



**THE ARIZONA
AREA HEALTH EDUCATION CENTERS
(AZAHEC) PROGRAM**

**Strategic Vision Framework
2011 - 2016**

Arizona Health Education Centers (AZAHEC)
The University of Arizona
1834 East Mabel St. Tucson, Arizona 85721
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Introduction

The Arizona AZAHEC (AZAHEC) Program is a partnership between the University of Arizona and our communities that was created in 1984 to improve the supply, geographic and specialty distribution, retention, diversity and quality of health professionals and support personnel required to meet the health care needs Arizona's rural and urban medically underserved communities. The AZAHEC program is responsible to the Vice President for Health Affairs and has provided health professions educational experiences for the past 26 years through the University of Arizona Health Sciences Center, home to the Colleges of Medicine, Nursing, Pharmacy and Public Health and Centers of Excellence.

The Arizona AHEC program serves the entire State of Arizona contractually through five regional AZAHEC Centers. Each regional center is dedicated to providing programs to attract youth into health careers, community-based health profession students' training experiences, quality continuing education as well as improving health outcomes in their respective regions. The five regional centers include:

- 1) Eastern Arizona AZAHEC (EAHEC)
- 2) Greater Valley AZAHEC (GVAHEC)
- 3) Northern Arizona AZAHEC (NAHEC)
- 4) Southeast Arizona AZAHEC (SEAHEC)
- 5) Western Arizona AZAHEC (WAHEC)

The five regional AZAHEC centers work across all 15 Arizona counties in collaboration with K-12 school districts, universities, community colleges, public health systems, community hospitals, primary care providers, tribal agencies, community-based organizations, and others to coordinate, support, and implement activities designed to:

- Expose and support young people interested in pursuing careers in the health professions;
- Support community-based educational and clinical training experiences for postsecondary and postgraduate students enrolled in healthcare training programs;
- Offer continuing education opportunities to healthcare professionals practicing in Arizona's communities; and
- Improve access to healthcare services throughout Arizona.



Arizona's AHEC program began in 1984 with the first center opening in Nogales, Arizona to serve the southeastern U.S. / Mexico border region of the state. By 1989 a five-center AZAHEC system was operating throughout the state. During this time period, Arizona faced persistent problems related to the lack of quality accessible health care for our diverse and widely dispersed rural and urban medically underserved populations. These problems not only continue today, but are increasing at an alarming rate due to Arizona's increasing populations. AZAHEC is positioned to respond with greater program growth particularly in areas of primary care and public health.

Mission Statement

The mission of the Area Health Education Centers program is to enhance access to quality health care, 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.¹ Fundamental goals of the AZAHEC Program include:

- Growing our own healthcare workforce
- Promoting community health
- Serving as a bridge between communities and resources

AZAHEC university partners include the Arizona Health Sciences Center, and the Colleges of Medicine, Nursing, Pharmacy, and Public Health. Each partner maintains a specific-driven Mission Statement, which is collectively reflected within the AZAHEC Mission Statement:

Arizona Health Sciences Center (AHSC): to provide health care education, research, patient care and service for the people of Arizona.

College of Medicine (COM): to continually improve health care through education, research and clinical care, and to provide health education and patient care to all Arizonans, in metropolitan and rural areas alike, from the borderlands Arizona shares with Mexico to Native American communities in the northern and western regions.

College of Nursing (CON): to provide nursing education by preparing professional nurses who function in various contexts related to the health care needs of the people in Arizona and society in general.

College of Pharmacy (COP): to promote the health and well being of our citizens by 1) providing the nation's highest quality education, research and service, and 2) by inspiring responsible, compassionate leadership in the profession.

College of Public Health (COPH): is dedicated to promoting the health of communities in the southwest and globally with an emphasis on achieving health equity through excellence in education, research and service.

Vision

By 2016, AZAHEC will engage projects designed to develop a diversified and qualified health care workforce, provide service and research programs that foster cooperation and collaboration among AZAHEC partners and communities, provide accountability for health professionals and programs, serve as a statewide resource and catalyst for delivering programs fostered by health care reform in the state, and improve the health of our communities through model academic and community partnerships.

¹ National AZAHEC Organization. Available: <http://www.nationalAzAHEC.org/About/AZAHECMission.asp>. Accessed 3-29-11.

Core Values

Core values are principles that support the Mission and Vision Statements of the AZAHEC, promote interprofessional approaches to educational and research opportunities, and guide and inspire the partnership network across university, community, state and national resources that serve to improve the health conditions of Arizona communities. The core values driving the AZAHEC Program include:

- **Integration** – To expand and enhance the wide range of community-based training programs which contribute to efforts to increase the number of primary care providers, including physicians and other primary care providers, who deliver services in medically underserved areas.
- **Quality** – All workforce health care personnel and activities of the AZAHEC system are designed to provide the highest quality standards for the state health care system aligned with national health care objectives.
- **Partnerships** – Our extensive university and community partnerships focus on interdisciplinary, community-based training programs to improve the supply, distribution, diversity, and quality of health care providers. Together these collaborative efforts address the goal of increasing the number of primary care providers and increasing access to care for individuals and families who reside in rural and other medically underserved areas.
- **Interprofessional Education** – AZAHEC is committed to strengthening capacity for community-based interprofessional education and practice
- **Equitable & Effective Access** – AZAHEC is dedicated to providing the highest quality of health care services along with eliminating health workforce shortages and health disparities while actualizing optimal healthy outcomes for everyone.
- **Community Health** – The AZAHEC networks are committed to providing an increased presence in communities with diverse health professionals who deliver local resources to accommodate local needs.
- **Resource recognition** – As a nationally recognized health care model program, AZAHEC has the capacity to serve as a catalyst for health care transformation assisting with understanding new models and approaches required for Arizona health care reform.
- **Research** – Through our academic and community partnerships, the AZAHEC network serves as a host for innovative explorations seeking to advance health care practices across all disciplines, communities, and delivery systems.

- **Dissemination** – The AZAHEC system serves as a conduit for distribution of information, new model programs, and strategies developed to assist health care professionals, organizations, and community practices.

STRATEGIC PRIORITIES 2011 - 2016

The AZAHEC system collectively embraces the goal of increasing the number of graduates in the health professions who will ultimately practice in Arizona’s medically underserved communities. AZAHEC academic community-based partnerships focus on results that improve the supply, distribution, diversity, and quality of health care providers followed by an increase in access to health care services by populations residing in medically underserved areas. The resulting community-based AZAHEC structures provide training sites and programs responsive to both State and local community health care delivery needs. As the AZAHEC program grows over the next five years, AZAHEC intends to increase capacity to train undergraduate, graduate, and postgraduate students and provide continuing education for health professionals who reside and practice in our communities. Central to this mission is developing the pipeline into health professions; supporting undergraduate, graduate and postgraduate collegiate education; and continuing education for health care providers practicing in Arizona’s rural and urban underserved communities.

The regional centers have long-standing robust programs aimed at increasing the pipeline into health careers. In recent years, allocations from the Arizona lottery have better positioned AZAHEC to deliver community-based health professions postsecondary, graduate and postgraduate programs consistent with long-standing, mature national AZAHEC programs. Additionally, the regional centers are also leveraging new partnerships and resources to grow and sustain their regional programs (an example being Northern AHEC’s partnership with A.T. Still University that serves as a training hub for osteopathic medical students). During the next five years AZAHEC’s emphasis will be on strengthening the capacity of postsecondary and graduate training throughout the state with particular emphasis on the primary care workforce, the public health workforce, and increasing access to care through innovative leading-edge teaching health centers.

Purpose of the AZAHEC Strategic Vision

The purpose of this strategic vision document, therefore, is to outline a broad educational development agenda that will guide more specific program plans over the next five years. This strategic vision agenda resulted from content review of a series of collaborative meetings with AZAHEC leaders and constituents including the five statewide AZAHEC regional centers, University of Arizona faculty advisors from the Colleges of Medicine, Nursing, Pharmacy and Public to AZAHEC and university health science planning documents, the AZAHEC Commissioners and statewide and national networks, among others. To achieve AZAHEC’s collective vision, five strategic focal areas are identified:

- Workforce Development
- Educational Capacity Development
- Research and Evaluation
- Program Capacity Development
- Resource Development and Sustainability

Of particular emphasis between 2011 to 2016 is the development of integrated, sustainable statewide health workforce education programs that focus on the priority areas especially primary care, and

increased access challenges in Arizona’s rural, medically underserved and border communities that require public health interventions. AZAHEC’s mission and core values, again, drive the vision.

This document is intended to be broad in nature and is not a specific, detailed operational plan. Rather, this outlines priorities in a multi-year planning process for the period July 1, 2011 through June 30, 2016 that does underpin annual budget decisions annually over the next five years. The inherent outcome goals are to improve the health workforce capacity for Arizona’s underserved communities.

Federal and State Background of the AZAHEC Program

Federal Background. The Area Health Education Centers program was developed by Congress in 1971 to recruit, train and retain a health professions workforce committed to rural and urban underserved populations. Nationally, there are 56 AHEC programs with more than 235 centers operating in almost every state and the District of Columbia. The national AHEC program was reauthorized under the Patient Protection and Affordable Care Act (ACA) of 2010. Title VII, Part D, Section 751 of the Public Health Service (PHS) Act authorizes the AHEC program, which provides grants to medical schools and nursing schools to establish and maintain community-based, primary care training programs in off-campus rural and underserved areas (nursing schools are eligible in those states where no AHEC program exists). The ACA (Public Law 111-148) has also amended Title VII, Section 751, of the Public Health Service (PHS) Act to authorize two types of Area Health Education Centers (AHEC) awards:

- Subsection 751(a)(1) AHEC Infrastructure Development awards replace Basic/Core Area Health Education Centers (BAHEC) Program awards; and
- Subsection 751(a) (2) AHEC Point of Service Maintenance and Enhancement awards replace Model State Supported Area Health Education Centers (MAHEC) Program awards.

The Arizona AHEC program is funded under the national AHEC Point of Service Maintenance and Enhancement award program (former Model State AHEC program).

Point of Service Maintenance and Enhancement awards enable entities to maintain and improve the effectiveness and capabilities of an existing AHEC program and make other modifications to the program that are appropriate due to changes in demographics, needs of the population served, or other similar issues affecting the area health education center program.

FEDERAL AZAHEC PROGRAM ACTIVITIES

Infrastructure Development programs under subsection 751(a)(1), formerly referred to as Basic/Core Area Health Education Centers programs, and Point of Service Maintenance and Enhancement programs under subsection 751(a)(2), formerly referred to as Model State-Supported Area Health Education Centers programs, shall carry out the following program activities:

(A) Develop and implement strategies, in coordination with the applicable one-stop delivery system under section 134(c) of the Workforce Investment Act of 1998, to recruit individuals from underrepresented minority populations or from disadvantaged or rural backgrounds into health professions, and support such individuals in attaining such careers.

(B) Develop and implement strategies to foster and provide community-based training and education to individuals seeking careers in health professions within underserved areas for the purpose of developing and maintaining a diverse health care workforce that is prepared to deliver high-quality care, with an emphasis on primary care, in underserved areas or for health disparity populations, in collaboration with other Federal and State health care workforce development programs, the State workforce agency, and local workforce investment boards, and in health care safety net sites.

(C) Prepare individuals to more effectively provide health services to underserved areas and health disparity populations through field placements or preceptorships in conjunction with community-based organizations, accredited primary care residency training programs, Federally Qualified Health Centers, rural health clinics, public health departments, or other appropriate facilities.

(D) Conduct and participate in interdisciplinary training that involves physicians, physician assistants, nurse practitioners, nurse midwives, dentists, psychologists, pharmacists, optometrists, community health workers, public and allied health professionals, or other health professionals, as practicable.

(E) Deliver or facilitate continuing education and information dissemination programs for health care professionals, with an emphasis on individuals providing care in underserved areas and for health disparity populations.

(F) Propose and implement effective program and outcomes measurement and evaluation strategies.

(G) Establish a youth public health program to expose and recruit high school students into health careers, with a focus on careers in public health.

The ACA provides new emphasis for developing a health care workforce that meets the needs of communities for primary care. Under the ACA law there also is renewed interest in recruiting individuals from underrepresented minority populations or people from disadvantaged backgrounds or rural backgrounds into health careers as well as recognition of the variety of health professions who provide primary health care. Participation in interprofessional training involving physicians, nurse practitioners, nurse midwives, dentists, psychologists, pharmacists, optometrists, community health workers, public and allied health professions or other health professionals is now a required activity for the AZAHEC program.

Federal AHEC program requirements for awardees under section 751 also requires that at least 10 percent of clinical education required for medical students be conducted in community settings that are removed from the primary teaching facility of the contracting institution for grantees that operate a school of medicine or osteopathic medicine.

Under the federal award grantees may also use funds to carry out any of the following activities:

(A) Develop and implement innovative curricula in collaboration with community-based accredited primary care residency training programs, Federally qualified health centers, rural health clinics, behavioral and mental health facilities, public health departments, or other appropriate facilities, with the goal of increasing the number of primary care physicians and other primary care providers prepared to serve in underserved areas and health disparity populations.

(B) Coordinate community-based participatory research with academic health centers, and facilitate rapid flow and dissemination of evidence-based health care information, research results, and best practices to improve quality, efficiency, and effectiveness of health care and health care systems within community settings.

(C) Develop and implement other strategies to address identified workforce needs and increase and enhance the health care workforce in the area served by the area health education center program.

State Background. Arizona Revised Statutes - Title 15 Education - Section 15-1643, 15-1644 and 15-1645 legislatively define the Arizona Area Health Education System; Centers; Governing Boards; and Duties. Under 15-1643, the Arizona Board of Regents (ABOR) has authority to establish the Arizona Area Health Education Center system at the University of Arizona College of Medicine and ABOR also appoints a system director. The system consists of five area health education centers administered

Federal AZAHEC Center Requirements

Federal AZAHEC center program requires that programs have at least one area health education center and that each center must meet the following requirements:

(A) Is a public or private organization whose structure, governance, and operation is independent from the awardee and the parent institution of the awardee;

(B) Is not a school of medicine or osteopathic medicine, the parent institution of such a school, or a branch campus or other subunit of a school of medicine or osteopathic medicine or its parent institution, or a consortium of such entities;

(C) designates an underserved area or population to be served by the center which is in a location removed from the main location of the teaching facilities of the schools participating in the program with such center and does not duplicate, in whole or in part, the geographic area or population served by any other center;

(D) fosters networking and collaboration among communities and between academic health centers and community-based centers;

(E) serves communities with a demonstrated need of health professionals in partnership with academic medical centers;

(F) addresses the health care workforce needs of the communities served in coordination with the public workforce investment system; and

(G) has a community-based governing or advisory board that reflects the diversity of the communities involved.

by the director of the AZAHEC system. Each center represents a geographic area with specified populations that the system determines lacks services by the health care professions. ABOR also appoints a governing board for each center consisting of health care providers and consumers that also reflect the ethnic representation of the center's geographic area. Each regional center is responsible to conduct the following:

1. Physician and other health professional education programs that consist of any of the following:
 - (a) An undergraduate clinical training program
 - (b) A graduate program
 - (c) Postgraduate continuing education
2. Programs to recruit and retain minority students in health professions
3. Continuing education programs for health professionals

ABOR appoints a statewide commission as well comprised of members who are knowledgeable about the delivery of health care within Arizona. This advisory commission meets quarterly to advise the director on system management and monetary expenditures. Arizona statute also allows the establishment of field scholarships by the regional centers for health profession students (defined as enrollment in a school of medicine, nursing, pharmacy or physical therapy) with the expectation of a service payback after graduation.

As previously noted, the AZAHEC program is responsible to the Vice President for Health Affairs and is operated through the University of Arizona Health Sciences Center (AHSC), home to the Colleges of Medicine, Nursing, Pharmacy, Public Health, and Centers of Excellence.

The following section describes the strategic priorities of the Arizona AZAHEC program for the years 2011-2016.

Strategic Priorities of the Arizona AZAHEC Program 2011-2016

I. Workforce Development

Background. Nationally, as noted, the Area Health Education Centers program was developed by Congress in 1971 to recruit, train and retain a health professions workforce committed to underserved populations. **AHEC's connect students to health careers, professionals to communities, and communities to better health.** Today, there are 56 AHEC programs with more than 235 centers that operate in almost every state and the District of Columbia. Approximately 120 medical schools and 600 nursing and allied health schools work with AHECs to improve health for underserved populations.² Inherent in AZAHEC's health workforce development programs is the recruitment of students from rural and urban underserved communities as well as under-represented populations. Pipeline initiatives, already extensively developed throughout the five regional centers' state-wide system, are essential to assure a diverse, highly qualified and distributed Arizona health professions workforce.

Fundamentally, we want our graduates to remain in our communities. The better integrated our academic programs are at the community level the more likely our students will have meaningful experiences designed to prompt them to stay. Developing a diverse health workforce is imperative to improved health care quality and outcomes as many of our diverse populations suffer significant health

² National AZAHEC Organization. Available online: <http://www.nationalAzAHEC.org/About/AboutUs.asp>. Accessed 4-1-11

disparities. Arizona is home to twenty-one sovereign tribal nations and as a U.S. / Mexico border state also is home to many Latino populations of Mexican-American descent. As AZAHEC increases presence in our communities, including non-traditional partners such as tribal communities, is imperative to develop a diverse workforce that reflects Arizona's residents.

Current and projected AZAHEC workforce development strategies builds from our long-standing presence in communities, and more recently from programs begun in FY 2007 to strengthen academic-community partnerships for health science student education. Particular emphasis is aimed toward Arizona's Rural Health Professions Program (RHPP), primary care with emphasis on medical residency program development distant from the main academic medical schools and non-physician providers including nurse practitioners, postgraduate community-based pharmacy education, public health service learning and career development, development of community-based teaching health centers, community-based research and dissemination.

Interprofessional educational models underpin future directives as well. In 2006 AZAHEC began concerted effort to move toward interprofessional educational (IPE) models. An early concept proposed development of the Arizona AZAHEC Regional Offices of Interprofessional Health Professions Education. The purpose of such regional offices was to improve recruitment, education, retention and distribution of health care providers in rural and urban underserved communities by facilitating quality, interprofessional community-based education for medical, nursing, pharmacy, public health and other health professions students through academic-community partnerships.

To reach this outcome, AZAHEC learned that infrastructure must be established on many levels. First, discipline-specific training capacity, particularly for the University of Arizona Colleges of Medicine, Nursing, Pharmacy, and Public Health, was needed to support training, recruitment, retention and distribution of health care providers in our underserved communities. Enrollments were increasing in the College of Medicine, Tucson campus, and new enrollments occurred at the College of Medicine, Phoenix campus. Without new academic program resources, meeting the federal ten percent requirements for off-campus training for medical students was at risk. While all the colleges placed students in rural and urban underserved areas for training experiences, integration with the regional centers was sporadic—often a student was placed in a region without the regional AZAHEC centers' awareness of the student's presence. Other schools, particularly pharmacy, needed tangible support to increase the numbers of pharmacy students who train in rural areas. Primary care shortages were abysmal—with the Arizona ranked at 46th for primary care physicians and 46th for registered nurse shortages. Unlike other mature AZAHEC programs in the nation, AZAHEC did not support Graduate Medical Education (residencies) for primary care medical residents. More than fifty (50%) of the University of Arizona's medical school graduates take residency placements in other states. This is significant because research has shown that residents tend to start up practices within 100 miles of where they complete their residency program. The short of it is Arizona is producing physicians who practice elsewhere.

Our state shortages of key health professionals prompted development and expansion of new opportunities for nursing, pharmacy and public health students' training as well. For example, resolving

Recruiting students from our underserved communities is essential, as research has shown that those most likely to practice in a rural community come from rural communities. Rural residents are "place-committed" and often come from families who have lived in their home communities across several generations. They bring historical understanding to communities that have implications for improving local health service capacity.

Arizona's primary care shortage cannot be solved by the discipline of medicine alone. A 2007 workforce study commissioned by AZAHEC and conducted by the Rural Health Office indicated that especially for rural Arizona, primary care capacity must include non-physician primary care providers.³ Efforts to increase capacity will require successful training and recruitment programs for nurse practitioners and physicians' assistants.

AZAHEC's investment into the RHPP program, therefore, is a crucial program to get medical, nursing, pharmacy and public health students into underserved community-based training experiences—with long-term goals of recruiting and retaining some of these program graduates into our underserved communities. As noted, AZAHEC supported increasing the number of students who participated (voluntarily) in the Arizona Rural Health Professions Program (RHPP). AZAHEC supported the University of Arizona (medicine, nursing, pharmacy and public health), Arizona State University (nursing), and Northern Arizona University (nursing) to expand RHPP training capacity. AZAHEC also has initiated support to develop rural and regional medical residency programs. While we have begun development it will take time to have substantial training networks in these areas. **Disciplinary training initiatives are core to meeting workforce demands** and lay a foundation for future interprofessional training as well.

Second, to enhance training and improve health care access at the community level, greater attention must be focused on facilitating community-based interprofessional practice by faculty mentoring students. Two outcomes must be achieved to grow in this area: 1) the development and support of field professors across the disciplines; and 2) faculty-modeled interprofessional clinical practice opportunities. It is insufficient to rely on the traditional 1:1 preceptor to student community-based training model if a culture shift to team practice is valued. It is also not realistic to expect a massive statewide shift to team practice in the short term. What is possible is development of field faculty who understand the challenges of rural and medically underserved practice settings and who can be trained to understand team practice. Field faculty are on the front lines and a formalized recruitment and training program for these faculty is needed to train the next generation of students in team care. AZAHEC has supported IPE faculty development since FY 2011 yet without the development of community-based faculty on a larger scale the risk is our preceptors will not be current with the direction future practice is moving toward. It is also possible to develop one model interprofessional primary care teaching practice to begin a shift toward the future where team practice will be commonplace. AZAHEC wants to lead such a model.

To get there, community-based interprofessional faculty development and practice (with students) is a next level AZAHEC workforce development strategy. Faculty development is two-fold: 1) as noted, AZAHEC needs to establish a cadre of field professors who are socialized to work with students in a collaborative practice manner; and 2) AZAHEC needs a model teaching practice to demonstrate innovative interprofessional service-learning primary care models to our students and to increase access to primary care by Arizona's underserved residents. This model teaching practice will also establish field capacity to develop future teaching health centers. Two areas are targeted for faculty development: field professors and primary care with emphasis on clinical outcomes and comparative effectiveness research training both discussed later in this document.

³ Eng, H., Tabor, J., and Hughes, A. (April 2011). *Arizona Rural Health Trend Analysis A Report Prepared for the Arizona AHEC Program*. Arizona Rural Health Office. Mel and Enid Zuckerman College of Public Health. The University of Arizona. Available online: <http://www.azahec.org/regions/po/enclosures/AZWorkforceReport04082011%2Epdf>. Accessed: 5-6-2011

Third, targeted, select faculty modeled interprofessional training sites are needed. The transition to interprofessional clinical practice will take time. An interprofessional primary care practice model training site has potential to increase access to care in a select underserved community as well as serve as a demonstration teaching center for students. Moreover, this training model has potential to develop significant learning and outcomes about what works with underserved communities and residents as well.

The next section describes foundations of our strategic vision including discussion of the Rural Health Professions Program, medical primary care residency programs, pharmacy residency, and faculty development.

State of Arizona Rural Health Professions Program

The Arizona Rural Professions Program (RHPP) began in 1997 as a statutorily mandated, interdisciplinary program that provided medical (University of Arizona), pharmacy (University of Arizona) and nurse practitioner students (University of Arizona, Arizona State University, and Northern Arizona University) with training experiences in Arizona's rural communities. Historically, rural communities experience disproportional shortages of health professionals, particularly primary care providers. This shortage was highlighted again in a 2007 workforce study conducted by the University of Arizona Rural Health Office (RHO).⁴ Study findings demonstrated that Arizona continues to experience rural primary care provider shortages and that resolving the shortage will depend on preparing physicians, nurse practitioners, and physician assistants to meet the demand for care. This demand may be felt more acutely as more residents are eligible for health coverage in 2014 when provisions of health reform are enacted. Anticipating access needs is imperative as Arizona's rural populations tend to be older, poorer, and diverse with many residents residing significant distances from health care centers. Further, our rural residents also tend to be sicker than their urban counterparts and experience higher rates of chronic conditions compounded by adverse social determinants of health. Arizona's children are especially at risk for living in poverty and lacking access to care as Arizona has a serious shortage of pediatric providers that may become a burgeoning challenge as the state's population base continues to grow.

In FY 2007 the AZAHEC program expanded capacity to support to the University of Arizona Colleges of Medicine, Nursing and Pharmacy as well as Arizona State University College of Nursing and Northern Arizona

The Rural Health Professions Program (RHPP) at the University of Arizona College of Medicine

State RHPP funds allow up to 15 medical students from each first year class to be selected to participate based on application. Once selected, medical students are matched with a community or a primary care specialty located in the rural areas of Arizona as defined by the RHPP statute. Students then participate in a 16-week seminar series in the spring semester to prepare them for their initial rotation at the rural site. Students spend between 4-6 weeks in residence in the initial summer rotation and return to these sites in their clinical years (year 3 and 4). ***The AZAHEC provided funding to increase the class size of the Rural Health Professions Program at the College of Medicine.*** This funding also allowed us to support students at the University of Arizona College of Medicine Phoenix Campus. Because of AZAHEC, we have a total of 13 students in RHPP at the Phoenix campus, and this funding allows us to provide the support that will follow students throughout their four years of medical school. Examples of RHPP training include placement (summer 2010) of first year medical students in RHPP spent time in Show Low, Snowflake, Tuba City, Queen Creek, Springerville, St. Johns, Wickenburg, Yuma, Prescott Valley, Polacca (Hopi Reservation), Sierra Vista, Payson, and Flagstaff. The rural health professions program's third-year clerkship students rotated in Safford, Benson, Bisbee, Nogales, Whiteriver, Flagstaff, Winslow, Williams, Prescott Valley, Chino Valley, Queen Creek, Florence and Sacaton. *Carol Q. Galper, EdD, Assistant Dean for Medical Student Education*

⁴Eng, H., Tabor, J., and Hughes, A. (April 2011). *Arizona Rural Health Trend Analysis A Report Prepared for the Arizona AHEC Program*. Arizona Rural Health Office. Mel and Enid Zuckerman College of Public Health. The University of Arizona. Available online: <http://www.azahec.org/regions/po/enclosures/AZWorkforceReport04082011%2Epdf>. Accessed: 5-6-2011

University School of Nursing to move toward doubling the number of participants mandated in the RHPP program. Again, the impetus for expanding support reflected risks to meeting the federal requirement that ten percent of all of the UA College of Medicine's medical student clinical education weeks occur off site from the main institutional campus. With increased medical student enrollments in Tucson and increased enrollments at the new College of Medicine Phoenix medical school, failure to develop expanded support placed our ability to retain federal funding at risk (Note: Meeting the 10% off campus medical student week federal requirement is restricted to the University of Arizona. While other medical students do have clinical experiences throughout our AZAHEC regions, these weeks do not count toward meeting the University of Arizona's obligations).

The original Rural Health Professions Student (RHPP) statute requires fifteen medical students, four pharmacy students, and four nursing students (from all three state universities) to (voluntarily) participate. As noted, fifteen medical students is an insufficient number to meet the federal medical student training requirements with the growing medical student admission rates at the UA Tucson and Phoenix medical schools. These RHPP numbers will not meet the demand for nurse practitioners or pharmacists either. Consequently, AZAHEC significantly invested in RHPP program growth for medicine, nursing, and pharmacy students and added an RHPP training component for public health (public health is not a component of the state RHPP mandate). The results have been significant and underpin AZAHEC's commitment to continued RHPP support over the next five years.

To illustrate, one of the innovative aspects of the AZAHEC's support of the Rural Health Professions Program is the inclusion of the discipline of public health through its Masters in Public Health (MPH) program (Arizona statute is limited to medicine, nursing and pharmacy). The College of Public Health (COPH) has become well known for its Rural Health Professions Program, which provides dynamic, interactive, community-based service learning courses with real world training in public health. The COPH's program consists of four week-long intensive graduate credit courses for our students including: a Border Health Institute, A Northern Arizona Service Learning course focusing on American Indian communities, a rural health service learning course focusing on rural copper mining communities, and an urban underserved service learning course focusing on vulnerable populations in Tucson. The COPH RHPP program also supports MPH internships within AZAHEC regions and provides opportunities for policy practicums. Through these courses, internships and practicums our students and faculty partner with community organizations to strengthen the health of their populations and increase the skills and capacity of our students to make a difference in underserved communities throughout Arizona.

The University of Arizona College of Pharmacy Rural Health Professions Program.

State Rural Health Professions Program (RHPP) legislation and resulting funding provides for up to four new pharmacy students to participate in rural rotations each year. Additional funding from the Arizona Area Health Education Centers (AZAHEC) is provided to double the number of pharmacy students participating in this program from the University of Arizona's College of Pharmacy. ***As a result of the additional funds provided by the Arizona AZAHEC Program, the College of Pharmacy has been able to triple the number of new RHPP pharmacy student participants each year from 4 to 12 and maintain this improvement over the last two years.***

During summer 2010, a total of 32 RHPP students (14 class of 2013, 10 class of 2012, and 8 class of 2011) completed a rotation in a rural Arizona community. These placements are all in locations that are designated primary care Health Professional Shortage Areas by HRSA, which include Arizona-Mexico border communities and several American Indian tribal communities. Additionally, funding from the AZAHEC has enabled the College of Pharmacy to evaluate its RHPP by longitudinally tracking the program participants. While this evaluation process is just beginning, initial data collected demonstrate that RHPP participants are statistically more likely to select elective rural rotations during their final year of pharmacy education than the rest of their classmates

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The University of Arizona College of
Pharmacy

There are structural challenges to be resolved for our goals to be achieved. For example, AZAHEC has learned that structural barriers such as disciplinary calendars alone impede placing coordinated teams of students in underserved sites for training. To reach the point of being able to send teams of students into our regional AZAHEC areas for clinical training will require implementation of a formalized interprofessional training infrastructure at the University of Arizona Health Sciences Center. This formalized interprofessional education infrastructure is collaborative to AZAHEC and essential to breaking down barriers such as synchronizing clinical schedules and developing a formal community-based interprofessional education curriculum. This is another area where faculty development must occur as well for integration of interprofessional academics and community-based training to merge successfully and work with the local regional AZAHEC center to coordinate activities.

2. Medical Residency (Postgraduate) Program Development

Medical residency programs are core to mature AHEC programs such as those in North Carolina and Arkansas. Until AZAHEC began receiving regular lottery revenues, the resources to support medical residency programs were lacking. However, postgraduate medical residency programs are core to improving the supply, quality, diversity and distribution of the primary care physician workforce for Arizona's rural and urban underserved communities. AZAHEC initiated the move toward residency program development in FY 2007 with a request for proposals for interprofessional residency training that was awarded to the University of Arizona College of Medicine, Department of Family and Community Medicine. As a result of this funding, family practice residents at the University of Physician Health Care Kino family practice residency program each experience six months of rural clinical training during their residency program (two months per residency year). AZAHEC also seeded graduate medical education support to Yuma Regional Medical Center and the North Country Health Center/Northern AHEC. AZAHEC also has plans for further medical residency support and expansion over the next five years. Summaries of residency initiatives are as follows.

Tucson. The University of Arizona Family and Community Medicine. (SEAHEC Catchment Area). In FY 2007, as the result of a competitive request for applications, AZAHEC sponsored the first interprofessional rural residency request for application that was awarded to the University of Arizona College of Medicine. As a result of this project, and beginning in 2010, rural residency primary care training is a mandatory component of the family and

Residency Assessment and Development Project

Doug Campos-Outcalt, M.D.,
University of Arizona
College of Medicine/Phoenix

Over the past two decades Arizona has gone from having only one campus of one medical school graduating fewer than 100 physicians per year to having two campuses for its allopathic medical school and two osteopathic medical schools, graduating over 450 physicians per year. This number of graduates is projected to increase another 100 in the next 5 years. In contrast to this growth, the number of residency training positions in the state has grown at a much slower pace. The result is that, on a per capita basis, Arizona is on a par with the national average for number of medical students but has only 2/3 of the residency positions as the national rate and would need to create 250 new first year residency positions to reach the national average.

The purpose of the Residency Assessment and Development Project, funded by the Arizona AZAHEC is to investigate why hospitals in the state do or do not offer graduate medical education training and to make recommendations on how the number of residency positions in Arizona can be expanded. It will also describe where in the state current residency programs are located and where new ones might be started. The project report will be completed in July 2011.

community medicine residency program at the University Physicians Healthcare Kino (UHK) campus (SEAZAHEC's catchment area). The first residents of this program are now beginning rural residency rotations. AZAHEC plans to continue support for these rural residency rotations.

Yuma. Yuma Regional Medical Center. (Regional Center for Border Health/Western AHEC catchment area). In FY 2008 AZAHEC sponsored an interprofessional educational initiative in Yuma in collaboration with the Regional Center for Border Health (RCBH)/Western Arizona Area Health Education Center (WAHEC). As a result of this initiative, Yuma Regional Medical Center is developing a primary care graduate medical education (GME) program (residency program) and the RCBH/WAHEC has developed a dispensing pharmacy in San Luis that will serve as a training site for pharmacy students and future pharmacy postgraduate residents. AZAHEC is sponsoring development by supporting the Designated Institutional Officer (Program Director) position that has direct responsibility for developing the ACGME application for Yuma Regional Medical Center to become a teaching hospital. Four primary care residency specialties are under development: family practice, emergency medicine, gynecology/obstetrics, and pediatrics. Dr. Edward Paul, M.D. is the Program Director. The initial target date for an ACGME application is 2012. If approved, the residency program will begin in 2013.

"For the last decade the community of Yuma experienced a tremendous growth in population in particularly in the border communities in South Yuma County placing a tremendous burden on the healthcare safety net of existing primary care providers. Throughout Yuma County the need to recruit primary care physicians has become one of the highest priorities. Efforts between the Yuma Regional Medical Center and the Western Arizona Area Health Education Center (WAHEC) continue more so than ever to decrease avoidable emergency room visits that could have been otherwise prevented by visiting a primary care center, therefore decreasing healthcare costs."

Amanda Aquirre, President and CEO, Regional Center for Border Health/WAZAHEC

Flagstaff. (Northern AHEC [NAHEC] catchment area). In 2011, the North Country Community Health Care/Northern Area Health Education Center in Flagstaff began developing a teaching health center with AZAHEC support. NAHEC's family residency program is aligned with the Section 340H of the Public Health Service Act, as added by Section 5508, Subpart XI of the Patient Protection and Affordable Care. Federal funding is available from the U.S. Dept. of Health and Human Services, Health Resources and Services Administration (HRSA) (with the first grant call in December 2010). These new federal resources for Teaching Health Center (THC) Graduate Medical Education payments will cover the costs of new residency programs in community-based ambulatory primary care settings such as health centers. Eleven THC's exist in the U.S. as of January 2011 and are distributed around the nation and will train residents in family medicine, internal medicine, and general dentistry. Eligible Teaching Health Centers are community-based ambulatory patient care centers (including federally-qualified health centers [FQHC]); rural health clinics [RHC] and health centers operated by Indian Health Service or tribal organizations; and entities that receive funds under Title X of the Public Health Service Act).⁵ Positioning NAHEC to respond to this new type of residency training is logical as NAHEC's

⁵ Jan. 26, 2011. *HHS Announces New Teaching Health Centers Graduate Medical Education Program*. Available: http://www.raconline.org/news/news_details.php?news_id=15190. Accessed 3-22-2011.

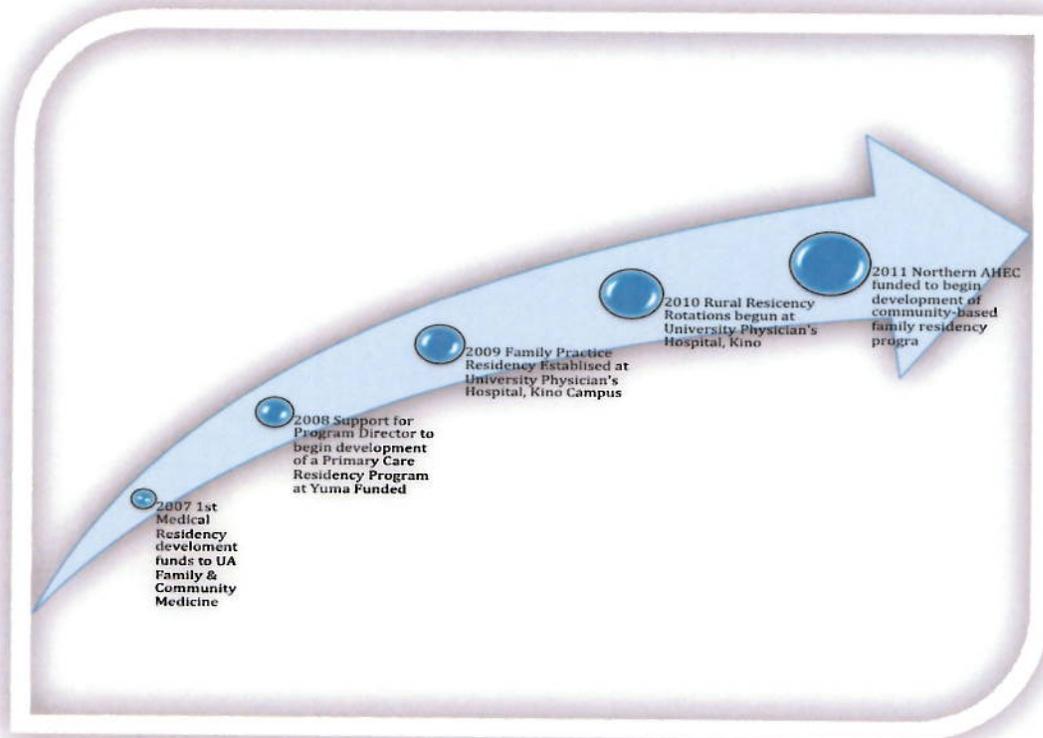
parent organization is a well-established community health center capable of administering the program.

Strategic Vision for Residency Development 2011-2015. From 2011 to 2015 AZAHEC plans to expand support for community-based family medical residency programs and develop new opportunities. First, we will continue to support the UPHK family practice rural rotations as the program expands from southern Arizona to place residents in training sites throughout the State of Arizona. Over the next five years we anticipate that both the Yuma and Flagstaff residency programs will be active. AZAHEC will also develop additional opportunities to respond to the teaching health center agenda, which is discussed further in the section on Educational Program Development. As expansion is assessed geographically, the Figure 1 shows (via stars) where AZAHEC is currently sponsoring residency development and AZAHEC regions that have unmet areas for potential growth. Figure 2 reflects AZAHEC’s timeline for increasing medical residency support from 2007 to 2015.



Figure 1: Unmet AZAHEC Residency Growth Regions

Figure 2: AZAHEC Supported Medical Residency Development Timeline 2007 to 2015



Pharmacy Residency (Postgraduate Education) Program

AZAHEC is supporting and partnering with the University of Arizona College of Pharmacy to extend postgraduate pharmacy residency training (PGY1) to Yuma, including the RCBH/WAHEC pharmacy in San Luis. Postgraduate pharmacy residency training is designed to accelerate pharmacist's growth beyond entry-level professional competence in patient-centered care and in pharmacy operational services, and to further the development of leadership skills that can be applied in any position and in any practice setting.⁶ San Luis has unique opportunities to train skills needed for rural and border communities—settings so often marked by significant pharmacist shortages. These rural and border communities need pharmacists with advanced competencies in patient-centered care and pharmacy operational services particularly as pharmacist scope of practice continues to evolve and include direct patient care management. The AZAHEC supported pharmacy residency programs is designed to increase the number of community-based pharmacy residency programs distant from the greater Tucson region. Work has already begun to serve as the foundation of this fellowship. The Regional Center for Border Health (RCBH) operates the San Luis Walk-in Clinic in San Luis, Arizona, a community at the U.S. / Mexico border region. The San Luis clinic provides primary, pediatric and women's health care services. With AZAHEC support, the RCBH collaborated with the University of Arizona College of Pharmacy, to develop a dispensing pharmacy to this clinic. The development of this dispensing pharmacy is crucial to improve locally available pharmacotherapy services as well as set the stage for future pharmacy clinical education in this rural border community.

While the dispensing pharmacy is in its early stages of development, research findings from the University of Arizona College of Pharmacy suggest "...with time and growth, the pharmacy will be able to develop clinical services and educational programs for the border community of San Luis, hopefully becoming a replicable and sustainable model for rural communities throughout the nation."

Qualitative needs assessment of pharmacy services
The University of Arizona College of Pharmacy
April 2010

Katherine A. Schiraldi, Pharm.D.
Advisor: Kevin P. Boesen, Pharm.D.
Co-Advisor: Rebekah M. Jackowski, Pharm.D.
Co-Advisor: Julia C. Fine, MPH, BSPH

AZAHEC Faculty Development

AZAHEC will support an interprofessional (IP) fellowship program in rural primary care and clinical outcomes (CO) and comparative effectiveness research (CER) (known as COCER throughout this document) at the University of Arizona. This fellowship will train four fellows, one each from medicine (MD), nursing (Doctor of Nursing Practice/DNP), pharmacy (PharmD), and public health (DrPH or PhD), in team-based rural primary care (20%) and team-based COCER (80%). An inherent goal of the fellowship is strengthening Arizona's healthcare workforce through faculty development who train the next generation of health care students to serve rural and urban AZ communities. Training IP COCER teams raises the competencies of our faculty clinical scientists to conduct real world research about the underserved populations that are AZAHEC's constituents leading to better (future) student training and clinician practice with these populations. The fellowship will occur on both the main Arizona Health Sciences campus and the University of Physician's Hospital Kino campus. The primary care practice

⁶ American Society of Health System Pharmacists. (2005). ASHP Accreditation Standard for Postgraduate Year One (PGY1) pharmacy Residency Programs. Available: http://www.ashp.org/s_ashp/docs/files/RTP_PG1AccredStandard.pdf. Accessed: 3-17-2011.

component will occur through the family and community medicine clinic at the University Physicians Healthcare, Kino campus and the research training also occurring at the main AHSC campus through the College of Pharmacy. Once this faculty team is developed they will serve as the first generation of clinician-scientist-faculty to develop other faculty teams and health sciences students. In collaboration with the Colleges of Medicine, Nursing, Pharmacy and Public Health as well as the regional AZAHEC centers, this future faculty team also will be a resource for developing AZAHEC interprofessional field faculty also. The fellowship process is depicted in Figure 3.

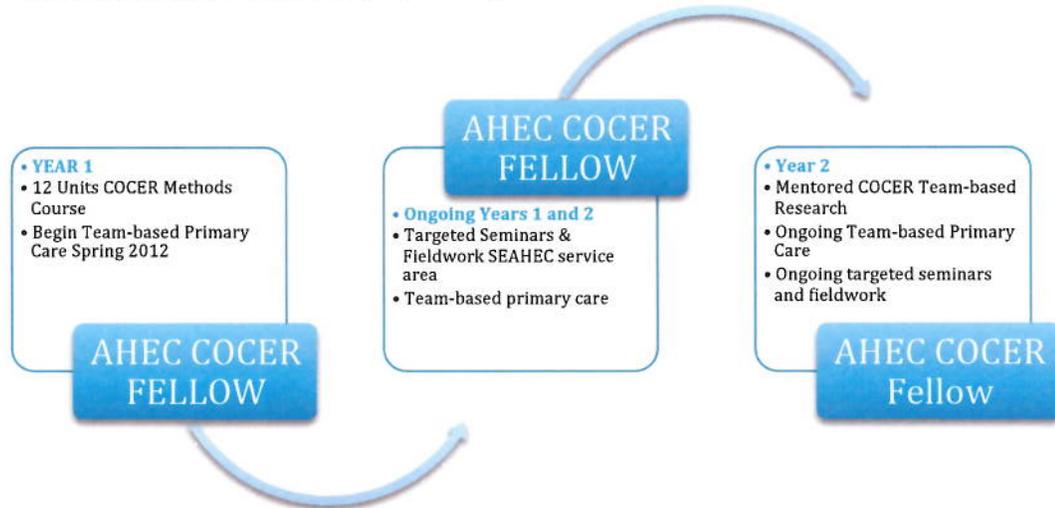


Figure 3: AZAHEC Interprofessional COCER Fellowship Process

II. Educational Capacity Development

Across the state, our regional AZAHECs provide educational programs and services across the spectrum of workforce development: kindergarten through high school pipeline programs, undergraduate, graduate, and postgraduate health professions program, and continuing education for our community-based providers. Pipeline and continuing education programs are deeply ingrained throughout each regional center. Capacity expansion requires innovation and utilization of more novel formats to make our programs accessible to the largest number of participants possible. Examples of innovation we will explore include:

1. Developing a response system that can respond to opportunities as well as create and deploy programs rapidly as new challenges and opportunities arise
2. Strengthening our information technology infrastructure to broadly serve the system including student educational needs (e.g. community placements; clinical learning; service learning), program evaluation and program administration
3. Demonstrating program impact and value through measurable outcomes (e.g. ability to recruit and retain health providers for rural and underserved communities)

Strategies to achieve these goals include:

- Expanding pipeline development with particular emphasis on strengthening diversity through tribal and Hispanic partnerships

- Interprofessional clinical practice education strategies
- Locating academic programs away from the main health science center campus to strengthen capacity
- Teaching Health Centers and service learning integration with AZAHEC at community level (e.g. community health center teaching models; Pathways into Health)

1. Expanding pipeline development with particular emphasis on strengthening diversity through tribal and Hispanic partnerships

The importance of pipeline initiatives to increase diversity is imperative on several fronts. First, many racial and ethnic minority groups and people from socioeconomically disadvantaged backgrounds are significantly underrepresented among health professionals in the United States. Second, lack of diversity is associated with quality issues and poor health care outcomes. Third, Arizona's diversity demands greater attention to health professions workforce development.

Our regional AZAHEC centers conduct multiple programs aimed to increase workforce diversity, yet have identified strengthening tribal career development opportunities as important work to expand over the next five years. AZAHEC has begun dialogue to develop these new tribal collaborations. For example, discussion is underway with leaders of the Advisory Council on Indian Health Care and the Native American liaison to the Arizona Department of Health to develop opportunities for AZAHEC and Arizona's tribal communities to increase collaboration.

In FY 2012, AZAHEC is exploring opportunities to conduct one event in collaboration with tribal communities. While plans are not complete, exploration is underway about the possibility of conducting a "*Pathways into Health, Arizona*" conference hosted in collaboration with tribal communities and the AZAHEC regional centers. Many tribal communities are unaware of the possible opportunities for collaboration with AZAHEC. *Pathways into Health* is a national annual event that brings together a diverse group of individuals and organizations to contribute to the cultivation of an ample American Indian and Alaska Native (AI/AN) healthcare workforce. The national event highlights educational methodologies for AI/AN health professions education and methodologies encouraging Native individuals to pursue health careers by creating awareness among the youngest community members and providing opportunities for adequate preparation and support to succeed.⁷ The intent of an Arizona conference is to highlight need specific to Arizona's tribal communities and to create the relational foundation with AZAHEC for new program development, particularly pipeline development, over the next five years.

2. Interprofessional Education (IPE). The Institute of Medicine's quality reports have underscored over the last decade that disciplinary silos are contributing to poor quality outcomes within the health care system.⁸ Fundamental change in health professions education is needed to improve healthcare quality. Graduates need tools to manage knowledge and to support clinical decision-making. Graduates also need skills to lead complex health system changes and to apply methodological rules successfully and evaluate and translate research and other evidence related into quality, safe practice.⁹

⁷ Pathways into Health. Available online <http://www.pathwaysintohealth.org/?q=content/5th-annual-pathways-conference>. Accessed 4-1-11

⁸ Institute of Medicine (2001). *Crossing the quality chasm*. Washington, DC: National Academy Press; Institute of Medicine (2003b). *Keeping patients safe: Transforming the work environment of nurses*. Washington DC: National Academy Press; Institute of Medicine (2000). *To err is human: Building a safer health system*. Washington, DC: National Academy press.

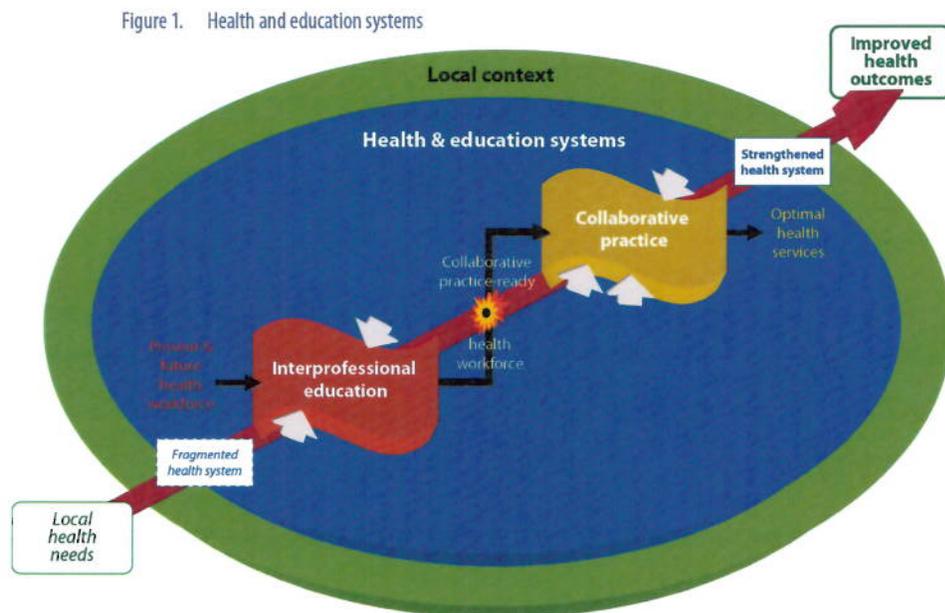
⁹ Institute of Medicine (2001). *Crossing the quality chasm*.

IPE is growing increasingly more important as foundational to improving practice and patient care. The University of Arizona seeks to become a nationally recognized premier institution for IPE by 2020. AZAHEC needs to be situated as a partner in this initiative as our communities have a stake in improved quality and health outcomes that IPE has potential to transform.

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 which learners develop the competencies core to effective collaborative patient-centered practice that is focused on improving patient outcomes: evidence-based, quality-driven, and technology-enabled. Interprofessional education aims to develop mutual understanding of, and respect for, the contributions of various professions and disciplines and thus socialize health care providers to work together as a team, share problem-solving and decision-making, and enhance the benefits of health care for patients, families, and communities.¹⁰

Ultimately, AZAHEC needs to be able to effectively train our students to practice in teams within our communities. Our framework for action is from the World Health Organization. Key terms are defined as follows:

- “Interprofessional education occurs when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes.” [and]
- “Collaborative practice in health-care occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across setting.”¹¹



The figure from the World Health Organization⁹ captures the interprofessional education and collaborative practice model needed for training students through the AZAHEC system and ultimately improving access to care.

Since 2007 AZAHEC has learned important lessons about implementing IPE

¹⁰ Buring, S., Bhushan, A., Broeseker, A., Conway, S., Duncan-Hewitt, W., Hansen, L. & Westberg, S. Interprofessional education: definitions, student competencies, and guidelines for implementation. *Am J Pharm Educ.* 2009 Jul 10;73(4):59. Health Canada – Interprofessional Education for Collaborative Patient-Centered Practice. <http://www.hc-sc.gc.ca/hcs-sss/hhr-rhs/strateg/interprof/index-eng.php>. Last accessed 8 April 2010

¹¹ World Health Organization. Health Professions Networks Nursing & Midwifery Human Resources for Health. (2010). Framework for Action on Interprofessional Education & Collaborative Practice. Pg. 13. Available online: http://whqlibdoc.who.int/hq/2010/WHO_HRH_HPN_10.3_eng.pdf. Accessed 4-4-2011

strategies. Disciplinary silos are difficult to bridge without a fundamental change in culture and more importantly a formalized IPE framework to train faculty and students. Without formalization, the end result—collaborative practice—may remain elusive. AZAHEC community-based IPE training initiatives must press forward and be supported by the IPE academic infrastructure at the Arizona Health Sciences Center. As the AHSC formalizes IPE, AZAHEC is positioned to play a significant partnering role.

First, AZAHEC investment in IPE structure development benefits our community-based training initiatives, particularly with respect to developing a cadre of field professors capable of delivering IPE education and developing infrastructure to coordinate the disciplines for field clinical training experience. AZAHEC needs community-based health care providers to engage as IPE teachers and preceptors. While significant preceptor networks do exist, there are limits to their capacity to take students let alone consistently support team-based community clinical practice experiences. Again, no formal training program for field professors in IPE exists at this time.

Expanding local IPE faculty development is essential to turning service learning in the direction of future collaborative practice. Further, while the Rural Health Professions Program assures students are placed in rural (and urban) underserved settings for clinical training, each school works independently to place students. AZAHEC supported projects has produced IP outcomes, but to get to the point of regular IP team placement and community-based training to occur, formalization of the interprofessional education infrastructure at the Arizona Health Sciences Center is imperative—an infrastructure that AZAHEC is poised to support.

Second, a community-based clinical interprofessional curriculum needs to be developed. Regional AZAHEC Center Directors and field faculty will need such a curriculum to guide student clinical education when in their communities. As IPE is formalized at the AHSC, a faculty advisory committee in collaboration with the regional AZAHEC center directors should be convened to develop the parameters for field professor training. AZAHEC will also have to evaluate what resources may be needed to compensate development of field professors. Community-based service learning has promise to underpin such an IPE clinical program and is consistent with what other states have implemented (e.g. West Virginia Rural Health Education Partnerships). The framework should be sufficiently broad to support learning needs from undergraduate to postgraduate experiences and the curriculum should be inclusive of service learning, team-based practice (where feasible) and team-based research.

Third, teaching health centers are another potential community-based IP training opportunity. An AZAHEC model IP practice is congruent with teaching health centers. Teaching health centers are described as follows:

3. Teaching Health Centers. Service learning is a significant methodology to train students in real world contexts, including IPE. AZAHEC will explore development of at least one community-based, leading-edge primary care practice within the next three years. The rationale for a leading-edge teaching practice is to implement a community-based primary care interprofessional learning center modeled by faculty to students in partnership with AZAHEC communities to improve access to high quality care to targeted underserved Arizona residents. Assessment and planning will be done to determine feasibility, site, services, educational modeling, and likeliness of sustainability through clinical revenues.

The vision for this clinical-teaching enterprise capitalizes on tenants of IPE and faculty-to-student modeled interprofessional practice; is a site for undergraduate medical student training as well as students from nursing, pharmacy, public health, and allied health professions. Fully developed the site will model primary care offered by physician as well as nurse practitioners and other non-physician

primary care providers. The site will also support primary care postgraduate residency programs (both medicine and pharmacy residencies) and will serve as a hub in congruence with the regional AZAHEC center for coordinating other service learning projects in the surrounding communities (both pre-collegiate and collegiate experiences). Further, as a service learning primary care center, opportunity to model innovation, including leading technologies, is at the forefront of the model program.

Clinical service learning is congruent with other AZAHEC's throughout the nation. As examples, Mountain Area Health Education Center (MAZAHEC) in North Carolina operates several clinics (Ashville, Cane Creek and Hendersonville) with a full range of primary care services available to patients. Further, MAZAHEC is a comprehensive teaching center providing residency training, medical, nursing, dentistry and other health professions training coupled with K-12 pipeline programs and continuing education (CE). The South Arkansas AZAHEC also operates a family medicine clinic, supports residencies and other health professions education as well as K-12 and CE programs. ***These two programs are not exhaustive but are reflective of mature AZAHEC systems and where the Arizona AZAHEC program envisions being in the next decade.*** Again, the rationale for a leading-edge community-based practice is to develop a primary care practice that mirrors the real world that graduates will encounter when recruited to practice in rural and urban underserved communities.

The new training site will directly embed real-world practice in the academic health science center educational process. By the practice being located in our communities, the opportunity for students to engage with the community has implications for recruitment and retention—outcomes needed to improve access to high quality care in our underserved communities. Further, moving the Arizona AZAHEC in this direction is timely and reflective of our program's maturity. Further, this positions the AZAHEC program to develop additional (future) teaching health centers and community-based training programs including medical residency programs, nurse practitioner, pharmacy, public health and other allied health-training programs as well. An inherent goal is to get students into practice/training settings that are representative of rural or urban underserved primary care practices but also leading-edge training settings partnered with the University of Arizona.

Additionally, developing a leading-edge teaching practice also positions AZAHEC to compete for future training dollars that will be allocated to teaching health centers (THC). Again, THC's are about primary care—and specifically ***THC's drive primary care training into the community—primary care training that is at the core of the AZAHEC mission.*** For Arizona, a leading-edge community-based teaching practice also has significant potential to impact some of our most underserved residents and serve as a model-training site for our students. As noted, we are currently supporting NAHEC to respond to the teaching health center legislation. Expanding capacity of the AZAHEC program to be responsive in our other regions both expands potential community-based residency program capacity as well as creates learning environments more typical of community-based practices of the future. ***It is equally imperative to note that these teaching health centers expand capacity to train all primary care disciplines.*** As examples, we anticipate that these centers will be community-based training sites for nurse practitioner, physician assistant and pharmacy students as well.

Lastly, while it is known that where residents' train has implications for where they practice, other research has shown that those health professionals most likely to practice in a rural area are from a rural area (or their spouse is from a rural area). It is important to position the Arizona AZAHEC program to compete within the framework of University of Arizona Healthcare (UA Healthcare) in partnership with our communities to push the boundaries of innovation in education. Expanding capacity of the AZAHEC program to be responsive in our other regions both expands potential community-based residency program capacity as well as creates learning environments more typical of practices of the future.

Strategic planning will determine the feasibility of developing and implementing one new teaching practice within the next five years.

III. Research and Evaluation

Understanding more deeply the impact of the AZAHEC system is an important developmental milestone for our programs. This understanding hinges upon systematic research and evaluation. Further, developing AZAHEC's research capacity is foundational to assuring solid evidence to support innovative program opportunities as well as to coordinate community-based participatory research between the Arizona Academic Health Sciences Center and its respective colleges to facilitate rapid flow and dissemination of evidence-based health care information, research results, and best practices to improve quality, efficiency, and effectiveness of Arizona's health care and health care systems within our community settings.

To achieve growth in this area updating the current *electronic evaluation system* of the AZAHEC program is imperative. Our electronic data system will be redesigned to track and assess the impact of our programs with greater emphasis on describing the impact of student experiences and tracking of graduates who had training experiences in AZAHEC regions. The system will also be designed for ease of use and data collection necessary to prepare reports for state and federal entities such as the Arizona Legislature, the Arizona Board of Regents and the Health Resources and Services Administration. These annual reports are components of mandatory reporting compliance regulations. Data is also core to informing policy makers as well.

AZAHEC's current information system is an older electronic system that, while able to collect data, is not user friendly and does not facilitate key processes of the AZAHEC system such as student placement and tracking. The new system will include a student scheduling system, tracking of interprofessional curricular components as these are designed and emerge over the next decade, information about preceptors and community-based faculty, information about training sites (such as available housing), and will include various reporting components for the regional centers to complete as well. As AZAHEC is also moving to develop relationships for community-based medical residency programs, the new data base will also track primary care residency retention data, non-physician primary care provider retention data, and other core workforce needs.

Again, the purpose of redesign is to assure a nimble system that maximizes tracking and assessing student learning experiences throughout the AZAHEC system, tracking of graduates who had AZAHEC training experiences to determine effectiveness of placement into underserved Arizona communities, tracking the impact of pre-collegiate student experiences to determine effectiveness of health careers pipeline programs as well as assuring a robust data system for preparing reports for state and federal entities such as those mandated by the Arizona legislature and the Health Resources and Services Administration (HRSA).

An evaluation team is collecting information about (needed) *core system measures* at the local and state levels. Consultation with the National AZAHEC program will occur in FY 2012 (summer 2012) by the AZAHEC Program Director and AZAHEC staff in FY 2012 to collect information about known and anticipated national and federal measures. Site visits to select state AZAHEC programs by the central program staff including information technologies experts will also occur (e.g. visit to West Virginia and North Carolina to see their data systems). Assessment will include integrated profiles that monitor the health of statewide communities and populations at risk to identify health problems and priorities (online assessment tools); student outcomes as health professionals transitioning from school to

community; and core measures required to assess baseline information and capture (impact) outcomes at all levels of national, regional, state, and local indicators. Once assessment is complete the AZAHEC Director and program staff including information technology experts will design the new system. Where possible, adoption of systems that are already in existence that can be modified for Arizona will be done.

The core components will be designed to foster: 1) Goals-based evaluation, 2) Process-based evaluation, and 3) Outcomes-based evaluation. Goals-based evaluation reflects how well AZAHEC meets goals and objectives of our federal AZAHEC funding and how well the regional centers meet annual goals and objectives of their contracts with the AZAHEC program. Process-based evaluation will allow greater understanding about how the AZAHEC program works and how well we achieve results. Outcomes-based evaluation will focus to what degree the AZAHEC programs are meeting the core mission of improving the health professions workforce for rural and urban underserved Arizona communities—are we doing the right programs to achieve the right results.

Once the assessment is complete our *electronic databases* will be redesigned for greater ease in data capture and reporting as well as to facilitate centralization of student placements, tracking of program components such as community preceptors who work with students, community-based clinical training sites, number of student rotations and student weeks and other related measures. The timeline for completion of the new electronic system is the close of 2012.

AZAHEC will also need to devise *longitudinal tracking processes* that foster understanding the impact of student training in the AZAHEC system. Some of these processes will require Institutional Review Board approval. At a minimum, the following evaluation processes will be developed and implemented:

- Pre and post- evaluation surveys of AZAHEC student rotation experiences
- Pre and post-evaluation surveys of AZAHEC preceptors
- Annual recruitment and retention report about the practice location of AZAHEC graduates
- Surveys of AZAHEC graduates practicing in medically underserved areas
- Tracking of pipeline students who enter health professions programs

The above will include qualitative and quantitative measures. The surveys will gather qualitative measures. Examples of quantitative measures include (but are not limited to):

- Number of student rotations by discipline and number of student

AZAHEC Small Research and Project Grant Program

Select examples of projects funded to faculty, students and/or community members (not to exceed \$5,000 per project) included:

- *The Creation of a Sustainable Database to Aid in the Monitoring and Reduction of Asthma Healthcare Expenditures in Cochise County, Cochise County Steps Special Action Group, UA COPH*
- *Pediatric Nursing Outreach Program with Navapache Regional Medical Center, University Medical Center*
- *Accessing Health Care Among Vulnerable Populations in Southern Arizona: Developing a Policy Media Toolkit, UA COPH*
- *Exploring the Knowledge, Attitudes, Beliefs and Communication Preferences of Acculturated Hispanic/Latino Mothers of Adolescent Girls Regarding Cervical Cancer, Human Papillomavirus (HPV) and HPV Vaccine, UA National Center of Excellence in Women's Health*
- *Evaluation of Abundant Life Wellness' Falls Prevention Program, ASU Polytechnic Campus*
- *Medical Spanish Hospital Rotations: Enhancing Cultural and Linguistic Competency for Arizona Medical Students through Cross-Border Learning Opportunities in Mexican Hospitals, UA COM*
- *Project GENESIS (General Ethnographies and Nursing Evaluation Studies in the State): Community Assessment of Rural Southeastern Arizona Border Community, UA CON*

weeks by discipline, school, AZAHEC region

- Number and location of AZAHEC training sites by region, community and by type (e.g. FQHC, primary care practices, hospitals, health departments, etc.)
- Number and type of AZAHEC field faculty by discipline, region, community
- Number and type of interprofessional training experiences by region, community
- Number and type of pre-collegiate health career promotion programs by type, region, community (including contacts with parents, schools, and other community agencies)
- Number and type of continuing education programs sponsored or co-sponsored by AZAHEC
- Number of AZAHEC graduates who are practicing in underserved Arizona communities (will need names and addresses from participating schools; state board licensing data, etc.)

Second, the University of Arizona is the state's land grant university. We prepare the next generation of clinicians and scientists. ***We need to increase the capacity of our graduates to conduct research that has impact value for Arizona's underserved populations and communities.*** The COCER fellowship described earlier is one project that is laying foundations for future capacity. AZAHEC also implemented a small research and project grant program in FY 2008. The purpose of this small research and project grant program is to provide graduate health sciences students, medical interns, and residents with an opportunity to gain experience in rural and urban medically underserved Arizona communities through research and/or scholarly projects; to interest Arizona Health Sciences students in rural and urban medically underserved practice and other areas of unmet need; and to address community needs through health promotion and disease prevention research and relevant projects. Eligible applicants for these projects included graduate health sciences students, medical interns, and residents; faculty provided the proposal clearly indicates how the project will directly mentor health professions students; and regional Arizona AHEC Centers provided the proposal indicates how the project will directly mentor health professions students.

IV. Program Capacity Development

A "Grow our own" strategy is a fundamental premise of AZAHEC health workforce development strategies as research has shown that those who practice in rural communities are most likely to come from rural communities. Expanding capacity to grow our own workforce will require 1) greater integration between the health professions colleges and the regional AZAHEC centers; 2) expanded outreach programs; 3) responsive programs that meet the community health care needs including expanding access to quality care; 4) leveraging AZAHEC best practices to inform policy makers and community leaders about effective community-based training that improves population health outcomes.

Identified strategies from strategic planning to enhance AZAHEC program capacity development include:

1. ***Analyzing the current staff configuration of the AZAHEC central program office*** and determine knowledge and competencies needed to monitor program efficiency and effectiveness;
2. ***Attract new human resources to the AZAHEC central program office***, particularly an evaluation and outcome analyst and a grant writer
3. ***Develop a user-friendly information technology system*** to effectively capture evaluation and outcome data as well as manage processes of the AZAHEC program
4. ***Develop effective partnerships with regional workforce investment boards*** to address regional health workforce needs, including educational program targets, recruitment and retention

needs, and effective (and satisfying) integration of newly recruited providers into Arizona’s rural and urban underserved communities

AZAHEC Central Program Office. Minimal new staff needs of the central program office to provide the needed expertise of the next five years include professionals with the following competencies:

- a.) Educational Outreach
- b.) Evaluation
- c.) Primary Care (particularly undergraduate medical education and postgraduate residency education)
- d.) Research
- e.) Grantsmanship
- f.) Practice (with emphasis on creating teaching/learning environments)
- g.) Systems Designer

Ideally, we will be able to combine some of these competencies into one role (e.g. Education Outreach and Evaluation with grant writing skills; Research and Practice with grant writing skills)

AZAHEC Information System. The informational system needs were previously described in Section III: Evaluation.

AZAHEC Partnerships. The AZAHEC program is interconnected across the state through multiple collaborative partnerships. These are central to the resource network of the AZAHEC system. AZAHEC will seek new relationships, particularly with workforce investment boards (WIBS), as this is a new federal directive. That said all of our regional centers currently work with local WIBS in some capacity. A new opportunity with WIB partnerships is adult education and re-careering/incumbent worker strategies. AZAHEC will explore novel approaches with WIBS to address expansion of career opportunities in the health professions. **A list of partners is shown in Appendix A.**

V. Resource Development and Sustainability

The AZAHEC program is a statewide network that is interconnected through academic-community partnerships. However, the program must evolve beyond reliance upon state lottery and federal funds to assure that AZAHEC has a diversified funding base sufficient to achieve its goals. Although each regional center may be viable they must develop local support in order to grow and move toward greater self-sustainability. In time, any external funding will only enhance an already financially stable regional network.

Fundamentally, AZAHEC will develop from the strengths we have—building from what we do, who we engage, and what we have seeded. This allows AZAHEC to focus on our common core but to avoid stagnation and duplication of effort. Key steps to achieving sustainability include:

1. Investing in sustainable programs that foster development of the health professions workforce for rural and urban underserved Arizona communities;
2. Community asset building and garnering local support;
3. External Support (financial and in-kind);
4. Annual planning and visioning;
5. Legislature;
6. Marketing.

Sustainable Programs. AZAHEC began investing in sustainable programs in FY 2007. Core sustainable academic programs are medical residency programs and off-campus academic programs that can be sustained by tuition revenues. ACGME dollars and other graduate medical education financial revenue streams can sustain residency programs. Academic programs can generate support through tuition revenues as well. Other revenue streams for AZAHEC sustainability include clinical revenues (clinical teaching programs are yet to be developed); continuing education revenues (although not large revenue streams for AZAHEC today); and leveraging other support through grants and contracts. A myriad of revenue streams are essential to assure a solid sustainable foundation for the future of AZAHEC.

Our recent initiatives provide a growth foundation. For example, as noted, AZAHEC began developing community-based support for residency programs in 2007. As a result of AZAHEC support, the following residency programs are operational or in development today:

- The University of Arizona Family and Community Medicine Residency Program at the University Physicians Hospital, Kino campus, admits ___ family practice residents per year (first admissions in 2010). Each of these residents must participate in two-month mandatory rural rotations each year of their residency program for a total of six months per resident.
- AZAHEC also is supporting development of a primary care residency program at Yuma Regional Medical Center. AZAHEC is supporting the salary of the designated institutional officer (DIO) held by Dr. Edward Paul, who is leading the development of the program. An ACGME application is anticipated in 2012. The program will affiliate with the University of Arizona College of Medicine and once approved and operational will have significant impact on the Western AZAHEC region particularly with opportunities to recruit and retain primary care physicians.
- Northern AHEC (NAHEC) is actively recruiting their designated institutional officer (DIO) to begin the planning process to support a community-based family practice residency program congruent with the new teaching health center (THC) program. THC's will be supported by funds made available through the Affordable Care Act and will help address the need to train primary care physicians at the community level. NAHEC's parent organization, North County Healthcare, provides extensive primary care services to low income, uninsured, or underinsured people in northern Arizona and is the only publicly supported community health center in the area.

AZAHEC will continue to support residency program development over the next five years. From a sustainability perspective, the potential impact is significant. Arizona has a significant primary care provider shortage (we are now ranked 45th). There are insufficient primary care residency slots for graduates of Arizona's medical colleges (both allopathic and osteopathic). Again, evidence shows that residents are likely to establish their practices within 100 miles of where they did their residency program. Increasing residency opportunities in Arizona has potential to also increase the number of physicians who establish practices in the state. By also focusing on rural and underserved opportunities, there also is potential to increase the number of physicians who choose to practice in these Arizona communities.

Graduate medical education (GMA) is also a source of revenue to sustain programs. The largest funder of medical residency programs is the federal government through graduate medical education (GME) dollars from Medicare that pass through teaching hospitals. Federal dollars for community-based residency programs are also now available under the Teaching Health Center legislation and these

dollars are awarded by HRSA. Other sources for GME may come from local or state sources such as state governments, hospitals and Medicaid (although budget cuts during Arizona's recession severely curtailed these funds). Corporate funds may also help support and expand residency slots.

Related sources of revenue are those generated from clinical services. As noted earlier, the AZAHEC program will explore options for developing leading-edge primary care interprofessional model teaching practice during the next three years. While development of leading-edge clinical service models staffed by academic faculty and students have the dual benefit of improving access to care to select Arizona populations and training the next generation of health professionals, the model has sustainability potential through the generation of clinical revenues.

Locating academic programs strategically throughout the state is also a component of sustainability as tuition and other program resources of the respective colleges have sustainability potential. For example in 2010 the AZAHEC program supported implementation of the MPH program at the College of Public Health, Phoenix campus. Fourteen students are enrolled in the program. As a component of AZAHEC support, the College of Public Health is working with the Greater Valley AHEC (GVAHEC) center to implement a high school career club with a focus on public health in the GVAHEC region. This is important to strengthen the pipeline of students who enter public health academic programs. Further, the College of Public Health is also working with the regional centers to establish internships for public health students in Arizona's rural and urban underserved communities. Such internships have potential to recruit and retain public health providers into Arizona's underserved communities as well.

AZAHEC also supported a pilot program to deliver the College of Nursing's accelerated second-degree baccalaureate degree nursing program via distance technologies in Yuma in collaboration with the Regional Center for Border Health/WAHEC. Students received tuition support in return for a three-year service payback upon graduation. The Regional Center for Border Health/WAHEC is the sponsor and will monitor the service payback agreement. There will be six graduates of the program in August 2011 who will begin clinical practice in an underserved Arizona community.

As nursing shortages are experienced more acutely in underserved communities, particular rural communities, improving the supply and quality of the registered nurse workforce is crucial. Plans are also underway to develop a Phoenix branch of the University of Arizona College of Nursing's Masters' Entry into the Practice of Nursing (MEPN) program. MEPN is an accelerated Master of Science (MS) in Nursing degree program designed for those who hold a degree in another field. The program provides a means by which to build the capacity of the local market to educate students who want to obtain a nursing degree as a second career option. Specifically, the College of Nursing will collaborate with the Greater Valley AHEC (GVAHEC) located in Apache Junction to alleviate health care provider shortages and improve health care access for underserved persons living in the GVAHEC region. The College of Nursing MEPN faculty at the Phoenix Biomedical Campus and the administrative facilitating faculty in Tucson will work closely with GVAHEC to identify 'service learning' opportunities for students at clinical sites in underserved communities throughout the Greater Valley area. Additionally, GVAHEC staff will be invited to directly participate in interaction with the students and faculty to foster a greater understanding of the needs and opportunities inherent in working with underserved urban, small cities/towns and rural patient populations. It is the goal of the College of Nursing to establish a close and synergistic working relationship with the GVAHEC leaders that is anchored by this program—and again partners academic programs with the AZAHEC system to locate learning more directly in those communities that need graduates.

Resource development is crucial to long-term program sustainability of the AAHEC system. As a mature AHEC system AZAHEC has many foundations to build from. However, new programs, such as primary care residencies, cannot be sustained by traditional revenue sources such as the funds received from the Arizona lottery and the federal government. Core academic programs that develop the next generations of physicians, nurses, nurse practitioners, pharmacists, public health professionals, and the host of health professions needed by Arizona's underserved communities also cannot be sustained by lottery and federal funds alone as well. AZAHEC has seeded growth of these programs since 2007 but will need to develop new resources to grow and sustain these programs. A component of resource development and sustainability lies within the regional centers and academic units. Specifically, our regional centers and academic colleges engage multiple resources to carry out their missions. Each already independently pursues grants and contracts from resources beyond AZAHEC. Each also brings the assets of their units including physical resources and human capital to the program as well. Embedded statewide throughout Arizona's communities AZAHEC's multiple partners also provide a host of resources to carry out our mission—to develop the healthcare workforce for Arizona's underserved communities.

We will also engage our stakeholders. Communities may not fully know about or understand AZAHEC's mission, but most communities care about having an adequate supply of qualified health care professionals to serve their residents. Part of resource development will involve examining new ways to partner with communities to develop these health professions. AZAHEC will expand who knows what we do and AZAHEC will expand its knowledge about community resources that share the mission and vision of our programs. Starting point will include identifying 1) community stakeholders who support primary care development, 2) identifying new partners who can assist with the development of the health careers pipeline, and 3) assessing who is practicing in our communities that can also be developed to help grow our cadre of field faculty.

Thus, over the next five years, AZAHEC will build from its assets—our centers, our academic colleges, our programs, our people and our communities. Funds from the Arizona lottery provide foundational revenue for core services that includes a base budget for each regional center and the central program office, and base budget for core academic programs such as the Rural Health Professions Program. That said, \$4.5 million dollars annually from the lottery sustains base annual operations but does not provide sufficient resources to grow programs to the level AZAHEC wants to go and sustain them—particularly programs such as medical residencies or other primary care health professions programs such as nurse practitioners and pharmacists. While our incoming financial resources will be allocated to meet our core mission and strategic vision, gaps in budget needs will be identified and new resources will be developed. Further, it will take all the partners of the AZAHEC system to produce sustainability as the breadth of the AZAHEC program taps and is dependent upon it. Our regional centers and academic units engage resources beyond the AZAHEC system—each leveraging and building resources that enhance the system.

Appendix A

AZAHEC Preliminary Three-Year Budget FY 2012 to FY 2014

Submitted to the Arizona Board of Regents

June 2011

Pending Review and Approval

EXECUTIVE SUMMARY

**Item Name: ARIZONA AREA HEALTH EDUCATION CENTERS (ARIZONA AHEC)
PRELIMINARY THREE-YEAR PROGRAM BUDGET
FY 2012 – FY 2014**

Action Item Discussion Item Information Item

Issue: The Board is asked to approve the preliminary three-year program budget FY 2012 – FY 2014 for the Arizona Area Health Education Centers (Arizona AHEC) Program.

Background/Statutory Requirements

- A.R.S. §15-1643 requires the Arizona Board of Regents to establish the Arizona Area Health Education Centers (Arizona AHEC) system in the University of Arizona College of Medicine. The system consists of five area health education centers, each representing a geographic area of the state.
- Consistent with statute, the Board appoints an Arizona AHEC Program Director, a statewide Arizona AHEC advisory commission, and a governing board for each of the five centers. As a sponsored project of the University of Arizona, the Arizona AHEC is administered under the direction of Sally J. Reel, PhD, RN, FNP, BC, FAAN, Associate Dean for Academic Practice, College of Nursing. Dr. Reel's appointment was effective July 1, 2006.
- Proposition 203 (Healthy Arizona 1), an initiative measure passed by Arizona voters in 1996, requires the Arizona State Lottery to allocate funds to six public health programs specified in A.R.S. §5-522(E) when annual lottery revenues reach a specified threshold. Arizona AHEC is one of the six designated programs and is to receive \$4 million annually from the State Lottery. Arizona Lottery revenues reached the specified threshold for the first time in FY 2004, resulting in a partial allocation to Arizona AHEC. Since FY 2005, Arizona AHEC has received at least \$4 million annually.
- Annual Arizona AHEC revenues also include approximately \$490,000 from federal sources (HRSA) under the Patient Protection and Affordable Care Act of 2010 (Public Law 111-148) Title VII, Part D, Section 751, which authorizes the AHEC program and provides grants to medical schools and nursing schools to establish and maintain community-based, primary care training programs in off-campus rural and underserved areas
- This preliminary three-year budget is submitted to reflect the revenues and

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expenditures anticipated for FY 2012 to FY 2014 and also represents a multi-year strategic program plan to expend funds and reduce the unobligated carry forward balance to \$4.5 million dollars, which reflects one year of operational costs for the Arizona AHEC program. Details for FY 2012 are expanded to show the revised budgets from December 2010, projected revenues and expenses at June 30, 2011, between budget and project actual, and the FY 2012 proposed budget.

Strategic Implications

- The mission of the Arizona AHEC program is to enhance access to quality health care, particularly primary and preventive care, by improving the supply, diversity and distribution of healthcare professionals through academic-community educational partnerships in Arizona's rural and urban medically underserved areas. Fundamental goals of the AZAHEC Program include:
 - Growing our own healthcare workforce
 - Promoting community health
 - Serving as a bridge between communities and resources
- The Arizona AHEC university partners include the University of Arizona Health Sciences Center, and the Colleges of Medicine, Nursing, Pharmacy, and Public Health. The Arizona AHEC program serves the entire State of Arizona contractually through five regional AHEC Centers. Each regional center is dedicated to providing programs to attract youth into health careers, community-based health profession students' training experiences, quality continuing education as well as improving health outcomes in their respective regions.
- Since FY 2007 the Arizona AHEC program has implemented several strategic initiatives to develop the infrastructure necessary to build a diversified and qualified health care workforce, provide services and research programs that foster cooperation and collaboration among Arizona AHEC's partners and communities, serve as a statewide resource and catalyst for delivering programs that are responsive to the nature of health professionals needed by Arizona's underserved communities, and improve access to health care and the health of Arizona's residents through model academic and community partnerships.
- Consistent with a major emphasis at the University of Arizona Health Sciences Center, the Arizona AHEC program has implemented new undergraduate and graduate interprofessional health education programs since FY 2007 that focus on underserved and rural populations. The purpose of these programs is to provide education and training for interprofessional teams of students from all four Arizona Health Sciences Center colleges—Medicine, Nursing, Public Health, and

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Pharmacy—and the regional AHEC Centers. The objectives include:

- Introducing these teams of students to populations within Arizona needing a stronger health professions workforce
 - Developing new approaches to improving health within these populations
 - Demonstrating the rewards for the health professionals who choose to serve these populations throughout their careers
- Programs are implemented in collaboration with our five community-based centers. These programs include statewide recruitment of rural and minority students into health professions; community-based clinical training for health professions students; partnering with local health systems and employers to recruit, train, and retain health care providers and educators; and the delivery of critical continuing professional education and community health education programs.

Discussion

- During the 2010-2011 academic year the Arizona AHEC program initiated a strategic planning process with the regional center directors and University of Arizona Health Sciences Center faculty advisors to determine key strategic priorities for the 2011 – 2016 time period.
- Expenditures during FY 2012 – FY 2014 will concentrate most heavily on those programs with sustainability potential through leveraging of other funds and resources including Graduate Medical Education (GME) dollars, clinical revenues, tuition, and other grants and contracts beyond Arizona lottery dollars or AHEC federal resources.
- Crucial Arizona AHEC programs needed to build the infrastructure for developing the health care workforce for Arizona's underserved communities include:
 - Primary care health professions development with emphasis on medical residency program development and increasing the numbers of non-physician primary care providers;
 - Public health professionals development to strengthen Arizona's public health workforce;
 - Strengthening health career development opportunities with underrepresented communities with emphasis on tribal communities;
 - Formalizing interprofessional education at the University of Arizona to advance community-based interprofessional education, particularly

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- interprofessional clinical practice training. Formalization is necessary to shift culture and practice to team-based care. Objectives of formalization include attention to health sciences team-based student education, faculty development and field professor (preceptor) development as well as development of interprofessional health provider teams for future AHEC supported primary care practices in underserved Arizona communities;
- Increasing access to health care in a select underserved Arizona community through the development and implementation of an interprofessional primary care practice.
 - The Arizona AHEC program has a current fund balance of \$10.3 million as of April 2011. This balance includes committed and unspent obligated funds.
 - The preliminary FY 2012 Arizona AHEC Program budget projects total revenue of \$15,466,629 total expenditures of \$10,292,274, and a carry forward into FY 2013 of \$5,174,355. With the funding stability experienced over the last five years with regular allocations to the AHEC Program of State Lottery funds, Program management will develop a multi-year strategic program plan to expend funds and reduce the unobligated carry forward balance.
 - The preliminary FY 2012 program budget includes also \$6.9 million to sustain and continue interprofessional and primary care training initiatives, including physician residencies. The focus is on training primary care teams in rural and urban medically underserved sites, with emphasis on educational capacity building particularly at the community level, long-term sustainability, and evaluation. These teams also include Medicine, Nursing, Public Health, and Pharmacy. In addition to sustaining and continuing interprofessional training programs, in FY 2012 the Arizona AHEC program will explore development of new discipline-specific initiatives including rural pharmacy residencies, nursing, pharmacy and/or public health programs that target health professions student training related to serving underserved and health disparity Arizona populations, and a model interprofessional primary care teaching practice.
 - A variance of \$3.2 million from the approved Revised FY 2011 budget resulted from additional staff positions that were not filled. Also, funds for some of the interprofessional education projects were obligated, and not completely expended during the funding year as many projects involve multiple years to complete.
 - In federal FY 2011, the Arizona AHEC Program received \$495,075 in federal funds from the Bureau of Health Professions, Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services. The Arizona AHEC program expects to receive a similar amount in FY 2012 barring

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significant downward federal budget changes (federal fiscal year begins October 1, 2011 for AHEC Point of Service and Maintenance awards—formerly known as federal model AHEC funds). Continued eligibility for federal funds is contingent upon the ability to document a non-federal source of matching funds of \$495,075.

- The Patient Protection and Affordable Care Act of 2010 (Public Law 111-148) provides new emphasis for developing a health care workforce that meets the needs of communities for primary care. Title VII, Part D, comprising of Sections 750-757, of the Public Health Service (PHS) Act authorizes several grant programs to support interdisciplinary, community-based health workforce training. Section 751 authorizes the AHEC program, which provides grants to medical schools and nursing schools to establish and maintain community-based, primary care training programs in off-campus rural and underserved areas. Section 751 authorizes two types of Area Health Education Centers (AHEC) awards: Subsection 751(a)(1) AHEC Infrastructure Development awards replace Basic/Core Area Health Education Centers (BAHEC) Program awards; and Subsection 751(a)(2) AHEC Point of Service Maintenance and Enhancement awards replace Model State Supported Area Health Education Centers (MAHEC) Program awards. Henceforth, the Arizona AHEC program will apply for federal support under Subsection 751(a) (2).
- A federal two-year competing continuation application was awarded in September 2011. The matching funds requirement has been modified under the new legislation. To be eligible for assistance under Section 751, an entity shall make available (directly or through contributions from state, county or municipal governments, or the private sector) recurring non-Federal contributions in cash or in kind, toward such costs in an amount that is equal to not less than 50 percent of such costs. At least 25 percent of the total required non-Federal contributions shall be in cash).
- The preliminary FY 2013 Arizona AHEC Program budget projects total revenue of \$10,269,430 and total expenditures of \$5,850,744 and a carry forward in FY 2014 of \$4,418,686.
- The preliminary FY 2014 Arizona AHEC Program budget projects total revenue of \$9,513,761 and total expenditures of \$4,950,744 and a carry forward in FY 2015 of \$4,563,017.
- The three-year preliminary FY 2012 – FY 2014 AHEC program budget includes \$15.2 million to sustain and continue building interprofessional and primary care training initiatives, including physician residencies. The focus is on training primary care teams in rural and urban medically underserved sites, with emphasis on educational infrastructure and capacity building particularly at the community level, long-term sustainability, and evaluation. In addition to sustaining and continuing interprofessional training programs, during the three-year period between FY 2012 –

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FY 2014 the Arizona AHEC program will explore development and expansion of community-based discipline-specific training initiatives including rural pharmacy residencies, medical residencies, as well as nursing, pharmacy and/or public health programs that are distant from the Tucson campus and target health professions student training related to serving underserved and health disparity Arizona populations.

Recommendation to the Board

It is recommended that the Board approve the preliminary FY 2012 – FY 2014 three-year budget and the plan for reducing the unobligated carry forward budget for the Arizona Area Health Education Centers Program to \$4.5 million reflective of one year's operational costs, as presented in this Executive Summary.

EXECUTIVE SUMMARY

| PRELIMINARY FY 2012 ARIZONA AHEC BUDGET July 1, 2011 - June 30, 2012 | | | | |
|--|--|--|---|----------------------------------|
| | FY 2011 Revised Budget (December 2010) | FY 2011 Projected Revenues and Expenses at June 30 | FY 2011 between Budget & Projected Actual | FY 2012 Proposed Budget |
| REVENUE: | | | | |
| CARRY FORWARD BALANCE | \$ 9,975,000 | \$ 9,975,000 | \$ 0 | \$ 10,371,554 |
| FEDERAL MODEL AHEC | \$ 495,075 | \$ 495,075 | \$ 0 | \$ 495,075 |
| ARIZONA STATE LOTTERY FUNDS | 4,604,214 | 4,604,214 | 0 | 4,600,000 ² |
| TOTAL REVENUE | \$ 15,074,289 | \$ 15,074,289 | \$ 0 | \$ 15,466,629 |
| EXPENDITURES: | | | | |
| PROGRAM ADMINISTRATION | \$ 729,595 | \$ 465,760 | \$ (263,835) | \$ 787,944 |
| PROGRAM OPERATIONS | \$ 35,000 | \$ 42,532 | \$ 7,532 | \$ 40,000 |
| AREA HEALTH EDUCATION CENTERS SUBCONTRACTS: | | | | |
| SEAHEC | \$ 420,467 | \$ 420,467 | \$ - | \$ 420,467 |
| WAHEC | \$ 420,467 | \$ 420,467 | \$ - | \$ 420,467 |
| NAHEC | \$ 420,467 | \$ 420,467 | \$ - | \$ 420,467 |
| EAHEC | \$ 420,467 | \$ 420,467 | \$ - | \$ 420,467 |
| GVAHEC | \$ 420,467 | \$ 420,467 | \$ - | \$ 420,467 |
| Total AHEC Subcontracts | \$ 2,102,335 | \$ 2,102,335 | \$ - | \$ 2,102,335 ¹ |
| UNLIQUIDATED OBLIGATIONS FOR SUBCONTRACTS IN FY 10: (remainder of FY 10 federal year-based subcontracts) | | | | |
| SEAHEC | | 84,093 | 84,093 | |
| WAHEC | | 84,093 | 84,093 | |
| NAHEC | | 84,093 | 84,093 | |
| EAHEC | | 84,093 | 84,093 | |
| GVAHEC | | 84,093 | 84,093 | |
| Total Federal FY 11 Subcontracts | \$ - | \$ 420,465 | \$ 420,465 | \$ 0 |
| UNLIQUIDATED OBLIGATIONS FOR SUBCONTRACTS IN FY 11: (remainder of FY 11 federal year-based subcontracts) | | | | |
| SEAHEC | 89,093 | | (89,093) | 84,093 |
| WAHEC | 84,093 | | (84,093) | 84,093 |
| NAHEC | 84,093 | | (84,093) | 84,093 |
| EAHEC | 84,093 | | (84,093) | 84,093 |
| GVAHEC | 84,093 | | (84,093) | 84,093 |
| Total Federal FY 12 Subcontracts | \$ 425,465 | | \$ (425,465) | \$ 420,465 |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY11) | | | | |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY10) | \$ 1,500,000 | \$ 69,343 | \$ (1,430,657) ³ | \$ 2,700,000 |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY09) | \$ 568,038 | \$ 429,053 | \$ (138,985) ³ | \$ 1,911,645 |
| INTERPROFESSIONAL EDUCATION COCER (FY09) | \$ 1,630,109 | \$ 197,497 | \$ (1,432,612) ^{3 4} | \$ 300,096 |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY08) | \$ 820,070 | \$ 763,854 | \$ (56,216) ^{3 5} | \$ 1,495,134 |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY07) | \$ 159,849 | \$ 206,896 | \$ 47,047 ³ | \$ 349,778 |
| Rural Health Conference Sponsorship | \$ 5,000 | \$ 5,000 | \$ - | \$ 179,877 |
| Total Education Programs and Sponsorship | \$ 4,683,066 | \$ 1,671,643 | \$ (3,011,423) | \$ 5,000 |
| TOTAL EXPENDITURES | \$ 7,975,461 | \$ 4,702,735 | \$ (3,272,726) ⁶ | \$ 10,292,274 |
| CARRY FORWARD | \$ 7,098,828 | \$ 10,371,554 | \$ 3,272,726 | \$ 5,174,355 |

¹ Subcontracts are 10 months of federal year-based subcontract amounts.

² Payment from the State Lottery funds is contingent on FY 2011 lottery performance (payments usually received after close of fiscal year).

³ FIFO method used to record expenses.

⁴ Interprofessional Education COCER funding is for 3 years.

⁵ Includes Yuma Regional Project.

⁶ Interprofessional Education projects were obligated, but not fully spent during the year & Planned positions were not filled.

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AHEC BUDGET 3 YEAR PROJECTION

| | FY 2011 | FY 2012 | FY 2013 | FY 2014 |
|---|----------------------|----------------------|----------------------|---------------------|
| | Revised Budget | Proposed Budget | Projected Budget | Projected Budget |
| REVENUE: | | | | |
| CARRY FORWARD BALANCE | \$ 9,975,000 | \$ 10,371,554 | \$ 5,174,355 | \$ 4,418,686 |
| AHEC POINT OF SERVICE AND MAINTENANCE AWARD | \$ 495,075 | \$ 495,075 | \$ 495,075 | \$ 495,075 |
| ARIZONA STATE LOTTERY FUNDS | 4,604,214 | 4,600,000 | 4,600,000 | 4,600,000 |
| TOTAL REVENUE | \$ 15,074,289 | \$ 15,466,629 | \$ 10,269,430 | \$ 9,513,761 |
| EXPENDITURES: | | | | |
| PROGRAM ADMINISTRATION | \$ 729,595 | \$ 787,944 | \$ 787,944 | \$ 787,944 |
| PROGRAM OPERATIONS | \$ 35,000 | \$ 40,000 | \$ 35,000 | \$ 35,000 |
| AHEC SUBCONTRACTS (12 Months): | | | | |
| SEAHEC | 509,562 | 504,560 | 504,560 | 504,560 |
| WAHEC | 504,560 | 504,560 | 504,560 | 504,560 |
| NAHEC | 504,560 | 504,560 | 504,560 | 504,560 |
| EAHEC | 504,560 | 504,560 | 504,560 | 504,560 |
| GVAHEC | 504,560 | 504,560 | 504,560 | 504,560 |
| Total AHEC Subcontracts | \$ 2,527,802 | \$ 2,522,800 | \$ 2,522,800 | \$ 2,522,800 |
| | | \$ - | | |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY10) | \$ 1,500,000 | \$ 1,911,645 | \$ - | \$ - |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY09) | \$ 568,038 | \$ 300,096 | \$ - | \$ - |
| INTERPROFESSIONAL EDUCATION COCER (FY09) | \$ 1,630,109 | \$ 1,495,134 | \$ - | \$ - |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY08) | \$ 820,070 | \$ 349,778 | \$ - | \$ - |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY07) | \$ 159,849 | \$ 179,877 | \$ - | \$ - |
| Total Interprofessional Education Programs | \$ 4,678,066 | \$ 4,236,530 | \$ - | \$ - |
| OTHER PROGRAMS | | | | |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY11) | | \$ 2,700,000 | | |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY12) | | | \$ 2,500,000 | |
| INTERPROFESSIONAL EDUCATION PROGRAMS (FY13) | | | | \$ 1,600,000 |
| Rural Health Conference Sponsorship | \$ 5,000 | \$ 5,000 | \$ 5,000 | \$ 5,000 |
| Total Other Programs | | \$ 2,705,000 | \$ 2,505,000 | \$ 1,605,000 |
| | | \$ - | | |
| TOTAL EXPENDITURES | \$ 7,975,463 | \$ 10,292,274 | \$ 5,850,744 | \$ 4,950,744 |
| CARRY FORWARD | | | | |
| | | \$ 5,174,355 | \$ 4,418,686 | \$ 4,563,017 |

Appendix B

Excel Spreadsheet Summarizing Obligated and Planned
Expenditures FY 2012 to 2014

Appendix C

Northern Arizona Area Health Education Center
Family Medicine Residency Proposal

Obligated and Under Implementation



NORTH COUNTRY

HealthCare

creating healthier communities

Flagstaff

P.O. Box 3630
Flagstaff, AZ 86003
928.213.6100 PH

Ash Fork

P.O. Box 216
Ash Fork, AZ 86320
928.637.2305 PH

Seligman

P.O. Box 776
Seligman, AZ 86337
928.422.4017 PH

Holbrook

1401 W. Florida Street
Holbrook, AZ 86025
928.524.2851 PH

St. Johns

P.O. Box 1019
St. Johns, AZ 85936
928.337.3705 PH

Winslow

620 W. Lee Street
Winslow, AZ 86047
928.289.2000 PH

Round Valley

830 E. Main Street
Suite 230
Springerville, AZ 85936
928.333.0127 PH

Grand Canyon

P.O. Box 369
Grand Canyon, AZ 86023
928.638.2551 PH

Kingman

1510 Stockton Hill Rd.
Kingman, AZ 86401
928.753.1177 PH

Lake Havasu

2090 N. Smoketree Ave.
Lake Havasu City, AZ 86403
928.854.1800 PH

Show Low

50 E. Show Low Lake Rd.
Suite 1
Show Low, AZ 85901
928.537.4300 PH

November 12, 2010

Sally J. Reel, PhD, RN, FNP, FAAN, FAANP
Director, Arizona AHEC Program
Associate Dean for Academic Practice
University of Arizona College of Nursing
1834 East Mabel Street
Tucson, AZ 85721

Dear Dr. Reel,

Please accept the enclosed AHEC proposal for start-up funding of the Northern Arizona AHEC/North Country HealthCare Family Medicine Residency Program. *Our* Family Medicine Residency Program will be one of a kind innovator that epitomizes the AHEC mission "to improve the recruitment, diversity, distribution, and retention of culturally competent personnel providing health services in Arizona's rural and medically underserved communities."

All the best,

Sean Clendaniel, MPH
Director, Northern Arizona AHEC
North Country HealthCare



AHEC Proposal for North Country HealthCare/ Northern Arizona AHEC Family Medicine Residency Program

Abstract

Over 20 years in the making, the time has come for the Northern Arizona Area Health Education Center (NAHEC) to finally develop a Family Medicine Residency Program (FMRP) for northern Arizona. The need has never been higher, the solution never clearer, and the opportunity never better to develop the only Accreditation Council for Graduate Medical Education (ACGME) residency program in Arizona that uses the Teaching Health Center model. Unique not only in its teaching model, but also its location, as the only ACGME residency north of Phoenix, and the only program owned by a regional AHEC center. This will be the bellwether health professions program for the region; however, development is contingent upon AHEC funding the start up years (years 1 and 2) for \$626,163 dollars.

North Country HealthCare/ Northern Arizona AHEC History and Mission

North Country HealthCare is a Federally Qualified Health Center (FQHC) system with 12 (soon to be 14) clinics spanning across northern Arizona, which serves as the medical home for nearly 40,000 people and approximately 140,000 patient encounters each fiscal year. Its historical roots are in the Flagstaff Community Free Clinic which began in 1991 and the Northern Arizona Area Health Education Center (NAHEC) that started in 1987. In 1996, these two organizations merged leading to an organizational mission *"to provide accessible, affordable, comprehensive, quality primary health care in an atmosphere of respect, dignity, and cultural sensitivity. The health and well being of patients and community alike are promoted through direct services, training, outreach and advocacy."* North Country is an independent 501 (c)(3) nonprofit organization governed by a policy making board of directors.

NAHEC is part of the national and state AHEC system. NAHEC is one of five regional AHECs in Arizona, with the state program office being located at the Arizona Health Sciences Center at the University of Arizona. NAHEC is unique among AHECs, in that its parent organization is a Community Health Center. NAHEC's partnerships reach across its vast service area (over 48,000 square miles) and throughout Arizona, and include Community Health Centers, Indian Health Service and Tribally operated hospitals, regional medical centers, healthcare organizations, high schools, community colleges, universities, workforce and economic development, and other community based organizations. Through a 20-year track record of providing health professions education and direct services, NAHEC serves as a critically important leader in addressing the health needs of its vast service area. The mission of NAHEC is to improve the supply and distribution of health professionals, with an emphasis on primary care, public health, community-based, interprofessional, culturally reinforcing services and education.

Development of Teaching Health Center

NAHEC relationships have led to North Country's reputation as a progressive Primary Care, Educational, and Community Health organization. Coupled with its history and mission it has a state of the art Learning Center facility and Telehealth system, which has helped it become a regional leader in health professions and medical education. In addition, NAHEC is a Community Campus for AT Still University's School of Osteopathic Medicine (30 students), and teaches, precepts, coordinates, and develops and administers various workforce development programs for hundreds of other health professions students every year, and thousands of youth and practicing health professionals.

There are several primary drivers in the development of a Family Medicine residency program, most notably: 1) statewide need for more Graduate Medical Education (GME), in particular Family Medicine and rural-community based, 2) regional physician workforce development, 3) pathway for the many medical students NAHEC works with who wish to train and retain in northern Arizona (most notably AT Still University and University of Arizona Family and Community Medicine and Rural Health Professions Program), 4) economic development for the communities NAHEC serves and region as a whole, 5) enhancing the capacity for health professions and medical education and research across northern Arizona, and 6) all that's packaged within the Patient Protection and Affordable Care Act, especially the creation of Teaching Health Centers (THC).

On this latter driver, the Statute for the development and funding of Teaching Health Centers is:

“(1) ELIGIBLE ENTITY. – The term ‘eligible entity’ means an organization capable of providing technical assistance including an area health education center program as defined in sections 751 and 799B.

“(2) PRIMARY CARE RESIDENCY PROGRAM.—The term ‘primary care residency program’ means an approved graduate medical residency training program (as defined in section 340H) in family medicine, internal medicine, pediatrics, internal medicine-pediatrics, obstetrics and gynecology, psychiatry, general dentistry, pediatric dentistry, and geriatrics.

“(3) TEACHING HEALTH CENTER.—

“(A) in general.—The term ‘teaching health center’ means an entity that—

“(i) is a community based, ambulatory patient care center; and “(ii) operates a primary care residency program.

“(B) INCLUSION OF CERTAIN ENTITIES.—

Such term includes the following:

“(i) A Federally qualified health center (as defined in section 1905(l)(2)(B) of the Social Security Act).

“(ii) A community mental health center (as defined in section 1861(ff)(3)(B) of the Social Security Act).

“(iii) A rural health clinic, as defined in section 1861 (aa) of the Social Security Act.

“(iv) A health center operated by the Indian Health Service, an Indian tribe or tribal organization, or an urban Indian organization (as defined in section 4 of the Indian Health Care Improvement Act).

“(v) An entity receiving funds under title X of the Public Health Service Act.

Just as the Teaching Health Center model is new in who owns and sponsors the accredited program, it is also new in how it is funded. Unlike the traditional model of payment and ownership of GME where funds are largely administered by Centers for Medicare and Medicaid Services (CMS) directly to Hospitals and Academic Health Centers, this model will be financed through the Bureau of Health Professions within HRSA directly to the Teaching Health Center. THC funds can only be given to the entities noted above in the THC statutes and only to new programs or expanded numbers of residents. Funding is appropriated for \$230 million/ year to begin in FY 2011.



Over the past six months NAHEC commenced initial development of a Family Medicine program through consultation with the following people:

- Steve Lewis, MD- Chief Medical Officer, Flagstaff Medical Center
- Doug Campos-Outcalt, MD, MPA- Associate Head Family and Community Medicine, University of Arizona COM-Phoenix
- Perry Pugno, MD, MPH- Director, Division of Medical Education and Director, Residency Program Solutions, American Academy of Family Physicians
- Mark Mengel, MD, MPH- Vice Chancellor of University of Arkansas Health System and Executive Director of Arkansas AHEC system (also former Program Director and Department Chair)
- Tamsen Bassford, MD- Department Head, Family and Community Medicine, College of Medicine, University of Arizona
- HRSA Webinar hosted by Frederick Chen, MD- Senior Advisor, Bureau of Health Professions, HRSA
- Kathleen Klink, MD- Director for the Division of Medicine and Dentistry, Bureau of Health Professions, HRSA

Of particular relevance was the New Program Consultation conducted by Dr. Mark Mengel. Dr. Mengel was hired by NAHEC to conduct a feasibility assessment and also to help inform and frame the strengths, weaknesses, opportunities, and threats to the development of Family Medicine program and to outline the specific issues that NAHEC needs to address over the next year(s). Dr. Mengel's report is enclosed. As stated in Dr. Mengel's report:

"This consultant was very impressed with the North Country organization being an FQHC and an AHEC, all rolled into one. The fact that North Country already has an educational mission, this consultant feels it positions it well to start a new FMRP. North Country has an excellent reputation in the community, has approximately 40% of the primary care market share in the community, has regionalized throughout northern Arizona, and works well with multiple partners including Indian Health Service and Flagstaff Medical Center. Given the upcoming release of a Teaching Health Center RFP, this consultant feels that North Country would be an ideal location for a new FMRP."

NAHEC Family Medicine Program Timeline and Budget

Using the American Academy of Family Physicians Residency Program Solutions (RPS) "Criteria for Excellence," previously mentioned consultants, and internal and external stakeholders guidance as the framework, NAHEC developed a thorough financial pro forma and timeline for program development.

Timeline:

The timeline is built upon 2 years of program development (FY 0 and 1), the first class of residents starting in FY3 (2013), reaching full capacity by FY 5 (2015), and finally graduating the first class in June 2016. Key milestones are noted below.

FY0 now-6/2011

- Decide that a new FMR is feasible and desirable
- Identify the organizations and individuals whose agreement to proceed is needed
- Develop a business plan and year-to-year budget
- Agreement from parties
- Prep to hire a Program Director

- FY1 7/2011-6/2012
- Hire Program Director (or at least interim PD) by summer 2011
 - Design local program curriculum (including rotations) and obtain agreements for hospital/ambulatory teaching
 - Identify Family Medicine Center (FMC), space design/construction
 - Write and submit PIF by December 2011
 - Start faculty practice
 - RRC site visit (curriculum, FMC, FM faculty, other faculty) in spring 2012
 - RRC approval by June 2012
 - List new program in ERAS summer 2012
- FY2 7/2012-6/2013
- Resident recruitment
 - Hire minimum 1 more faculty (by beginning FY3)
 - Build faculty practice
 - Hire residency support staff
- FY3 7/2013-6/2014
- 1st year with residents (total 4 PGY-1s in model)
 - Resident recruitment for 2nd class
 - Hire another faculty (need 2 plus PD by beginning FY 4)
 - 2nd PIF
 - 2nd RRC site visit
- FY4 7/2014-6/2015
- 2nd year with residents (total 4 PGY-1s, 4 PGY-2s)
 - Resident recruitment for 3rd class
 - Hire 3rd faculty by start FY5 (in addition to PD)
- FY5 7/2015-6/2016
- 3rd year with residents (total 4 PGY-1s, 4 PGY-2s, 4 PGY-3s)
 - Hire 4th faculty by start FY 6 (in addition to PD)
 - Resident recruitment for 4th class
 - 3rd PIF
 - 3rd RRC site visit

June 2016 graduate first class of residents

Budget:

Several controlling assumptions were used in developing the Family Medicine residency financial pro forma. NAHEC used established Family Medicine residency budgets as a template to ensure all costs (revenue and expenses) are accounted for. Revenue is specific to North Country HealthCare, and the expenses capture all of the needs required of developing the Family Medicine Center and other operational and staffing needs. As a rule this budget has 2 distinct phases: 1) start up (years 1 and 2) and operational (years 3-5). While the start up costs is significant (net deficit of \$626,163 dollars in years 1 and 2 and total deficit of \$1,090,813 in years 1 through 4), the program nearly breaks even in year 4, and begins to profit in year 5. This clearly shows the program is financially viable and sustainable. An overall budget is noted below, with full budget enclosed.

| 1st Year Minus 2 (FY1) | 1st Year Minus 1 (FY2) | 1st Year of Residents (FY3) | 2nd Year of Residents (FY4) | 3rd Year of Residents (FY5) |
|---------------------------|---------------------------|--------------------------------|--------------------------------|--------------------------------|
|---------------------------|---------------------------|--------------------------------|--------------------------------|--------------------------------|

Key Assumptions

| | | | | | |
|---------------------------------|---|-------|-------|-------|--------|
| Total Visits (includes Faculty) | 0 | 1,344 | 4,176 | 9,168 | 17,088 |
| Total Patients | | 420 | 1,305 | 2,865 | 5,340 |
| Total AHCCCS Visits | 0 | 618 | 1,921 | 4,217 | 7,860 |
| # Of Residents | | | 4 | 8 | 12 |

Revenue

| | | | | | |
|---|-----|-----------|-----------|-----------|-----------|
| Clinic - Faculty | \$0 | \$103,328 | \$156,542 | \$210,810 | \$212,919 |
| Clinic - Residents | 0 | 0 | 167,724 | 508,204 | 1,140,635 |
| Hospital visits | 0 | 7,544 | 11,429 | 15,391 | 19,431 |
| PPS revenues | | 64,266 | 207,063 | 471,243 | 910,258 |
| Professional fee | 0 | (2,217) | (6,714) | (14,688) | (27,460) |
| Sub-total | 0 | 172,921 | 536,044 | 1,190,959 | 2,255,783 |
| HRSA THC Allocation (DME/IME) (\$125k/ resident) | 0 | 0 | 500,000 | 1,000,000 | 1,500,000 |
| Other | 0 | 0 | 0 | 0 | 0 |
| Gross Revenue | 0 | 172,921 | 1,036,044 | 2,190,959 | 3,755,783 |
| Margin Requirement 3% | 0 | (5,188) | (31,081) | (65,729) | (112,673) |
| 1 Net Revenue | 0 | 167,733 | 1,004,963 | 2,125,231 | 3,643,109 |

Expenses

Payroll

| | | | | | |
|----------------------------------|---------|---------|-----------|-----------|-----------|
| Salaries | | | | | |
| Residents | 0 | 0 | 198,245 | 412,351 | 643,346 |
| Other & bonus | 180,000 | 305,000 | 597,100 | 949,832 | 996,019 |
| Fringe benefits | 39,600 | 68,450 | 178,963 | 314,859 | 376,958 |
| Malpractice ins, Travel & CME | 10,000 | 15,000 | 28,288 | 56,300 | 69,448 |
| 2 Total Payroll | 229,600 | 388,450 | 1,002,596 | 1,733,341 | 2,085,771 |

Non-payroll

| | | | | | |
|--|-------------|-------------|-------------|------------|-------------|
| Rent | 0 | 0 | 66,017 | 67,998 | 70,038 |
| Utilities | 0 | 0 | 9,628 | 9,916 | 10,214 |
| Copier/fax | 0 | 0 | 3,000 | 3,000 | 3,000 |
| Communications | | | | | |
| Telephone | 0 | 0 | 3,000 | 5,000 | 5,000 |
| Internet/data | 0 | 0 | 5,000 | 5,000 | 5,000 |
| Rotation Payments | 0 | 0 | 100,000 | 100,000 | 100,000 |
| Contracts | 25,000 | 25,000 | 60,000 | 60,000 | 60,000 |
| Contract labor | 0 | 0 | 5,000 | 6,000 | 7,000 |
| Services | 0 | 0 | 14,000 | 16,500 | 19,000 |
| Ofc supp \$4/patient | 0 | 0 | 5,220 | 11,460 | 21,360 |
| Medical supplies \$8/patient | 0 | 0 | 10,440 | 22,920 | 42,720 |
| Lab/xray supplies | 0 | 0 | 10,500 | 17,500 | 17,500 |
| Dues, subscriptions & Educational expense | 0 | 0 | 15,000 | 25,000 | 25,000 |
| Recruiting & advertising | 0 | 12,000 | 3,000 | 3,000 | 3,000 |
| EHR license/maint | 0 | 0 | 40,000 | 80,000 | 100,000 |
| Other | 5,000 | 10,000 | 15,000 | 20,000 | 30,000 |
| 3 Total Non-payroll | 30,000 | 47,000 | 364,805 | 453,294 | 518,831 |
| 4 Total Expenses 2+3=4 | 259,600 | 435,450 | 1,367,401 | 2,186,635 | 2,604,603 |
| Net Prof (Loss) 1-4 | (\$259,600) | (\$267,717) | (\$362,439) | (\$61,405) | \$1,038,507 |

Equip Costs

| | | | | | |
|-------------|-----------|-----------|-----------|----------|-----------|
| Equip Costs | \$850 | \$97,996 | \$35,706 | \$5,100 | \$5,000 |
| Net sum | (260,450) | (365,713) | (398,145) | (66,505) | 1,033,507 |

AHEC Request

It cannot be understated that the financial requirement of developing a Family Medicine Residency Program is high. This is precisely why it's paramount that AHEC fund the start up years (1 and 2). NAHEC requests \$626,163 dollars over the 2 year start up time (\$260,450 in year 1 and \$365,713 in year 2). Specific budget item requests include:

| | Year 1 | Year 2 |
|--|---------------------------------|---------------------------------|
| Program Director (1.0FTE) | \$229,600 (salary and benefits) | \$235,700 (salary and benefits) |
| Associate Director/ Faculty (0.5FTE) | | \$96,500 (salary and benefits) |
| Program Coordinator (1.0FTE) | | \$56,250 (salary and benefits) |
| University of Arizona Consulting | 25,000 | \$25,000 |
| Equipment/ Other | \$5,850 | \$107,996 |
| Recruiting/ Advertising | | \$12,000 |
| Minus clinic revenue from Program Director and Faculty | | \$167,733 |
| Total | \$260,450 | \$365,713 |

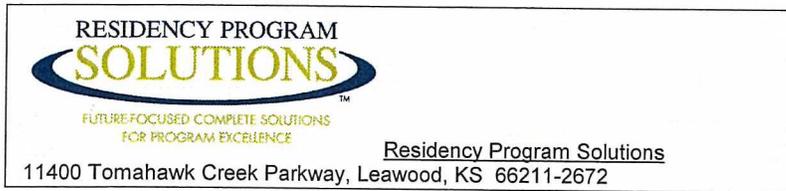
Conclusion

AHEC funding will ensure that a Family Medicine program will be established. The AHEC return on investment will have many direct benefits that will be felt across the region, state, and nation. This 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. Once at full capacity by year 5 profits from the program will be rolled back into furthering the AHEC mission, NAHEC initiatives, Family Medicine Residency Program, research, interprofessional education, and other scholarly activities. It's because of these direct benefits, and many more, that NAHEC feels this is an exemplary use of AHEC money and resources.

Attachments

Attachment A- Residency Program Solutions (RPS) Report
Attachment B- Financial Documents

Attachment A- Residency Program Solutions (RPS) Report



CONSULTATION REPORT

| | |
|-------------------|---|
| Institution: | North Country HealthCare Flagstaff, AZ 86004 |
| Program Director: | Eric Henley, MD |
| Date: | August 23 -24, 2010 |
| Consultant: | Mark B. Mengel, MD, MPH |

RESIDENCY PROGRAM SOLUTIONS (RPS)

The goal of the Residency Program Solutions (RPS) (formerly the Residency Assistance Program) is to aid in the achievement of excellence in residency training programs in family medicine. The origin and initial development of the original RAP Program was substantially aided by grants from the W.K. Kellogg Foundation. Previously, RPS was supervised by a Project Board which represented the American Academy of Family Physicians, American Academy of Family Physicians Foundation, American Board of Family Medicine, Association of Departments of Family Medicine, Association of Family Medicine Residency Directors and the Society of Teachers of Family Medicine. Now, the operational oversight of the Residency Program Solutions project is under the guidance of the American Academy of Family Physicians' Commission on Education.

The Residency Program Solutions is implemented by a panel of family physicians with extensive experience in the conduct of family medicine training programs. The consultants are program directors, department chairmen, and other physicians with specific expertise in family medicine education. Evaluation and consultation by members of the Panel are offered to any residency program in family medicine upon request of the director of the program. Consultations are based upon a set of criteria which are outlined in the RPS Criteria for Excellence.

The RPS Criteria are not used by the Residency Review Committee for Family Medicine (RRC-FM) or the Accreditation Council for Graduate Medical Education (ACGME). The RRC-FM, in its accreditation of family medicine residencies, uses standards developed internally. These criteria are, therefore, not presented as a basis for accreditation by the accrediting bodies but as guidelines for excellence as stated for in the primary goal. It should be understood that implementation of the RPS Criteria does not assure accreditation by the Residency Review Committee for Family Medicine.

INTRODUCTION

North Country HealthCare is a federally qualified, community health center (FQHC) with headquarters in Flagstaff, AZ, and 11 clinical sites spread throughout northern Arizona. North Country HealthCare also operates as one of the five Arizona AHEC centers with headquarters at the University of Arizona in Tucson. Recently, North Country has also contracted with A.T. Still College of Osteopathic Medicine to host 10 second-, third-, and fourth-year students, and arranging all their education and rotational experiences in northern Arizona. Thus, North Country not only has a large clinical presence in Flagstaff and northern Arizona, but a large educational mission as well.

Dr. Eric Henley and Mr. Sean Clendaniel, the AHEC director, requested this consultation to explore the possibility of starting a new Family Medicine Residency Program (FMRP) sponsored by North Country as North Country would be eligible to apply for the new teaching health center dollars that will become available shortly from HRSA. There were three specific issues to address:

1. Is the North Country site feasible for a new FMRP?
2. Could a FMRP be developed using teaching health center dollars vs. the more traditional model of obtaining graduate medical education funding through Medicare that is funneled through a hospital?
3. Should they start with all three years of a residency program or develop a 1-2 model, perhaps by working with the University of Arizona in Tucson?

During this consultant's two-day visit, he met with the chief medical officer of Flagstaff Regional Medical Center (FMC), Steve Lewis, MD; had a telephone conversation with the chair of the Department of Family and Community Medicine at the University of Arizona, Tammy Brasford, MD; met with the A.T. Still College of Osteopathic Medicine faculty at North Country; met with several community physicians; and met with Ben Locklear, the CFO of North Country HealthCare.

On the second day, this consultant met with Ann Roggenbuck, PhD., the CEO of North Country HealthCare; had lunch with several North Country medical staff; and was able to tour the North Country HealthCare facilities.

SPECIFIC ISSUES

1. Is North Country a feasible site?

This consultant was very impressed with the North Country organization being an FQHC and an AHEC, all rolled into one. The fact that North Country already has an educational mission, this consultant feels it

positions it well to start a new FMRP. North Country has an excellent reputation in the community, has approximately 40% of the primary care market share in the community, has regionalized throughout northern Arizona, and works well with multiple partners including the Indian Health Service and Flagstaff Medical Center. Given the upcoming release of a teaching health center RFP, this consultant feels that North Country would be an ideal location for a new FMRP and should apply for that grant.

A SWOT analysis for a new Family Medicine Residency Program at North Country:

Strengths

1. North Country HealthCare is a well-established provider of primary care services in the northern Arizona area with many family physicians already on staff.
2. North Country already has education in its mission as it hosts one of five Area Health Education Centers in Arizona.
3. Although the relationship with FMC is currently rocky, FMC is a large, full-service community-based hospital with over 270 beds that has all the specialties necessary to construct excellent rotations for Family Medicine residents.
4. Flagstaff is an attractive community, and is in need of more primary care physicians.

Weaknesses

1. There is no experience with graduate medical education either at North Country or FMC.
2. Space is limited at North Country; either space would have to be reorganized for a Family Medicine Center, or a new Family Medicine Center developed.
3. Reporting relationships for a new FMRP are not clear. The program director could report to either the AHEC director or to one of the regional medical directors. As a FMRP is primarily educational, it would make the most sense to have the Family Medicine program director report to the AHEC director with a dotted line to a regional medical director.
4. North Country does not have deep pockets financially and would have to raise start-up funding for a new FMRP.

Opportunities

1. Specialty teachers for rotations are available with the exception of inpatient pediatrics and neurology. Inpatient pediatrics and neurology rotations would be available within North Country's regional network.

2. The regional model of network development is very attractive for a residency program. If a specialist at FMC was not cooperative, they could approach one of the specialists at their other partner sites.
3. There is an opportunity to achieve a dually accredited program with the osteopathic community. Given the fact that they already have A.T. Still College of Osteopathic Medicine students, this would help with recruiting applicants to their program.
4. There is an opportunity to achieve both planning and operational funding through the new teaching health center grant program, and perhaps through the Arizona AHEC network.
5. North Country has a tradition of fundraising, and may be able to raise start-up costs, new building costs, and perhaps a program endowment.

Threats

1. The FMC hospital administration is lukewarm in their support of a new FMRP. They are willing to go along with North Country as North Country is a valuable partner with them in the community, but do not appear to want to either participate in graduate medical education funding for this program or do a lot of the work to start-up the program.
 2. Inpatient pediatrics is not available at FMC.
 3. Neurology is not available at FMC.
 4. Other than through the AHEC network, there is really no state support for graduate medical education in Arizona, which recently cut the amount of support they were providing.
2. Should the program consider a more traditional model of hospital support working with FMC to obtain direct and indirect graduate medical education funding through Medicare?

In discussions with the chief medical officer of FMC, Dr. Lewis, it was clear that the hospital was only lukewarm in its support a new FMRP. While it does not oppose the program directly, it was clear the chief medical officer had multiple concerns about whether appropriate specialists could be found who would train the residents. In addition, would starting a FMRP at North Country interfere with the development of future residency programs, such as a general surgery residency program, because after the third year of operation of the Family Medicine Residency Program, FMC would be capped. Currently, as FMC has no history of graduate medical education, it has no cap. Dr. Lewis was unalterably opposed to a sole osteopathic program, and strongly recommended that the program be an allopathic FMRP if started, although he was not opposed to dual accreditation.

Given the hospital's stance, this consultant feels that the teaching health center model was the best way to go.

3. Are alternative models available, such as a 1-2 model?

This consultant, Dr. Henley, Mr. Clendaniel, and Dr. Brasford discussed this issue in some depth. Dr. Brasford was very supportive of either model, and would be willing to work with North Country to develop a 1-2 model with the first year at the University of Arizona. North Country would then be a site of that residency program for the second- and third-year residents.

After exploring the 1-2 model in more depth, it was concluded that as North Country and FMC had all the necessary specialists to teach rotations in the first year, and as North Country was formulating this FMRP as a rural medicine program, it really made little sense to have the first year in Tucson (not exactly a rural part of Arizona), and might potentially harm recruitment as the residents would have to move twice. This consultant also felt that Flagstaff would be an attracter of resident applicants and, without having to move twice, would likely do quite well in the match.

Thus, this consultant concluded that North Country should pursue their own FMRP and organize themselves to support all three years of training rather than approach the University of Arizona in a 1-2 model. Just as their clinical practices have been regionalized, North Country could set up a regional training system for the residency program which would include all the necessary rotations given their partners and contacts in northern Arizona. However, this consultant recommends that the University of Arizona affiliation be maintained.

TIMELINE

This consultant e-mailed a proposed timeline for the development of a new FMRP to Dr. Henley and Mr. Clendaniel. That timeline was reviewed and would include a planning year prior to the program director's arrival. During this planning year, North Country would need to make a final decision about their model for a residency program, apply for teaching health center dollars, get the rest of their finances in order, and begin to recruit a program director. North Country, during this year, would also need to line up the specialty support they need for the program.

Starting July 1, 2011 until June 30, 2013, there is a further two-year planning process after the program director arrives, during which the program director fills

out the Program Information Form, submits it to the ACGME, the ACGME visits, provides the program with provisional accreditation, and then the program can begin the recruitment of residents. North Country will need to firmly establish where the Family Medicine Center will be located, and at least provide blueprints to the Review Committee for Family Medicine (RC-FM) site visitor at that time. A second faculty member should be recruited during that time as well. In the latter half of this two-year planning process, resident recruitment should begin, and a national rather than regional strategy should be developed to recruit students who are interested in the care of the underserved and rural areas, particularly in a Community Health Center model. This consultant feels that this new program would be extremely attractive to a certain group of medical students.

The first group of PGY-1 residents would arrive July 1, 2013, and every subsequent year a new class would be recruited, such that the first class would graduate from the program on June 30, 2016.

FINANCIAL PRO FORMAS

This consultant provided generic financial pro formas given the timeline above for a 4-4-4 and 6-6-6 residency training program, respectively, using established benchmarks for costs from Arkansas. In reviewing both pro formas, it is clear that the 6-6-6 program will not break even during the five-year developmental phase of the program, but the 4-4-4 program achieves break-even status in the fifth year. This consultant recommends that Dr. Henley, along with the chief financial officer and Mr. Clendaniel, provide cost estimates based on Arizona's costs, put those into the pro forma models, and then size the program appropriately given their financial resources. This consultant feels that the 4-4-4 model would be the most appropriate size to start, but would still require approximately \$3M in start-up and operational costs before break-even was achieved. Starting with a 4-4-4 model, however, is more economically viable and would provide North Country some valuable time to get used to operating a FMRP. Additionally, it is scalable and could be increased since North Country will not have a cap on the number of slots, as they will be achieving most of their funding through teaching health center dollars.

SPECIFIC ISSUES AND RECOMMENDATIONS

1. Hospital support. As hospital support from FMC is lukewarm, this consultant recommends that North Country reach out to appropriate specialists to nail down who is going to teach what rotation in the next year, and then approach the hospital to provide the necessary policies and procedures for residents to operate within the hospital setting. Using a regional model,

North Country can also send residents to appropriate partner sites for inpatient peds and neurology.

2. Size of the program. As previously noted, this consultant recommends starting with a 4-4-4 program rather than the 6-6-6 model, as it is more economically viable and probably will be better accepted by hospital specialists who teach on their rotations.
3. A 1-2 model vs. having all three years at North Country. As previously noted, this consultant feels the advantages rest with having all three years at North Country given the fact that North Country has all the necessary teaching sites available in their regional network.
4. Funding, Start-up, and Operational Costs of a Program. After reviewing financial data and plugging in Arizona's costs, North Country should aggressively go after teaching health center dollars and start-up funding from the Arizona AHEC network. If additional dollars are needed to develop the Family Medicine Center building, then fundraising will be needed as well. North Country should not proceed with the development of a FMRP until they have achieved clarity about how the program will be funded and have a reasonable chance of obtaining that funding. North Country should also not decrease funding to that residency program overall in order to achieve break-even faster, as that will probably result in a diminished quality of the program in the start-up phase and will harm recruitment.
5. The Family Medicine Center and administrative space. North Country will need to engage in further planning to decide how to reconfigure either a current facility or build a new facility to meet Family Medicine Center requirements. Their current space, in this consultant's opinion, is already well used and it does not seem possible to "shoehorn" a Family Medicine Center into that space. Also, a residency program needs many administrative offices for faculty, staff, residents, and preceptors, and those needs will have to be taken into account as well.
6. Accreditation Status. There are many advantages to starting out with ACGME (allopathic) accreditation and then adding osteopathic accreditation as necessary.
7. Resident Productivity. As resident productivity is limited by ACGME accreditation standards, oftentimes this conflicts with provider productivity policies and procedures within an FQHC. Residents should not be counted as full-time providers but as learners for the purpose of FQHC

productivity standards. Resident productivity should be attributed to the faculty preceptor who is also the billing provider.

8. Reporting Relationships. Care should be taken to ensure that the program director reports to the appropriate person within North Country's organizational structure, since a FMRP is an educational endeavor. The primary reporting relationship to the AHEC director should be considered with a dotted line to a regional medical director.
9. Recruitment of a Program Director. If planning goes well during the next few months, North Country should consider beginning recruiting an experienced program director with FQHC and academic experience in the late winter/early spring of 2011. Care should be taken to ensure the person has the necessary skills to run a high-quality FMRP and can fit in with the North Country culture. While there are potential faculty among the medical staff of North Country, this consultant's opinion is they will probably need to recruit from outside North Country in order to get a well-qualified program director.

CONCLUSIONS

This consultant feels that the North Country HealthCare is ideally suited to become a sponsor of a new FMRP as long as financial, teaching specialty, and space challenges can be overcome. This consultant feels that by working with specialists that will teach rotations, that eventually FMC will come on board.

This consultant was very appreciative of his reception by both North Country and community physicians who were all very pleasant and straightforward. This consultant wishes North Country the best of luck in their attempt to expand their organization into graduate medical education training.

Mark B. Mengel, MD, MPH
August 2010

Attachment B- Financial Documents

4-4-4 Family Medicine Residency Program Pro Forma Income Statement

| 1st Year Minus 2 (FY1) | 1st Year Minus 1 (FY2) | 1st Year of Residents (FY3) | 2nd Year of Residents (FY4) | 3rd Year of Residents (FY5) |
|---------------------------|---------------------------|--------------------------------|--------------------------------|--------------------------------|
|---------------------------|---------------------------|--------------------------------|--------------------------------|--------------------------------|

Key Assumptions

| | | | | | |
|---------------------------------|---|-------|-------|-------|--------|
| Total Visits (includes Faculty) | 0 | 1,344 | 4,176 | 9,168 | 17,088 |
| Total Patients | | 420 | 1,305 | 2,865 | 5,340 |
| Total AHCCCS Visits | 0 | 618 | 1,921 | 4,217 | 7,860 |
| # Of Residents | | | 4 | 8 | 12 |

Revenue

| | | | | Does not include revenue \$\$\$ for part-time faculty person | |
|---|-----|-----------|-----------|--|-----------|
| Clinic - Faculty | \$0 | \$103,328 | \$156,542 | \$210,810 | \$212,919 |
| Clinic - Residents | 0 | 0 | 167,724 | 508,204 | 1,140,635 |
| Hospital visits | 0 | 7,544 | 11,429 | 15,391 | 19,431 |
| PPS revenues | | 64,266 | 207,063 | 471,243 | 910,258 |
| Professional fee | 0 | (2,217) | (6,714) | (14,688) | (27,460) |
| Sub-total | 0 | 172,921 | 536,044 | 1,190,959 | 2,255,783 |
| HRSA THC Allocation (DME/IME) (\$125k/ resident) | 0 | 0 | 500,000 | 1,000,000 | 1,500,000 |
| Other | 0 | 0 | 0 | 0 | 0 |
| Gross Revenue | 0 | 172,921 | 1,036,044 | 2,190,959 | 3,755,783 |
| Margin Requirement 3% | 0 | (5,188) | (31,081) | (65,729) | (112,673) |
| ¹ Net Revenue | 0 | 167,733 | 1,004,963 | 2,125,231 | 3,643,109 |

Expenses

Payroll

| | | | | | |
|----------------------------------|---------|---------|-----------|-----------|-----------|
| Salaries | | | | | |
| Residents | 0 | 0 | 198,245 | 412,351 | 643,346 |
| Other & bonus | 180,000 | 305,000 | 597,100 | 949,832 | 996,019 |
| Fringe benefits | 39,600 | 68,450 | 178,963 | 314,859 | 376,958 |
| Malpractice ins, Travel & CME | 10,000 | 15,000 | 28,288 | 56,300 | 69,448 |
| ² Total Payroll | 229,600 | 388,450 | 1,002,596 | 1,733,341 | 2,085,771 |

Non-payroll

| | | | | | |
|--|--------|--------|---------|---------|---------|
| Rent | 0 | 0 | 66,017 | 67,998 | 70,038 |
| Utilities | 0 | 0 | 9,628 | 9,916 | 10,214 |
| Copier/fax | 0 | 0 | 3,000 | 3,000 | 3,000 |
| Communications | | | | | |
| Telephone | 0 | 0 | 3,000 | 5,000 | 5,000 |
| Internet/data | 0 | 0 | 5,000 | 5,000 | 5,000 |
| Rotation Payments | 0 | 0 | 100,000 | 100,000 | 100,000 |
| Contracts | 25,000 | 25,000 | 60,000 | 60,000 | 60,000 |
| Contract labor | 0 | 0 | 5,000 | 6,000 | 7,000 |
| Services | 0 | 0 | 14,000 | 16,500 | 19,000 |
| Ofc supp \$4/patient | 0 | 0 | 5,220 | 11,460 | 21,360 |
| Medical supplies \$8/patient | 0 | 0 | 10,440 | 22,920 | 42,720 |
| Lab/xray supplies | 0 | 0 | 10,500 | 17,500 | 17,500 |
| Dues, subscriptions & Educational expense | | | | | |
| | 0 | 0 | 15,000 | 25,000 | 25,000 |
| Recruiting & advertising | 0 | 12,000 | 3,000 | 3,000 | 3,000 |
| EHR license/maint | 0 | 0 | 40,000 | 80,000 | 100,000 |
| Other | 5,000 | 10,000 | 15,000 | 20,000 | 30,000 |
| ³ Total Non-payroll | 30,000 | 47,000 | 364,805 | 453,294 | 518,831 |

⁴ Total Expenses ²⁺³⁼⁴

| | | | | | |
|--|---------|---------|-----------|-----------|-----------|
| | 259,600 | 435,450 | 1,367,401 | 2,186,635 | 2,604,603 |
|--|---------|---------|-----------|-----------|-----------|

Net Prof (Loss) ¹⁻⁴

| | | | | | |
|--|-----------|-----------|-----------|----------|-------------|
| | (259,600) | (267,717) | (362,439) | (61,405) | \$1,038,507 |
|--|-----------|-----------|-----------|----------|-------------|

Equip Costs

| | | | | | |
|--|-------|----------|----------|---------|---------|
| | \$850 | \$97,996 | \$35,706 | \$5,100 | \$5,000 |
|--|-------|----------|----------|---------|---------|

Family Medicine Residency Program Pro Forma Clinic and Hospital Revenue Detail

Reviewed & approved

| | 1st Year Minus 2 (FY1) | 1st Year Minus 1 (FY2) | 1st Year of Residents (FY3) | 2nd Year of Residents (FY4) | 3rd Year of Residents (FY5) |
|--|---------------------------|---------------------------|--------------------------------|--------------------------------|--------------------------------|
| Revenue | | | | | |
| Clinic - Faculty | | | | | |
| Clinics per week (clinic = 4 hour day) | 4 | 6 | 8 | 8 | 8 |
| x Times patients per clinic | 8 | 8 | 8 | 8 | 8 |
| x Times weeks per year | 42 | 42 | 42 | 42 | 42 |
| x Times rate per visit | \$ 177.96 | \$179.74 | \$181.54 | \$183.35 | \$185.16 |
| x Times collection rate | 43.20% | 43.20% | 43.20% | 43.20% | 43.20% |
| = Total Visits | 1,344 | 2,016 | 2,688 | 2,688 | 2,688 |
| = AHCCCS Visits Only | 618 | 927 | 1,236 | 1,236 | 1,236 |
| 1 Total Clinic - Faculty | 103,328 | 156,542 | 210,810 | 210,810 | 212,919 |
| Clinic - Residents | | | | | |
| Clinics per week | | | 8 | 8 | 8 |
| @ 8 | | | 12 | 12 | 12 |
| @ 16 | | | | | 16 |
| x Times patients per clinic | | | 6 | 6 | 6 |
| @ 8 | | | 8 | 8 | 8 |
| @ 11 | | | | | 11 |
| x Times weeks per year | | | 45 | 45 | 45 |
| x Times rate per visit | \$ 177.96 | \$179.74 | \$181.54 | \$183.35 | \$185.16 |
| x Times collection rate | 43.20% | 43.20% | 43.20% | 43.20% | 43.20% |
| = Total Visits | - | 2,160 | 6,480 | 6,480 | 14,400 |
| = AHCCCS Visits Only | - | 994 | 2,981 | 2,981 | 6,624 |
| 2 Total Clinic - Residents | 0 | 167,724 | 508,204 | 508,204 | 1,140,635 |
| Hospital Visits | 0 | 150 | 200 | 250 | 250 |
| Hospital Revenues | \$0 | \$7,544 | \$11,429 | \$15,391 | \$19,431 |
| Net Professional Fees ^{2%} x(1+2+3) | (2,217) | (6,714) | (14,688) | (27,460) | (27,460) |
| PPS revenues | 64,266 | 207,063 | 471,243 | 910,258 | 910,258 |
| Includes PPS revenues | \$172,921 | \$536,044 | \$1,190,959 | \$2,255,783 | \$2,255,783 |

| | FY2 | FY3 | FY4 | FY5 |
|-----------------------------------|-----------|-----------|-----------|-----------|
| Flagstaff Clinic Only | | | | |
| Gross Charge: | \$ 176.20 | \$ 179.74 | \$ 181.54 | \$ 183.35 |
| Net Patient Revenue: | \$ 76.12 | \$ 77.65 | \$ 78.43 | \$ 79.21 |
| Collection Ratio: | 43.20% | 43.20% | 43.20% | 43.20% |
| AHCCCS Net Revenue: | \$ 82.01 | \$ 83.66 | \$ 84.49 | \$ 85.34 |
| PPS Rate: | \$ 182.22 | \$ 191.45 | \$ 196.24 | \$ 201.14 |
| PPS Revenue per AHCCCS encounter: | \$ 100.21 | \$ 107.79 | \$ 111.74 | \$ 115.80 |

*AHCCCS Encounter %: 46%
* Flagstaff clinic specific

Flagstaff Medical Center

Net Patient Revenue: \$ 74.69 \$ 75.44 \$ 76.19 \$ 76.95 \$ 77.72

Family Medicine Residency Program Projections of patient visits to 4-4-4 FMC

Table 1

| | | patient visits per year for residents only | | | | | | |
|------------------------------|--------------|--|-----|-----|------------|-------------|-------------|----------------|
| | # res per yr | RRC minimums per res | FY1 | FY2 | FY3 | FY4 | FY5 | FY6 and beyond |
| PGY-1s | 4 | 150 | | | 600 | 600 | 600 | 600 |
| PGY-2s | 4 | 500 | | | | 2000 | 2000 | 2000 |
| PGY-3s | 4 | 1000 | | | | | 4000 | 4000 |
| resident practice minimums: | | | | | 600 | 2600 | 6600 | 6600 |
| estimated resident practice: | | | | | 700 | 3000 | 8000 | 8000 |

Table 2:

| | | patient visits per year for faculty seeing patients without residents | | | | | |
|-------------------|--|---|-------------|-------------|-------------|-------------|-------------|
| | | FY1 | FY2 | FY3 | FY4 | FY5 | FY6 |
| RD | | 1400 | 1050 | 700 | 700 | 700 | 700 |
| fac 1 | | | | 1225 | 1225 | 1225 | 1400 |
| fac 2 | | | | | 1225 | 1225 | 1400 |
| fac 3 (PT) | | | | | 0 | 0 | 0 |
| faculty practice: | | 1400 | 1050 | 1925 | 3150 | 3150 | 3500 |

Table 3:

| | | patient visits per year for faculty physicians and residents | | | | | |
|---------------------|--|--|-------------|-------------|-------------|--------------|--------------|
| | | FY1 | FY2 | FY3 | FY4 | FY5 | FY6 |
| all physicians: | | 1400 | 1050 | 2625 | 6150 | 11150 | 11500 |
| midlevel providers: | | | | | | 3500 | 7000 |
| all providers: | | 1400 | 1050 | 2625 | 6150 | 14650 | 18500 |

| | | |
|--------------|-------------|---|
| patient care | 3500 | <- assumption for visits per year for a full time practicing FM |
|--------------|-------------|---|

Resident clinics are PGY1 = 1 per week PGY2 = 2 per week and PGY 3 = 3 per week

Annual Family Medicine Residency Program - Facility Costs

Assumptions:

1. 4000 sq ft for administrative space
2. Leased @ \$14.00 per square foot
3. Utilities covered (excluding phones)
4. Housekeeping covered
5. General space configuration
 - Two (2) team areas with associated 6 exam rooms each, total 12 exam rooms
 - Group patient educ room
 - Patient waiting room
 - Lab
 - Preceptor room
 - Conference room
 - Break room
 - Patient and employee restrooms
 - Mail and reproduction area
 - Faculty and administrative offices

Estimated Annual Facility Costs

| | Annual |
|---------------------------|------------------|
| Rent | \$66,017 ** |
| Utilities | 9,628 |
| Copier/fax | 1,500 |
| Communications | |
| Telephone | 5,000 |
| Internet/data | 5,000 |
| Office supplies (\$4/pt) | 21,360 |
| Medical supplies (\$8/pt) | 42,720 |
| Lab supplies, incl xray | 17,500 |
| Dues, subscriptions & | |
| educational expenses | 25,000 |
| Other | 30,000 |
| | \$223,725 |

| | |
|-----------------|----------|
| Annual Mortgage | 576,000 |
| Square feet | 34,900 |
| | \$ 16.50 |
| Mortgage | 66,017 |
| Utilities | 9,628 |

Family Medicine Residency Program Services Cost Detail

| | 1st Yr Minus 2 (FY1) | 1st Yr Minus 1 (FY2) | 1st Yr of Residents (FY3) | 2nd Yr of Residents (FY4) | 3rd Yr of Residents (FY5) |
|---|---------------------------------|---------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Postage & mailing | \$1,200 | \$1,200 | \$3,000 | \$4,000 | \$5,000 |
| Music/message/on-hold | 0 | 0 | 0 | 0 | 0 |
| Pest control** | 0 | 0 | 0 | 0 | 0 |
| Linen services** | | 0 | 0 | 0 | 0 |
| Answering svcs & pagers | 0 | 0 | 3,000 | 4,000 | 5,000 |
| In-training exams | | | 1,000 | 1,000 | 1,000 |
| Statement mailers | | 0 | 0 | 0 | 0 |
| Shredding | 0 | 0 | 0 | 0 | 0 |
| Outside lab | | 500 | 2,000 | 2,500 | 3,000 |
| Maintenance agreements | | | 4,000 | 4,000 | 4,000 |
| Composite photos | | | 0 | 0 | 0 |
| Advanced cardiac life support (ACLS) | | | 1,000 | 1,000 | 1,000 |
| | <u>\$1,200</u> | <u>\$1,700</u> | <u>\$14,000</u> | <u>\$16,500</u> | <u>\$19,000</u> |

Family Medicine Residency Program - Equipment Costs

| | <u>Qty</u> | <u>Each \$</u> | <u>Extended \$</u> | |
|--------------------------------|------------|----------------|--------------------|------|
| Telephones | 6 | \$300 | \$1,800 | T-1 |
| Microsoft Office | 1 | NC supplied | | |
| IT hardware | 0 | 10,000 | 0 | T-1 |
| IAV equipment | 1 | NC supplied | | |
| Projection/projector | 1 | 1,500 | 1,500 | 1 |
| Copier (See Attachment 2) | 1 | Leased | | |
| Fax | 1 | 500 | 500 | T-2 |
| Ultrasound | 1 | 29,000 | 29,000 | T-1 |
| Crash cart | 1 | 0 | 0 | T-1 |
| Cautery equipment | 1 | 4,200 | 4,200 | T-1 |
| Cryo equipment | 0 | 3,050 | 0 | T-1 |
| Sterilizer | 0 | 4,200 | 0 | T-1 |
| EKG | 1 | 3,550 | 3,550 | T-1 |
| Treadmill | 0 | 0 | 0 | T-1 |
| Scales, adult | 2 | 360 | 720 | T-1 |
| Scales, baby | 1 | 300 | 300 | T-1 |
| Defibrillator | 1 | 0 | 0 | T-1 |
| Doppler | 2 | 600 | 1,200 | T-1 |
| Colposcope | 1 | 9,200 | 9,200 | T-1 |
| Computers | | | | |
| Resident workstations | 2 | 1,200 | 2,400 | T-1 |
| Exam room | 0 | 1,200 | 0 | T-1 |
| Nurses' stations | 2 x 2 | 1,200 | 0 | T-1 |
| Faculty & staff, including lab | 6 | 1,200 | 7,200 | T-1 |
| Preceptor room | 0 | 1,200 | 0 | 1, 2 |
| Printers | | | | |
| Program director | 1 | 100 | 100 | T-2 |
| Program Coordinator | 1 | 250 | 250 | T-2 |
| Office manager | 1 | 100 | 100 | T-1 |
| Insurance techs | 2 | 450 | 900 | 1 |
| Receptionist | 0 | 800 | 0 | 1 |
| Preceptor/resident | 1 | 100 | 100 | 1 |
| Coding | 1 | 100 | 100 | 1 |
| IT person | 1 | 100 | 100 | 1 |
| Faculty | 2 | 100 | 200 | 1 |
| Lab/xray | 0 | 250 | 0 | 1 |
| Nurses stations | | | | |
| Large | 0 | 800 | 0 | 1 |
| Prescription | 0 | 600 | 0 | 1 |
| Admin person | 1 | 100 | 100 | 2 |
| Podium | 0 | 500 | 0 | 2 |
| IT rack | 0 | 2,500 | 0 | T-1 |

Family Medicine Residency Program - Equipment Costs

| | | <u>Qty</u> | <u>Each \$</u> | <u>Extended \$</u> | |
|------------------------------|--|------------|----------------|--------------------|-----|
| White board | | 1 | 800 | 800 | 1 |
| Electronic projection screen | | 1 | 3,000 | 3,000 | 1 |
| Furniture | | | | | |
| Nurses' stations | | | | | |
| Chairs | 2 x 2 | 4 | 165 | 660 | T-1 |
| Refrigerators | | 2 | 100 | 200 | T-1 |
| Refrigerator for drugs | | 1 | 600 | 600 | T-1 |
| Exam rooms | | | | | |
| Cabinets | | 0 | 250 | 0 | T-1 |
| Guest chairs | | 0 | 100 | 0 | T-1 |
| Tables | | 0 | 1,200 | 0 | T-1 |
| Diagnostic panels | <small>Blood pressure, temperature, scopes (eye & ear)</small> | 0 | 1,000 | 0 | T-1 |
| Chairs | | 0 | 259 | 0 | T-1 |
| Physician stools | | 0 | 125 | 0 | T-1 |
| Computer stand/tables | | 0 | 200 | 0 | T-1 |
| Front desk | | | | | |
| Chair | | 0 | 289 | 0 | T-1 |
| Desk | | 0 | Built-in | | |
| Waiting room | | | | | |
| Chairs | | 0 | 259 | 0 | T-1 |
| Tables | | 0 | 165 | 0 | T-1 |
| TV's | | 0 | 1,750 | 0 | 1 |
| Other staffing | | | | | |
| Chairs | | 6 | 259 | 1,554 | T-1 |
| Desks | | 4 | 300 | 1,200 | T-1 |
| Side chairs | | 6 | 259 | 1,554 | T-1 |
| Work tables | | 2 | 235 | 470 | T-1 |
| Preceptor room | | | | | |
| Desks | | 2 | 300 | 600 | 1 |
| Chairs | | 4 | 289 | 1,156 | 1 |
| Break room | | | | | |
| Table for sitting | | 1 | 548 | 548 | T-1 |
| Table for kitchen items | | 1 | Built-in | | |
| Chairs | Cartons | 2 | 285 | 570 | T-1 |
| Refrigerator | | 1 | 600 | 600 | T-1 |
| Microwave | | 1 | 100 | 100 | T-1 |
| Group patient educ room | | | | | |
| Table | | 1 | 300 | 300 | T-1 |
| Chairs | Cartons | 2 | 285 | 570 | T-1 |
| Conference room | | | | | |
| Table(s) | 72 x18 | 6 | 185 | 1,110 | 1 |
| Chairs | Cartons | 4 | 285 | 1,140 | 1 |

Family Medicine Residency Program - Equipment Costs

| | <u>Qty</u> | <u>Each \$</u> | <u>Extended \$</u> | |
|-----------------------------|------------|----------------|--------------------|---------|
| Storage room shelving | | | 4,000 | T-1 |
| Signage | | | 2,000 | T-1 |
| Wheelchairs | 2 | 500 | 1,000 | T-1 |
| Van / vehicle | 0 | 18,000 | 0 | T-2 |
| Wall pictures / decorations | | | 2,500 | T-1 |
| Other medical | | | 10,000 | 1 |
| Other office | | | 10,000 | 1 |
| Library | | | 15,000 | T-1 |
| Lab | | | 0 | T-1 |
| Miscellaneous | | | 5,000 | 1, 2, 3 |
| Total All Years | | | \$129,752 | |

| Recap | | | | |
|------------------------|--|--|------------------|-----|
| 1st Year Minus 2 | | | \$850 | T-2 |
| 1st Year Minus 1 | | | 97,996 | T-1 |
| 1st Year of Residents | | | 35,706 | 1 |
| 2nd Year of Residents | | | 5,100 | 2 |
| 3rd Year of Residents | | | 5,000 | 3 |
| Total All Years | | | \$144,652 | |

Appendix D

University of Arizona College of Pharmacy
Postgraduate Residency Program

Obligated and Under Implementation

**ARIZONA AHEC
PROJECT FUNDING REQUEST SUMMARY**

| | |
|---|--|
| Title of Proposed Project | |
| Integrating Pharmacy practice residents and student pharmacists into practice to promote innovative pharmacy services in San Luis | |
| Type of Project [To be completed by AZ AHEC] | Proposed Project Dates Start date: October 1, 2010 End date: September 30, 2013 |
| Applicant Organization (Name and address) The University of Arizona College of Pharmacy Department of Pharmacy Practice and Science 1295 N. Martin Ave. Tucson, Arizona 85721 Type: <input type="checkbox"/> Private Nonprofit <input checked="" type="checkbox"/> Public | Location(s) at which project activities will take place Santa Teresa Pharmacy 1896 Babbitt Lane San Luis, AZ 85349 The University of Arizona College of Pharmacy Department of Pharmacy Practice and Science 1295 N. Martin Ave. Tucson, Arizona 85721 |
| Amount Requested \$615,819 | |
| Project Director | |
| Name: Amy K. Kennedy, PharmD | Title: Clinical Assistant Professor |
| Address: The University of Arizona College of Pharmacy PO Box 210202 Tucson, AZ 85721 | Phone: 520-621-4269 Email: kennedy@pharmacy.arizona.edu |
| Other key individuals collaborating on this project and their affiliation | |
| Marie Chisholm-Burns, PharmD, Professor, Department Head, The University of Arizona College of Pharmacy; Kevin Boesen, PharmD, Director Experiential Program, Clinical Assistant Professor, The University of Arizona College of Pharmacy; Elizabeth Hall-Lipsy, JD, MPH Program Director for Health Disparities Initiatives and Community Outreach | |
| Human Subjects | |
| Does this proposal utilize human subjects for any purpose other than improving the curriculum of the course in which the participants are enrolled, serving as didactic device involving only individuals enrolled in the class, or providing training in the conduct of such professional activities as interview procedures? | |
| <input checked="" type="checkbox"/> No Yes (If yes, please indicate the procedure for human subjects review at your institution. Documentation of institutional approval will be required before the award is final.) | |
| Program Director Assurance | |
| I agree to accept responsibility for the conduct of the proposed project and to provide the required progress reports and final outcomes data if this project is approved for funding. | |
| Signature of Project Director: | Date Submitted: |
| _____ | _____ |

Abstract

With the recent passage of national healthcare reform and the documented impact of pharmacists on patient outcomes and healthcare 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 will provide an inter-professional training and pharmacy workforce development program in a rural setting for pharmacy students and pharmacy residents. Additionally, this program will design and implement a service expanded clinical pharmacy services for a rural, border population that suffers from significant health disparities. To evaluate the success of the training and patient service programs, feedback will be solicited from key stakeholders. These informative interviews will be used to improve the current program in San Luis and evaluate the potential and feasibility of expanding the training program to other sites within Arizona.

Other academic and/or community organizations partnering on this project

Western Arizona AHEC
Yuma Regional Medical Center, Yuma
Santa Teresa Pharmacy, San Luis
Regional Center for Border Health, Somerton
San Luis Walk-in Clinic, San Luis

Number of student, intern and/or resident participants expected
Awarded funding levels FY 2010-2011: 2 students, FY 2011-2012: 3 students, 1 resident, FY 2012-2013 4 students, 1 resident

Other participants

Faculty/community-based preceptors: X
Other community health care providers: X
Other community professionals: X
General public: _____
Other: _____

Expected Outcomes:

Avg. #weeks of clinical experience per student: Each student is expected to complete at least 6 weeks (200 hours) of clinical/rotation experience in the Santa Teresa pharmacy.
Avg. # of weeks of clinical experience per resident: Each resident is expected to complete a total of at least 1 year of clinical experience to be split between Yuma Regional Medical Center and San Luis Clinic.

Avg. hours of other instruction per student: N/A

Other (please augment this list as necessary with measurable outcomes appropriate for this particular project):

We anticipate that as a result of this project we will be able to improve the care received by patients in this rural setting and provide an inter-professional education training site. We hope that this will lead to an increase in students' selection of Yuma as a rotation site and foster interest in practicing in rural settings. Additionally, we anticipate that this project will provide the justification for expansion of this training model to other similar rural sites.

PROJECT NARRATIVE

Section I. Rationale/Justification of Need.

In January 2009, The University of Arizona College of Pharmacy, the Regional Center for Border Health, and the San Luis Walk In Clinic began the planning process to facilitate the successful development and implementation of an innovative multidisciplinary community pharmacy practice at the San Luis Walk-In Clinic. It was expected that this pharmacy would incorporate inter-professional pharmacy services into primary care to both improve patient care and enhance healthcare education. San Luis Walk In Clinic identified that its patients lacked adequate pharmacy services; the College of Pharmacy, in cooperation with key community leaders, proposed to conduct a pharmacy feasibility analysis, develop a business plan, and identify key pharmacy needs as determined by San Luis patients and providers. As a result of

Arizona Area Health Education Centers funding, the project participants—including Yuma Regional Medical Center, Regional Center for Border Health (RCBH), San Luis Walk In Clinic, and College of Pharmacy representatives—achieved the following deliverables:

- A for-profit business plan was prepared and presented to the San Luis Walk In Clinic and Regional Center for Border Health representatives.
- The RCBH identified and leased space to a pharmacist. The pharmacist, Paul Shah, has received a permit from the State Board of Pharmacy and has developed plans to remodel the space. Paul understands the current estimated costs of opening a pharmacy and challenges he will face increasing the prescription volume to level that will be self-sustaining. However, Paul is willing to take the financial risk and work with the RCBH to meet the needs of the patients.
- Paul Shah opened the Santa Theresa Pharmacy on October 19, 2010. He has applied to be appointed as clinical faculty with the College of Pharmacy so that he may act as a preceptor for pharmacy student rotations. His application has been approved by the College of Pharmacy and is awaiting University of Arizona (UA) approval.
- UA and RCBH have explored pharmacy technician training programs. UA completed an assessment of the Arizona Pharmacy Alliance (AzPA) pharmacy technician certification prep course and determined it will not meet the needs of project. RCBH is working with Paul Shah to create a course that he will teach at RCBH.
- Community Needs Assessment Specific to Pharmacy Services: A pharmacy needs assessment was created to determine the specific issues facing the community of San Luis. The survey was created through a joint effort by the UA College of Pharmacy and the RCBH. The RCHB has already collected 100 completed questionnaires. The completed questionnaires are in the process of being analyzed and a formal report will be generated.
- San Luis Walk-In Clinic Provider and Staff focus group: A focus group questionnaire was developed by the College of Pharmacy to determine the specific needs of the clinic providers and staff related to pharmacy services. The focus groups were held in October 2010 and the results of the focus groups will be analyzed and a report is in the process of being generated.
- RCBH and San Luis Walk In Clinic representatives, including Amanda Aguirre, Tuly Medina, and Inez Pampara, attended a conference in Tucson on September 9, 2010, at the College of Pharmacy. This conference included a tour of the El Rio Congress Clinic's Pharmacist Managed Diabetes Clinic and brainstorming sessions with key College of Pharmacy representatives.

As a result of the deliverables produced and the September 2010 conference, several next steps have been identified. The focus of these steps, and the resulting proposal, is to facilitate the

successful development and implementation of an interdisciplinary education model that serves pharmacy residents and students at the San Luis Walk-in clinic while simultaneously improving the quality of pharmacy services provided to the clinic's patients.

Arizona faces a shortage of pharmacists. According to the 2000 HRSA State Health Workforce Profiles, Arizona had 41.2 pharmacists per 100,000 population, which results in a rank of 50th among the 50 states. Moreover, this shortage is more acutely felt by rural communities who face even greater difficulty in recruiting and retaining pharmacists. While there is little literature available regarding pharmacy residencies, previous studies have shown that the following factors increase physician recruitment to rural practice: rural background, family physician specialty, rural training, a rural-oriented medical curriculum, having family in the rural area, professional opportunities, economic incentives, practice relief, interest in working with underserved populations, and opportunities for family members (spousal employment, good schools for children, etc.).¹ Medical school rural curriculum focus and rural training opportunities, like rural residencies, have been found to be associated with rural recruitment and retention.^{2,3} Accordingly, implementing similar strategies in pharmacy education, including the rotation and residency programs developed in this proposal, will likely have similar effects on rural pharmacist recruitment and retention.

Arizona's rural populations are generally older and poorer than their urban counterparts and often lack or have limited insurance coverage. People in rural communities often have high rates of chronic conditions, accompanied by increased prevalence of negative health behaviors including smoking, obesity, and lack of physical activity. Rural healthcare practice demands diverse and specialized skills; rural providers must work with fewer diagnostic and treatment resources than those in urban areas. Given the underserved nature of the patients seen in Santa Teresa pharmacy, it is imperative that they have access to a pharmacist's expertise. This project will implement comprehensive, cost-effective pharmacotherapy programs and services that ensure optimal medication and health outcomes for patients in a rural community. Based on assessments conducted to date and the San Luis Walk In Clinic patient base, the proposal anticipates developing patient care services that address the health concerns of the San Luis Community including but not limited to: asthma, obesity, pre-natal education and care, and hypertension/cardiovascular disease.

The interprofessional education model and patient services that the proposal will develop and implement will utilize the patient-centered medical home (PCMH) concept, which is a term for a new way to practice healthcare that has gained momentum during the current healthcare reform debate. Smith describes the role of the pharmacist in the PCMH as being essential to the optimal, safe, and cost-effective use of medications.⁴ This concept would radically change the way we practice medicine in the United States to incorporate providers of multiple disciplines working as a team to care for patients. This project will provide an innovative pharmacy/clinic environment that promotes inter-professional healthcare education and delivery.

The role of the pharmacist in improving healthcare is well-documented.⁵⁻¹⁶ Most recently a systematic review by Chisholm-Burns et al. highlighted the positive effect that pharmacists providing direct patient care can have on health outcomes.^{17,18} Pharmacy residents and students will work with a variety of healthcare providers within the San Luis Walk In Clinic to provide

direct healthcare services to the clinic's patients. Moreover, this training will increase the students' and residents' ability to practice in an ever-changing healthcare environment that includes a multidisciplinary healthcare team that includes a pharmacist. This project will assess the impact of the inter-professional education model for potential replication in other rural sites.

Section II. Project Development and Methodology

Proposed objectives and activities to attain program goals are as follows:

Program Goal 1: To continue to enhance efforts to expose students to innovative practice sites and locations through inter-professional healthcare education among health-related professional students.

Objective 1: Provide an innovative pharmacy/clinic environment that promotes inter-professional healthcare education and excellent patient outcomes.

Activities:

- 1) Identify and conduct interviews with key stakeholders and potential partners re: capacity for trainees.
- 2) Assess needs for preceptor development.
 - a. Potential preceptors include pharmacists, physician assistants, nurse practitioners, and medical doctors.
- 3) Develop preceptor training based upon assessment.
- 4) Develop student rotation objectives for a Chronic Disease Care elective as a part of the Advanced Pharmacy Practice Experiences.
 - a. Students will interact with several health professions while on rotation including some of the specialties listed above.
 - b. Students will also spend time with personnel from WAHEC and border health to learn about health disparities and rural healthcare.
- 5) Recruit students for this rotation. Anticipate recruiting two students in the first year with subsequent growth.
- 6) Develop residency objectives for a PGY-1 pharmacy practice resident to be split between Yuma Regional Medical Center and San Luis clinic.
- 7) Recruit a pharmacy practice resident for the PGY-1. Candidates will preferentially have an interest in rural health.
 - a. The resident will have the option of a longitudinal rotation with WAHEC to explore rural health issues.
- 8) Continued evaluation of student and resident experiences during rotations for quality improvement.
- 9) Continued evaluation of preceptor development and support for quality improvement.

Program Goal 2: Improve medication and health outcomes for patients in a rural community.

Objective 1: Implement comprehensive, cost-effective pharmacotherapy programs and services.

Activities:

- 1) Assess the utilization of current services offered by Santa Teresa pharmacy.
- 2) Determine if utilization, by the current patient population, of body mass index measurements, blood glucose, and cholesterol can be improved.
- 3) Analyze focus group results for potential future directions in clinical services.
 - a. Clinical services will be provided by Yuma Regional Medical Center pharmacists, residents, and students.
- 4) Based on those results, develop protocols for assessing and treating patients based on clinical results.
- 5) Perform market evaluation for pricing potential clinical services.
- 6) Evaluate process and outcomes for clinical services for quality improvement.
- 7) Develop a practice model that outlines potential *promotora* and student pharmacist collaboration for health prevention initiatives with input from WAHEC.
- 8) Evaluate the potential for collaboration via telemedicine with the Arizona Poison and Drug Information Center.
 - a. The Center will serve to provide clinical services when an on-site pharmacist is unavailable.
 - b. Additionally, the aspect of remote services will be continually evaluated to determine the feasibility of additional duties and services.

Program Goal 3: Expand the inter-professional education model to other rural sites.

Objective 1: Evaluate the inter-professional education model for potential replication in rural sites.

Activities:

- 1) Write description of program development.
- 2) Identify best practices for implementation.
- 3) Compile implementation toolkit for community partners.
- 4) Develop overall program evaluation utilizing evaluation results from key stakeholders.
- 5) Assess feasibility of expansion to other rural sites.
- 6) Identify alternate sources of funding for sustainability.

Sustainability

With the aid of funding from the AzAHEC, the College of Pharmacy will be able to implement this inter-professional training program. By evaluating this program, it is hoped that the value will be apparent and the key stakeholders (Western Arizona AHEC, Yuma Regional Medical Center, Regional Border Health, or Santa Teresa Pharmacy) will invest in the program via profit sharing or other means. From the results of this project, external funding may be pursued to expand and/or enhance the current program. It is hoped that the project will be sustainable based on results produced and interest from key stakeholders.

Implementation and Timeline

| | Fall 2010 | Winter 2011 | Spring 2011 | Summer 2011 | Fall 2011 | Winter 2012 | Spring 2012 | Summer 2012 | Fall 2012 | Winter 2013 | Spring 2013 | Summer 2013 | Fall 2013 |
|--|-----------|-------------|-------------|-------------|-----------|-------------|-------------|-------------|-----------|-------------|-------------|-------------|-----------|
| Determine capacity for trainees, assess preceptor needs | █ | | | | | | | | | | | | |
| Evaluate clinical pharmacy services | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ |
| Develop preceptor training and rotation objectives | | █ | | | | | | | | | | | |
| Analyze results for expansion of clinical services | | █ | | | | | | | | | | | |
| Recruit students for chronic disease care rotation | | | █ | | | | █ | | | | █ | | |
| Develop residency objectives | | | █ | | | | | | | | | | |
| Assess current utilization of services | | | █ | | | | | | | | | | |
| Assess potential of collaboration with the AZ Poison and Drug Information Center | | | █ | | | | | | | | | | |
| Evaluate student, resident and preceptor experiences | | | | █ | █ | █ | █ | █ | █ | █ | █ | █ | █ |
| Perform market evaluation of services | | | | █ | | | | | | | | | |
| Develop treatment protocols | | | | | █ | | | | | | | | |
| Develop promotora practice model | | | | | | █ | | | | | | | |
| Recruit PGY-1 resident | | | | | | █ | | | | █ | | | |
| Compile implementation toolkit | | | | | | | | █ | | | | | |
| Assess feasibility for expansion | | | | | | | | █ | █ | █ | █ | █ | █ |
| Identify alternate sources of funding | | | | | | | | █ | █ | █ | █ | █ | █ |

Section III: Evaluation

Program evaluation of this initiative will comprise of the following: 1) Students complete a rotation evaluation of their experiences in the chronic disease care elective, 2) Residents complete at least quarterly evaluations of the residency experience, 3) Program personnel will evaluate these responses and implement quality improvements, 4) Potential for expansion will be assessed based on financial and personnel availability.

Section IV: Dissemination

Program Faculty/Personnel

It is anticipated that, at a minimum, presentations in either podium or poster format will be given at various national pharmacy and/or pharmacy education meetings. Additionally, publication in the appropriate journals, such as journals for healthcare for the poor and underserved, will be pursued.

Residents

Residents will be required to prepare a poster detailing their research project for a national pharmacy meeting. In addition, they will be required to give a podium presentation at Western States and submit a manuscript for publication.

Students

Students will have the option of presenting projects from rotation at a national meeting.

Arizona AHEC BUDGET FORM

| | Project Cost and Evaluation | | | | Rationale |
|------------------|---|----------|----------|----------|---|
| | | Year 1 | Year 2 | Year 3 | |
| Personnel | Amy K. Kennedy (15% effort) | \$15,150 | \$15,605 | \$16,073 | <p><u>Dr. Kennedy</u> will be involved in the development of plans for innovative pharmacy services as well as the development of the PGY-1 pharmacy practice residency objectives.</p> <p><u>Dr. Chisholm-Burns</u> will be involved in advising all program assessment activities and analysis and will participate in the design and development of plans for innovative pharmacy services.</p> <p><u>Dr. Boesen</u> will be involved in the development of plans for innovative pharmacy services as well as the development of a Chronic Disease Care elective rotation.</p> <p><u>Kathryn Matthias</u> will be involved in the development of the residency objectives and quality control of the residency program.</p> <p><u>Elizabeth Hall-Lipsy</u> will assist in program assessment and evaluation activities, will participate in collaborations with the University of Arizona, Yuma, and San Luis, and will integrate Rural Health Professions students with potential experiential education activities in San Luis and Yuma.</p> <p><u>Residency preceptor</u>, TBD (50% shared with Yuma Regional Medical Center): Will have experience as a residency preceptor and in providing innovative pharmacy services. Will facilitate the development of the pharmacy resident and ensure that the administrative functions will be completed. Role in project: Participate in development of residency objectives and logistics. Recruitment of PGY-1 pharmacy practice resident.</p> <p><u>Rotation preceptor</u>, TBD: Will have experience as a rotation preceptor and will facilitate the development of the student pharmacists. Role in project: Participate in the development of rotation objectives and logistics. Recruitment of student pharmacists.</p> <p><u>PGY-1 Pharmacy Practice resident</u>, TBD: Will have a doctor of pharmacy degree from an Accreditation Council for Pharmacy Education (ACPE) accredited school. Preference will be given to those graduates with an interest in rural health and ability to speak both English and Spanish. Role in project: Practice innovative pharmacy services and mentor student pharmacists.</p> |
| | Marie Chisholm-Burns (7%) | \$17,852 | \$18,388 | \$18,940 | |
| | Kevin Boesen (7% Y1) | \$9,590 | | | |
| | Kathryn Matthias (5%) | \$5,775 | \$5,948 | \$6,127 | |
| | Elizabeth Hall-Lipsy | In kind | In kind | In kind | |
| | Residency preceptor (50%) | | \$55,000 | \$56,650 | |
| | Rotation preceptor (5%) | \$5,000 | \$5,000 | \$5,000 | |
| | PGY-1 Pharmacy Practice resident (100%) | | \$70,000 | \$70,000 | |
| | Arizona Poison and Drug Information Center pharmacist (10% of 8 hours weekly) | \$10,000 | \$10,000 | \$10,000 | |

| | | | | | |
|-------------------------|---|---|--|--|--|
| | | | | | Arizona Poison and Drug Information Center will provide clinical pharmacy services remotely at Santa Teresa Pharmacy when there is no on-site presence (services 8 hours/week, coverage provided 10% of the time) |
| Fringe Benefit | Amy K. Kennedy (28.4%) Marie Chisholm-Burns (28.4%) Kevin Boesen (28.4% Y1) Kathryn Matthias (28.4%) Residency preceptor (26.3%) PGY-1 Pharmacy Practice resident (24%) Arizona Poison and Drug Information Center pharmacist | \$4,303 \$5,070 \$2,724 \$1,640 \$2,840 | \$4,432 \$5,222 \$1,689 \$14,465 \$16,800 \$2,840 | \$4,565 \$5,379 \$2,220 \$14,899 \$16,800 \$2,840 | Employee-related expenses are required by the University of Arizona for all university employees. ERE for non-University of Arizona personnel based upon each institution's policy. |
| Student expenses | Housing Professional development | \$4,000 | \$8,000 | \$10,000 | Students are provided funds to enhance rotation experiences through professional development. National pharmacy organizations have provided professional development scholarships and other small funding sources (max of \$500). While we will encourage our students to apply, they are very competitive and may not be available each year. |
| Equipment | Laptop 1 desktop 1 phone 1 printer Computer software Rosetta Stone Care tools | \$7,603 | | | To be used by the pharmacy resident and student pharmacists during rotations. Video conferencing (available at YRMC) will be used to connect the resident and students with instructors in Tucson to enhance learning experiences. |
| Travel | Travel, lodging, Professional development | \$11,000 | \$11,000 | \$11,000 | Travel to/from Yuma and San Luis for site visits (at least 2 people for quarterly visits), community assessment activities, and meetings with task force members, including mileage reimbursement, per diem, and lodging. Travel costs for task force members' travel to Tucson for interviews, focus groups, meetings, demonstrations, including lodging, travel, and meals (at least 2 people for 3 visits). |

| | | | | | |
|-----------------------------|---------------------------------------|-----------|-----------|-----------|---|
| | | | | | Travel for 2 national meetings per year for the resident, ASHP and Western States. ASHP will be held in Las Vegas and Orlando respectively. Western States will be held in Pacific Grove, CA in 2012 and another west coast location in 2013. |
| Western Arizona AHEC | Student Housing | \$2,400 | \$3,600 | \$4,800 | Students are reimbursed through WAHEC for housing expenses given the cost of short-term housing and the distance from San Luis to Tucson. |
| Other | Mailing, printing, telephone services | \$2,530 | \$2,530 | \$2,530 | |
| Total | \$615,819 | \$107,477 | \$250,519 | \$257,823 | |

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Responses to AHEC feedback:

1. The PGY1 pharmacy resident is budgeted at \$70K in year 2 but \$52,500 in year 3. This needs clarified.
 - a. The resident salary has been clarified within the budget document. In addition, Dr. Jackowski has been removed from the proposal because she is leaving the college to pursue other opportunities.
2. What other sources might you tap for student professional development, travel, and equipment? AHEC has outfitted a teleconference class room at Yuma Regional Medical Center and request that you get YRMC to support this residency through the use of this room rather than our providing equipment.
 - a. We will utilize YRMC video conferencing to facilitate learning experiences. We will require students and residents to pursue scholarship funding from various national organizations, but these are very competitive and may not be offered each year.
3. Travel needs explicated in terms of number of trips, people, etc.
 - a. Details have been added to this budget line item to address both number of trips and participants.
4. Evidence needs to be provided about how this residency will be integrated with the Regional Center for Border Health/WAHEC including a letter of agreement from RCBH/WAHEC. How the RCBH/WAHEC are integral partners needs to be clear.
 - a. Under objective 1, students will be required to spend part of their rotation with WAHEC and residents will have the option to spend a longitudinal rotation with this center. Please see attached for their letter of support.
5. A letter from the Yuma Regional Medical Center is also needed indicated their support.
 - a. Please see attached for their letter of support.

May 15th 2011

Sally Reel PhD, RN, FNP
Director of Program Office
Arizona AHEC
1834 East Mabel Street
Tucson, Arizona 85721

Dear Dr. Reel,

As the Pharmacy Director of Yuma Regional Medical Center, I am pleased to submit this letter of commitment in support of the Health Resources and Services Administration Rural Health Network Development Planning Grant Program proposal entitled, "Integrating Pharmacy practice residents and student pharmacists into practice to promote innovative pharmacy services to San Luis AZ". I believe that developing pharmacy centered practice based research network (AzPRN), comprised of Arizona Community Health Centers and The University of Arizona College of Pharmacy will offer unique opportunities to cooperatively design and conduct research that will ultimately result in reduced health disparities and improved health outcomes throughout Arizona.

Yuma Regional's mission is to provide accessible, affordable, comprehensive, quality primary healthcare in an atmosphere of respect, dignity, and cultural sensitivity. The health and well being of our patients and community alike are promoted through direct services, training/education, outreach, and advocacy. A significant number of Yuma Regional's patients are the working poor who are under or uninsured and receive services through governmental assistance programs. As the cost of health insurance increases, the number of uninsured people grows. Southwestern Arizona has a higher than average number of migrant uninsured families. This includes many members of the work force such as employees of small businesses, construction workers, teachers, day care providers, college students, and service industry workers. This proposal has the potential to advance pharmacy practice overall and to improve health outcomes by uniting researchers and community pharmacists. For that reason, Yuma Regional's Pharmacy is pleased to be an equal partner in the development of this research network. Furthermore, this proposal promotes the improved care of our patients and allows us the opportunity to support and promote the quality innovations in health care delivery our clinics offer. Additionally, it provides our facility the opportunity to share our resources and expertise with other community pharmacies and pharmacists in an effort to demonstrate the value of clinical pharmacist services in improving patient care and reducing health care expenditures.

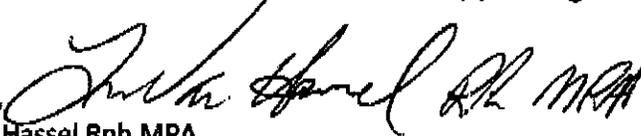
As a network partner, Yuma Regional Medical Center can provide assistance in the planning process by committing provider resources for network activities including: (1) participating in strategic planning to design, develop, and formalize a pharmacy centered practice based research network, (2) assisting in conducting a research-related needs assessment, (3) providing and attending research training activities, (4) participating in evaluating the

effectiveness and capacity built as a result of research training activities, and (5) assisting in the development of a pilot research project to be undertaken by the network. As we have an already established ASHP Pharmacy resident practice site and integrated pharmacy practices in the hospital setting and can aid the coordination of these programs. Yuma is in process of implementing its MD residency program and this will work as a great tie in to those programs.

I am also confident of our collective ability to successfully implement this proposal. Yuma Regional has demonstrated a commitment to conduct and participate in community centered research and has been an integral part of the Health Resources and Services Administration's Patient Safety & Clinical Pharmacy Services Collaborative.

I am happy to offer my full cooperation, as the Pharmacy Director for Yuma Regional Medical Center Centers in support of the proposal and I understand that the grant funds awarded for this proposal will not be used for the benefit of any one network partner.

If I could be of any further assistance, please contact me at the phone number listed below. Phone is 928-336-7815 and email is tvanhassel@yumaregional.org

Sincerely, 
Tom Van Hassel Rph MPA
Director of Pharmacy
Yuma Regional Medical Center

Appendix E

University of Arizona Health Sciences Center
Interprofessional Education and Practice (IPE&E) Collaborative
Budget Included

Obligated

July 1, 2011, Implementation

INTERPROFESSIONAL EDUCATION AND PRACTICE (IPE&P) AT THE ARIZONA HEALTH SCIENCES CENTER Tucson and Greater Arizona

TWO-YEAR OPERATIONAL PLAN AND BUDGET PROPOSAL FOR ARIZONA AHEC

A. Theodorou, N. Coleman, C. Michaels, J. Murphy, E. Schloss, D. Taren, L. Tomasa, and R. Weinstein



May 25, 2011

CONCEPT



INTERPROFESSIONAL EDUCATION COLLABORATIVE (IPEC) SPONSORS

American Association of Colleges of Nursing

American Association of Colleges of Osteopathic Medicine

American Association of Colleges of Pharmacy

American Dental Education Association

Association of American Medical Colleges

Association of Schools of Public Health

IPEC STATEMENT 2011*

“The goal of this interprofessional learning is to prepare all health professions students for deliberately working together with the common goal of building a safer and better patient-centered and community/population oriented U.S. health care system. “

*Interprofessional Education Collaborative Expert Panel. (2011). *Core competencies for interprofessional collaborative practice: Report of an expert panel*. Washington, D.C.: Interprofessional Education Collaborative.

THE INSTITUTE OF MEDICINE CALL TO ACTION:

- *To Err Is Human: Building a Safer Health System* (2000)
- *Crossing the Quality Chasm: A New Health System for the 21st Century* (2001)
- *Health Professions Education: A Bridge to Quality* (2003):

“All health professionals should be educated to deliver patient-centered care *as members of an interdisciplinary team*, emphasizing evidence-based practice, quality improvement approaches, and informatics.”

THE INTERPROFESSIONAL EDUCATION AND PRACTICE PROGRAM AT THE UNIVERSITY OF ARIZONA RESPONSE:

“Expand interprofessional education for the 21st century to meet workforce needs while ensuring that future health care professionals are trained to work together as members of teams.”

-- UA Office of the Vice President for Health Affairs, *A Strategic Framework for 2020* (2010)

THE INTERPROFESSIONAL EDUCATION AND PRACTICE PROGRAM AT THE UNIVERSITY OF ARIZONA establishes a new paradigm for educating and training health care workers to improve the access, quality, and cost of health care to patients, families, and communities.

THE INTERPROFESSIONAL EDUCATION AND PRACTICE PROGRAM AT THE UNIVERSITY OF ARIZONA focuses on:

- **Interprofessional Education (IPE)** - “When students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes” (WHO, 2010)

- **Interprofessional Practice (IPP)**- “Multiple health workers from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality of care.” (WHO, 2010)

AHSC is heeding the call from the Institute of Medicine to provide interprofessional education in multiple, common and overlapping areas of undergraduate, graduate, professional and continuing health-professions education. This is required for the care of critically ill or injured acute patients, chronically ill patients with complex, multiple problems, or the prevention of disease and the promotion of health.

AHSC has pioneered a number of interprofessional education initiatives for the 21st century by training teams of health-care professions students. While not replacing individual health professions education, these programs address common patient-care topics, stress safety and quality, communication skills and teamwork, cultural competence, ethical decision-making and the economics of health care, among others. Also included in this broad ranging approach are students and/ or faculty from law, engineering, other biological and physical sciences, social and behavioral sciences, management and the humanities.

This initiative also extends across the educational spectrum, from the award-winning UA College of Medicine Med-Start summer program for high school students, through community college training programs for healthcare workers, through undergraduate, graduate and professional degree programs at the state's universities and through lifelong continuing education. Statewide, AHSC will pioneer new ways of bringing health professions students together through unique programs and facilities such as the Arizona Telemedicine Program's T-Health Institute and the soon-to-be-constructed innovative Health Sciences Education Building on the Phoenix Biomedical Campus.

-- UA Office of the Vice President for Health Affairs,
A Strategic Framework for 2020 (2010)

Mission

To provide opportunities for health professions students and trainees to learn and practice together in interprofessional teams in order to enhance the health of their patients, families and communities.

Vision

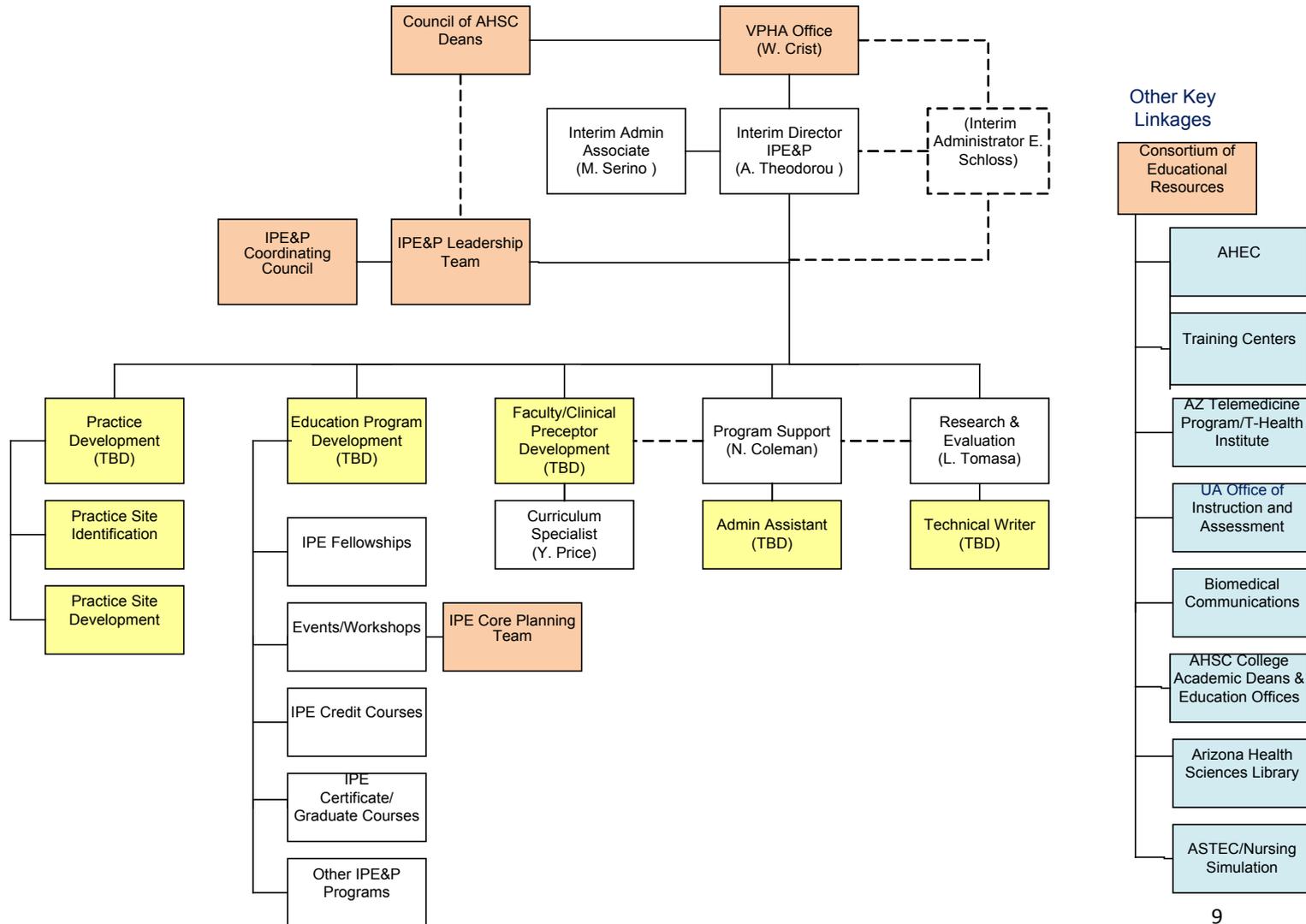
Interprofessional education and practice are the norm throughout the Arizona Health Sciences Center with the training of teams of health care professions students and trainees and the continuing education of teams of health care professionals. Learning activities are student centered, use problem/project-based material, and extensively use patient-oriented clinical scenarios and simulations that are relevant for practice.

- To ensure that all UA health sciences students meet the Core Competencies for Interprofessional Collaborative Practice*
 - To develop appropriate curricula for IPE
 - To develop faculty competencies in IPE & P
 - To remove barriers to implementation of IPE&P at the UA
- To develop appropriate IPP training sites throughout Arizona, in collaboration with Arizona AHEC, regional AHEC programs, and other partners
 - To develop IPE training protocols for:
 - Preceptors/clinical field faculty who will be educating and training UA health sciences students.
 - Teams of AHSC students to engage in meaningful community-based IPE experiences
- To develop a model IPP primary care practice in collaboration with the Arizona AHEC, wherein faculty will practice in interprofessional teams and mentor interprofessional teams of students and trainees, as well as increase access to high quality health care for Arizona's residents.
- To help remove structural barriers to community-based interprofessional training experiences

*Interprofessional Education Collaborative Expert Panel. (2011). *Core competencies for interprofessional collaborative practice: Report of an expert panel*. Washington, D.C.: Interprofessional Education Collaborative.

AHSC (Tucson) Interprofessional Education & Practice Program DRAFT Functional/Organizational Chart

Revised May 11, 2011 (v1)



Organization

The Draft Organizational Chart shows the ideal Interprofessional Education and Practice (IPE&P) organization for the Arizona Health Sciences Centers, focusing on the Tucson campuses (Phoenix will be addressed at a later time).

White colored boxes represent existing programs and staff. Yellow boxes represent new functions and associated staff. Salmon boxes show Tucson committees, representing faculty, staff, and students, in support of IPE&P. Blue boxes show important key linkages to other supportive programs within the University of Arizona. (Please note, some employee positions are designated by function and will be given appropriate titles at a later date.)

Other Key Linkages

In order to be successful, the IPE&P programs at the University of Arizona will need to form strong bonds with other allied support programs, including Arizona AHEC, the Arizona Telemedicine Program and T-Health Institute, the ASTEC and Steele Innovative Learning Center (SILC).simulation labs/programs, the UA Office of Instruction and Assessment, AHSC Biomedical Communications, the Arizona Health Sciences Library, and the Education Offices and Academic Deans in the AHSC colleges.

By working with Arizona AHEC, IPE&P is extended into the community for clinical training experiences and to develop community-based infrastructure for IPE (e.g. field professors, faculty teams, etc).

Faculty, Staff, and Student Committees

The Tucson IPE&P programs will be coordinated by a faculty committee (IPE&P Leadership Team), comprised of representatives from each of the AHSC Tucson colleges, as well as at-large faculty members. This committee will act as an IPE&P curriculum committee, recommending to the Director, the VPHA and Council of AHSC deans any new programs, or changes to existing programs, to insure that they adhere to the IPE&P mission, vision, and values and meet rigorous academic and practice standards.

The IPE&P Leadership Team will be assisted by an IPE&P Coordinating Council (currently called the IPE Steering Committee), consisting of representatives of all IPE&P Tucson-based programs, as well as other supportive UA units (see Other Key Linkages above) and AHSC students. The Council will meet quarterly to share information about existing programs and new IPE&P developments.

The current IPE events and workshops will continue to be supported by the IPE Core Planning Team. ⁹⁵

| Activities/Tasks | Year 1 (FY 2011-12) | Year 2 (FY 2012-13) |
|--|------------------------|------------------------|
| Develop IPE&P Curricula/Training | | |
| 1. Incorporate national IPE competencies into all UA IPE&P educational activities and programs | | |
| 2. Identify and develop additional events/workshops | | |
| 3. Identify and develop additional graduate credit courses (e.g., ethics, gerontology) | | |
| 4. Identify and develop additional postgraduate fellowships | | |
| 5. Identify and develop additional continuing education | | |
| 6. Identify and develop additional clinical rotations | | |
| 7. Work with Arizona AHEC to develop IPE&P community-based clinical training and practice (service learning) | | |
| Create IPE&P Infrastructure within Academic Programs at UA | | |
| 1. Work with AHSC deans to create a unified time for IPE within the academic calendar | | |
| 2. Work with the Office of the Provost and the Graduate College to identify IPE course designations | | |
| 3. Work with AHSC academic deans to recognize faculty time in IPE&P in the promotion and tenure process | | |
| Create an IPE&P Faculty Development Program | | |
| 1. Create a facilitator training program | | |
| 2. Create a preceptor training program | | |
| Develop IPE&P Marketing and Communications | | |
| 1. Develop and maintain website | | |
| a. Develop interactive calendar | | |
| b. Develop student and faculty database and registration/grading system | | |
| 2. Develop other internal and external communication & marketing materials | | |
| Develop Research, Evaluation, and Dissemination Functions Related to UA IPE&P | | |
| 1. Survey internal UA IPE&P programs | | |
| 2. Survey other national and international IPE&P programs | | |
| 3. Develop networking relationships with other IPE&P programs at the CAB III conference in Tucson | | |
| 4. Visit other exemplary IPE&P programs at other academic health centers | | |
| 5. Develop IPE&P evaluation methodologies | | |
| 6. Develop IPE&P research agenda | | |
| 7. Publish IPE findings to date | | |

| Activities/Tasks | Year 1 (FY 2011-12) | Year 2 (FY 2012-13) |
|---|------------------------|------------------------|
| Recruit and Hire Necessary People for IPE&P | | |
| 1. Recruit and Hire Staff | | |
| a. National search and recruitment of permanent Director | | |
| b. Hire Writer, Administrative Assistant | | |
| c. Contract with other staff (i.e., their departments for time) | | |
| d. Identify and contract with faculty | | |
| Develop Necessary Space for IPE&P | | |
| 1. Develop Office Space (AHS library) | | |
| 2. Develop IPE shared learning space | | |
| a. AHS Library | | |
| b. Simulation laboratories | | |
| 3. Identify/Develop IPP Locations | | |
| a. Survey all UA Healthcare programs/locations for interest | | |
| b. Survey non-Tucson health care organizations for interest | | |
| c. Develop UPHH Campus (Abrahams Building & other) | | |
| d. Develop Other Tucson locations | | |
| e. Develop other Arizona locations via regional AHECs | | |
| Secure Necessary Funding for IPE&P | | |
| 1. Work with Office of VPHA and UA Foundation to secure ongoing funding | | |
| a. Develop case statement for development | | |
| 2. Obtain government and foundation grant support for | | |
| a. Curriculum development | | |
| b. Clinical site development | | |
| c. Faculty development | | |
| 3. Identify IPE&P faculty teaching support in each AHSC college | | |

BUDGET OUTLINE AND JUSTIFICATION



Director IPE & Practice. This position, reporting directly to the UA Vice President for health Affairs, will be responsible for all IPE&P activities at the University of Arizona Tucson Campus. A key function of this position will be to work throughout the UA, including the Office of the Provost, the Graduate Colleges, and other academic units, to remove barriers and facilitate the development of IPE&P programs. The incumbent will be recruited via a national search. The position will be filled at .2 FTE on an interim basis by Andreas Theodorou, MD.

This position will be supported by a full-time Administrative Associate, occupied on an interim basis by Maru Serino on loan from AHEC in FY 2012 (the Administrative Associate and Assistants while assigned to lead staff members, will support the entire program).

(IPE&P Temporary Administrator-Tucson. This is a temporary position, currently filled at .4 FTE by Ernie Schloss, PhD, and reports to the VPHA and is responsible for developing the Tucson AHSC-based IPE&P programs. Once the permanent Director for IPE&P is recruited, this position will be eliminated.)

Program & Faculty Development. These funds are to be allocated to portions of the time of to-be-selected AHSC faculty members from the AHSC Tucson colleges. These faculty members will be responsible for supporting existing programs, as well as developing new IPE&P programs and training faculty in IPE&P methods. The faculty will work with health care delivery sites throughout the state (in conjunction with AHEC) in developing interprofessional teams for training AHSC students.

Program Support. This position, reporting the IPE&P director (and working closely with the Program and Faculty Development position) will be supported by a full-time administrative assistant. The incumbent will be responsible for coordinating events, workshops, and classes, including developing and maintaining administrative databases and an IPE&P website. The current incumbent is Nancy Coleman at .2 FTE. The position is projected to require .5 FTE for the purposes of this program.

Research and Evaluation . This position, reporting to the Tucson IPE&P Director, is currently filled by Lynne Tomasa, PhD, MSW at .2 FTE and is projected to increase to .5 FTE. This position is responsible for curriculum development and evaluation of all programs (in conjunction with AHEC evaluators), communicating the results (including peer-reviewed publications), and providing technical assistance to faculty in the development of IPE&P programs.

Curriculum Specialist. Reporting to the Director, this .40 FTE position will be responsible for helping faculty develop innovative and technical approaches to IPE&P, including the use of new media and instructional technologies, in conjunction with other specialists throughout the UA. The incumbent is Yvonne Price (see Other Key Linkages below).

Technical Writer. Reporting to the Curriculum Development and Evaluation position, this .5 FTE position will be responsible for helping develop technical documents, grant proposals, and peer-reviewed publications.

- The Core IPE programs require the Refreshments, A/V, and Speakers in the budget.
- Travel funds will be used to attend IPE conferences and visit IPE programs at other academic health centers, as well as instate travel to IPP sites in Arizona.
- Marketing/Development includes the development and maintenance of an IPE&P website (as part of the UA websites structure).
- Biomedical Communications will be used to augment the services of the Curriculum Specialist in the development of the necessary technology support for educational offerings
- Evaluation consultation will involve faculty from throughout the AHSC, as needed, to design the program evaluation.
- Software licenses include that used for the ongoing evaluation of programs (Survey Monkey)
- The CAB III conference will be in Tucson in November 2011, and the program will provide some funding to staff and faculty to attend, as this will be a major opportunity for the AHSC IPE&P program to interact with other similar programs around the world.

Appendix F

University of Arizona College of Nursing
Master's Entry into the Practice of Nursing (MEPN)
Abstract with Budget

Obligated

July 1, 2011, Implementation

**University of Arizona College of Nursing
Masters Entry to Professional Nursing (MEPN) – Phoenix Biomedical Campus
Proposal for Seed Funding to the Arizona Area Health Educations Centers Program**

Project Purpose and Specific Aims:

The primary purpose of this proposal is to provide seed funding for the establishment of an accelerated Master of Science (MS) in Nursing degree program, housed at the Phoenix Biomedical Campus. This Master Entry into Professional Nursing (MEPN) program is designed for those who hold a degree in another field and will provide a means by which to build the capacity of the local market to educate students desirous of obtaining a nursing degree as a second career option. This program furthers the mission of the Arizona AHEC to alleviate health care provider shortages and improve health care access for underserved persons living in the Greater Valley Arizona Health Education Center (GVAHEC) region.

Funds for this program will support the following specific aims:

1. Expand the professional nursing workforce, especially as it relates to underserved populations in the urban area or in surrounding rural areas.
2. Build community support and visibility for the University of Arizona College of Nursing in the Greater Valley region.
3. Establish a MEPN student and faculty cohort at the UA Phoenix Biomedical Campus to complement other health sciences educational programs at this site and promote inter-professional health sciences education
4. Establish a sustainable educational program.

Collaboration with Arizona AHEC and GVAHEC:

The College of Nursing MEPN faculty at the Phoenix Biomedical Campus and the administrative facilitating faculty in Tucson will work closely with GVAHEC to identify 'service learning' opportunities for students at clinical sites in underserved communities throughout the Greater Valley area. Additionally, GVAHEC staff will be invited to directly participate in interaction with the students and faculty to foster a greater understanding of the needs and opportunities inherent in working with underserved urban, small cities/towns and rural patient populations. It is the goal of the College of Nursing to establish a close and synergistic working relationship with the GVAHEC leaders that is anchored by this program.

Two Year Project Budget:

| Personnel: | | | | | | | |
|---------------------|------------------------------|-------------|----------------|--------|------------------|------------------|------------------|
| Name | Project Title | Project FTE | Project Salary | ERE | Year 1 | Year 2 | Total |
| TBN | Program Coordinator, Sr. | .50 | 22,500 | 9,247 | 31,747 | 32,381 | 64,128 |
| TBN | Clinical Instructor | 1.0 | 70,000 | 19,110 | 89,110 | 90,892 | 180,002 |
| TBN | Clinical Instructor | 1.0 | 70,000 | 19,110 | 89,110 | 90,892 | 180,002 |
| Cathleen Michaels | Clinical Associate Professor | .20 | 13,065 | 3,566 | 16,631 | 16,964 | 33,595 |
| | Subtotal Personnel | | | | 226,598 | 231,129 | 457,727 |
| | | | | | | | |
| Operations: | | | | | | | |
| Telecommunications | | | | | 50,000 | 10,000 | 60,000 |
| Supplies | | | | | 15,000 | 15,000 | 30,000 |
| Travel | | | | | 2,000 | 2,000 | 4,000 |
| | Subtotal Operations | | | | 67,000 | 27,000 | 94,000 |
| Total Budget | | | | | \$293,598 | \$258,129 | \$551,727 |

Appendix G

Preliminary Anticipated Costs Associated with Development of a Community-base Primary Care Practice

Scenario 1:

Development of Nurse-Practitioner Clinic

Scenario 2:

Development of a Rural Clinic with In-house Pharmacy

- Does not include Provider Salary
- Does not include space/building
- Is understated in terms of patient volume and revenues as the community is unknown (rural clinics may take time to build patient base)

Additional Information Included:

- Known costs to establish a distance education center at Yuma Regional Medical Center (this supports the College of Nursing's second degree BSN program and will support the College of Pharmacy's postgraduate residency program). A similar center will be included as a teaching component of the planned practice.

Costs not included but anticipated:

- Consultation with national experts in 2011 to evaluate and determine the best business model for the practice

Scenario One: Financial Pro Forma to Establish a Nurse Practitioner Clinic at UPH Kino

Schedule A

Nurse Practitioner
Registered Nurse - Clinical Care Coordinator
Community Health Connector - Promotora (.449 ERE Rate)

| | 0.284 | | |
|--------|--------|------|---------|
| Salary | ERE | FTE | Total |
| 93,600 | 26,582 | 1.00 | 120,182 |
| 65,000 | 18,460 | 1.00 | 83,460 |
| 22,880 | 10,273 | 1.00 | 33,153 |

Session Fee (fully inclusive):

200 per session

- Occupancy
- Rental Space
- Utilities
- Patient Scheduling
- Financial Clearance
- Reception and Check In/Check Out
- Medical Assistance
- Supplies and Consumables
- Equipment
- Technology including EMR
- Telecommunications

Practice Management (fully inclusive):

10% gross revenue

- Procedural Coding
- Third Party Billing
- Reimbursement Coordination (Revenue Cycle Oversight)
- Posting Receipts
- Collections and Follow up on Delinquent Accounts
- Management Reporting (Service Analysis, Productivity Analysis)
- Compliance
- Credentialing
- Third Party Contracting

Financial Management:

2% gross revenue

- Accounting
- Financial Reporting

Schedule A: NPA Clinic Pro-forma

| FY | <u>11/12</u> | <u>12/13</u> | <u>13/14</u> | <u>14/15</u> | <u>15/16</u> | |
|--|--------------|--------------|--------------|--------------|--------------|-----------|
| Sessions/Week | 3 | 6 | 10 | 10 | 10 | |
| Patient Care Revenue | 22,528 | 100,506 | 175,764 | 351,528 | 351,528 | 1,001,855 |
| Providers/Session | 1 | 1 | 1 | 2 | 2 | |
| Nurse Practitioner Salary and ERE | 120,182 | 120,182 | 120,182 | 120,182 | 120,182 | |
| FTE Required (Nurse Practitioner) | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | |
| NP Salary and ERE Expense | 120,182 | 120,182 | 120,182 | 240,364 | 240,364 | 841,274 |
| Registered Nurse - Clinical Care Coordinator | 83,460 | 83,460 | 83,460 | 83,460 | 83,460 | |
| FTE Required (Registered Nurse) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| RN Salary and ERE Expense | 83,460 | 83,460 | 83,460 | 83,460 | 83,460 | 417,300 |
| Community Health Connector - Promotura | | 33,153 | 33,153 | 33,153 | 33,153 | |
| FTE Required (Promotura) | | 1.0 | 1.0 | 1.0 | 1.0 | |
| Promotura Salary and ERE Expense | | 33,153 | 33,153 | 33,153 | 33,153 | 132,612 |
| Provider Related Salary and ERE Expense | 203,642 | 236,795 | 236,795 | 356,977 | 356,977 | 1,391,186 |
| Session Fee | 15,000 | 60,000 | 100,000 | 100,000 | 100,000 | 375,000 |
| Practice Management Expense | 2,253 | 10,051 | 17,576 | 35,153 | 35,153 | 100,185 |
| Financial Management Expense | 451 | 2,010 | 3,515 | 7,031 | 7,031 | 20,037 |
| Operating Expenses | 17,703 | 72,061 | 121,092 | 142,183 | 142,183 | 495,223 |
| Total Expenses | 221,345 | 308,856 | 357,887 | 499,160 | 499,160 | 1,886,409 |
| Surplus/Deficit on Operations | (198,817) | (208,350) | (182,123) | (147,632) | (147,632) | (884,554) |
| Cumulative Cash Flow | (198,817) | (407,167) | (589,290) | (736,922) | (884,554) | √ |

Scenario Two: Financial Pro Forma to Establish a Rural Clinic

Does not include space/building

Does not include provider salaries

Does not include development funds for an on-site education center

AHEC PBC Plan

| | <u>Primary Care</u> | <u>Assumptions</u> | | |
|---|--------------------------------|--------------------|-------------|--------------|
| | <u>PBC</u> | <u>Statistic</u> | <u>Rate</u> | <u>Hours</u> |
| <u>Revenue</u> | | | | |
| PBC revenue | 502,880 | | | |
| Rx revenue | <u>124,624</u> | | | |
| Total Revenue | 627,504 | | | |
| <u>Expenses</u> | | | | |
| RN/Manager | 74,880 | 1.0 | 36 | 2,080 |
| Front office/clerical | 124,800 | 4.0 | 15 | 2,080 |
| MA | 166,400 | 4.0 | 20 | 2,080 |
| Benefits | 109,824 | | 30% | |
| Lease | 105,915 (1) | 5,000 | 21 | |
| RX expenses | 99,699 (4) | | | |
| CAM | 9,264 | | | |
| Office supplies | 3,000 | | | |
| Medical supplies | 33,746 | | | |
| Operating costs | 9,264 | | | |
| Other expense | 27,098 | | | |
| Insurance | 20,000 | | | |
| Depreciation | 56,370 | | | |
| Total Expense | <u>840,260</u> | | | |
| Contribution Margin | (212,756) | | | |
| Indirect Expense (15% of Revenue) | <u>94,126</u> | | | |
| Net Income (Loss) After Indirect Exp | <u><u>(306,882)</u></u> | | | |

(and before any Provider assumptions)

Assumptions:

- (1) Approximately 5,000 sq ft
- (2) Projected Rx revenue = 1.19 (75/63) rx's per day*pts seen per session in Yr 1 (Data derived from Ocotillo Pharmacy Business Plan)
- (3) Ave Rx charge was \$58.02 as reported by the 2009 NCPA Digest (Ocotillo Pharmacy Business Plan)
- (4) Rx expense =80% of rx revenue (Data derived from Ocotillo Pharmacy Business Plan)

| <u>Description</u> | <u>Capital Assumptions</u> | | | <u>Life</u> | <u>Depr.</u> |
|-----------------------------|----------------------------|-----------------|-----------------------|-------------|----------------------|
| | <u>Cost</u> | <u>Quantity</u> | | | |
| Workstations | 3,500 | 16 | 56,000 | 10 | 5,600 |
| Exam beds | 3,500 | 24 | 84,000 | 5 | 16,800 |
| Exam room workstations | 1,500 | 14 | 21,000 | 7 | 3,000 |
| EKG | 5,000 | 2 | 10,000 | 5 | 2,000 |
| Pulse oximeter | 6,100 | 1 | 6,100 | 5 | 1,220 |
| Waiting room chairs/tables | 350 | 28 | 9,800 | 5 | 1,960 |
| Wheel Chairs | 1,000 | 2 | 2,000 | 5 | 400 |
| ER/Treatment Carts | 1,200 | 4 | 4,800 | 5 | 960 |
| IT | 20,000 | 2 | 40,000 | 5 | 8,000 |
| Side chairs | 150 | 16 | 2,400 | 5 | 480 |
| Office chairs | 350 | 34 | 11,900 | 7 | 1,700 |
| Break room table and chairs | 2,000 | 1 | 2,000 | 5 | 400 |
| Small Refrigerator | 600 | 2 | 1,200 | 5 | 240 |
| Microwave | 200 | 1 | 200 | 2 | 100 |
| Telephones | 300 | 36 | 10,800 | 5 | 2,160 |
| Copier | | 1 | 0 | 3 | 0 |
| File Cabinets | 3000 | 2 | 6,000 | 5 | 1,200 |
| Metal shelving | 750 | 1 | 750 | 5 | 150 |
| TI contingency | 25,000 | 1 | 25,000 | 5 | 5,000 |
| Permits and fees | 5,000 | 1 | 5,000 | 5 | 1,000 |
| Project contingency | 20,000 | 1 | 20,000 | 5 | 4,000 |
| Capital cost | | | <u>318,950</u> | | <u>56,370</u> |

Other Expenses

| | |
|----------------------------------|-------------------------|
| Continuing Education/yr | 4,000.00 |
| Professional Associations | 600.00 |
| Other Expenses per GV PBC | <u>22,498.00</u> |
| | 27,098.00 |

Fee Schedule

| New Patients | Code | Fee |
|----------------------|-------|--------|
| Basic | 99201 | 111.00 |
| Problem Focused | 99202 | 192.00 |
| Expanded Problem | 99203 | 278.00 |
| Detailed | 99204 | 428.00 |
| Comprehensive | 99205 | 541.00 |
| Established Patients | | |
| Nurse | 99211 | 57.00 |
| Problem Focused | 99212 | 112.00 |
| Expanded Problem | 99213 | 185.00 |
| Detailed | 99214 | 279.00 |
| Comprehensive | 99215 | 377.00 |

Start-Up/Sessions per Day (model assumes full-time @ 10 sessions per week)

| Month | New Pts. | Total Seen | Invoiced | Received |
|-------|----------|------------|------------|---|
| 1 | 30 | 35 | | 9,735.00 |
| 2 | 45 | 60 | | 16,695.00 |
| 3 | 60 | 90 | | 25,050.00 |
| 4 | 60 | 100 | | 27,840.00 |
| 5 | 60 | 120 | | 33,420.00 |
| 6 | 60 | 140 | | 39,000.00 |
| 7 | 60 | 160 | | 44,580.00 |
| 8 | 60 | 180 | | 50,160.00 |
| 9 | 70 | 200 | | 55,730.00 |
| 10 | 70 | 220 | | 61,310.00 |
| 11 | 70 | 240 | | 66,890.00 |
| 12 | 70 | 260 | 12 pts/day | 72,470.00 (assumes longer start up to to achieve volume in a rural setting) |
| Yr 1 | | 1805 | | 502,880.00 |
| | 24 | 300 | | |
| | 36 | 400 | | |
| | 48 | 480 | | (assume a break even point of 24 pts/day) |

Assumes 40 sessions per month for average patient per session at 6.5 at close of first year
 New patient invoices assumes an averaged rate of a 99203 and 99204 encounter
 Established patient invoices assumes an averaged rate of a 99231 and 99214 encounter
 If calculating for an NP ran clinic only use 99203 and 99213 with reimbursement at 85% (unless at an FQHC)
 Receipts projected on a (what is AZ rate) % reduction that reflects insurance rates for the area and a (average to collection) month payment processing delay

Projected RX Volume

| | | |
|-----------------------------|-----------|---|
| Daily RX Volume | 12 | |
| Daily RX Volume per session | | |
| (2) Ave Rx | 2,148 | (Rx utilization - 1.2 scripts per visit = 1805 x 1.2 = 2,166) |
| (3) Charge | \$58.02 | |
| RX Sales | \$124,624 | |

Known Costs to Equip a Distance Education Classroom at Yuma Regional Medical Center

- Similar costs anticipated to develop a distance education classroom at the practice

Customer Name:
Date: 11-Sep-09
Quote Number:
AMX

U OF A NURSING
YUMA / TUCSON
2009-08-012



17350 N. Hartford Dr., Scottsdale, AZ 85255
3633 E. Irvington, Tucson, AZ 85714

480-348-0100
520-318-0100

| Qty. | Product Number | Manufacture/Vendor | Description | Sale Price | Extended Labor | Extended Sale Price | Unit Labor |
|------|---------------------|--------------------|--|------------|----------------|---------------------|------------|
| 1 | YUMA CONTROL SYSTEM | | | \$0.00 | 0 | \$0.00 | 0 |
| 1 | FG2105-06 | AMX | NI-4100 Central Control Processor | \$2,058.82 | 0 | \$2,058.82 | 0 |
| 3 | FG2022 | AMX | NXC-COM2 RS-232 Expansion Card | \$294.12 | 0 | \$882.35 | 0 |
| 1 | FG687-15 | AMX | ups 1500va 900w 120V 20A | \$1,176.47 | 0 | \$1,176.47 | 0 |
| 1 | FG2258-01K | AMX | NXT-CV7 7" Interactive Desktop Touch Panel | \$2,235.29 | 0 | \$2,235.29 | 0 |
| 2 | FG423-41 | AMX | PSN6.5 Power Supply | \$270.59 | 0 | \$541.18 | 0 |
| 1 | FG515 | AMX | AC-RK 1RU RACK MOUNTING KIT | \$47.06 | 0 | \$47.06 | 0 |
| 1 | YUMA RACK SYSTEM | | | \$0.00 | 0 | \$0.00 | 0 |
| 2 | SRSR-2-14 | Middle Atlantic | 14 Space Equipment Rack | \$319.86 | 0 | \$639.72 | 0 |
| 2 | PD915R | Middle Atlantic | Power Strip / Conditioner | \$77.06 | 0 | \$154.12 | 0 |
| 3 | RSH4A2S LG RC897T | Middle Atlantic | Custom Rack Shelves for LG RC897T | \$101.42 | 0 | \$304.27 | 0 |
| 1 | YUMA CONTROL ROOM | | | \$0.00 | 0 | \$0.00 | 0 |
| 2 | 26LG40 | LG | 26" LCD Display for Viewing Applicable Critical Care Room | \$657.29 | 0 | \$1,314.59 | 0 |
| 2 | FWDSK110B | Chief | Articulating Wall Mount | \$120.04 | 0 | \$240.07 | 0 |
| 2 | FSB4101B | Chief | Wall Mount Adapter | \$32.86 | 0 | \$65.72 | 0 |
| 3 | RC897T | LG | DVD / VCR / PLAYER / RECORDER | \$270.59 | 0 | \$811.76 | 0 |
| 1 | 999-5100-000 | Vaddio | Quick Connect-4 Connects Power, Video and Control to Cameras | \$528.24 | 0 | \$528.24 | 0 |
| 1 | DM1612 | Lectrosionics | 16X12 Audio Matrix / DSP | \$2,747.06 | 0 | \$2,747.06 | 0 |
| 2 | VP-200xln | Kramer | 1:2 UXGA Distribution Amp | \$145.88 | 0 | \$291.76 | 0 |
| 1 | VP-162AV | OFE | 16X16 Composite Video Matrix Swither | \$0.00 | 0 | \$0.00 | 0 |
| 1 | VP-1608 | OFE | 16X8 RGBHV Matrix Switcher | \$0.00 | 0 | \$0.00 | 0 |
| 2 | HMD280-13 | Sennheiser | Headset Microphone w/flex boom | \$264.71 | 0 | \$529.41 | 0 |
| 1 | MCA-8050 | Biamp | Audio Amplifier | \$892.94 | 0 | \$892.94 | 0 |
| 1 | 115600 | TANDBERG | EDGE 95 MXP W CAMERA, NPP AND MS | \$9,388.24 | 0 | \$9,388.24 | 0 |
| 1 | 1161653 | TANDBERG | CAMERA EXTENSION CABLE WITH POWER SUPPLY AND | \$392.94 | 0 | \$392.94 | 0 |
| 1 | YUMA CLASS ROOM | | | \$0.00 | 0 | \$0.00 | 0 |
| 2 | TY-42TM6B | PANASONIC | VIDIO INPUT MODULE | \$135.29 | 0 | \$270.59 | 0 |
| 2 | TH58PH10UKA | PANASONIC | 58" PLASMA | \$2,300.00 | 0 | \$4,600.00 | 0 |
| 2 | PLP2053 | CHIEF | TILT MOUNT FOR PLASMA | \$0.00 | 0 | \$0.00 | 0 |
| 1 | MB3 | CROWN | CEILING MIC | \$130.76 | 0 | \$130.76 | 0 |
| 1 | EVID100 | OFE | PTZ CAMERA | \$0.00 | 0 | \$0.00 | 0 |
| 2 | Control 26C | JBL | 5" Ceiling Mounting Loudspeakers | \$105.46 | 0 | \$210.92 | 0 |
| 1 | CUSTOM LECTERN | EURODESIGN | QUOTE NUMBER 20098054 | \$799.41 | 0 | \$799.41 | 0 |
| 1 | RSH4A2S LG RC897T | Middle Atlantic | Custom Rack Shelves for LG RC897T | \$101.42 | 0 | \$101.42 | 0 |
| 1 | RC897T | LG | DVD / VCR / PLAYER / RECORDER | \$270.59 | 0 | \$270.59 | 0 |
| 2 | W1200-CA-P-A | COVID | WALL PLATE - COMPUTER | \$21.93 | 0 | \$43.86 | 0 |
| 1 | W1103-CA-P-A | COVID | WALL PLATE - DOC CAM | \$17.32 | 0 | \$17.32 | 0 |
| 1 | FG5794-01WH | AMX | MET 6N WHITE | \$152.94 | 0 | \$152.94 | 0 |
| 1 | YUMA SIMMAN ROOM | | | \$0.00 | 0 | \$0.00 | 0 |
| 4 | 535-2000-206 | Vaddio | Suspended Ceiling PTZ Camera Mount | \$70.59 | 0 | \$282.35 | 0 |
| 2 | MB-3 | Crown | Ceiling Microphone | \$130.76 | 0 | \$261.53 | 0 |

Customer Name:
Date: 11-Sep-09
Quote Number:
AMX

U OF A NURSING
YUMA / TUCSON
2009-08-012



17350 N. Hartford Dr., Scottsdale, AZ 85255
3633 E. Irvington, Tucson, AZ 85714

480-348-0100
520-318-0100

| Qty. | Product Number | Manufacture/Vendor | Description | Sale Price | Extended Labor | Extended Sale Price | Unit Labor |
|------|----------------------------|--------------------|--|-------------|----------------|---------------------|------------|
| 1 | Control 26C | JBL | 6" Ceiling Mounting Loudspeakers | \$105.46 | 0 | \$105.46 | 0 |
| 4 | 999-2001-070 | Vaddio | EVI-D70 PTZ | \$1,052.94 | 0 | \$4,211.76 | 0 |
| 1 | FG5794-01WH | AMX | MET 6N WHITE | \$152.94 | 0 | \$152.94 | 0 |
| 2 | CUSTOM | COVID | WALL PLATE - 1/8 STEREO ADD 1 RCA FOR PILLOW SPK | \$28.24 | 0 | \$56.47 | 0 |
| 1 | M3202C-BA | LG | 32" LCD monitor, 1366 x 768 | \$764.71 | 0 | \$764.71 | 0 |
| 1 | MWR6394B | Chief | Flat Panel Swing Arm Wall Mount | \$301.09 | 0 | \$301.09 | 0 |
| 1 | YUMA WARD | | | \$0.00 | 0 | \$0.00 | 0 |
| 3 | FIXED CAMERAS | OFE | CAMERA WITH MOUNT ZOOM LENS RELAY CONTROLL | \$0.00 | 0 | \$0.00 | 0 |
| 1 | MB-3 | Crown | Ceiling Microphone | \$130.76 | 0 | \$130.76 | 0 |
| 2 | Control 26C | JBL | 6" Ceiling Mounting Loudspeakers | \$105.46 | 0 | \$210.92 | 0 |
| 1 | M3202C-BA | LG | 32" LCD monitor, 1366 x 768 | \$764.71 | 0 | \$764.71 | 0 |
| 1 | MWR6394B | Chief | Flat Panel Swing Arm Wall Mount | \$301.09 | 0 | \$301.09 | 0 |
| 1 | CUSTOM | COVID | WALL PLATE - 1/8 STEREO ADD 1 RCA FOR PILLOW SPK | \$28.24 | 0 | \$28.24 | 0 |
| 1 | W1200-CA-P-A | COVID | WALL PLATE - COMPUTER | \$21.93 | 0 | \$21.93 | 0 |
| 1 | FG5794-01WH | AMX | MET 6N WHITE | \$152.94 | 0 | \$152.94 | 0 |
| 1 | MATERIALS FOR YUMA INSTALL | CCS | Connectors, Infrastructure Hangers, Labels, Consumables | \$1,000.00 | 0 | \$1,000.00 | 0 |
| 1000 | CVA 3200 18 BULK | COVID | 18-2 | \$0.13 | 0 | \$129.41 | 0 |
| 1000 | COV 3100 95F BULK | COVID | RG | \$0.53 | 0 | \$527.06 | 0 |
| 1000 | CVD 3800 BULK | COVID | VGA | \$1.00 | 0 | \$1,000.00 | 0 |
| 1000 | CAT 3800 5E BULK | COVID | CAT5 | \$0.19 | 0 | \$187.06 | 0 |
| 1 | 250 Control Room | | | \$0.00 | 0 | \$0.00 | 0 |
| 1 | VS-3232VXL | Kramer | 32X32 COMPOSITE VIDEO W/BAL STEREO AUDIO | \$4,202.35 | 0 | \$4,202.35 | 0 |
| 1 | 3232V5SR | KRAMER | 32X32 RBBHV MATRIX W BAL STEREO AUDIO | \$22,863.53 | 0 | \$22,863.53 | 0 |
| 1 | ERK-1825 | Middle Atlantic | RACK 18U | \$383.82 | 0 | \$383.82 | 0 |
| 1 | DM1624 | Lectrosonics | 16X24 Audio Matrix / DSP | \$3,370.59 | 0 | \$3,370.59 | 0 |
| 4 | TP-123 | Kramer | XGA/Audio/Data Transmitter | \$242.35 | 0 | \$969.41 | 0 |
| 4 | TP-124 | Kramer | XGA/Audio/Data Receiver | \$242.35 | 0 | \$969.41 | 0 |
| 1 | 113545 | TANDBERG | 3000 MXP CODEC ONLY | \$10,629.41 | 0 | \$10,629.41 | 0 |
| 1 | TUCSON ROOM 117 | | | \$0.00 | 0 | \$0.00 | 0 |
| 1 | FG2105-06 | AMX | NI-4100 Central Control Processor | \$2,058.82 | 0 | \$2,058.82 | 0 |
| 1 | FG2258-01K | AMX | NXT-CV7 7" Interactive Desktop Touch Panel | \$2,235.29 | 0 | \$2,235.29 | 0 |
| 1 | FG423-41 | AMX | PSN6.5 Power Supply | \$270.59 | 0 | \$270.59 | 0 |
| 1 | FG515 | AMX | AC-RK 1RU RACK MOUNTING KIT | \$47.06 | 0 | \$47.06 | 0 |
| 1 | W1200-CA-P-A | COVID | WALL PLATE - COMPUTER | \$21.93 | 0 | \$21.93 | 0 |
| 2 | W1220-CA-S-A | COVID | WALL PLATE - 2 XLR | \$20.49 | 0 | \$40.99 | 0 |
| 1 | RSH4A2S LG RC897T | Middle Atlantic | Custom Rack Shelves for LG RC897T | \$101.42 | 0 | \$101.42 | 0 |
| 1 | RC897T | LG | DVD / VCR / PLAYER / RECORDER | \$270.59 | 0 | \$270.59 | 0 |
| 1 | 999-5100-000 | Vaddio | Quick Connect-4 Connects Power, Video and Control to Cameras | \$528.24 | 0 | \$528.24 | 0 |
| 4 | 535-2000-206 | Vaddio | Suspended Ceiling PTZ Camera Mount | \$70.59 | 0 | \$282.35 | 0 |
| 4 | 999-2001-070 | Vaddio | EVI-D70 PTZ | \$1,052.94 | 0 | \$4,211.76 | 0 |
| 6 | MB-3 | Crown | Ceiling Microphone | \$130.76 | 0 | \$784.59 | 0 |

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| Qty. | Product Number | Manufacture/Vendor | Description | Sale Price | Extended Labor | Extended Sale Price | Unit Labor |
|---|-------------------------|--------------------|---|------------|----------------|---------------------|------------|
| 8 | Control 26CT | JBL | 6" Ceiling Mounting Loudspeakers | \$118.80 | 0 | \$950.40 | 0 |
| 1 | TOA | OFE | POWER AMP | \$0.00 | 0 | \$0.00 | 0 |
| 1 | DM1612 | Lectrosonics | 16X12 Audio Matrix / DSP | \$2,747.06 | 0 | \$2,747.06 | 0 |
| 2 | SHURE | OFE | WIRELESS MICS | \$0.00 | 0 | \$0.00 | 0 |
| 2 | TY-42TM6B | PANASONIC | VIDIO INPUT MODULE | \$135.29 | 0 | \$270.59 | 0 |
| 2 | TH58PH10UKA | PANASONIC | 58" PLASMA | \$2,300.00 | 0 | \$4,600.00 | 0 |
| 2 | PCM2053 | Chief | Flat Panel Ceiling Mount with Angled Column | \$280.98 | 0 | \$561.95 | 0 |
| 1 | V11H299020 | EPSON | G5000 4000 LUMEN 2 YR WARR | \$2,292.94 | 0 | \$2,292.94 | 0 |
| 1 | RPA-024 | Chief | PROJECTOR MOUNT | \$133.45 | 0 | \$133.45 | 0 |
| 1 | CMS-440 | Chief | CEILING PAN | \$77.12 | 0 | \$77.12 | 0 |
| 1 | 40596 | DALITE | 6X8 SENIOR ELECTROL ELECTRIC SCREEN | \$1,337.65 | 0 | \$1,337.65 | 0 |
| 1 | CUSTOM TEACHING STATION | EURODESIGN | QUOTE NUMBER 20098054 | \$1,379.41 | 0 | \$1,379.41 | 0 |
| 1 | delivery and install | EURODESIGN | QUOTE NUMBER 20098054 | \$100.00 | 0 | \$100.00 | 0 |
| 250 | CVA 3200 18 BULK | COVID | 18-2 | \$0.13 | 0 | \$32.35 | 0 |
| 2000 | COV 3100 95F BULK | COVID | RG | \$0.53 | 0 | \$1,054.12 | 0 |
| 500 | CVD 3800 BULK | COVID | VGA | \$1.00 | 0 | \$500.00 | 0 |
| 2000 | CAT 3800 5E BULK | COVID | CAT5 | \$0.19 | 0 | \$374.12 | 0 |
| This quote is valid for 90 days from date of quote. Acceptance after 90 days may result in minor cost adjustments for some items listed in this quote | | | | | | | |

Hardware **\$113,083.58**
Freight **\$0.00**

| | | | | |
|----------------------------------|-----|---------------------------------|----------|-------------|
| 120.00 Programming | CCS | Applications Programming | \$100.00 | \$12,000.00 |
| 0.00 Engineering | CCS | System Engineering | \$90.00 | \$0.00 |
| 4.00 In-service Training | CCS | In-service Training | \$90.00 | \$360.00 |
| 20.00 Drafting and Documentation | CCS | Drafting and Documentation | \$90.00 | \$1,800.00 |
| 195.00 Installation | CCS | Installation | \$80.00 | \$15,600.00 |
| 18.00 Project Management | CCS | Project Management | \$80.00 | \$1,440.00 |
| 20.00 Travel | CCS | Travel to/from out of town jobs | \$90.00 | \$1,800.00 |
| 10.00 Per diem | CCS | Per night out of town jobs | \$45.00 | \$450.00 |

Salesperson: *SL*
Designer: *MGA*

System Total **\$146,533.58**
Estimated Tax **\$7,714.99**
Priority Support **\$0.00**
Grand Total **\$154,248.57**

| <u>Customer Acceptance</u> | |
|------------------------------|---|
| <u>Confidential Proposal</u> | This proposal is confidential. Any use of this proposal for solicitation of bids from others is strictly prohibited and may result in consulting fees being charged |
| Print Name | Date |

Customer Name:
Date: 11-Sep-09
Quote Number:
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|------|----------------|--------------------|-------------|------------|----------------|---------------------|------------|