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Outcomes and Impacts:  
The Successes of  
AHECs and HETCs

# Outcomes and Impacts: The Successes of AHECs and HETCs

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## Title VII Health Professions Training Program Is Integral to the Nation's Health

Nationally, health statistics demonstrate that communities with a shortage of health professionals have poorer health outcomes than those with adequate numbers of physicians, nurses, dentists, and other health workers. High chronic disease rates cripple the entire nation, reducing productivity, taxing resources, and increasing stress on families and society. Many of these shortage areas are in very rural or inner city locales where residents are often poor and frequently people of color. It is in these distressed communities that Area Health Education Centers (AHECs) and Health Education and Training Centers (HETCs) have demonstrated the value of linking universities to underserved areas.

I was pleased to author, along with my colleague Representative Charlie Norwood (R-GA), a letter encouraging members of the House of Representatives to increase funding for Labor, Health and Human Services' Title VII health professionals training to approximately \$299,552,000. We recruited 189 of our colleagues to join us in this request. These are the *only* federal programs which teach providers in interdisciplinary settings to respond to the needs of special and underserved populations, as well as increase the minority representation in the healthcare workforce. At a time of serious shortages, restoring this funding will enable these programs to continue to improve the distribution, quality, and diversity of the health professions workforce.

In my own state of Colorado, the 30-year-old AHEC system has a community/academic partnership involving the University of Colorado at Denver and Health Sciences Center (UCDHSC) with its 5 health schools (Medicine, Dentistry, Nursing, Pharmacy, and Graduate) and five community-based centers, each serving a designated region of the state. Four of the AHECs are rural; the fifth AHEC is predominantly urban. This collaboration has generated numerous linkages between academic resources and local health care facilities and providers, assuring that a variety of educational and support services are available throughout Colorado. This sort of



*Congresswoman Diana DeGette is the Democratic Chief Deputy Whip. She represents the first district in Colorado.*

partnership is integral to both training students and supporting underserved communities.

Health issues are important to me. As co-chair of the Congressional Diabetes Caucus, sponsor of the Stem Cell Research Enhancement Act, and a member of the House Energy and Commerce Committee, with jurisdiction over healthcare, I have strongly advocated for improvements in our healthcare system throughout my tenure in Congress. Title VII is an important tool in the U.S. health improvement plan.

The president's ambitious program for expanding the Community Health Centers, the nation's health care safety net, will not succeed without appropriately trained professionals to staff those centers. We must have a comprehensive strategy for recruiting, training, maintaining, and inspiring a broad range of health professionals to work in underserved communities. AHECs and HETCs fill this need, and I will continue to do all I can to further these goals.

# Documenting AHEC/HETC Outcomes

*Ken Oakley, PhD, FACHE, and Sally Henry, MA, RN, FHCE*

Are AHECs and HETCs making a difference? Evaluation is sometimes elusive; often time consuming, and can be expensive. Yet as AHECs and HETCs all know, it is also essential to our work, to our commitment to become better, more efficient, and more effective in what we do. Not only must we evaluate for ourselves and those we serve, we must evaluate to demonstrate to those who support us that we are indeed most worthy investments.



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In this issue of the *NAO Bulletin*, the reader will find articles relating to evaluation and results. You will find articles addressing "process evaluation," descriptions of what we do and why we do it. You will also find articles addressing "outcome evaluation," the quantifiable results that our activities produce. And you will find articles discussing "impact evaluation" which address long-term change and issues resolution. Most of these articles speak to at least two forms of evaluation: process and outcome. Others, those narratives overviewing programs with a long and well-established history (see Heather Anderson's excellent history of the Health Education and Training Center program), address all three. In any case, all articles tell stories of tangible responses.



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AHECs and HETCs are making a difference all across the county in numerous, diverse, and creative ways. It starts with the local community and it ends with the local community. What is needed to address health career awareness, access to care, workforce diversity, and the maldistribution of caregivers in intercity New York or the rural plains of West Texas may or may not be the same. What is the same, however, is the reality and comfort of knowing that there is a local AHEC or HETC nearby ready to assist – able to assess and address local issues and concerns, designing initiatives however they need be designed to get the job done.

NAO's Committee on Research and Evaluation (CORE) has contributed two national summary articles for this edition. The first, authored by Dr. Terry Zollinger, summarizes 2005 findings drawn from the comprehensive data tables submitted annually to the federal government. "AHECs and HETCs Made a Difference 2005: A Report by the NAO CORE Committee" seeks to demonstrate in objective quantifiable terms that AHECs and HETCs are meeting mission, that they are measurably impacting upon health workforce disparities and health care access issues. The second article, "The National AHEC Organization Logic Model Project" authored by Dr. Kelley Withy (et al.), overviews a multi-year nationwide effort seeking to identify and promote best practice in select AHEC/HETC activities. Utilizing a modified logic model strategy, the authors have canvassed (and continue to canvass) the nation to determine what programs and activities are commonly occurring and how these programs and activities match up to an extensive literature search of proven performance (effectiveness in achieving intended outcome/impact). In addition, the Centerfold of this issue provides a comprehensive and unique summary of this information.

An impressive array of thematic articles portraying AHEC and HETC outcomes from programs and centers across the country are also contained herein. They are arranged in three broad focus areas: "Supporting Practices," "Developing New Health Careers," and "Growing Our Own." Each of these articles documents a unique AHEC/HETC contribution to improving the health and health workforce of underserved communities.

The "Supporting Practices" section includes an array of AHEC initiatives that exemplify the diversity of AHEC programming:

## *Documenting AHEC/HETC Outcomes*

continuing education for remote school nurses coping with limited resources, severe winters, and a mountain range in New Hampshire bundling and administering multiple state and federal debt-relief initiatives for rural South Carolina providers and comprehensive on-line reference services for isolated providers far from North Carolina's university libraries. These articles look at *retention* of valuable providers—the often-neglected partner to recruitment activities.

The “Growing Our Own” section highlights the importance of investing in local youth. Repeatedly, studies have demonstrated that providers who have lived in rural or underserved communities are more apt to select and remain in such practices than those less familiar with local populations and mores. Health career recruitment programs require a major investment in both time and support activities—the health profession pipeline is long and demanding, especially for those who are first-generation college-goers. Florida, Georgia, Maryland, New Mexico, New York, Texas, and Wisconsin have not only developed interesting and relevant programming for future health workers, they have established systems to track their students over the years it takes to licensing and certification.

Often poorly educated immigrant populations from developing countries require a generation or two before significant numbers can commit to the 4-12 years of post-high school preparation required for health

professionals. One way immigrant cultures progress is through so-called “ladder” programs that move candidates from entry-level certificate programs through community colleges and on to baccalaureate and graduate health professions schools. The “Developing New Health Careers” section describes two emerging entry-level professions that form the ladder's lower rung. Bob Alpino and Jim Hastings provide the background for these important new careers – medical interpreting and community health workers. Arkansas and Virginia articles chronicle how AHECs and HETCs have been instrumental in recruiting first- and second-generation U.S. residents into carefully designed entry-level jobs, most notably ones designed to support the new residents themselves. AHECs and HETCs have developed culturally appropriate training programs using sound educational methodology and tested “best practices.”

Finally, there are articles, a photo essay, and state-specific “highlights” of AHEC responses to the disastrous hurricanes of 2005 dispersed throughout this issue of the *Bulletin*. These timely stories vividly illustrate how quickly and effectively such a community-academic partnership can respond in times of turmoil.

This is truly a special edition of the *Bulletin* – one that makes the AHEC/HETC case in both humanistic and measurably objective terms. We hope you are as impressed with it as we are!

### **Arkansas responds to hurricane relief efforts**

AHECs across the state provided aid to Hurricane Katrina evacuees who came to Arkansas. At the AHECs, teams of physicians, nurses and other medical professionals provided care for evacuees in their clinics, or during visits to local shelters. In addition, the AHEC employees joined others across the state and nation by making financial donations as well as providing food and other items needed by the evacuees.

# AHECs and HETCs Made a Difference: A Report by the NAO Committee on Research and Evaluation (CORE) Committee



*Terrell W. Zollinger, Dr.PH*

*Terrell W. Zollinger, Dr.PH, is the Professor of the Department of Family Medicine, Indiana University School of Medicine, Indianapolis, IN.*

Area Health Education Centers (AHECs) and Health Education Training Centers (HETCs) are designed to develop a vast network of health professional awareness, recruitment, training, retention, and continuing education activities in their states to help fill the gap in unmet health care needs for underserved populations. Consequently, their activities include efforts to recruit young people, particularly minorities and disadvantaged white youth, into health professions training programs, connect students currently in health professions training programs to underserved communities and populations, and help provide practitioners with information to translate research into practice.

In the 2005 fiscal year (ending August 31, 2005) there were 51 AHEC programs in 46 states, operating a total of 216 centers. In addition, there were 13 HETC programs. The programs and centers vary in program emphasis, amount of resources and length of operation, which leads to a wide range of values for the accomplishments that are not readily reconcilable for summary. What follows herein, however, is the NAO Committee On Research & Evaluation's (CORE's) earnest attempt to capture and recount, as best we can, much (but certainly not all) of what has occurred

*(Continued on page 5)*

## Health Education and Training Center Programs



*Heather Karr Anderson, MPH*

*Heather Karr Anderson, MPH, is the Associate Director of the California HETC Program, Fresno, CA.*

The Health Education and Training Center (HETC) Program began in 1988 with HR bill 4983 sponsored by the 100<sup>th</sup> Congress with the first full funding cycle distributed in 1990. The purpose of the program was to provide special support for communities and populations suffering from acute, persistent health professions shortages. The Title VII Public Health Service language was amended in 1992 and had two categories of activities. The first was to respond to needs along the U.S./Mexico border and the second was to provide for projects in underserved areas such as inner cities, frontier areas and Appalachia.

As early as 1987, national AHEC leaders recognized the need to increase the number of Hispanics entering the health professions. The areas of Arizona, California, New Mexico and Texas at the U.S./Mexico Border were already struggling with language and cultural barriers presented by increased migration from Mexico and Latin America. Problems identified were inadequate access to care by the Hispanic population, inferior health status of Hispanics; underrepresentation of Hispanics in the health professions; health professions schools, in residency programs, in health sciences faculty; and inadequate pools of well-qualified Hispanics at the point of entry to professional schools.<sup>1</sup>

*(Continued on page 7)*

## AHECs and HETCs Made a Difference in 2005

within our AHECs and HETCs over the past year.

### Connecting students to careers

Over 57,000 high school students across the United States completed health career or academic enhancement programs of at least 20 hours in duration conducted by AHECs and HETCs in FY 2005, averaging over one thousand high school students for each AHEC and HETC program. These health careers awareness activities were highly successful in targeting racial and ethnic minorities and disadvantaged white students. Of the 57,323 participating high school students, over one half belonged to a racial or ethnic minority group while another one fifth of the participating students were classified as disadvantaged white students. Over 305,000 students ranging from kindergarten through college were introduced to health careers through programs delivered by or sponsored by AHECs and HETCs. About one half of the students were kindergarten to 8<sup>th</sup> grade students, about four in ten were 9<sup>th</sup> to 12<sup>th</sup> grade students, and less than five percent were college students.

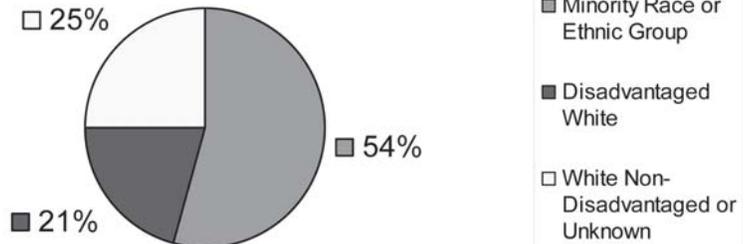
### Connecting professionals to communities

The AHECs and HETCs supported health professional training in almost 25,000 community-based sites during FY 2005. In excess of one third of these sites were in designated health professions shortage areas and underserved areas; over 850 training sites were Community Health Centers. Almost 19,000 community preceptors, the majority of whom were physicians, participated in mentoring and training activities to students in community sites supported by AHECs and HETCs.

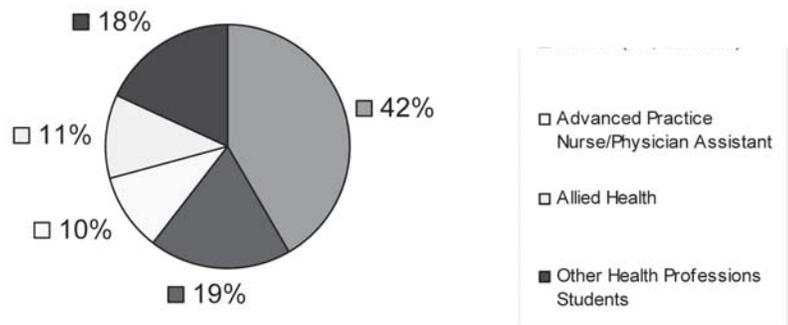
Over 47,000 health professions students received training in medically underserved areas as part of the AHEC and HETC activities. Four in ten of these students were medical students or residents; over one-fourth were nurses in basic or advanced training. The rest were in allied health programs and other health professional training programs.

The AHEC and HETC programs typically participated in the training of about 2,500 students each. All together, over 121,000 students received training to some degree through AHEC or HETC sponsored programs. Of these, almost 16% were in primary care disciplines, over 60% were in other health professions that support primary care, and 20% were in allied health or other training programs.

### Connecting Students to Health Careers



### Health Professions Student Community Base



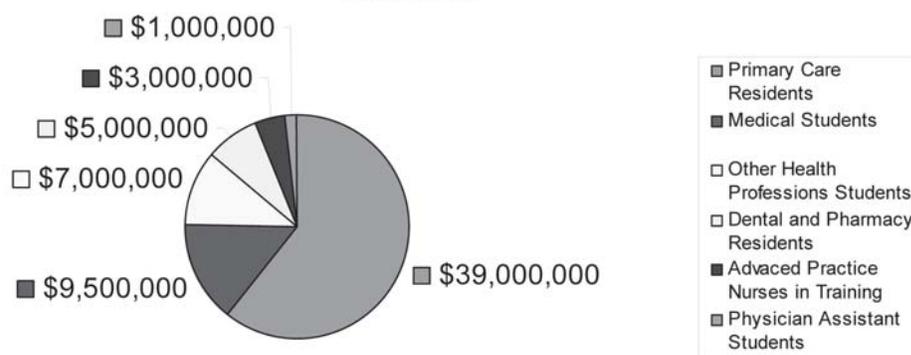
## *AHECs and HETCs Made a Difference in 2005*

### Connecting communities to better health

More than 339,000 health professionals in the United States received continuing education in FY 2005 through the efforts of the AHEC and HETC programs. These continuing education programs were designed to improve the health care providers' ability to assist their patients improve their health status. Nearly one in five of the continuing education participants worked in underserved sites and one fourth of the participants were known to be physicians. One fifth of the continuing education participants were known to be nurses. AHECs and HETCs provided over 9,600 separate continuing education offerings and approximately 21,000 hours of continuing education instruction for well over 1 million total participant-hours (contact hours).

During their AHEC and HETC sponsored training programs, many of the health professional students provided health care to patients or provided other support to health care providers and agencies. During FY 2005, the value of their services was estimated to be over \$64 million dollars. The greatest value was contributed by the primary care residents (estimated to be about \$39 million) followed by the medical students (about \$9.5 million). It was estimated that dental and pharmacy residents contributed approximately \$7 million and other health professions students contributed another \$5 million. Advanced practice nurses in training provided services estimated to be worth \$3 million.

### Estimating the Added Value Contributed by Trainees



As can be readily seen from the above statistics, AHEC and HETC programs and centers from across the United States have been very active over the past year. Yet what lies behind these numbers? What value do they represent? What differences do such highly varied programs make in the lives of today's and tomorrow's health care professionals? AHECs and HETCs are clearly making a difference in **“connecting students to careers, professionals to communities, and communities to better health.”**

#### Notes about the methods used for this report:

This report summarizes data that most AHEC and HETC programs reported to the Health Resources and Services Administration, Bureau of Health Professions, on their Uniform Progress Report (UPR) and the Consolidated Performance Management System (CPMS) forms, due at the beginning of February 2006 for activities performed during the period September 1, 2004 to August 31, 2005. All of the NAO member programs (49 AHEC programs and 13 HETC programs) were encouraged to contribute their datasets to NAO for this report and most responded (86%; 55/64). However, since not all programs responded, the numbers reported here are an underestimate of the total activity and value of AHEC and HETC programs in the United States. Since those who did not respond might have a significantly different level of activity compared to those who did respond, no projections were made for all programs based on the ones that contributed data.

The approach used to estimate the added value contributed by trainees is attributed to Debbie Hawkins, Assistant Director of the Florida AHEC Program office. For this report, Ms. Hawkins' method to calculate the added value was modified with input from CORE members and others.

(Continued from page 4)

## Health Education and Training Center Programs

HR Bill 4983 was introduced by Congressman Brooks of Texas with support from California, Arizona, and New Mexico to focus on the areas greatly impacted by immigration along the U.S./Mexico border. The subcommittee on the Health and Environment chaired by Congressman Waxman of California

integrated the HETC authority into the AHEC section of the PHS Act. The new program was established within the AHEC program because the programs are consonant with each other. In the 100<sup>th</sup> Congress' eyes it made sense for the program to be administered by the same unit and they agreed that many applicants were likely to be AHECs.<sup>2</sup>

The AHEC program had gained support since its inception in 1972 for its distinctive organizational model and for its well-documented achievements in improving access to care in many areas of the country. The AHEC model stresses the partnership between medical schools and community-based agencies. AHECs also had a list of federal requirements which offered a comprehensive approach to health professions training but allowed for community needs to be met. These attributes were and still are strengths of the AHEC program. It was the success of the AHECs that encouraged Congress to look at the

The HETCs were deemed to be different in several important respects; they had fewer federal requirements allowing the programs increased flexibility in addressing persistent healthcare needs in areas lacking resources. There was a greater emphasis on public health education, no duration for federal funding and there were less organizational and administrative requirements allowing funds to flow more freely to communities in need.

AHEC concept as a way of addressing a growing crisis in health care for Hispanic Americans along the U.S./Mexico border.<sup>3</sup>

From its humble beginnings, the HETC program has changed the attitudes of health professions training programs to now include community health workers as

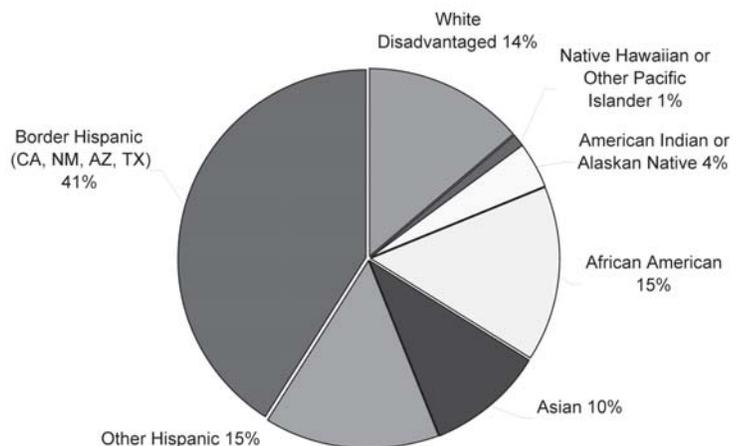
a viable resource/method of working with/reaching disenfranchised communities. HETCs have institutionalized cultural competency programs; medical Spanish programs and health careers pipeline programs reaching out to young Hispanics preparing them for college and careers in a health profession.

The Border HETCs train health professionals biculturally, teaching students how to work with Mexican communities where health care issues do not respect the boundary but commute back and forth across the border with the migrant population. HETCs promote a public health and population health focus, conducting programs geared to train health professionals and students to evaluate popula-



Family medicine residents from UC San Diego participate in cross-border training experience in Baja, California.

### Primary Population Served by Current HETC Programs



## Health Education and Training Center Programs

tions at risk and respond to local health problems with effective culturally sensitive strategies.

HETC programs have existed in the border states of Arizona, California, Florida,<sup>4</sup> New Mexico, and Texas since 1990. Non-border programs began in Alabama, Arkansas, Georgia, and Kentucky in 1990 and remain in 2006. States that received HETC funding during the life of the program but are not currently funded include Kansas, Oregon, Massachusetts, South Carolina, Washington, and West Virginia. Other non-border states that are currently funded are Wisconsin, Alaska, and Hawaii.

From the beginning, HETC advocates realized that a national program needed to move beyond the U.S./Mexico border to include other areas in our country with severe, unmet, healthcare needs in order to retain federal funding. The distinction of the border states was fairly simple from the non-border states. If the state shared a border with Mexico it was a border state. Florida was included as a border state due to the large Cuban population.

Non-border states can be any state with problems related to isolation from health care such as geography, language barriers, or poverty. These areas were legislatively identified as Appalachia, the Mississippi Delta, frontier areas, areas with Pacific Basin immigrants, agricultural areas with migrant farmworkers, and severely depressed rural or inner city areas of the country.

HETC programming has impacted a variety of access issues in many areas of the country. However, it seems only right that the success be measured by what programming will be left beyond the years of federal funding. This section will focus on programs funded since 1990 to show the long-term investment necessary to change the health status of severely underserved communities.

### Border HETCs

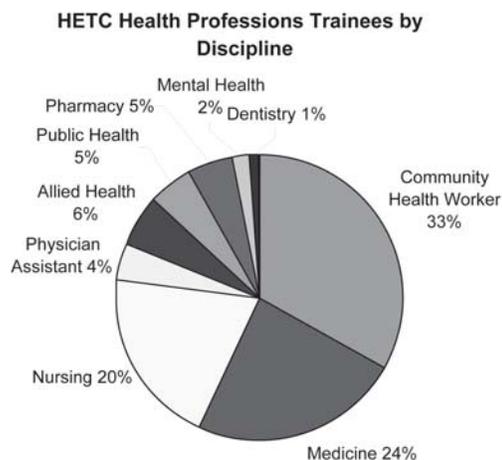
The Border focus of the HETCs has provided much of the identity to the program. The U.S./Mexico border is unlike any other area in the

U.S. Residents living along the U.S./Mexico border experience greater rates of communicable illnesses such as tuberculosis and vaccine preventable illnesses than other groups of people across the nation. High rates of hepatitis and other intestinal infections, due to a lack of clean water and proper sewage disposal, are also a concern. Along the U.S./Mexico border the states have some of the highest rates of poverty, unemployment, and uninsured people in the nation.<sup>5</sup>

The Border HETCs have been given steady federal support since 1990 allowing them to develop an infrastructure of quality programming. Two primary areas of focus have been health professions training in binational, cross-cultural issues and the training and utilization of community health workers (CHWs) in severely underserved communities. Each border HETC has developed a pipeline of training opportunities for Hispanic students (high school through licensing) and continuing education programs for health professionals working along the U.S./Mexico border. HETCs are also known for training CHWs to provide health education information in their community as well as training health professionals on the appropriate uses of CHWs. Promoting the use of CHWs also positioned the HETCs as a vehicle to advocate for the drafting of a national definition for CHW as a discipline.

### Non-border programs

The Arkansas HETC was established to address the needs of the rural minority



## *Health Education and Training Center Programs*

populations of African Americans and Hispanics whose unmet healthcare needs are severe. As a group they are older, sicker, and less educated and their health status is worse than other comparable groups. The service area of the HETC covers nine counties; six are in eastern Arkansas on the Delta and three are in southwest Arkansas, where there is a large concentration of Hispanic farm workers. The Arkansas HETC has:

- Established support groups for individuals affected by Sickle Cell Disease. The HETC developed easy-to-understand brochures and taught the population strategies for coping with the disease.
- Developed a health career pipeline for students beginning with HealthSmART, a one-week summer program for youth ages 8-12; junior high students attend a core week summer enrichment program and high school students attend M\*A\*S\*H. The pipeline continues by following Delta HETC students attending the UAMS and 1<sup>st</sup> and 2<sup>nd</sup> year medical students come back to the area for preceptorships with area physicians.

Georgia sought HETC funding to address extreme poverty and lack of adequate medical services for residents in the southwest and northwest parts of the state and the Atlanta area. Community organization and development for health promotion is at the heart of this HETC program. Georgia's HETC organizes community coalitions that work to improve community health and may go on to address other issues such as housing, education, or poverty.

Initially, the Georgia HETC instituted clinical rotations for nursing students with a migrant population in Southwest Georgia. During a two-week period in July 1994, 384 community members received care and educational services. This program has grown into the Migrant Health Project, an interdisciplinary and interinstitutional program. Nurse Practitioner students from Albany State University, Dental Hygiene students from Darton College, and Physician Assistant students from Emory University are some of the early benefactors of this program. In June



*Arkansas HETC offers support and referral services for community members with Sickle Cell Anemia.*

2004, 2,730 adults and children received physicals and primary health care from 141 students representing 8 different colleges or universities and 15 different health professions programs. Interpreters in Creole and Spanish were also utilized. The students gain perspective and an appreciation of the special strategies needed to reduce health disparities in extremely underserved communities.

The Kentucky HETC program began by targeting seven chronically underserved communities. These communities were experiencing higher rates of diabetes, cancer, and teenage pregnancy than the rest of the state and nation. The target populations for HETC programming are eastern Appalachian Kentucky, the traditionally underserved African American community, and the rapidly exploding Hispanic population.

Kentucky focused its interventions and learning opportunities in the area of school health education. Kentucky does not mandate health education in school curricula. In 1990, the HETC met with school nurses, teachers, administrators, and community resource centers to shape the student health programs for the state. In the past 15 years the school health programming has grown in breadth in subject matter and territory. Programs developed at the request of the participating schools include the following:

- The tooth fairy and dental hygiene program reached 40,000 pre-school and elementary school-aged children.

## Health Education and Training Center Programs

- Dental sealants and free oral health exams were given to over 3,100 school children.
- Tobacco cessation and avoidance information reached over 17,000 students.
- Nutrition classes reached 13,000 students
- 12,000 attended HIV/AIDS information classes.
- 44,000 high school students were targeted for an alcohol abuse/driving under the influence program just before prom night.

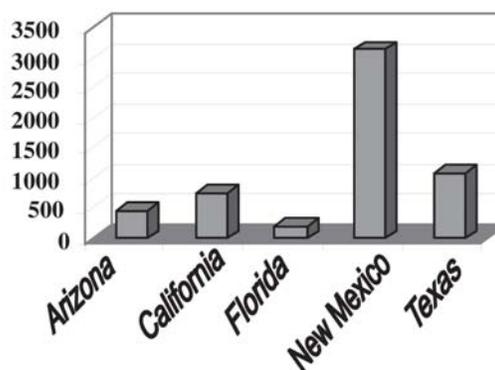
### Establishing a Pipeline of Opportunity

Along the 600-mile U.S./Mexico border, HETCs assure that professional student training focuses on a number of binational border health problems including environmental health, communicable disease, occupational health, primary care, and substance abuse. Multidisciplinary groups of health professions students including community health workers, medical students, nursing students, nurse practitioner students, public health students, and allied health students engage in training activities in bicultural settings at the U.S./Mexico border with an emphasis on public health issues. Border HETC programs also emphasize education and training opportunities in border communities to improve cross-border provider relationships reducing the incidences of uncompensated care and increasing the number of binational referrals; provide continuing education programs that encourage binational provider participation and interchange, and provide support for binational providers for updates on public health issues.

Community health worker training programs expand and extend health promotion and preventive services and link “curing” with “caring” throughout the border HETC region. The HETC is the only federal program mandated to develop CHW programs. CHW programs specifically address health disparities among medically underserved population groups, work to improve the health literacy of these populations and the diversity and cultural competence of the healthcare workforce. HETCs

have trained CHWs in the border regions of Yuma, Arizona; El Paso, Texas; San Diego, California; and Las Cruces, New Mexico. Many of these CHWs live in Mexico and work in the U.S. and are truly binational. CHWs farther from the border, but with a significant binational population living in the area, have been trained in California’s San Joaquin Valley, the Rio Grande Valley of Texas, and throughout the state of Florida. In FY 2004-05 HETC-sponsored CHWs provided over 56,000 community members with information about their health.

### CHWs Trained by Border HETCs



HETCs have been instrumental in putting together the annual CHW conference. The next one will be held in San Diego in August 2006. In addition, the HETC program has provided national leadership in promoting and evaluating CHW programs. Most recently this information was shared at the HETC annual meeting in Madison, Wisconsin, where CHW representatives from 20 different states were in attendance.

There was hardly enough funding for the HETCs to fund an entire program, but instead, like the AHEC, HETCs partnered with similar agencies and gave programs their heart. The funding influenced programs to focus on severe unmet health needs in the poorest areas of our country and trained the workforce how to reach out to the newly immigrating Hispanic population crossing the border. How many Hispanic students would be in medical school without the HETC? How many children would not have received immunizations along the U.S./

## *Health Education and Training Center Programs*

Mexico border? How many African Americans with Sickle Cell Anemia would be without a support group available to them in the Mississippi Delta? How many communities would still be suffering from lack of empowerment? This is our legacy.

*Author's Note: For FY 2007, the HETCs are currently authorized but not appropriated. This article cannot do justice to the fine work that has gone on in each HETC program area. It is my hope that the HETCs will find funding through other means in order to continue inspiring young impoverished youth into the health professions in order to return to their community.*



*Community members participate in a promotora-led nutrition and exercise program developed by AHEC graduate Raquel Soto, MD, at the Los Angeles Harbor HETC.*

### **References**

- <sup>1</sup> California AHEC minutes of the Hispanic Medical Education committee April 4, 1988.
- <sup>2</sup> Report 100-892 House of Representatives Health Professions Reauthorization Act of 1988.
- <sup>3</sup> Fowkes, V., Fowkes, W., Walters, E., Gamel, N., "Factors Influencing the Development of Area Health Education Centers with Texas-Mexico Border Populations," *Academic Medicine* 1990.
- <sup>4</sup> January 3, 1992 Amendment to the PHS Act added Florida in the border area of the HETC legislation (section 746 f).
- <sup>5</sup>U.S. DHHS, HRSA Bureau of Primary Health Care website [www.bphc.hrsa.gov/bphc/borderhealth](http://www.bphc.hrsa.gov/bphc/borderhealth).

# A Comprehensive Approach to Recruitment and Retention of Rural Healthcare Providers

*Becky Seignious and Ragan DuBose-Morris, MA*

*By combining and coordinating available resources, the South Carolina AHEC System has measurably reduced the shortage of healthcare professionals within rural areas of the state. Given its success in primary care, the initiative is now expanding into oral health care.*

The South Carolina AHEC plays a direct role in the recruitment and retention of health professionals who are employed at community-based clinical practices in South Carolina. Through initiatives like the Rural Physician Program, the National Health Services Corps' State Loan Repayment Program, and the Locum Tenens Program, the South Carolina AHEC provides a number of ways to support physicians and advanced-level practitioners who establish practices in rural and underserved areas.

The South Carolina AHEC Rural Physician Program State Incentive Grants were established by the South Carolina Legislature in 1989 to provide incentives for physicians and advanced-level practitioners to practice in the rural and underserved areas of South Carolina. Grants are available to providers who commit to primary care practice in Health Professionals Shortage Areas (HPSA) for four years. Each year, between 15 and 20 physicians are selected to take part in the program.

Since 1989, over 300 providers have been placed in rural and underserved communities across South Carolina for a cumulative total of over 1,200 years of service. Statistics have shown that retention rates are greatly enhanced if these professionals remain in a site for four or more years. This is true in South Carolina's program, which has a retention rate of 85% for those in private practice.

The South Carolina AHEC also administers the National Health Services Corps' State Loan Repayment Program which is funded by the U.S. Department of Health and Human Services' Health Resources and Services Administration. This program provides grants to physicians and advanced-level practitioners to

help them repay their educational loans in exchange for a commitment to practice in a not-for-profit setting in a designated HPSA in South Carolina. Eligible practitioners include primary care physicians, nurse midwives, nurse practitioners, and physician assistants who contract to practice for a maximum of four years.

These practitioners are significant contributors to the healthcare delivery system in South Carolina. Practice incentives grants help them establish practices in underserved areas of the state. In these settings, they share in the personal and professional rewards that come from practicing in a small town.

For example, for over 20 years Sam Stone, MD, from Chester, South Carolina, has played a major role in his community. As one of the first South Carolina AHEC Rural Physician Program State Incentive Grant recipients in 1991, Dr. Stone was able to return to his hometown of Chester where he continues to practice to this day. The City of Chester, is situated in the northern Piedmont section of South Carolina. Dr. Stone is a mentor for medical students and

## City of Chester, South Carolina

|                                |          |
|--------------------------------|----------|
| <b>Population (2000)</b>       | 6,476    |
| <b>Median Household Income</b> | \$27,518 |
| <b>Races</b>                   |          |
| <b>Black</b>                   | 62.3%    |
| <b>White Non-Hispanic</b>      | 36.1%    |
| <b>Hispanic</b>                | 0.8%     |

actively participates in the Medical University of South Carolina College of Medicine's Family Medicine/Rural Clerkship. He also participates in the Family Health Foundation's Student Preceptorship Program when he allows students to shadow him during the summer months.



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## *A Comprehensive Approach to Recruitment and Retention of Rural Health Care Providers*

Beyond his work as a family medicine physician, Dr. Stone utilizes his talents by lending a hand at the local free clinic, traveling as a team doctor for Clemson University, and speaking to students about what it means to be a family physician in a rural setting. Dr. Stone is an excellent example of a State Incentive Grant recipient being able to return to a rural community, provide exemplary patient care, and help educate and encourage the next generation of providers to consider establishing their practice in a rural community.

Another AHEC-administered initiative that has added to the recruitment and retention effort for South Carolina has been the South Carolina Locum Tenens Program. Established in 1994, the Locum Tenens Program is a collaborative effort involving the South Carolina AHEC Family Medicine Residency Training Programs, the University of South Carolina-School of Medicine, the South Carolina Department of Health and Human Services, and the South Carolina Office of Rural Health.

The program is designed to increase the retention of family practitioners and pediatricians in rural South Carolina by providing them an opportunity to take a break for vacations and family time, continuing medical education, or for other reasons that might necessitate an absence from the practice. Without this support, practitioners would be hard pressed to find affordable coverage for their practices and patients would potentially be without essential primary care services. In fiscal year 2005, over 1,400 hours of Locum Tenens service was provided across South Carolina.

Dr. Ralph Riley is a physician who has benefited from the Locum Tenens program. He is a family practitioner in Saluda, South Carolina, a designated HPSA. He has been in practice for 20 years and averages 22,000 patient visits a year. Dr. Riley says the Locum Tenens Program through the South Carolina AHEC has been a valuable asset to him. He states, "I have been able to attend meetings and enjoy vacation time with my family because of this program, and I will certainly continue to use these services in the future."

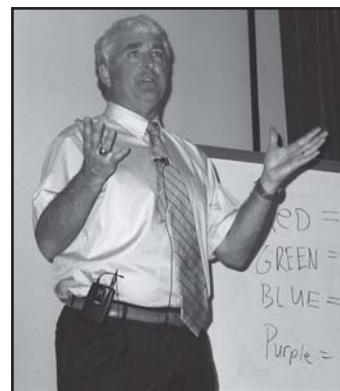
Mr. David Hayden, the Executive Director of Low Country Health Care System, a not-for-profit community health center located in Fairfax, also recognizes how important backup coverage is in rural areas. Low Country Health Care System

operates three primary care centers in Allendale and Barnwell counties. They provide primary care to any and all patients regardless of their ability to pay. Between the three offices, Low Country Health sees approximately 200 patients per day. The high volume of patients dependent on the System means that being understaffed is not an option.

Due to provider shortages and turnover in recent years, Low Country Health Care System has turned to the South Carolina AHEC Locum Tenens Program to assist with its physician needs. The service has been invaluable to Low Country and the patients it serves. According to Mr. Hayden, "The ability to staff the offices with quality physicians, affordably, has been a key factor in the financial and overall success of Low Country Health Care System."

The newest initiative for the South Carolina AHEC is just getting underway. In July 2005, the Rural Dentist Program was established by the South Carolina Legislature. The program, modeled after the Rural Physician Program, assists with the repayment of educational loans for dentists who practice in Health Professional Shortage Areas or who serve as full-time faculty at the Medical University of South Carolina-College of Dental Medicine. The expectation is that during their commitment period, these dentists will establish viable practices or academic careers at the College of Dental Medicine, become involved in their respective communities, and remain after the funding period is over. Priority for this program is given to those demonstrating financial need and expressing intent to remain in the underserved area or in a much-needed faculty position at the MUSC College of Dental Medicine. Four rural dentists and four faculty members were selected in the first round of loan repayment grants.

These ongoing efforts of the South Carolina AHEC system are a fundamental part of the organization's mission and vision: to be a leader in building a collaborative educational system designed to optimize the health of South Carolinians by achieving excellence in health care through recruitment, retention, and education.



*Dr. Sam Stone addresses medical students at his alma mater, the Medical University of South Carolina, as part of National Primary Care Week activities.*

# The Rural Medical Education Program: A 17-Year Community/Academic Partnership

*Peter G. Beatty, PhD, and Kelly Weaver, MS-IV*

*As a new AHEC system, New York has been able to expand and enhance a well-regarded rural outreach program. SUNY's Rural Medical Education Program has been able to increase its community-based clinical sites and strengthen its preceptor development program with AHEC support.*

For the past eight years the New York State AHEC System and individual New York AHECs have played an essential role in maintaining a program designed to provide students an experience in rural communities and to help these communities recruit and retain physicians.

Despite numerous strategies developed over the past several decades to address the uneven distribution of physicians between urban and rural areas of the United States, the disparity persists. Large metropolitan areas contain almost four times as many physicians involved in direct patient care as do rural areas.<sup>1</sup> As a direct result, 40% of the population of rural America live in areas designated as Primary Care Shortage Areas.<sup>1</sup>

To address this challenge, in 1989 SUNY Upstate Medical University developed the Rural Medical Education Program (RMED) with the dual goals of providing an excellent educational experience for students in rural settings and helping rural communities recruit and retain physicians. Since the establishment of the New York AHEC program, the AHECs have worked with the successful RMED program to support a part of the program's administration, and provide workshops for faculty development twice annually for preceptors.

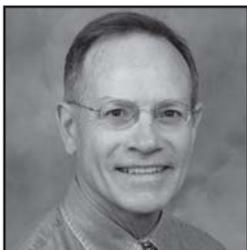
At the end of 2005 a cohort of 12 medical students completed the 17<sup>th</sup> year of the RMED program, bringing to 155 the total number of students who have experienced this extended training experience in a rural community. Throughout this period the program has succeeded in large part due to the strength of the relationships that have

developed between the rural communities and the university.

The RMED program offers a different approach to medical education by decentralizing a significant portion of clinical training for participating students. The traditional approach employed at most medical schools has students complete virtually all of their clinical experiences in the medical center, which is usually a large tertiary care teaching hospital. RMED, on the other hand, enables students to complete up to 40 percent of their clinical training in community-based settings and small rural hospitals.

The RMED program is based on the premise that rural training experiences during medical school are critical to attracting students to small communities, as it is during these formative years that students make important career decisions and establish attitudes toward rural practice. During the latter part of their third year of medical school students selected for the RMED program are placed in rural communities, usually one student per community, full-time for nine consecutive months to work and learn under the supervision of board certified family physicians and other specialists. Full academic credit is earned for this experience. Students who elect this program live in the rural community, returning to the university at the end of the program to complete their studies for the MD degree. RMED communities are located anywhere from 30 to 150 miles from the university.

At the rural training site the student is assigned to a local family physician who provides much of the teaching and clinical supervision. These volunteer preceptors, or clinical instructors, are



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*Kelly Weaver, MS-IV, RMED SUNY, is a first-year resident in Family Medicine at St. Joseph's Hospital Health Center in Syracuse, NY.*

## *The Rural Medical Education Program*

seasoned medical educators who have unpaid faculty appointments at the medical school. Many of our preceptors have been associated with the RMED program since its inception in their community. A majority of the students' time is spent in family medicine, but they all also have required training in general surgery, anesthesiology, orthopedic surgery, otorhinolaryngology (ear, nose, and throat), urology, geriatrics, ophthalmology, and radiology. A hallmark of the program is that students spend a majority of every week with their family medicine preceptor and the remainder with another specialist. This allows students to maintain a sense of continuity with their patients in the family medicine setting.

In addition to clinical training, students visit community agencies and conduct community projects. Students also participate in monthly teaching visits by faculty from the medical school, during which they present clinical cases and demonstrate their growing skill in diagnosis and management of medical problems.

Support for RMED students provided by local communities is an essential part of the success of the program. Host communities agree to provide support for the students in the form of housing, reimbursement for required travel, access to textbooks in the host hospital medical library, and computer access to the Internet. Internet access enables the student to connect to the university's campus network for library services, distance learning activities, and email contact with faculty, fellow students, and administrative services. In some cases student support is provided directly by the host hospital, while in others it is provided by the local Rural Health Network or AHEC.

As the New York State AHEC program has become established, the RMED program has established stronger ties with local communities through AHEC sponsorship of pipeline programs that help introduce the program at the high school level. Recruitment has continued through AHEC sponsored receptions for regional college students at which the RMED program is described as an attractive alternative, especially for students originating in rural areas of the state. All applicants to the College of Medicine who are invited for interviews are provided with literature about the RMED

program and AHEC staff is actively involved in the interview process.

A comprehensive evaluation of the RMED program was completed in 2004 and published in the August 2005 issue of *Academic Medicine*<sup>2</sup>. This evaluation documented that:

- RMED program completers were four times as likely to enter practice in a rural area following completion of residency training compared to their fellow Upstate Medical University alumni.
- A large majority of RMED program completers reported that the program was important in helping them choose a practice location.
- Host hospital administrators in participating rural communities reported their belief that the program has helped them recruit new physicians, retain existing staff, improve quality of care, and improve morale of both the medical and nursing staffs. They also felt that the program was good public relations for the hospital and helped them improve the medical library.
- RMED students scored significantly better than their peers at Upstate Medical University on Step 2 of the US Medical Licensing Exam.

### **SUNY Upstate Medical University Department of Family Medicine Specialty Choice of RMED Students**

1989-2005 n=155

| <b>Specialty</b>      | <b>No. Students</b> | <b>Percent</b> |
|-----------------------|---------------------|----------------|
| Family Medicine       | 91                  | 59             |
| Internal Medicine     | 13                  | 8              |
| Pediatrics            | 12                  | 8              |
| Medicine/Pediatrics   | 7                   | 5              |
| Emergency Medicine    | 6                   | 4              |
| Psychiatry            | 5                   | 3              |
| Diagnostic Radiology  | 4                   | 3              |
| Surgery               | 4                   | 3              |
| Obstetrics/Gynecology | 4                   | 3              |
| Anesthesiology        | 2                   | <2             |
| Orthopedic Surgery    | 2                   | <2             |
| Urology               | 2                   | <2             |
| Ophthalmology         | 1                   | <1             |
| Neurology             | 1                   | <1             |
| Radiation Oncology    | 1                   | <1             |

## *The Rural Medical Education Program*

Forty-two program completers are practicing in upstate New York. Of these, 24 are in rural communities. Fourteen of our former students are now serving as preceptors for the RMED program

In the end, it is the quality of student educational experiences that matter most. We ask all of our students to write an essay at the end of their RMED time reflecting on their stay in the rural community and considering how the program has affected their development as a clinician. The following essay, which typifies RMED student experiences, was submitted by Kelly Weaver, a fourth-year student from Boonville who worked primarily with Dr. Bob Ostrander at his office in Rushville and with the medical staff of F. F. Thompson Hospital in Canandaigua.

*A hallmark of the program is that students spend a majority of every week with their family medicine preceptor and the remainder with another specialist. This allows students to maintain a sense of continuity with their patients in the family medicine setting.*

The decision to participate in RMED is not necessarily the easiest. What are you going to do in a small town where you don't know anyone else? Do you really want to move again? What if my preceptor and I don't get along? How is it going to feel when you are the only one to answer all of the typical medical student questions?

The RMED experience includes things like the head of the radiology department stopping you in the hall to tell you about an interesting case, the hospital medical staff coordinator telling you that it has been a joy to have you at the hospital, being present while one of your attendings gives birth, going to the office holiday party, being called

at home by outside attendings to help with patient care, delivering babies (more than just touching them after they have been delivered), intubating patients, first assisting in the OR, and being treated like a person instead of a medical student.

My preceptor was an excellent teacher. In the beginning, teaching was on the level of what was the history and your exam findings. Then, what disease is this and what is the differential? What pathogens cause this disease, and what is the treatment of choice? What other antibiotics might you use? What dose and dosing interval? Then, when I finally got that, it was learning the EMR (electronic medical record) and billing. A day did not go by in the last nine months that I was not taught something that I did not know. I also learned a lot about patient-physician relationships and what it's like to be the physician in a town of less than 1,000 people.

My preceptor was an admirable person who is greatly respected by his coworkers and patients (at times I think they had him confused with God). He made me laugh, respected me, and taught me more than I have learned in any other part of medical school. I can't imagine having worked with anyone else and learning so much. He has definitely earned my respect. When you are the only one to answer questions, you will feel like you should know what you are talking about and that you better be prepared. Then, towards the end, you realize you do know what you are talking about (at least some of the time- which was more than before)! If I had the choice to do this experience again, I definitely would. The positives definitely outweigh the negatives. And in my last week here, I am sad to be leaving but I think that in order to be sad about finishing something, you must have had a great time doing it.

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<sup>1</sup> Hart LG, Salsberg E, Phillips DM, Lishner DM. Rural health care providers in the United States. *J Rural Health* 2002;18(Suppl):211-32.

<sup>2</sup> Smucny, J, Beatty, P, Grant, W, Dennison, T and Wolff, LT. An evaluation of the Rural Medical Education Program of the State University of New York Upstate Medical University, 1990-2003. *Academic Medicine*, 80 (8): 733-738, August, 2005.

# The AHEC Digital Library After Five Years

*Diana McDuffee, MLS; Rachel Wilfert, MD, MPH; and MaryBeth Schell, MLS*

*This article illustrates the effective use of information technology in remote areas of North Carolina. The AHEC Digital Library is a dynamic, self-sustaining collection of 1,800 journals, over 100 books, and more than 50 databases.*

The North Carolina AHEC Digital Library (ADL) is a unique digital system that supports health professionals in the state of North Carolina by providing a single, customized, web-based interface into key health information resources and services. Currently entering its sixth year of operation, the ADL supports the delivery of quality, evidence-based health care across North Carolina and ensures that even in rural underserved areas of the state health providers have access to the current information resources necessary to provide quality care.

The AHEC Digital Library was initially developed in 2000 with the support of a three-year grant from The Duke Endowment. This funding supported staffing and development of the first version of the ADL portal including a user interface and database structure as well as a unique authentication system to enable the assignment of resource collections to a diversely affiliated membership. This funding also enabled the purchase of initial collections of core clinical resources including MEDLINE and CINAHL databases and key journal and book titles. An additional two years of renewed grant funding, along with increased support from the NC AHEC program and a growing subscription membership have allowed the ADL to expand to its current state of 1,800 journals, 104 books, and 57 databases.

Statewide partnership is an important factor in developing and maintaining the AHEC Digital Library and is a key to its current success. The ADL is housed in the resource-rich and supportive academic environment of the University of North Carolina at Chapel Hill. Maintenance of the ADL portal is managed by dedicated staff at the UNC Health Sciences Library while membership management takes place at the nine regional

AHEC libraries across North Carolina. The nine AHEC library directors serve as the steering committee for selecting resources and offering cost-sharing options to participating hospitals. An advisory committee of key stakeholders meets periodically to give further feedback on resources and development. The library is supported financially by the NC AHEC Program and membership fees from hospitals and healthcare providers across the state. These membership fees cover the costs (now close to \$500,000 annually) for the extensive set of licensed resources included in the digital library. This network of individual and institutional members is enabling the digital library to transition from significant grant support to a more sustainable footing.

In 2005 the ADL had over 12,000 registered members. These members include AHEC faculty/staff who work in the nine regional AHEC offices; medical residents in AHEC-affiliated residency programs; community-based preceptors who supervise health professions students on temporary rotations; and community health professionals who have purchased annual memberships in the AHEC Digital Library. The community health professionals who hold memberships may be employees of one of the 24 community hospitals who hold "institutional memberships," participants in an AHEC continuing education course or special program, or individual health care professionals who obtain library services under contract with AHEC.

The ADL provides a user interface that was designed following careful usability and user feedback information. A customized view for individual members based on their affiliations, discipline group, or a specific health topic is provided. Through this customized ADL user interface, member health professionals using



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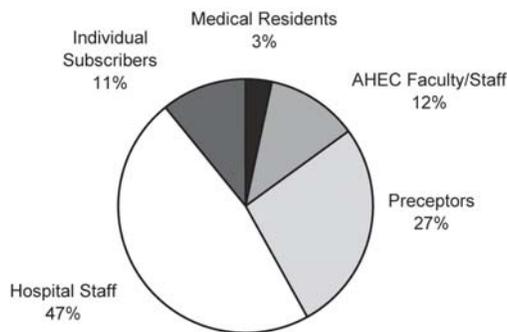


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## The AHEC Digital Library After Five Years

their individually selected login name and password can access ADL resources from any Internet-connected computer. The ADL's authentication system, using user profiles, provides links to the appropriate set of resources for each individual member. Some members, such as faculty, preceptors, and students receive access to university libraries while others receive special sets of resources purchased for a specific hospital or healthcare system.

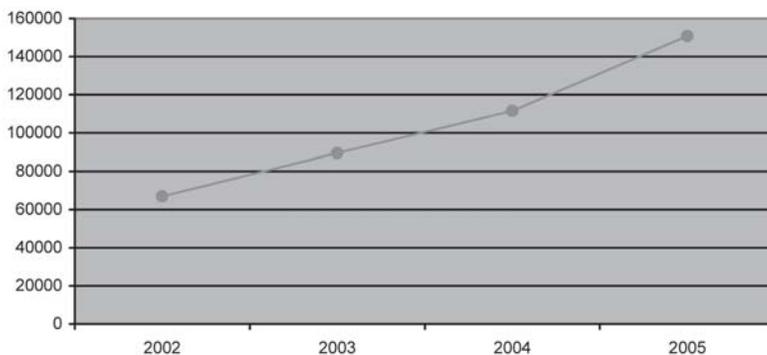
Chart 1: ADL Membership



*ADL membership by AHEC affiliation.*

Tracking use of specific resources was instituted with the newest version of the ADL that was launched a year ago. Being able to track usage of specific resources will assist in making future resource purchasing decisions.

Chart 2: Total ADL Sessions per Year 2002-05



*ADL usage patterns.*

Statistics on use of the ADL are gathered from system-maintained data on logins and patterns of use. Part of the increased usage of the ADL

can be attributed to an increasing membership. That is not the sole factor, however, because if new members were being added who did not make active use of the portal then the usage statistics would not increase. We feel that the increased usage over the past five years is attributable both to new active users and to increasing use among existing members. It suggests that over time, ADL members are incorporating use of these information resources into their regular routines.

We have been able to collect some data that show that the ADL is not only being used, but it is valued as an important tool for delivering care. In a survey of ADL members conducted in 2004 participants were asked to rate the value of the ADL. Seventeen percent of respondents ranked the ADL as the most valuable information resource they used. Another 50.1% of respondents stated that it was one of the most valuable information resources used and another 29.2% stated that it was a valuable resource. Only 3.8% of users stated that the ADL was of limited or no value. In discussing why they valued the ADL, more participants spoke of the value of its resources than anything else. Participants cited the variety of resources available and the fact that those resources are "evidence-based," "scientific," "accurate," "reliable," and "current" as reasons for valuing the ADL. Participants called the ADL an "amazing" resource, "all I could ask for," an "excellent tool," and a "fantastic resource for information."

Additional feedback from members speaks to the value of the ADL in a clinical setting. During usability testing for the new interface in early 2005, an AHEC faculty member in Charlotte, NC, told librarians that he had recently used the ADL to confirm which drug-resistant strain of tuberculosis a patient who had recently immigrated from West Africa was likely to have. He used the information he found on the ADL to guide empirical treatment until final identification could be carried out in the laboratory. The medical director of a small rural hospital in western North Carolina spoke about the ADL as follows: "It would be very expensive to buy individual subscriptions to all the same resources available through the digital library. Access to the AHEC Digital

## *The AHEC Digital Library After Five Years*

Library has helped our physicians improve the quality of care we provide to our patients.”

Another personal account about the value of the ADL came from the Carolinas MED-1 Mobile Hospital in Waveland, Mississippi, in the months after Hurricane Katrina in the fall of last year. According to physicians working in the mobile hospital, one of their most treasured tools was the AHEC Digital Library. The ADL was just as accessible from the desktop in Waveland as from their home base in North Carolina.

So why has the AHEC Digital Library become so successful? There are multiple reasons. First, and probably foremost, is the content. As cited above, ADL members highly value the resources they can access on the ADL. The second reason is the functionality of the digital library’s user interface. The ADL provides a user interface that was designed following careful usability and user feedback information. This interface is easy and intuitive to use and customized so that members can get to the specific information they need as quickly and as easily as possible. It has been one of the key lessons we’ve learned that the basis for all site development and resource selection must be user-based. Having professional database design is also extremely important.

Another factor that cannot be overstated is the role that AHEC librarians

play. Not only do they manage the membership aspect of the ADL but they also provide valuable information and training to busy health professionals at the health care provider’s time and place of need. With the support of a recent National Networks of Libraries of Medicine grant, we were able to measure the impact of librarian outreach/training visits in several community health centers. These particular community health centers, located in the central part of the state, often host medical, nursing, dental, and social work students. As preceptors for students, clinicians at the health centers are eligible for preceptor memberships in the ADL.

*Another factor that cannot be overstated is the role that AHEC librarians play.*

Using the tracking capabilities of the ADL, we were able to obtain baseline data on use of the ADL by the community health centers’ staff prior to a series of outreach visits focused on providing staff of training in the use of ADL resources. We continued to track usage for a period of time after the training sessions were delivered and we recorded a remarkable increase in the number of unique users and number of sessions logged.

While this was the clearest example of the impact of outreach visits on ADL usage, we documented similar usage growth for outreach visits to community hospitals, health fairs, schools, and other settings.

### **ADL use over 3 month time period at 7 community health centers**

|                                 |                 |                     |
|---------------------------------|-----------------|---------------------|
| <b>Prior to outreach visits</b> | <b>2 users</b>  | <b>15 sessions</b>  |
| <b>Post outreach visits</b>     | <b>17 users</b> | <b>157 sessions</b> |

All of these factors named above have contributed to the ADL’s success. At five years, we have accomplished the primary goal that led to development of the ADL, namely, that health professionals throughout North Carolina, regardless of their employment affiliations, can have access to core clinical care

resources that provide the best, evidence-based healthcare information. Through the AHEC Digital Library, hospitals and individual providers are able to leverage cost-effective purchase of a more extensive set of resources than would otherwise be possible. By providing core professional databases, full-text journals and books, the AHEC Digital Library supports the delivery of quality, evidence-based health care across North Carolina and ensures that even in rural underserved areas of the state health providers have access to the current information resources necessary to provide quality care.

# Keeping School Nurses Updated: Nursing Grand Rounds via Distance Learning

Laureen Loveland, MA

*The Vermont AHEC Program reaches out to offer nursing continuing education at 15 sites across the state. Five 1.5 hour training programs are conducted annually reaching over 300 school nurses.*

In a rural state known for its small schools, the Vermont AHEC Program and Vermont Department of Health identified a need more than six years ago for free local continuing education to enable school and public health nurses to stay current about issues they deal with daily.

School budgets allow little or no money for distant conferences or staff coverage for school nurses, yet these nurses need to be informed of current health trends that affect their students—ranging in age from kindergarten through the 12<sup>th</sup> grade. The need for low-cost, close-to-home continuing education has been met by Nursing Grand Rounds offered at 15 Vermont Interactive Television (VIT is a non-profit statewide videoconferencing organization) sites around the state. Vermont Health Department nurses from the district offices serve as site facilitators, a key component in the success of this undertaking.

The program is free of charge to participants and awards contact hours through the Vermont State Nurses Association. During the 2004–2005 school year, 317 nurses attended Nursing Grand Rounds (five sessions per school year are held), with an average attendance of 65 per session. During the current school year, with four sessions completed, the average attendance has risen to 110. Those who are unable to attend a session can request a free videotape of the program or borrow one from an AHEC Center or local Vermont Department of Health office.

Ideas for future topics are gleaned from each post-session survey completed by attendees. In May, the entire list of ideas is sent in a survey to participants, who indicate their top choices. The choices with the greatest number of votes

determine the sessions for the next school year. A committee comprised of representatives from the AHEC Program Office, the University of Vermont College of Nursing and Health Sciences, the Vermont Department of Health, and the school nurse who facilitates the 1.5 hour program at a VIT site, meet to determine what speakers from the academic medical community are subject experts for the titles chosen, and what the best focus should be for the audience.

One of the committee members is Kathleen Keleher, CNM, director of Nursing and Maternal Child Health Specialist at the Vermont Department of Health. “Certainly, it would be impossible for school nurses and nurses in the Vermont Health Department district offices to have this kind of access to academic-based experts without Nursing Grand Rounds,” she remarks.

As a result of information learned at Nursing Grand Rounds, nurses indicated they have implemented new guidelines at their school or workplace (29 respondents); or have developed and presented a special program there (31). A number of nurses have taken additional courses or training as prompted by Nursing Grand Rounds. These include: Vermont Department of Education courses, a chemical dependence course, a state pilot program for asthma action plans, a course in drugs and children/teens, and Family to Family education, training on health/obesity issues and depression-related topics.

## Faithful Audience

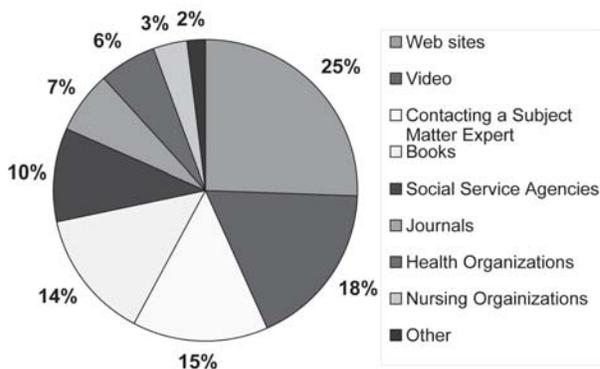
Of the nurses who responded to the survey, 177 reported they had attended at least one session during the past two years; since the first session



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## Keeping School Nurses Updated

**Attendee Use of Additional Resources**



171 respondents indicated they have used the additional resources provided at Nursing Grand Rounds.

was offered in 1999, 35 nurses indicated they have attended more than 10 sessions; 25 have attended between 7 and 10 sessions; and 52 have attended between 4 and 8 sessions.

### Cost of the Program

The program's greatest cost is in staff time, followed by printing and mailing flyers to promote each session, cost of the survey, the fees for the Vermont Interactive Television site rental, and charges to award contact hours, all of which are borne by the University of Vermont AHEC Program Office. The staff time commitment is a key component in making this program run smoothly and ensuring its growth. A program coordinator maintains a database of school nurses and oversees the coordination of all the administrative details. Sizeable resources are allocated for the staff necessary to plan, implement, and evaluate the program. The cost per session in September 2006 will be \$2,759, for an annual total of \$14,065. Over the past two years, speakers have received a stipend through a grant from the Vermont Health Foundation of Fletcher Allen Health Care, the state's academic medical center; in 2006-07, that cost will be absorbed by the Vermont AHEC.

The Vermont Interactive Television staff has been accommodating with schedule needs, and most impressive of all are the key indicators of the program's overall success, including the willingness of first-rate experts

to make time to speak with school nurses around the state – in remote areas as well as more urban settings. With a six-year track record, a considerable list of excellent topics yet to be covered, and one session in the fall of 2005 attracting 156 registrants, the Nursing Grand Rounds for School Nurses program is an effective outreach of continuing education using telehealth technology.

### Quantifying the Success

Nurses describe the application of Nursing Grand Rounds to their nursing practice:

- "The Worried Child" program focused on childhood depression and suggested a support dialog for speaking with worried children. Participants indicated that it was useful information for recognizing signs of worried children, advocating for them, and fostering better collaboration between nurse and teacher. In addition, a question about worrying was added to the initial interview/assessment of students.
- Participants in "Headaches in Children" reported that as a result of the session, they use a headache inventory for reporting headaches; encourage children to drink more water; follow up with children who use analgesic medications for their headaches; and have a better understanding of migraines and their symptoms, allowing for early intervention and treatment.
- In "Communicating with Adults," nurses repeatedly stated that the techniques they learned for using positive strengths in assessment of adolescents helped them to improve their interviewing techniques and to be more specific and direct in their assessments.
- Many nurses said the sessions that covered obesity and nutrition helped them with their school's nutrition committees.
- A program on "Drugs, Brains, and Teens" gave nurses the objective information they need to teach the dangers of substance abuse.

# AHECs/HETCs and the Development of New Health Careers\*

Robert J. Alpino, MLA

*For over 30 years, AHEC/HETC programs have contributed to the development of new health careers. This article focuses specifically on the role that AHEC/HETCs have played in the development and growth of the medical interpreter as a health career.*

The introduction to the latest edition (2002) of the publication "Health Careers: 300 Ways to Put Your Talent to Work in the Health Field," by the National Health Council in Washington, DC, trumpets the fact that the new edition contains information on 30 more health careers than the previous edition. Since the founding of the AHEC program in the early 1970s, there have been—at a minimum—dozens of new health careers created in response to many different factors. One factor contributing to the development of new health careers has been the technological explosion in health care. Another factor has been the need for existing health careers to respond to inadequate health care access. A third factor contributing to the development of new health careers has been an increasingly detailed knowledge base in the basic sciences, such as genetics, and in the applied sciences of disease prevention and health promotion.

Over the course of their 30-plus years, the AHEC/HETC programs have also contributed to the development of many new health careers. One example, highlighted in the Spring 2004 edition of the *NAO Bulletin*, was the development of the Geriatric Technician career by the Northeast Oklahoma AHEC. In addition, many AHEC/HETC programs have been instrumental in the development of the Community Health Worker health career, also known as Lay Health Educators, Community Health Advisors/Advocates, or *Promotores de Salud* or other such terms. This article, however, focuses specifically on the role that

AHEC/HETCs have played in the development of the Medical Interpreter health career.

## Medical Interpreters\*\*

"Lay" medical interpreters, meaning any bilingual person, including a patient's own children, have long been used in the health care setting to convey information between health care providers and patients who do not speak the same language. The need for trained, professional medical interpreters has increased in the last several decades, however, as the U.S. has become a more multi-cultural society and as immigration to the U.S. has increased, especially from countries other than those in western Europe.

The key distinction between "lay" medical interpreters and "professional" medical interpreters is one of training and competence.

Key competence issues raised by the DHHS guidance include "knowledge in both languages of any specialized terms or concepts peculiar to the recipient's program or activity and of any particularized vocabulary and phraseology used by the LEP person" as well as the ability to "understand and follow confidentiality and impartiality rules."

In December 2000, the Office of Minority Health issued the National Standards for Culturally and Linguistically Appropriate Services in Health Care (CLAS Standards) which "outlined the basic activities required for



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\*In this article the term 'health career' is used as a generic term that includes the term 'health profession' to increase the readability of the article.

\*\*In this article the term "medical interpreter" is used as a generic term that includes the term "health care interpreter," and other terminology sometimes used for this type of health career.

## *AHECs/HETCs and the Development of New Health Careers*

the provision of culturally and linguistically competent health care in the United States.”

Yet, as is often the case with emerging issues in health careers education, AHECs/HETCs were well ahead of the curve in anticipating the problems in providing health care to LEP persons and began developing curricula and providing training for medical interpreters.

The Central Massachusetts AHEC Center, based in Worcester, Massachusetts, began their Language Link Program in 1991. Several other AHECs contracted with the Language Link Program for consultation in developing their own programs. One of these was the Northern Virginia AHEC Center, which developed its Community Health Interpreter Service in July 1998.

Other AHECs have eschewed the fee-for-service approach in favor of other types of medical interpreter initiatives that are more concerned with providing resources and infrastructure support to assist others in providing medical interpreter services that have better suited the needs of their particular communities.

The Wisconsin Statewide AHEC Program, for example, developed the Wisconsin Coalition for Linguistic Access to Health Care in September 2003 in response to a request from the Wisconsin Department of Health and Family Services to address health disparities and improve the health outcomes for limited English proficient minorities.

A collaboration of Oregon AHEC Centers received a \$60,000 special incentives workforce grant in 2005 to develop a curriculum for medical interpreter training. The goal is to develop a statewide cadre of medical interpreter trainers to respond to the 200% increase in the Spanish-speaking population of the state between 1990 and 2000.

The Central Nebraska AHEC Center was selected in 2003 as one of 10 demonstration sites nationwide for a Robert Wood Johnson Foundation project called *Hablamos Juntos* to develop affordable language service models to improve the quality of health care for Latinos. In addition, the Central Nebraska AHEC has tested the Language and Interpreter Skills Assessment (L&ISA) tool developed by the national *Hablamos Juntos* program.

Key roles played by AHECs and HETCs include the development of extensive medical interpreter curricula to professionalize the field, and assisting in the field's transformation from one dominated by lay bilingual interpreters to extensively trained and “qualified” medical interpreters. In addition, AHEC and HETC personnel have been extensively involved in the development of national and state medical interpreter organizations and, through this activity, in the national movement to develop guidelines to certify medical interpreters that may ultimately lead to reimbursement for their services by third-party payers. The advent of reimbursement for medical interpreter services will help to increase the use of medical interpreters by health care providers and facilities and thereby improve access to health care services by limited English proficient populations – one of the core missions of AHEC and HETC.

Whatever language you speak, it is understood that AHECs and HETCs were pioneers in the development of the medical interpreter health career and continue to lead the field forward into the future. What new health career fields are AHECs/HETCs developing today? The pages of this edition of the *NAO Bulletin* can provide a clue...could AHEC Hurricane Relief Worker be a health career in your future?

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# Breaking Language and Cultural Barriers: Northern Virginia AHEC's Language Services Program

*Julie Suarez, MA*

*Challenged by rich cultural and language diversity around Washington, DC, the Northern Virginia AHEC offers an extensive array of interpreter services. By employing interpreters in 28 languages, conducting training for bilingual healthcare employees, and translating countless documents, the AHEC helps reduce linguistic barriers and better assures the provision of accurate and timely care.*

Northern Virginia AHEC is located in Washington, DC's southern suburbs. Home to some of the wealthiest, most populous, and fastest-growing counties in the nation, northern Virginia is an extremely diverse area that attracts populations from around the world. Along with the ethnic and cultural diversity that these populations bring to the region is a wide variety of languages and dialects. According to the 2000 Census, 24.5% of Fairfax County's residents were foreign born and 30% speak a language other than English at home, while 13% are Limited English Proficient (LEP). A lack of English proficiency creates many challenges. Services that native English speakers take for granted, like meeting with your child's teacher or making a doctor's appointment, can prove to be very nearly impossible for many who are unable to communicate effectively in English. Therefore, when NVAHEC was founded in

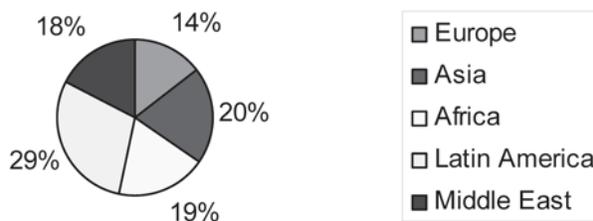
1996 to improve access to health care and human services in northern Virginia communities, the evidence was clear that the greatest need in the area was language services. For ten years, NVAHEC has improved the quality of health care in the Washington, DC, area by providing these services through an agency of interpreters and translators, as well as a training program for bilingual employees in the surrounding health care and social service communities.

## Interpreting Services

NVAHEC employs over 80 part-time interpreters in 28 languages in its "Metropolitan Language Services" division. Since 1998, NVAHEC has provided approximately 25,000 hours of interpreting services for almost 90 different agencies. The interpreters have all completed a 40-hour interpreter training course that prepares them with the skills, techniques, ethical

guidelines, and cultural information to handle any situation that may arise in an interpreting encounter. The goal of quality interpreting services is to provide a scenario in which the LEP patient receives the same service that a native English speaker would receive. The interpreter ensures that every

**Foreign-Born Population in Northern Virginia**



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## *Breaking Language and Cultural Barriers*

word spoken during an encounter is transmitted properly and that both parties understand each other.

NVAHEC clients include hospitals, health departments, clinics, and school systems, comprising a network of agencies that increasingly recognize the need for interpreting services in the healthcare setting.

### **Translation Services**

NVAHEC's translation service fulfills the client's need to have written documents converted from English to a variety of other languages. Translation assignments have ranged from consent forms, informational brochures, educational materials, and patient-rights documentation. NVAHEC assigns a team of native language speakers who work together to attain the most accurate and thorough translation possible, ensuring that the text remains both true to the original content and comprehensible to the reader. Since the translation program began in 2003, NVAHEC has translated hundreds of documents into over 20 languages for over 35 different agencies.

### **Interpreter Training**

NVAHEC also provides a 40-hour interpreter training program that teaches bilingual individuals how to become professional, ethical, and responsible interpreters. In addition to training the NVAHEC and individual community interpreters, the agency also conducts on-site trainings for health care and human service agencies. The training attracts people with a wide range of interpreting experience, from those who have long functioned as interpreters but have never been formally trained, to those who are new to the field. The course topics include interpreting skills and techniques, memory development, professional conduct, and cultural competence. The participants are

*Since 1998, NVAHEC has provided approximately 25,000 hours of interpreting services for 90 different agencies.*

not only taught proper methods and procedures for overcoming linguistic barriers, but are provided with techniques for reducing the cultural barrier present between the provider and

the client.

Many NVAHEC clients have previously relied on their bilingual staff members to act as interpreters while also performing their standard job responsibilities; however, most of them were not formally trained as interpreters. As hospitals and health departments increasingly recognize the need to use their staff as interpreters, they also recognize that the staff should be adequately prepared to handle an interpreting encounter both correctly and professionally. Upon the completion of the NVAHEC training program, agency staff members are fully prepared to serve the client's LEP populations. Since the training program began in 1998, NVAHEC has trained almost 1,000 students from over 30 organizations in 35 different languages. Furthermore, each potential trainee must pass a rigorous language proficiency test to ensure that he/she is bilingual. NVAHEC has conducted 1,500 proficiency tests since 1998, contributing to a reduction in healthcare disparities due to language barriers.

*NVAHEC has translated hundreds of documents in over 20 languages.*

NVAHEC receives numerous requests from interpreters to become aware of the standards and guidelines to become a "certified interpreter." Very few states have a standardized certification program for interpreters. Sadly, the state of Virginia does not yet have that designation either. Although "certified" interpreters do not exist for the state of Virginia in this sense, NVAHEC does provide a Certificate of Completion at

## Breaking Language and Cultural Barriers

the end of each training course, verifying that the student has passed a 40-hour course in medical interpreting. NVAHEC has a solid reputation for providing this service, and acts as the “certifying” agency for interpreters in the surrounding area.

*NVAHEC has trained almost 1,000 students from over 30 organizations in 35 different languages.*

the Spanish word “once,” which means eleven.

Stories such as these are priceless in that they invoke a sense of anger, frustration, and helplessness

that inspire NVAHEC to move forward with its mission.

NVAHEC students often educate the staff as much as the staff teaches them. Many times, potentially dangerous stories are shared with class participants to reinforce the importance of the interpreter’s role. Scenarios include:

- Children who have had to interpret for their mothers, telling them that they are dying of cancer.
- Women being accused of child abuse because the doctor did not understand that “cupping” is a type of traditional healing, rather than something harmful.
- Patients who go home and take eleven pills instead of one pill, once daily, confusing the English word “once” with

NVAHEC believes that all persons have the right to health care services, regardless of English language proficiency. Through its services and programs, NVAHEC will never cease until this goal becomes a reality. By recognizing and adapting to a very large gap in access issues for LEP populations, the NVAHEC adapted to the changing market and culture by developing new services, while also improving and expanding existing services. Approximately 35% of the NVAHEC budget comes from a marketing niche that the agency has consistently strengthened for the last ten years. The quality services of the NVAHEC are priced competitively with an overall focus on customer satisfaction. This equation: quality + pricing + customer satisfaction equals a strong “business” opportunity for the NVAHEC.

### Kentucky responds to hurricane relief efforts

The Northeast Kentucky AHEC was able to arrange clinical rotations closer to home for a Pikeville College School of Osteopathic Medicine student who was displaced as a result of Hurricane Katrina. Brad Gray, a fourth-year medical student, and his wife lost their home and most all of their belongings in Mississippi during Katrina’s wrath. The NE AHEC was able to quickly coordinate the remainder of his required clinical rotations back in Kentucky, near his hometown, so that he could stay with family until he and his wife are able to get back on their feet.

# The National AHEC Organization Logic Model Project

*Kelley Withy, MD; Charles Huntington, MPH, PA; Mary Wainwright, MS, RN; and Melissa Page, MPH*

*NAO's Committee on Research and Evaluation (CORE) describes the multi-year process and current status of utilizing logic model methodology to assess and evaluate overall program effectiveness in addressing the national mission.*

In 2003, the federal Office of Management and Budget (OMB) published an assessment of the effectiveness of the programs operated by the Department of Health and Human Services (DHHS), including HRSA's health professions training programs funded by Title VII of the U.S. Public Health Service. Based on the Program Assessment Rating Tool (PART), OMB determined that the health professions programs were ineffective and recommended their elimination (OMB, 2003). The PART assessment has been used to justify reducing or eliminating federal funding for many of the health professions programs.

However, in its detailed response to the PART assessment, the National AHEC Organization (NAO) pointed out that OMB not only lumped all of the diverse health professions programs together but also used evaluation measures not directly related to the program activities (NAO, 2003). The NAO's recommendations addressed the need to develop more specific and rigorous methods than those currently employed by HRSA for evaluating the effectiveness of AHECs. Specifically, NAO supported the use of logic models as the foundation for improving and assessing program effectiveness. Logic models, as the name suggests, are intended to logically link problems, strategies, and outcomes (Renger & Titcomb, 2002), such that by breaking down the AHEC program goal ("to improve the diversity, distribution and quality of the health professions workforce") into progressively more detailed causes or antecedent conditions, the specific conditions that AHECs work to change can be clearly identified, the programs by which AHECs strive to change these conditions can be

articulated, and a common set of measures of the effectiveness of these programs can be developed.

This article provides a brief description of the ongoing logic model work being performed by the NAO Committee on Research and Evaluation (CORE) and offers a plan for current and future use of logic models, including an invitation for readers to participate in the process as it progresses. (To get involved with this process, please contact the primary author, Kelley Withy, at [withyk@hawaii.rr.com](mailto:withyk@hawaii.rr.com).)

## Methods

In November 2005, the CORE surveyed the entire NAO membership, via the NAO listserv and by networking and word of mouth to solicit all known logic models or root cause analyses that had been developed by AHECs. Six states provided the logic models or root cause analyses that they had created: Alaska, Arizona, Hawaii, Indiana, Massachusetts, and Texas. The models developed by these states were reviewed for common themes and combined into one large model with all antecedent conditions included.

In early 2006, the members of the CORE and the participants at the 2006 NAO Spring Policy Days were asked to review the combined model and identify up to five antecedent conditions that their center or program actively works to address. The large logic model was then reduced to a single model that includes only the antecedent conditions that at least one-third of the respondents identified. Therefore, the antecedent conditions in the final model are a subset of all antecedent



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# The National AHEC Organization Logic Model Project

This article could not have been developed without the outstanding guidance and direction of Beth Landon and Ralph Renger, the literature review assistance of Sheila Walsh, David Pole and Mark Mengel, and the expert editorial guidance of Ken Oakley.

conditions and represent only those within the scope of current AHEC programming. The authors then identified a sample of AHEC activities addressing each condition and reviewed the existing literature for documentation of effectiveness of such activities. Finally, the authors developed sample

output (short term, formative) and outcome (long term, summative) measures of effectiveness of AHEC activities related to the antecedent in the final model.

## Results

Sixty-eight individuals from 45 programs or centers in 37 states provided feedback for the NAO data collection activity (88% of AHEC programs represented). Figure 1 displays the final logic model map developed from this process. The map is designed to be read from the right to the left, with the problem statement located in bold on the far right-hand side of the map. The colored boxes represent the three general antecedent conditions identified by the CORE as targeted for change within most AHEC programs. The boxes numbered 1 through 10 on the left-hand side of the map represent the antecedent conditions identified by at least one-third of NAO participants as conditions actively targeted for change within their AHEC area. These increasingly detailed antecedent conditions are linked to the problem statement with arrows in a logical fashion that are further examined in Table 1.

Table 1 displays the same 10 antecedent conditions (again numbered 1 through 10), with corresponding sample activities employed to effect change, selected literature citations supporting the effectiveness of the described

activities, sample output measures, and sample outcome evaluation methods. Full citations for the studies included in the table appear at the end of this article.

## Discussion

The model displayed in the centerfold represents a nationwide overview of the most common antecedent conditions addressed by AHECs in their efforts to increase the diversity, distribution, and quality of the health professions workforce. The literature review demonstrates the evidence-based nature of a sample of the activities undertaken by AHECs. The output and outcome measures represent a sample set developed by the authors primarily for the purpose of stimulating discussion within AHEC programs.

The AHEC logic model and its underlying research base are intended to assist in developing a programmatic vision and organizational clarity, both locally and nationally. The model establishes a framework for clearly defining and accurately assessing the AHEC programs. HETC and other Title VII programs may find the framework useful for evaluation of corollary activity as well.

The NAO CORE is presently designing a pilot test of the evaluation measures included in the table in a limited sample of AHEC programs and centers. A standard set of evaluation instruments will be finalized for the pilot test. If the pilot test is successful, the resulting evaluation measures will be offered to all AHECs. The use of a standard set of evaluation measures specifically related to the relevant antecedent conditions should provide definitive evidence of the effectiveness of AHECs in "improving the diversity, distribution, and quality of the health professions workforce."

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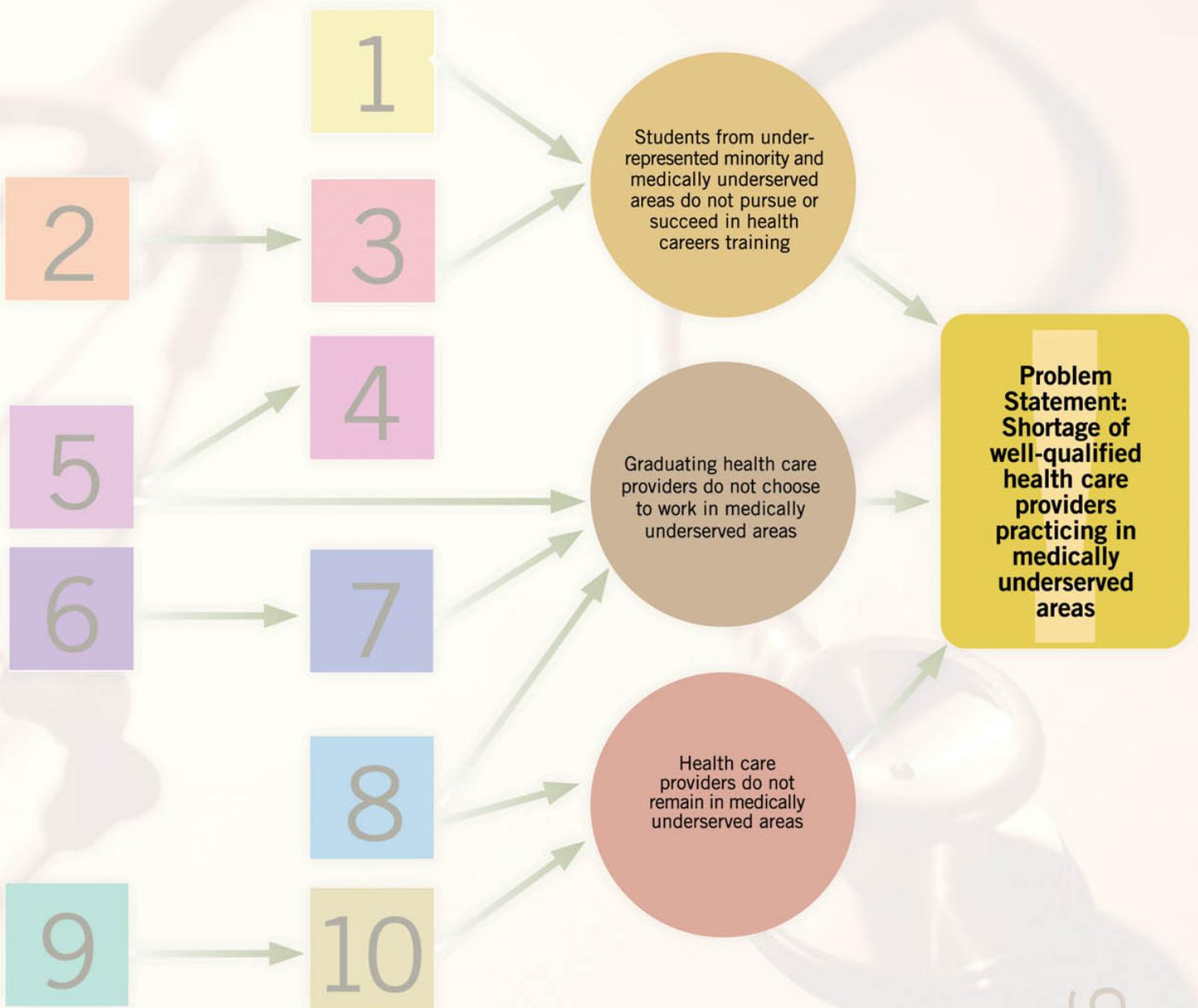
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# Antecedent Conditions Table

| Targeted condition (from Map)   | Sample AHEC Activity   | Literature support for activity effectiveness   | Selected supporting literature  | Sample output measures   | Sample outcome measures  |
|---|--|---|---|--|--|
| 1. Students from MUAs are academically disadvantaged, lack study skills and support | AHEC provides role models and mentors who guide and encourage students.<br>Academic strengthening programs.  | Increasing number of same-ethnicity role models and mentors increases success in school and interest in health careers. Shadowing experiences to explore health careers and ACT Prep classes increase admission to higher education. Successful pre-entry and health preparatory programs include counseling, problem solving, critical thinking and study skills development with academic training. | Santos, 2000; Crump, 2002; Nevarez, 2001 Blakely, 2003  | Number of AHEC student experiences with role model or mentor<br>Number of AHEC mentors/role models<br>Rating of AHEC mentoring experience<br>Number of students receiving academic support                 | Self rating of interest in and plan for health career before and after experience as measured by % change on Likert scale.<br>Change of grades before and after academic/test prep course.   |
| 2. Students from MUAs lack exposure to health careers                               | AHEC Provides job shadowing, health science clubs, and summer health career programs.  | Health clubs and summer health careers programs increase interest in health careers in minority youth in MUAs.  | Bumgarner, 2003; Gill, 1996 Elder, 1997; Ramsey, 2001 Magzoub, 2000   | In 2005, AHEC provided health careers experience of more than 20 hrs to 57,000 Students.<br># of students exposed to job shadowing.<br># of students in health clubs.<br># of students in summer programs, | Change in % of job shadow students able to identify a health care profession that matches his/her aptitude, interests, and skills.   |
| 3. URM Students and those from MUAs not aware of range of HCP opportunities         | Alert students, parents and counselors to the full range of health careers through counselor/teacher training, recruitment visits, family health fairs, field trips and information on resources available (financial and otherwise) | Increasing knowledge of school counselors, advisors, students and parents increases interest in health careers.   | Elder, 1997; Alexander, 2003 Weiler, 1997   | In 2005, 305,000 students participated in AHEC recruitment activities<br>Number of educational visits with counselors/advisors<br># of parents participating in activities                                 | % of students surveyed who are interested in health careers before and after recruitment visit.<br>Change in number of health careers that students able to name before and after recruitment visit.<br>Change in knowledge of teachers/ counselors after training.  |
| 4. Graduating HCPs prefer to work in areas similar to where they grew up            | AHECs recruit students from MUAs (as described above)  | Students who are from rural areas are more likely to practice in MUAs.  | Rabinowitz, 1999; Jones, 2000 Richards, 2005; Rabinowitz, 2000  | # of recruitment contacts with rural/underserved students (305,000/yr)<br># students trained in rural/underserved areas<br># rural and underserved training sites: 25,000 MUA sites                        | % of AHEC students practicing in rural/MUA areas compared to general provider population<br>% of students completing clinical rotation survey expressing an interest in serving in an MUA.   |
| 5. Inadequate or inaccurate information on MUA opportunities available              | AHEC provides accurate information on MUA opportunities  | Improving knowledge of support for providers practicing in rural/underserved areas, increases interest in rural/underserved practice.   | Modern Healthcare, 1998 Neill, 2002; Wolfenden, 1996 Baker, 2005  | # of students who participate in MUA rotations<br># of employment opportunities in MUAs publicized by AHECs<br>Change in assessment of benefits of MUA employment before and after AHEC intervention       | Ratings of desirability of MUA employment before and after MUA rotation<br>Interest in rural practice on graduate surveys of AHEC compared to non-AHEC students  |
| 6. Cost and logistics of being exposed to MUA sites is too high                     | AHEC provides funding and coordination for students and residents to train in MUAs   | Rural and remote training can improve recruitment to rural areas, however adequate financial support is necessary.  | Neill, 2002   | # of students AHEC supports to participate in MUA rotations  | Self assessment of whether student/resident would have performed rural rotation without AHEC support.<br>Assessment of community/hospital based clinical rotation coordinator as to whether the rotation would have occurred without AHEC support.   |
| 7. Students/graduates unaware/not exposed to MUA opportunities                      | AHEC increases the number of students who train in MUAs (clinical rotations and community based experiences).  | Rural/underserved training experiences increase likelihood of students choosing rural/underserved practice site and staying in underserved area.  | Boulger, 2000; Jones, 2000 Neill, 2002; Ramsey, 2001 Bacon, 2000; Rabinowitz, 1999 Gessert, 1989; Pathman, 1999 Eldin., 2000; Rosenthal, 1992 | In 2005, AHEC supported training experiences for 47,000 health professions students received training in medically underserved and other community based sites   | Assessment of academic center as to whether the rotation would have occurred without AHEC support.<br>Pre and post rotation surveys about measuring change in likelihood of choosing MUA employment as a result of rotation experience.<br>% of AHEC students choosing rural/underserved employment compared to % of total class choosing rural/underserved employment<br>% of CHC staff who were AHEC students/residents<br>Change in measure of cultural competency before and after training. |
| 8. Lack of commitment to workforce planning and long term pipeline programs         | AHECs perform workforce assessment and work with communities to create pipeline recruitment programs.  | Accurate assessment and planning for workforce needs will allow matching of provider and community. Community involvement improves MUA recruitment and retention  | Hegney, 2002; Pathman, 1999 Shannon, 2003   | # of state and regional workforce assessments with AHEC involvement  | Change in number of unfilled CHC positions<br>Improvement in community engagement as measured by a "job satisfaction/community engagement" survey  |
| 9. MUAs lack infrastructure to support professional development                     | AHECs provide continuing education, teaching opportunities and electronic connectivity for MUA providers<br>Assess reasons for retention or desire to serve in rural area  | Personal and professional community support is associated with increased length of employment in MUAs. Building professional networks and collegial support through web-based clinical discussion board can help alleviate isolation  | Hays, 2003; Hegney, 2002; Kirby, 2003 Gittleman, 1998; Hegney, 2002; Baker, 2005  | # of community pipeline recruitment programs<br>Over 339,000 health professionals received continuing education through the efforts of the AHEC/HETC programs.   | Retention rates at AHEC sites compared to non-AHEC sites<br>Increase in work satisfaction surveys scores   |
| 10. HCPs in MUAs feel professionally isolated                                       | Provide professional support through continuing education and teaching experiences   | Increasing collegial support, transition programs, collaboration and resources for professional enrichment such as CE/CME within geographic proximity decreases professional isolation and increases retention.   | Rapley, 2006; Humphreys, 2002; Hegney, 2002; Marcum, 2004; Spence, 2005, Kirby, 2003; Gittleman, 1998   | Over 339,000 health professionals received continuing education through the efforts of the AHEC/HETC programs.<br>Over 19,000 MUA providers train students or residents                                    | Change in self rating of professional isolation by participants in AHEC-sponsored CE/CME<br>#email contacts between professions facilitated by AHEC webpage<br># AHEC trained providers using electronic resources to improve connectivity with professional community (econsults/telehealth/telemedicine)<br>Change in pre/post workplace climate survey results  |

## Post Kat-Rita Services

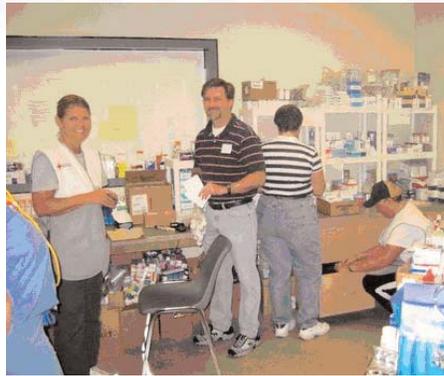
# Update

### AMERICORPS

SWLAHEC was awarded an additional \$1.78 million of AmeriCorps program funding in to add 115 AmeriCorps members, supplies, and 3 Vista staff to conduct hurricane recovery activities throughout south Louisiana. Fifty-two community agencies and clinics are assigned SWLAHEC-AmeriCorps hurricane recovery members through 2006.



Members of the SWLAHEC Youth AmeriCorps team help to clean up debris left by Hurricane Rita in southwest Louisiana. Most members of the Youth Corps are themselves victims of Rita.



### LEARNING RESOURCE CENTER/MEDICAL LIBRARY

Extra resources and services have been needed to support Louisiana State University Health Sciences Center-New Orleans staff, residents, and medical students who relocated to University Medical Center (UMC) in Lafayette, doubling the medical staff and student population nearly overnight, and continuing through summer 2006. The Southwest Louisiana AHEC Learning Resource Center (LRC) is also the Medical Library for UMC. Donations of DVD copies of medical lectures, computers, monitors, printers, TV, loan of laptop computer and projector, and free inter-library loans were provided by SWLAHEC, National Library of Medicine, South Central Region, SCAMeL and Northwestern University-Chicago. Books and CDs were added to support new post-hurricanes residencies, clinics, and the transplant center at UMC.

LRC reference requests increased 66% (monthly average-from 627 to 1, 037). LRC usage increased 22%. The LRC's recovery role is contributing to Louisiana's future rural primary and specialty care physicians.

### CLINICAL SERVICES

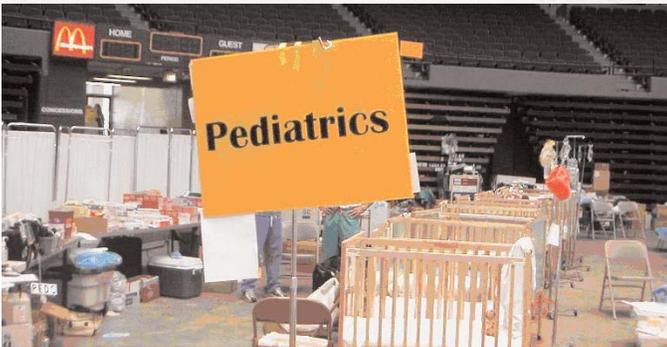
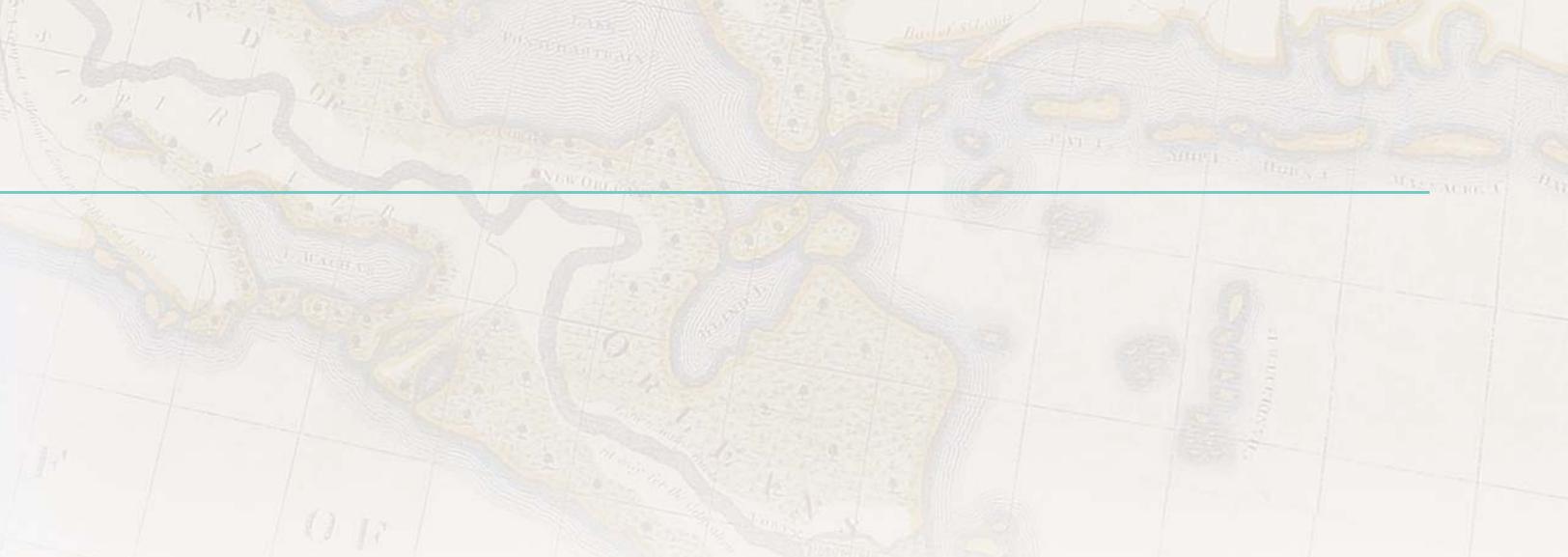
SWLAHEC received a \$100,000.00 recovery project donation through Direct Relief International to provide primary care services for additional evacuee patients at Health Units throughout the Acadiana region. The Louisiana Emergency Mobile Medical Units (LEMU) project is being coordinated by SWLAHEC staff and associates to dispatch emergency care and supplies to disaster-affected areas in southwest Louisiana within hours of a natural or other disaster, and to provide mobile primary care services during alternate



times. SWLAHEC Injury Prevention staff members are working with Durrell Juvenile Products to deliver and install hundreds of donated infant/toddler car seats, baby beds and strollers to families directly affected by hurricanes Katrina and Rita.

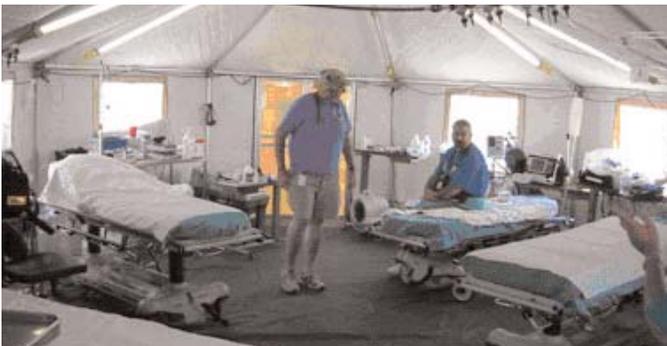
### MEDICAL STAFF RECRUITMENT (EVENTS, RECR)

Med Job Louisiana, a free physician recruitment program staffed by the Louisiana AHECs, expanded services to act as the primary source for health care providers displaced by Hurricanes Katrina and Rita. Med Job Louisiana recruiters



facilitated job referrals for physicians, nurses, psychiatrists, dentists, nurse practitioners and physician assistants displaced by hurricane evacuations.

In addition, Med Job LA set up a toll free phone number, 866-273-4999, to direct healthcare professionals to our website, [www.medjoblouisiana.com](http://www.medjoblouisiana.com), to complete an interview online for a specific discipline. Med Job LA Recruiters contacted candidates to facilitate the placement process.



Additional SWLAHEC post-hurricane recruitment activities included:

- ▶ Coordinated LEDA Job Fair for health care evacuees in Lafayette
- ▶ Coordinated with the Lafayette Community Health Clinic for Hurricane Katrina victim needs
- ▶ Coordinated with Dr. Erin Brewer, Medical Director for Louisiana OPH Emergency Response Center
- ▶ Conducted media interviews on KRVS radio and KDCG Television to publicize Med Job's expanded role in recruiting displaced healthcare professionals



### **NETWORKS/H4M (NOMC DONATIONS, MED REFERRALS, TRAININGS)**

The Networks Department provided direct technical assistance for more than 25 community-based organizations actively assisting with relief and recovery efforts post-Katrina and Rita. This assistance resulted in of \$50,000 of grant funding from Direct Relief International to support primary care and pharmacy services for displaced hurricane victims.



SWLAHEC serves as fiscal agent for more than \$470,000 in post-hurricane donations generated on behalf on the New Orleans Musicians Clinic in partnership with the SWLAHEC Healthcare for Musicians program. As a result, more than 250 Louisiana musicians affected by hurricanes Katrina and Rita have received direct financial assistance, case management, counseling, prescription assistance, and health referral services.

# AHECs Emerge as Valuable Resources in Hurricane Relief

*Carole Todini; Michel Dodard, MD; and Michael Cunningham*

*First reaching out to assist a neighboring state and then redeployed to serve at home, University of Miami AHEC provided vital care during tragic natural disasters.*

The University of Miami Miller School of Medicine has a long and proud history of responding quickly after natural disasters strike. The exemplary medical effort mounted by medical students and faculty after Hurricane Andrew struck south Miami-Dade County in 1992 resulted in the school being selected to receive the first AAMC award for community service. UM AHEC played a significant role in those efforts.



*UM volunteer in hurricane damage zone.*

After Hurricane Katrina struck the Gulf Coast in August of 2005 with such devastating fury, University of Miami medical and nursing faculty were anxious to help. UM AHEC was designated to coordinate the response. Initially attempts were made to go through official channels, but it soon became apparent that the formal systems set up to facilitate volunteers from other states were proving to be cumbersome and inefficient in the face of this unprecedented large-scale natural disaster. Frustrated by seemingly insurmountable bureaucratic barriers, but undaunted, Dr. Arthur Fournier, UM AHEC Director, found ways to overcome the impasse through persistent efforts and the invaluable help of AHEC connections in Mississippi and Louisiana. Dr. Fournier called his counterpart in the Mississippi AHEC Program, Dr. Stephen Silberman, who put him in touch with the right contacts in the Mississippi Governor's Office and the state Health Professions Board. In short order, through phone conversations with the contacts provided by Dr. Silberman, temporary licenses and sovereign immunity were granted to UM volunteers, and a site was

quickly identified in Long Beach, Mississippi, in desperate need of medical assistance.

The first team of volunteer health professionals headed to Long Beach, Mississippi, on September 19<sup>th</sup> in a private jet donated by an anonymous donor, and began providing assistance at a makeshift clinic located at the Coast Episcopal School. At the same time, UM AHEC assisted colleagues at the Nova Southeastern University AHEC Program in mobilizing their own volunteer

efforts in neighboring communities on the Gulf Coast of Mississippi.

Coincidentally, with help from Dr. Mark O'Connell, UM Senior Associate Dean for Medical Education, an opportunity for fourth-year UM medical students to participate in the relief efforts through an existing AHEC-sponsored community health elective was quickly arranged. Eight UM medical students took advantage of this exceptional learning experience and spent two-week rotations providing medical care as part of an interdisciplinary team of healthcare practitioners. The interdisciplinary teams generally included two physicians, two mental health professionals (psychiatrists and psychologists), five nurses and nurse practitioners, and one pharmacist, who were replaced each week by a new group of volunteers. Volunteers from the University of Miami Miller School of Medicine were joined by volunteers from other medical schools in providing care to around three hundred patients per day at this one site in Long Beach.

The UM volunteers reported scenes of incredible destruction and the complete



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*Michel Dodard, MD, is the Medical Director, UM AHEC Program, Miami, FL.*

*Michael Cunningham is the Executive Director of the Florida Keys AHEC, Marathon, FL.*

## *AHECs Emerge as Valuable Resources in Hurricane Relief*

disintegration of the medical infrastructure in the area. After Katrina, many health professionals left the Gulf Coast region, or were themselves casualties of the

storms. Many health facilities were severely damaged or destroyed. Media attention focused on larger cities, leaving the health problems of smaller communities unaddressed. Dr. Michel Dodard, who heads several UM medical projects in Haiti, found similarities in the hurricane-ravaged area: "People come in and tell you that they have absolutely no resources, they have nothing left. You can't give them a prescription since the pharmacies are closed or damaged. You can't refer them to their doctors whose offices had sustained heavy damage as well. So our makeshift clinic became a one stop medical home." Working together under the tongue-in-cheek name of "Doctors without orders," family physicians, neurosurgeons, and interventional cardiologists bandaged feet, treated asthmatics and diabetics and

*The UM volunteers reported scenes of incredible destruction and the complete disintegration of the medical infrastructure in the area.*

Associate Dean in the UM School of Nursing, "We've seen a lot of trauma, a lot of people hurt cleaning up their homes and businesses and getting cut as they're moving the metal and

aluminum." In spite of the surrounding devastation, the makeshift clinic offered an amazing array of services.

Ironically, after five weeks of volunteering on the Gulf Coast, the UM teams were recalled home so they could prepare their own homes for the imminent arrival of Hurricane Wilma in South Florida on October 24<sup>th</sup>. With little rest for the weary, University of Miami medical faculty and students from a student volunteer group called UM DOCS (Dept. of Community Service) were once again called upon to provide medical care for the Special Medical Needs patients of the Florida Keys as Monroe County began a mandatory evacuation with the expected arrival of Hurricane Wilma. With the assistance and planning of Michael Cunningham, Director of the Florida Keys AHEC, and Dr. Susana May, Director of the Monroe County Health Department, the University of Miami once again sent a team of medical providers and students to a shelter set up for evacuees at Florida International University. This team of medical professionals and students was met by hundreds of

*With its network of community-based Centers linked to major medical schools across the nation, AHEC emerged as an effective way to connect volunteers from Florida to communities in need in Mississippi.*

dehydrated babies, and listened to stories of losses and miraculous survival. From dawn to dusk, the clinic was open, running on generous donations, and a healthy supply of volunteers, nurses, retirees, and college students and thankfully very little paperwork. Tending to the needs of

people with chronic diseases was a major role for the healthcare teams, who saw hundreds of patients each day suffering from hypertension, diabetes, and heart disease and in need of medication.

According to another volunteer in the first team of responders, Dr. Elias Vasquez,



*Clinic site in Mississippi.*

## *AHECs Emerge as Valuable Resources in Hurricane Relief*



*Dr. Dodard (second from left) with UM volunteers on site.*



*UM volunteers on site in Mississippi.*

the evacuated citizens of the Florida Keys. As the shelter found itself short-handed of medical providers, the partnership of Health Department personnel and the UM medical team proved to be invaluable in meeting the specific medical needs of patients that were sent to this shelter. For three days this dedicated and compassionate group of individuals provided exceptional care and managed many patients with serious health concerns in less than perfect conditions.

With its network of community-based Centers linked to major medical schools across the nation, AHEC emerged as an effective way to connect volunteers from Florida to communities in need in Mississippi. Because the AHEC Centers have their pulse on the local communities in their service area, we knew we could count on these deep grass roots and person-to-person

contact to cut through the bureaucracy. Hurricane Katrina created an immediate, new underserved



*UM volunteer with patient.*

population and AHECs are uniquely positioned to bring academic resources to bear in service to these communities.

The onslaught of hurricanes over the past two years has provided the state of Florida with several important lessons concerning emergency preparedness planning, particularly regarding poor, underserved communities and special needs population groups. Planning for these communities and special needs populations needs to be proactive and special consideration must be given to address their needs. Our experiences with hurricanes, especially Katrina and Wilma, have shown that AHECs represent an enormous resource that can be tapped at the community level. The knowledge, skills, and aptitudes gained will be put to good use as the Florida AHEC Network considers its role in a permanent emergency preparedness plan for the state.

*The onslaught of hurricanes over the past two years has provided the state of Florida with several important lessons.*

# AHECs, Medical Reserve Corps, and Coping with Disasters: AHEC Fort Smith Response to Hurricanes Katrina and Rita

Steven Strode, MD, MEd, MPH; Bryan Clardy, MD; and Aubrey Hough, MD

*The early development of a Medical Reserve Corps (MRC) in Arkansas made rapid and effective mobilization of health care professionals to a natural disaster scene possible. The success of the first MCR has led to the formation of similar teams throughout the Arkansas AHEC system.*

Those with their own cars and trucks, some measure of health, and a dose of caution did not wait for Hurricane Katrina to take landfall. These people headed away from the Gulf Coast in the last week of August. As the motels and camp sites filled in northern Louisiana, they crossed into Arkansas and drove until they did find an empty room in which to spend a few days. Along the Gulf Coast, this is a well-practiced drill and one would expect the pattern to hold so that folks would return to intact homes in just a few days. New Orleans, in particular, had several recent near misses but no head-on hit from a hurricane. Those without the means or the health to leave stayed put as well as those who just counted on the Big Easy's luck to hold once more. As more and more of the hotels of Fort Smith, Arkansas filled up, the leaders of the city's Area Health Education Center, a part of the University of Arkansas for Medical Sciences statewide AHEC System, chose to open a clinic to serve the needs of those visitors to the community who were far from their usual primary care providers.

highway overpasses. Those carried by busses to Houston filled the city to capacity to receive evacuees, and the busses were rerouted to Arkansas. The more fragile evacuees were to arrive by air at the Fort Smith airport. Nine thousand people with little but the clothes on their backs were to be temporarily housed at Fort Chaffee. This would be the first time in days that these people would be able to sleep in a bed, be triaged for health needs, and seek family members from whom they had been separated. Fort Chaffee had served the country in the past by receiving refugees from Vietnam and from Cuba, but now the base had no medical staff.

Just two months before, Bryan Clardy, MD; John Vinson, PharmD; B.J. Landis, PhD; and Linda Ahne, all of AHEC Fort Smith, attended Arkansas' Statewide Terrorism Preparedness Conference (co-hosted and co-organized by the Arkansas AHEC) and started forming Arkansas' first Medical Reserve Corps team. Dr. Clardy, the team leader, organized a group of AHEC Fort Smith faculty, staff, residents, and students to participate in Sebastian County's annual disaster drill shortly after the conference, but figured that he had months before his team would be expected to drill again, much less to respond to a real crisis. The team did staff the AHEC's after-hours clinic. Then, word came that the MRC team was the only group that could step into the role of healthcare providers needed for Fort Chaffee and the local airport.

The Fort Smith AHEC's Clinic held special evening hours for the evacuees and this special service was staffed by the AHEC's faculty, family medicine residents, nurses, and students. About 30 people were seen each night without great effort. All this was to change as word came that the local National Guard training facility, Fort Chaffee, was to receive those who were only able to escape the flooding in New Orleans by fleeing to the Superdome or the Convention Center or even

Medical Reserve Corps (MRC) teams are formed of volunteer health care and public health professionals and non-medical persons

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*Aubrey J. Hough, Jr., MD, is a Distinguished Professor of Pathology and Associate Dean for Translational Research and Special Programs for the University of Arkansas College of Medicine.*

## *AHECs, Medical Reserve Corps, and Coping with Disasters*

to assist their communities in augmenting existing medical services or to respond to emergencies. The MRCs are part of the Citizens Corps of the Federal Department of Homeland Security and also under the Office of the Surgeon General of the Federal Department of Health and Human Services.

There were only a few hours to set up triage and clinic facilities within Fort Chaffee and to put out the call for additional volunteers to the area's other health professionals. Dr. Vinson requested donations of medicines and set up a field pharmacy. All available ambulances were assigned to be at Fort Chaffee or the airport. The National Guard would provide security, housing, and food and the Arkansas Department of Health and Human Services would provide social and public health services. The two hospitals in Fort Smith would provide inpatient care but could not handle an influx of 450 patients into their emergency rooms, the estimate that 5% of the bussed evacuees would require immediate medical attention. Dr. Clardy requested that Fort Chaffee be sent a medical director with experience in disaster medicine but the state could only tell him he was doing well so far and that he would be supported in any way that the state could help. The plan this time was not to keep this wave of displaced persons for months at Fort Chaffee but to move them out after a few days' rest and to register them at church camps, vacated following the end of summer and located throughout the state.

Quickly, reliable communications became the most valuable commodity. Cell phones would not work at the Fort. Rumors of bus convoys and Air Force transport planes full of the evacuees came and went and the team would repeatedly muster for a wave only to stand down once more. Finally, the busses did start arriving, some after 20 hours on the road through Louisiana and Texas to Arkansas, having been repeatedly told to head down the road to the next city and then waved on once more. Busses arrived until the line was over a mile long. People had left medicines behind and had even forgotten what medications they were taking. This was such a common problem that Wal-Mart eventually set up a portable pharmacy on the Fort Chaffee grounds. Healthcare coverage was needed on a 24-hour

basis to be sure that everyone was triaged and urgent needs met and to evaluate those in busses arriving through the night.

As the team was near exhaustion, the numbers at Fort Chaffee finally tapered down as more and more busses took evacuees off to church camps, although some shelters were located in the Fort Smith area and those in these shelters required medical attention as well. The team recognized that what had been organized on the fly could be packaged to be used again and much more efficiently as the team disassembled the facilities they had put together: triage area, pharmacy, medical supply area, clinic, and mini-hospital.

Little did anyone expect that Hurricane Rita would send another four thousand persons as another wave of evacuees to Fort Chaffee in less than a month after the Katrina disaster. This second wave was made of people evacuated to Houston from New Orleans who required evacuation as Hurricane Rita aimed at Texas' largest city. What Dr. Clardy and his team now did was to respond in a much more rapid and efficient manner to reestablish the medical facilities at Fort Chaffee and provide medical evaluation and care to another several thousand persons until they too could be moved to the church camps, churches, and city shelters in Arkansas. Still bearing fatigue from the first wave, the Fort Smith AHEC and private practice volunteers were aided by physicians from three other Arkansas AHECs.

The service provided by this MRC team is remarkable and is due to the leadership of Drs. Clardy, Vinson, and Landis and Ms. Ahne, who were able with a little bit of disaster incident command training and one practice drill to flexibly and energetically address a medical crisis. It is due to a community that respected its AHEC and recognized its potential for organizing medical care outside the walls of hospital and clinic. It is due to the state government leaders who were willing to commit to provide the supplies, public health oversight, and specialty expertise to back up the team. Today, the team's supplies are once more boxed and sealed but when Fort Smith and Arkansas face another disaster, there is now a model and an organizational plan for effective response. Although we certainly hope that another terrorist act in

## *AHECs, Medical Reserve Corps, and Coping with Disasters*

America will not happen, natural disasters and industrial and transportation accidents are “predictable disasters.” For example, in the past 26 years, the U.S. has sustained 67 weather-related disasters in which overall damages reached or exceeded \$1 billion.

In view of the recent effective responses by the Fort Smith MRC, the Arkansas AHEC System

is forming MRC teams at the other six Arkansas AHEC Centers. Although each MRC is formed to act locally, individuals from other teams can come to the assistance of a MRC team that is being overly stretched and stressed and this can be done without stripping a community of its own trained personnel, as would happen if the entire MRC team was relocated.

### **What are the lessons learned in Fort Smith that can be applied by other AHECs?**

1. AHECs may be in the best position of an area’s health organizations to be a neutral and unifying entity to pull the area’s hospitals, clinics, healthcare professionals, and government leaders together to discuss disaster responses and planning.
2. Knowing who the leaders are of these organizations and those in local and state government who are charged with responsibility in a disaster is invaluable, and in the disaster is not the best time to first meet these people.
3. The national and state disaster plans and terrorist act response plans require that localities be able to provide the first 72 hours of the response without outside help.
4. As generals throughout history have discussed “the fog of war,” there is an equally disturbing “disaster fog,” which requires that information be evaluated for veracity before it is acted upon.
5. In Arkansas, the two recent hurricanes have greatly heightened the awareness of the state’s healthcare professionals to the possibility of wide-reaching disasters. This may also be true in states more distant from the Gulf. Now is the time to work through this heightened awareness to help our communities’ healthcare professionals become organized and trained to respond to natural or man-made disasters.
6. Persons who volunteer on site will be valuable if they can work under the leadership and orientation of those health professionals informed and drilled in the incident command system and the community’s organization for disaster responses: a MRC team.
7. The AHEC may be a natural locus for the formation of MRC teams in the community.
8. The MRC team members may be the frontline troops for a medical response to a disaster but these volunteers will exhaust their energy and their ability to be absent from their jobs, so there must be a plan for replacements that could be brought in after a few days to allow MRC team members relief.
9. Although just-in-time training can be done in a few hours in a disaster, this can only be an orientation to the workings of the response services and will not replace organization, education, and practice that should be done before the need arises.
10. Preparing for and responding to disasters (natural, accidental, or terrorist acts) is an unfunded mandate but is a responsibility of each community and its citizens. Such disasters will occur in our rural areas as well as urban and suburban areas. The hurricanes required that usual medical care be provided in unusual circumstances and atypical settings. Other disasters may well require knowledge and supplies that are unusual compared to our daily practice patterns. The AHECs can serve as catalysts for the organization, education, and practice for their community’s and region’s health care to survive whatever is thrown their way.

# Community Health Workers: an Emerging Profession Begins Structural Evolution

Robert J. Hastings, MA

*Efforts to define core competencies for Community Health Workers (CHWs) and organize training efforts continue to evolve. HETCs, through their mandate, and AHECs, through their community-based roles in health professions, make them ideal partners in the development of CHWs as part of the healthcare workforce.*

For the past several years, health and social service organizations in the United States have been learning about Community Health Workers (CHWs) – what they are, what they can do, and how CHW programs can be implemented.

As proponents of health career development the Health Education Training Centers (HETCs) and the Area Health Education Centers (AHECs) have supported the movement to develop this promising career field. The HETCs currently are the only federally supported program with a mandate that “conducts training in health education services, including training to prepare community health workers.”

Anecdotally, the success of CHWs is well appreciated. CHWs can link underserved individuals and groups with essential health and human services. They are members of the communities in which their clients live. They can relate to individuals and families through shared experiences. Their firsthand knowledge of barriers and challenges gives CHWs a vested interest in overcoming those barriers. Effectiveness studies have begun to document the impact of CHWs on the populations they serve and upon health and social service systems.

Among the challenges facing CHWs is nomenclature. CHWs are known as Lay Health Educators, Community Health Advisors, Community Health Outreach Workers (CHOWs), Community Health Aide/Practitioners (CHA/Ps), Promotores

de Salud (health promoters), and Community Health Advocates to name a few. The work CHWs do is as diverse as their titles.

Community Health Worker roles tend to be based on identified needs in communities and in employing agencies. Some may serve as interpreters during medical visits while others help clients identify and enroll in benefit programs for which they are eligible. CHWs may be prevention educators and others might be organizers and motivators helping communities improve living conditions.

Community Health Worker training has evolved over many routes. The Indian Health Service has used lay health educators since the 1950s. Many agencies have trained outreach workers for specific activities. These programs have tended to be focused on health specialties and funding opportunities. As such, many CHWs are well prepared to work in the agency that trained them, but may not be able to function in another agency in a different capacity. These differences have led to efforts to define core competencies for CHWs and to begin to organize training efforts.

Currently, four states certify CHWs through either state agencies or professional boards. Each state has a different model for training and certification:

Texas has a model based on eight core competencies required to be taught in a 160



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## Community Health Workers: an Emerging Profession Begins Structural Evolution

curriculum which must be certified by the Department of State Health Services. Four community colleges, three community-based organizations, and one city health

department have become certified sponsoring institutions or have gained certification for training programs for initial training and/or continuing education for CHWs. Texas additionally requires that compensated CHWs be certified. Certification remains optional for volunteer CHWs.

In Ohio, the Board of Nursing certifies training programs, curricula, and individual CHWS who have completed approved training. CHWs may work under nurse-delegated protocols for specific areas of care.

Alaska, using a model evolved from the Indian Health Service, provides Community Health Aide/Practitioner and Dental Health Aide training and credentialing. This training provides skills to enable local residents in largely remote and isolated communities to act as non-physician primary care providers through a 520 curriculum. Individuals who complete training preceptorships, written and practical exams through one of four training centers, can earn a credential for practice. The credential must be renewed every six years. Oversight is provided through the Indian Health Service and the Alaska Area Native Health Service.

*Among the challenges facing CHWs is nomenclature... The work CHWs do is as diverse as their titles.*

The Indiana State Department of Health has an approved curriculum which can be customized to particular needs of local entities. The emphasis in

Indiana is prenatal care coordination for the state's CHWs.

As of 2005, 17 states had been identified as having a certification program or moving toward some level of certification in a study by May, Cash and Contreras. The majority of certification and certificate training is still subject oriented. The result of this approach is individuals trained with a focus in their subject area. As the profession emerges, training curricula are being developed to provide a broad range of basic skills which can enhance performance in multiple arenas. This broad-base approach provides mobility and flexibility for individual CHWs in a marketplace dominated by annual funding for outreach.

The HETCs, through their mandate, and AHECs, through their community-based role in health professions, make them ideal partners in development of CHWs as part of the healthcare workforce. The opportunity is ripe for HETCs and AHECs to become integral members of the CHW training process and to move this new field forward.

### Oregon responds to hurricane relief efforts

Approximately 1,600 boxes, all containing necessities that no one should have to go without, items like toothpaste, blankets, clean shirts and pants, was sent to the thousands of people left homeless in the aftermath of Hurricane Katrina. This was all coordinated through the Northeast Oregon AHEC and Eastern Oregon University.

# AHEC-NW Creates Arkansas' First Medical Interpreter Training Program

Mary Ann Shope

*A new AHEC sponsored training program helps assure quality and competence in medical interpreter services. The first in its state, Arkansas' program also included technical assistance in language services and a unique conference on effective use of interpreters.*

"I send interpreters every chance I get." Kathy Beck, a supervisor at St. Mary's Hospital in Rogers, Arkansas, is referring to the medical interpreter training course offered by the Area Health Education Center—Northwest (AHEC-NW) in Fayetteville, Arkansas. This medical interpreter program of AHEC-NW, begun in 2004, was the first program of its kind in Arkansas and over 30 St. Mary's Hospital employees completed the training last year. Located in Fayetteville, Arkansas, AHEC-NW is an 11-county health education outreach program of the University of Arkansas for Medical Sciences (UAMS). AHEC-NW is the largest of the seven AHECs in the Arkansas AHEC system and began over 30 years ago.

The twofold mission of AHEC-NW is improving the supply and distribution of primary healthcare professionals in Arkansas and increasing quality health care for all Arkansans. To meet its mission, AHEC-NW is in continual assessment of the area it serves and the healthcare needs of its residents, primarily through the use of demographic information, key informant interviews, and focus groups.

Arkansas is one of the top three Latino growth states in the United States. Significant numbers of Hispanics have moved to northwest Arkansas. In addition to demographic information, focus groups indicated a wide variety of healthcare needs relative to this growing Hispanic population in the area. These needs included access issues, prevention issues, insurance and funding issues, lack of appropriate data collection, and policy issues.

As significant proportions of this population had limited English-speaking ability, language was identified as the major barrier, particularly in the discussion of access issues, to quality health care. On a national basis, the Commonwealth Fund

2001 Health Care Quality Survey indicated that 44% of Hispanic adults have a hard time speaking with or understanding a doctor because of a language barrier. An interpreter was supplied only 49% of the time. In 55% of those cases the interpreter was a staff person; 43% of the time the interpreter was a friend or family member, and in only 1% of the cases was the interpreter a trained medical interpreter. The survey further indicated that Spanish-speaking Hispanics have difficulty understanding prescription instructions compared with the white community.

More locally, the Arkansas Racial and Ethnic Health Disparity Study Report of 2004 stated, "The inability of a healthcare provider to communicate with a consumer has a potentially devastating impact on healthcare access and the health outcomes that result from poor access."

Interviews also revealed that the region's three major hospitals sorely needed trained medical interpreters. One hospital had one paid interpreter (untrained) and the other two hospitals used a phone-based national interpreting service along with maintaining a list of bilingual staff at the hospital and community members who were fluent in foreign languages. The bottom line was that one of the fastest-growing areas of the country with an explosion of Hispanic immigrants was trying to offer quality healthcare without the benefit of trained medical interpreters. As a result, this need was determined to be the most critical, immediate one within the healthcare delivery system of northwest Arkansas. Something had to be done, and AHEC-NW took the lead.

AHEC-NW wrote a proposal to create a medical interpreter training program at AHEC-NW and submitted it to a local funding agency, the CommunityCare Foundation. The proposal



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## *AHEC-NW Creates Arkansas' First Medical Interpreter Training Program*

called for sending Nellie Cordova, one of AHEC-NW's medical interpreters, to training at the Wake AHEC in North Carolina and returning to Fayetteville to create a training curriculum here and offering the classes to area healthcare providers. CommunityCare Foundation, an organization well known for its knowledge of the critical needs of northwest Arkansas and committed to its positive growth, accepted the proposal and granted funding for the project for up to five years beginning in July, 2004. This was the beginning of the first medical interpreter training program in the state.

Targeting medical interpreters who were currently working in healthcare, the first 45-hour curriculum was developed as an active learning class using the best practices of curriculum design. In October, eight interpreters enrolled in the first course. By January of 2005, a second course that targeted bilingual persons was developed. AHEC-NW offered both courses in early 2005 and a total of 18 persons enrolled.

In the summer of 2005 Ms. Cordova traveled once a week to Harrison, a town 90 miles from Fayetteville, to train seven medical interpreters at the North Arkansas Regional Medical Center (NARMC) there. "We had just begun to develop our Language Services Program when we heard about the AHEC-NW course. We felt this training would advance us toward our next step in professional development of staff members who had been participating at NARMC as casual, dual role interpreters," said Lolly Tindol, Language Services Coordinator for NARMC.

The impact of the course on the hospital was immediate, and the ripple effect was widespread. "The course proved to be successful in helping us form a cohesive group of people trained in protocol, medical terminology, and anatomy and physiology vocabulary to interpret in a culturally appropriate way for our hospital staff/providers and our clients from the growing Hispanic community." The course was an effective catalyst for establishing comprehensive language services as NARMC soon began publishing in-house interpreter schedules. The Language Services Department also began offering help with Social Security, Medicare and Medicaid, questions relating to immigration, hospital billing, insurance, etc.

By the fall of 2005, Mercy Health System of Northwest Arkansas was ready to offer medical interpreter training to its bilingual staff and contacted AHEC-NW for assistance. "We started the program to help meet an important communication need identified by our physicians, staff and community members," stated Rick Barclay Vice President of Human Resources. "We had several different people in the organization interpreting Spanish/English, but we had no formal way to ensure the interpreters were competent and that they had a good understanding of their role and responsibility." Currently 16 people are enrolled in St. Mary's third class.

One unforeseen by-product of the Medical Interpreter Training Program was the increased awareness of health care administrators. During the first year of the program, Ms. Cordova fielded so many questions from local administrators that AHEC-NW planned and held a conference just for them in September of 2005. Titled "The 2005 Conference on Medical Interpretation," the agenda was built on the most frequently asked questions and most common concerns.

In two years, the Medical Interpreter Program of AHEC-NW has transformed the landscape of healthcare delivery in northwest Arkansas by creating over 50 trained medical interpreters where there were none. In addition, AHEC-NW has assisted three hospitals with their language services programs and provided information and resources to many others. The Hispanic population in northwest Arkansas has come to view AHEC-NW as an organization that takes their healthcare issues seriously.

At the hospital level, one impact of the program is best stated by Rick Barclay: "With the program offered by AHEC-NW we are confident when the student successfully completes the course that they are competent and ready to interpret in a professional manner." The ultimate impact, however, is for the northwest Arkansas region. As its population grows (it is projected to hit one million in the next 20 years) the healthcare industry in northwest Arkansas has the resources, through AHEC-NW, to assist the health care delivery system in providing high-quality services and increasing levels of trust for the ever-increasing Hispanic population with limited English proficiency.

# Everglades AHEC Health Careers Program Documents a Solid Record of Success

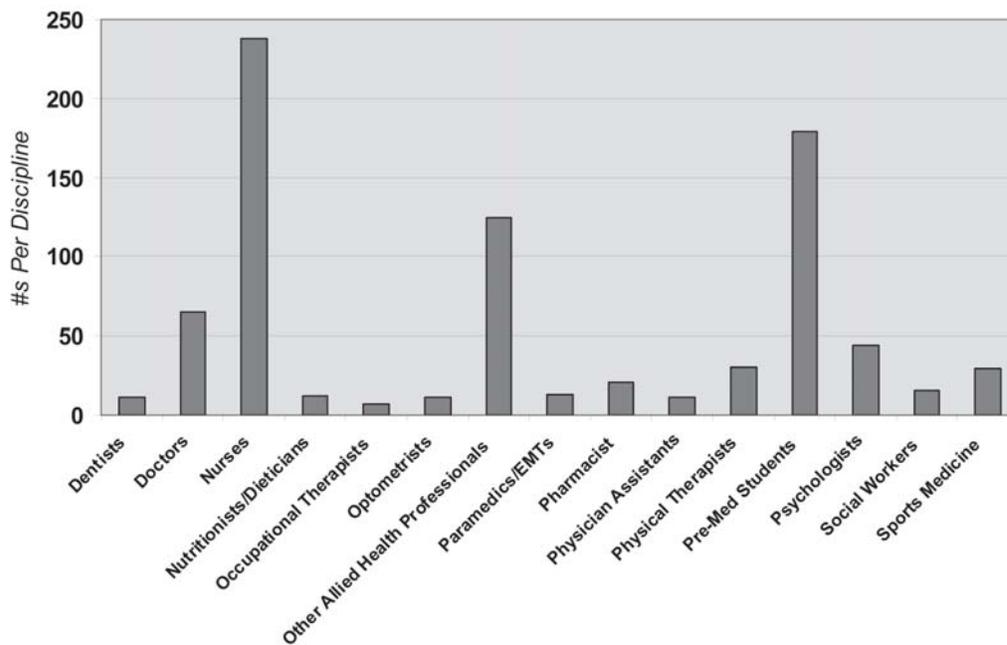
*Shelley Warshaw, MS*

*An 18-year story of association and relationship building, the Everglades AHEC recounts its successful history in health professions development.*

The Everglades AHEC (EAHEC) located in Palm Beach County is affiliated with the Nova Southeastern University AHEC Program. The service area encompasses ten counties of South Central Florida and includes a diverse, multi-ethnic population of migrant farm workers with health professional shortage areas (HPSAs) in all 10 counties. Early in its 20-year history, forward-thinking staff and administrators saw the need to develop a health career pathway to encourage local students to not only choose a career in health, but to return to their communities to practice. Backward conditions in many of the local rural high schools at that time created a tangible need for the AHEC center to develop high-tech, interactive, and hands-

on programs for students to become competitive with regional and national counterparts. For example, one of the area's very rural schools only had photocopied materials in its library. More sophisticated resources were clearly needed. This recognition led to the creation of a summer institute that would expose students to realistic situations and advanced learning opportunities in health professions. The concept was simple – to bring a hand-picked group of diverse and underserved students to a local college campus to spend an entire week in intensive career exploration. Working alongside current health professions students as counselors and guides, the program provided numerous opportunities for students to view varied

**Everglades AHEC - 2005 Tracking Results**  
**"What Our Prior Camp Participants Are Doing Now"**



*Shelley Warshaw, MS, is the Student Recruitment Coordinator of Everglades AHEC in West Palm Beach, FL.*

## Everglades AHEC Health Careers Program Documents a Solid Record of Success

health careers on site in both inner city and rural settings.

The EAHEC Summer Health Careers Camp began in 1989 with 21 high school students and five staff members, all medical students at Southeastern University of the Health Sciences (later to become Nova Southeastern University). Eighteen years and 19 camps later, the

program has had over 1,100 students participate and has trained hundreds of new healthcare providers. Specifically, out of 1,103 students that have attended the camp since 1989, 812 students are now practicing healthcare professionals or are currently training in postgraduate training programs. A discipline specific breakout chart is provided entitled "What Our Prior Camp Participants Are Doing Now."

Beyond selecting health care professions, many of these individuals have further chosen to remain in their local communities (or similar ones) as a direct result of their participation in this important program.

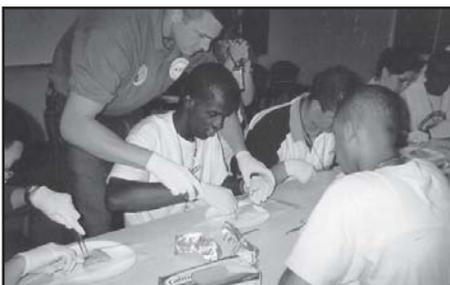
As stated in its program brochure, the purpose of the camp is to identify and encourage high school students from rural and underserved areas to pursue careers in the healthcare professions. Students are provided the most current information and experience possible to help them make informed educational and vocational choices. Additionally, staff believe that the huge success of the program is

directly related to the personal attention provided to all participating camp students, past and present. Every effort is made to keep in touch annually with each and every student. With one Recruitment Coordinator for the past 16 years, there has been close and continuous contact with numerous former camp students and their families. This has created an environment of trust and willingness to share individual success stories. The program also now hires one prior student to work with the program for several weeks each year to assist with tracking functions. This feature adds very modest expense to the overall annual cost of the program, yet is viewed as an essential data collection and relationship-enhancing experience. To learn more about the specifics of the program's data collection and tracking processes, feel free to contact the EAHEC's Recruitment Coordination office.

Within the EAHEC program, a "success story" means that a student has completed a Health Professions Training program. Available anecdotes highlight countless successful EAHEC campers' stories. Rebekah Bernard, one of the program's first campers in 1989, went on to the University of Florida, where she



M3 student Kent Newsome helping to conduct a mock patient clinic for students.



M4 student Danny Hierbolzer conducting a suturing clinic during 05 Camp.



M3 student Peter Salerno assisting with NSU Sports Medicine/Athletic Trainer Presentation.

### Goals and Objectives

1. To provide opportunities in health professions for rural and underserved students.
2. To encourage students to consider returning to practice in local communities.
3. To provide realistic opportunities for students to view multiple health careers through both rural and urban experiences.
4. To discover educational and financial opportunities in health careers.
5. To create an individual action plan for reaching career goals.
6. To track all participating students through high school, college and into health professions programs.
7. To make the EAHEC camp "hands on" and "interactive."

## *Everglades AHEC Health Careers Program Documents a Solid Record of Success*

majored in pre-med. After successfully completing medical school at the University of Miami, Dr. Bernard today is the head of Pediatrics and Women's Health at the Marion Fether Clinic in Immokalee, Florida (an extremely underserved migrant farm worker community). Two other 1992 campers, Charles Bartel and Rachel Waldron from Okeechobee County, met at the camp and both left knowing that they would pursue careers in health. Rachel attended Santa Fe Community College in Gainesville and became a dental hygienist, while Charles attended the University of Florida and was a pre-med major. However, Charles developed an initial interest in optometry from his camp experience. Today, Dr. and Mrs. Bartel live back in Okeechobee, the rural town that they originally came from. Rachel is the Dental Hygienist for Florida Community Health Centers. Charles subsequently attended Nova Southeastern University College of Optometry, and has recently opened his own optometry practice in town. They have been married for several years.

These are but three of the many wonderful success stories that underscore the EAHEC program's long-term impact. Each year program databases are updated as new groups of students graduate and move on through the educational process.

If asked today, almost every camp participant would say that their experience with the EAHEC Summer Health Careers Camp was similarly motivational. Those intimately involved with the program continue to marvel and share in the accomplishments recounted by former campers. New success stories are being added every day to an already long list of accomplishments and testimonials.

*'I loved the camp because it teaches you what's out there and how to be successful. It really motivates you and shows you exactly what you have to do. The best part was the Anatomy Lab at Nova Southeastern University.'*  
- Sharon Ricketts MD



*05 EAHEC Summer Health Careers Camp at Memorial Regional East Hospital.*



*Camp Coordinator Shelley Warshaw and M4 student Danny Hierholzer welcome incoming camp 05 participants.*

*'Without this AHEC program, it is doubtful that I would have chosen medicine as a career, and I certainly would not have selected to return to work in an underserved area.'*  
- Rebekah Bernard, MD



*2005 EAHEC Summer Health Careers Camp Staff.*

*'... out of 1,103 students who have attended the camp since 1989, 812 students are now practicing healthcare professionals or are currently training in postgraduate training programs.'*

# Evaluating the Impacts of New York State AHEC Pipeline Programs

Linda S. Kahn, PhD; Susan J. Smith, MS; and Mary Sienkiewicz, MBA

*A comprehensive yet usable set of evaluation tools assists the state AHEC system in implementing a uniform data collection and evaluation strategy. Both quantitative and qualitative statistics are collected and analyzed as a means to promote continuous quality improvement in various pipeline offerings.*



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"I have always wanted to go into a health profession and AHEC helped me come to a decision of becoming an RN." – Student in Bronx-Westchester AHEC's Summer Internship Program

In 2005, through New York State AHEC "pipeline" programs, over 18,000 elementary through high school students learned about health careers both in classrooms and in real-life settings. Among these educational experiences are the pipeline programs that provide health career exposure and educational supports to young people. The types of programs vary widely: from middle school "MASH Camp" and other health career exposure programs, to internships in clinical health care settings for high school and college students. Over half of students in grades 9-11 represent disadvantaged or underrepresented minorities.

The New York State AHEC System, encompassing nine AHECs, three regional offices, and a statewide office, promotes health care workforce development across a varied expanse of sparsely populated rural counties as well as dense inner cities. A systematic statewide evaluation approach was needed to assess the impacts of the diverse array of pipeline programs and settings. Such an approach would move beyond the required documentation of numbers of enrollees or anecdotal comments from students. This article describes how this statewide evaluation project was undertaken and highlights the results.

To achieve these goals, in 2004 the New York State AHEC System developed pipeline evaluation instruments and test banks for three distinct levels of AHEC programming: middle school, high school, and internship

programs that enroll both high school and college students.

Development of these instruments entailed a collaboration between the AHECs and the Statewide Office. To address issues of access by students with literacy challenges, a reading and language specialist from the Department of Learning and Instruction at the State University of New York at Buffalo Graduate School of Education was consulted for readability and age/grade-level appropriateness of the instruments. After multiple revisions and consultations with the AHECs, the pipeline evaluation instruments were finalized and disseminated statewide. All three sets (middle school, high school, and internship) contain the same basic components, organized into three sections:

**A 10-15-item knowledge test:** An objective (true/false or word matching) test to assess students' knowledge about health careers. The questions are drawn from a statewide, standardized databank of test items. All of the test banks were developed to accommodate the variety of AHEC youth programs, grade levels, and enrollees. Scores are calculated based on percent correct.

**An inventory of health professions:** A battery listing a variety of health professional occupations to elicit students' career interests. Students are asked to check as many careers as interest them. The list includes a category "non-health profession" to reduce bias. Space is also provided for students to write in careers of interest that are not on the list.

**A "KWL" Table:** An exercise to discern what students already know and what they would like to learn. The KWL categories entail:

## Evaluating the Impacts of New York State AHEC Pipeline Programs

What I Know, What I Want to Know, and What I Have Learned.<sup>1,2</sup> For the purposes of the pipeline evaluation, the first two KWL categories appear on the pre-assessment instrument, and the third category appears on the post-assessment instrument.

The post-evaluation questionnaires contain a fourth section with a series of program evaluation questions on whether the program met the students' needs, increased their knowledge of health care careers, and whether they found the program helpful.

The protocol entailed administering the pre-evaluation questionnaire to the students at the outset of the program, and the post-evaluation questionnaire at the end, to measure changes in students' knowledge and attitudes about health careers.

Each AHEC entered the students' evaluation questionnaire results into a Microsoft Excel spreadsheet that was emailed to the Statewide Office for data analysis and summary.

Evaluation results were received from 1,192 middle school to college-level students. Overall pre-/post-test results indicate that students improved their knowledge of health careers by a statistically significant 12% ( $p < .001$ ). Middle school, high school, and college students responded positively to their experiences and agreed that AHEC pipeline programs not only increased their knowledge, but also intensified their desire to pursue a health professions career.

Middle school students' mean scores on the pre- and post- objective tests were most striking: knowledge about health careers increased by a statistically significant 15% ( $p < .001$ ); and most students (95%) reported that they were more interested in a health care field after this experience (Figure 4).

High school students gave their pipeline experiences high ratings. An overwhelming majority (94%) agreed that they gained new information from the program and 70% agreed that after this experience they were more interested in pursuing a healthcare career. Their responses to the KWL questions, highlighted in Table 1, indicate that they gained new knowledge about various aspects of working in health care.

These results were mirrored among the students who participated in internship programs. Nearly two thirds of these students (61%) agreed that they would consider working at the facility where they attended the program someday.

The next goal involves linking the pipeline evaluation data to the New York State AHEC System tracking system to enhance longitudinal tracking of pipeline participants, their career interests and trajectories. This will further demonstrate that pipeline participants receive the necessary exposure, tools, and encouragement to realize their health professional career goals that would not have been possible in the absence of AHEC.

Figure 1: I learned a lot about health professions (N=525).

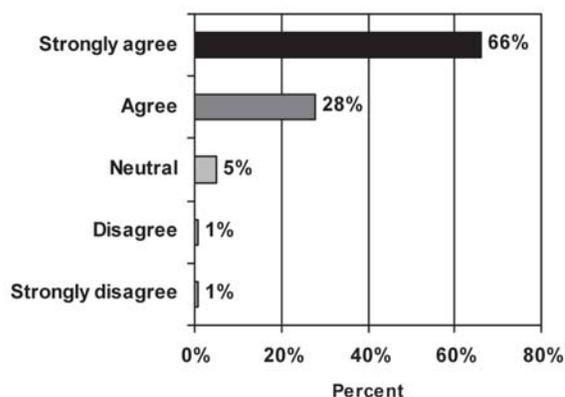
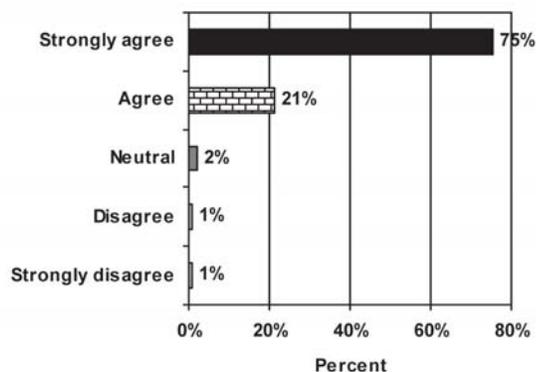
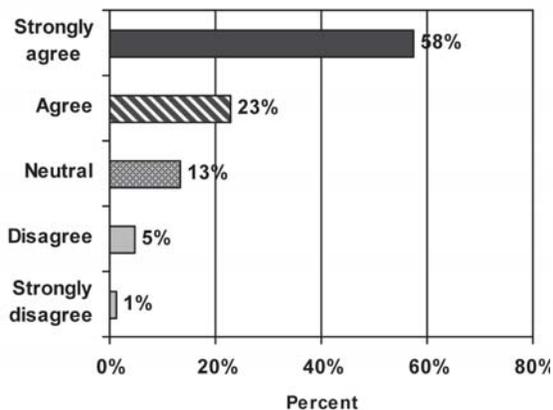


Figure 2: The program is helpful to someone thinking about a career in health care (N=308).

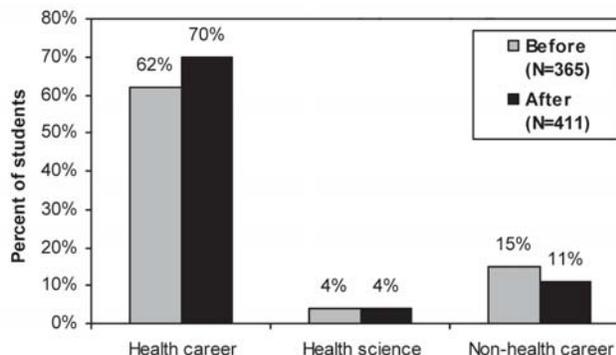


## *Evaluating the Impacts of New York State AHEC Pipeline Programs*

*Figure 3: After this experience I am more interested in working in a healthcare field (N=447).*



*Figure 4: Middle school students' career choices before and after pipeline program.*



### KWL Results: Highlights of High School Students' Responses

| <i>What I Know</i>  | <i>Want to Know</i>  | <i>What I Learned</i>  |
|---|--|--|
| I know physicians go to school for a long time.   | I would like to know how medication can make a person well again and why certain amounts of medication are given and why people only have to take them for a certain amount of time. | Although I'm undecided about my future career, I have chosen to use this experience as an opportunity to explore healthcare options. |
| General ideas about viruses, bacteria, diseases, etc. Confidentiality is important. Many different aspects to a medical career.                                       | I would like to know more about the office management of a medical practice. More about social work and psychology.  | I have learned the inner workings of medical records and the responsibility of having a job.   |
| Know something of lab techniques from science class.  | Learn more techniques for hair and blood samples.  | I have learned how much dedication, patience, and time it takes in order to succeed in one of these areas.                           |
| Physical Therapists can work in many different atmospheres (hospital, inpatient, etc). Physical Therapists are now becoming certified as Doctors of Physical Therapy. | I would like to learn more about what a dentist's expectations are, also what type of schooling it takes to become a dentist   | I learned the importance of the regulation of dietary supplements and vitamins as well as the importance of working as a team.       |

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# Health Careers Programs — Tracking for Program Outcomes

*Joel Davidson, MA, MPA; Tina Fields, PhD, MPH; and Kathy Vasquez, MEd*

*Three models describe how students are followed through their professional development to ascertain the influence of early exposure to health careers information. While sometimes neglected, participant tracking is critical to programmatic quality improvement and increased effectiveness.*

Program outcomes can be elusive and hard to prove sometimes. While many AHECs and HETCs budget annually for programs and projects, making it a challenge to draw conclusions that they've had an impact, some programs lend themselves better to longitudinally tracking than others and provide us the opportunity to show real and positive outcomes. But in order to show the effectiveness of AHEC/HETC programs, tracking tools are needed. The following article, rather than describing the programs in detail, instead shows how the three programs track their participants, ranging from a large program's staff-intensive effort to two smaller programs' less staff-intensive tracking.

## **The University of Texas Health Sciences Center at San Antonio Med/Ed Program**

For many years in South Texas, the small pool of students who expressed an interest in pursuing healthcare careers has been a concern. In 1996, the South Texas Border Initiative (STBI), under the auspices of the University of Texas Health Science Center at San Antonio (UTHSCSA), created what has become south Texas' leading and most comprehensive Health Careers Opportunities Program (HCOP) for high school and college students — the Med/Ed Program. The success of the Med/Ed Program is based upon a formal program to enhance academics, community involvement, and professionalism, and the commitment of UTHSCSA. The initial Med/Ed students have been accepted into health professions schools, and the first cohort of Med/Ed students are in their residency programs.

The Med/Ed Program maintains an individual file on each program participant and tracks students throughout their high school/college/professional school careers in order to maintain current data regarding their academic and career pathways. Med/Ed is an expensive program, averaging \$493,172 per year over the last seven years. The cost covers highly trained personnel, a time-intensive curriculum, and data-intensive tracking. It could not be maintained if it were not for the commitment of UTHSCSA and the dedicated Med/Ed staff who are housed in three cities along the Texas/Mexico border.

Since the inception of Med/Ed, the number of students from South Texas who have taken the MCAT has continually increased from 71 in 1999 to 123 in 2005, and the number accepted into Texas medical schools also has increased from 22 in 1999 to 58 in 2005. Circumstantial information indicates the contribution of Med/Ed to the students' achievements, since, in the same timeframe, indicators which reflect potentially poor education outcomes worsened in all the counties which have Med/Ed Programs, including percent of economically disadvantaged, designated "at risk" designation, bilingual, and English as Second Language (ESL).

The tracking component of Med/Ed is labor intensive and costly. The data-tracking element costs \$81,617 per year, or \$91 per student, and includes the following: tracking approximately 900 students enrolled in multiple school districts for upwards of 15 years; using approximately 30% staff time (7



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## *Health Careers Programs – Tracking for Program Outcomes*

FTE) for tracking activities; tracking both active and inactive Med/Ed students; updating Med/Ed student information, especially during critical times such as high school graduation; continued tracking of students after high school graduation; maintaining contact with students' families and friends and tracking students through school district files as tracking mechanisms (consent forms on file for these components); and using Internet and college/university directories to follow students.

While it is costly on a per student and programmatic basis, the ongoing nature of the tracking allows comprehensive information to be collected and analyzed. This analysis demonstrates that the Med/Ed program is having a positive impact on the number of South Texas students taking the MCAT and, ultimately, entering medical school.

### **The Medical University of Ohio AHEC CampMed Program**

CampMed, developed in 1998 by the Medical University of Ohio Area Health Education Center (MUO AHEC) Program, is a two-day intensive summer educational experience for students entering the ninth grade, and is designed to stimulate interest in science and medicine. Through competitive and selective statewide recruitment, applicants must write an essay, submit grades, and be recommended for the program by a school science teacher or guidance counselor. Preference is given to minority and rural students and students from other underrepresented groups in medicine who have demonstrated the capability and motivation to benefit from the curriculum of the camp. Preference is also given to students who would be the first generation in their family to attend college. A press release is sent to each selected student's local newspaper/media and to their local legislators so that those selected receive recognition for their achievement. Six second-year Medical University of Ohio (MUO) medical students are hired as camp counselors to foster mentor/mentee relationships with the nearly 30 students attending the camp each summer. A high school teacher/coach serves as the camp director.

Held on the MUO campus, the program includes biomedical laboratory experiences,

clinical problem solving and an introduction to the field of clinical medicine. One noteworthy session is called the "Road to Medical School" in which the medical student counselors describe their personal "roads" to medical school. In addition, the camp director presents on preparing in high school for health careers including academics and extracurricular activities, and then is followed by the MUO Associate Dean for Admissions who outlines various paths a student might take from college to medical school.

CampMed cohorts are tracked annually with attention given to their high school course work and undergraduate career interests. For the first three cohorts who are now of college age, 66 (of 76 total) alumni responded to the Fall 2004 tracking effort, which was a telephone survey to the last known phone number by staff at the Ohio AHEC centers. They generally spoke to parents to update the information, since it was during the school year and many of the students were away at college. Each AHEC center completed approximately 25 calls to the first three cohorts of students, who were between their freshman and junior year of college.

The results were extremely positive and validated CampMed admission parameters: 91% completed four or more years of high school math; 85% completed four or more years of high school science; 95% were currently attending college; 58% were enrolled in a health profession major. Of that 58%, nine were pre-med and 10 were nursing students. The three cohorts included 12% minority students, and all came from either rural counties or central city Toledo.

MUO AHEC uses a Microsoft Access® database tracking system. At the end of the school year, MUO AHEC sends each student a form asking that they list courses, grades, extracurricular activities, and interests for the past school year, and requests changes to contact information. Occasionally a tracked student is "lost" between ninth grade and the fourth year of college, but a back-up approach is to contact their last known school often results in their being "found."

## Health Careers Programs – Tracking for Program Outcomes

This information is shared with MUO, who keeps in touch with the students every year, as well, as a way to stimulate their interest in attending medical school. Another use of the data has been to develop a list of built-in mentors from the second-year MUO students who have previously been camp counselors. The first few groups of them have now finished their residencies, are practicing throughout Ohio, and are enthusiastic about staying active as mentors to students attending the camp.

MUO AHEC estimates that it spends \$6,000 annually on personnel costs (about 200 staff hours) for tracking. With eight years of CampMed, MUOAHEC currently tracks about 260 alumni. The total cost annually, not including tracking, for 33 students attending the two-day camp is \$15,058.

### Southwest Wisconsin AHEC Health Careers Summer Camps Student Tracking

Wisconsin, like other states, is facing a shortage of well-trained healthcare professionals and is facing a critical demand for both professional and entry-level healthcare workers. As a result, there is a growing need to attract motivated students to health professions educational programs, train them, and reinforce their decisions to work in health care.

In 2001, in response to this need, SWAHEC developed Health Careers Summer Camps to provide high school students in the 23 counties it serves with the opportunity to learn about and experience the wide variety of health careers, the career laddering that can occur, and the education needed to pursue these careers. Starting with 20 student campers at the La Crosse Medical Health Science Consortium, the program has grown to an average of 34 campers total in La Crosse and Madison. The camps run from 4 ½ to 5 ½ days. All eligible students and their parents are required to complete an application packet. Selection is

*High tech or low tech tracking mechanisms are labor-intensive and expensive, yet must be accommodated for in program planning.*

based on the student's application, letters of recommendation, and their essay discussing their interest in a health career and how they expect the camp will help them guide their post-high-school education and career choices. SWAHEC makes a special effort to attract students from culturally diverse backgrounds.

From 2001 to 2005, over 180 students have gone through the La Crosse and Madison camps. Early in 2005 SWAHEC surveyed the 2001-2004 health careers campers (145) to see if the experience has made a difference in the courses they take in high school and their choice of post-secondary education related to healthcare careers. Overwhelmingly, it has. With a response rate of 41.8% to the survey (61 replies), SWAHEC found that of those responding, 89% (54) were still interested in pursuing a health career and 5% (3) were somewhat interested in pursuing a health career. Responses from the campers generally could be grouped and indicated that the camps 1) helped them see other health career options, 2) had an influence on where to apply for college or which one they chose, 3) reinforced the health careers choice they already had or helped narrow down the number of possible health careers they were interested in, and 4) showed any experience they had in health care even before applying to college or technical school. This information has been used by SWAHEC when applying for grants to help support the camps.

In developing the survey, SWAHEC not only wanted to find out if the camps have made a difference in the campers' choice of post-secondary education and whether they had pursued health career opportunities since the camp, but also to identify the cultural diversity of campers, whether they are taking a second language, and in what kind of facility or organization they would like to work or are already working. This information is not only important to report to HRSA, but also to

## Health Careers Programs – Tracking for Program Outcomes

potential supporters of the camps. The attached survey will be used to follow up on campers in 2006. SWAHEC hopes that this survey will provide even more information for reporting positive program outcomes. Costs associated with the survey indicate that staff time is estimated to cost about \$2,700 for 80 hours to develop and update the survey, analyze the results, and enter the results into an Microsoft Access® database. Mailing costs in 2006 are projected at \$175.00 at \$.78 per survey. This system provides a relatively high return rate without requiring a great deal of staff time or other associated costs.

While the survey is an excellent tool to track campers, nothing beats the kind of feedback SWAHEC's La Crosse summer camp coordinator received.

*Dear Sherry,*

*Hi, this is Ali Nehmer. I just wanted to get in touch with you and thank you again for providing the health careers camp for us this summer. It was a great experience and has helped me to decide that I want to become a dietician. I wrote in my college applications essays about the SWAHEC health camp and explained how much*

*it has helped me in my decision about where I should apply to school and what I want to become. Just last week I applied to Stevens Point, La Crosse and Eau Claire. Within the week I have already heard from La Crosse and Stevens Point. I got into both, and I think that it is because I wrote about the health careers camp in my essays. I just wanted to let you know that your camp helped me very much in applying to certain schools and getting into the ones that I wanted. Thanks again and I hope to stay in touch.*

*-Ali-*

The three health careers programs described here each have created tools that offer longitudinal tracking of program participants and a means to demonstrate to potential funders their programmatic impact. As summarized in the table below, they differ in their efforts to collect the data about their programs and participants.

Each program must decide upon the intensity of the tracking effort and its affordability. Regardless of the method chosen, it is important to track students and campers and have the data to show others the really positive outcomes and impacts health camps have on students, communities, and the health professions workforce.

| Program                | Program Costs | Annual Tracking Cost | Tracking Costs as a Percentage of Total Costs | Total Costs |
|------------------------|---------------|----------------------|---|-------------|
| UTHSCSA Med/Ed Program | \$411,555     | \$81,617             | 16.5%   | \$493,172   |
| MUO AHEC CampMed       | \$ 15,508     | \$ 6,000             | 27.9%   | \$ 21,508   |
| SWAHEC Summer Camps    | \$ 9,625      | \$ 2,875             | 23.0%   | \$ 12,500   |

### New York responds to hurricane relief efforts

The New York State AHEC System responded by sending medical supplies and equipment. Student volunteers initiated fund-raising efforts while the Nursing Department of Hartwick College offered to enroll displaced nursing students from the affected area. The Western Mohegan Tribe and Nation, in conjunction with the Salvation Army, the NAACP, the Red Cross, and local churches and organizations, offered to house up to 200 people for up to four months at the Tribe facility in Greenfield Park, NY.

# Plant Closure Means New Health Workers on the Eastern Shore

Jacob F. Frego

*A Maryland AHEC steps up to assist displaced employees. While offering both health services information for those who lost insurance and career counseling for middle-aged factory workers, the agency builds a new relationship with the area's Workforce Investment Board.*

In the winter of 2002 the Black and Decker Corporation announced the closing of a major manufacturing plant located in Talbot County on Maryland's Eastern Shore; they were moving the DeWalt power tools assembly operation to Mexico. Talbot County is a rural area whose economy is based on agriculture and seafood harvesting. Black and Decker represented steady and secure employment for its 1,276 employees. The average worker was 44 years old, had 11.8 years of service, and earned \$12.80 per hour with health and retirement benefits sponsored by the company. Most employees were working on the production lines and classified as semi-skilled. They were 52% female, 48% male, 47% African-American, and 30% Hispanic. With the excellent benefits, many employees planned to remain with the company until retirement.

All employees were laid off, and the plant locked its doors in December 2003. The regional manufacturing economy was not strong and would not easily accommodate the terminated workers. In fact, reality dictated that many employees would have to seek employment in new career fields at potentially lower wage and benefit levels.

The Upper Shore Workforce Investment Board (USWIB) is charged by federal and state laws with assisting terminated workers in the region. They had never handled a lay-off of this magnitude; in fact it exceeded previous layoffs by at least a multiple of 4. In a larger urban area losing 1,276 jobs may not be significant, but in the rural Eastern Shore it represented a major employment upheaval. The USWIB's Director, Daniel P. McDermott, realized that his staff was too small to handle the myriad demands

expected by the Black and Decker employees. In his view what was needed to respond to a regional issue was a regional coalition bringing together a multitude of resources addressing employee needs. Therefore, he assembled a regional team consisting of social service agencies, unemployment offices, the chamber of commerce, USWIB staff, and community colleges. The Eastern Shore Area Health Education Center (AHEC) was a member of this team. According to Mr. McDermott, "We were very lucky to have the AHEC involved with the Black and Decker plant closing. The AHEC was able to assist the workers with information and exposure to the myriad of careers in the health care field. At the time of the closing, healthcare was one of the few sectors experiencing growth in the local economy."

While the Eastern Shore AHEC generally works to recruit and retain health personnel in the rural underserved Eastern Shore, being involved in plant closings and assisting terminated workers was not its usual mission. However, in responding to the request to participate on the Black and Decker team, AHEC marshaled its forces to determine what services it could offer the terminated workers. Very quickly it became apparent that the AHEC's health experience would be valuable in the following areas:

Primary Care Resource Guide: Utilizing its contacts and partnerships, the Center developed a listing of primary health care resources, sorted by county, for all nine counties of the Eastern Shore and the state of Delaware where employees lived. This handbook contained information on providers, their services and locations, telephone numbers, and, if possible, contact names. All



Jacob F. Frego is the Executive Director of the Eastern Shore AHEC in Cambridge, MD.

## *Plant Closure Means New Health Workers on the Eastern Shore*

primary care services from health departments, community health centers, acute general hospitals, and other health institutions were listed. Copies, in both English and Spanish, were taken to employee meetings and discussions held with each individual on how to use the material.

*AHEC staff are tireless advocates stressing healthcare as sound, secure, and stable employment with excellent advancement opportunities. With the Black and Decker workforce this message was heard by mature and experienced employees forced by external circumstance into a career change.*

opportunities. Information was available on various occupations, educational requirements, employment opportunities, salary, and training locations. With the Black and Decker workforce this message was heard by mature and experienced employees forced by external circumstance into a career change. It was emphasized that

**Health Information and Career Fairs:** All Black and Decker employees were invited to attend general information sessions on services available from team partners. They were also offered health information sessions and career fairs sponsored by the AHEC. These events, which were held both on-site and, when the plant closed, off-site, showcased representatives of healthcare industry and insurance companies. Blood pressure and oral screenings were made available by AHEC contract staff but fairs did not provide clinical services. Rather they answered questions about health careers, addressed potential health concerns and referred workers to the appropriate medical resource as necessary. A federally qualified community health center agreed to provide priority treatment to employees identified with health issues. A total of 325 employees attended these sessions.

**Health Career Counseling:** The Eastern Shore AHEC staff also met with employees at Health Care Information Days to describe and discuss specific opportunities for a career in health care. These sessions occurred during the time frame employees were considering career options. At every session a constant theme was presented: consider a career in the health care field. AHEC staff are tireless advocates stressing healthcare as sound, secure, and stable employment with excellent advancement

some health careers require as little as a few months' training while others needed two years or more of education to obtain certification or licensure. In most cases this training was available at the local community college with potential tuition funding available through the Workforce Investment Board. A total of 150 employees attended these events.

**Educational Support:** For some employees who elected a career in health care, the transition from factory worker to college student was not easy or direct. Years past high school, study skills had to be relearned while these new students dealt with the day-to-day pressures of existing family responsibilities. For these employees the Eastern Shore AHEC remained deeply involved. AHEC's support included individual mentoring, offering employment leads and tips on interview skills, suggestions on stress management, and monitoring accomplishments at the community college. Sixty-nine employees participated in those programs.

Of the 1,276 employees terminated when the Black and Decker plant closed, 161, almost 13% of the workforce, have been, or are continuing to be, trained for new and exciting careers in the health care field. Many employees (58) selected training as Certified Nursing Assistant (CNA). Other health careers chosen were medical office

## *Plant Closure Means New Health Workers on the Eastern Shore*

### **Black and Decker Employees Trained in Health Care Careers n = 161**

| <b>Career in Health Care</b>      | <b>No. Employees</b> |
|-----------------------------------|----------------------|
| Certified Nursing Assistant (CNA) | 58                   |
| Medical Office Assistant          | 43                   |
| Medical Transcription             | 11                   |
| Medical Coding                    | 11                   |
| Radiological Technician           | 10                   |
| LPN                               | 10                   |
| Surgical Technician               | 9                    |
| Dental Assistant                  | < 3                  |
| Physical Therapy Aide             | < 3                  |
| Massage Therapist                 | < 3                  |
| EKG Technician                    | < 3                  |

These 161 employees represent almost 13% of the total workforce terminated by Black & Decker (1,276).

assistant (43), medical transcription and medical coding (11 each), radiological technician (10), LPN (10), and surgical technician (9). Other employees selected careers as dental assistant, physical therapy aide, massage therapist and EKG technician.

While nothing will immediately erase the hurt and anxiety faced by the terminated employees, the variety and depth of hands-on services provided by the team helped ease transition to new employment opportunities. For these former factory employees the future is bright. According to Shavanna Guy, who received training as a Medical Office Assistant, "I always had a factory job and thought I always would, but when I was laid off I took advantage of the retraining opportunity and enrolled as a Medical Office Assistant. It was a rough process going to school with my family responsibilities but in the end well worth it.

*As the last Black and Decker employees are completing their training, the AHEC retains its relationship with the Workforce Investment Board and is working with other laid-off employees.*

advocacy met one of the agency's primary objectives, which is to advocate for careers in health. They were proud to serve as team members and delighted that solid and stable careers were made available to a large number of the workers. Further, new collaborations and partnerships were forged which opened more doors and opportunities in the business world for the Eastern Shore AHEC. And the effort continues. As the last Black and Decker employees are completing their training, the AHEC retains its relationship with the Workforce Investment Board and is working with other laid-off employees.

I have a new job in a growing field with more advancement opportunities. I would certainly do it all over again!"

For the Eastern Shore AHEC staff working with the Black and Decker team has been a rewarding learning experience. This

# Developing Health Professionals Along the U.S./Mexico Border

*Susan C. Forster-Cox, PhD, MPH, CHES; Thenral Mangadu, MD, MPH; and Benjamin Jacquez, MS, BS*

*The Health Careers Opportunity Program at a U.S. Mexico border university offers youth from diverse rural and reservation communities opportunities to experience college life through an academically challenging, six-week summer enrichment program. A high proportion of the youth, after graduation, are pursuing health-related careers in college.*



*Susan C. Forster-Cox, PhD, MPH, CHES, is Co-Principal Investigator of the HCOP grant through Southern Area Health Education Center (SoAHEC) in Las Cruces, NM.*



*Thenral Mangadu, MD, MPH, is the Evaluator at SoAHEC in Las Cruces, NM.*



*Benjamin Jacquez, MS, BS, is the Director of the SoAHEC in Las Cruces, NM, and Co-Principal Investigator of the HCOP grant.*

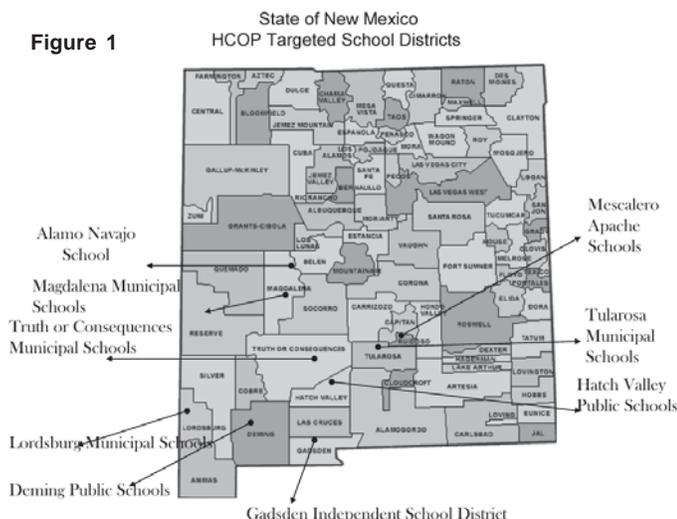
The Southern Area Health Education Center (SoAHEC), located at New Mexico State University (NMSU), received funds from the Health Resources and Services Administration in 2002 to establish an HCOP. The program's focus is specifically for ethnically and racially diverse youth, residing in rural and reservation communities, to recognize and develop their potential to seek a college degree and pursue a health career.

The HCOP, implemented by the SoAHEC, is unique because of the ethnic and rural diversity of the target population. The fact that the students participating in the HCOP are of disadvantaged Hispanic, Native American, African American, and white backgrounds illustrates that the program is truly seeking out and serving youth who may work in health careers in their respective communities. This diversity also presents challenges in terms of participant recruitment and designing appropriate and inclusive program activities. SoAHEC's HCOP has been innovative and successful in overcoming these barriers by integrating individual participant requirements without compromising the program's goals and objectives.

The program targets disadvantaged middle and high school students from nine different school districts, including two

Native American districts, across six counties in southern New Mexico, three of the six sharing a border with Mexico. Travel time from the SoAHEC can range from 45 minutes to 3 hours, one way. See Figure 1 for a map of the targeted schools in southern New Mexico. Within the 9 different schools, more than 75% of the students are disadvantaged, 80% are Hispanic, and 7% are Native American. An estimated 25% of the student population would qualify as Limited-English-Proficient (LEP), with their primary languages spoken of Spanish or Navajo. Every school district involved in the HCOP is located in a designated Health Professional Shortage Area (HPSA), as they experience a shortage of primary medical care, dental or mental health care providers in their communities (Bureau of Primary Health Care, n.d.).

**Figure 1**



## Developing Health Professionals Along the U.S. Mexico Border

**Table 1:**  
**Number of Students who Successfully Completed the HCOP Summer Enrichment Program**

| HCOP              | Number Admitted | Number Completed | % Completed |
|-------------------|-----------------|------------------|-------------|
| Year One / 2003   | 39              | 33               | 85%         |
| Year Two / 2004   | 34              | 30               | 88%         |
| Year Three / 2005 | 35              | 34               | 97%         |

By the end of 2005, the NMSU HCOP had held three successful 6-week on-campus summer programs (2003-2005), involving 97 students from rural and reservation communities. The percentage of students completing the 6-week summer program increased steadily each year. Table 1 indicates the number of students who were admitted and completed the 6-week summer enrichment program. The increased completion rate was tied to HCOP staff development and experience, as well as improved methods for selecting and supporting students who were academically and emotionally ready for a 6-week residential summer program. In addition, in the summer 2005 session, personalized counseling services, from graduate students and faculty from the NMSU Education Psychology program, provided support to students affected by a wide range of emotional, academic, personal, and social issues.

The SoAHEC ensured the success of its HCOP due to its access to various resources including the NMSU learning facilities. The fact that the SoAHEC did not have to allocate a major part of its HCOP funding for procuring access to resources such as university

libraries, computer labs, dorms, and field experience/career shadowing sites, allowed for the use of the limited program funds for actual program activities directly involving the program participants.

### Lessons Learned: Rural Realities

The second and third years of the program are linked with agriculture and athletics. Many families of HCOP students make their living through agriculture, including tending or picking crops such as chiles, cotton, or onions. For many of these families, their teens are able to assist in providing a sizeable portion of the family's summer income. Athletics and team sports are also key activities for many of these students. Deciding between an athletic/sports camp versus an academic enrichment program is difficult for many students. They often opt for the athletic camp versus an academic and more long-term, career enrichment opportunity. These two issues will always be competing forces for the NMSU HCOP enrollment in the 6-week summer enrichment program and the rural students they serve.

The focus of the NMSU HCOP program is to prepare youth to enter into a college program,

A typical summer session has students living in the dorms, with a roommate who is not from his/her community. The students are monitored and guided by culturally and ethnically diverse mentors – usually an upper-level undergraduate or graduate student.

**Table 2:**  
**Students' Performance for Each Academic Course in Years 2003, 2004, and 2005 and If the Objective for Achievement Was Met**

| Subject               | Year 1 (2003)        | Year 2 (2004)<br>Objective Met: Yes/No | Year 3 (2005) |
|-----------------------|----------------------|--|---------------|
| Anatomy & Physiology  | Not offered          | *                                      | Yes           |
| Biology               | Yes                  | Yes                                    | No            |
| Chemistry             | Yes                  | Yes                                    | Yes           |
| Computer Technology   | Yes                  | Yes                                    | Yes           |
| English               | No                   | *                                      | No            |
| Environmental Ecology | Yes                  | Not offered                            | Not offered   |
| Math/Algebra          | No                   | No                                     | No            |
| Medical Terminology   | Yes                  | Yes                                    | Yes           |
| Health Research       | Offered as a seminar | No                                     | Yes           |

\* Unable to calculate a change.

## *Developing Health Professionals Along the U.S. Mexico Border*

successfully complete a degree in a health field, and ideally return to their communities to practice in their chosen profession. The ability to move from a rural community, enter a college program, and be successful both academically and socially can be daunting for almost anyone. The program strives to have students return, summer after summer, to continue to enhance their academic skills and better prepare them for college life. To date, there has been one student who attended all three summer 6-week sessions and 13 who attended for two of the three years.

The preparation provided, specifically through the 6-week, on-campus program at NMSU, allows students the ability to attend classes in campus classrooms, use computers, libraries, and other campus resources to gain a better

sense and comfort of campus life. The rigorous academic schedule includes Anatomy and Physiology, Biology, Chemistry, Computer Technology, English, Math, Medical Terminology, and Health Research. Different levels of the classes are provided to better serve students at different grade levels. Classes are 75 minutes in length, two days per week, with a Monday/Wednesday and a Tuesday/Thursday track and built-in lab and/or homework time. Fridays are used for shadowing experiences, field trips, or supplemental courses (e.g., ACT Preparation, the development of study, note taking, college survival, cultural competency, or time management skills).

The primary, long-term outcome expected of the HCOP by the SoAHEC is an increase in disadvantaged minority students from rural

**Table 3:  
Race, Sex, HCOP Program Involvement  
and College Degree of the Tracked HCOP Graduates  
Who Are Currently Enrolled in College**

| Year Graduated | HCOP Program                              | Age      | Sex    | Race            | College Program   |
|----------------|---|----------|--------|-----------------|---|
| 2004           | Academic Year Program                     | 17 years | Male   | Hispanic        | Nursing Program in Dona Ana Branch Community College (DABCC)    |
| 2004           | Academic Year & Summer Enrichment Program | 16 years | Female | Caucasian       | Biology in NMSU, Alamogordo, NM                                 |
| 2004           | Academic Year                             | 16 years | Female | Hispanic        | Nursing Program, Western New Mexico University, Silver City, NM |
| 2005           | Academic Year & Summer Enrichment Program | 15 years | Female | American Indian | Pre-nursing in DABCC  |
| 2005           | Academic Year & Summer Enrichment Program | 16 years | Female | Hispanic        | Pre-med, NMSU   |
| 2005           | Academic Year Program                     | 16 years | Female | Hispanic        | Business Administration, NMSU                                   |
| 2005           | Academic Year Program                     | 16 years | Female | Hispanic        | Secondary Education, NMSU                                       |
| 2005           | Summer Enrichment Program                 | 18 years | Female | Hispanic        | Premedical basic courses at DABCC, Gadsden Center               |

## *Developing Health Professionals Along the U.S. Mexico Border*

southern New Mexico who enter and successfully complete health career education programs and return to serve as healthcare providers in their rural communities. The impact of this HCOP will ideally decrease the shortage of healthcare professionals in the rural areas of New Mexico and increase local access to quality and affordable health care within these communities.

SoAHEC has created a tracking database to measure the HCOP's initial accomplishments towards achieving the above-stated long-term outcome. The current reports from this database, tracking HCOP participants who have graduated from high school in 2004 and 2005, indicate a positive trend towards achieving the program's long-term outcome. Since 2004, there have been 26 HCOP students graduate from high school. The HCOP has been able to track 13 of the graduates from 2004 and 2005. Of the 13 students tracked, eight (62%) have enrolled in college and six of the eight are enrolled in college-level courses. Table 2 illustrates the diversity of the HCOP graduates who are enrolled in college, and their reported majors. The average percentage of New Mexico youth, who enter college by their 19<sup>th</sup> birthday, after graduating from high school, is 33% (National Center for Public Policy and Higher Education, 2004). As 62% of the tracked graduates from the HCOP program are in college, this suggests that students enrolled in NMSU HCOP are entering college at almost double the New Mexico rate of other graduating teens.

When teens return to their respective high schools in the fall, after completing the summer 6-week on-campus program, the HCOP staff has received a variety of positive comments from the different schools' staff and faculty. Counselors and teachers report many of the students return to class with more confidence, with some obvious skill development their peers do not have, and are ready to assume more leadership roles.

The School of Medicine, located at the University of New Mexico in Albuquerque, recently established a BA to MD program. They have been very interested in the strengths demonstrated by many of the NMSU HCOP students, and their strong academic records. Administrators of this program have begun to specifically seek out and begin discussions with some of the HCOP graduates to discuss the possibility of their applying to this new BA to MD program.

The NMSU HCOP program has been successful in exposing many racially/ethnically minority students, from rural and reservation communities, along the U.S. Mexico border to experience a sense of college life. Students are assuming academic and personal challenges many thought they were not prepared to handle. Students are recognizing they are capable of entering the college environment and handling the diverse academic and social challenges, with success!

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## ***National AHEC Bulletin***

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## **Autumn/Winter 2006 Bulletin**

# **“Oral Health, Mental Health, and Geriatrics: The Growing Challenges”**

Three areas of increasing importance in the health of our nation are oral health, mental health, and geriatrics. Each of these areas has its own access to care challenges, and these access gaps are growing along with increasing service demands. Social, economic, and cultural factors can significantly impact how these health care issues are addressed.

Oral health care access problems are pervasive with over 40 million people living in Dental HPSAs. And, dental disease is a chronic problem in our low-income population. There are already shortages in the oral health workforce, particularly in inner cities and rural areas, and the workforce suffers from a lack of racial and ethnic diversity. These problems are likely to get worse as both dental schools and allied dental health programs are facing faculty shortages while demand for dental services is expected to increase.

Mental health disorders affect an estimated 22.1 per cent of the population over the age of 18, or 44.3 million people. In *Mental Health: A Report of the Surgeon General*, published in 2000, it is noted that more than other areas of health and medicine, the mental health field is plagued by disparities in the availability of and access to its services, and these disparities can be even more pronounced depending on one's racial and cultural background, age, and gender.

And geriatrics is a growing area, as it is well-documented that our population is aging. In 2003, 35.9 million people, or 12 percent of the population, were age 65 or over and, by the year 2030, this number will reach 71.5 million. As life expectancy increases, the effective treatment of chronic diseases and increasing disability becomes even more important but, unfortunately, these treatments may vary by race and ethnicity.

**The *National AHEC Bulletin* is seeking articles focusing on how your AHEC or HETC confronts any of these health care issues by addressing one or more of the following:**

- promoting the AHEC and HETC mission to increase access to quality health care
- preparing students to be part of a health care workforce that is better qualified to practice culturally competent oral health, mental health, or geriatric care, and how they are improving their interface with primary care services
- supporting health care professionals working in these areas with continuing education and other practice support initiatives
- measuring the outcomes achieved by your programs.

## **Deadline for First Draft of Articles: September 11, 2006**

Email articles to: [editor@nationalahec.org](mailto:editor@nationalahec.org)

If you have questions about the “Call for Articles,” contact either:

**Joel Davidson** 608-663-1682 [jdavidsonswahec@chorus.net](mailto:jdavidsonswahec@chorus.net)

**Tina Fields** 210-567-7813 [fieldst@uthscsa.edu](mailto:fieldst@uthscsa.edu)

For Editorial Guidelines, see the NAO website: [www.nationalahec.org](http://www.nationalahec.org)



## ***The National AHEC Organization Mission***

*NAO is the national organization that supports and advances the AHEC/HETC network in improving the health of individuals and communities by transforming health care through education.*

## ***The AHEC Mission***

*To enhance access to quality health care, particularly primary and preventive care, by improving the supply and distribution of health care professionals through community/academic educational partnerships.*

## ***The HETC Mission***

*HETCs provide community health education and health professions training programs in areas of the U.S. with severely underserved populations such as communities with diverse cultures and languages. Border HETCs target healthcare workforce needs to address the population in close proximity to the U.S.-Mexico border and Florida using a bi-national approach to border health issues. Non-border HETCs are located in other seriously underserved areas of the country.*

***[www.nationalahec.org](http://www.nationalahec.org)***

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