Journal of the

National AHEC Organization

AHECs and the Changing
Healthcare Landscape

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Editorial Overview

AHECs and the Changing Healthcare Landscape

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This is a seminal time for health care. There are new developments almost daily as healthcare practitioners, researchers, and institutions struggle to reshape the way care is provided and paid for. As Westling and McClurg point out in their article, "if we do not address the rising costs of health care, we will either: (1) bankrupt the country, (2) raise taxes considerably, or (3) no longer provide care to our vulnerable populations." Whether or not challenges to the Affordable Care Act (ACA) modify its impact, change is inevitable and, in fact, already underway.

Where does AHEC fit into this changing landscape? AHEC, the only national program to recruit and support students throughout the health careers pathway, is an indispensable partner in shaping the healthcare system that we need in America. We will need, however, to think outside our usual box, to make deliberate and thoughtful connections between our hallmark activities and new models of care.

The current edition of the *Journal of the National AHEC Organization* highlights just a few of the innovative ways that AHECs are implementing the ACA. We hope these articles inspire all AHECs to think out of the box.

So what activities are you considering adding to your AHEC repertoire? What areas are you developing training or facilitation for? We hope this edition will give you some ideas…
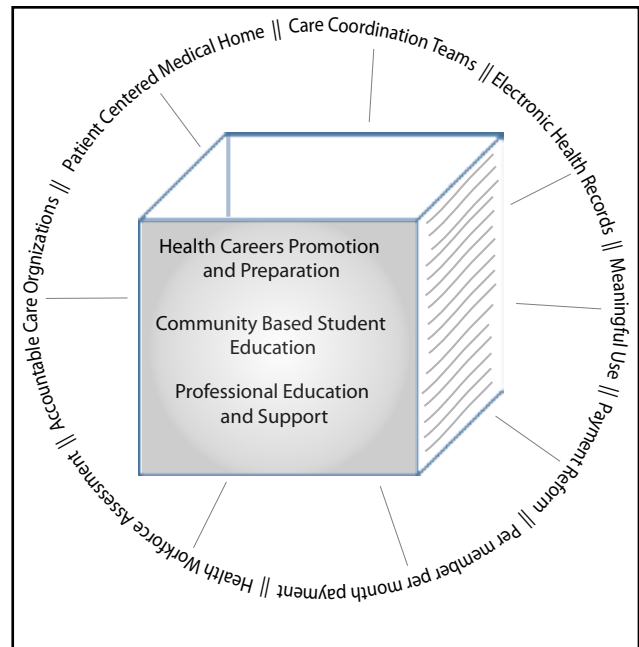
Thinking Outside the Box

The National Center for Health Workforce Analysis and AHECs: Opportunities for Collaboration

Edward Salsberg, MPA

Introduction

Over the past several years, there has been a significant increase in the awareness of the critical role of an adequate health workforce in ensuring access to health care. This awareness is fostered in part by a growing number of reports of existing or projected health workforce shortages as the nation grows and ages. With the expansion of health insurance coverage authorized by the historic Affordable Care Act, financial barriers to healthcare access will be reduced—further focusing attention on the barriers created by health workforce shortages.

In response to the challenges the U.S. will face in developing, training, and supporting a sufficiently sized and culturally competent health workforce over the coming years, the Affordable Care Act is encouraging a series of innovative programs and initiatives, including the National Center for Health Workforce Analysis (NCHWA) at the Health Resources and Services Administration (HRSA). The NCHWA and Area Health Education Centers (AHECs) share mutual interests in health professions education, distribution, diversity, and evaluation. There are thus benefits to collaboration between NCHWA and AHECs in developing a strategy to face the challenges of how to recruit, educate, and retain an adequately sized and well-prepared U.S. health workforce.

Background

According to the U.S. Bureau of Labor Statistics, the Health Care and Social Assistance sector represented over 17.1 million jobs[1] and accounted for over 10% of the total U.S. employment in 2008.[2] These figures rise to 18.5 million jobs and over 12% of total U.S. employment when health professionals working outside of the Health Care and Social Assistance sectors are included.[3] Even throughout the ongoing recession, the healthcare industry has grown, adding 323,000 jobs in the private sector between November 2010 and November 2011.[4] Despite this growth, the anticipated increase in demand for health care has led to predictions of shortages in key professions and practice areas, including from various associations representing health professions schools.[5,6] Though shortage data are most readily available for physicians and nurses, the growth and aging of the population is likely to require an increased supply of all health professionals. Practice areas and specialties of particular concern include primary care, chronic and long-term care, behavioral health, and oral health care services.

While an adequate total supply is a necessary precondition for ensuring access, the nation also faces several other challenges in ensuring access to high quality care. A key issue is the maldistribution of existing (and future) health workers, which is of particular concern in rural and frontier areas. Cultural sensitivity is also critical to competent health care; disparities in access to culturally competent care are of concern not only for particular racial and ethnic groups but also for special populations.

The National Center for Health Workforce Analysis

Established by the Affordable Care Act in 2010,[7] the NCHWA is charged with expanding and improving health workforce data and information to support more informed public- and private-sctor decision-making related to the health workforce. This work supports the supply and distribution of well-prepared health workers necessary to ensure access to high quality, efficient care for the nation. Key responsibilities of the NCHWA include:

- Improving the collection and analysis of data to describe the health workforce;

- Identifying and monitoring key workforce trends;

- Regularly projecting future supply of and demand for health occupations and therein identifying potential gaps and needs;

- Providing guidance to inform federal and state workforce policies;

- Assisting state health workforce data collection, analysis and planning; and

- Encouraging relevant health workforce research.

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[1]U.S. Bureau of Labor Statistics, May 2010 National Industry-Specific Occupational Employment and Wage Estimates, Health Care and Social Assistances, accessed August 29, 2011. Available at: http://www.bls.gov/oes/current/naics2_62.htm#(1).

[2]U.S. Bureau of Labor Statistics, "Employment by Major Industry Sector," accessed August 29, 2011. Available at: http://www.bls.gov/emp/ep_table_201.htm.

[3]Analysis of BLS data performed by The Albany Center for Health Workforce Studies and published in: "Health Care Employment Projections: An Analysis of Bureau of Labor Statistics Occupational Projections, 2008-2018."

The National Center for Health Workforce Analysis and AHECs: Opportunities for Collaboration

The NCHWA's efforts focus on development and analysis of data as well as dissemination of data. Though the NCHWA will field occasional sample surveys, its primary strategy is to work with existing sources of data and to encourage state licensure boards, professional associations, and other health workforce research institutes to develop data for analysis. These data will be incorporated into a comprehensive data system that will improve the data available to analysts and researchers. Sample federal data sources, including those that may be of assistance to AHECs, are included in Table 1.

Table 1: Federal Data Resources Related to the Health Workforce

HRSA
•   Area Resource File (ARF)
•   Health Workforce Information Center (HWIC)
Bureau of Labor Statistics
•   Occupational Employment Statistics
•   Occupational projections
Department of Education
•   Institutional Post-secondary Education Data System (IPEDS)
Centers for Medicare and Medicaid Services
•   National Provider Identifier (NPI)
•   Claims data
Census Bureau
•   Population statistics
•   American Communities Survey (ACS)
Centers for Disease Control and Prevention
•   National Health Interview Survey (NHIS)
•   National Ambulatory Medical Care Survey (NAMCS)
•   Behavioral Risk Factor Surveillance System
Agency for Healthcare Research and Quality
•   Medical Care Expenditure Panel Survey (MEPS)
•   Healthcare Cost and Utilization Project

To ensure access to its materials, the NCHWA is developing a diverse dissemination strategy that will build on several existing programs, including the Area Resource File (ARF, accessible at http://arf.hrsa.gov/), a free downloadable database that provides county-level data on the health professions, and the Health Workforce Information Center (HWIC, accessible at http://www.hwic.org/), an electronic library incorporating qualitative and quantitative information regarding the health workforce.

In order to develop national data, the NCHWA is devoting substantial effort to the development of a Minimum Data Set (MDS), which will ensure collection of standardized data on the health professional education and training pipeline, demographics of health practitioners, and employment and/or practice activity for selected professions. The MDS builds on existing data from professional associations, states, and federal agencies, among others, to expand upon and improve the data publically available for local-level planning and research. This effort in turn will help to provide states and local agencies, including AHECs, with critical information to assess their local health workforce capacity and needs.

Key Questions Influencing the Health Workforce Supply
The effective supply of the health workforce is more complicated than a simple head count of individuals practicing and the numbers being educated and trained. Many factors influence the effective supply and use of health workers. The NCHWA will support research into key questions, including, for instance, the question of health professional retirement and how changes in the economy may impact retirement patterns.

The organization of the healthcare system and how workers are used in the delivery of care also have a major impact on the numbers and types of workers the nation needs. Physician assistants (PAs) and nurse practitioners (NPs) are two pivotal professions that will help determine the adequacy of health workforce supply, particularly in light of the growing numbers of these clinicians. The number of PAs passing the Physician Assistant National Certifying Exam (PANCE) annually grew from 4,051 to 5,823 between 2000 and 2010,[8] while the number of individuals graduating from NP programs (including post-masters NP programs) annually increased from 7,089 to 10,863 over the same time frame.[9] The dynamic of the workforce is changing as the ratio of

[4] Altarum Institute, "Health Market Insights from the BLS November 2011 Employment Data," accessed December 27, 2011. Available at: http://www.altarum.org/files/imce/CSHS-Labor-Brief_Dec_2011_120711.pdf.

[5] Association of American Medical Colleges, "Workforce Data and Reports," accessed December 29, 2011. Available at: https://www.aamc.org/initiatives/workforce/reports/.

[6] American Association of Colleges of Nursing, "Nursing Shortage," accessed December 29, 2011. Available at: http://www.aacn.nche.edu/media-relations/fact-sheets/nursing-shortage.

[7] The Patient Protection and Affordable Care Act, Title V, Sec. 5103, "Health Care Workforce Assessment," available at: http://www.healthcare.gov/law/resources/authorities/title/v-healthcare-workforce.pdf, accessed 10/11011.

[8] Data provided by the National Commission on Certification of Physician Assistants (NCCPA), "Certified Physician Assistant Population Trends (PA-Cs)."

[9] Data provided by the American Association of Colleges of Nursing (AACN) from the 2000-2010 AACN Annual Surveys.

NPs and PAs to physicians grows: today, NPs and PAs represent approximately 20% of the existing population of direct patient care providers, but they represent almost 38% of the newly educated direct patient care workforce. Given anticipated shortages in the primary care **workforce**,[10] maximizing the effectiveness of these providers is critical to meeting the nation's healthcare needs. NCHWA's priorities in this area include creating more accurate integrated models of physician, NP, and PA supply and demand as well as studying the interface between these clinicians in the delivery of primary care.

A Critical Need for Collaboration

The NCHWA believes that collaboration is paramount to accomplishing its goals. As a national analytic body, the NCHWA is striving to build comprehensive national data sets, but recognizes that it will need to rely on states and local agencies to customize these data to the unique attributes of their regions. The NCHWA envisions a federal-state partnership in which the NCHWA provides data, tools, information, and guidance on analytical methods and on national health workforce trends and developments, while states and counties retain responsibility for local-level customization of data and information to identify local priority workforce needs. HRSA-funded grant programs, including AHECs, State Offices of Rural Health (SORHs), and State Primary Care Offices (PCOs), will be critical partners in these collaborative efforts.

A brief overview of SORH and PCO responsibilities illuminates areas of potential collaboration with AHECs.

State Offices of Rural Health work to:
- Establish and maintain a clearinghouse for collecting/disseminating information;
- Coordinate activities within the state to avoid duplication of effort and activities;
- Identify federal and state non-governmental programs and resources and provide technical assistance regarding application and participation in these programs;
- Encourage, but not directly fund, the recruitment and retention of health professionals in rural areas; and
- Participate in strengthening state, local and federal partnerships in rural health.

PCOs, on the other hand, are expected to:
- Assess needs/share data;
- Create organizational effectiveness and foster collaboration;
- Provide technical assistance to organizations/communities working to expand access to primary care for underserved populations;
- Support workforce development for the National Health Service Corps and Safety Net facilities; and
- Perform shortage designation applications and updates.

Given AHECs' responsibility to create community-academic partnerships to conduct health careers outreach and recruitment; provide community-based training; conduct interprofessional education; deliver or facilitate continuing education; and propose and implement outcomes measurement and evaluation strategies, they are natural partners for SORHs and PCOs as well as for the NCHWA. Capitalizing on mutual strengths and complementary scopes of activity will help to ensure that each state has a coordinated and comprehensive approach to its health workforce strategy. In fact, AHECs from states across the country—including Alaska, Arizona, Arkansas, Hawaii, North Carolina, Indiana, and Vermont—are already integrally involved in workforce analysis. These types of partnerships will only grow more critical as the country moves into the next era of healthcare delivery.

What Can AHECs Do?

AHECs and the NCHWA share a common goal: the production and distribution of a health workforce of sufficient size and skills to assure access to high-quality care for all state residents. There are a number of activities that AHECs can undertake to support health workforce development, including:

1. Continue efforts to recruit health professions to areas of need, including encouraging training in rural and underserved areas;

2. Expand interprofessional education and training in patient-centered medical home experiences;

3. Get involved in health workforce assessment at the local level by partnering with SORH, PCO, and other state organizations performing assessments, including state departments of labor, to find out how AHECs can play a larger role in workforce development and training.

Conclusions: Challenges and Changes in Healthcare Delivery

In summary, demand for health services is growing. Cost pressures and shortages will encourage innovative systems redesign, including new models of care such as the patient-centered medical home, which requires teams of providers to work seamlessly together, and the accountable care organization, which requires groups of providers and healthcare systems to work together to improve patient outcomes. Health information technology, including electronic data sharing and distance visits with providers, is more frequently at the center of proposed innovations. Finally, and perhaps most importantly, consumer involvement in the medical system will increasingly serve as the key to successful healthcare outcomes.

In these challenging times, data analysis and research to inform decision-making will be essential to ensure that access to culturally competent health care continues to expand. The NCHWA is privileged to serve at the forefront of this work and firmly believes that coordination and collaboration with state-level resources will be critical to the success of our work.

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[10]National Center for Health Workforce Analysis review of existing data sources; "direct patient care providers" refers to physicians, NPs, and PAs.

Health Reform Implementation: Identifying Workforce Needs from the Massachusetts Experience

Michael Tutty, MHA, MS

Massachusetts Health Reform

In 2006, Massachusetts implemented comprehensive health reform with the passage of Chapter 58 of the Acts of 2006. This bill expanded Medicaid coverage, created new subsidized health insurance programs, implemented health insurance market reforms, created an individual mandate, and developed a health insurance exchange (McDonough, Rosman, Phelps, & Shannon, 2006). These health reform efforts were successful at lowering the uninsured rate in Massachusetts—reported to be under 2% by 2010—although minorities continue to report higher uninsured rates (Division of Health Care Finance and Policy, 2010). The growth in the number of insured came from expansions of public programs, as well as from individuals purchasing health insurance in the private market. Despite fears that some employers would discontinue offering employer-sponsored health insurance to their employees, the percent of employers offering health insurance rose from 68% in 2003 to 77% in 2010 (Division of Health Care Finance and Policy, 2011). Massachusetts' health reform efforts would not have been as successful without a strong primary care workforce and significant community-based outreach and enrollment efforts. As the United States implements national health reform, AHECs are positioned well to support the development of this needed workforce.

In Massachusetts, media, partnerships with the business community, and collaborations with not-for-profits were used to implement a broad and sophisticated outreach campaign (Urff, 2011). Outreach/community health workers (CHWs) played a large role in providing individuals with one-on-one assistance in enrolling into eligible programs. CHWs have been credited with assisting a significant portion of those who gained health insurance after health reform implementation in Massachusetts (Rosenthal et al., 2010). The state provided grants to community-based organizations to support these outreach workers and their work in various communities around the state (Dorn, Hill, & Hogan, 2009) and the Mass AHEC Network collaborated with many of these programs to ensure that the CHWs were well trained.

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Success in expanding coverage, however, has not been without its own challenges. Increasing the number of insured residents in Massachusetts, for example, has put a strain on the health-care delivery system, particularly community health centers (CHCs). Since the law was enacted, total healthcare employment per capita has grown more rapidly between 2005 and 2010 in Massachusetts (9.5%) compared to the rest of the country (5.5%) (Staiger, Auerbach, & Buerhaus, 2011). CHCs have played a critical healthcare delivery role in Massachusetts, with the number of patients utilizing CHCs growing by over 30% between 2005 and 2009 (Ku, Jones, Shin, Byrne, & Long, 2011). Patients using these facilities do not see these healthcare organizations as providers of last resort; rather, patients see them as their medical home, providing culturally competent care (Ku et al., 2011). In 2008, the MassAHEC Network collaborated with the Massachusetts League of Community Health Centers to assess the recruitment and retention challenges for primary care physicians working in CHCs and determined that while a salary is often purported as physicians' biggest concern, for many, working with skilled trained support staff is as or more important (Savageau, Ferguson, Bohlke, Cragin, & O'Connell, 2011).

Looking Ahead at National Health Reform

In many ways, the Affordable Care Act (ACA) is based on the Massachusetts health reform efforts. Looking at the Massachusetts experience can help project the workforce needs nationally as health reform is implemented. Workforce initiatives should consider planning ahead to grow the work force of community health and outreach workers, primary healthcare providers, and allied health and other healthcare support professionals. This is where AHECs can play a substantial role.

Assisting individuals to navigate available subsidized health insurance options and ensuring appropriate use of the healthcare system will be an important role in assuring the success of the ACA. To that end, the ACA requires health insurance exchanges to create a 'Navigator Program' and provide grants to these organizations. While the law describes various types of organizations that could be navigators, from not-for-profits to trade and industry groups, each will be required to conduct fair and impartial public education activities to increase awareness of new program benefits (Rosenbaum, 2011). Whether their roles are as formal patient navigators or outreach positions based in hospitals, CHCs, and other community-based organizations, the CHW workforce will play an important role. The Outreach Worker Training Institute (OWTI) at the Central Massachusetts AHEC, is an example of a program offering certified courses to grow and educate

this segment of the workforce. OWTI has created adaptable curricula to reach different minority populations, address a range of healthcare topics, and support CHWs working in different settings. The courses are team-taught, with a CHW as co-instructor to ensure that knowledge provided is immediately applicable in a community setting.

As more individuals gain health insurance nationally, strain on the healthcare delivery system and its workforce will intensify. Particularly important will be supporting the safety net provider primary care workforce as the numbers of patients utilizing safety net providers grows after reform. While Massachusetts is known for having more physicians per capita than any other state (National Center for Health Statistics, 2011), shortages still exist in CHCs as their demand increases. Creating workforce training opportunities to grow the primary care workforce, with emphasis on providing care at safety net provider sites such as CHCs, not only helps grow the workforce, but increases provider satisfaction and retention once they are employed in these settings (Savageau et al., 2011). AHEC-coordinated primary care workforce training opportunities from high school through clinical residency targeted at exploring career opportunities in safety net settings will be essential to providing a primary care workforce to the newly insured.

As currently uninsured individuals—particularly minorities who have been disproportionately uninsured—gain access to the healthcare system, ancillary and support roles to the primary care workforce in the healthcare setting will need to grow (Staiger et al., 2011). Of particular need will be trained medical interpreters to help provide culturally responsive care. The MassAHEC Network has trained over 200 "dual-role" medical interpreters each year since Massachusetts health reform passage (University of Massachusetts Medical School MassAHEC Network, 2011). For many organizations, employing full-time interpreters is cost prohibitive; while less costly, the alternative of telephonic interpretation is not always patient-friendly; training billing and reception staff, medical assistants, and others who are bilingual to utilize their language skills appropriately in their jobs helps improve access. National health reform will create significant workforce needs in many of these ancillary and supporting functions in the healthcare system.

Passing health reform legislation is the first step in a long process to reduce the number of uninsured individuals and improve access. Creating a workforce to support national health reform is a critical component for success. No matter the extent of national health reform implementation in each state, AHECs across the nation will have an important role in educating and developing the workforce that will provide outreach and enrollment services to the newly eligible uninsured individuals and creating the primary care workforce that will care for this newly insured population.

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Collaborating to Advance the Medical Home Model in New Hampshire

Paula Smith, MBA

People don't resist change, they resist being changed.
-Peter Senge

Lamprey Health Care (LHC) and Southern New Hampshire Area Health Education Center (SNHAHEC) have embraced this concept and are collaborating to promote practice change spearheaded by front line staff in support of the medical home model. LHC is a federally qualified health center (FQHC) in NH with three sites: Newmarket, Raymond, and Nashua. The Newmarket site has been recognized by the National Committee for Quality Assurance (NCQA) as a Level 3 Primary Care Medical Home. This is the highest level of recognition and is awarded to practices that function as medical homes demonstrating their use of systematic patient-centered approaches to care.

To maintain and improve its recognition at one site, and to achieve recognition at the other two sites, LHC invested in a process improvement coach, Paula Smith, Director of SNHAHEC. The AHEC Director/Process Improvement Coach's role was to facilitate discussion, brainstorming, and problem-solving to reach the goal of improved processes to support patient care. The SNHAHEC is a program of Lamprey Health Care and is housed onsite at the Raymond Center location. As a result of this organizational relationship, Ms. Smith facilitated LHC senior management team meetings and participated in other change processes initiated by LHC. Ms. Smith has been instrumental in conducting needs assessment and facilitating discussions that have resulted in the development of training offerings leading to practice change. Part of the educational mission of the AHEC is to identify gaps in training and develop educational programs to meet those needs, so it was a natural fit to look at the concept of medical home and work with teams to identify opportunities for improvement.

To prepare for this role, Ms. Smith participated in the Dartmouth Institute for Health Policy and Clinical Practice (TDI) "Coach the Coach" training, which taught skills necessary to coach a team of people through process improvement activities using the Microsystem Process Improvement ramp and meeting skills. For more specific information, refer to www.clinicalmicrosystem.org. Using this microsystem approach, teams meet weekly to tackle issues related to quality, access to care, patient safety, customer satisfaction, and efficiencies, to name a few.

The first step in the process is to select a team of people to work on process change. This group

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Fig. 1. Microteam Nashua

then identifies a problem they want to address and they work through change concepts and the Plan Do Study Act (PDSA) cycle using the process improvement ramp as a guide. Representatives of the microsystem are selected by identifying people from a variety of disciplines within the practice. All should have a common work product, interdependent tasks, and shared responsibility for outcomes and results. For example, LHC microsystems typically involve providers, nurses, medical assistants, and representatives from the front desk. Guest speakers have been invited periodically to provide information from medical records, information technology, and other departments. The representatives of the different disciplines work through processes together, analyzing data, reviewing workflows, and brainstorming potential changes. Global and specific aim statements are developed, providing clear direction for what the group intends to achieve. Ultimately the team goes through a Plan, Do, Check, Act (PDSA) process to determine if the intervention is worth sustaining system-wide.

The data analysis component is supported using the framework of the five Ps: purpose, patients, professionals, patterns, and processes. Data collected at each site describe these categories to inform members of the microteam. The purpose for LHC was to move the sites to a medical home model delivering patient-centered care as many of the elements supporting the medical home were outlined in the LHC Board of Directors strategic plan. One of the first projects undertaken was to improve the efficiency of prescription refills. Community Health Center (CHC) policy states that a prescription should be refilled within 48 hours. Refills were an issue for patients, the provider, and the front desk staff. When prescriptions took too long, patients called numerous times expressing dissatisfaction; front desk staff took time to listen and then followed up with clinical staff. The provider felt that he was getting all the prescriptions at the end of the day. After data collection, flow charting, and discussing change processes, a new workflow was developed. A prescription desktop was established within the electronic health record, which allowed all prescription-related phone notes to be sent to one location. Having them in one desktop minimized the constant triage on the team desktop, allowing nursing staff a more focused approach that enabled the team to address prescriptions throughout the day. Expanding the scope of work for medical assistants to set up prescriptions effectively removed a bottleneck in nursing.

After approximately 6 weeks, we measured our intervention and found that refills went from an average of 50 hours to less than 5 hours per prescription. Satisfaction of staff and patients increased and the number of phone calls decreased, allowing front desk more time to assist with other projects. The facilitated microteam process enabled the people on the front line to focus on the workflows that impacted them.

Another project was undertaken by a microteam comprised of nurses. The desire to move to a medical home model encouraging patient-centered care and measurable quality outcomes led this group to establish a nurse education model focused on improving chronic disease management. The microteam utilized a survey tool developed by Dartmouth to assess the knowledge and perception of patients regarding their care. Using a scale of 1-5, patients were asked questions about their understanding of their disease, in this case, diabetes. Questions related to whether or not information was shared with them and in what manner. Overall results were positive; however, responses to a few questions raised concerns. The microteam focused on these questions, including: When you received care for your diabetes, (Q 2.) *Were you given choices about treatment to think about?*, and (Q 16) *Were you contacted by LHC staff after a visit to see how things were going?* Discussions about the data showed a lack of continuity in patient education. There was a gap in the ability to track what education was done and whether the patient was ready to move on to another topic, or needed reinforcement in the current topic. Through microteam meetings over the course of several months this group, working with the IT department, developed global and specific aim statements. The action plan resulted in a new nurse educator encounter form in the electronic health record, time scheduled in the nurses' week to do education and population management, and a cadre of nurses committed to patient education. Although the initial assessment was done for patients with diabetes, the group agreed to expand nurse educator visits to patients with asthma, Chronic Obstructive Pulmonary Disease (COPD), high cholesterol, heart disease, and those on Coumadin. They developed a graphical encounter form for nurse education that has a tab for each disease state and can use more than one tab if a patient has co-morbidities. As a result, as seen in Figure 3, the number of nurse education visits has increased from 16, starting in January 2011, to 55 in September. May had a high of 71 nurse education visits.

Preliminary impact data show patients have higher satisfaction with the new process. In addition to measuring the increased number of self-management goals, and reductions in hemoglobin A 1 C (average amount of glucose over a period of time), the team is in the process of conducting a survey of patients and providers to obtain their feedback on the process improvement. LHC is in the process of reapplying for NCQA recogni-
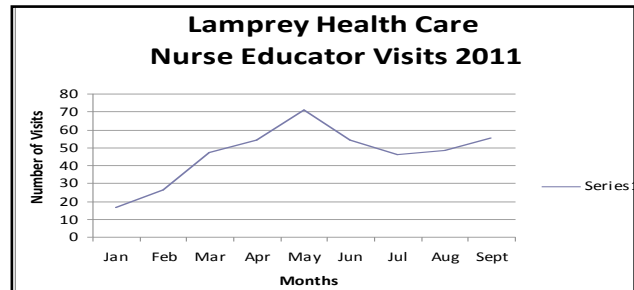
Lamprey Health Care Nurse Educator Visits 2011

Fig. 3. Tracking Nurse Education Visits

tion under the new 2011 standards for Newmarket this year, and perhaps a new application for Raymond in 2012 as well, with Nashua applying in the following year.

Fig. 2. Microteam Newmarket

As the microteam coach, the AHEC director teaches meeting skills, encouraging all team members to participate, keeping time, and recording meeting minutes. By allowing for discussion of barriers and then refocusing the group on possible solutions, the facilitator plays a key role in problem solving. Meetings that may have resulted in venting sessions are now more focused and purposeful. During the microteam process some issues that are important but not relevant to the discussion at hand get put in the parking lot, creating a waiting list of workflows to enhance, fostering a culture of continuous quality improvement. In addition, many training opportunities arise through engaging in the microteam process, which the AHEC can address through its continuing education programming. For example, trainings on proper technique for taking blood pressures, as well as motivational interviewing skills for negotiating self-management goals, have been offered. The collaboration of the health center and the AHEC fulfills the CHC mission of providing high-quality health care, and is directly connected to the AHEC commitment for workforce development. The microteam process is fulfilling to staff as they are engaged in changing their own work and patients benefit through enhanced patient-centered care.

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Helping Primary Care Practices Transform: The Evolution of NC AHEC Onsite Services

Samuel Cykert, MD; Thomas Bacon, DrPH; and Ann Lefebvre, MSW, CPHQ

Although the Affordable Care Act remains under challenge, health policy and reimbursement schemes that reward high-quality care achieved at lower cost continue to evolve and spread. Because of transparency provided by better measurement and the burgeoning cost of care in difficult economic times, the ethical and business case for enhanced informatics, coordinated systems of care, and integrated professional teams has never been more apparent. As these newer paradigms have emerged, the North Carolina Area Health Education Centers Program (NC AHEC) has continued to be actively involved on many fronts to support its constituents through this time of excitement but uncertainty.

Practice Support
In 2006, NC AHEC partnered with Community Care of North Carolina, the North Carolina Medical Society, the Governor's Office, the NC Department of Health and Human Services, the state's primary care medical societies, insurers led by Blue Cross Blue Shield of North Carolina and the State Health Plan, and others to plan and then launch the Robert Wood Johnson funded Improving Performance in Practice Program. North Carolina was one of the two original pilot states for Improving Performance in Practice and NC AHEC agreed to function as the direct practice support arm of the program. This new program was viewed as fully congruent with one of the core missions of AHEC—to improve quality of care for vulnerable populations. Improving Performance in Practice simply added practice-based education and consultation to AHECs' traditional models of providing formal continuing professional education and information resources for health professionals in the community. The intervention supported by the IPIP program was

Quality Improvement Consultants (QICs) employed at each of our nine regional AHEC centers to work within individual practices to help them measure accepted indicators of the effectiveness of chronic care, identify possible changes in practice work patterns to optimize this care, then rapidly test and fine-tune these changes to keep improving care.

Improving Performance in Practice was initially implemented in 18 practices in year one then rapidly expanded to over 150 practices throughout the state. We found that real-time electronic tools, whether disease registries or electronic health records capable of providing reminders and tracking important elements of care, were needed to improve relevant outcome measures. Although the importance of measurement and the use of electronic tools cannot be understated, we learned that access to data isn't enough; even more essential was the presence of a QIC to help the practice transform care to efficiently use the data. Simply put, data as a passive vehicle for improvement has its limits. The needs and solutions varied according to the training, skills, and resources of individual practices and their staffs. However, some fundamentals essential to success included building a team approach that fully utilized office staff to complement physician care and applying rapid-cycle quality improvement principles to clinic operations and care. The logical next step in this practice transformation process is the development of patient-centered medical home functionalities. Because of increasing ties to reimbursement, formal National Committee for Quality Assurance recognition has also been incorporated. At this juncture, we have 26 practices far along the patient-centered medical home recognition cycle and close to 80 additional practices that have begun the process.

For the early chronic care work to blossom, the QICs needed to work with practices to develop electronic tools that effectively measured care and served a registry function. These electronic solutions came in the form of implementing simple registries, tweaking legacy Electronic Health Records (EHRs) to report data and maximize registry functionality, or providing guidance regarding implementation of new EHR products.

The HIT Regional Extension Center
In 2009, when the Health Information Technology for Economic and Clinical Health (HITECH) portion of the American

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Recovery and Reinvestment Act became law, it became clear that NC AHEC, given its regional infrastructure and newfound experience in practice-based education, workflow, and electronic data systems, would be an excellent fit to deliver the services envisioned for the newly created Regional Extension Center for Health Information Technology Program. The NC Governor's office recognized this and asked AHEC to lead a consortium of organizations to submit the NC application and plan. Now in its second full year of funding, the NC Regional Extension Center has enrolled 3,300 providers in over 900 practices, one-third of North Carolina's primary care workforce, as of August 1, 2011. Implementation of certified EHRs to achieve Center for Medicare and Medicaid Services-defined meaningful use is the stated goal of the program and represents an essential building block for sustained measurement and quality improvement. As such, "meaningful use" is fully intertwined with the on-site educational services and quality improvement efforts that had already begun.

Fig. 1. Colin Jones, MD, Roanoke Chowan Community Health Center. The Roanoke Chowan Community Health Center has been working with NC AHEC to use their EHR system to improve patient outcomes. "Truly, we feel quite prepared for what is coming regarding NCQA and PCMH certification and step ahead of most FQHCs, not only in NC, but nationally," noted CEO Kim Schwartz. "This is due to our AHEC relationship—the AHEC commitment to us and the process and our need and passion to demonstrate through our data that we are making a difference for our patients and where we can improve."

for patients who otherwise might suffer the sequelae of blindness, kidney failure, and neuropathic pain remains large (Holman, et al., 2008; Advance Collaborative Group & Patel, et al., 2008). In the next year, we anticipate NC Regional Extension Center enrollment to grow to 4,000 primary care providers in over 1,000 practices covering 4 million patients. Among the patients receiving care in these practices, North Carolina prevalence statistics suggest close to 1 million hypertensives (Egan, Zhao, & Axon, 2010), 400,000 diabetics, 320,000 asthmatics, and 800,000 smokers could be affected (Kaiser Foundation, 2008).

Outcomes of the AHEC Quality Improvement Initiative

Looking back to the roll-out of Improving Performance in Practice, the first 150 practices caring for 113,000 diabetics have demonstrated a two-fold increase in the achievement of critical measures such as a hemoglobin A1C value less than 7%, and LDL cholesterol less than 130 mg/dl, and blood pressures lower than 140/90 mm Hg. Using conservative estimates extrapolated from United Kingdom Prospective Diabetes Study (Holman, Paul & Bethel, et al., 2008), we roughly estimate that 1,000 to 2,000 lives will be saved in this group over the next 10 years and that a similar number of microvascular complications will be avoided. The potential for preventing premature death and reducing disease burden

Fig. 2. John Torontow, MD, MPH, Piedmont Health Services. "The adoption of electronic medical records is a very complicated process," said John Torontow, MD, MPH, Piedmont Health Services, Siler City. "Most practices will completely change the way they do everything to accommodate their new computer systems. This task alone is difficult enough, but in order to receive federal stimulus money they must meet 'meaningful use' requirements. That is a lot to worry about for a practice running on a very thin margin. AHEC is their ace in the hole. AHEC staff helps with the vendor selection process, practice redesign, and, ultimately, the documentation of quality measures after implementation."

Using electronic features alone such as clinical decision support and point of care reminders, the impact on quality of care should be significant (Buntin, Burke, Hoaglin, & Blumenthal, 2011; Chaudhry, Want, & Wu, et al., 2006). Incorporating the QIC role coupled with improved practice workflows should result in more extensive improvements given the recent reports of medical home success stories (Reid, Coleman, & Johnson, et al., 2010; Rice, Dewan, & Bloomfield et al., 2010; Gilfillan, Tomcavage, & Rosenthal, 2010). Finally, the development of Accountable Care Organizations or similar structures of care that reward care coordination, efficiency, and the achievement of high-quality outcomes should provide the milieu for practices to fully utilize the skills and systems developed through the NC Regional Extension Center and associated AHEC services. An incidental but not trivial bonus for participating physicians is that up to 20 hours per year of Category 1 Continuing Medical Education credit for each quality improvement project and Maintenance of Cer-

tification Part IV credit for Board Certification can be attained.

Future Directions
Future projects that are either in planning or early implementation include a leadership program for primary care providers geared toward practice transformation and quality improvement. It is anticipated that participants will take an active role in establishing outcome-driven priorities in local networks, healthcare systems, Accountable Care Organizations, or other entities that emerge. NC AHEC, in conjunction with the NC Hospital Association, Community Care of North Carolina, and other community stakeholders is in the process of developing an evidence-based, transition of care package for outpatient practices to complement hospital and care management efforts designed to reduce hospital re-admissions, avoid errors, and improve outcomes for high-risk patients.

Although the programs described here serve practicing primary care providers, NC AHEC has also been actively engaged in incorporating quality improvement into the training of medical students and resident physicians. The AHEC-affiliated primary care residencies are participating in the Regional Extension Center and Improving Performance in Practice programs and are actively engaging resident physicians in quality improvement work and building medical home algorithms and constructs. Several of these residency programs have participated in a multi-state Medical Home Residency Learning Collaborative and plan on participating in a new residency collaborative which will emphasize team-based approaches and chronic disease population management. NC AHEC is also involved in efforts to establish community teaching practices for primary care student clerkships with firm curricular requirements for EHR functionality, medical home functionality, and rapid-cycle quality improvement.

Conclusion
Whether the Accountable Care Act stands the test of time or not, none of the principals absorbed in the healthcare debate support disorganized, high-priced, unsafe, or suboptimal care. Practice workflows, teams, and information systems that support excellent chronic and preventive care and assure patient satisfaction and safety will continue to evolve. Whether AHEC services include awareness education, quality improvement development, practice transformation, or key training roles within newly formed accountable care organizations, each AHEC has an opportunity to contribute as educators who effect care and bolster their constituents in an exciting but inexact period of change.

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AHECs and ACOs: An Opportunity for Collaboration

Craig Westling, MS, MPH; and Asha McClurg, BA

Introduction

Whether or not the Affordable Care Act remains as originally written, the concepts of accountable care and coordinated healthcare delivery are here to stay. If we do not address the rising costs of health care, we will either: (1) bankrupt the country, (2) raise taxes considerably, or (3) no longer provide care to our vulnerable populations. It is hard to argue against a model that improves care while reducing costs.

Embracing these concepts will require healthcare professionals to practice in new models of care where collaboration, coordination and teamwork are essential to success. This requires a major paradigm shift from current methods of practice—and we need to plant as many seeds of change as possible. The considerable experience of AHECs in educating healthcare providers and effecting change practice-wide (see related article titled "Collaborating to Advance the Medical Home Model in New Hampshire") makes them important partners in launching successful Accountable Care Organizations (ACOs). In this article we describe ACOs, their intended outcomes, implications for primary care, and the preliminary activities of one AHEC to support the establishment of an ACO in rural New Hampshire.

What an ACO Is and How It's Structured

An ACO is a group of providers that agree to work together to manage the full spectrum of care for a population of patients, while taking responsibility for the *quality* and *total cost* of the care provided (Rittenhouse, Shortell, & Fisher, 2009). The structure of an ACO can take many forms, ranging from an integrated delivery system to a virtual organization of partners who share information about patients and are contractually committed to being jointly accountable. The

ACO concept was introduced by Fisher, McClellan, Shortell, and others as a way to help accelerate and support providers in making the transition from the often fragmented, volume-driven system that risks bankrupting the U.S. economy, to an integrated, coordinated system that improves the quality of care while reining in costs (Fisher & Shortell, 2010; McClellan, McKethan, Lewis, Roski, & Fisher, 2010). While every major commercial payer has at least one ACO-like program, and all of them share core attributes. For the purposes of this article we will describe the ACO program developed by the Center for Medicare and Medicaid Services (CMS).

There are two fundamental principles that illustrate how the ACO model works. The first is that front-line providers serve as the nexus of care, which places a renewed emphasis on preventive care and keeping people healthy instead of treating them in acute settings. The second is that ACOs can earn a share of the savings they generate by: (1) improving care and thereby, (2) reducing costs. Let's take a closer look at each of these principles:

Generally speaking, an ACO is responsible for the patients who receive the majority of their care from the ACO's frontline providers. And since patients are attributed directly to the primary providers they see most often, a strong patient and physician relationship is at the core of the ACO model. This will inevitably lead to a shift of healthcare resources away from an emphasis on acute care, and towards providing more primary and preventive care.

In order to improve quality and control costs, ACOs must more effectively coordinate patient care—and thereby reduce redundancy, waste, unnecessary care, and preventable illnesses. This often requires additional infrastructure, such as electronic data sharing, disease management programs, and even additional mid-level staff. As an incentive to attract

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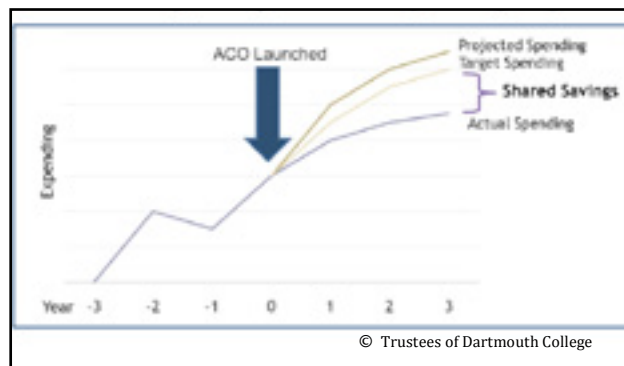
Fig. 1. Calculating savings based on spending targets.

Current System
- Fragmentation
- Adversarial Relationships
- Focus on "doing"

- One-to-one care
- Perverse financial incentives
- Focus on volume/intensity

Accountable System
- Integration
- Cooperation
- Focus on managing a population
- Team-based care
- Aligned incentives
- Focus on quality, efficiency, and value
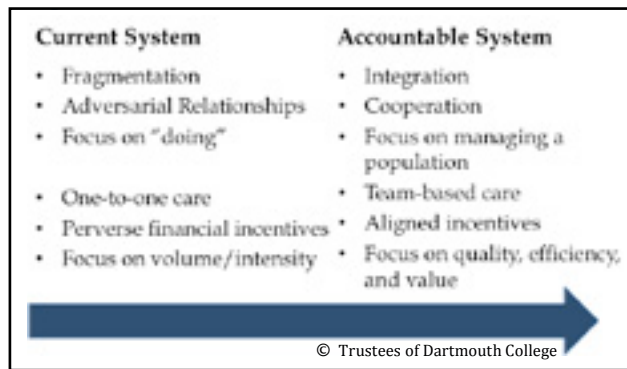
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Fig. 2. System characteristics

providers to invest in the needed infrastructure, Medicare has created a shared savings program that allows ACOs to keep a portion of the money they save (see Figure 1) as long as stringent quality of care metrics are also met. To make sure that providers continue to have skin in the game, eventually all ACOs will have some amount of reimbursement at risk, providing a strong incentive for them to meet quality and performance thresholds.

The combination of holding an ACO accountable for the quality and cost of care, and a shared savings program (an incentive to keep patients healthy and away from acute services) is expected to cause a significant shift in how healthcare resources are distributed. The end result could well be the elimination of excess capacity that is currently dedicated to high-volume, expensive acute care services. The potential to achieve real savings is underscored by research showing that up to 30% of healthcare spending is devoted to services that provide no value or improved outcomes for patients (Fisher, Wennberg & Stukel, et al., 2003).

Intended Outcomes of ACOs
The ACO model creates financial incentives for providers to work together in order to lower costs and improve the quality of care. How those cost and quality goals are achieved, however, is very much up to individual ACOs. There is no single template that works (or that is required) for every organiza-

tion. The result is that each ACO is likely to be unique, with local stakeholders deciding how it should work. The fact that ACOs are defined and controlled locally is largely why the concept has generally enjoyed bi-partisan support.

There is, however, a set of characteristics that are likely to be needed for ACOs to be successful. As described by Fisher, this requires a transformation from a current system that is fragmented, creates adversarial relationships between competing providers, and is volume-driven with the wrong incentives, towards an accountable system that is integrated, fosters cooperation, and focuses on quality, efficiency and value. (See Figure 2.)

The resulting accountable system should provide coordinated, longitudinal care for patients and improved health for an entire community. In addition to the quality and cost benefits, early evidence from systems that have adopted many of these features points to improved patient and clinician satisfaction (Reid, Coleman, Johnson, et al., 2010). The hope is that ACOs will make it more likely that the right patients receive the right care at the right time, creating huge improvements in quality and cost efficiency. Overall, accountable systems will cause a decrease in avoidable supply-sensitive care, more utilization of proven, effective care, and the right level of preference-sensitive care using patient-centered tools such as shared decision making. (See the sidebar regarding the Dartmouth Atlas definition of the types of care.)

Several questions have been raised about the difference between ACOs and the early HMOs that people disliked so much in the 1990s. A major difference that has emerged in the early ACOs is the core notion of partnership between providers, payers, and patients who work together to improve care and reduce costs. HMOs, on the other hand, were largely run by health plans that were primarily trying to reduce costs—at times limiting patient access to care, shifting risk to providers, and with no checks or balances regarding quality or outcomes. In contrast, ACO patients have no "lock-in," and are free to select the provider of their choice—even if that provider is outside the ACO. And because ACOs

Managed Care Era	Accountable Care
Risk badly managed: plans shifted risk to providers, many failed.	**Shared risk**: use sound actuarial principles, sharing risks and rewards.
No measures of quality, which allowed some to ignore quality or stint on care.	**Transparent measurement** ensures focus on improvement.
Rewards for cost cutting. Financial incentives focus on savings only.	**Payment for improvement**. Share of savings contingent on improvement.
Beneficiary lock-in created fear of stinting and poor quality (gate-keeping).	**Patient choice**: patients are not locked in – "Best fence is a good pasture."
Health plans driving cost savings.	**Providers, plans and patients working together** to improve care and reduce costs.

receive shared savings based on quality performance, they are incentivized to provide the best care to patients to keep them healthy (instead of stinting care to reduce costs). Other important differences between HMOs and ACOs, as described by Fisher, are summarized in a table in this article.

Implications for Primary Care Providers (CPCPs)
The ACO model depends on integrating and coordinating health care, which places enormous value on the role of primary care physicians. Since patients are attributed directly to primary care providers who coordinate the full continuum of a patient's care within the ACO, strong participation from primary care providers is essential.

With PCPs at the center, many front line practitioners will be required to take on new responsibilities such as coordinating patient care and managing health and illness in new ways. Early results indicate that many factors are required to restructure primary care, including effective teams that can put registries into place, population-based care management, and prevention programs, all supported by shared savings (Reid, Coleman, & Johnson, et al., 2010). The ability to support PCPs as they streamline care and improve the management of chronic conditions is at the core of an ACO's success.

However, there are legitimate concerns about the startup investment required to enable disease management, information sharing, electronic medical records, etc., particularly while the compensation model is changing and financial risk is being introduced. The Center for Medicare and Medicaid Innovation (CMMI) is attempting to address this issue by exploring ways to offer "up front" money to help ACOs with limited capital—such as those led by small physician groups—get started. The initial CMS investment would be paid back from future shared savings.

Some small groups and single providers want to remain independent, but are worried about how they fit into a system that seems to encourage consolidation. While this certainly presents additional challenges such as sharing patient records, independence is possible within a virtual ACO that relies upon partnerships and a commitment to coordinate care.

Many providers have also expressed concerns about taking responsibility for costs not directly in their control, such as patient costs outside the ACO, or other providers not working collaboratively with the PCP to achieve improved patient outcomes (Rittenhouse, et al., 2009; Fisher, 2008). Preliminary research by Dartmouth has shown that patients tend to receive the majority of their care from the ACO they are attributed to, mitigating some of these concerns. There is also hope that placing a greater emphasis on primary care within the ACO model (as opposed to instituting primary care reforms alone) will provide greater incentives to specialists and hospitals to engage in coordination. In this regard the ACO model integrates with other programs, such as patient-centered medical homes, allowing other improvement

Dartmouth Categories of Care

Based on Dr. Jack Wennberg's research, Dartmouth places all health care into three categories:

1 **Effective Care:** Care that is known to be superior to alternatives, and the benefits of the care outweigh the risk.

2 **Preference-Sensitive Care:** Care where more than one option is available and appropriate, and the trade offs are dependent on the patient's preferences.

3 **Supply Sensitive Care:** Care where volume may not impact patient outcomes, such as more physician visits, imaging, and how treatment of chronic illnesses is managed. Supply of these resources often governs frequency of use.

programs to flourish inside the ACO framework and expanding the impact beyond primary care to include all providers and hospital care.

Despite these genuine and valid concerns, ACOs provide a real opportunity to begin making an important shift in the way healthcare is provided and paid for. As a nurse leader from one of the Brookings-Dartmouth pilot sites put it:

> "Everything is pointing to the fact that we have a healthcare system that is overburdened with no future success unless something pretty dramatic changes. And there comes a point in your life where you realize that you are in the middle of a convergence of opportunity that you probably will never have again. And all of the things that have put us where we are happened for a reason, and to walk away from that kind of opportunity, to me, is more irresponsible than to embrace it and say, you know the upside here is amazing."

How AHECs Can Partner
In addition to implementing the education and coaching activities described in our opening paragraphs, AHECs are vital community partners who regularly convene networks of people and agencies to address healthcare issues. They are in a position to help ACOs become established and create an infrastructure for delivery of patient-centered care. One example of this can be found in rural New Hampshire, where four community health centers recently came together to form a new ACO, utilizing the administrative and financial infrastructure of the Northern NH AHEC to become a non-profit corporation. The AHEC employs the ACO Executive Director and acts as the fiscal agent for the ACO.

Together, they have submitted an application to participate in the Medicare Shared Savings Program. This efficient, cost-savings model will provide expanded care coordination and improve the quality of care for over 8,000 Medicare beneficiaries.

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For More Information About Accountable Care:

The Dartmouth Atlas of Health Care
    http://www.dartmouthatlas.org/publications/articles.aspx

CMS Medicare Shared Savings Program
    https://www.cms.gov/sharedsavingsprogram/

The Center for Medicare and Medicaid Innovation
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MassAHEC Network and AHEC of Southeastern Massachusetts Promoting Consumer and Community Engagement in the Massachusetts Patient-Centered Medical Home Initiative

Paulo L. Gomes, MSHS

The Massachusetts Patient-Centered Medical Home initiative (PCMHI) is a three-year multi-payer initiative by the Executive Office of Health and Human Services (EOHHS), with the goal of implementing the Patient-Centered Medical Home (PCMH) model of care in primary care sites throughout the Commonwealth. The purpose of the PCMHI is to sustain health reform and assure a high-performing health system through a cooperative effort to assure access to high-quality enhanced primary care (MA Patient-Centered Medical Home Initiative Council, 2009). The PCMHI is intended to address:

- Episodic care that harms patient health status and increases costs;

- Increasing prevalence of chronic disease, and suboptimal management of chronic disease among such patients; and

- A growing shortage of primary care providers.

The MassAHEC Network program office at the University of Massachusetts Medical School and the AHEC of Southeastern MA (AHEC-SE) have been actively engaged with practices participating in the initiative to define and develop consumer engagement materials and activities. AHEC-SE has partnered with health professionals and the other AHECs to engage patients to identify their perspectives on the PCMH model and how they would like to be engaged in a medical home. The answers to these questions are key for EOHHS and the MA PCMHI leadership council, as both are committed to fostering a healthcare system that is truly patient-centered.

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The Consumer and Community Engagement Project of the PCMHI

After noting that limited attention had been given to informing and activating patients and families in other PCMH initiatives across the U.S., the MA PCMHI Council convened the Consumer Engagement (CE) Workgroup. The CE Workgroup was charged with developing recommendations on what constitutes consumer engagement and how consumer engagement can be realized within the PCMHI. The workgroup developed six recommendations:

1. Involve consumers at the practice level to assure patient-centeredness.

2. Involve consumers by educating them on their roles and responsibilities.

3. Increase consumer engagement skills at the practice level among care teams.

4. Develop educational materials to build an involved and supportive community.

5. Increase the PCMH's use of existing community-based resources.

6. Encourage PCMHs to integrate existing payer or employer health incentive programs and wellness benefits into care plans.

The recommendations complement the Council members' advice that efforts at consumer engagement needed to occur both in the practice setting and in the broader community.

Consumer Engagement Project

The University of Massachusetts Medical School, a partner in implementing the PCMHI, engaged AHEC-SE to collaborate on the Consumer Engagement (CE) project to:

- Provide insight into how to better involve patients and families in the health care they receive;

- Explore applications of the PCMH model that relate to culturally and linguistically appropriate care; and

- Contribute information about consumer engagement to the larger effort of integrating the PCMH in the Massachusetts health system.

AHEC-SE is continuously seeking to engage consumers, the provider community, and participating practices to deliver on these goals as the state's initiative unfolds. AHEC-SE

MassAHEC Network and AHEC of Southeastern Massachusetts Promoting Consumer and Community Engagement in the Massachusetts Patient–Centered Medical Home Initiative
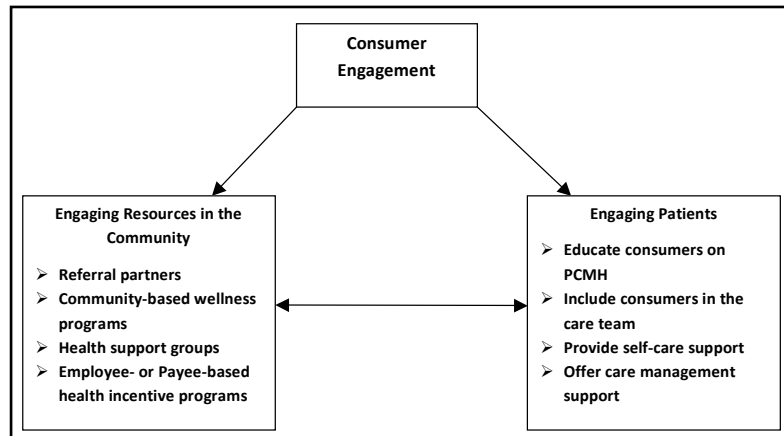

Fig. 1. The Consumer Engagement Paradigm

began by convening focus groups with medical interpreters and community health workers as they represent a population that is culturally and linguistically diverse and work closely with consumers who would be important constituents in the PCMHI. The focus groups were held throughout the state to capture the perspectives of diverse segments of the population. The information gathered, and through two focus groups conducted in Spanish by the Merrimack Valley AHEC (MVAHEC, also a member of the MassAHEC Network), has served to determine next steps in the development of consumer education materials and consumer outreach strategies. As a result of these qualitative findings, AHEC-SE and MVAHEC developed a list of recommendations that serve to inform practices of changes required during the transformation into a PCMH. The data led to some of the following findings:

1. The overwhelming majority of participants had not heard the term Patient-Centered Medical Home and felt that the term was confusing.

2. The majority of participants indicated that: (a) culturally and linguistically appropriate care, and (b) being viewed as a whole person, rather than a condition, were the most important components of good health care.

3. The majority of participants said that they would be willing to participate in consumer engagement activities in the development and implementation of the medical home.

4. Consumers reported that attending community meetings on issues relevant to their health would most likely be the activity most patients would participate in.

5. Practices must ensure that the practice setting is welcoming and personnel are courteous. Whenever possible, available literature or media should reflect patients' cultural and linguistic preference.

6. Consumers would like to participate in group activities such as exercise and support groups. Consumers reported that this would likely lead to sharing of lessons learned with relatives.

AHEC-SE compiled a literature review which included extensive research on defining consumer rights, roles, and responsibilities in practice redesign. AHEC-SE conducted key informant interviews in search of best practices while at the same time inquiring how consumers would prefer to be engaged in the PCMHI. Through this, AHEC-SE has learned of the overwhelming need for information on the PCMH for underserved populations, particularly those who have limited English proficiency (LEP), and developed consumer informational instruments to define the PCMH, patient and provider roles and responsibilities, and how consumers can lend their voice to the process of practice transformation. The materials were developed to address the health literacy requirements of consumers and were translated by the Central Massachusetts AHEC into seven languages to increase LEP consumers' access to information.

AHEC-SE is further supporting the project with the development of toolkits. The first is based on best practices in fostering CE in practice transformation. A second is a guide on engaging consumers and community support services in care coordination to support practices' efforts in building healthy, collaborative relationships, with patients and the broader service community, essentially creating a medical neighborhood.

Conclusion

There is clear consensus that primary care needs to be at the center of a reformed U.S. healthcare system. The PCMH has emerged as a favored model for primary care redesign. The PCMH builds upon core concepts of primary care, including accessible, accountable, coordinated, continuous, and comprehensive care. Added to these primary care concepts are features that improve quality of care, improve patient centeredness, organized care across teams, and reformed payment systems to support this enhanced model of primary care (Gill, Landon, Antonelli, & Rich, 2010). The Commonwealth Fund 2006 Healthcare Quality Survey found that when adults have insurance coverage and a medical home, racial and ethnic disparities in access and quality are reduced or eliminated. Beyond basic primary care, the survey found that access to high-performing primary care delivered in a medical home may improve outcomes for vulnerable patient populations (Beal, Doty, Hernandez, Shea, & Davis, 2007). PCMHI Council members agreed that the PCMHI should be, must be, a long-term commitment of the Executive Office of Health and Human Services (EOHHS) to transform the primary care delivery system to have a positive impact in the overall Massachusetts healthcare system (MA Patient-

MassAHEC Network and AHEC of Southeastern Massachusetts, Promoting Consumer and Community Engagement in the Massachusetts Patient-Centered Medical Home Initiative

Centered Medical Home Initiative Council, 2009). The Massachusetts EOHHS, in partnership with the University of Massachusetts Medical School, the MassAHEC Network, consultants, practices and their patients, are doing their part in promoting a more healthy equitable healthcare system in America.

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AHECs: The Nexus of Population Health, Interprofessionalism, and Community-Based Learning for Medical Health Professions Education

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Overview

The Healthcare Reform Act of 2010 renewed the authorization for Area Health Education Centers (AHECs) and reaffirmed our core healthcare development workforce mission. The reauthorization provides program opportunities for AHECs that increase the capacity of the Centers to empower the community to participate in evidence-based health improvement strategies in their own backyards. One very promising approach to engaging communities in this area is the participatory approach found in a Practice-Based Research Network (PBRN). Here we describe an innovative collaboration with Practice-Based Research Networks (PBRNs) over the past five years by the South Central AHEC in South Texas.

### What is a Practice-Based Research Network (PBRN)?

In its most basic form, a PBRN is a partnership between full-time community-based clinicians and academic investigators united by a shared commitment to conduct research that will improve patient outcomes. PBRNs have a long history in the U.S. (Lanier, 2005). There are currently more than 130 active primary care PBRNs (AHRQ, 2011). They have a demonstrated ability to: 1) expand the science base of clinical care through studies conducted in the local clinic setting; 2) answer research questions generated by community clinicians; and 3) improve the understanding of health issues in the community clinical settings. A critical element of PBRNs is that research is not done "on" patients or "on" practices; rather, research is done in partnership or collaboration with all those involved (Westfall, 2009). More importantly, and relevant to the mission of the AHECs, PBRNs serve as "health improvement networks" characterized by shared learning among the members about how to improve quality of care, deliver more patient-centered care (William & Rhynes, 2011). Compared to the traditional high-speed interstate highways of the research enterprise in the U.S., PBRNs are the "Blue Highways" where most people live and most health care is delivered (Westfall, 2010).

The "Fit" between PBRNs and AHEC (Points of Intersection)

There are several intersections where the interests and goals of a PBRN overlap with those of an AHEC. The first and most obvious would be healthcare workforce development, especially in primary care. When one considers the trajectory of development of a healthcare workforce, it is clear that it does not end upon graduation with a terminal degree. Primary care health professionals, and others, need on-going education and skill development throughout the course of their career. How does this overlap with a PBRN? In essence, a PBRN is a learning community. Clinicians work closely with academic investigators to answer questions that are relevant to them and their patients. The answers to those questions, hopefully, will improve the quality and outcomes of care. One family physician commented: "Being involved in STARNet (South Texas Ambulatory Research Network) is my way of helping to ensure a future that includes healthy patients, healthy practices, and a healthy future for Family Medicine."

Another overlooked area of overlap between PBRNs and AHECs may be in the area of health profession retention. In their study of physicians who participated in a PBRN in New Mexico, investigators found that physicians who had participated in PBRN studies over a period of years were more likely to stay in their current practice setting than those who did not (Sinclair-Lian, et al., 2008). Although this finding is tentative, there are multiple stories from physicians around the U.S. about how participation in a PBRN helps prevent professional isolation and burnout. One family physician in a small rural community in South Texas said: "Being involved in a PBRN like STARNet is my connection to the medical school: It keeps me in touch so I don't feel so alone and isolated. I will be able to
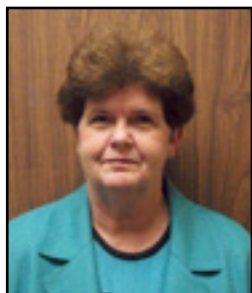
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learn from my involvement." Another said: "You have access to a network of physicians who are just a lot of fun to talk to about clinical things in medicine…It's a lot of fun."

Finally, PBRNs and AHECs both are interested in addressing community needs. PBRN clinicians are often acutely aware of the healthcare issues and problems in their local community. By participating in a PBRN, local clinicians can drive the research agenda, the questions asked, and the data collected. These findings can help shape local health policy and empower communities to address their needs and add credence to the statement that "all change is local." When talking about traditional academic research programs and how PBRNs can contribute, one active STARNet physician said: "The community-based aspect is lacking, and I think that is very important to us."

Our Story: How South Central AHEC and PBRNs Have Partnered in South Texas

The South Central Texas AHEC, a Center of the South Texas AHEC Program, was established in 1996. The Center is affiliated with the University of Texas Health Science Center (UTHSC) at San Antonio, where it has its primary office. It is dedicated to "improving access to quality health care through facilitation of community-based health profession training programs and initiatives," with a focus on recruiting and retaining primary care physicians. In 1992 the Department of Family & Community Medicine at UTHSC-San Antonio founded primary care PBRN, STARNet. STARNet is a network of primary care physicians and their office staff who have partnered with academic investigators to participate in research. This organization now has a board of directors and bylaws with a mission statement: "…to conduct and disseminate practice-based research that results in new knowledge and improves the health of patients in South Texas." As is true with most PBRNs, the questions and research projects completed in STARNet reflect the interests and concerns of the network members. For example, Is patient history a predictor of the likelihood of a skin infection with methicillin-resistant staphylococcous aureus?; How can office work-flows be redesigned to help activate/empower patients with diabetes to improve their self-care?; In dental practices, what is the prevalence of undiagnosed type 2 diabetes?

In 2007, the South Central AHEC began partnering with STARNet to provide support to the local family physicians and general internists. At that time, the tried and true AHEC strategies of sponsoring Primary Care Grand Rounds, Faculty and Preceptor Development and clinical site development were in need of

Fig. 1. Dr. Abigail Barrera, STARNet member, and Richard Traugott, Gillespie County TAB Chairperson, participate in a needs assessment discussion at the Annual PBRN Convocation, Oct 2009.

renewal. STARNet was successful in its own right but needed some infusion of new strategies to expand its capacity, reach, and membership. After a series of planning meetings between STARNet and AHEC leadership, AHEC leadership and staff assisted STARNet by planning and sponsoring membership meetings, maintained the membership database, created newsletters, and developed a recruitment exhibit, which in turn gave the network directors more time to develop the network's research capacity. The AHEC viewed STARNet as a way to enhance primary care physician recruitment and retention efforts as well as an avenue to establish new clinical rotation sites for primary care health professions students.

Following these first small steps, in 2008, the University of Texas Health Science Center at San Antonio received National Institutes of Health (NIH) funding through the Clinical Translational Science Award (CTSA). The overall goal of this program is to reduce barriers to research and stimulate the transformation of knowledge into improved health outcomes. A key component of this infrastructure funding was community engagement by strengthening the existing primary care PBRN, establishing a new dental/oral health PBRN and one additional discipline-specific PBRN. This funding allowed South Central AHEC and the PBRNs to formalize their relationship more fully through the development of Translational Advisory Boards (TABs) and the PBRN Resource Center to support all PBRN activities.

The AHEC developed five TABs, one for each county surrounding San Antonio, designed to actively engage and promote community-based research. A TAB is comprised of community members (hospital CEO, teacher, minister, etc.) who are committed to improving the health of their community, and who, through active involvement in community-based participatory research, will bring research partnerships and findings from "bench to bedside to community." One of the first steps taken by each TAB was a rapid assessment of health-related priorities and needs in their county. This assessment was accomplished with the assistance of the regional campus of the University of Texas School of Public Health in San Antonio and their graduate students. Not surprisingly, many of the health needs and priorities aligned closely with the topics of high interest among PBRN members for future research: obesity, diabetes, adolescent pregnancy, family health history, oral health, mental health, and overall access to primary care.

With the CTSA funding, the Health Science Center was able to expand the successful model of STARNet and create a PBRN Resource Center that serves as the operational base for develop-

ing new and supporting existing PBRNs (www.pbrn.uthscsa.edu). The Resource Center is able to facilitate opportunities for collaboration between investigators and community clinicians to utilize the PBRN as their real-world laboratory and to engage community clinicians in practice-based research. The Resource Center supported the development of new networks in dentistry/oral health and community psychiatry.

Along this journey, the AHEC and the PBRN Resource Center anticipated that the TAB members would develop their own research questions that would then be conducted in the PBRN setting. Surprisingly, the TABs were reticent about initiating any specific project and were more interested in learning about the findings from completed studies. One TAB member became very animated during a meeting in which an investigator shared the findings of a STARNet study examining skin and soft tissue infections (Parchman & Muñoz, 2009). The TAB member, who personally went through a "very painful experience" with MRSA first-hand, wants to share the findings with long-term care facilities and schools. This TAB is currently working on developing the key messages needed to educate their community, exemplifying the need to disseminate findings outside of the clinic into the broader community. STARNet is also in the process of completing a study on colorectal cancer screening among Hispanics, and the TABs are very interested in translating findings from this study into their communities. Most recently, the Veterans Affairs Mental Health PBRN has begun to collaborate with the AHEC and the TAB on a chronic disease management and outreach project, specifically diabetes, for returning veterans who are also suffering from PTSD.

This five-year journey has not been without its challenges. It has taken much longer than expected to bring the TAB and PBRN members together. The TAB members are still working through defining their own roles and responsibilities and selecting additional members to represent their county boards. The AHEC leadership is empowering the TAB members to recognize their critical role in prioritizing health issues and participating actively with PBRN members in their annual PBRN Convocation.

In the future, the AHEC and PBRN Resource Center will continue to strengthen their relationship further. The AHEC plans to include a PBRN member on their Board of Directors and the PBRNs plan to add a TAB member to their governing body to reflect the community perspective in their work. In February 2012, the South Central AHEC will host its first community forum with TAB and PBRN members to discuss

Fig. 2. Dr. Liem Du and Dr. Raquel Romero, both STARNet members, vote on research priorities for the following year. The network members enjoy the facilitated brainstorming session followed by the final vote with colorful stickers.

the causes and possible solutions to address diabetes in their community. The leadership plans to learn from this first joint project and replicate the key lessons learned in the adjacent four counties. In addition, the AHEC will be spearheading the development of a research training curriculum for TAB and PBRN members and creating a more comprehensive strategy for future dissemination of research findings.

Conclusions

Over this five-year journey, the relationship between the AHEC and the PBRN Resource Center has matured and become a "win-win" partnership for both organizations. It is vital that community partners are engaged from the very beginning through a participatory approach. AHECs considering working with a PBRN need to develop easy wins during the formation and provide large forums for direction and goal setting. With the growing demands placed on primary care physicians (Patient Centered Medical Home, Health Information Technology, etc.), providing resources, research opportunities, and educational sessions that improve patient and community health is of paramount importance. Together, the AHECs and PBRNs will continue to intersect and work together to advance healthcare workforce development and "real" translational research that optimizes the health status of the communities that we serve.

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The Oregon Locum Tenens Cooperative (OLTC): Helping to Ensure a Continued and Stable Path for Rural Practice

Joseph T. Ichter, DrPH, MHA; and Lisa G. Dodson, MD

Oregon AHEC and Oregon Health and Science University have partnered with the State's rural healthcare providers, forming a cooperative organization to coordinate and improve primary care locum tenens services. Recent inquiries with the leaders of Oregon's rural health facilities found they are challenged by the cost, reliability, and lack of long-term benefits of commercial locum tenens offerings. A May, 2010, survey of 32 critical access and rural hospitals (50% response rate) projected a total of $3.1 million (of those responding) spent annually on primary care locum tenens services, in addition to burdensome levels of expense associated with recruitment and/or placement. Our intention is to move beyond the "band-aid" only approach to locums, using it to not only support short-term practice needs, but as a tool to improve rural recruitment and retention.

Background

The pipeline to an adequate and sustainable rural health workforce doesn't end at the point where students choose a health profession or even graduation from a chosen health education path. True success of the pipeline occurs when all communities can reliably train, recruit, and retain high-quality providers, ensuring access to care for their populations. Providing the context is a 2009 international systematic literature review on health provider distribution. The authors defined the intervention categories supporting proper distribution as selection, education, coercion, incentives, and *support*. (NW Wilson, 2009) The support category takes many forms, including reduction of professional isolation, connections to consultants, sufficient locums relief, and proper physical infrastructure in local hospitals. (Gardiner, et al., 2005; Gardiner, et al., 2006) Providing support is complicated by the remoteness of many of the areas in need of workforce interventions. With its 3.8 million people covering 96,000 square miles (2.2 million in the Portland metropolitan area), Oregon ranks 40th among U.S. states in population density.

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Caring for our remote, rural residents takes special planning consideration and constant commitment to sharing resources.

Commercial locum tenens agencies are primarily for-profit, making substantial margins on temporary clinical coverage for vacations, continuing medical education, illness, or simply those wanting a break from the pressures of rural practice. Challenges with using commercial firms include:

- Total cost of commercial locums may exceed a provider's revenue-generating ability, resulting in a net loss for the practice.
- Locum's providers choosing to take a permanent position often result in placement fees upwards of $30-40,000.
- Agencies source providers from around the nation, some of whom may have little or no rural training and are unprepared for the wide scope of practice necessary in rural Oregon.

Facilities and practices attempting to arrange independent locum tenens coverage have experienced varying levels of success, having to use these more expensive commercial options as backup.

All this knowledge led us to ask the question: *Could we as an AHEC, in conjunction with our communities, do this better?*

Our Solution

As a result of the history and current reality of rural locum tenens, Oregon AHEC initiated a community-based cooperative, believed to be the first of its kind in the nation. The Oregon Locum Tenens Cooperative (OLTC) supports rural providers through coordination of direct contracted, low-cost primary care coverage while simultaneously addressing longer-term issues of professional isolation tied to retention and recruitment. Although other academically based locums programs exist, the OLTC promotes community ownership and facilitates innovation through a continued partnership between rural communities and Oregon Health and Science University (OHSU).

Building an affordable and accessible locum tenens workforce represents the core of the OLTC's operations. Our ability to professionally and socially network through OHSU and the Oregon Academy of Family Physicians is a unique OLTC asset, utilizing not only faculty, residents and fellows, but also retired and semi-retired providers, newly graduated residents, part-time providers, and interested out-of-state providers.

The Program

As a membership-based organization, the OLTC is composed of rural and underserved health facilities paying a structured annual membership fee to access the locums network. The base mem-

bership fee covers unlimited days for hospitals ($7,500-$10,000 annually). For practices paying much lower fees ($250-$750 annually) there is a maximum number of days under that base (10-20 days), depending on the number of providers. Practices seeking additional coverage days pay a volume-based fee of $100 per five additional days of coverage. This assures that practices only needing traditional coverage for vacations and Continuing Medical Education (CME) aren't subsidizing those with greater needs. Each member site is obligated through their acceptance of a Memorandum of Understanding (MOU) laying out the ground rules of participation. The general functions of the OLTC are as follows:

- Actively recruit potential locums providers by creating awareness of the cooperative's opportunities and maintaining a workforce to fill the majority of member openings.
- Develop and maintain a simple web-based scheduling system displaying open locums assignments and open permanent positions of members.
- Conduct targeted e-mail pushes of open assignments to established and interested locums providers in seven-day intervals.
- Act as a central repository of primary verification information for those providers interested in locum tenens assignments.
- Maintain satisfaction surveys of sites with the performance of providers and disseminate this information to members.
- Archive current medical malpractice policies covering locum tenens providers (sites are responsible to assure insurance coverage).
- Place permanent providers at little to no cost to the member.

Providers in the OLTC program also sign an acknowledgement of OTLC procedures prior to accepting open coverage dates. Just as the site agreement, this acknowledgement details the responsibilities of providers in working with OLTC sites. When working as locums, providers are in an independent contract arrangement with sites, which includes the compensation understanding.

In the first full year of operations, the OLTC's outcomes were the following:

- Over 4,000 total hours of Emergency Room, Outpatient, Hospitalist, and Physician Assistant (PA) Supervision coverage was arranged.
- Seventeen providers delivered care, including MDs and NPs.
- $35,750 in annual membership fees was contributed among 10 member organizations across 14 clinical sites.
- An Oregon State Primary Care Office contribution of $40,000 funding a scheduling coordinator, assuring program expansion for 2012.

Planned Innovation
The Locums to Practice (L2P) Program was approved through the National Health Service Corps (NHSC), allowing eligible primary care practitioners to perform locum tenens coverage at several sites for up to a year before selecting a final service commitment site. Five dedicated NHSC positions have been approved for piloting the L2P concept. Loan repayment data suggests that properly matching the interests and needs of the physician to the practice site is one of the single most important factors in physician and community satisfaction and eventual retention. (Donald Pathman, 2006; National Health Service Corps, 1995). This satisfaction not only has an effect on eventual rural retention, but may improve the dropout rate during the minimum loan repayment period. By permitting practitioners to begin accumulating loan repayment credit through short-term locums experiences, the OLTC L2P pilot hopes to facilitate a better match between sites and physicians.

Conclusions
Our long-term outcomes are measured in locum tenens days of placement, successful placement of locums in permanent positions, and comparative reductions in primary care physician turnover in Oregon's rural communities. We continue to network through Oregon's Primary Care Office, Primary Care Association, Office of Rural Health, and the AHECs to build capacities in primary care recruitment and retention across agencies.

Addressing the needs of practicing rural health providers is an integral part of the path by which AHEC promotes health careers. The OLTC represents an important step in Oregon AHEC's development of the full continuum of programs dedicated to training and distribution of Oregon healthcare providers.

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Plain-Language Healthcare Summaries Help with Difficult Treatment Choices

Howard Holland

When it comes to choosing the right medicine or the most appropriate healthcare treatment, clear and dependable evidence-based information can be difficult to find.

Most information about treatment focuses on a single drug, medical device, or procedure. As a result, patients and clinicians may make choices without sufficient information on all the options.

Through its Effective Health Care (EHC) Program, the Agency for Healthcare Research and Quality (AHRQ) develops publications for clinicians and consumers (patients) that summarize evidence from patient-centered outcomes research. This research, also known as comparative effectiveness research, compares drugs, medical devices, tests, surgeries, or ways to deliver health care for various medical conditions.

The research provides evidence that patients and their families can discuss with their clinicians to make more informed choices about treatment options. The results do not tell clinicians how to practice medicine or which treatment is best. Instead, they provide information on the effectiveness and risks of different treatments, while allowing for choices based on an individual's circumstances.

The Summaries

The free publications, which often summarize research reviews of 100 scientific studies or more, are plain-language tools that compare treatments. They also show where more research is needed. They are an unbiased resource that organizations can use to provide members and their respective clinicians, employees, and patients with information to help them make informed decisions about health care. For example, Treating High Cholesterol: A Guide for Adults, lists the different cholesterol medicines and explains how they work.

Doctors and other healthcare professionals use patient-centered outcomes research to keep current on comparisons of medications and treatments. **Clinician guides** summarize research review findings on the benefits and harms of different treatment options and rate the strength of evidence of each finding. Clinicians can browse these guides by topic area to find materials related to a

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health condition. AHRQ describes the strength of evidence behind scientific findings. When research is not available to answer clinical questions, AHRQ publications highlight research gaps.

Patients are often faced with complicated decisions, such as which test is best, which medicine will help most with the least side effects, or whether surgery is the best option. Every patient is different, and each should make informed choices based on individual needs. For example, some similarly effective oral diabetes medications differ in how often they are taken, whether they cause weight gain, and how much they cost.

Consumer summaries, in both English and Spanish, include easy-to-read information on various health conditions and treatment options. Consumers can browse the Effective Health Care website by topic or search the site by health condition or keyword.

Among the topics included in research summaries:

- Arthritis and non-traumatic joint disorders

- Cancer

- Cardiovascular disease, including stroke and hypertension

- Depression and other mental health disorders

- Developmental delays, attention-deficit hyperactivity disorder, and autism

- Diabetes mellitus

- Pregnancy, including preterm birth

A list of future summary publications is available on the Upcoming Research Summaries section of the AHRQ website.

A Case Study: The Everglades Area Health Education Center (EHC)

The Everglades Area Health Education Center (EAHEC), one of the 10 AHEC Centers of the Florida AHEC Network, provides information and support services for community health professionals working in underserved areas in Florida. Last year the Florida AHEC Network provided more than 84,450 hours of professional continuing education to practitioners throughout Florida. Over 61,900 of these hours were for practitioners in underserved sites.

The EAHEC is also a member of the Independent Colleges and Universities Benefits Association, Inc. Through this association, the EAHEC became aware of the Effective Healthcare Guides. They first distributed the Guides to their own employees. They then proceeded to introduce the Guides to their participating providers at the hospitals, community clinics, and health departments affiliated with the AHEC. In 2010, EAHEC participated in Effective Health Care (EHC) Tools and Products for Purchasers, engaging the network of providers throughout their 10-county service area—plus the larger network of Florida AHECs—in using the Guides with the participating providers and with the 1,200-1,800 consumers attending their health fairs.

They are now proceeding to make the other Florida AHECs aware of the Guides and begin integrating the Guides into the resources used by the Florida AHECs. According to Joe Peters, Executive Director of the EAHEC, the Guides are "well put together and valuable for our staff and their families." Plans also call for the guides to be utilized by the 250 medical students the EAHEC trains each year in the program for rural and underserved populations. Given the limited resources in rural and underserved areas, these Guides can be especially useful to the students, providers, and clinics in these areas.

Integrating Community Health into Medical Education: A Role for AHECs in Strengthening Population Health and the Social Mission of Medicine

Elyse A. Perweiler, MA, MPP, RN; and F. David Schneider, MD, MSPH

In January of 2011, Steven L. Kantor, MD, Editor of *Academic Medicine,* invited responses to his 2011 Question of the Year: *What improvements in medical education will lead to better health for individuals and populations?* The realignment of medical education and healthcare needs, particularly those in our underserved and disadvantaged communities, is at the core of the Area Health Education Center (AHEC) mission and positions AHECs as critical partners in sustaining and integrating public health education and social mission into medical and other health professions education. The role for AHECs in the next decade bears re-examination if we are to achieve the full potential of this extraordinary network.

One hundred years after the Flexner Report restructured the approach to medical education in the United States and alluded to the need for preventive health in curriculum reform, we have yet to achieve satisfactory integration of public health principles into our medical school curricula (Berwick & Finkelstein, 2010; Maeshiro, Johnson, Koo, & Parbousingh, et al., 2010). While the Association of American Medical Colleges (AAMC) and other health professions and related accrediting bodies have moved to competency-based approaches that have impacted curricula and clinical practice, the Institute of Medicine (IOM) has emphasized principles of patient-centered care, evidence-based practice, working in interdisciplinary teams, quality improvement, and informatics (Berwick, et al., 2010; Institute of Medicine, 2003; Chokshi, 2010). These changes have marked medical and health professions education over the last decade and continue to exert a significant influence on curriculum and practice reform.

Although we have moved away from a predominantly disease-based approach and embraced more holistic problem and case-based learning, we fail to adequately prepare our physicians to focus on health promotion and disease prevention. We continue to struggle with insufficient numbers of physicians entering primary care, suboptimal recruitment of underrepresented minorities into the health professions, and inadequate distribution of those practitioners in underserved areas (Mullan, Chen, Petterson, Kolshy, & Spanola, 2010). Our failure to effectuate mutually beneficial collaborations between academic medicine and the public health sector dictates the need for a new direction for medical and health professions education that will ultimately lead to better health for individuals and populations. By its very nature, we must address the relationship of health disparities, poverty, literacy, the community and the environment to poor health outcomes and acknowledge the value of a social mission for our nation's academic medical programs in preparing a physician workforce able to address health in a way that improves the health of our society at large. As we move toward a more focused view of interprofessional and collaborative practice, the ability of the different health professions to partner with patients and families to improve both individual and community health and well-being through an approach that embraces the basic and clinical sciences as well as public health, disease prevention, and principles of community-based care is imperative (Institute of Medicine, 2003).

Population Health and Social Determinants

Despite high spending on health care, socioeconomic inequalities in health in the United States have continued to widen, resulting in declines in critical indicators of health and well-being in some sectors (Berkman, 2009). Minorities represent over one-third of the U.S. population, experience limited access to care, receive less preventive care, and have poorer health outcomes than their Caucasian counterparts (Chokshi, 2010; Institute of Medicine, 2002). Although there have been efforts to foster cultural competence and teach about health disparities such as race and ethnicity, little attention is paid to other "social determinants" of health, such as environment, social circumstances, behavior choices, income, and education. Integration of sociocultural and behavioral content into the pre-clinical medical curriculum, culminating in interprofessional collaboration in the clinical years, incorporating nursing, social work, clinical pharmacy, physical therapy, occupational therapy, nutrition, and others, can help shape the role of physicians in modifying some of the determinants of health across the lifespan (Institute of Medicine, 2002). Broadening teaching on health disparities to include population-level health characteristics and influences of living conditions as causative factors of disease should be built within a "social determinants framework." Community-based

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care and related learning experiences can serve to emphasize the critical link between academia and the myriad and diverse needs of individuals and communities, paving the way for social accountability in medicine as well as the other health professions.

Social Mission of Medical Schools and Medical Education

Medical schools have a social mission to train a diverse physician workforce to provide care to all people, especially disadvantaged minority populations in underserved areas. Despite longstanding efforts through the Health Resources and Services Administration and the National Health Service Corps, both public and private allopathic and osteopathic medical schools fall short in producing sufficient numbers of primary care providers representative of minority populations and who practice in underserved areas (Mullan, et al., 2010). It is time for all medical schools to revisit their educational commitment to this social mission, reframe their curricula, and train a diverse primary care workforce that will have the background, skills, and desire to provide accessible, affordable quality care for disadvantaged communities (Maeshiro, et al., 2010).

Role of the AHECs

The national AHEC network was established in 1971 to improve the supply, distribution, diversity, and quality of healthcare providers and increase access to care in rural and underserved areas. Funded by state and federal sources, there are 55 AHEC programs and 245 community-based centers throughout the country collaborating with 120 medical schools and over 600 nursing and allied health schools to provide an array of interprofessional training programs that are designed to recruit, train, and retain a healthcare workforce committed to underserved populations. AHECs, in partnership with academic centers, respond to the needs of students, schools, and their community partners by recruiting underserved and underrepresented minority students into health training programs, coordinating student placements, identifying and orienting community preceptors, and integrating population health into medical and other health professions education through service learning. AHECs place students in community-based settings, giving our students a "real-world" experience to aid them in understanding community needs. The strong community presence and effective linkages with community-based agencies place AHECs in a unique position to assist medical and other health professions schools in addressing social determinants of population health, facilitating the social mission, addressing cultural competence and health disparities, and improving access to quality care through health promotion and disease prevention in both preclinical and clinical years.

As we move forward to train the best physicians and prepare the health professions workforce to care for our communities and populations, embedding training in the communities we serve and embracing public health as a critical component of medical and health professions education will have the greatest effect on our students. In order to achieve this, public health education should be integrated across medical school and other health professions curricula rather than taught as a separate component (Maeshiro, et al., 2010). AHECs play a critical role in facilitating medical and health professions education in diverse community settings. They are responsive to community needs and serve as a

nexus for the convergence of population health, interprofessionalism, and community-based learning. Their very nature fosters collaborative practice and team-based care and provides an array of opportunities for competency-based learning, evidence-based practice, health promotion and disease prevention, quality and practice improvement, and community-based participatory research.

If we are to bring the AHECs to the forefront of medical and health professions education by addressing population health and fulfilling the social mission of medicine, we must marshall our resources and make our voices heard. AHECs must take an active role in strategic planning in their partner institutions, participate on curriculum committees, and work across disciplines to integrate public and population health throughout didactic and clinical curricula, with a focus on interprofessional, team-based care. We are facilitators of interdisciplinary education and leaders in population health and fulfillment of the social mission. As AHECs, it is our calling. It is our mission. It is what we do best.

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AHEC Model for Training Civilian Healthcare Providers to Treat Military Families

Sheryl Pacelli, MEd

Introduction

The North Carolina AHEC Program (NC AHEC) has made a major commitment to provide training for mental health and primary care providers in order to better prepare the civilian health workforce to serve the unique healthcare needs of returning veterans from the wars in Iraq and Afghanistan. Working in close collaboration with the Citizen Soldier Support Program (CSSP) at the University of North Carolina and the Department of Veterans Affairs Integrated Services Network (VISN) 6, a series of continuing education courses on a wide range of topics, including Post-Traumatic Stress Disorder (PTSD), Traumatic Brain Injury (TBI), and women's health issues, have been offered throughout North Carolina and at least seven other states since 2008. These courses include face-to-face and on-line courses. This article describes the initiative in North Carolina which led to the creation of the national veterans' mental health training initiative currently being offered under the auspices of the NAO AHEC Training and Consultation Center (A-TrACC).

Background

Data from the U.S. Department of Defense (DoD) indicate that all but 27 of the nation's 3,141 counties have deployed at least one service member to the wars in Iraq or Afghanistan. Deployments change everyone—some more than others. The 2007 Task Force on Mental Health study from the DoD reported that 38% of Army soldiers, 31% of Marines, and 49% of National Guard service members report post-deployment mental health problems. Recent data estimates 50% of service members eligible for treatment services through the Department of Veterans Affairs (VA) do not seek care there (Kudler, 2011). Believing that seeking behavioral health treatment may affect their career, future assignments, and security

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clearances, these veterans and their family members often seek care by a civilian provider in their local community (Wilmer and Springle). These providers clearly possess the clinical competency to provide the care, but often lack the military cultural point-of-reference, which can be critical to successfully treating service members and their families. To be successful, civilian providers must recognize the military communities' perception, real or imagined, that they are unique.

NC AHEC developed and implemented a series of educational programs to train those civilian healthcare providers with partial funding from the Citizen Soldier Support Program (CSSP). In 2005, Department of Defense (DoD) funded The National Demonstration Program for the CSSP at the University of North Carolina at Chapel Hill, Odum Institute for Research in Social Science. CSSP is a community-focused initiative designed to strengthen local support for Reserve Component Members and veterans who have served in Iraq as part of Operation Iraqi Freedom (OIF) and in Afghanistan as part of Operation Enduring Freedom (OEF) and their families, particularly those living in geographically rural areas. The partnership between CSSP and the NC AHEC program began in 2008.

The NC AHEC Program was included as a partner because of its statewide capacity to coordinate and host trainings to reach healthcare providers in all 100 of the state's counties. The AHEC system had previously developed a model for providing training across the nine AHEC sites in the state called the "Lead AHEC model." In this structure, one site is identified as the coordinating site and is responsible for developing the content, identifying and securing speakers, developing and managing the financial components, marketing the program across the state, accepting registrations for all sites, evaluating each program, and issuing professional credits. This Lead AHEC contracts with the other AHECs for onsite management to find a training site, provide AV equipment, duplicate handouts, arrange for catering, and to register people the day of the program.

Joined with CSSP and AHEC was a representative from the Department of Veterans Affairs (VA) in Durham, NC, Dr. Harold Kudler, psychiatrist and Mental Health Coordinator for VISN 6; Charlotte Wilmer, LCSW, and the late Commander C. K. Springle, PhD, LCSW, both from the Community Counseling Center, Marine Corps Base Camp LeJeune, NC. (Commander Springle was killed at Camp Liberty Iraq in May 2009).

These individuals wrote the first training program called "Painting a Moving Train: Working with Veterans of Iraq and Afghanistan and their Families" and taught sections of it. The focus was PTSD. The title was taken from a presentation by General Robert Magnus (2007), Assistant Commandant of the United States Marine Corps, in his opening remarks at the 2007 Marine Corps Combat/Operational Stress Control conference to reflect the reality that the operations in Afghani-

stan and Iraq were ongoing, as is the knowledge of the effects of combat.

One goal of the training was to immerse the participants in military culture when possible, so all marketing materials and agendas used military time. All trainings started with a color guard presenting the colors and the singing of the national anthem. A lecture on military culture was given by a person in uniform.

A representative from TRICARE, the healthcare program of the DoD Military Health System, gave providers an opportunity to make an informed decision about becoming a TRICARE provider. Increasing the number of behavioral health providers who accept TRICARE is a way to improve accessibility to services for the men and women who have volunteered to serve and protect us.

The clinical component included basic PTSD assessment tools and evidence-based practices treatment models. The "heart" of the training, and by far the most memorable part of the day, was a "Boots on the Ground" presentation, which is a personal account of combat experience told by a veteran of OEF or OIF.

Two curricula in PTSD were developed—a two-hour version for primary care providers and a six-hour training for behavioral health providers. It was a challenge to attract primary care providers, and the trainings for them included only a few physicians. However, the behavioral health training attracted large audiences in each location.

Because of the success of the PTSD trainings, additional series were developed using this same Lead AHEC model. For example, Charlotte AHEC, CSSP, VA VISN 6, and Carolinas Healthcare System collaborated to develop a full-day face-to-face training on the topic of TBI entitled "Treating the Invisible Wounds of War." CSSP and VISN 6 then partnered with Eastern AHEC to develop "Working Miracles in People's Lives," a training focused on how the faith community could help veterans from OIF/OEF and their families transition from combat to home. Marine Corps Base Camp LeJeune, NC joined the partnership to provide a speaker for the next program, "Issues of Women Returning from Combat." Three of the four speakers were female, and two of them talked about their experience with deployments during OEF/OIF. The content included video clips from Lioness, used with permission from Room 11 Productions, about five female support soldiers who served alongside Marines in violent counterinsurgency battles in Iraq. The last training, "Issues of Military Families," used a speaker from the DoD to join the VA and CSSP to highlight national, state, and local resources for military families. The Lead AHEC model was used for all the trainings, and military culture, TRICARE, VA services, and a "Boots on the Ground" presentation were part of each program.

Pre-test and post-test measures were not completed, but a sample of participant comments can be found in Appendix A. One of the outcomes of the 40+ face-to-face trainings offered was a 50% increase in the number of behavioral health providers in NC who applied to be TRICARE providers and were accepted (CSSP, 2011).

Two goals of the CSSP national demonstration project are to make the trainings: 1) available across the nation, and 2) replicable anywhere. To achieve the first goal, the AHEC program helped CSSP develop content deliverable through a webinar or via online classes, using expertise from the various NC AHEC sites. Four online programs were developed:

- Treating the Invisible Wounds of War (TTIWW) (focus on PTSD)—English and Spanish versions

- TTIWW: A Primary Care Approach

- TTIWW: Issues of Women Returning from Combat

- TTIWW: Recognizing the Signs of Mild TBI During Routine Eye Exams

All online programs, offered at no charge and with continuing education credits, may be accessed at www.aheconnect.com/citizensoldier/. To date over 11,000 people across the U.S. and its territories have completed a training via webinar, face-to-face, or online format (CSSP, 2012).

To achieve CSSP's second goal of making the trainings replicable, South East AHEC developed a training toolkit available at no charge through CSSP. This two-CD package contains all the information and documents needed to replicate the PTSD and TBI face-to-face trainings, including PowerPoint presentations, handouts, budget sheets to track finances, and instructions on how to obtain continuing education credits.

Because of the success of the NC programs, CSSP began distributing the toolkits to AHECs and other organizations nationwide, enabling states other than NC to commit to training civilian healthcare providers.

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APPENDIX A

Comments from participants

- Good program for new clinicians or community clinicians who are unfamiliar with the military environment.

- Thank you for this most worthy training in how I can better serve military families whether it be in a professional manner or as a friend. I came away with a better knowledge of the stressors of military families, a better clarity of how to serve, and a greater knowledge of resources available.

- I have new sensitization to the military culture, and the special needs of military families. I am also better informed about support services for them.

- It is imperative that mental health service providers learn about military culture and the unique needs created by deployments, deaths, and injuries coupled with an overwhelming motivation to succeed in military service as a result of the current wars and military actions. This program is of great service—and experiencing these presenters is a great privilege.

- Good overview of VA services available and what is being done to add new programs for retired and active-duty.

- [This training provided] valuable insights to military culture and systems, good info on how to access military systems, affirming to therapists/counselors/nurses, etc. in utilizing counseling skills in assisting those who are in the military or retired, and family members.

EDITOR'S NOTE

The success of the training in other states caught national attention, which resulted in extensive internal discussions among people at NAO, Heatlh Resources and Services Administration (HRSA), and Substance Abuse and Mental Health Services Administration (SAMHSA) on the need for a specific initiative to better serve service members returning from combat. HRSA staff and NAO leadership have long promoted the use of existing expertise and resources with AHEC to address this need, firmly believing that the AHEC network is an expeditious and effective vehicle for getting information into the hands of healthcare providers. As a result, HRSA incorporated this work into their contract with the A-TrACC.

The A-TrACC Vets Mental Health Project has a goal to educate 10,000 healthcare providers across the U.S. by training AHEC centers on how to develop and implement continuing education programs on the subject of behavioral health issues of service members and their families. Because deployments affect nearly every county in the U.S., those counties need to develop behavioral health support services to serve those who have served us.

Healthy Smiles for Today and Tomorrow: North Coast AHEC Coordinates RDA Training

Tina Tvedt, MHA

Background

The North Coast AHEC (NC-AHEC) is housed within the North Coast Clinics Network (NCCN), a consortium of 13 community health center (CHC) sites situated throughout a three-county area roughly the size of Connecticut in north-western California. The NC-AHEC began operations in 2008 as a program to enhance the work-force development activities of Federally Qualified Health Centers (FQHCs) in the region. Leveraging partnerships with the academic institutions, the NC-AHEC conducts outreach for CHC careers, supports coordination of student internships, and facilitates the delivery of high-quality curriculum and train-ing to meet the health centers' staffing needs.

As part of the consortium, the NC-AHEC has benefited from the long-standing relationships with member clinics, healthcare entities, and other community-based organizations formed by NCCN's involvement in community initiatives to enhance the health and wellbeing of individuals living in our service area. Specifically, NCCN played an active role in several regional col-laborative efforts to improve children's oral health, such as the Dental Advisory Group and the Children's Hospital-Based Dentistry program. As a result of these community connections, the North Coast AHEC staff were approached by a local registered dental assistant (RDA) who needed assistance in order to maintain her licensure.

One of the most common areas for cavities is on the back teeth. Unfortunately, when you brush your teeth, the bristles cannot get into the crevices, "pits and fissures," on premolars and molars. Dental sealants, thin plastic coatings placed over pits and fissures in teeth, can keep food and plaque from getting trapped in those grooves and protect tooth surfaces from forming caries/cavities (from the March 2010 Journal of the American Dental Association*)*

Tina Tvedt, MHA, is the Center Director for the North Coast AHEC.

A change in the state regula-tory codes (B&P Section 1752.6) required RDAs who became licensed on and after January 1, 2010 to complete a board-approved course in the application of pit and fissure sealants prior to their first full renewal period as an RDA. Unfortunately, the dis-tressed RDA was unable to locate a local trainer to provide this course and turned to us for help.

Issue

Many of the registered dental assistants in our community went through the local College of the Redwoods (CR) Dental Assisting Program prior to this new licensure require-ment. Therefore, those who graduated in 2010 or before hadn't completed a course on pit and fissure sealants. Since CR was a local educational expert and partner, we contacted the Program Co-ordinator for Dental Assisting to explore the possibility of the college offering the course. Although CR was planning to incorporate the content for the new requirement into their course curriculum, they hadn't received board approval yet and were unable to offer just one course to community members who were not registered as students.

After exploring all of our community resources, we checked into additional training options, only to discover that the closest training site was five hours away in Chico or Sacramento. Not only did the certification cost $800 per participant, plus fuel costs and two nights' lodging expense, it was each trainee's responsibil-ity to bring four of their own patients for the practicum portion of the course who were older than 10 years of age and had one tooth per quadrant that were suitable for treatment. Thus, travel costs, time away from work, and identifying "eligible" patients created barriers for local RDAs. These obstacles necessitated a different strategy. However, could we bring the trainers to us?

Gauging Need

Upon learning about the obstacles to ascertaining this new licensure requirement, we contacted our member health cen-ters to identify additional RDAs. There were 10 RDAs from the health centers who needed the sealant course. Based on the volume of health center staff that required certification, the Burre Dental Center, one of Open Door Community Health Center's nine FQHC sites—serving more than 5,500 patients annually—offered to hold the event at their office on a weekend in July. Now that we had set a date and secured a venue, we worked on identifying a trainer.

The closest trainer who offered a Dental Board of California approved pit and fissure sealant course was J Productions Dental Seminars, Inc. out of Sacramento. Based upon the large group of RDAs who expressed interest in attending the certification, J Productions agreed to send faculty to Eureka. After all of the major details were worked out, we decided to send invitation letters to all of the local dental offices to locate other RDAs in need of the training. Applications through our on-line registration survey were accepted on a first-come basis. Five more RDAs from private dental offices registered and the NC-AHEC provided training information, event flyers, and educational materials for the event.

With a pool of training participants, the next step was to develop a strategy to indentify a sufficient number of patients (4 per student) who were eligible to receive the service and to ensure that the dentists completed the proper paperwork prior to treatment. Based on the difficulty of maintaining confidentiality and continuity of care for patients from external dental offices, Burre Dental Center decided it would identify eligible patients, complete required prescription forms, and schedule patient appointments. Following its recent expansion, Burre now had 16 operatories and a sufficient volume of young patients who would qualify for the sealant treatment. In addition, they designated one of their dentists to stay on-site during the training to assist with patient care. The challenge was how to get patients to show up for their appointments on the weekend.

To gather giveaways for the patients who attended the event, the North Coast AHEC distributed a donation request letter to more than 50 local businesses. In the end, 15 businesses
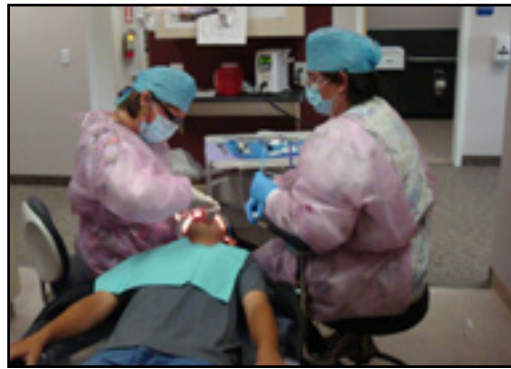
Fig. 1. Registered dental assistants demonstrate their newly acquired skills to apply dental sealants on a child during competency review.

Fig. 2. Young boy is all smiles after receiving dental sealants at the RDA training at Burre Dental Center in Eureka, CA.

Fig. 3. Registered Dental Assistants and Instructors from J Productions following the two-day Pit & Fissure Sealant Certification course.

donated prizes ranging from sports equipment to movie tickets and pizza coupons. The grand prize, a Wii Game Console, was donated by one of the dental offices. Additional giveaways were purchased so that no child left empty-handed. *If only all dental experiences were like Christmas!* Flyers that announced the event and listed the giveaways were created and posted in dental offices to encourage patients to sign up for sealants.

Training Components

In preparation for the 16-hour training, Burre Dental Center staff called patients to remind them about their appointments and pulled the charts for visits taking place during the pit and fissure sealant certification that weekend. The first night of didactic coursework consisted of a lecture presented by two of J Productions' faculty. During the first half of the next day, the RDAs had hands-on practice with a partner in a laboratory setting using special typondonts, dental manikins, provided by the course instructors.

The lab practicum was followed by an examination to ensure learners were prepared to place sealants on live patients.

By the afternoon of the second day, all RDA students demonstrated satisfactory skills and began to apply pit and fissure sealants on scheduled patients according to the dentists' prescriptions. Oversight of the sealant application was performed by both the J Productions faculty as well as the dentist from Burre Dental Center. The sealant process was quick, didn't cause discomfort, and best of all, it was free. Documentation of these procedures was recorded in the patients' dental record for review at their next visit. Before leaving the office, everyone received a gift for their willingness to be a trial patient for the RDA certification requirement. Best of all, every child left with a healthy and happy smile.

Outcomes

The Dental Board of California declared, "After providing the Dental Board with evidence that he or she has completed a Board-approved course, a registered dental assistant may apply pit and fissure sealants in any allowable setting." As a result of this training, now there are 16 more RDAs in our community who are trained to offer this beneficial service, thus expanding access to this low-cost preventive service. Barbara Davis, the Dental Site Administrator for Open Door Community Health Center's Mobile Dental Unit, reported, "The training has been very helpful for the mobile dental clinics because we can now use the RDA to place sealants. This leaves more time for the dentist to do treatment; therefore we are able to complete treatment plans in a timely manner."

Not only did the coordination of a local training result in significant savings for the RDAs who otherwise would have had to travel outside the area for the training; additionally, 51 children received dental sealants during the certification process. These sealants are durable, stand up to daily chewing forces, and protect teeth from cavities and tooth decay for 5-10 years or longer. In these children's future there will be less need for costly dental services to repair damage from cavities. Additionally, these youth are likely to spend less time out of the classroom due to dental issues and there will be fewer parents missing work to bring their children to appointments—leading to a more healthy and productive community. The positive experience at the dental office creates a positive association about the dental office for children and potentially will spur more regular check-ups at the patients' dental home. All in all, a single request from a local healthcare professional led to a positive outcome for the entire community. The NC-AHEC remains committed to keeping a pulse on the needs of our rural area and helping to improve the health and wellbeing of the individuals living here.

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Journal of the National AHEC Organization
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Call for Articles
AHEC Collaborative Educational Innovations

The next edition of the *Journal of the National AHEC Organization* will focus on collaborative education and training strategies to improve quality of and access to care for underserved communities. With budget cuts a constant threat, the need to collaborate with community organizations, educational partners, workforce investment boards, and state/national programs is critical. AHECs historically have been immersed in communities linking them to educational institutions and other training programs.

- The Editorial Board is looking for articles that address these and other questions:

- How does AHEC effectively train the healthcare workforce for the future using our linkages to education and training programs?

- How can AHEC help clinics and community health centers address new patient- centered medical home, electronic health records, and telemedicine needs?

- How does AHEC invest in the future healthcare workforce using our educational partnerships?

- How does AHEC impact health professions schools' curricula?

- How do educational partners help AHEC respond to emerging healthcare issues, such as Bioterrorism or Veterans' Health?

- How can AHEC show the impact of training and educational programming to help secure more stable funding?

Articles on related topics, such as individual and institutional success stories relating to innovative education programs, strategic planning processes with educational partners, and effective evaluation solutions are welcomed.

Please submit drafts, photos and accompanying materials to editor@nationalahec.org

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1st Draft Article Submission is due August 31, 2012

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The National AHEC Organization Mission

The National AHEC Organization supports and advances the AHEC Network to improve health by leading the nation in the recruitment, training and retention of a diverse health workforce for underserved communities.

The AHEC Mission

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

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