

The Kingman High School HOSA-Future Health Professionals club attended the state HOSA leadership conference in April 2015. Three Kingman High School students won first place for medical innovations with their idea to put Bluetooth capability in leads on heart monitors. These students attended the National HOSA Competition in Anaheim, California. Another Kingman High School team performed well at the state competition, placing fourth for parliamentary procedure. The Kingman HOSA chapter received a gold medal for their community service projects during the school year.



Camp Not-A-Choo

AzAHEC Spotlight on Diversity

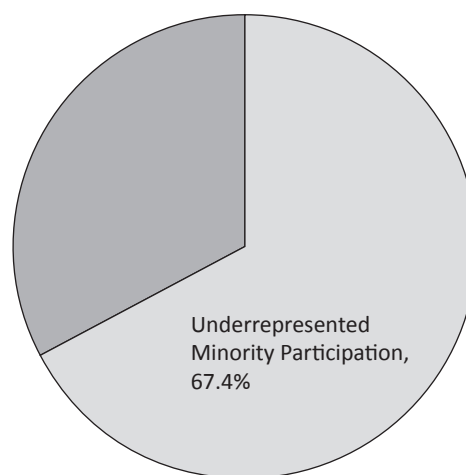
Diversity and AzAHEC's Health Career Preparation Pipeline Programs

Inequalities in health are disproportionately experienced among groups of different racial, ethnic, and socioeconomic status. Diversity is synonymous with the residents of Arizona. Improving health disparities hinges upon improving the diversity of Arizona's health workforce. Our regional AHEC centers are on the frontline of improving the diversity of those interested in pursuing health careers. During 2014–2015, more than 8,000 individuals participated in health career preparation programs delivered by our regional centers. Using high school career clubs as a community-based proxy, approximately two-thirds of health career preparation participants are from underrepresented ethnic/racial groups, thus reflecting the diversity of Arizona (see highlighted summary figures below). In the reports provided by each regional center, brief synopses describe the nature of these programs.

A Selection of Health Career (K–12) Preparation Programs

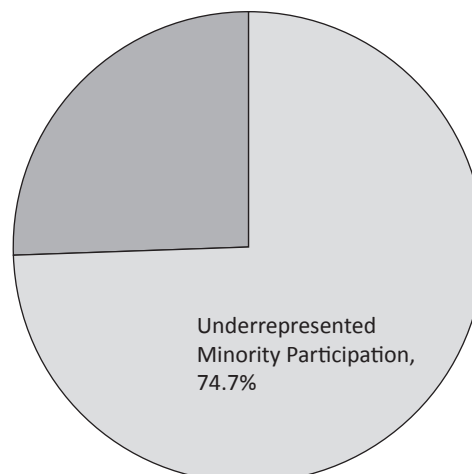
- ▶ Camp Not-A-Choo
- ▶ Brain Bee Competition
- ▶ Future Health Leaders (FHL)
- ▶ Gila County College & Career Fair
- ▶ Girls on the Run
- ▶ Give Health Careers a Shot
- ▶ Grand Canyon University Health Science and Nursing Day
- ▶ Health Professions Fair
- ▶ HOSA (Health Occupations Students of America) Meetings and Conferences
- ▶ Indigenous Pride Health Workers Camp
- ▶ Med Start Summer Camp
- ▶ Mid-Western University Health Science Day
- ▶ Pathways into Health Careers Summer Initiative
- ▶ Rim Country Business Showcase
- ▶ Skills4Success Events
- ▶ STEM (Science, Technology, Engineering and Mathematics) Conference
- ▶ Summer Pathways into Health
- ▶ Summer Scrubs Camp
- ▶ UA Health Professional Day
- ▶ WIA (Workforce Investment Act) Day
- ▶ Yavapai County Teen Maze
- ▶ Youth Leadership Conference

Diversity of High School Students in Health Careers Clubs Throughout Arizona



Diversity of High School Students in Health Careers Clubs in the Arizona-Mexico Border Region

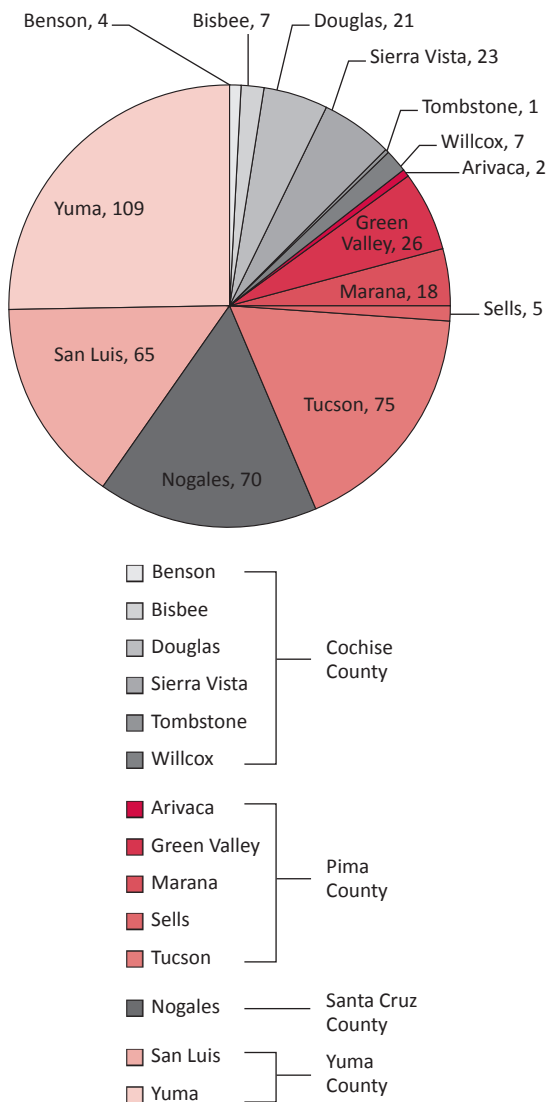
Total Clubs = 13; Total Students = 636



AzAHEC Spotlight at the Arizona-Mexico Border

Health Professions Trainee Rotations in the Arizona-Mexico Border Region, 2014–2015

Number of Health Professions Field Experiences in Arizona Cities in the Arizona-Mexico Border Region, N = 433



AzAHEC-supported trainees include students in the Rural Health Professions Program at the UA, ASU, and NAU; residents in the UA South Campus Family Medicine and Internal Medicine Rural Program; students in the Zuckerman College of Public Health Phoenix Program; and students/residents affiliated with the AzAHEC regional centers.

Border health is complex—an intersection of local and international issues play a factor in high health disparities among border populations. The UA’s commitment to improving health at the border is long-standing, and two of our regional AHEC centers—SEAHEC and WAHEC—demonstrate 30 years of extensive health education training programs, health promotion programs, and improved access to care for border residents. Health professions student education in border settings is important to assure a robust pipeline of health-care providers for the future. The following section highlights health professions students’ border rotations in 2014–2015.

Trainee Field Experiences and Contact Hours by Discipline in Arizona Cities in the Arizona-Mexico Border Region

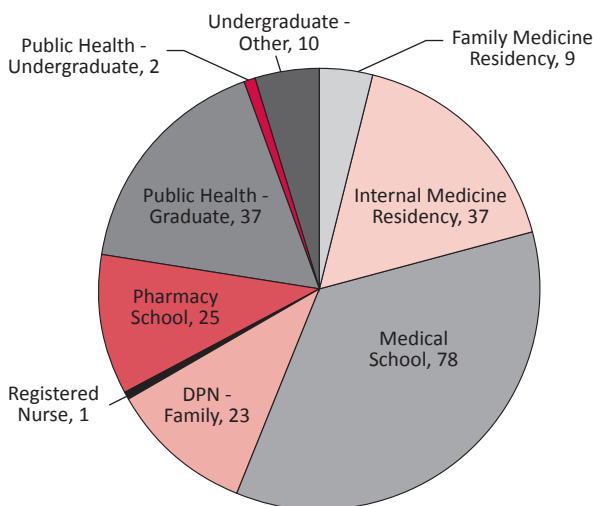
| Trainee Discipline | City | # Field Experiences | Contact Hours | Total Field Experiences | Total Contact Hours |
|-------------------------------|--------------|---------------------|---------------|-------------------------|---------------------|
| Allied Health | San Luis | 45 | 3,008 | 119 | 8,488 |
| | Yuma | 74 | 5,480 | | |
| Dental Hygiene | Nogales | 2 | 320 | 8 | 1,280 |
| | Tucson | 6 | 960 | | |
| Dental School | Tucson | 5 | 800 | 5 | 800 |
| Medical School | Arivaca | 2 | 480 | 102 | 18,000 |
| | Bisbee | 6 | 1,400 | | |
| | Douglas | 5 | 600 | | |
| | Nogales | 20 | 1,420 | | |
| | San Luis | 1 | 40 | | |
| | Sells | 4 | 840 | | |
| | Sierra Vista | 4 | 360 | | |
| | Tucson | 32 | 7,020 | | |
| | Willcox | 7 | 1,200 | | |
| | Yuma | 21 | 4,640 | | |
| Family Medicine Residency | Nogales | 9 | 2,168 | 9 | 2,168 |
| Internal Medicine Residency | Green Valley | 19 | 1,275 | 37 | 2,777 |
| | Marana | 18 | 1,502 | | |
| Nurse Practitioner | Benson | 1 | 360 | 43 | 10,186 |
| | Green Valley | 7 | 1,676 | | |
| | Nogales | 1 | 20 | | |
| | San Luis | 8 | 900 | | |
| | Sierra Vista | 8 | 2,190 | | |
| | Tucson | 15 | 3,960 | | |
| | Yuma | 3 | 1,080 | | |
| Registered Nurse | Nogales | 1 | 20 | 8 | 780 |
| | Sierra Vista | 7 | 760 | | |
| Pharmacy School | Benson | 3 | 640 | 25 | 4,100 |
| | Douglas | 2 | 320 | | |
| | Nogales | 5 | 380 | | |
| | Sells | 1 | 160 | | |
| | Sierra Vista | 4 | 800 | | |
| | Tombstone | 1 | 160 | | |
| | Tucson | 2 | 480 | | |
| | Yuma | 7 | 1,160 | | |
| Physical Therapy | Yuma | 1 | 120 | 1 | 120 |
| Physician Assistant | Nogales | 13 | 3,600 | 21 | 4,740 |
| | San Luis | 7 | 980 | | |
| | Yuma | 1 | 160 | | |
| Public Health - Graduate | Bisbee | 1 | 270 | 38 | 2,186 |
| | Douglas | 14 | 560 | | |
| | Nogales | 6 | 212 | | |
| | Tucson | 15 | 830 | | |
| | Yuma | 2 | 314 | | |
| Public Health - Undergraduate | Nogales | 3 | 140 | 6 | 384 |
| | San Luis | 3 | 244 | | |
| Undergraduate - Other | Nogales | 10 | 279 | 11 | 399 |
| | San Luis | 1 | 120 | | |
| Total | | | | 433 | 56,408 |

UA Trainee Field Experiences and Contact Hours by Discipline in Arizona Cities in the Arizona-Mexico Border Region

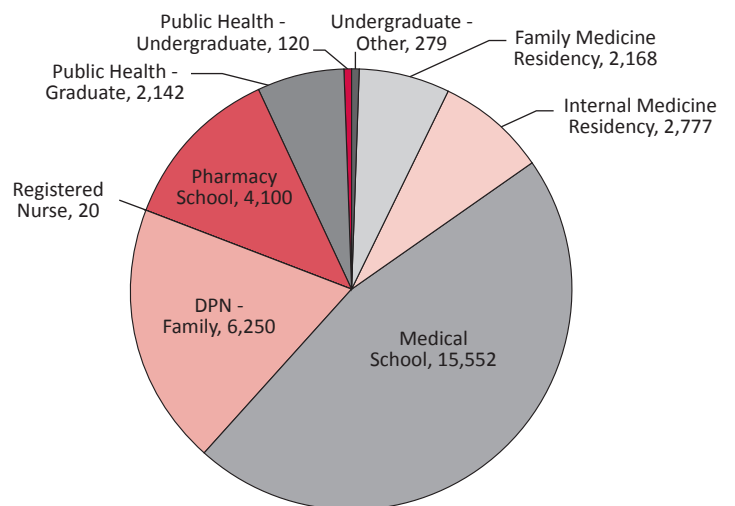
| Trainee Discipline | City | # Field Experiences | Contact Hours | Total Field Experiences | Total Contact Hours |
|-------------------------------|--------------------------|---------------------|---------------|-------------------------|---------------------|
| Family Medicine Residency | Nogales | 9 | 2,168 | 9 | 2,168 |
| Internal Medicine Residency | Green Valley | 19 | 1,275 | 37 | 2,777 |
| | Marana | 18 | 1,502 | | |
| Medical School | Arivaca | 2 | 480 | 78 | 15,552 |
| | Bisbee | 6 | 1,400 | | |
| | Douglas | 5 | 600 | | |
| | Nogales | 8 | 772 | | |
| | Sells | 4 | 840 | | |
| | Sierra Vista | 4 | 360 | | |
| | Tucson* | 28 | 6,460 | | |
| | Yuma | 21 | 4,640 | | |
| DNP - Family | Benson | 1 | 360 | 23 | 6,250 |
| | Green Valley | 2 | 720 | | |
| | Nogales | 1 | 20 | | |
| | San Luis | 2 | 470 | | |
| | Sierra Vista | 5 | 1,440 | | |
| | Tucson* | 9 | 2,160 | | |
| Registered Nurse | Yuma | 3 | 1,080 | 1 | 20 |
| | Nogales | 1 | 20 | | |
| Pharmacy School | Benson | 3 | 640 | 25 | 4,100 |
| | Douglas | 2 | 320 | | |
| | Nogales | 5 | 380 | | |
| | Sells | 1 | 160 | | |
| | Sierra Vista | 4 | 800 | | |
| | Tombstone | 1 | 160 | | |
| | Tucson* | 2 | 480 | | |
| | Yuma | 7 | 1,160 | | |
| | Public Health - Graduate | Bisbee | 1 | | |
| Douglas | | 14 | 560 | | |
| Nogales | | 6 | 212 | | |
| Tucson* | | 15 | 830 | | |
| Yuma | | 1 | 270 | | |
| Public Health - Undergraduate | Nogales | 2 | 120 | 2 | 120 |
| Undergraduate - Other | Nogales | 10 | 279 | 10 | 279 |
| Total | | | | 222 | 33,408 |

*For field experiences in Tucson, only sites with an underserved designation are counted.

Number of UA Trainee Field Experiences in Arizona Cities in the Arizona-Mexico Border Region, N = 222



Total UA Trainee Field Experience Contact Hours in Arizona Cities in the Arizona-Mexico Border Region, Total = 33,408 hours



Advisory Commission Members

Michael Allison

*Native American Liaison
Arizona Department of Health Services*

Tony Felix

Southern Arizona VA Health Care System

Linda Houtkooper

*Associate Director
University of Arizona Cooperative Extension*

Victoria Murrain

*Assistant Dean for Graduate Medical Education
Associate Professor, Family and Community Medicine – Clinical Scholar Track
UA College of Medicine – Tucson*

Genevieve Notah

*Associate Director, Office of Program Planning & Evaluation
Navajo Area Indian Health Service*

Edward Paul

*Director of Medical Education
Yuma Regional Medical Center*

Jendean Sartain

*Board Member
Cobre Valley Regional Medical Center*

Patricia Tarango

*Bureau Chief
Bureau of Health Systems Development
Arizona Department of Health Services*

Shelley Vaughn

*Nursing Instructor
Eastern Arizona College*

Amy Waer

*Associate Dean for Medical Student Education
Associate Professor of Surgery
UA College of Medicine – Tucson*

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Director, Arizona AHEC
University Distinguished Outreach Professor
Clinical Professor of Nursing*

UAHS Faculty Advisory Committee Members

Note: All members are faculty within the University of Arizona Health Sciences

Tamsen Bassford

*Head, Dept. of Family and Community Medicine
UA College of Medicine – Tucson*

Dan Derksen

*Director, Center for Rural Health
UA Zuckerman College of Public Health*

Jill Guernsey de Zapien

*Associate Dean for Community Programs
UA Zuckerman College of Public Health*

Elizabeth Hall-Lipsy

*Program Manager, Health Disparities Initiatives and Community Outreach, Clinical Assistant Professor
UA College of Pharmacy*

Marylyn Morris McEwen

*Associate Professor
UA College of Nursing*

Marion Slack

*Professor, Dept. of Pharmacy Practice and Science
UA College of Pharmacy*

ARIZONA AHEC Program Regional Centers 2014–15

Eastern Arizona AHEC (EAHEC)

*SERVICE REGION: Gila, Graham, Greenlee Counties and portions of eastern and southern Pinal County
5880 S. Hospital Drive, Suite 115
Globe, AZ 85501-9449
(Mailing) PO Box 572 ZIP: 85502
928-402-8054*

Greater Valley AHEC (GVAHEC)

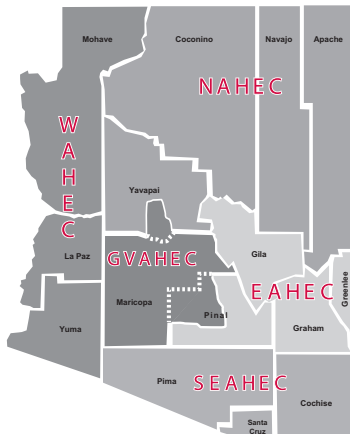
*SERVICE REGION: Maricopa County and portions of west-central Pinal and south-central Yavapai Counties
c/o Empowerment Systems, Inc.
2066 West Apache Trail, Suite 116
Apache Junction, AZ 85120-3733
480-288-8260*

Northern Arizona AHEC (NAHEC)

*SERVICE REGION: Apache, Coconino, Navajo Counties and eastern portions of Yavapai County
c/o North Country HealthCare
2920 North Fourth Street
Flagstaff, AZ 86004-1816
(Mailing) PO Box 3630, ZIP: 86003
928-522-9860*

Southeast Arizona AHEC (SEAHEC)

*SERVICE REGION: Cochise, Pima, Santa Cruz Counties
1171 West Target Range Road
Nogales, AZ 85621-2415
520-287-4722*



Western Arizona AHEC (WAHEC)

*SERVICE REGION: La Paz, Mohave, Yuma Counties
Regional Center for Border Health, Inc.
214 West Main Street
Somerton, AZ 85350-0617
PO Box 617 Somerton, 85350
928-276-3414*

Contact Us!



THE UNIVERSITY OF ARIZONA
Arizona AHEC
Area Health Education Centers

The Arizona AHEC Program is administered through the University of Arizona and is responsible to the Senior Vice President for Health Sciences. The University of Arizona Health Sciences includes the UA College of Medicine – Tucson, UA College of Medicine – Phoenix, UA College of Nursing, UA College of Pharmacy, and the UA Mel and Enid Zuckerman College of Public Health.

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Arizona AHEC Program
The University of Arizona
1834 East Mabel Street
Tucson, Arizona 85721-0425

Phone: 520-626-4030
Fax: 520-626-4037
<http://azahec.ahsc.arizona.edu>

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