Advisory Committee on Interdisciplinary, Community-Based Linkages

July 24-25, 2006
Meeting Minutes

Attendance

Thomas Cavalieri, DO, Chairperson
Hugh Bonner, PhD, Vice Chair
Mary Amundson, MA
Heather Karr Anderson, MPH
Jeremy Boal, MD
Amna Buttar, MD
Ann Bailey Bynum, EdD
Cheryl Cameron, PhD, JD
William Elder, PhD
Rosebud Foster, EdD, MSN
Gordon Green, MD, MPH
Gail M. Jensen, PhD, PT
Anthony Iacopino, DMD, PhD
Andrea Sherman
Stephen Wilson, PhD
Rose Yuhos, RN

Health Resources and Services Administration (HRSA), Bureau of Health Professions (BHPr) Staff

Lou Coccodrilli
David Hanny
Norma Hatot
Cecilia Maryland
Vanessa Saldanha
Jennifer Tsai
Joan Weiss

Format of Minutes

These minutes consist of two sections:

I. Advisory Committee Business; and
II. Recommendations, Findings, and Testimony.

I. Advisory Committee Business

- HRSA Staff Changes
- Advisory Committee Reports
- Review and Approval of Minutes from September 2005 Meeting

1 HRSA Staff Changes

Lou Coccodrilli, MPH, Acting Director of the Division of State, Community, and Public Health (DSCPH) has replaced Lynn Wegman as the Designated Federal Official for the Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL).

2 Update on Advisory Committee Reports

Fourth Report
The Fourth Report is still under review.

Fifth Report
The Fifth Report is undergoing review within BHPr. This will be completed in July. Once comments have been received and integrated, the Fifth Report will be forwarded on for further review within HRSA.

Advisory Committee members asked for clarification about how they should move forward with making recommendations since recommendations made more than two years ago have still not been seen by the Secretary and Congress. Dr. Cavalieri, Chairperson of the Advisory Committee, suggested that the Committee may want to consider communicating via letter to HRSA, the Secretary, and Congress, and include the new recommendations in the letter. This would allow the Advisory Committee's recommendations to reach their intended audience while the reports are under review. Mr. Coccodrilli acknowledged that the previous two reports were still being processed and that a letter from the Advisory Committee Chairperson is an option the Committee could consider.

Advisory Committee members expressed frustration at the difficulty of generating recommendations for the Title VII Interdisciplinary, Community-Based Training Grant Programs in light of the budget cuts. It was suggested that the Advisory Committee make a statement addressing the fact that all the previous recommendations, both those that have been released and those that are still under review, are moot. A resolution that speaks to the sense of the Advisory Committee at this time may be more appropriate than new recommendations. Such a resolution would state that the Advisory Committee is seeking to do its statutory duty but is frustrated with the current situation. In addition, the resolution could address the impact of the budget cuts.

Advisory Committee members also expressed concern that many of the recommendations made in the past are inappropriate, or even irrelevant, in the current funding situation. Given the funding cuts, recommendations from previous reports asking for funding increases no longer seem appropriate.

Review and Approval of Minutes from September 2005 Meeting

The Advisory Committee unanimously approved the minutes from the September 2005 meeting.

II. Recommendations, Findings, and Testimony

Approved Recommendations

1. The Secretary and Congress should provide incentives for universities to establish and/or maintain permanent offices or departments of interdisciplinary health sciences education and training.
2. The Secretary and Congress should support interdisciplinary geriatrics education and training for all professionals and paraprofessionals associated with community health centers and their associated system of networks and partnerships.
3. To help eliminate health disparities, to increase access to care, and/or to develop a workforce prepared to address shifting demographics, Congress should give greater recognition to and invest in programs that train health professionals and paraprofessionals through interdisciplinary, community-based programs designed to foster the delivery of quality care to underserved and medically compromised populations.
4. The Secretary and Congress should provide funding incentives and demonstration projects in the support of education and training and development of interdisciplinary health professional teams

with community health centers, rural health clinics, and other underserved areas to improve evidence-based outcomes and enhance quality of care.

5. The Secretary and Congress should support interdisciplinary, community-based partnerships that provide education and training programs and/or demonstration projects that address the links between oral health and systemic health, establish new models for comprehensive preventive care, or provide data on health economics impact.
6. Congress should address the need for workforce faculty and career development and access in interdisciplinary geriatrics and gerontology to meet the need for trained professionals and paraprofessionals in care of older adults across the continuum of care settings.
7. The Advisory Committee recommends that the no-cost extension for Geriatric Education Centers be for 12 months so that the infrastructure can be preserved to support interdisciplinary training in geriatrics and gerontology.
8. The Secretary and Congress should provide funding incentives to support and advance careers of geriatrics/gerontology clinician educators with a focus on interdisciplinary training to address severe shortages in this field and to improve access to care for older adults.
9. The Secretary and Congress should support community-based linkages of health professional programs and community health centers as well as other community-based programs in the development of a diverse workforce through recruitment activities in both rural and urban underserved communities.
10. The Secretary and Congress should recognize that community health workers are a viable part of the safety net workforce and should provide funding to academic and community-based organizations that educate and train community health workers.

Discussion of the Recommendations

Strategy for Disseminating Recommendations

The Advisory Committee discussed how best to make sure its recommendations reach the necessary audiences—Congress, the Secretary, and HRSA—in a timely manner, given the urgency of the situation. The Advisory Committee decided on a fast track approach, where a letter containing the recommendations developed for the Sixth Report would be sent to HRSA, Congress, and the Secretary. This would avoid the time lag that usually occurs with the Advisory Committee's reports due to the lengthy review process. The letter would simply list the recommendations. In the report, significantly more information (rationale and benefits) would be provided for each recommendation. With the "fast track" approach, the letter will be drafted by the writing committee and reviewed by the Advisory Committee before it is sent to HRSA, the Secretary, and Congress.

In addition to these two approaches, the Advisory Committee decided that for Recommendation 7, which addresses no-cost extensions, a letter would be sent to HRSA immediately to inform the Agency of the Advisory Committee's recommendation. This approach is necessary because programs are in the process of closing down. Allowing them to extend the six-month extension would allow more time for programs to identify alternative methods of support.

Recommendations

1. **The Secretary and Congress should provide incentives for universities to establish and/or maintain permanent offices or departments of interdisciplinary health sciences education and training.**

The Advisory Committee voted to approve the recommendation.

Discussion

- Are incentives enough or should ongoing support be provided to maintain the offices? If support is provided, it can be taken away. If institutions establish the offices to be self sufficient, the likelihood of them lasting is greater. Initial financial support could help to establish well-run programs, which would enhance their chances of sustainability.
- This recommendation could be perceived as the Federal Government dictating the administrative structure of institution of higher education as opposed to setting priorities on what should be achieved and accomplished and allowing the institutions to determine how it will be done.
- Mandating this kind of structure within an institution may result in redundancy with existing programs, such as Area Health Education Centers (AHECs).
- Insulating an office within an institution may protect it from de-funding. If it is in a functional university department, it will undergo regular assessments and quality improvements so that the program will continue to get better. Such an office would not be subject to OMB and BHPr evaluation processes so it could be more responsive to the local environment and the community.
- An "incentive" means that it is voluntary. Not everyone would be required to apply for this.
- If this is done on the right scale, it could replace the Title VII programs and create a different structure that could have a huge impact.

2. **The Secretary and Congress should support interdisciplinary geriatrics education and training for all professionals and paraprofessionals associated with community health centers and their associated system of networks and partnerships.**

The Advisory Committee voted to approve the recommendation.

Discussion

- Some community health centers do not see many elderly patients and this would need to be addressed if the recommendation is approved. Other community health centers, such as those in rural frontier areas, see many elderly patients. Overall, seven percent of the patient population in community health centers are 65 years of age and older. Each year, the total number of elderly patients served increases but it remains constant at seven percent of the overall patient caseload.
- The recommendation addresses only one aspect of the needs of geriatric patients in rural areas. A critical issue is access points to inpatient care. Care in rural areas is highly dependent on networks that include links to primary, secondary, and tertiary care. All these settings provide opportunities to train people in an interdisciplinary environment.
- If interdisciplinary education was a required component of curricula for health science students, they would have this training before they graduated and it would not be necessary to integrate it into settings such as community health centers.
- The intent of the recommendation is not to provide funding to community health centers to do the training but to provide funding to educational entities, which will provide interdisciplinary geriatric education and training.
- If the training were to be incorporated into currently funded programs it would fall under the Comprehensive Geriatric Education Centers Program in the Division of Nursing. Unlike the Geriatric Education Centers (GEC) Program, these centers can educate and train paraprofessionals, including nursing home staff. The 330 Programs, like community health centers, do not address paraprofessionals and the tertiary care settings. AHECs could also provide this type of training.
- GECs bring together many partner, which is an aspect that may be lost if geriatric education and training is transferred to other programs. For example, many GECs provide training for the VA system. They are also very skilled at building on existing resources.
- In addressing geriatrics, it is important to address major issues such as chronic disease, self management, health promotion, disease prevention, and home and community-based services.
- Title VII programs provide a safety net by creating a workforce that is prepared to address the needs of the growing population of elderly patients.

3. **To help eliminate health disparities, to increase access to care, and/or to develop a workforce prepared to address shifting demographics, Congress should give greater recognition to and invest in programs that train health professionals and paraprofessionals through interdisciplinary, community-based programs designed to foster the delivery of quality care to underserved and medically compromised populations.**

The Advisory Committee voted to approve the recommendation.

Discussion

- While program models could be created, there already is a system in place, even though much of it has been de-funded. Testimony has been presented that there is a Title VII infrastructure in place, best practices have been identified, and if something is not done quickly, many of the programs will be disbanded.
- The recommendation is very broad. The background rationale needs to address what the Advisory Committee thinks should be done. The rationale could highlight some of the best practices that increase the quality of care and respond to community needs.
- This recommendation fits well with Recommendation 1. If interdisciplinary departments of training and education are established, it would be these programs that would provide funding and support for forming networks and other activities.

4. **The Secretary and Congress should provide funding incentives and demonstration projects in the support of education and training and development of interdisciplinary health professional teams with community health centers, rural health clinics, and other underserved areas to improve evidence-based outcomes and enhance quality of care.**

The Advisory Committee voted to approve the recommendation.

Discussion

- This recommendation links interdisciplinary education to the health care safety net and with community health centers.
- By focusing on health professions education, this could lead to future recommendations relating to curriculum revision and the inclusion of courses and electives in interdisciplinary health care education.
- The teams would include students and residents, who would be trained in the community health center setting.
- With a funding incentive, the formation of teams and provision of training is completely voluntary.
- Currently, many community health centers are reluctant to train students because it takes resources to provide training. An incentive addresses this.
- Creating a need within community health centers for bringing in someone to provide education and training will provide a role for Title VII programs or other education and training entities. Community health centers will probably not want to provide the training and will need to identify partners to provide it.
- HRSA is already supporting this through the Health Disparities Collaboratives, which are focused on improving the quality of care in areas such as diabetes treatment and high blood pressure. Community health centers are the primary participants and several key indicators are tracked. BHPr is also working with the Bureau of Primary Health Care on a workforce collaborative, which focuses on both educating and training staff in community health centers and recruitment and retention.
- Demonstrating improved outcomes requires a very sophisticated measurement process. In addition, there are levels of evidence that demonstrate outcomes. Programs may not be able to

demonstrate that interdisciplinary training is improving outcomes. The evidence base and the types of outcomes should be specified.

- Programs have been criticized for not being able to demonstrate their impact on health outcomes. The challenge is coming up with a model that can demonstrate impact. Since so many factors impact health, it is difficult to demonstrate that an intervention is responsible for the outcome.
- The focus must be on the training of people in the provision of care based on quality models and not the outcome of the quality models. The people delivering the care, not the systems of care, are responsible for patient outcomes.
- Demonstration projects could be an effective way to determine what clinical outcomes are appropriate measures for training programs. Identification of clinical outcomes could also be identified as a priority in the funding guidance.
- With demonstration projects, it would be important to specify which evidence-based outcomes would be used. Programs would require funding to support a more sophisticated evaluation component.
- There are groups that are working on linking health professions education and training to practice changes and community health outcomes. They have received funding from foundations to do this. Collaborations with these efforts should be explored. Testimony from these groups at future meetings would be very beneficial.
- Previous efforts to measure outcomes, such as the separate evaluation center for the GIT project, have had many methodological complications. An intermediate step is to focus on trainee outcomes and identify core domains, in which trainees should be skilled, as a surrogate for impacting patient care. This is still challenging but it is closer to reality.
- Professional competencies could serve as an outcome measure for training rather than clinical outcomes. The Institute of Medicine has identified interdisciplinary training and evidence-based practice as overarching competencies.

Note: During the discussion process, the Advisory Committee voted down an additional recommendation stating: *Congress should support incentives that show model practices and educational training sites demonstrating team practice. These projects should be models for the desired structure of most community safety net clinical settings that deal with prevention and chronic disease and underserved populations.* The Advisory Committee did not approve this recommendation because there was significant overlap with other approved recommendations. In particular, much of the intent of the recommendation had been incorporated into Recommendation 4.

5. **The Secretary and Congress should support interdisciplinary, community-based partnerships that provide education and training programs and/or demonstration projects that address the links between oral health and systemic health, establish new models for comprehensive preventive care, or provide data on health economics impact.**

The Advisory Committee voted to approve the recommendation.

Discussion

- It is important to emphasize access points and the impact of training on improving access to care.
- Obtaining data to demonstrate that training programs and demonstration projects have an impact on health economics would be difficult.
- Does continuing education increase access to care? Continuing education can address a number of issues such as disparity or shifting demographics.
- The common thread through all the recommendations and programs is service to poor people. For poor people, the biggest barrier to care is access. All of the programs are designed to improve outcomes by increasing access to health care providers through various means.

6. **Congress should address the need for workforce faculty and career development and access in interdisciplinary geriatrics and gerontology to meet the need for trained professionals and paraprofessionals in care of older adults across the continuum of care settings.**

The Advisory Committee voted to approve the recommendation.

Discussion

- A similar recommendation is included in the Fourth Report.
- This recommendation places an emphasis on geriatrics.

7. **The Advisory Committee recommends that the no-cost extension for Geriatric Education Centers be for 12 months so that the infrastructure can be preserved to support interdisciplinary training in geriatrics and gerontology.**

The Advisory Committee voted to approve the recommendation.

Discussion

- Currently the no-cost extensions are for six months. This was originally applied across all de-funded programs to provide uniformity to the process. The geriatric fellowships have been extended to 12 months because it is a two-year program and the trainees already enrolled would not be able to complete their training. The investment in the first year of training would have been lost.
- The real goal of the extension is to preserve vital collaborations and partnerships that have advanced the cause of interdisciplinary training, whether in geriatrics and gerontology or other health professions training. This, in turn, impacts access to care.
- It is probably too late for the programs that have already made the decision to close. The ones that could benefit from the extension are the ones that have decided to stay open.
- All the programs had to have sustainability plans. An extension gives programs the opportunity to implement those strategies.
- There is a possibility that funding may be restored for some of these programs. In this case, keeping programs going for an additional six months is critical.
- Since this recommendation addresses a programmatic issue, it should be addressed in a separate letter. This issue requires immediate action. It should be expresses in a letter from the Chair of the Advisory Committee sent to HRSA as soon as possible.

8. **The Secretary and Congress should provide funding incentives to support and advance careers of geriatrics/gerontology clinician educators with a focus on interdisciplinary training to address severe shortages in this field and to improve access to care for older adults.**

The Advisory Committee voted to approve the recommendation.

Discussion

- This recommendation focuses on faculty development. Workforce shortages cannot be effectively addressed if there are not enough faculty.
- This should be expanded beyond physicians to include other disciplines. It should address all geriatric/gerontology faculty.

9. **The Secretary and Congress should support community-based linkages of health professional programs and community health centers as well as other community-based programs in the development of a diverse workforce through recruitment activities in both rural and urban underserved communities.**

The Advisory Committee voted to approve the recommendation.

Discussion

- There will need to be increases in the number of health care professionals to staff the expanded number of community health centers resulting for the President's Initiative.

10. **The Secretary and Congress should recognize that community health workers are a viable part of the safety net workforce and should provide funding to academic and community-based organizations that educate and train community health workers.**

The Advisory Committee voted to approve the recommendation.

Discussion

- While AHECs and Health Education and Training Centers (HETCs) have in the past trained most of the CHWs, expanding the availability of funding to academic and community-based organizations may increase the availability of training.
- This recommendation could be included into the rationale of other recommendations.

Findings

The Advisory Committee identified the following findings, based on the testimony provided.

- There is a growing need for competent health professionals from community health workers (CHWs) all the way up to the most highly trained scientists. All the data that the Advisory Committee received emphasize this and the demographics also indicate this.
- The most useful training for many, although not all health professionals, is in an interdisciplinary, community-based setting. There are some health professions that do not need to be trained this way but since people need service, the servers need to be trained among the people.
- Partnerships that are based on common principles and values are the most successful.
- There are recognizable best practices. These practices should be widely disseminated and accessible. There should be a repository of best practices and other resources from exemplary programs that are being de-funded so that their expertise and experience is not lost.
- To tell their stories, Title VII programs should focus on the people being served and the dollars being saved.
- Interdisciplinary training and education is the most cost effective way of approaching geriatric care.
- The AHECs have been successful in presenting their data in a way that has prevented the program from being de-funded. The programs that have been de-funded probably have similar data. This data could be collected, formulated, and presented in a manner similar to the AHEC programs in order to make a stronger case for the de-funded programs.
- The reporting of best practices balances the quantitative data. It is storytelling supported by data.
- The legislative mandate that drives programs should be clarified and reporting requirements should respond to health care needs.
- Best practices serve as a valuable resource for addressing national needs, problems, and principles but they also need to be flexible enough to address local needs and fit the local community.

- The Advisory Committee should review what other committees have recommended in terms of best practices.
- Title VII programs constitute a significant investment, not just in funds but in relationship building. Many of these programs have spent 10 to 20 years building their networks and this will be lost.
- Title VII programs should tailor themselves to local needs and should be evaluated on their ability to do so.
- Title VII programs are a cost efficient means to utilize local preceptors for community-based training. A system is already in place where many of the preceptors are unpaid volunteers. There is currently discussion of changing graduate medical education so that preceptors must be paid. Is this necessary?
- Some interdisciplinary training programs are so effective that the number of health professional shortage areas (HPSAs) has been reduced in the State.
- The model of a university-based office of interdisciplinary education provides a permanent academic base for developing community partnerships and bringing together academics, learners from the community, and preceptors across all health professions. These activities would be carried out regardless of Federal funding. Development of such offices should be incentivized.
- Interdisciplinary training is an important educational complement to quality care.
- Interdisciplinary training should be integrated into health professions curricula.
- Accrediting bodies should approve both required and elective interdisciplinary courses to further develop the interdisciplinary team.
- The use of CHWs, especially to register children for CHIP, is an effective approach.
- BHPr should compile and disseminate a case book of best practices.
- Most of the programs that are still funded focus heavily on the training of physicians and nurses. There may be insufficient training available to provide the health care workers in other disciplines that will be necessary in the future, especially those necessary for caring for the aging populations.
- Best practices that have been identified require additional research to determine whether they are resulting in the desired impact and if they can be applied in various settings.
- The authorization for the Title VII programs has expired—there is no current authorization language. The Advisory Committee should focus on reauthorization language. However, reauthorization and appropriations are not linked. The Higher Education Act hasn't been reauthorized for years but the programs continue to operate. The crisis now is to get the appropriators to recognize the value of the Title VII programs. Any discussion of reauthorization should also consider new legislation.
- When the Title VII programs were de-funded, it seems there was an expectation that they could find other means of support and continue in some form. This is not the case. Many programs are in the process of closing down.

Testimony

Testimony addressed the following two questions identified by the Advisory Committee:

1. What are the best practices/models of interdisciplinary training and/or community-based training? Has this training improved access to care and/or the quality of care provided to the geriatric population, underserved population, and other affected populations?
2. What are examples of interdisciplinary training and/or community-based training programs and their potential influence in changing health insurance industry policies on reimbursement to providers?

HRSA/BHPr Overview
June Horner, Deputy Associate Administrator, Bureau of Health Professions, HRSA

The Bureau is alive and well and the Associate Administrator has assured the Bureau will continue to be alive and well. There have been staff changes within the Bureau. Michele Snyder is the new Associate Administrator and Steve Pelovitz is the Deputy Associate Administrator for Finance.

The mission of the Bureau remains intact—to improve the health status of the population by providing national leadership and resources to develop, distribute, and retain a diverse, culturally competent health workforce that provides the highest quality care for all, especially the underserved. The Bureau's vision is a nation in which access to quality health care is universal, health workforce shortages are eliminated, health disparities are overcome, prevention is emphasized, and health outcomes are optimal for all. To achieve its mission and vision, the Bureau works to maintain the right people with the right skills in the right place—all to bring about the right health outcomes. To accomplish its mission and vision also necessitates working toward creating an interdisciplinary health workforce which requires improving the health professional pipelines, curriculum development and innovation, and linking education and training of health professionals with decreasing health disparities.

The FY2007 Presidential budget for the Bureau includes: $125.5 million for the National Health Service Corps (NHSC); $9.7 million for scholarships for disadvantaged students; $99 million for the Children's Hospital GME Payment Program; $57 million for advanced education, nursing; $16.1 million for nursing workforce diversity; $37.2 million for Nursing Education, Practice, and Retention Grants; $4.7 million for the Nursing Faculty Loan Program; $3.3 million for comprehensive geriatric education (nursing); and $31 million for loan repayment and scholarships (nursing). The National Practitioner Data Bank and the Health Integrity and Protection Data Bank are two programs that do not require appropriations. They are supported through user fees.

Programs that were not funded include: Health Professions Workforce Information and Analysis; Health Education and Training Centers (HETCs); Health Administration Programs; Geriatric Programs; and the Quentin N. Burdick Program for Rural Interdisciplinary Training Program. Programs that were significantly reduced include: Health Careers Opportunity Program (HCOP); Centers of Excellence; Allied Health and Other Disciplines; and Training in Primary Care Medicine and Dentistry. Many of these programs have been zeroed out over the years but are always rescued but this year there was no rescue. BHPr is hoping there will be some improvement once Congressional action is completed.

The Bureau has released new workforce studies. These include:

- *2004 Preliminary Findings, National Sample Survey of Registered Nurses* (December 2005);
- *Impact of the Aging Population on the Health Workforce in the United States* (January 2006);
- *An Aging U.S. Population and the Health Care Workforce* (February 2006);
- *Community Health Center Staffing and Title VII-Funded Training Programs: Pre-Report Briefing on Assessing the Impact* (February 2006); and
- *Shortages of Medical Personnel at Community Health Centers, Implications for Expansion*, Rosenblatt, RA, Andrilla, CH, Curtin, T and Hart, LG. *JAMA* 295(9): 1042-1049, March 2006.

Despite funding cuts, the Bureau will continue to do workforce analysis. Some of the analysis is mandated.

The Bureau continues to work on its new performance measurement system. These have become very important in the face of the budget reductions. The Bureau and grantees need to do a better job in telling their story—demonstrating the true impact of programs in the communities they serve. A good performance measurement system can provide definitive data for OMB and others that demonstrate the success of programs. There are measures that determine whether programs are achieving their mission, the efficiency of programs, and whether they are cost effective. Evaluation efforts to date have not been associated with the mission of programs.

Last year, at the Bureau's All Grantee Meeting, grantees provided comments on proposed core elements for each program area. Based on this input, the Bureau has moved forward and identified the following steps: develop an Index of Common Health Professions Definitions; develop Data Collection Forms including core and program-specific measures and common data elements; pilot test the system with grantees; obtain OMB approval; integrate measures into program guidance/electronic forms; implement performance measurement systems; analyze data; demonstrate impact; develop and update GPRA reports; and gain more feedback at the All Grantee meeting in 2007.

The original plan was to implement the new performance measures in 2007. Because of the changes that have taken place, the Bureau is reassessing the process and evaluating the measures that have been developed. At this point, it appears that the number of measures needs to be reduced. While the Bureau would like to have the new measures implemented by 2007, given all the changes, there could be some delays. Most likely, implementation will not take place until 2008.

Title VIII, the Bureau's nursing program, continues to be very solid. The new Director of Nursing is Dr. Nettie Deposet. Joan Weiss has also joined the Division. The following initiatives are designed to increase and strengthen the nursing workforce: Advanced Education Nursing; Nursing Workforce Diversity; Nurse Education, Practice, and Retention; Nursing Scholarship Program; Nurse Education Loan Repayment Program; and Comprehensive Geriatric Education.

Health centers are located within the Bureau of Primary Health Care. It funds over 1,000 health centers, which cared for 13.1 million people in 2004. The President's Health Centers Initiative, which began in FY2002, is designed to increase health care access in the Nation's neediest communities. It is anticipated that it will impact 1,200 communities through the support of new access points or through expanded medical capacity at existing sites. The strategy is to: strengthen existing health centers; manage the growth of new health centers; and manage quality improvement in all health care. From 2002 to 2005, as a result of the President's Initiative, 428 new access points were added, 349 grants were provided to significantly expand the medical capacity of existing service delivery sites, and access was provided for an estimated 3.65 million new patients.

Providers will be needed to staff all the new community health centers. The NHSC is committed to improving the health of the Nation's underserved by uniting communities in need with caring health professionals and by supporting communities' efforts to build better systems of care. NHSC's strategy is to: form partnerships with communities, States, educational institutions, and professional organizations; recruit caring, culturally competent clinicians for communities in need; provide opportunities and professional experiences to students through the Scholarship and Loan Repayment Programs and the Student/Resident Experiences and Rotations in Community Health (SEARCH) Program; establish systems of care that remain long after NHSC clinicians depart; and shape the way clinicians practice by building a community of dedicated health professionals who continue to work with the underserved even after their NHSC commitments have been fulfilled.

The NHSC has placed over 24,500 primary care clinicians in HPSAs. Currently, over 4,000 NHSC clinicians serve in rural and urban communities nationwide, serving six million people. Providers serving in the NHSC include: primary care physicians, primary care nurse practitioners, physician assistants, certified nurse midwives, dentists and dental hygienists, and mental and behavioral health professionals.

The NHSC administers a scholarship program that provides scholarships to students who commit to practicing primary care in HPSAs of greatest need upon completion of education or training. The period of service is one year for each year of scholarship support, with a two-year minimum service commitment. Students choose their practice site from a list of approved sites located in areas of greatest need. The scholarship support includes: payment of tuition and fees for up to four years of education; a monthly stipend for living expenses; and payment of other reasonable educational expenses. Students are supported throughout their education, training, and service through NHSC staff in Washington, DC and on-campus NHSC Ambassadors.

The NHSC Ambassador Program is a membership organization of volunteers on campuses and in communities across the Nation. The Ambassadors work in partnership with the NHSC to improve the health of the Nation's underserved. The Ambassadors provide a "continuum of support" for students and clinicians and promote careers in primary care. Campus-based Ambassadors help students in selecting and preparing for their careers. In addition, Ambassadors have affiliations with community organizations so they serve as a valuable community link for both clinicians in service, as well as students in training.

The NHSC Federal Loan Repayment Program repays the educational loans for clinicians who commit to provide full-time clinical service in a HPSA of greatest need. There is a minimum service commitment of two years. The maximum repayment during the required initial two-year contract is $50,000. Opportunities to continue in the program may be available for one-year intervals beyond the two-year commitment. With the Federal Loan Repayment Program, higher scoring HPSA sites are given priority for awards. The Bureau has expedited a process for scoring HPSAs. Hurricanes Katrina and Rita demonstrated that situations can change very quickly. Louisiana and other sites in Texas were listed as priorities after the hurricanes so that needed resources were quickly provided.

Discussion

- Given the cuts to the interdisciplinary training programs, Advisory Committee members expressed concern that sufficient numbers of adequately trained clinicians will not be available to staff the new community health centers that will be established under the President's Initiative. Ms. Horner stated that the Bureau follows up with the NHSC providers that are place in a health centers to ensure that they have the right credentials and training.
- Advisory Committee members asked if there has been progress on plans to expand the professions included in the NHSC to include physical therapy, occupational therapy, pharmacy, and others. NHSC leadership is working to include more professions. The authorizing legislation must be reviewed to see if expansion is possible.
- Advisory Committee members expressed concerns about being able to effectively "tell their story." The attitude change in students is what makes a difference but this is very difficult, if not impossible, to measure.
- Concerns were expressed that the infrastructure of the NHSC is inadequate, at least in some States, such as West Virginia, and does not allow the NHSC to achieve its mission. If the priorities of the NHSC are based on national priorities, it will not be responsive to local needs. Many of the neediest areas in some States are not on the NHSC's list of priority areas. In addition, training is often more by default than design. Participation in training, when it is available, is often not required. To build local partnerships, there must be a local infrastructure, or at least, a State-level infrastructure. The NHSC is exploring making structural changes but this must be done systematically and may be limited by the authorizing legislation.
- The SEARCH Program was identified by several Advisory Committee members as a very successful program.
- Advisory Committee members expressed concerns about the performance measurement system and how it will address the de-funded programs. In response, Ms. Weiss used the Geriatric Education Centers (GEC) Program as an example. The GEC Program has five statutory purposes that are not related to increasing access to underserved populations. Therefore, data are collected on the five statutory purposes, which does not reflect the Agency's and the Bureau's mission. Ms. Horner responded that the development of performance measures was done in response to the PART Score the Bureau received, the GAO report that addressed things that were not part of the Bureau's mission, and OMB requests for efficiency measures. It is the hope that the new system will have clear core measurements and specific program measurements that really reflect the programs. It is difficult to balance meeting OMB's needs while collecting the empirical data that allow programs to tell their stories.
- Historically, the disconnect between the authorizing legislation and HRSA's and the Bureau's mission statement has been problematic. The Bureau's mission revolves around improving health status and documenting improvement in health status. Documenting improvement in

health status is extremely difficult and many of the Title VII grantees lack the capacity to carry it out.

- Advisory Committee members asked if HRSA could establish demonstration projects that specifically address what OMB and GAO want to know and how the Title VII programs can provide this data.
- It was suggested that since OMB doesn't evaluate programs based on what they are required to do by the authorizing legislation that a strategy might be to change the authorizing language to be more in line with what OMB measures—how programs are managed. OMB does not look at the statutory language or outcomes.
- It was suggested that aggregating Title VII program data for evaluation is not effective. Programs should be evaluated on a program-by-program basis since they all have different mandates.
- An Advisory Committee member read the following quote from a November 2005 report from the Advisory Committee on Primary Care, Medicine, and Dentistry.

  Evaluations have examined specific educational and clinical outcomes of Title VII, Section 747 Programs. Studies have shown that Title VII, Section 747 Programs have developed high-quality primary care and training programs, established and maintained family medicine departments, and, through the training of the primary care workforce, helped decrease the number of HPSAs.

  However, the assessments done by the Office of Management and Budget were critical in substance and tone. In aggregating 40 separate health professions programs, including the lumping together of Title VII, Section 747 and Title VIII Programs in the process, OMB was not able to isolate the specific effectiveness of the Title VII, Section 747 programs.

  Although Title VII, Section 747 Programs work synergistically with other programs in HRSA's portfolio, they are specifically designed to bring about significantly different outcomes than those of other programs. Collectively, the programs contribute to HRSA's overall goal. The focus of this report is to clarify the purpose and objective of Title VIII, Section 747 Programs, and to put forward recommendations regarding outcome measures for evaluating program impact, based on the program's purposes and objectives. Based on the legislation, this purpose includes provision of funding for approved training of students, interns, and residents in family medicine, general internal medicine, and general pediatrics training of physician's assistants, training of residents, in general dentistry, pediatric dentistry, and the training of individuals who plan to teach in family medicine and internal medicine, pediatrics, and physician assistant training programs.

The Advisory Committee member stated that this report has been printed but has not been distributed. Even if Advisory Committees do their jobs, if their reports are not disseminated, they are not fulfilling the role that the Secretary intends for them.

Interdisciplinary Training Best Practices
Maria A. Castillo Clay, PhD, Office of Clinical Skills Assessment and Education, East Carolina University, Division of Health Sciences

Interdisciplinary education is a vision for education in which all health professionals are educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement, and informatics. It is a way to foster collaboration rather than competition. Peer education is an important part of interdisciplinary education. Skills building is also an important aspect, with an emphasis on students learning active listening, shared leadership, openness to change, conflict resolution, and negotiation skills.

The Interdisciplinary Rural Health Training Program, funded under the Quentin N. Burdick Program, started 12 years ago. The disciplines participating included: medicine; nursing; pharmacy; nurse practitioners; physician assistants; social work; nutrition; occupational therapy; physical therapy; clinical

lab science; and health information. The program started in one site and over the years, progressed to cover four counties in eastern North Carolina. These counties are rural, poor, underserved HPSAs.

The program has partnered with both the AHEC and the community since the very beginning. The educational model seeks to bring together learners, faculty, and the community. This is done via the curriculum, advisory councils, executive councils, and other collaborative activities.

The curriculum includes four major items: an interdisciplinary case conference, which includes a home visit and an interdisciplinary care plan; community projects identified by the community; community site visits; and team visits. Sending students into the community allows them to get a feel for a rural community, which increases the chances they may want to return in the future. Students are placed in one of the four service areas for their clinical placement rotations, which they are required to do as part of their discipline-specific rotation.

The interdisciplinary case conference is a cornerstone of the program. Teams of students are asked to identify patients from their own clinical caseloads. After making a home visit to the patient, the students present the case study. Often, the patient is present during the interdisciplinary discussion. The patient's provider of record is also invited to participate. The team, using the traditional patient case conference model, discusses the patient and develops a care plan. The care plan is given to the provider of record and whether the provider implements the recommendations is tracked. About 60 to 70 percent of the recommendations are implemented by providers. If the recommendations are not implemented, the provider is asked for an explanation. Often there are good reasons for not implementing recommendations and this adds to the educational experience.

All teams are required to do a community project. For many years, the community projects were small in nature, such as health fairs or development of a brochure providing disease statistics. Four years ago, the program began doing more longitudinal, single-focus projects. For example, one of the sites focused on childhood asthma. There were a series of teams that worked on the project for 18 months and then turned the project over to another team. A community assessment of asthma incidence in schools was conducted and educational materials for children and an educational puppet show were developed. Teachers were also trained. All the materials were given to the county for continued use. In another area the team focused on diabetes and held health fairs with screening tests and referrals to practitioners and the health department. Part of this effort included an educational program for Latinos with Spanish radio announcements on the risk of diabetes.

In another community, the program partnered with interior design students to plan a new daycare facility. The facility was designed to be health friendly and all the materials used were non-allergenic. The community took the students' plan and received funding to build the facility.

Culture is also an important part of the program and all students have an opportunity to discuss their own culture. The Purnell Model of Cultural Competency is used to determine where they are on a scale of cultural competency. Students also do an attitude survey and a knowledge-based survey, before and after the program, so they can assess changes. They also keep journals.

The program has identified educational and community outcomes. Educational outcomes include: experiences collaborating; development of critical thinking skills; and whether students pursue health careers. Community outcomes include: trained providers return to the local areas; networking between the community and the university; and a commitment to the philosophy of "learn and serve."

The program has been successful in training people who want to return to rural communities. The Burdick Program requires that grantees track whether trainees return to rural areas. However, jobs are often not available in rural areas, especially for some disciplines such as nutritionists or social workers. To assess this, the program asks trainees if there was a job in a rural community, would they work there. If the jobs are not there, programs cannot be held accountable.

About four years ago, the program developed a sustainability strategy in the event Burdick funding was cut. The Office of Interdisciplinary Health Sciences Education has a prefix specific to the office. This allows the Office to offer courses under the prefix. The Office has developed a whole series of courses including a rural emersion course and a service learning course, which is team based. All the courses are online. While some of the courses are electives, many are required. Accrediting bodies are mandating that programs incorporate interdisciplinary learning and rural and community health into their curricula.

The program is developing a case book, which will be made up of 12 of the best cases from more than 12 years of conducting patient care conferences. Faculty will select the cases.

The most challenging part of the program is the focus on rural care. Students have a difficult time defining "rural." Most describe it as the absence of something, such as services or schools. Instead, they need to look at what makes up a rural community, not its deficiencies.

The program's Burdick funding will continue until January and then it will be phased out.

Discussion

- It was noted that the program doesn't include dentistry. The institution doesn't have a school of dentistry. The program did try to recruit dentists from the community but there were very few practicing. Occasionally, dental hygienists participate in the program. There is an emphasis on oral health in the community projects.
- An Advisory Committee member asked about attitudinal outcomes relating to trainees' willingness to serve in rural areas and whether others have considered this a valid outcome. Dr. Clay has discussed use of the measure with the Bureau and recommends that others use it.
- It was asked whether the communities benefit from the program. If the community benefits, in addition to the students and the university, this could help generate more support for the program at the State level with legislators. Assessing the impact on the community is difficult. To measure impact the program has looked at whether the team projects are sustained within the community and whether they are leveraged to gain more resources. In reality though, the program has little to do with whether community projects are able to leverage more support. There is not sufficient funding available to truly evaluate the impact of community projects and to measure outcomes.
- Dr. Clay was asked to describe some of the challenges and future opportunities for virtual programs. Having a virtual component allows providers to work with disciplines that are not currently in the community. Interacting virtually allows providers to share information and electronic medical records. There are skills that enhance a virtual team's ability to work together. For example, there is also a need for common language. "Doing a history" means very different things to a doctor and a social worker. Sometimes even the patient joins the virtual team—which can present unique challenges, especially around confidentiality.

GEC Best Practices
Elyse Perweiler, MPP, RN, Associate Director for Planning, Development, and Public Policy, New Jersey Institute for Successful Aging, UMDNJ-SOM

The geriatric programs, which include the Geriatric Fellowship Program, the GEC Program and the Geriatric Academic Career Awards, were de-funded for 2006. The GECs are authorized under Title VII of the U.S. Public Health Service Act. Since 1983, the grant program has established over 57 GECs. Fifty are currently funded through December 2006. Many of these GECs started out as a single GEC and grew by partnering with other GECs.

The goal of the GECs is to facilitate training of health professional faculty, students, and practitioners in the diagnosis, treatment, and prevention of disease, disability, and other health problems of the elderly.

The program has five statutory purposes: 1) improve training of health professionals in geriatrics; 2) develop and disseminate curricula related to treatment of health problems of the elderly; 3) support training and retraining of faculty in geriatrics; 4) support continuing education in gerontology; 5) and provide students with clinical training across the geriatric continuum.

These five statutory purposes are the bane of the GECs' existence. Another aspect of the GEC authorizing legislation is that programs are not permitted to train paraprofessionals directly. It must be done using a train-the-trainer model.

GECs serve a very diverse population. Two-thirds provide education in areas that are more than 50 percent rural and 25 percent serve areas that are 25 to 49 percent rural. They work in 13,091 HPSAs and 3,665 medically underserved areas (MUAs). GECs have trained more than 50,665 health care professionals in 35 disciplines and 9,000 students in underserved areas. They have logged more than 8.5 million patient encounters in ambulatory hospitals, long-term care settings, and senior centers. The GECs have developed and disseminated more than 2,500 curricular materials.

GECs provide a range of services. These include: interdisciplinary training; onsite training with health care practitioners; consultations; technical assistance in clinical programs, education and training, and curriculum development; a resource clearinghouse containing hundreds of materials, curricular products, documentation, and videotapes; web-based training and teleconferences, especially in rural areas; and durable teaching materials available in multiple media.

The following examples were selected because they represent HRSA's and Congress' priorities.

Delirium Reduction Program (Des Moines GEC) – This program was implemented on an orthopedic ward in an acute care facility. The facility did not have an ACE unit for people who might develop delirium or other problems associated with confusion when they are hospitalized. The program trained nursing and support staff on issues relating to the prevention of delirium and appropriate interventions. Staff throughout the hospital received the training, which is important in that people enter the facility through various access points such as the emergency room. As a result, there was a 40 to 50 percent reduction in delirium. There was also a reduction in the length of hospital stay by 6.9 percent, increased resident and family satisfaction, improved staff teamwork, and a decrease in overall facility costs. The program has been recognized by the statewide quality improvement organization as a best practice and is being implemented in nursing homes as a quality improvement program. The training is available on CD ROM.

Healthy Ager Program (Arkansas GEC) – This program was developed with physical therapy students at Arkansas State University. It pairs students with an older person. The student is responsible for developing an exercise program for the older person designed to restore function and integrate exercise into daily life. The program demonstrated improved fitness and quality of life for the seniors. It has also been integrated into the nursing program.

Best Practices in Aging (Ohio Valley Appalachian Region GEC) – This GEC provided an Internet site for resources and distance-learning curriculum modules. They also developed a process where programs could nominate best practices via an application process. Through this process, 47 best practices have been identified, which will be available on the website < Kentucky.train.org >.

Improving Mood-Promoting Access to Collaborative Treatment (California GEC) – This program trained 35 health professionals in evidence-based practices. The program used a team approach to diagnose and evaluate depression. It looked at patient outcomes, improving mood, and promoting access to collaborative treatment. The program empowered care managers to serve as depression case specialists in primary care. A psychiatrist served as a depression care resource to primary care physicians and care managers. A patient health questionnaire was added to the electronic medical record so the program will have lasting impact. The program demonstrated improvement in depression in 80 patients.

Bioterrorism and Emergency Preparedness in Aging – Six GECs across the country developed and pilot-tested curricular and training materials on various aspects of disaster and emergency preparedness training. The entire process was collaborative. The programs created various products, which were disseminated through the GEC network. The materials include curricula, CD ROMS, emergency preparedness kits, and tabletop exercises. A white paper on bioterrorism and emergency preparedness in aging was also developed. The Journal of Geriatrics and Gerontology Education published a special issue that highlights the six projects.

It has taken years to build the GEC network and now it is being de-funded. The GECs do extraordinary things and have expert faculty that put their heart and soul into the work. They deliver hundreds of thousands of dollars worth of materials and training and have built strong collaborations and partnerships. The GECs serve as a catalyst and get institutions to address geriatrics and develop programs. GECs are also responsive to rapidly changing health care priorities and are skilled at disseminating information and resources. De-funding these programs when the population of our country is aging is unconscionable.

Discussion

- Advisory Committee members asked Bureau staff whether the GECs' outcome data in terms of it demonstrating the impact of the programs was useful for the evaluation of the programs, both by the Bureau and by others. The references, in terms of who the GECs serve are probably pertinent and would be useful data to others who are outside the program. This gets at the question of who is being helped by these programs besides the trainees. Other data that were provided, such as the impact of a practice on length of hospital stays, is also helpful. There also needs to be ways to capture other accomplishments, such as improved curricula.
- Advisory Committee members expressed concern about what would happen to the many materials developed by the GECs and the websites maintained as resources after the programs were de-funded. Programs are in the process of laying off staff so their capacity will be limited. There are no plans in place to archive resources or maintain existing website.

HETC Best Practices

Teresa M. Hines, MPH, Program Director, Health Education and Training Centers Alliance of Texas, Texas Tech University Health Sciences Center

Health Education Training Centers (HETCs) are both community driven and community owned—their work is determined by the community in which they are located. While HETCs reside within a medical school, the school does not drive the HETC program. HETCs are known as community advocates and for their role in helping to increase access to services. They also serve as resources to the community and can help address health-related needs. The annual budget for the HETC Program is $4.7 million.

The legislative mandate of the HETC Program is to serve the most resource-poor populations and address their health concerns at the local level. This is done by: providing training to community members, especially CHWs; providing health education programs; providing learning opportunities to health professions students; acting as a liaison between the community and available health services; and providing opportunities for families and children to explore health professions. A key characteristic of HETCs is that they have flexibility to design programs that address the distinct needs of each community. The public health focus is also a key characteristic of HETCs.

In 2005-2006, there are eleven HETCs serving 32.6 million individuals. The majority of those served are Hispanics along the US-Mexico border (41%).

HETCs are federally mandated to train CHWs and almost 60 percent of funds are dedicated towards this activity. In FY2004-2005, HETCs trained more than 1,000 CHWs. These CHWs provided health

education messages to 500,000 community members. Best practices, 42 in all from 13 programs, have been compiled in a document that was created for the annual HETC meeting in 2004.

Texas has adopted legislation to certify CHWs and the Texas model has been adopted by three other States. In addition, Texas won an innovative practice award from CMS for enrolling uninsured children into the CHIP Program—57,000 children in six months with a 90 percent retention rate. As part of this effort, 200 CHWs were trained and each was provided a portable copier, self-addressed, stamped envelopes, and applications. The CHWs went door-to-door and helped families complete and mail their applications. The CHWs also followed up with these families to ensure that they made scheduled appointments. Many States have had great difficulty registering children for CHIP. As a result, they have lost some of their Federal funding.

A program in California trained 1,486 CHWs to do outreach on breast cancer and asthma. Another California program is Parents as Teachers. As part of the program, CHWs make home visits and discuss child development issues or other issues of concern for parents. The program has reached 700 percent more families than expected. Currently, 359 families with 403 children receive services through these home visits. In working with a family, a CHW may deal with other issues, such as utilities being shut off for nonpayment, as a way to build trust. Once immediate issues are addressed, the CHWs can focus on health.

In Georgia, CHWs build community coalitions with businesses and health professions students to provide health care on a daily basis. One of the oldest coalitions is the Southeast Georgia Communities Project, which serves seasonal and migrant farm workers. The coalition has become a non-profit organization and addresses social service, housing, and legal issues.

Other successes of the HETCs include the participation of 19,000 children, K-12th grade, in health career programs with 9,000 participating in programs longer than 20 hours in 2004 – 2005 and 1,800 training sites located in underserved communities, of which 55 percent are Federal safety net sites. In addition, HETCs supported or facilitated clinical experiences for over 8,600 health professions students and provided 10,000 student weeks of training supervised by over 1,400 community preceptors. Residents and students on rotations of a full week or more are estimated to have provided more than $5.6 million in services to underserved sites. Other training efforts included additional training on a variety of topics for 14,960 community health providers, including 2,857 CHWs, 2,792 nurses, 2,282 emergency medical technicians (EMTs), 1,945 physicians, and 5,084 other health professionals. A total of 7,300 hours of continuing education were provided.

In addition to training CHWs, HETCs provide a diversity of programs. In Georgia, the HETC provides a service learning environment for an interdisciplinary group of students from partnering institutions. This includes physician assistants, nurse practitioners, medical residents, and dentists. During a two-week period, with 80 students participating, 2,000 farmworkers were served.

The Kentucky Interdisciplinary Community Screening Projects, called mini-KICS, target the Hispanic community in rural areas. Physicians, nurses, dentists, and social workers partner with the Mexican Consulate on a range of issues and sponsor the annual Heritage Day Festival.

In Texas, the Rotary Binational Leadership Alliance focuses on tuberculosis (TB). Rotary clubs have become advocates by providing TB education to communities and the issue has been adopted by Rotary International, which is now providing funding for worldwide TB education programs.

Another Texas program focuses on the Juarez border crossing. On weekends, many young people cross the border to party. There are no emergency services in Juarez so the HETC provided EMT training at five emergency training stations. The HETC works with U.S. and Mexican authorities to allow Mexican ambulances to cross the border and go directly to U.S. hospitals.

Finally, HETCs provide a vital link in many of these communities. If the HETC Program is dismantled, this link to services will be broken. With the current anti-immigrant sentiments in the United States, many immigrants are reluctant to access services. CHWs can help to reassure them and link them to services. Without the CHWs to bring people into care, there will be a decline in the number of patients seen at community health centers.

Discussion

- Advisory Committee members asked about the possibility of States providing funding for HETC activities. Most States still have not embraced the concept of CHWs. At the national level, CHWs must be included on the Department of Labor's Standard Occupation List. There are plans to submit a definition this fall.

AHEC Best Practices
Janet Head, RN, MS, President, National AHEC Organization, A.T. Still University of Health Sciences

The National AHEC Organization (NAO) has worked collectively to develop a root cause analysis and logic modeling process. This process is based on a process that has been used in Arizona to describe their work using an evidence base. The maps are representative of the root causes that the AHEC programs address with evidence-based practices through the national community-based network. For example, with health careers recruitment and preparation, there are multiple factors that contribute to students not selecting careers in health. These include the lack of role models, mentors, and advisors.

For the AHECs, data reporting is on a three-year cycle through the Comprehensive Performance Management System (CPMS). The data collected by the CPMS is considered by AHECs to be the minimum. Better data collection is necessary to better tell the story of the AHECs.

A priority for AHECs is connecting students to health careers. Accomplishments in this area are listed below.

- Approximately 300,000 students ranging from kindergarten through college were introduced to health careers through programs delivered by or sponsored by AHECs.
- Nearly 45,000 high school students completed health career or academic enhancement programs of at least 20 hours in duration.
- The health careers and academic enhancement programs were highly successful in targeting racial/ethnic minorities and disadvantaged white students.

The Arkansas AHEC has a career development program that has been identified as a best practice. Through its Medical Application of Science for Health (M*A*S*H) Program, the AHEC has enabled over 3,200 students (15% minorities) to interact with a large number of health care experts. Each professional provides students with practical information concerning basic scientific theories relative to their fields. Components and functions of the health care team are emphasized through an interdisciplinary approach. Another example comes from the Ohio AHEC, which uses a variety of methods including classroom presentations, career club sponsorship, mentoring, and science/math enrichment programs. The AHEC provides as many activities as possible featuring minority students and practitioners as presenters and faculty.

Recruitment and placement of health professionals is also a priority area. There are a lot of factors that contribute to health care providers choosing to practice in underserved sites. For example, people do not want to serve at a site unless they have visited it. Allowing students to visit sites can address this. Also, sending students to a site that is too deprived—with extremely limited resources—can result in students becoming discouraged.

Accomplishments in the area of connecting professionals to communities are listed below.

- AHEC programs participated in the training of nearly 90,000 students.
- Nearly 40,000 health professions students received training in medically underserved and other community-based sites.
- The AHECs supported health professional training in almost 25,000 sites.
- Almost 19,000 community preceptors, the majority of whom were physicians, participated in mentoring and training activities to students in community sites.

An example of connecting professionals to communities comes from the State of Washington. Two AHECs work closely with safety net providers in all 39 counties of the State and have clinical training/service delivery sites in the following safety net programs: 40 community/minority health centers; 40 NHSC sites; 39 local health departments; 30 tribal health clinics; and 110 rural clinic sites. Approximately, 65 percent of the students who participate in AHEC clinical rotations return to work with underserved populations. In 2003-2004, the Washington AHECs expanded the delivery of direct patient care through over 6,000 hours of service/learning by health professions students in over 250 safety net clinical sites.

The New York AHEC system has partnerships with 106 academic institutions, 111 hospitals and health care systems, and 171 school systems. In 2004, AHECs statewide placed 1,713 medical and 959 nursing and health professions students with 972 teachers at 721 health care facilities. Almost 1,900 students received their training in medically underserved communities and over 95,000 patients, primarily the poor and underserved, received care from these students.

Using very conservative estimates, the value of service provided by AHEC trainees at the training sites is estimated to be over $64 million dollars--$39 million by primary care residents; $9.5 million by medical students; $7 million by dental and pharmacy residents; $5 million by other health professional students; and $3 million by advanced practice nursing students.

A number of strategies and programs are designed to improve health services within communities. AHECs are heavily involved with community implementation, literature and information access, cultural competency training, and preceptor training. Over 322,000 health professionals received continuing education through AHECs. Examples of practitioner/community resources are listed below.

- The Vermont AHEC administers a State-funded education loan repayment program that has yielded an 89 percent retention rate for primary care medical practitioners in the rural and underserved areas of the State.
- The Massachusetts AHEC reaches more than 6,000 community-based health professionals each year, including the frontline staff critical to improving access for vulnerable populations. It provides medical interpreter training each year for more than 300 bi- or multi-lingual individuals who collectively speak more than 20 languages. It also offers CHW competency-based certificate courses at more than 70 sites that serve underserved individuals.

Areas that the AHECs will be looking at in the future include:

- Health literacy (including cultural competency and diversity);
- Prevention and wellness;
- Expansion of partnerships for workforce planning and career development for young people;
- Enhanced collaboration with community health centers;
- Supporting the community health worker movement; and
- Translational research and translating research into practice.

Discussion

- Advisory Committee members expressed concern that AHECs are too focused on physicians and nurses instead of interdisciplinary teams. Some AHECs are involved in interdisciplinary activities and do seek to partner with other Title VII programs. AHEC funding has been decreased, which will probably limit opportunities for interdisciplinary activities in the future.
- Advisory Committee members expressed concern that Title VII programs do not collaborate as much as they could and that there is duplication across programs and grantees. If all the other Title VII programs are de-funded, it may be necessary for AHECs to assume many of these responsibilities. Specific areas to look at include getting students into the community, providing students with opportunities to work together, and taking advantage of content-specific expertise.
- It was suggested that programmatic leaders, such as the Advisory Committee members, meet with HRSA staff to evaluate data that are currently collected and determine what additional data are needed. It might be necessary to look at each Title VII program and identify a few exemplar models along with secondary and tertiary outcomes. If HRSA is committed to these programs, it must work with people in the community to extract the data.
- The Title VII programs are collecting data that they think better represent their programs than data that have been collected earlier. HRSA and Title VII programs need to work together to determine how best to integrate data to demonstrate the impact of these programs.
- There is a new workgroup within the Bureau to address data and outcomes.
- NOA has looked for ways to affiliate with different national groups that represent similar interests. NOA has a formal written memorandum of collaboration with the National Rural Health Association (NRHA). A strategic advocacy plan was implemented this year. NRHA has 10,000 members and there are 500 members within NOA. Some GECs also participate. These kinds of collaborations could be expanded to include other Title VII programs.

Examples of Interdisciplinary and/or Community-Based Training Programs that Address the Needs of Rural Populations and Rural Providers
Hilda Heady, 2005 President, National Rural Health Association, Current Vice President for Rural Health, Executive Director, West Virginia Rural Health Education Partnerships, Program Director of the West Virginia AHEC, Robert C. Byrd Health Sciences Center, West Virginia University

In West Virginia, the program represents higher education's social responsibility to rural communities. The community-based rural rotations are a degree requirement for all State-supported health professions students. There is no other State where the publicly funded higher education system has this requirement. The program is both interdisciplinary and interdependent with the rural health, education, and social service agencies within the State and the curriculum is integrated with Healthy People 2010 objectives as well as Institutes of Medicine and PEW competencies for health professions training.

What makes the program work is that the State of West Virginia pays for the infrastructure and private foundations and the Federal government supply content and special programs that are integrated into the infrastructure. There are 11 regional consortia, four AHECs covering 50 of the 55 counties, 640 field faculty with adjunct appointments, ten disciplines, and 19 participating universities, professional schools, and programs. Out of the 442 rural training sites, 215 are located in HPSAs or MUAs. Sites include community health centers, rural health clinics, dental offices, pharmacies, and others.

The health professions pipeline focused initially on graduate and post-graduate education. Part of the pipeline is made up of the HCOP Program and another State-funded program called the Health Sciences Technology Academy (HSTA). This focuses on reaching students early through math and science enhancements. The HSTA Program concentrates on 9^{th} and 12^{th} graders. Since 1994, 2,100 students have participated and 580 have graduated. The students in the program are primarily underrepresented minorities from very rural areas. They are first-time college goers in their families and come from very disadvantaged backgrounds. Of the program graduates, 96 percent enter college as compared to only 56 percent of students that are not in the program. They are also more likely to stay in college. The State Legislature gives full tuition to any West Virginia student who completes the HSTA program and maintains a B average in a West Virginia school with a health/science major. There are currently seven students in medical schools that went through the program and had their education paid by the State. For

program graduates, they are more likely to go to professional and graduate school—over 23 percent are in graduate or professional school within six years of college and 60 percent pursue health, science, and technology career majors.

Of the 625 HCOP students, 90 percent have successfully graduated from college or are on track toward graduation and 95 percent have successfully graduated in health professions or allied health programs. As a result of the funding cuts, 300 HCOP students are unable to complete the program. West Virginia lost a total of $7 million in all of the discontinued or eliminated programs. In addition, five doctors who were prepared to serve in rural communities last year did not go due to cuts in the loan repayment program.

West Virginia's GEC also uses the existing infrastructure. Geriatric education is available in 23 counties. The GEC provides a specialized curriculum to all interdisciplinary health profession students and it provides campus and field faculty continuing education.

All the partnerships that have been created help to maximize and leverage other funds. This includes: $1.4 million per year for the statewide HSTA program; $1.4 million per year for the statewide CARDIAC Program; $1.35 million over five years from the Robert Wood Johnson Foundation for the statewide dental pipeline program; and $6.3 million over seven years from NIH to WVU School of Dentistry and the University of Pittsburgh School of Medical Dentistry.

When students are sent to rural areas to fulfill their service requirement, the areas are truly rural. In West Virginia, a city of 10,000 is considered large. Students are not allowed to fulfill their service requirement in these areas. From 2002 to 2005, the number of physicians, nurse practitioners, and physician assistants trained in rural, underserved areas increased each year. In 2005, 187 physicians, 75 nurse practitioners; and 104 physician assistants were trained. All these providers are in practice in rural areas. In all, 738 providers were trained in 2005. To track the students, they are required to complete a baseline questionnaire online that assesses their attitude towards rural practice and interdisciplinary care. They complete a similar survey after each rotation. Every 18 months, graduates of the program who are practicing in rural areas are surveyed. They are asked if they are working with underserved populations and if they are still practicing in the same community. Almost 100 percent of graduates do serve in underserved communities and take patients regardless of their ability to pay. This includes private practitioners.

The dental program consists of 26 private dental offices as well as dental offices that are part of community health centers. When the program started, the capital items were expensive and it was necessary to build and expand buildings. It was also necessary to get a commitment from dentists that they would continue to serve a certain number of underserved patients and that they would continue to work with students. In the eight years of the program, $7 million in uncompensated dental care has been provided.

The Cardiology Artery Risk Detection in Appalachian Communities (CARDIAC) Program is designed to identify and stop heart attacks. The program has screened over 31,000 children for risks of obesity, heart disease, and diabetes. The children are then enrolled in different intervention programs.

One of the major challenges of working in rural areas is perception. Rural areas have been characterized based on their deficiencies, instead of what is good about them. The value of rural people and their cultural makes them special. Rural people are very self reliant, independent, and they collaborate. Rural people value families, friendliness, personalism, humility, respect, trust, faith, modesty, and humor.

Discussion

- Advisory Committee members asked for more details on the preceptor program. In the follow-up surveys, the program has found that those individuals who practice the longest in underserved

areas are the most likely to be serving as preceptors. Local communities make the decision about whether an honorarium should be paid. Since the economics of the health care industry change from community to community, it would be difficult to have a standard rate. Most do not pay preceptors and most of those that are paid get an hourly rate. The top rate is $500 per student for an entire semester. As for retention of preceptors, more study is needed. Many preceptors report that the students challenge and re-energize them and remove the sense of isolation. It also helps them stay connected to academia and advances in the field and gives them the feeling that they are making a difference. Research has indicated the practitioners that serve as preceptors stay in their location longer. This is true across disciplines.

Linking Interdisciplinary Dental Care with Systematic Care
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The number of older Americans will double over the next 30 years. By 2030, almost one in five Americans will be 65 or older. People over 85 years of age are the fastest growing segment of the population. In 1997, 1.6 million elderly lived in nursing homes and this is expected to triple in the next 30 years. These patients suffer significant sensory, visual, and orthopedic impairments, as well as dementia or Alzheimer's disease. Many rely on Medicaid to pay for their health care.

Many enter nursing home facilities with undiagnosed and untreated periodontal disease. As people live longer, there is a greater likelihood of lasting damage as a result of chronic inflammatory diseases or conditions. This translates into dramatic increases in multiple-risk factor syndromes. The most common chronic conditions among elderly nursing home residents are cerebrovascular and cardiovascular diseases, cognitive and musculoskeletal disorders, and endocrine disorders. All of these are associated with chronic inflammatory periodontitis or gum disease.

Aging translates into the added burden of periodontal disease, increasing the risk of systemic inflammation and exacerbating existing chronic conditions. Approximately one in five skilled nursing facility residents over 55 will enter the facility with diabetes and other chronic co-morbidities. This condition is often accompanied by increased risk for periodontal disease and other associated infections and increased risk for diabetic complications as a result. This has been labeled "systemic periodontitis" since it is not a localized infection and it has ramifications beyond the oral cavity. Systemic periodontitis is believed to worsen the clinical course of multiple-risk factor syndromes, such as obesity, type 2 diabetes, hyperlipidemia, hypertension, and atherosclerosis. Periodontal disease is no longer a disease entity in itself but part of a larger problem, with systemic implications.

There is a bidirectional relationship between diabetes and periodontal disease. Poorly controlled diabetic patients are two to three times more likely to develop periodontoal disease. Once periodontal disease develops, it makes metabolic control much more difficult since like any other infection, it complicates glycemic control. Poor glycemic control increases the risk for delayed and impaired wound healing and diabetic complications. There is also evidence of a relationship between periodontal disease and cardiovascular disease.

Periodontal disease also poses a risk for respiratory infection. The bacterial component in dental plaque is a major cause of respiratory infection in older adults, especially those in institutions. It has been associated with pneumonia and pneumonitis. There is also a connection between periodontal disease and rheumatoid arthritis. Research is also exploring a connection with Alzheimer's disease. It is suspected that one of the greatest risk factors for pre-determining Alzheimer's disease in old age is periodontal disease during middle age.

Because of these connections, focusing on distinct diseases is no longer sufficient. There are multi-factorial risks that are inter-related and periodontal disease is one of these risks. Systemic inflammation

is no longer the exclusive domain of medicine and oral inflammation is no longer the exclusive domain of dentistry. A model that overlaps these boundaries and is focused on the prevention and treatment of inter-related inflammatory disease and conditions is necessary. Health care providers in nursing homes must view periodontoal disease as a risk factor for chronic inflammatory diseases and conditions and initiate appropriate treatment. This is critical because older adults are more likely to retain their teeth and more young people are being admitted to nursing homes.

Several years ago, the Surgeon General releases a report on oral health in America. In the report, the mouth was recognized as an early warning system. The report also stated that improvements in oral health depend on interdisciplinary approaches to research and on the ability of practitioners to effectively apply the findings of such research. It also stated that the perceptions concerning oral health of non-dental health care providers must change. In order to bring about interdisciplinary care, the report calls for curriculum changes and multidisciplinary training. Risk assessment tools, diagnostic markers to allow clinicians to better determine risk, and targeted intervention strategies are also necessary.

An effective approach must include progressive diagnosis and treatment of periodontal disease and it must be a part of a chronic disease management strategy in nursing home facilities. However, there are significant barriers to preserving oral health in nursing home residents. Certified nursing assistants have very limited knowledge and training and research indicates that their perceptions regarding mouth care are very negative. Data indicate that the average amount of time spent on oral care per resident is 16.2 seconds a day.

Registered nurses also have very limited knowledge and training about oral health—it is estimated that 30 minutes of professional nursing curricula is devoted to geriatric oral care. Nurses report having no confidence in their ability to recognize signs of periodontal disease and mouth care practices in nursing have remained unchanged in the last 120 years. Few physicians view oral health as important. The accuracy of oral assessment is unacceptably low and there is a high incidence of inappropriate treatment and referral decisions.

Limitations of the current regulatory policy make it difficult to preserve oral health in nursing home residents. Much of this is a result of the inadequacy of the Minimum Data Set (MDS), an intake assessment performed by nurses on all residents that includes items to detect oral health problems. According to the American Dental Association and Special Care Dentistry, the oral/dental content of the MDS is an incomplete appraisal of oral health. These organizations have recommended a revision of the MDS.

Another problem is that lack of an advanced dental hygiene practitioner, similar to a nurse practitioner. State-level restrictions do not allow dental hygienists to practice without supervision in nursing homes.

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The proposed model, a nursing/dental hygienist collaboration, is designed to prevent the exacerbation of chronic system disease and assist individuals in achieving better health, for as long as possible. The model is based on a public health model that includes assessment, diagnosis, planning, implementation, and evaluation.

During the intake evaluation, the new patient is evaluated by a nurse practitioner and an advanced dental hygiene practitioner. Together, these two professionals will assess and diagnose the patient and develop a long-term plan of care. The plan of care includes several different components and is based on three different scenarios. One scenario is for a patient who has multiple conditions and in the terminal stages of life. Care for this patient would be of a palliative nature. The second scenario is a patient with an acute care situation, such as a lesion of the mouth, and in need of evaluation and emergency treatment. The third scenario is for a patient in need of chronic disease management, where treatment is intended to restore oral health as much as possible. The model would also include an evaluation component to

monitor practice and patient outcomes. The benefits of the proposed model include: provision of comprehensive care; focus on preventive care; and cost effectiveness.

Next steps include: moving beyond the American Dental Association and Special Care Dentistry recommendations; promoting the establishment of advanced dental hygiene practitioners; gaining public and private support for curriculum development and testing of the model in a six-month fellowship program at academic centers of excellence in geriatrics; and exploring adaptation of the model to special populations.

Discussion

- Given the evidence that a comprehensive management plan that includes oral health and is transdisciplinary can save health care dollars and improve both quality of care and quality of life, consideration should be given to integrating a similar model at an earlier age when much of what happens impacts later life.
- One Advisory Committee member participated in a geriatric fellowship program, sponsored by HRSA, which is no longer in place. The fellowship brought together doctors, dentists, and other disciplines. Similar opportunities are not currently available. This model should be promoted.
- Opportunities to educate medical and dental students together should be promoted. Many of the courses in Years 1 and 2 are the same. This would form the basis for future collaboration. Given the turf issue between medical and dental schools, it is probably necessary to have a model for this collaboration with demonstrated effectiveness and benefits. In addition, the model would also have to be economically viable.
- At New York University, the College of Nursing is collaborating with the College of Dentistry. There is tremendous excitement on the part of students and faculty for this model.
- Medical schools are developing departments of dental medicine within the medical school.

Impact of Interdisciplinary Training and Care on Provider Reimbursement
Thomas Meyers, Executive Director, Product Policy, America's Health Insurance Plans

America's Health Insurance Plans (AHIP) is the voice of America's health insurance industry, representing nearly 1,300 member companies providing health insurance coverage to more than 200 million Americans. The organization represents 89 percent of all accident and health business in the United States and includes over 80 percent of the dental benefit market.

The dental benefit companies have begun to modify dental benefit coverage as a result of the research to date. AHIP's Dental Committee has made this a strategic area of interest and some of the committee members have been tracking the issue for several years. AHIP has made oral and systemic health information available on its website, healthdecisions.org, in collaboration with the publication ***Grand Rounds***.

AHIP has also conducted two audio conferences on the topic. The first conference included presentations of the most current research and findings regarding the linkage between periodontal disease and coronary heath disease, premature babies, and chronic illnesses. Presenters included: Mary Lee Conicella, DMD; Ronald E. Inge, DDS; Marjorie K. Jeffcoat, DDS, DMD; and Steven Offenbacher, DDS, PhD. The second conference presented dental benefit industry experts discussing some of the current changes under consideration that impact how dental benefit plans cover periodontal disease treatments, preventive care, and educational outreach.

The dental insurance industry has responded to the emerging oral-systemic evidence in several ways. The responses include: incorporation of dental information into medical disease management educational materials; outreach encouraging dental visits to at-risk members; enhanced benefits for at-risk members (i.e., periodontal benefits at 100 percent reimbursement instead of 50 to 80 percent); and waiving the frequency on preventive services for at-risk members.

The insurance industry will continue to focus on this issue, review the research, and participate in the discussion of this issue. It also plans to: maintain an active awareness program that helps educate consumers; participate at the national level with cross-disciplinary groups to explore areas of common interest regarding oral and systemic health issues; monitor the evolution occurring at the dental benefit plan-level to encourage the adoption of best practices throughout the industry; and remain focused on delivering products and services of value to consumers.

Discussion

- A study by Columbia and Aetna, released at the annual dental research meeting this past March in Orlando, followed a large group of patients in a PPO. The study compared those that received periodontal care with those that did not in terms of health care expenditures per day and per person. The study explored the connection between periodontal disease and cardiovascular disease and diabetes. The patients studied were over 50 years of age. The results indicate that there are cost savings associated with the provision of periodontal care.
- Committee members asked how significant do cost savings need to be for the insurance industry to respond to them. It generally takes a long time for the industry to respond and there is not one uniform approach. Once the cost savings is acknowledged, it is necessary to determine what it is that actually causes the cost saving and then determine how to integrate that into care and encourage it with patients.
- The focus on improving dental care should not just be for the elderly. There are plenty of children in the country, especially in rural and underserved areas, who do not have access to dental care. If the evidence indicates that periodontal disease is a precursor to other conditions, it should be addressed in people of all ages.
- Dental insurance plans need to be more affordable if access to dental care is to be increased.
- For many of the conditions that have been associated with periodontal disease, like diabetes and heart disease, there are many other factors that also have an impact, such as diet and physical exercise. The research needs to take into consideration these confounding factors.